

# EARTHQUAKE FAQ FOR PROPERTY MANAGERS

## 1. How big of an earthquake will this building withstand?

The ability of a particular building to withstand an earthquake is influenced by a number of factors. Since every earthquake is different, we have no real way of knowing how our buildings will fare. All of our buildings were built to code at the time of construction and it is our understanding that not a single steel frame building in the United States has ever collapsed due to an earthquake.

## 2. Is this building on rollers?

There are a number of earthquake resistance techniques that may be used in the design and development of commercial office buildings. Buildings built on rollers are actually quite rare. All of our buildings were designed and constructed with other proven earthquake resistant methods and all met or exceeded code at the time they were built.

## 3. What is the triangle of life and should I get in a doorway?

The triangle of life theory was developed by Doug Copp. Mr. Copp has stated that his studies indicate that getting underneath objects is very dangerous and fatal should the building collapse. He also states that "everyone who gets under a doorway when a building collapses is killed". These statements are based on his observations of damage after an earthquake in Turkey. The American Red Cross has stated that comparing building safety in Turkey to that in the United States is apples to oranges. The building management office follows the American Red Cross, which recommends "Drop, Cover and Hold On" as the best course of action in an earthquake. Additionally, modern construction does not provide more protection in doorways and doors swinging in the doorway can cause injury. Therefore, doorways should not be used as refuge areas.

## 4. Who provides emergency supplies and what supplies are needed?

Supplies are ultimately the responsibility of the individual company or their employees. If your company provides supplies, they must be checked on a regular basis and any expired or outdated items replaced. In the past, it was recommended that every person have at least three days supply in their homes, cars and offices. Recently the American Red Cross has increased the period to one week. Suggested emergency supply lists can be obtained from most local fire departments, the American Red Cross or numerous web sites including FEMA. We strongly recommend that all of our tenants are prepared to be self-sufficient as it is most likely that emergency personnel will be very busy and not available to help individuals.

## 5. What information or instructions will building management provide us?

Compliments of Universal Protection Service



Initially, building staff will be looking to their own safety. Once the shaking stops, building management and their teams will be assessing the building and may not be able to communicate for a period of time. Occupants must act in their own best interest until information can be provided. If building systems are functioning properly, you may get PA announcements from building management or emergency personnel regarding any news of the earthquake.

**6. What support will the building staff provide?**

Building staff will assess base building infrastructure and perform a preliminary building safety inspection. All tenants should inspect their own suites for medical emergencies, broken fire sprinkler heads or pipes and any other building damage. Additionally, all tenants will need to determine the safety of their own space and make a decision on whether or not it is safe to occupy immediately following an earthquake.

**7. When should we evacuate?**

The decision to evacuate will most often be made by the individual. In most cases you are safer remaining in the building due to the potential for aftershocks. Unless we are instructed by emergency personnel, we will not tell you to evacuate or to stay in the building. If, however, the building's alarm system is activated, please follow the building's normal emergency evacuation procedures to the extent possible.

**8. If we evacuate, what is our safe refuge area?**

If you decide or are forced to evacuate due to fire, structural damage or other circumstances, you will need to use your own best judgment in determining a safe refuge area. The safe refuge areas for fire evacuations may not apply for earthquakes. If you do evacuate, you should be prepared to report anyone missing from your group, anyone injured in your area and any persons needing assistance. A method of communication with co-workers should be established before the emergency.

**9. What if we get stuck in an elevator?**

Most elevators have seismic sensors that cause the elevators to shut down in an earthquake. If you are stuck in an elevator that does not function properly, wait a few seconds to determine if it will move. If still stuck, use the cab telephone or intercom to call for assistance, refer to the instructions posted in the elevator cab. Sit on the floor and remain calm. Wait for assistance to arrive, you should not try to climb out through the roof or pry the doors open. Response time may vary depending on the magnitude of the earthquake.

**10. What do I do if I'm in the parking structure?**

The same standards for building structures apply to parking structures. In a parking structure, try to stay in between vehicles and do not get under vehicles.

Move to an interior wall or support column, get down on your hands and knees and protect your head and neck.

**11. How will we communicate with the building staff or emergency personnel?**

If telephones are functioning, they will be used for emergency/triage style communications only and response will be prioritized by the areas of the greatest need. If telephones are not functioning, email or text messaging or the building's public address system may be used. All communications will depend on which systems are functioning and operable.

**12. How do we prepare for a tsunami?**

Listen to radio reports for warnings after a seismic event. If near the ocean, watch for a rise or drop in water level. Move to higher ground as soon as possible and if safe to do so.

**13. Do earthquakes occur at particular times or during certain weather conditions?**

Earthquakes can occur at any time of day and in any type of weather. Many people remember the conditions during a memorable earthquake but not the unmemorable ones.

**14. Does the building provide training for occupants?**

Yes, the building provides an online emergency preparedness training program which covers everything from fires to earthquakes. All occupants may be required to participate in the training program within 14 days of occupying the building and to repeat the training annually. Please contact your employer or the building management office for information.

**15. Will the telephone system work?**

It is likely that regular telephone service as well as cell phone service will be disrupted. This may be due to telephone system malfunction or to system overload due to the numbers of people attempting to make calls. Telephone service may also be limited by the telephone company to 9-1-1 calls only. In modern office buildings, the telephone switching systems are located within the individual suites and if power is lost, these systems will not work. Many fax machines are assigned a dedicated (analog) line not operating through the phone switching system that may work when other systems do not. Pay phones may also work in these situations.

**16. Will the building lose power?**

It is possible that the building will lose power. In most cases the building's emergency generators will provide emergency power within a few seconds. Typically, emergency power will only operate the building's emergency systems

(alarms, fire panel etc.) and one elevator. If elevators are operable at the time, one elevator per group will run on emergency power.

### **17. How will I communicate with my family?**

Communicating with anyone following an earthquake using cell phones and other forms of modern communication may not be available. Therefore, it is important to develop a family communications plan in case family members are separated from one another (a real possibility during the day when adults work and children are at school.)

Ask an out of state relative or friend to serve as a family contact. After a disaster, it's often easier to call long distance than make local calls. Therefore, all of your family members should call the out-of-state relative or friend who will help reconnect you with your family members. Make sure all of your family members always carry emergency phone numbers with them.

Another plan you can create is to predetermine a meeting location where all family members will head to after an earthquake to reunite (i.e., home, school or church.)

### **For Additional Information, please refer to the following web sites:**

[www.earthquakecountry.info](http://www.earthquakecountry.info)

[www.redcross.org](http://www.redcross.org)

[www.earthquakeauthority.com](http://www.earthquakeauthority.com)

[www.oes.ca.gov](http://www.oes.ca.gov)

[www.fema.gov](http://www.fema.gov)

[www.seismic.ca.gov/sscpub.htm](http://www.seismic.ca.gov/sscpub.htm)

[www.scec.org](http://www.scec.org)

[www.earthquake.usgs.gov](http://www.earthquake.usgs.gov)

**RJWestmore**  
Training Systems



**EMERGENCY SUPPLIES AT WORK GUIDELINES**



## EMERGENCY SUPPLIES AT WORK GUIDELINES

***Be ready to survive without outside assistance for at least 72 hours***

### Remember to:

- Read and practice your company's emergency plan.
- Know your individual responsibilities and your role in your company's plan.
- Familiarize yourself with exit routes, fire extinguishers, alarms and emergency supplies locations.
- Make kits for your home, office and vehicle.
- Remember to store items in waterproof, insect-proof containers that can easily be carried or transported to another location.
- Be prepared at home by anticipating the requirements of schoolchildren, infants, seniors, pets and people with special needs.

### EMERGENCY FOOD



Keep enough food to feed each person for **at least** three days. Each survival pack should contain 2400-3600 calories of pre-packaged food. (The food should supply 100% of daily recommended vitamins and minerals and should not contain common allergens such as peanuts, coconut, tropical oils, etc). The food should be pleasant tasting, non-thirst producing and stored in individually-sealed packages. Try to choose foods that have a five-year shelf life. Remember to pack proper utensils, cups, plates, can openers, etc., as necessary.

You may also want to consider storing a two-week supply of food and water in your home. Remember infants (formulas, diapers, bottles, medications) seniors (prescriptions, special equipment, batteries for hearing aids, eyeglasses, special food) and your pets.

### EMERGENCY WATER SUPPLY

Have at least a three-day water supply per person (minimum of two quarts per person, per day. The recommended quantity is one gallon per person, per day. Survival water should have a five-year shelf life, meet SOLAS-USCG (*Safety Of Life At Sea – US Coast Guard*) requirements, able to withstand extreme temperatures and remain relatively spill-proof and durable.







Package options include:

- Individual serving (juice-box type) with straw
- Foil pouches
- Individual water-filtration bottle (used to capture potable water for distribution)
- One gallon water storage bag (with carry-handle, easily sealed, folds flat when not in use)
- Water purification tablets (to purify available water)
- 55-gallon water barrel (five-year storage capacity) FDA approved resin container with water preserver concentrate.
- Water preserver concentrate (use with tap water to store water for up to five years)
- Consider potable sources of water in the building (water heaters, drinking fountains, etc)
- Pure Bleach for emergency water purification
- One gallon of bleach = 3,800 drinking water or, two drops of bleach per quart of water, or eight drops per gallon or,  $\frac{1}{8}$  teaspoon per five gallons of water. If water is cloudy, double the dosage.



- **Bleach as a Sanitizing Solution** - Mix one tablespoon of bleach with one gallon of water. (Rinse items first, then let solution soak for two minutes) [ DO NOT DRINK SANITIZING SOLUTION]

## EMERGENCY SHELTER SUPPLIES

Emergency shelter supplies should be ready and easily accessible. Also, try to be creative when collecting supplies for your location. Shelters may not be needed for every person at your location. Nevertheless, please consider which combination of the items below make the most sense for your specific needs and circumstances:

- Ponchos with hoods (one size fits all)
- Emergency thermal (space/mylar) blankets (waterproof and windproof.) Reflects back 90% of body heat. Thermal Sleeping Bags made out of the same material are also available.
- Instant head packs (provides heat for up to 20 hours)
- Polyethylene Tarps made from reinforced rip-stop material with reinforced rust-proof grommets at each corner (10'x12' minimum size – waterproof)
- Easy-up canopy (same requirements as polyethylene tarps)
- Tube tents (heavyweight waterproof, vinyl with nylon cord)



Example of easy up canopy



- Privacy Shelter (for portable toilets...same requirements as polyethylene tarps)
- 12-man camping tent (with waterproof floor and canopy)

## EMERGENCY LIGHTING AND RADIO

During emergency situations, power is often interrupted for various amounts of time. Emergency lighting and radios are critical to your emergency-response efforts. Store them in areas that are easily accessible.



- Generators are common sources of emergency power for building systems. (Know where your company stores the generator and fuel tanks. Figure out how long it will take for emergency systems to power up as well as which systems will be supported in the event of an outage.)



- Portable generators (Never use indoors)
- Radio/flashlight combination device (Solar / Crank Generator / Battery-powered) [Separate devices are also acceptable]
- NOAA weather radio (with tone-alert feature – automatically alerts you when a watch or warning is issued (tone alert is not available in all areas). The NOAA radio also broadcasts Department of Homeland Security announcements. (NOAA – National Oceanic & Atmospheric Administration)
- Shake-light flashlight (powered by shaking - WARNING – can create magnetic field. Do not use near a compass or store near computer equipment effected by magnetic fields)



- Glow stick light sticks (12-hour)
- Power failure emergency lights – regular or fluorescent (plug into normal sockets, activate upon power failure in order to provide visibility. These can also be unplugged and used as flashlights.)

battery-life, three-mile visibility, will attract attention.) Recommend USCG approved PFD-type light which meets SOLAS 74/83 requirements.

- Emergency strobe light (60-70 flashes per minute, 15+ hour battery-life, three-mile visibility, will attract attention.) Recommend USCG approved PFD-type light which meets SOLAS 74/83 requirements.
- Lanterns (fluorescent battery-operated, recommended with 12- volt cigarette-lighter adapter. Typically uses six “D” batteries)
- Battery-operated flashlight
- Small LED-type keychain lights (these small and handy keychain lights offer a great source of limited, temporary light which can be carried at all times)
- Waterproof matches (Don’t forget to store these in a waterproof container)
  - Extra batteries for all of the above.



AM/FM radio with NOAA Weather, TV, VHF, flashlight and cell phone charger





## EMERGENCY FIRST AID SUPPLIES

Every business should have OSHA-recommended First Aid / trauma kits with enough supplies to accommodate every employee. Supplies should be stowed in a rugged plastic container in an area that is easily accessible and secure. Individual tenants should also be encouraged to maintain First Aid kits within their suites. Everyone should be encouraged to participate in CPR, First Aid or CERT (Community Emergency Response Training) classes.

First Aid kits (OSHA-approved) should include, at minimum:

- First Aid guide book including emergency phone number sheet
- Scissors
- Tweezers
- Vinyl gloves (FDA approved)
- Instant cold compress
- Triangular bandage with safety pins
- Adhesive tape
- Adhesive fabric bandages (30+)
- Gauze rolls (4.5 yards x 2")
- Knuckle bandages (at least two )
- Fingertip bandages (at least two)
- Elbow and knee bandages (at least two)
- Dressings (two ea. 2"x3" non-stick pads, six ea. 2"x2" pads and four ea. 3"x3" pads, two ea. 4"x4" pads and one sterile eye pad)
- Alcohol cleansing pads
- Antiseptic wipes
- Iodine infection-control wipe
- Hydrogen peroxide
- Insect-sting relief pads
- Triple antibiotic ointment
- Eye drops



Trauma Kits should contain all of the above and, at minimum:

- Comprehensive First Aid guide
- Ammonia inhalants
- First Aid / burn cream
- Anti-bacterial ointment
- Towelett wipes
- Scissors (EMT surgical shears)
- Forceps
- CPR mouthpiece mask
- Scalpel blade and handle
- Cotton applicators





- Sodium chloride irrigation solution
- Butterfly closures
- Body warmer pad
- Tongue depressors
- Splints
- Dressings (Bloodstopper trauma dressing, rolls of gauze, nonstick pads, sterile eye pads)
- Elastic bandages / elastic gauze
- Aspirin / non-aspirin pain relievers
- Protective gown
- Thermometers
- Splints
- Bio-hazard bags
- Eye shield
- AED
- Folding stretcher
- Triage tags
- Packaged in five-gallon watertight bucket (immune to sprinklers, insects, and easily stacked)



CPR mouthpiece mask

## EMERGENCY SEARCH AND RESCUE

Heavy search and rescue should be done by individuals who are properly trained to do so. In an emergency situation, untrained personnel may be forced to fulfill light search and rescue duties. Conduct all search and rescue efforts as a team. Items that can aid in search and rescue include:

- Durable duffel bag (to store contents)
- Saw
- Pliers / Channel vice grips / adjustable
- Caution tape (min 200')
- Steel pulley-block and tackle (2000 lb. capacity)
- Rope
- Screwdrivers (flathead / Phillips / other specific heads as per location-equipment needs)
- Emergency tool (non-spark/non-rust combination tool to turn off gas/water or to be used for prying open doors, panels, etc)
- Tarp (10' x 12')
- Safety goggles (clear, vented with adjustable strap)
- Safety vests (fluorescent vinyl – one size fits all)
- Hammer
- Hatchet
- Axe
- Hard hat (OSHA-approved for dangerous conditions)
- Duct tape
- Shovel
- Pry / Crow bar (min 24")
- Nylon cord





- Triage tags (for identification and prioritizing levels of injury)
- Whistles with lanyard
- Work gloves (heavy-duty leather-palmed)
- Latex gloves (FDA approved)
- Dust mask/respirator (N95 particulate mask)
- Flashlights
- Extra batteries (code red - must have 20+yr shelf life)
- Light sticks (both short-term (30 min.) high intensity and long-term (12 hr)
- Radio (AM/FM solar, crank, battery-powered)
- Knife (min 6" stainless steel folding blade with opposite side jagged edge or regular-handled knife (same type blade) including sheath with survival contents in handle (waterproof matches, signal mirror, wire ring saw, compass, needles, nylon line and sharpening stone)
- Smoke hood provides emergency escape breathable air (*must be USFA-FEMA approved*)
- Fire escape ladder (three-story (25 feet) minimum with slip-resistant abrasive rungs and protective sleeves on chain, roll-up type)
- Chain saw
- Folding cot
- Hose
- Bull horn (weatherproof, 10-watt / 300-yard range, high impact ABS-plastic)
- Pepper spray
- Fire extinguishers (consider number of extinguishers already in building)
- Body bags
- Signal flares
- Hand sanitizer
- Boots or high-top tennis shoes
- Evacuation safety chair
- Bicycle
- Local maps
- Compass
- Extra money (including change)
- 





Emergency communications should be part of every corporate emergency response plan. Everyone should carry printed emergency contact cards (including out of state contact information – work and family.) Having the ability to receive up-to-date emergency information is also critical. Consider the following:

- Satellite phone
- Sidewinder cell phone charger
- Short wave radio (must be licensed operator)
- Try the pay phones



Emergency notification services include:

- NC4 (real-time emergency information reporting)
- Groove Networks (emergency information sharing)

Mass notification systems and central emergency call centers are also excellent resources:

- Send emergency messages (voice, email, text) simultaneously with one call to any designated group (employees, customers, vendors, etc.)
- Establish an out-of-state emergency call center as a hub for communication.



## EMERGENCY SANITATION AND HYGIENE

Emergency sanitation and hygiene may be necessary if water supply is interrupted or sewage lines are compromised. Consider the following options:

- Bucket style toilet (self contained with seat) includes: toilet bags, toilet chemicals, wipes, all stowed inside the bucket until needed
- Portable folding toilet (store bags, chemicals and wipes stored separately)
- BioBlue Toilet Chemicals (toilet deodorant for holding-tanks, drop-in pouch dissolves in water – no opening or chemical exposure required)
- Feminine products
- Tissue pack or toilet paper
- Hand sanitizer
- Soap / Shampoo
- Toothpaste / toothbrushes
- Deodorant
- Bleach (*see instructions above in Emergency Water Supply*)
- Heavy-duty plastic garbage bags (with ties to close bag tightly)
- Large plastic bucket with tight lid
- Disinfectant (liquid and spray)
- Remember to take advantage of janitorial supplies stored in the building





## EMERGENCY VEHICLE SURVIVAL SUPPLIES

Make it a point to keep a full tank of gas (never below half a tank) A two-person durable nylon backpack-style survival kit for your vehicle is mandatory. Contents should include at least:

- Food bars (*see emergency food above*)
- Water (*see emergency water above*)
- Thermal blankets
- Poncho with hood
- Whistle
- Tissue packs
- Emergency contact information
- Light sticks (12-hour)
- Water purification tablets/drops
- N95 dust mask
- Heavy-duty gloves (leather-palmed)
- Latex gloves
- AM/FM solar radio / flashlight with crank generator (some models also include a cell phone charger)
- First Aid kit (comprehensive)



Additional contents may include:

- Medication
- Eye glasses / sunglasses
- Sun screen
- Hat
- Heavy sweater / sweatshirt (zipper type with hood to help regulate body temperature)
- Walking shoes/boots
- Tube tent with cord
- Maps
- Compass

Feel free to include anything else that you feel would be appropriate. Consider your distance from home (hours, days, etc.) and what supplies you may need if you have to walk.

## EMERGENCY TERRORISM OR HAZMAT SUPPLIES

Terrorism can take many forms. Planning ahead prepares you for a variety of terrorist possibilities (nuclear, biological, chemical - NBC). Listed are some additional examples of preparation materials you might also consider including with your emergency supplies:

- Evacuation and escape hoods (with replaceable NBC-filters)
- Protective Suit (NBC-grade)
- Military grade gas mask (M-95 NIOSH approved) also add M95 drink link canteen
- Nitrile 5mil industrial-grade protective gloves
- Silver-shield protective boot covers (resist permeation of toxic or otherwise hazardous chemicals)







- If advised to “shelter in place” due to a chemical, biological or radiological hazard, relocate to a pre-selected sealed room. (FYI: 10-sq. ft. of floor-space per person will provide sufficient air to prevent carbon dioxide buildup for up to five hours). Have rolls of duct tape, scissors and plastic sheeting ready to pre-cut to fit shelter-room openings. Building engineers will deal with HVAC systems.

## OTHER EMERGENCY CONSIDERATIONS

No one list of guidelines can comprehensively cover the myriad of circumstances that might occur in any given emergency. After you have finished making preparations outlined in this manual, you will most likely think of additional items to add. Here are some other considerations:

- Complete change of clothing and footwear (be season-conscience.) Comfortable clothing for sleeping (thermal underwear, sweatshirts, undergarments, etc.)
- Paper, pencils, pens
- Needles and thread
- Entertainment items: cards, games, books, etc.
- Extra set of keys and copy of ID, driver’s license, work ID, etc.
- Copy of important documents, passwords, legal papers, etc. (stow in sealed, waterproof material – [within an airtight, heat-sealed plastic pouch which cannot be tampered with unless cut open.]
- Copy of medical prescriptions
- Sun block
- Extra glasses or contact lens
- Sunglasses
- Spare batteries for cell phone
- Bandana
- Backpacking-type sleeping pad or inflatable mattress
- Personal evacuation kit (Put in your briefcase, purse, etc to provide for only essential support-supplies for unexpected evacuations while you’re away from your home, office or vehicle. (Include a N95 dust mask, whistle with lanyard, 12-hour light-stick, emergency thermal blanket, two 4 oz.- emergency water pouches (five- year shelf-life)
- Remember that many phone books contain First Aid and survival information.

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