

## **MITIGATION: MINIMIZING THE EFFECTS OF DISASTER**

Investing in preventive measures that reduce the impacts from the next inevitable disaster is called "mitigation."

### **MITIGATION**

Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the damaging effects of unavoidable emergencies.

Mitigation can take place before and after emergencies.

Information learned from past disasters helps identify mitigation steps to be taken in the future. Following a major disaster, emergency management officials and structural engineers evaluate compliance with the effectiveness of current mitigation standards, the effectiveness of current mitigation standards, and work to develop more effective ones.

Many preparedness measures are mitigation measures. Developing household disaster plan is a mitigation activity.

### **STEPS**

The following disaster-specific mitigation steps will help reduce the amount of structural damage to your home and financial loss from building and crop damage should a disaster occur:

#### **Earthquakes**

- Have your building evaluated by a professional structural design engineer. Ask about home repair and strengthening tips for exterior features such as porches, front and back decks, front and back decks, sliding glass doors, canopies, carports and garage doors.
- Check to see if your house is bolted to its foundation.
- Bolt down or reinforce water heaters and other gas appliances. Use flexible connection whenever possible.
- Place large and heavy objects on lower shelves and securely fasten shelves to walls.
- Anchor overhead lighting fixtures to the ceiling.
- Repair deep plaster cracks in ceilings and foundations and make sure they are not indications of structural damage.
- Install flexible pipe fittings to avoid gas or water leaks.
- Follow local seismic building standards and safe land use codes that regulate land use along lines.
- Purchase earthquake insurance.

#### **Extreme Heat**

- Make sure your home is properly insulated. This will help to conserve electricity and reduce your home's power demands for air conditioning.
- During a drought, conserve water by placing a brick, or another large solid object, in your toilet tank to reduce the amount of water used in flushing.
- If you are a farmer, consider developing alternative water sources.

### **STEPS**

#### **Floods and Flash Floods**

- Ask your insurance agent about the National Flood Insurance Program. Homeowners policies do not cover flood damage.
- Avoid building in a flood plain unless you elevate and reinforce your home.
- Construct barriers such as levees, bents and floodwalls to stop floodwater from entering the building.
- Seal walls in basement with waterproofing compounds to avoid seepage through cracks in the walls.

#### **Hurricanes**

- Install permanent shutters on your windows.
- Install protection to the outside areas of sliding glass doors.
- Elevate coastal homes.
- Strengthen garage doors.
- Strengthen unreinforced masonry.
- Trim back dead or weak branches from trees.

- Ask your insurance agent about the National Flood Insurance Program. Homeowners policies do not cover flood damage.

#### For More Information

For more information about current mitigation procedures, contact your local emergency management office or building office.

#### Landslides and Mudflows

- Consult a professional geotechnical expert for opinions and advice on landslide problems and on corrective measures you can take.
- Plant ground cover on slopes and build retaining walls.
- In mudflow areas, build channels or deflection walls to direct the flow around buildings.
- Install flexible pipe fittings to avoid gas or water leaks.

#### Thunderstorms and Lightning

- Install lightning rods. Lightning rods will carry the electrical charge of lightning bolts safely to the ground, greatly reducing the chance of a lightning-induced fire.
- Insure crops against financial loss from storm damage through the Federal Crop Insurance Corporation of the U.S. Department of Agriculture.
- Trim back dead or weak branches from trees.

#### Tornadoes

- Tornadoes can create wind and rain-driven impact similar to that of hurricanes. So, many of the effects of hurricanes such as installing shutters and strengthening masonry can also minimize the effects of tornadoes.
- Check local building codes and ordinances for safety requirements, such as the use of wind-resistant designs.

#### Tsunamis

- Avoid building or living in buildings within several hundred feet of the coastline.
- If you must live in a coastal building, ask your insurance agent about the flood insurance.
- Elevate coast homes. Review the mitigation activities under the section titled "hurricanes."

#### Wildland Fires

- Obtain local building codes and weed abatement ordinances for structures built near wooded areas.
- Use fire-resistant materials when building, renovating or retro-fitting structures.
- Create a safety zone of "fire break" to separate the home from combustible plants and vegetation. Stone walls can act as heat shields and deflect flames.
- Install a spark arrestor on your chimney and keep your chimney clean.
- Clean roof surfaces and gutter regularly.

#### Winter Storms

- Purchase flood insurance to cover possible flood damage that may occur during the spring thaw.
- Install storm windows or cover windows with plastic from the inside.
- Install snow fences in rural areas to reduce drifting in roads and paths and

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