



AIA Communities by Design: Disaster Assistance Program

 **AIA Handbook for
Disaster Assistance
Programs**

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AIA Communities by Design 
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INTRODUCTION

In 2006 following the dedicated response of architects to domestic disasters, as well as the international mission to assist in areas affected by the South Asian tsunami, or comprehensive deployment of resources in the aftermath of Hurricane Katrina, the American Institute of Architects adopted the implementation of the AIA Disaster Assistance Comprehensive Response System (CRS) as a proactive investment to ensure that the Institute, its members, components, and their communities, are prepared to survive disasters and are properly positioned to response to disasters along federal, state, and local authorities.

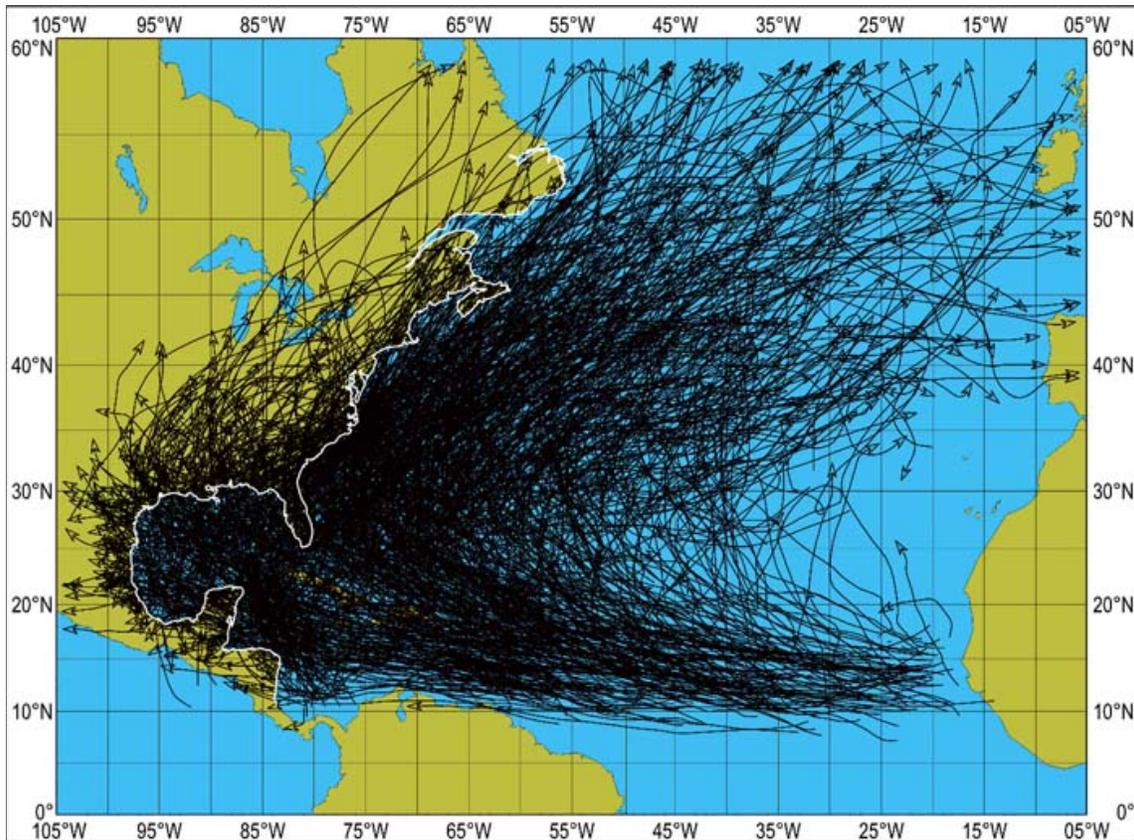


Over 30 years of experience have proved that the unique skills of the architect can be applied broadly and visibly in lending assistance in assessing damage, arranging temporary relief, and in rebuilding and reshaping communities. This handbook offers an overview of the initiatives, structures, resources and policy that the AIA follows to implement, support and expand the CRS, a framework developed to assist its members in its continued service to society. It stresses the importance of preparedness to respond to disasters, the steps that a region and its AIA components need to take to create an emergency response plan as well as a disaster assistance program. It also outlines initial and long term disaster assistance efforts.

TOWARDS AN AIA COMPREHENSIVE RESPONSE SYSTEM

DISASTER AWARENESS

A major natural disaster occurs, on average, 10 times a year, with minor disasters striking as frequently as once a week. These include floods, tidal waves, tornadoes, ice storms, fires, landslides, hurricanes, and earthquakes, and the damage can range from a few uprooted trees to the near-obliteration of entire communities.



Atlantic Tropical Storms and Hurricanes 1851 – 2004 *Source NOAA*

For instance, 1325 tropical storms and hurricanes have been recorded in the Atlantic since 1851. While some areas are at greater risk of hurricane damage, **every state in the eastern U.S. and Canada** has been affected by tropical storms and hurricanes. The possibility of disaster is a constant feature. We can isolate it psychologically to facilitate continuing with our daily lives. But recognizing the unavoidable reality of another disaster, of greater or smaller magnitude than the last one, is critical to disaster preparedness.

A disaster is often defined as “A sudden calamitous event producing great material damage, loss, and distress” Disaster’s are often classified as either natural or human-made although the cause and effect between the two often offer connections or dictate the magnitude of the event.

Types of Disasters

Here are the major types of natural disaster. It does not include meteorite and asteroid strikes, global warming and rising sea levels—yet. Human activity has brought about its own kinds of disasters. We have learned how to destroy not only one another, but entire ecosystems in our pursuit of progress. Human-caused disasters can have very low-tech causes, such as poor farming practices leading to the great Irish potato famine of the 1850's and the dust bowl of the Great Plains in the 1930's. Each of these disasters resulted in huge population shifts. Many of the country's—and the world's—great cities have suffered from devastating fires caused by neglect, arson, or war (Rome 64 A.D., London 1666 and 1940, Moscow 1812, Washington, DC 1814, New York 1835, Chicago 1871, Seattle 1889, Toronto 1904, Baltimore 1904, San Francisco earthquake/fire 1906).

Natural Disasters

- Earthquakes, landslides, mudslides, liquification
- Floods, heavy rains, flash flooding, ground saturation
- Hurricanes and tropical storms
- Severe storms—wind, rain, lightning, hail
- Severe winter weather—snow, ice, freezing weather
- Storm and tidal surges, tsunamis
- Tornadoes
- Volcanoes
- Wildfires, heat and drought

Human Caused Disasters

- Power outages
- Fire, war, terrorism, civil unrest
- Engineering—dam failures, mine subsidence, structural failures
- Agricultural
- Air pollution
- HAZMAT spills
- Environmental/ecological
- Hydrological/groundwater contamination
- Industrial
- Chemical
- Biological
- Nuclear

Disaster Declaration

For governmental and statistical purposes, a major natural or manmade occurrence is a “disaster” when so declared by the Governor of the state in which it occurs.

This declaration triggers action from various state agencies, the federal government, relief organizations and other nonprofit groups.



This graph displays the number of disaster declarations over a 50 year period. The upward trend could respond to several reasons ranging from environmental problems to the way FEMA now declares disasters. Interestingly, the graph’s tendency matches population growth over the same period of time, and stresses the importance of disaster preparedness. Sources: FEMA and SEEMA.

Billion-dollar Weather Related Disasters

Since 1980, there have been 70 weather-related disasters in the U.S. involving \$1 billion or more in damage. These have been caused by:

- Hurricanes and tropical storms
- Drought and heatwave
- Floods
- Severe winter weather
- Tornadoes and thunderstorms
- Wildfires

Hurricanes and tropical storms have caused over \$300 billion in damage since 1980. They are the leading natural cause of disaster damages. Hurricanes do not have to be Category 4 and 5 to be destructive. Hurricanes bring with them more than just the high winds and storm surge. In 1972, Category-one Hurricane Agnes parked itself over southern New York State for a week and brought over 20 inches of rainfall to the Northeast, resulting in disastrous flooding.



Gorenflo High School, Biloxi, MS. Hurricane Katrina's Aftermath September 2005.

THE CHANGING ROLE OF ARCHITECTS IN DISASTER RESPONSE

In the aftermath, architects immediately contemplate how best to participate in the rebuilding — indeed, this was never more true than following hurricanes Katrina and Rita, when the outpouring of interest and willingness to contribute were overwhelming.

More than 600 AIA members nationwide volunteered, registering on the AIA Web site and offering to step forward and assist wherever needed.

The question was (and is): How can the AIA and its members best be of use?

Architects are equipped with unique skills to help communities recover from disasters. These skills include:

- assessing the safety of damages to the built environment
- working in their reconstruction
- exploring the standards that guarantee built safety
- facilitate the long term recovery of a neighborhood.

In the combination of these skills, architects are uniquely prepared to respond and preven

The AIA Disaster Assistance Program not only encourages architects to use these skills but also seeks to position the architect as a civic leader whose capacities are vital to the development of more livable communities.

In 1972 the AIA formally recognized the important role that architects can play in disaster response. Members and staff began developing strategies to assist components to respond quickly to requests for aid. Since then, state and local components, including Texas, California, Florida, Kansas, and New York, have developed programs to provide assistance to communities struck by disasters, and more come on line each year. The Disaster Assistance Program at AIA Communities by Design works to strengthen the AIA preparedness, equip and support components, and foster a more productive relationship with the larger disaster-response community.

The AIA's Comprehensive Response System



In 2006, the AIA Board of Directors adopted the AIA Disaster Assistance Comprehensive Response System (CRS). Under this system, the Institute, its components and members will be prepared to both survive disasters and to respond to them alongside federal, state, and local authorities. Disasters occur on a regular basis--their character is cyclical. When disaster occurs we typically speak of three phases: Emergency, Relief, and Recovery. In order to sustain an efficient response, disaster preparedness must be at the center of operation. This philosophy underlies AIA's promotion of practices for its members, components, and communities as they deal with disasters. In turn, it creates the framework to facilitate Disaster Preparedness across all components.

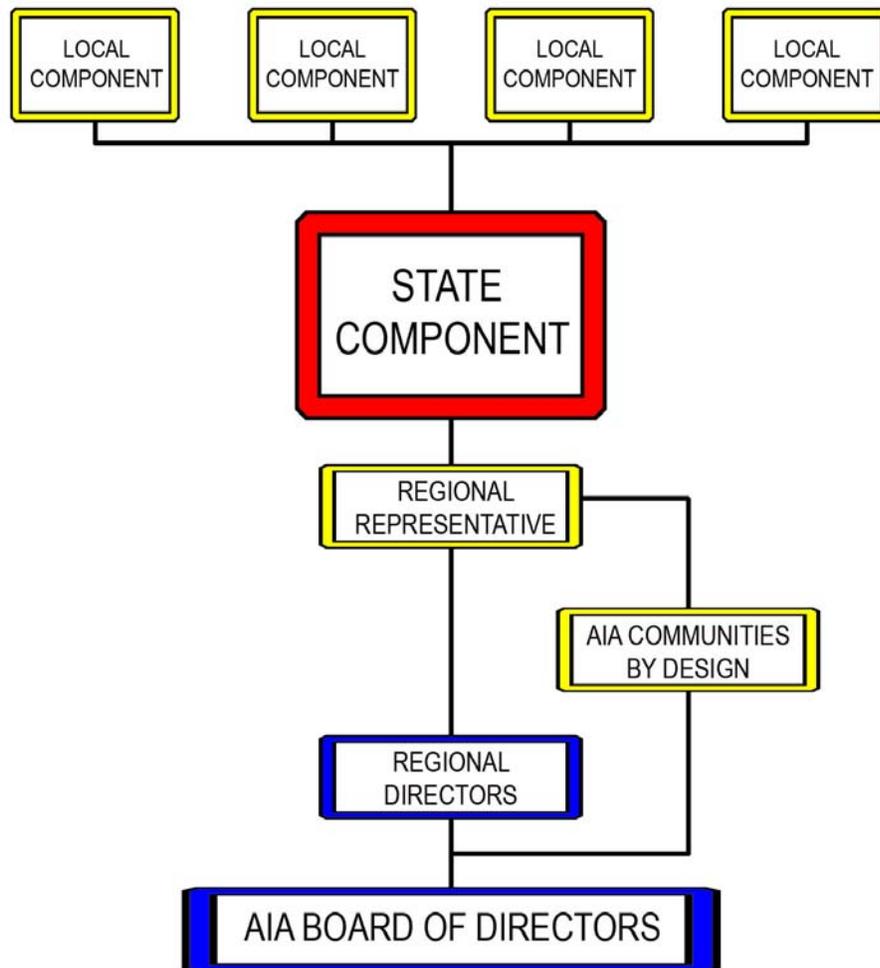
Comprehensive Response System: Mission

Architects and allied professionals play a central role in helping communities prepare for, respond to and recover from natural and man-made disasters.

To that end all components have an obligation to establish and maintain a comprehensive disaster preparedness and recovery plan.

The AIA CRS supports governmental policies, programs, and incentives that facilitate the ability of architects to prevent and respond to disasters, and that recognize the role of design in helping communities mitigate the effects of and recover from disasters.

Comprehensive Response System: Organization



The implementation structure seeks to empower the state component as the key preparedness and response core.

The most effective AIA programs have been organized at the state level, in part because:

- Most government agencies coordinating disaster assistance and long-term reconstruction are at the state level, and AIA components can most easily plug into this network.
- A state component is better able to examine to discern regional patterns and trends and tailor programs before disaster strikes.
- The local AIA component can most effectively marshal professional resources from nearby unaffected areas.

This structure remains active both during preparedness and in the response phases.

Disaster Response Stages

Disaster Response typically occurs in three stages:

Emergency: The first response, it relies on quick action and involves providing emergency shelter, medical assistance, food, and other such services. This stage can last two to three weeks.

Relief: Short-term housing, health services, and employment counseling are provided. Formal assessment of damage begins with examinations of buildings, including analysis of historic properties and other structures. This stage may last up to six months.

Recovery: This stage is characterized by rebuilding, with an emphasis on long-term comprehensive planning to enhance the physical fabric of the community. Regulatory changes may be necessary to mitigate the effect of future disasters. This period may last three years or more.

Until 2005, AIA and its members were oriented to respond only to stages two and three, when the focus shifts from emergency response to making homes livable and workplaces functional. Licensed building experts—architects, engineers, builders, and others—are often called to assist in evaluating post-disaster conditions and later to help in restoring a community. This approach has been in place for more than 30 years, since the advent of the AIA Disaster Assistance program.

COMPONENT PREPAREDNESS

AIA Components are encouraged to:

- promote pre-disaster preparedness programs with citizens and elected officials at all levels of government.
- support initiatives to implement pre-disaster mitigation procedures
- support efforts by Federal Emergency Management Agency (FEMA)
- promote cooperation between architects and building officials
- Establish contacts w/ federal, state, & local officials to implement mitigation plan.
- Establish ties with local emergency management officials.
- Promote local building codes/safety policies with local building inspectors.

- Understand relief/recovery procedures. i.e. permitting
- Help organize mitigation meetings with interested civic leaders and citizens.
- Designate specific tasks to hasten response time after a disaster occurs.

For an effective program, the AIA state component should establish a roster of potential volunteer component members. To accomplish this, the state component needs to know the capabilities and willingness of its members statewide.

Component Kits

Preparedness includes the preparation of disasters kits with emergency procedures and related training. The Disaster Preparedness Component Kit constitutes a basic resource and reference needed in the event of a disaster emergency.

Ongoing education, training and consistent implementation of the Disaster Assistance Comprehensive Response System will support the permanent update and availability of the component kit. The AIA Regional Directors, having been fully empowered with education and communications materials from the Institute, are asked to communicate and advocate for implementing the kits and preparedness programs at the component level.

Regional directors will explain the importance of disaster preparation to their component leaders. Over time, the regional director can ensure that the components are maintaining updated programs as an annual responsibility of their position.

Kit Contents

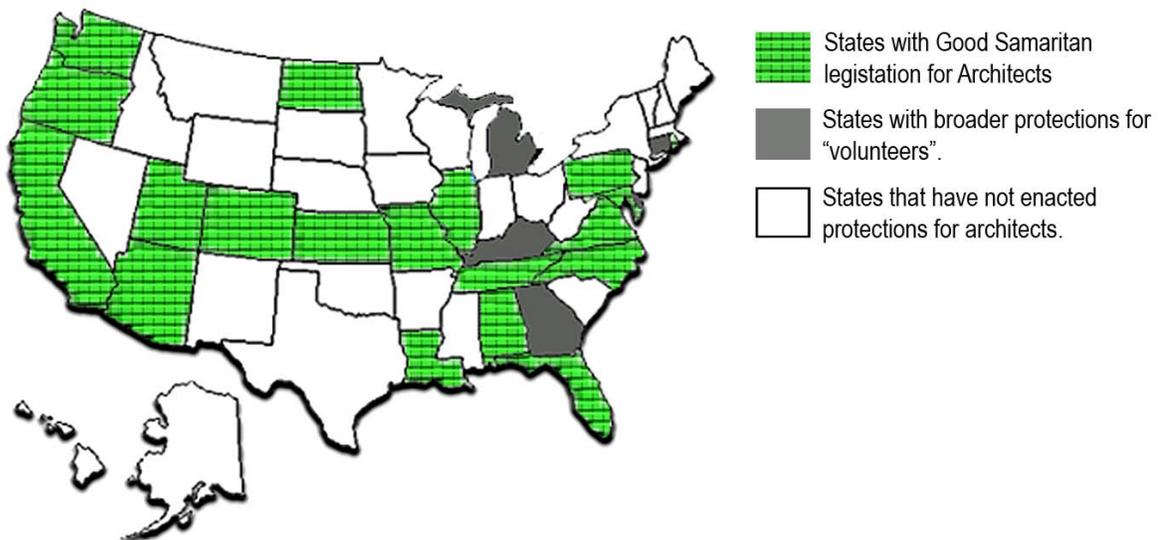
The kit is compiled in locally 3-ring notebook format for easy updating. Three copies are maintained at all times: Executive Director, Component Office and one alternative location. The kit will also need to be available on-line. The typical items - with regional variations - in the kit are:

1. Compilation of Excom., Board members and staff contact info (see below)
2. Generic agency phone #'s, emails, and addresses for state FEMA and emergency management agencies, hospitals, animal shelters, etc.
3. Phone trees, lists of suggested emergency supplies to have on hand, sister components contact from non-geographically connected components, "response teams" contacts listed in the resource book
4. Develop lists and relationships of non-architects i.e., associates, staff, volunteers, spouses etc., to assist with assessments
5. Establish/compile listings of a network of Executive Directors from engineering, contracting, building officials associations etc., to broaden perspective of activities

6. Develop/insert a Board policy to reallocate staff resources and dedicate them to disaster recovery operations vs. daily operations
7. Samples of Good Samaritan laws, Executive Orders, Waivers of Liability
8. Hard copy downloads of AIA National forms, placards, hard copies of insurance and other critical (minimal) office documents.

Government Advocacy: Good Samaritan Laws and the Stafford Act

The AIA continues its preparedness and assistance advocacy efforts at the local, state and federal levels. AIA promotes the adoption of Good Samaritan legislation by all states to offer liability protection to volunteer architects. AIA also promotes appropriate modifications to the Stafford Act, which governs how FEMA operates, enhancement of the Emergency Management Action Compact (EMAC) pursuing the development of regional Response Teams that fit within EMAC AIA makes specific recommendations for regional and local policy that affects the built environment and benefits from the knowledge of architects.



Good Samaritan legislation for architects in the U.S.A. (Updated February 2006)

Good Samaritan laws protect architects from liability when they volunteer their services during emergencies or government declared disasters.

The Stafford Act brings an orderly and systemic means of federal disaster assistance for state and local governments in carrying out their responsibilities to aid citizens. Proposed amendments support AIA members in disaster assistance to include the provision of temporary and transitional housing,

development of long-term community recovery plans, and assisting state and local governments in the development of these plans.

Rapid Response System

Each disaster is unique in its severity and type of response required. The AIA Disaster Assistance response system facilitates timely decision making and appropriate allocation of resources to those areas where the assistance of the AIA will be most effective and valuable.

The rapid response system follows a set of criteria/benchmarks for response and includes a defined sequence of actions to follow in the event of a disaster.

The determination of involvement and deployment of AIA services to the individual disaster must be recommended by the affected component/s in conjunction with the AIA Regional Director, the AIA Disaster Assistance Committee Chair and the AIA Disaster Assistance staff lead at the AIA Center of Communities by Design. Advice and assistance may also be provided by the AIA Knowledge Communities such as historic preservation or building performance among others. Maintaining clear and open communications throughout the process is essential. Regional Directors have been fully integrated into the Rapid Response System and are asked to serve as the Board's link to the affected area.

Architects in Long Term Recovery

Architects with a reconstruction/redevelopment program can envision a positive and imaginative recovery opportunity. Since local and state officials need to make long-term decisions that will affect and may even significantly alter the built environment, it is important that they are made aware of the opportunities for change. Among these are comprehensive neighborhood redesign, urban redesign, landscape redesign, preservation, appreciation of little known assets, and utility relocation. The silver lining of a disaster is the opportunity to remedy underperforming aspects of a city.

The architectural community should visually and verbally articulate a positive potential future. Timing is important—and, based on experience gleaned from recent disasters such as 9/11 and Katrina, time is becoming increasingly short. Using established positive relationships with allied professions and local community leaders, the AIA disaster assistance team should be ready to suggest changes to a city's comprehensive plan and building codes, and educate others in the community about the options available.

A good precedent of this type of action was the Louisiana Recovery & Rebuilding Conference that took place two months after Katrina landed where the AIA presented to more than 650 citizens, community leaders, architects, planners, engineers, business people, the opportunity to gather consensus for the planning and the rebuilding of the damaged parts of the state that fell victim of the devastation.

Often follow-up action from a disaster will require the creation of a reconstruction/redevelopment committee. This committee may enable:

- Change to the building codes.
- Design “in-house” shelter for citizens on a pro bono basis.
- Modify the city’s comprehensive plan.
- Establish a community design center for reconstruction.
- Develop design/construction guidelines.
- List tradeoffs for future development.
- Set up a government affairs agenda.
- Research and analyze case studies.
- Set up a strategy for dealing with banks and insurance companies.
- Reinforce positive relationships with agencies involved.
- Review land-use guidelines.

Long term recovery often also requires the deployment of **Design Assistance Teams**, which brings together multidisciplinary efforts to identify ways to encourage desirable recovery in a community. Since 1967 the **Regional/Urban Design Assistance Team (R/UDAT)** program has used a grassroots, charrette-style approach to help create livable communities. R/UDATs combine local resources with the expertise of professionals from across the nation. The team conducts an intensive four-day workshop onsite, engaging all members of the community in creating a vision for the future. The R/UDAT program is offered to communities as a public service of the AIA.

Leading to One AIA

The AIA continues to develop a nationwide network of volunteers who are interested in providing disaster assistance, and many AIA components are establishing new programs or growing existing ones in both scale and expertise. Collectively, this national partnership can become a highly effective means of delivering the skills of the profession to devastated regions. Together—under the theme of One AIA—the architectural community can become a clearinghouse for information, a source of the latest research and manuals on hazard-resistant design and planning, and a beacon of hope in the most dire of times. By developing a comprehensive response system, the AIA and its members will become the leaders of a new day. The AIA Center for Communities by Design is committed to developing such a program.

IMPLEMENTING A DISASTER PROGRAM AND RESPONSE

LOCAL PROGRAMS

AIA local components should establish rosters of potential volunteer members, provide training and maintain supplies for the volunteers to work with. Each component needs to understand the capabilities and willingness of its members statewide. A directory of all human resources in the region or state promotes such an understanding and should include not only architects but also the allied professional organizations and trades that will need to be marshaled. If there is an overriding lesson that's been learned from the Gulf Coast experience, it is that communication and coordination are vital—especially as affected areas may be without power, telephone, or public services for at least a week.

Partnerships

To avoid duplication of rescue efforts, a coalition must be formed by representatives from local agencies dealing with construction, code enforcement, general contractors, home builders, insurance industry representatives, other professional associations, and churches. A list of contacts in each of these organizations must be maintained and include cell-phone and e-mail information. Relevant groups include but are not limited to:

- Code enforcement officials
- Allied professionals
- General contractors
- Homebuilders
- Construction organizations
- Insurance industry
- Civic and religious organizations

WHEN DISASTER STRIKES

After a disaster strikes, architectural expertise must be provided as quickly as possible to assess the nature and extent of the damage. The disaster team's response should be patterned on the general plan formulated prior to the disaster, with any necessary emergency changes. State and local members of the AIA disaster assistance team will be called, depending on need and expertise.

Adequate accommodations for out-of-town team members must be secured and can be problematic. In the Gulf Coast, this remains challenging even today, given the great many displaced citizens needing temporary housing. It is therefore critical to rely on component members who can travel in and out of the affected area without need for housing.

Local Government Responsibilities

Local governments are responsible for protecting citizens from a disaster within their community.

When an incident occurs, local government has the responsibility to:

- Warn and evacuate citizens
- Alleviate suffering
- Protect life and property
- Report damages to the State Emergency Management Agency (EMA)

State Responsibilities

State officials will:

- Gather damage information
- Augment local resources
- Governor implements State Emergency Operations Plan
- Request federal assistance, if necessary

State Emergency Management Agency

The Mission of the State's Emergency Management Agency is to provide a 24-hour operation to reduce the loss of life and property, and to protect citizens from all hazards by providing and coordinating resources, expertise, leadership and advocacy.

The Response Preceding AIA Members

The need for a disaster assessment begins with some type of incident within your community which requires an emergency response to assist the public in protecting life and property.

In order for government to respond effectively and quickly, there must be a mechanism to provide local decision makers with information on the magnitude and scope of a disaster. Local departments and volunteer organizations will respond to the emergency. Local government officials may make a declaration of disaster. The state Emergency Management Agency (EMA) will request a copy of the local declaration at the time a request for state or federal assistance is made.

The local emergency management personnel will utilize local fire protection, EMR and police information and support for the initial disaster information. This information assists them in making a determination to request State assistance. This is the report shared with the State and typically done in the first couple of hours following a disaster while search and rescue is taking place. This local rapid assessment by local emergency services Assesses injuries, fatalities, identifies affected area and damage to government owned facilities (infrastructure), critical care facilities, homes, businesses, and develops an initial needs assessment

Local emergency management officials notify the state Emergency Management agency and report information collected. Local jurisdiction will request state assistance through the state Emergency Management agency. A copy of the local declaration of disaster is provided. Officials at the state level review the data collected and determine whether to notify area coordinators and staff to deploy for evaluation and determination of volunteer needs. If information does not warrant further evaluation it will not be done. State EMA advises the Governor whether to start the federal recovery process, a Preliminary Damage Assessment (PDA). If the PDA is authorized a formal State of Emergency or State Disaster is declared.

DAMAGE ASSESSMENT RESPONSE

When a PDA is needed and the program activated, a response team with one lead contact person should be assembled, volunteers contacted, location of command center provided and special needs broadcast. Each member will be assigned a specific job from a list of responsibilities that includes field evaluation work; connecting with local, state, and federal officials; "Good Samaritan" on-site consultations; and press outreach.

Assessment Team leaders:

- organize and contact architects in affected disaster area.
- establish contact with state & local components.
- organize assessment teams to assist local building inspectors & other design professionals to review structural safety.

Focus of the rapid disaster assessment is on safety and habitability. Its purpose is to provide information on:

The extent of damage: rural vs. city, critical care facilities, businesses, damage, injuries, deaths, evacuations, etc.

The type of damage: homes, apartments, mobile homes, agriculture, infrastructure, communications, utilities, etc.

The impact on the community: deaths, injuries, search & rescue, unemployment, disruption of services, no available housing, etc.

If a Local/State Disaster Assessment is required, the local jurisdiction (building department) should provide:

- A local Point of Contact
- Address and location to meet
- Map or parameters of the incident
- Liaison to the AIA Disaster Assessment Team
- Access to copier, telephone, fax, etc.

Assessment Team Operations

Response teams are field teams going to each structure and evaluating the damages. The teams will determine the perimeter. Their information forms are returned to the Disaster Assessment Command Center. Administrative Assistants at the Disaster Assessment Command Center will review, add information (missing addresses, owner, property valuations, etc.) and compile the forms turned in from the field. The areas are mapped on a large area map to chart the path and identify areas yet to be inspected. When all the information is in and the evaluations complete there are typically a few that were missed or need a second inspection. When all information is in then the information is assembled into a report.

When there is total destruction, damage assessments are easier to make. However, the psychological affects are greater. This is why it is important for the supervisor of the field inspection teams to check on the teams and bring them back to the command center every two to three hours.

Keeping the Public Informed

Appoint one person as a media spokesperson for the team. This is typically more relevant in long recovery events but for short lived disasters such as floods and tornados often information should be feed to the local elected officials and let them be the spokesperson.

Team Personnel

It is important to look at your state and identify separate areas so if an event happens in one area others can assist and are know what to do. Typical roles of each team are:

State Co-coordinators: the chief AIA volunteer and chief building department official who direct the damage assessment program

Area/Regional Co-coordinators: AIA volunteers and building department officials responsible for damage assessment in a particular area of the state

Primary Disaster Co-coordinators: the AIA volunteer and building department officials responsible for damage assessment at the site—usually the area coordinators

Damage Assessment Teams: Typically an architect, a building inspector, and an assistant, who perform preliminary damage assessment

Disaster Assessment Operations Center

Often times the AIA damage assessment teams will be temporarily added staff to a local jurisdiction, and will use their temporary office. Other times, a centralized headquarters will facilitate communications, coordination, and training. A conference room at the local AIA chapter or an architect's office can serve as the team's "war room" and readied with the appropriate equipment.

Essential items:

- Telephone (if local system working)
- Large area for data assimilation and group conference.
- Area for check-in/check-out
- Area for eating and resting

Emergency electrical power:

Emergency power usually included in the Local Emergency Operations Plan. Consult with the jurisdiction's Emergency Management Director to insure that the Disaster Assessment Operations Center will have emergency electrical power.

Alternate Locations

Do primary and alternate locations have emergency generators?

Field Supply and Materials for Volunteers

Individual Equipment

- Identification badge
- Hardhat
- Clipboard
- Notebook
- Pens and pencils
- Permanent markers--black
- Flashlight, extra batteries

Optional Equipment

- Orange safety vest
- Disposable camera
- Pocket Knife
- Sleeping bag
- Cash for personal expenses
- Extra clothing for 2-3 days
- Rubber/waterproof boots (for flood damage areas)

Maps

Maps are critical to the operation. They provide a visual of what is out there. It is difficult to envision the extent of the damage without the maps. Equally it is essential to use the maps to assign areas for the field teams to inspect. Typically a two square block is assigned at a time (2 hours in the field). Aerial maps are equally critical when areas have been completely destroyed and you don't know what was there. Recently GIS mapping has been used when available. Maps Checklist:

- ▣ Large jurisdictional maps (2) Includes all major buildings with brief descriptions.
- ▣ Field maps (10 or more) Identifies block and street names and address numbers to assist inspectors identify correct street addresses. Coordinate with the property ownership list. May be based on tax assessment/ subdivision maps.

- ❑ Address maps (10 or more) Helps field inspection teams to find their location. Provides method to identify correct address and legal description at disaster assessment operations center.
- ❑ Aerial photographic map. Shows structures and buildings on each lot and parcel of land. Acquire from County GIS or tax appraiser.
- ❑ GIS maps (if available)

R. A. MORRIS SUBDIVISION						
HELEN STREET						
SUMMIT AVENUE	800	802	804	806	808	KELLY AVENUE
	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	
	LOT 10	LOT 9	LOT 8	LOT 7	LOT 6	
	801	803	805	807	809	
BOBBIE STREET						
SUMMIT AVENUE	800	802	804	806	808	KELLY AVENUE
	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	
	LOT 10	LOT 9	LOT 8	LOT 7	LOT 6	
	801	803	805	807	809	

Sample Field Map

Field maps may show the subdivision name, street addresses, and lot and block numbers so that damage assessments can be correlated with property tax assessment records. . This is the area assigned to a team. The field assessments are all done on foot, occasionally teams will need to drive to an area, or close to an area.

Damage Assessment Report

AIA has a damage assessment report form available. States with programs also have forms that may be a little different. Each state may need to review and develop its own forms to suit its own needs. Typically all need to have the same base information: address, condition, owner, insured, comments and a percent of damage based on an assessment chart to be discussed later. (See AIA Sample on next page)

AIA DISASTER ASSISTANCE PROGRAM – DAMAGE ASSESSMENT REPORT

Owners Name: _____ Date: ____/____/____ Phone: (____) ____-____ eMail: _____
(Please Print) (Please Print)

Address: _____ Age of Building: ____ Survey Team: _____
(Please Print)

❖ **Instructions: Please fill in the (O) completely (●). Please Do Not Use a x or a ✓.**

1. Overall, what is the extent of the damage?

- Inspected (Green Placard)
- Restricted (Yellow Placard)
- Unsafe (Red Placard)

2. What is the owner estimated pre-disaster value?

- \$100,000 - \$199,999
- \$200,000 - \$299,999
- \$300,000 - \$399,999
- \$400,000 +

3. What is the primary use of the structure?

- Single-Family Multi-Family
- Commercial Other: _____

4. Please select as many answers as needed to best describe the structure:

- Wood-Frame Brick Veneer Wood Wood Shingle Roof
- Concrete-Block Stucco Wood Joists Asphalt Shingle Roof
- Masonry Siding Steel Joists Built-Up Roof
- Other: _____

5. Please select the answer that best explain the type of wind and/or water damage:

	None/Minor	Moderate	Severe	Needs Detailed Evaluation
Wind Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depth of Water in Structure:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	6" – 11"	1' – 2' 11"	3' – 4' 11"	5' +

6. Please select the answer that best explain the damage to the exterior of the structure:

	None/Minor	Moderate	Severe	Needs Detailed Evaluation
Structural	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exterior Walls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roof	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Garage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please select the answer that best explain the damage to the interior of the structure:

	None/Minor	Moderate	Severe	Needs Detailed Evaluation
Floor Level _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Floor Level _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partition Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Door Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Storm Doors Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Window Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Storm Windows Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ceiling Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electrical Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plumbing Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mechanical Damage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Architect's Remarks: _____



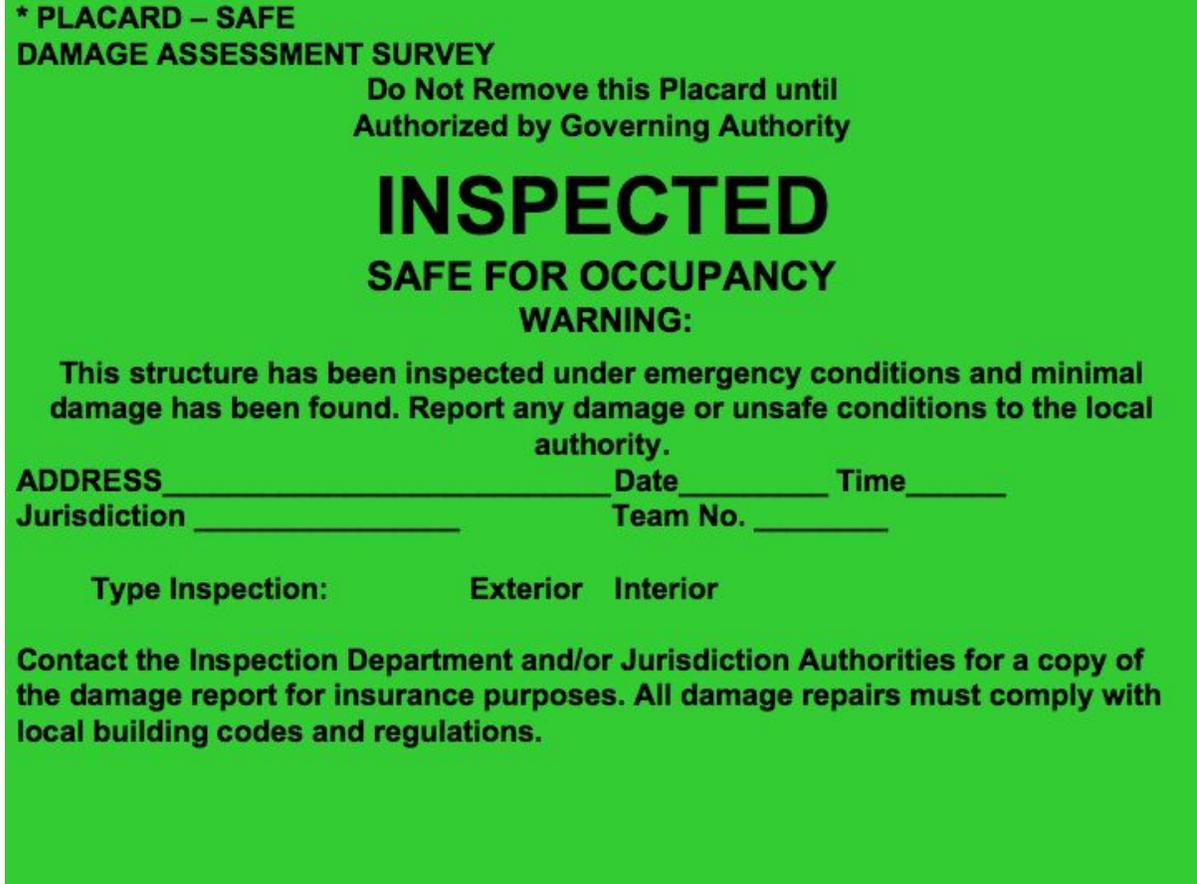
ASSESSMENTS TEAMS IN ACTION



Teams determine safety of each structure and apply appropriate placard:
GREEN, YELLOW or RED

Presently FEMA does not have a standard system adopted. But rather it has a set of recommendations and requirements. Currently these requirements look at a placard system recognized by the state, which matches at least the three levels marked by the **green, yellow, and red** placards. It is then at the discretion of the state to implement such a system with local modifications as they see fit. Language reflecting this notion is common in many states.

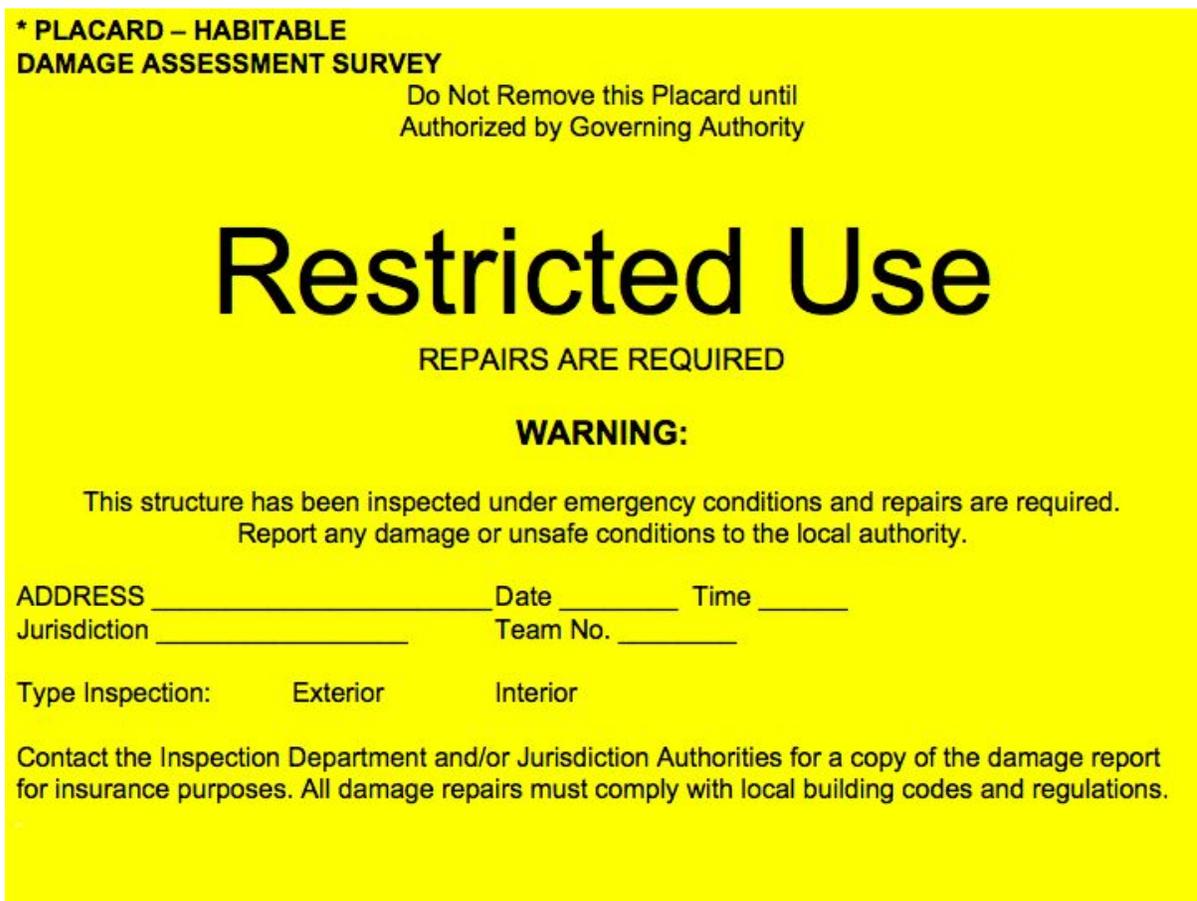
Team members will meet several affected individuals and families. Providing information sheets and phone banks to give and receive information will help the survivors and allow the teams to move more quickly through the damaged area. If this information is not available let them know to listen to their radios or watch television and the local officials will advise them where to get help and what to watch out for.



INSPECTED: (Green Placard) Buildings can be damaged, yet remain safe. If the safety of a building was not significantly changed by the disaster, it should be posted with a green placard reading INSPECTED.

Examples of damage considered Safe:

- Temporary utility and/or access interruption.
 - Debris and/or flood water in yard.
 - Cosmetic damages to interior and/or exterior of structure.
 - Structures with less than \$100 damage.
 - Home can safely be lived in without repairs. No housing requirement.
 - Water did not get in the hotwater tank or furnace.
- Water intrusion in non-essential living space only.



RESTRICTED USE: (Yellow Placard) When there is some risk from damage in all or part of the building that does not preclude individuals from entering the structure, a yellow tag should be used. The placard should indicate the specific restriction (i.e., entry, duration of occupancy, use, etc.). When the extent of damage is uncertain or cannot be ascertained within the time and resources available to a Rapid Evaluation team, the building should be posted with a yellow placard reading RESTRICTED USE indicating additional inspection requirements, and any restrictions on use or occupancy should be clearly noted on the placard.

Examples of damage considered Restricted Use:

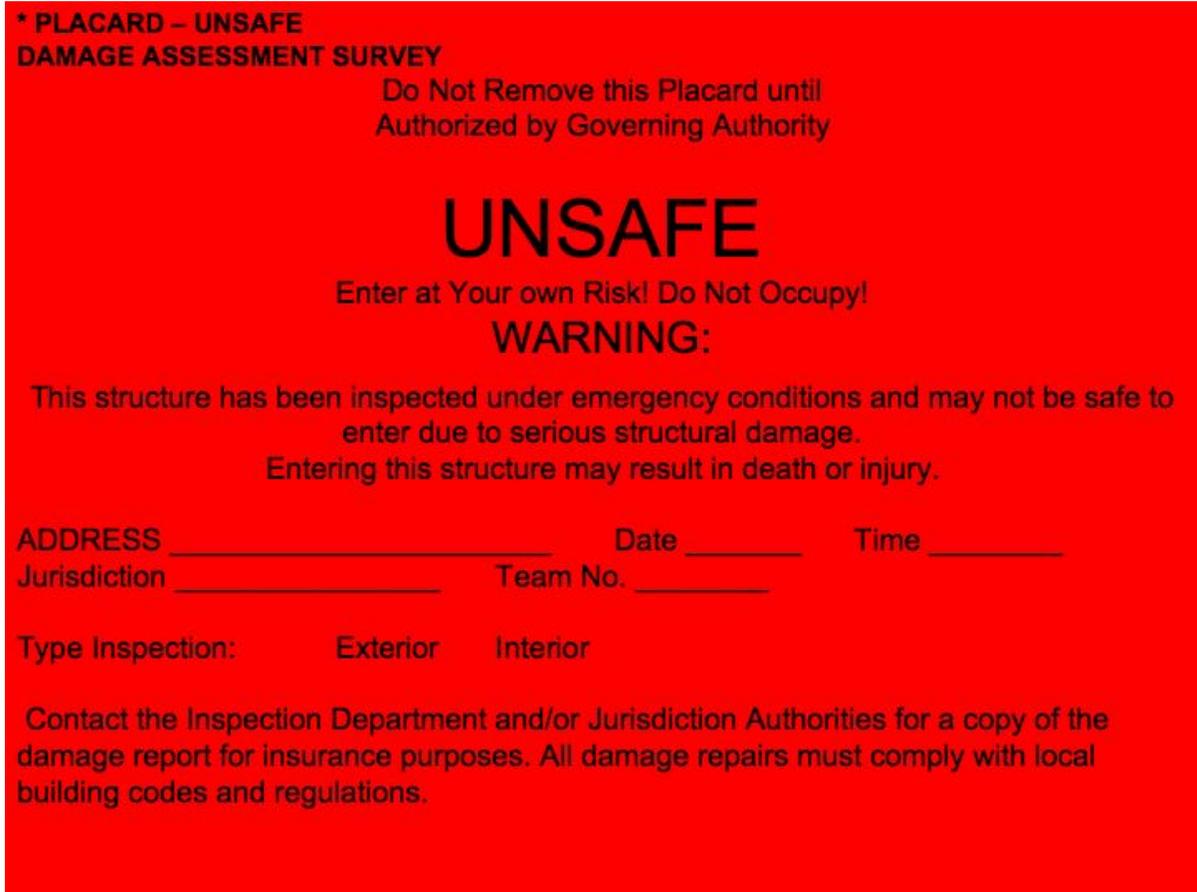
- Damage that requires more than 30 days to repair.
- Damage to structural components (foundation failures, load carrying wall failures, damage to framing components of roof)
- Loss of access to building that cannot be re-established.
- Rental assistance required by renter or owner.

- Water standing for more than 24 hour or more will cause sheetrock to wick and cause more damage.

What was minor damage will now become major damage.

- Concern for mold.
- Between 24-48 hours floor tile and linoleum will begin to buckle.
- Between 48-72 hours sub-flooring will begin to buckle.
- Prolonged utility and/or access interruption requiring alternate housing for resident.
- Debris and/or flood water in yard that poses a health and/or safety issue for resident.
- Damage that affects the safety, sanitation, and/or security of the residence.
- Clean and sanitize.
- Clean and test furnace.
- Damage to appliances (washer/dryer/freezer).
- Insulation, duct work, belly-board damage on a mobile home.
- Structures with more than a trace of water in finished basements (four inches of water in unfinished basements).

Structures with wind/hail damage to roof and exterior that require replacement of shingles, roof sheathing, windows, doors, or siding.



UNSAFE: (Red Placard) Buildings damaged by a disaster that pose an imminent threat to life or safety under expected loads or other unsafe conditions should be posted with a red placard reading UNSAFE. These are not demolition orders.

The actual posting of a structure is accomplished by mounting the appropriate placard in a clearly visible place near all usual points of entry to the building or when unsafe or inaccessible, in another convenient location outside the structure.

- Structure is not economically feasible to repair.
- Complete foundation and/or structural failure.
- Imminent danger situations (slide/collapse hazard).
- Rental assistance will be required.
- Individual will be out of their home for more than 30 days.



Crawford County, KS tornado 2004
Red tag placed wherever it will most likely be seen

Damage Assessment Tool

Assessing damage consistently is a must. When several levels of damage are observed at the same site, record the highest level of damage and the highest percentage of damage.

Inspected (Green)

- 10%
 - Broken windows
 - Business signs damaged
 - Damage to landscape
 - Vehicle damage
 - Seepage
 - Water in basement

Restricted (Yellow)

- 20%
 - Chimney damage
 - Porch or deck damaged
 - Parking lot damages
 - 1" to 2" of water on 1st floor or slab (no basement)
- 30%
 - Smoke damage

	<p>Fire escape not usable</p> <p>Shingles or roofing missing</p> <p>Fleet/vehicle damage</p> <p>Several feet of water in basement</p> <p>Less than 6" of water on 1st floor of home or apt</p> <p>Sewer backup</p>
40%	<p>Interior floors and walls damaged</p> <p>Minor damage to exterior walls</p> <p>Business inventory destroyed</p> <p>Trees fallen on structure</p> <p>Less than 12" of water on 1st floor of SF home or apartment</p>
50%	<p>1 room destroyed</p> <p>Exits blocked</p>
60%	<p>Foundation damaged</p> <p>Insulation damaged</p> <p>Exterior wall damaged</p> <p>Equipment damaged</p> <p>18" to 2' of water on 1st floor of SF home or apt</p>
70%	<p>Exterior frame damaged</p> <p>Roof gone or collapsed</p> <p>Outbuildings damaged</p> <p>2' to 4' of water on 1st floor in SF home or apartment</p> <p>Water above/just below bottom of mobile home</p>
Unsafe (Red)	
80%	<p>Structure moved off foundation</p> <p>Walls collapsed</p>
90%	<p>Structure leveled above foundation</p> <p>2nd floor gone</p>
100%	<p>Structure cannot be repaired</p> <p>Structure leveled</p> <p>4' or more of water on 1st floor in SF home or apartment</p> <p>6" or more of water in a mobile home</p>

Additional Training and Certification Models

ATC (Applied Technology Council) training and certification has a long history and recognition in scientific observation and evaluation of structures, particularly in earthquakes. California was the first state to base its response models under ATC guidelines and recognizes its certification. Other states are following suit. Recently FEMA has announced its financial support of states using this model.

The Kansas program has existed for some 25 years and is based on a combination of the California and Texas plans. The architects and building officials work closely with and as an extension of the Kansas Emergency Management Office. FEMA recognizes their evaluations and accepts them.

TSA Disaster Action, Inc.

Texas established its disaster assistance corporation in light of the great cooperation needed between local, state, and national architects. TSA Disaster Action, Inc., is a non-profit corporation, which was incorporated in the State of Texas in July, 1971. It was created as a wholly owned subsidiary of the Texas Society of Architects (TSA) to provide a tax-free mechanism through which the design professions and other allied groups could respond quickly and effectively to the restoration needs of the people of any community in Texas if and when their living and working shelters are ravaged by a disaster. The idea was conceived by members of TSA because of growing concern that disaster restoration should be more effective and should improve living conditions over those that existed prior to the disaster.

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Special thanks and recognition to all the volunteers and friends that with their dedication and effort have supported the AIA's disaster assistance program over the years and are making it a essential element of livable communities.

ADDITIONAL RESOURCES

AIA Center for Communities by Design

The AIA Disaster Assistance Program is hosted at the AIA Center for Communities by Design. The Center is a catalyst, convener, and source of information that helps AIA members work with citizens and other stakeholders to envision and create more livable communities. The Center believes that architects are critical to designing safe, attractive, economically viable, and environmentally sustainable communities. The Center develops a broad range of materials, research, articles and other resources to foster livable communities. For these tools, including updates to this handbook and additional resources related to Disaster Preparedness and Assistance please visit:

www.aia.org/livable



AIA Communities by Design: www.aia.org/livable