

ESF-16

DAMAGE ASSESSMENT

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DAMAGE ASSESSMENT

PRIMARY AGENCY: City of Battlefield

SUPPORT AGENCIES: County Building Regulations
City of Battlefield Building Inspector
Volunteer Agencies
Greene County Assessor
American Red Cross
Springfield-Greene County Office of Emergency Management

I. PURPOSE

This ESF sets forth guidelines for conducting timely, accurate damage assessments that are consistent with federal and state guidelines.

A thorough damage assessment is essential to (1) establish priorities for repair of public facilities and roads, (2) determine if outside assistance is necessary, (3) compile data to assist with requests for disaster assistance, (4) ensure the safety of local residents, and (5) plan mitigation measures that will lessen the effect of future occurrences.

II. SITUATIONS AND ASSUMPTIONS

A. Situations

1. SEMA has identified the information necessary to properly assess the impact of a disaster. The forms outlined in this ESF provide the necessary information that would be needed for a State and/or Federal declaration.
2. RSMo, Chapter 44 provides for an emergency volunteer program known as the Structural Assessment & Visual Evaluation (S.A.V.E.). This program is administered by SEMA in the event of a natural disaster (this is called the S.A.V.E Coalition). Their mission is to rapidly deploy credentialed volunteers to assist local jurisdictions to determine if buildings are safe. Architects, engineers, contractors, etc. may volunteer their services and equipment. These volunteers can assist with demolition, cleanup, and post-disaster safety inspections.
3. Disaster assistance comes in varied forms from many different sources.

B. Assumptions

1. Immediately following a disaster, local responders will be able to communicate initial damage assessment reports to the Emergency Operations Center (EOC).
2. Following the public safety response, local, state, and federal personnel will be available to conduct necessary damage assessment.
3. The City of Battlefield may become overwhelmed with public reports of damaged property. If this is the case, the Springfield-Greene County Office of Emergency Management can open the Public Information Call Center (PICC) to assist in call taking at the request of the city.

III. CONCEPT OF OPERATIONS

A. General

1. The Damage Assessment Coordinator will, under normal circumstances, be the appointed Planning Section Chief or his/her designee for each particular incident.
2. The Damage Assessment Coordinator will compile a complete situation report from initial and local damage assessments to brief the chief elected officials utilizing Incident Command System (ICS) form 209 or equivalent.

B. Type of Damage Assessments

1. Initial Damage Assessment
 - a. Initial damage assessments will be reported by first responders at the scene of an incident. Other sources such as City/County employees operating in the field and/or private citizens will also report damages.
 - b. The initial damage assessments reported during the response phase will should be plotted on a map as needed. This can be done on hard copy as well as on WebEOC. The city will use the location information available at the time of the report, which may be incomplete, to identify the areas with the most damage.
 - c. These maps will also be used to help identify:
 - Possible areas impacted by the disaster but not assessed by first responders.
 - Areas needing the most assistance.
2. Local Damage Assessment
 - a. The EOC will determine if the situation requires local damage assessment teams to be deployed.
 - b. If the situation necessitates local damage assessment teams to be deployed, they will be coordinated from the EOC.
 - c. Any of three types of assessments may take place: residential, business, and public property.
 - d. Residential assessments:
 - Greene County Community Emergency Response Team (CERT) volunteers (coordinated through the Springfield-Greene County Office of Emergency Management) can be deployed as soon as possible with the American Red Cross Greater Ozarks Chapter volunteers in Springfield.
 - A CERT volunteer will team up with an American Red Cross volunteer in pairs.
 - Teams will report to a pre-designated staging area upon notification for assigned tasks.
 - The team of a minimum of two will be deployed to the areas of concern, as dictated by the initial damage assessment reports. Maps may be provided as available.
 - The team will assess impacted residential homes, categorizing them as Destroyed, Major, Minor, or Affected Habitable, utilizing the pre-identified criteria (**see Appendix 3**).

- The team will utilize the American Red Cross On-Site Detailed Damage Assessment Worksheet, Form 5739, to record the assessments (**see Appendix 4**). If Form 5739 is unavailable or no Red Cross volunteer is on the assessment team, Springfield-Greene County Office of Emergency Management’s Individual Assistance Field Worksheet may be used (**see Appendix 5**).
 - After all known areas have been assessed, the CERT volunteer, if used, will report back to the EOC with copies of the assessment data.
 - The data can be entered onto an Individual Assistance Assessment Summary (**see Appendix 6**).
- e. Business Assessments:
- Damage Assessment teams can be organized with personnel from the City of Battlefield, the building inspector, and the Greene County Assessor’s office.
 - The teams will be organized in pairs of two.
 - Teams will report to a pre-designated staging area upon notification for assigned tasks.
 - The City of Battlefield will provide maps, damage assessment forms, and portable radios if available.
 - The teams will be responsible for assessing all damaged businesses, documenting the necessary information on the Individual Assistance Field Worksheet forms provided (**see Appendix 5**).
 - After all known areas have been assessed, the teams will report back to the City of Battlefield and submit the data collected. The data will then be entered onto the Individual Assistance Assessment Summary (**see Appendix 6**).
- f. Public Assessments:
- The same teams that conduct the business assessments will also conduct public property assessments, focusing on structural damage.
 - The teams will collect the public property data utilizing the Public Assistance Field Worksheet (**see Appendix 7**).
 - After all known areas have been assessed, the teams will report back to the City of Battlefield and submit the collected data. The data will then be compiled and totaled on the Public Assistance Worksheet.
 - The City of Battlefield will be responsible for gathering damage estimates from the other eligible FEMA categories which includes roads, water control facilities, utilities, and parks (**see Appendix 7**).
 - The City of Battlefield will be responsible for gathering expense estimates from all public agencies that had a response role in the disaster and documenting this data on the Emergency Categories form (**see Appendix 8**).
3. Preliminary State/Federal Damage Assessment
- a. The EMD or Planning Section Chief will submit damage assessment data to SEMA. If Preliminary Damage Assessments (PDAs) are conducted for the region, the EOC Management team will determine if adequate damage justifies a PDA in the City of Battlefield (**see Appendix 9**).
- b. If it is determined that a PDA for the City of Battlefield is warranted, the Damage Assessment Coordinator will coordinate with the SEMA representative, typically the Region D SEMA planner or other area planner assigned to work the disaster.

- c. A minimum of one representative of the City of Battlefield as appointed by the Emergency Management Director will accompany the state and federal representatives assigned to the city for the PDA during the field assessment.
- d. A damage map, database, and report summary will be provided for each agency represented (**see Appendix 10**).
- e. All known destroyed and major damage areas will be visualized by the PDA teams. Viewing any additional damage areas will be at the discretion of the representative of the city.

C. Actions to be Taken by Operating Time Frames

1. Mitigation

- a. Public education on construction enhancements or structural retrofits that minimize damage from disasters.

2. Preparedness

- a. Contact city offices, county offices and private sector organizations to identify people qualified to conduct damage assessments.
- b. Participate in specialized damage assessment training sessions.
- c. Periodically test.

3. Response

- a. Use 800 MHz and Amateur radio reports, phone calls and 911 calls to compile a list of the known damages.
- b. Contact support agencies and private sector organizations to schedule the detailed damage assessment.
- c. Utilize Damage Assessment forms to identify known damaged areas.

4. Recovery

- a. Determine need for PDA.
- b. Coordinate PDA with State officials, supporting all agencies represented on PDA team.

IV. ORGANIZATION AND RESPONSIBILITIES

A. Primary Agency:

City of Battlefield

- 1. The City of Battlefield has the primary responsibility for the Damage Assessment function in their jurisdiction. Damage assessment will be the responsibility of the chief elected official or his/her designee. The Damage Assessment Coordinator will:
 - a. Maintain damage assessment procedures consistent with state and federal guidelines.
 - b. Facilitate training of personnel in damage assessment procedures.
 - c. Identify and establish liaison with private individuals who can provide assistance in damage assessment (i.e., American Red Cross, Insurance agents, engineers, etc.).
 - d. Coordinate private and public damage assessments.
 - e. Collect/display damage information, brief elected officials and prepare reports.

- f. Accompany/assist local, state and federal damage assessment teams. These team(s) will provide preliminary estimates and descriptions, based on physical observations by government engineers and inspectors, of the nature and extent of damages, resulting from the emergency or disaster.
- 2. The Emergency Management Director is responsible for preparing recommendations from damage reports to mitigate the effects of future disasters (i.e., pass/enforce building codes).
- 3. Maintain records of the cost of supplies, resources and man-hours needed to respond to the disaster event.

B. Support Agencies:

County Assessor

- 1. Function as member of damage assessment teams. The office can help assess damage to public and private property.
- 2. Maintain or be able to obtain a file of maps, pre-disaster photos, tax assessments, etc.

County Building Regulations/Building Inspector

Function as a member of damage assessment teams. The office will assess public and private property for damage and structural safety concerns.

American Red Cross

The American Red Cross is trained in damage assessment techniques and can provide support (assess damage to homes, identify victims needs).

Springfield-Greene County Office of Emergency Management

The OEM will participate as a support agency if the City of Battlefield becomes overwhelmed by the size or complexity of the event and at the request of the city. The OEM can activate the PICC to assist in fielding an influx of phone calls for damage reports.

C. State Support Agency:

Missouri Department of Transportation

Assess damage to roadways, bridges and other applicable infrastructure.

D. Federal Support Agency:

U.S. Army Corps of Engineers

Assess damages to roadways, bridges, dams, levees, etc.

Civil Air Patrol

Assist with aerial damage assessment and transport of officials.

V. DIRECTION AND CONTROL

- A.** The Damage Assessment Coordinator has an important function in the EOC. The Coordinator can control damage assessment operations from the EOC.
- B.** All damage reports that come to the EOC will go through the Damage Assessment section for analysis and plotting.

VI. CONTINUITY OF OPERATIONS

The key purpose of Continuity of Operations planning is to provide a framework for the continued operation of critical functions. When implemented, these plans will determine response, recovery, resumption, and restoration of Department/Agency services.

COOP Plans for the Departments/Agencies present a manageable framework, establish operational procedures to sustain essential activities if normal operations are not feasible, and guide the restoration of the critical functions of the Department/Agencies functions. The plan provides for attaining operational capability within 12 hours and sustaining operations for 30 days or longer in the event of a catastrophic event or an emergency affecting the department.

VII. ADMINISTRATION AND LOGISTICS

- A.** Required damage assessment report forms are referenced in the appendices.
- B.** Records of actions taken and recommendations made will be compiled by appropriate city and/or county personnel in the EOC.
- C.** Damage assessment information will be provided to the State Emergency Management Agency (SEMA) for necessary release to the Federal agencies.
- D.** Specific logistical requirements will be submitted to the appropriate agency/individual (i.e., communications through Law Enforcement, heavy equipment through Public Works). Other requirements will be submitted to the Logistics (**ESF-7, Resource Management**).

VIII. ESF DEVELOPMENT AND MAINTENANCE

It is the responsibility of the City of Battlefield in coordination with the Office of Emergency Management to support the maintenance of this ESF. They will participate in regular trainings and exercises and incorporate the results into the ESF.

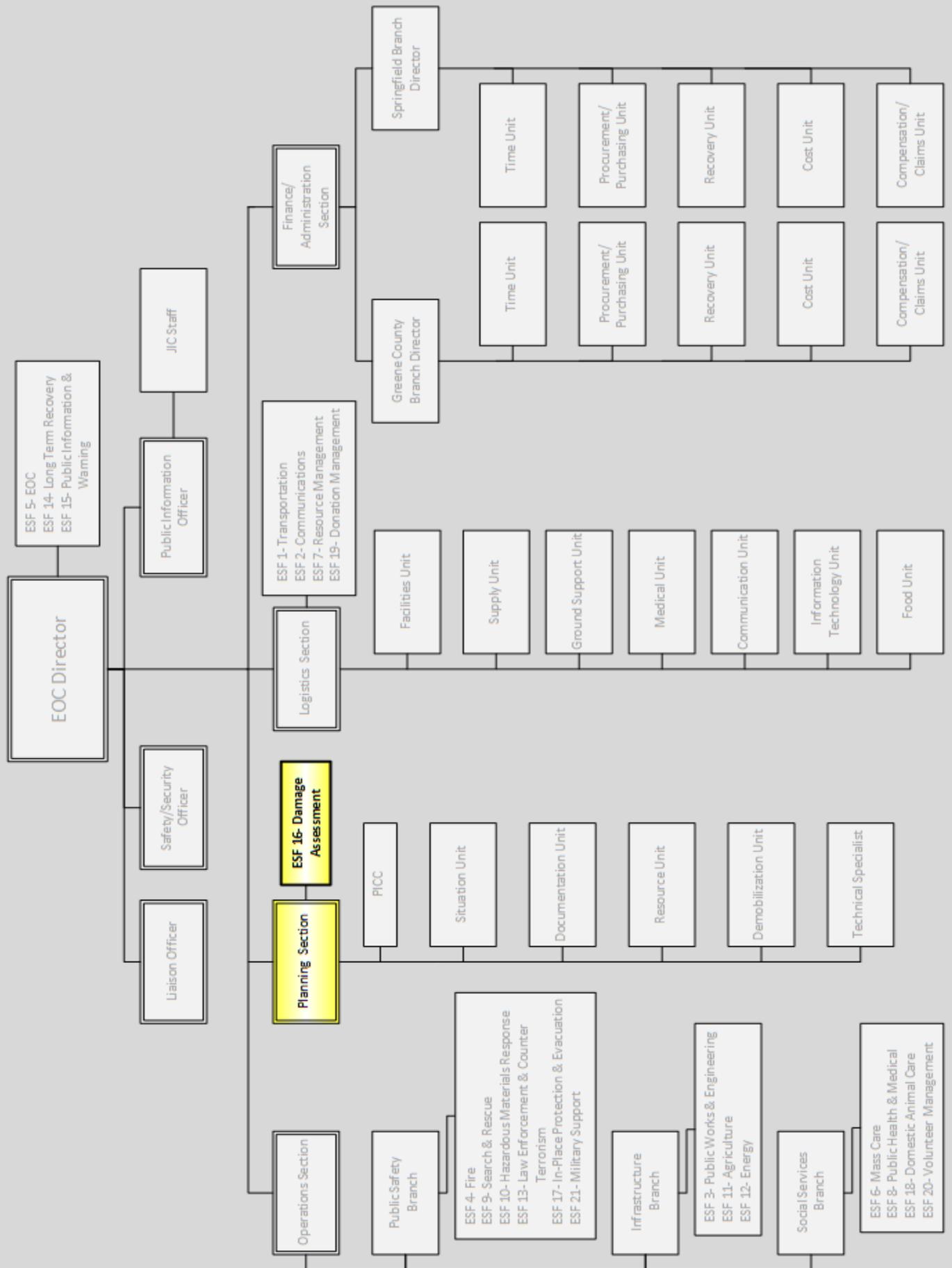
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DAMAGE ASSESSMENT
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APPENDIX 1

This is a restricted document

APPENDIX 2 ORGANIZATIONAL CHART





Springfield/Greene County Office of Emergency Management



APPENDIX 3

ASSESSMENT CRITERIA

Damage Definitions	General Description	Things to Look For	Water Levels
DESTROYED Structure is a total loss. <u>Not economically feasible to rebuild.</u>	DESTROYED Structure leveled above the foundation, or second floor is gone. Foundation or basement is significantly damaged.	DESTROYED Structure leveled or has major shifting off its foundation or only the foundation remains. Roof is gone, with noticeable distortion to walls.	DESTROYED More than 4 feet in first floor. More than 2 feet in mobile home .
MAJOR Structure is currently uninhabitable. Extensive repairs are necessary to make habitable. <u>Will take more than 30 days to repair.</u>	MAJOR Walls collapsed. Exterior frame damaged. Roof off or collapsed. Major damage to utilities: furnace, water heater, well, septic system.	MAJOR Portions of the roof and decking missing. Twisted, bowed, cracked, or collapsed walls. Structure penetrated by large foreign object, such as tree. Damaged foundation.	MAJOR 2 to 4 feet in first floor without basement. 1 foot or more in first floor with basement. 6 inches to 2 feet in mobile home with plywood floors. 1 inch in mobile home with particle board floors.
MINOR Structure is damaged, and uninhabitable. Minor repairs are necessary to make habitable. <u>Will take less than 30 days to repair.</u>	MINOR Interior flooring / exterior walls with minor damage. Tree(s) fallen on structure. Smoke damage. Shingles / roof tiles moved or missing.	MINOR Many missing shingles, broken windows and doors. Loose or missing siding. Minor shifting or settling of foundation. Minor damage to septic system.	MINOR 2 inches to 2 feet in first floor without basement. 1 foot or more in basement. Crawlspace – reached insulation. Sewage - in basement. Mobile home , "Belly Board" to 6 inches.
AFFECTED HABITABLE Structure has received minimal damage and is <u>habitable without repairs.</u>	AFFECTED HABITABLE Chimney or porch damaged. Carpet on first floor soaked. Broken windows.	AFFECTED HABITABLE Few missing shingles, some broken windows. Damage to air conditioning units / etc. Some minor basement flooding.	AFFECTED HABITABLE Less than 2 inches in first floor Minor basement flooding. Mobile home , no water in "Belly Board".

Tips: Estimating Water Depths

- Brick - 2 1/2 inches per course
- Concrete or cinder block - 8 inches per course
- Lap or aluminum siding - 4 inches or 8 inches per course
- Door knobs - 36 inches above floor
- Stair risers - 7 inches
- Standard doors - 6 feet 8 inches

APPENDIX 6

INDIVIDUAL ASSISTANCE SUMMARY

Individual Assistance (IA) Assessment Summary
Structural Damages
 Greene County, MO
 Date

Formula Measures			Estimated Values	
Category	Range	Percentage	Greene County Properties	Average Value
Affected	1-10%	Use 5% median	Residential	\$133,346
Minor	10-30%	Use 20% median	Commercial	\$324,200
Major	31-80%	Use 55% median	Multi-Family	\$167,017
Destroyed	81-100%	Use 100%		

Affected					
	Type	Value	Number	Factor	Estimated Loss
Residential	Single Family	\$133,346	0	0.05	0
	Multi-Family	\$167,017	0	0.05	0
	Mobile Homes	\$133,346	0	0.05	0
	TOTAL				\$0
Business	Commercial	\$324,200	0	0.05	0
	Industrial	na		na	
	TOTAL				\$0
TOTAL AFFECTED ESTIMATED LOSS:					\$0

Minor					
	Type	Value	Number	Factor	Estimated Loss
Residential	Single Family	\$133,346	0	0.2	0
	Multi-Family	\$167,017	0	0.2	0
	Mobile Homes	\$133,346	0	0.2	0
	TOTAL				\$0
Business	Commercial	\$324,200	0	0.2	0
	Industrial	na		na	
	TOTAL				\$0
TOTAL MINOR ESTIMATED LOSS:					\$0

Major					
	Type	Value	Number	Factor	Estimated Loss
Residential	Single Family	\$133,346	0	0.55	0
	Multi-Family	\$167,017	0	0.55	0
	Mobile Homes	\$133,346	0	0.55	0
	TOTAL				\$0
Business	Commercial	\$324,200	0	0.55	0
	Industrial	na		na	
	TOTAL				\$0
TOTAL MAJOR ESTIMATED LOSS:					\$0

Destroyed					
	Type	Value	Number	Factor	Estimated Loss
Residential	Single Family	\$133,346	0	1	0
	Multi-Family	\$167,017	0	1	0
	Mobile Homes	\$133,346	0	1	0
	TOTAL				\$0
Business	Commercial	\$324,200	0	1	0
	Industrial	na		na	
	TOTAL				\$0
TOTAL DESTROYED ESTIMATED LOSS:					\$0

APPENDIX 10

DAMAGE ASSESSMENT SUMMARY

Springfield/Greene County Emergency Operations Center (EOC) DAMAGE ASSESSMENT SUMMARY							
Jurisdiction:		Greene County		Report Time:		Report Date:	
Disaster Event:				Event Time:		Event Date:	
Stats	Population Yr: 2000	Below Poverty Yr: 2007	Sq. Miles Yr: 2009	Housing Units Yr: 2007	Median Income Yr: 2007	Av House Value Yr: 2008	
	240,391	13.70%	674.97	121,181	\$41,133	\$133,346	
Disaster Summary	Fatalities		Number of Shelters				
	Injuries		Number of People Sheltered				
	Hospitalized		Number of People In-Place Protection				
	Missing		Roads Closed				
	Evacuated		Critical Facilities affected				
	EOC Hours						
Individual Assistance	Residential	Type:	Destroyed	Major	Minor	Affected	Insured
		Single Family					
		Multi-Family					
		Mobile Homes					
		TOTAL:					
	Estimated Value Loss						
	Business	Type:	Destroyed	Major	Minor	Affected	Insured
		Commercial					
		Industrial					
		TOTAL:					
Estimated Value Loss							
Other:	# of business closed	# of employees	Average # of days closed				
Emergency Response	Estimate	Description					
			Est. Repair Costs	Est. Insurance Recovery	Estimated Uninsured Losses		
	Roads				0		
	Water Control				0		
	Buildings and Equipment				0		
Public Assistance	Public Utility Systems				0		
	Other				0		
	Total	0	0	0	0		
	TOTAL PA: Emergency Response + Uninsured Losses =						0
	COMMENTS:						

APPENDIX 11

SEMA FORMS AND INSTRUCTIONS

ANNEXES

- | | |
|--|------------------|
| 1. Local Jurisdiction Situational Awareness Report | ESF 16.19 |
| 2. SEMA Disaster Assessment Summary Completion Instructions | ESF 16.20 |
| 3. Damage Assessment Summary | ESF 16.21 |

Local Jurisdiction Situational Awareness Report

Date: _____

Time: _____

Contact Information: (Provide as much information as possible.)

County:		Jurisdiction:	
Name:	Title:	Phone:	
Email:	Fax #:	Cell:	

Local Emergency Operations Center Status:

LEOC Activated:	YES	NO	Hours of Operation:	
Contact Name:			Title:	
Telephone:		FAX:		Cell:
LEOC Physical Location:				

Situation Summary: (Summarize the impact the disaster event had on the listed topics.)

Summary of Event: (Include date & time of actual event.)	
Fatalities:	Injuries:
Shelter Status: (Number of open shelters, location of shelters, people in shelters, etc.)	
Primary Home/Business Damage:	
Power Outages:	
Medical/Fire/LE Issues:	
Utility (Electric, Water, Sewage) Issues:	
Road/Bridge Issues:	

Local Actions: (What actions have you taken?)

Summary of Actions Taken:

This is a situational awareness document ONLY. To request resources from the state, you MUST complete and submit a separate "Resource Request Form". Submit a "Local Jurisdiction Damage Assessment Summary" as detailed information becomes available.

SEMA FAX #: (573) 634-7966

State Emergency Management Agency
Disaster Assessment Summary Completion Instructions

Summary:

This form is intended to provide local jurisdictions with a standard method of reporting initial and supplemental damage estimates to SEMA. This information will be used to assess the situation throughout the affected area. It will also be combined with other reported information and used to help decide on future actions.

These forms are intended to be cumulative. If you submit additional reports, all of the columns MUST show current totals. For example, if the first form you submitted showed sixteen residential structures damaged and you identify four more damaged residential structures, the next form you submit MUST show twenty damaged residential structures.

1. **Jurisdiction(s) Affected:** Please include the name of area affected, including county, and date of report.
2. **Disaster:** List the type, time and date of incident.
3. **Report by:** List name of person submitting report, his/her title, home and work phone numbers. This person will be SEMA's point of contact for additional information.
4. **Affected Individuals:** List affected individuals based on the category the individual fits in. Please assign individuals to only one of the six categories. For example, do not assign someone to the "injuries" category if they are already assigned to "hospitalized."
5. **Property Damage**
 - a. **Residence:** List the number of residential properties damaged as a result of the disaster (separated either by single family, multi family or mobile homes) in the categories provided. Provide a total dollar amount in estimated losses to residences.
 - b. **Business:** List the number of business properties damaged as a result of the disaster in the categories provided. Provide a total dollar amount in estimated losses to businesses.
 - c. **Public facilities:** List the estimate in dollars, the number of sites, and a brief description of damages in the six categories under Type of Work or Facility. Provide a total dollar amount in estimated losses to public facilities.

Remember: The SEMA Logo on the top of the form means to send it to SEMA upon completion.



**Initial Supplemental
Disaster Assessment Summary**

1. **Jurisdiction(s) Affected** _____ Date _____
 2. **Disaster: Type** _____ Date _____ Time _____
 3. **Report by: Name** _____ Title _____

Work Phone _____ Home Phone _____

4. **Affected Individuals: (Assign affected individuals to only one category.)**

- a. Fatalities _____ d. Missing _____
 b. Injuries _____ e. Evacuated _____
 c. Hospitalized _____ f. Sheltered _____

5. **Property Damage:**

a. Residence

	# Destroyed	# Major	# Minor	# Inaccessible	# Insured
Single Family					
Multi Family					
Mobile Homes					

Estimated Loss to Residences \$ _____

b. Business

# Destroyed	# Major	# Minor	# Insured

Estimated Loss to Businesses \$ _____

c. Public Facilities

Type of Work or Facility	Estimate	# of Sites	Brief Description of Damages
A. Debris Removal	\$		
B. Protective Measures	\$		
C. Roads & Bridges	\$		
D. Water Control	\$		
E. Buildings Equipment	\$		
F. Utilities	\$		
G. Parks and Recreation	\$		
Total Estimate	\$		