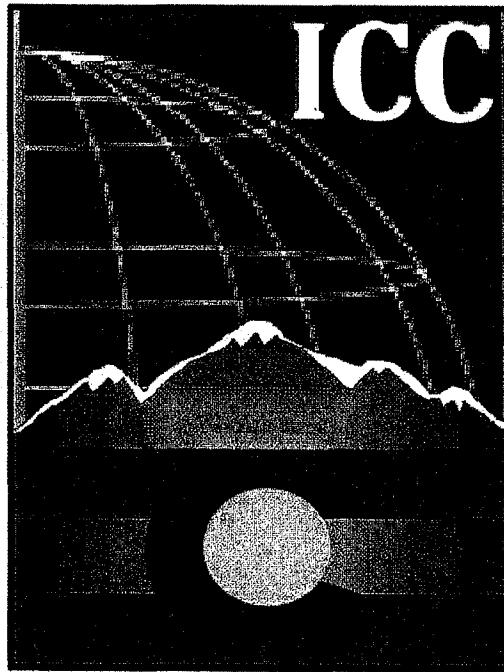


INTERNATIONAL
CODE COUNCIL



COLORADO CHAPTER

Chapter IV
Initiating Response

Local Official

- establishes need for assistance-
- contacts Division of Emergency Management-
- phone 303-279-8855-
- (24 hour emergency number)



Division of Emergency Management

- Contacts Colorado Chapter ICC-
- (see Appendix 3)



Colorado Chapter

- appoints Team Commander-
- contacts Building Assessment Team-



Building Assessment Team

- Team Commander-
- initiates telephone tree-

Chapter IV

Initiating Response

Colorado Chapter ICC response and assistance is initiated by contacting the Chapter President, the 1st Vice President, or the 2nd Vice President. The request for assistance must come from the Colorado Division of Emergency Management (DEM). Upon receiving the request the Chapter Officer will notify the Building Assessment Team Commander who will set in motion the phone notification system.

The number of personnel and equipment needs list will be determined by the Team Commander dependent upon the nature and extent of the disaster.

1. When the mutual aid system is activated, Evaluators shall be advised of the type of disaster, where and when to report, and what supplies to bring.
 - a. *The affected jurisdiction shall supply*
 - i. Official identification, if needed to access damaged area
 - ii. Maps of affected area
 - iii. Ladders
 - b. *The Evaluator shall supply:*
 - i. Clip board
 - ii. Hard hat
 - iii. Flashlight
 - iv. Tape measure
 - v. Boots, rain gear, gloves
 - vi. Sleeping bag
 - vii. Personal identification
 - viii. Personal hygiene kit
 - ix. Binoculars
 - x. Water
 - xi. Cell phone
 - c. *The Chapter shall supply:*
 - i. Sufficient numbers of forms for records and signs for posting buildings. These materials will be kept in the Chapter storage. *Team equipment to be supplied as needed and available.*
 - ii. Tools such as hammers, levels, crowbars, etc.
 - iii. Cameras and film
 - iv. Calculators, beam computers
 - v. Cassette tape recorder and tapes
 - vi. Barrier tape
 - vii. Staple guns
 - viii. Duct tape
 - ix. Vehicle identification
 - x. Office supplies (pens, markers, pads, tape, file box, folders, etc).
 - xi. Clip boards
 - xii. Batteries

- xiii. Flashlights
 - xiv. Crescent wrench
2. The Building Assessment Team Commander shall report to the overall Incident Commander or their designated representative at the disaster scene.
 3. The Building Assessment Team Commander shall brief the Team on the situation, procedures, assignments, and other operating information. The Team Commander shall also be responsible for furnishing the necessary forms and signs stored by the Chapter.
 4. All Team members (Evaluators) must register with the Team Commander prior to entering and upon leaving the disaster area.
 5. The Team Commander will conduct an initial assessment and organize Team members for structure by structure inspection.
 6. Upon completion of inspection Evaluators shall file inspection forms (*see Rapid Evaluation Safety Assessment Form*). These forms shall in turn be submitted to the Team Commander who will prepare any necessary reports and communicate results to the affected jurisdiction.
 7. Evaluators shall post all entrance doors (*see sample signs*).
 8. If a detailed evaluation is required to be performed, contact a registered engineer Evaluator (*see Detailed Evaluation Safety Assessment Form*). Following this evaluation, if a serious structural problem is found to exist, a full-scale engineering evaluation will be recommended to the owner.

Initiating Response Recommended Sequence of Events

- >Disasterous event occurs in a jurisdiction
- >Local Building Official (LBO) declares need for outside assistance
- >LBO contacts Colorado Division of Emergency Management (DEM) at 303-279-8855 or Colorado Chapter Intl Code Council member (CCICC)
- >DEM or CCICC member contacts Chapter Disaster Committee member
- >Local jurisdiction establishes a command center location
- >Team Commander (TC) is designated by CCICC for this event response
- >TC contacts County Geographic Information System (GIS) to obtain current maps for affected areas
- >TC contacts LBO for specific information as to size and scope of situation, and TC contacts Disaster Assessment Team (DAT) to have responders and TC enroute to the scene as soon as possible

>>PHASE ONE *DAMAGE ASSESSMENT*

- >TC meets with LBO and local fire and police at scene command center for briefing and maps are highlighted for damaged areas to be inspected
- >TC sets up table at command center; generate specific maps for field teams
- >Local fire department “run maps” and/or GIS maps are utilized to define areas to be inspected
- >DAT members complete a sign-in form at the command center, and receive a refresher course on damage assessment prior to deployment into the field
- >TC remains at command center as point of contact for LBO, Fire, Police, and DAT members

- >DAT members are given a DAT vest, maps of areas to be inspected, and supply of placards, emergency telephone numbers for command center personnel, and ATC-20 forms for accessing barricaded areas
- >DAT crews are deployed to specific areas to inspect damaged structures in two or three person teams
- >DAT crews utilize ATC-20 Rapid Evaluation Safety Assessment Forms and Chapter-provided placards to perform inspections and placard structures
- >DAT crews utilize cell phones to contact command center if structural engineer services are required at specific locations
- >DAT crews return to command center and turn-in ATC-20 forms to TC, and crews are reassigned if more structures are to be inspected
- >TC highlights a master map with red, yellow, and green markers for address-specific inspected structures, and data is compiled as to number of assessed structures, etc
- >TC updates DEM representative as to primary assessment status (number of inspectors, structures placarded, etc)
- >If primary assessment exceeds one day, the TC and LBO determine the anticipated number of DAT members needed to complete the primary assessment, and TC contacts members for next day's workload
- >After DAT crews have completed the primary assessment, the master map, ATC-20 forms, and compiled data are given to LBO for sharing with other jurisdiction managers (Planning, Zoning, City manager, DEM, FEMA, etc)
- >damage assessment is complete and personnel are released from the scene

- >TC and LBO calculate the number of mechanical and electrical inspectors that will be required to inspect structures in order to reconnect electrical, water, and gas utilities
- >TC contacts electrical and mechanical inspectors for deployment to inspect prior to reconnection of utilities

>>PHASE TWO *POST-ASSESSMENT ASSISTANCE*

- >LBO deploys electrical and mechanical inspectors to approve reconnection of utilities
- >TC maintains contact with LBO on a twice daily basis to ascertain the number of personnel required on scene for utilities reconnects and owner liason
- >TC contacts team members available to return to scene for deployment by LBO to roam the damaged areas and act as liasons with home and business owners, educating the folks as to the building permit process and explaining the placarding of the structures
- >team members meet at the command center with the LBO to receive vests, identification badges, and printed information on the ATC-20 forms
- >TC and LBO estimate the number of permit technicians and plans examiners the jurisdiction will require during the initial rebuilding process

>>PHASE THREE *REBUILDING AND REPAIRING*

- >the jurisdiction issues over-the-counter building permits for immediate needs (reroofing, siding, electrical, mechanical, etc)
- >CAPT to provide permit technicians for local jurisdiction during excessive demand for building permit issuance
- >TC and LBO establish the number of plans examiners required to address permit demand

Disaster Team Box Contents

**Western Slope box is in care of Dan Reardon of Delta Building Department in Delta, CO;
Eastern Plains box is in care of Larry Trumble Thornton Building Department, Thornton**

>1 WHEELED STORAGE UNIT (37lx22wx23h)

>25 BLUE SAFETY VESTS

>10 RED MESH SAFETY VESTS

>6 CLIPBOARDS

>1 ROLL CAUTION TAPE

>3 CANS SPRAY FOAM

>1 ROLL DUCT TAPE

>1 STAPLER W/ 400 STAPLES

>1 16oz HAMMER

>1 24" LEVEL

>1 24" CROWBAR

>2 CLEAR 1" BINDERS

>PLACARDS (500 EACH)

*BLUE	APPROVED TO CONNECT
*GREEN	INSPECTED
*PALE YELLOW	LIMITED ENTRY
*BRIGHT YELLOW	HABITABLE
*BRIGHT ORANGE	UNSAFE

ATC-20 Rapid Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date and time: _____ AM PM
 Affiliation: _____ Areas inspected: Exterior only Exterior and interior

Building Description

Building name: _____
 Address: _____
 Building contact/phone: _____
 Number of stories above ground: _____ below ground: _____
 Approx. "Footprint area" (square feet): _____
 Number of residential units: _____
 Number of residential units not habitable: _____

Type of Construction

Wood frame Concrete shear wall
 Steel frame Unreinforced masonry
 Tilt-up concrete Reinforced masonry
 Concrete frame Other: _____

Primary Occupancy

Dwelling Commercial Government
 Other residential Offices Historic
 Public assembly Industrial School
 Emergency services Other: _____

Evaluation

Investigate the building for the conditions below and check the appropriate column.

Observed Conditions:	Estimated Building Damage (excluding contents)		
	Minor/None	Moderate	Severe
Collapse, partial collapse, or building off foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building or story leaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Racking damage to walls, other structural damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chimney, parapet, or other falling hazard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground slope movement or cracking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

Posting

Choose a posting based on the evaluation and team judgment. *Severe* conditions endangering the overall building are grounds for an Unsafe posting. Localized *Severe* and overall *Moderate* conditions may allow a Restricted Use posting. Post INSPECTED placard at main entrance. Post RESTRICTED USE and UNSAFE placards at all entrances.

INSPECTED (Green placard) RESTRICTED USE (Yellow placard) UNSAFE (Red placard)

Record any use and entry restrictions exactly as written on placard: _____

Further Actions Check the boxes below only if further actions are needed.

Barricades needed in the following areas: _____
 Detailed Evaluation recommended: Structural Geotechnical Other: _____
 Other recommendations: _____

Comments: _____

Damage Assessment Field Report (Continued)

Percent Damaged	Damage Description
100	Structure leveled Foundation, basement damaged Water above eaves
90	Structure leveled above foundation Second floor gone
80	Water above first floor Moved off foundation Wall collapsed
70	Exterior frame damage Roof off or collapsed
60	Foundation damage Insulation damage Exterior wall damage
50	One room destroyed Exits blocked Utility damage: <div style="display: flex; justify-content: space-around; margin-top: 5px;"> furnace water heater well septic/sewer </div>
40	Interior floor, walls Minor damage to exterior walls Business inventory destroyed Trees fallen on structure
30	Smoke damage Fire escape not usable Shingles/roofing removed or missing Fleet/vehicle damage
20	Chimney damage Porch/deck damage Parking lot damage Carpets soaked on first floor
10	Broken windows Business signs damaged Damage to landscaping

ATC-20 Detailed Evaluation Safety Assessment Form

Inspection

Inspector ID: _____

Affiliation: _____

Inspection date and time: _____ AM PM

Final Posting from page 2

- Inspected
 Restricted Use
 Unsafe

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories above ground: _____ below ground: _____

Approx. "Footprint area" (square feet): _____

Number of residential units: _____

Number of residential units not habitable: _____

Type of Construction

- Wood frame
 Steel frame
 Tilt-up concrete
 Concrete frame
 Concrete shear wall
 Unreinforced masonry
 Reinforced masonry
 Other: _____

Primary Occupancy

- Dwelling
 Other residential
 Public assembly
 Emergency services
 Commercial
 Offices
 Industrial
 Other: _____
 Government
 Historic
 School

Evaluation

Investigate the building for the conditions below and check the appropriate column. There is room on the second page for a sketch.

	Minor/None	Moderate	Severe	Comments
Overall hazards:				
Collapse or partial collapse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building or story leaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural hazards:				
Foundations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Roofs, floors (vertical loads)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Columns, pilasters, corbels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Diaphragms, horizontal bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Walls, vertical bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Precast connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Nonstructural hazards:				
Parapets, ornamentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cladding, glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ceilings, light fixtures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interior walls, partitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stairs, exits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electric, gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Geotechnical hazards:				
Slope failure, debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ground movement, fissures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

General Comments: _____

ATC-20 Fixed Equipment Checklist

Building Description

Building name: _____

Address: _____

Inspection

Inspector ID: _____

Affiliation: _____

Inspection date: _____

Inspection time: _____ AM PM

Checklist

Equipment Damaged

Overall hazards:

Minor/None Moderate Severe Comments

Main boilers _____

Chillers _____

Emergency generators _____

Fuel tanks _____

Battery racks _____

Fire pumps _____

On-site water storage _____

Communications equipment _____

Main transformers _____

Main electrical panels _____

Elevators (traction) _____

Other fixed equipment _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Special concerns for hospitals and other health care facilities

Radiation equipment _____

Toxic chemical storage _____

_____ _____

_____ _____

_____ _____

_____ _____

Liquid oxygen tanks _____

Other: _____ _____

_____ _____

Recommendations/Comments:

Guidance for Owners and Occupants of Damaged Buildings¹

This appendix is intended to provide basic information to owners or tenants of buildings that suffer earthquake damage. Guidance is provided to answer many of the typical questions that arise during the postearthquake recovery period. The issues covered include (1) the safety evaluation process and the meaning of each of the three safety evaluation postings; (2) the process of securing services to perform repairs; and (3) how to obtain aid from disaster assistance organizations.

Building jurisdictions or other agencies may adapt this chapter for use as a handout or other document if the ATC source document is credited.

A.1 Understanding Safety Assessment Procedures and Postings

If a building you own or in which you reside or work is damaged by an earthquake it should be inspected by safety evaluation personnel working for the local government building jurisdiction. You can contact the jurisdiction to request this safety evaluation. The evaluation may not be possible until a few days after the earthquake, depending on the extent of local damage and the number of available qualified inspectors and engineers assigned to your area. If substantial damage is apparent, do not wait for an official evaluation of the building: the prudent choice is to discontinue use and occupancy of the building to prevent potential injuries that may occur due to collapse or other falling hazard conditions that could occur unexpectedly or as a result of earthquake aftershocks. You may want to engage a design or construction professional at this time to inspect the damage, recommend repair work, obtain emergency permits, or begin repair work, as required. This process is discussed below in Section A.2.

When an authorized safety evaluation team from the jurisdiction does arrive it is very important to cooperate with them by providing both information about observed damage and access to the building. The first safety evaluation team to arrive will likely be conducting what is called a Rapid Evaluation. They will spend 15 to 60 minutes inspecting the property, depending on its size, complexity, and extent of damage. Their responsibility is to quickly determine if a building is safe enough to occupy,

and if not, to decide what restrictions to place on its use or entry. The inspection will result in one of three posting placards (discussed below) being placed near the entrances to the building indicating the outcome of the team's safety evaluation. The team will also record the inspection findings and posting placard determination on an evaluation form for the jurisdiction.

Unsafe Posting (Red Placard)

If damage visible from the exterior obviously poses a severe hazard for entry or occupancy, the safety evaluation team may be limited to inspecting only the exterior of the building. In such cases the posting most likely to be used is a red UNSAFE placard. This placard indicates it is unsafe to occupy or enter the building for any reason. Even when a building can be entered for inspection it is still possible that internal damage could pose dangers requiring an Unsafe posting. It is also possible that an otherwise safe building must be posted Unsafe because it is threatened by falling hazards from a nearby building. The legal questions that may arise from such a circumstance are important, but unfortunately they are beyond the scope of this document.

The UNSAFE placard is posted only when there is an immediate risk associated with entry, use, or occupancy. While its meaning may vary somewhat among building jurisdictions, it usually means that the building owner must apply for a permit to enter the building by means acceptable to the jurisdiction.

¹ Reprint of Appendix A of ATC-20-2 *Addendum to the ATC-20 Postearthquake Building Safety Evaluation Procedures*, which is available from the Applied Technology Council, 201 Redwood Shores Parkway, Suite 240, Redwood City, CA 94065 (Website: www.ATCouncil.org)

These means may include engaging an engineer and contractor (See Section A.2 below) to assess the risks and, as necessary, remove falling hazards, shore unstable elements, provide protective scaffolding, or otherwise mitigate hazards.

It is very important to understand that the “red tag” Unsafe posting does not automatically mean that the property has been condemned or will require demolition. Indeed, rarely is damage so severe or the threat to either an adjacent property or important right-of-way so high that an order to demolish a building is issued. Local officials normally will contact and involve the building owner and the owner’s engineer or contractor in the process of making any demolition decisions and allowing for belongings removal. Some building owners may voluntarily choose to demolish their building if repairing it is clearly uneconomical, but again, this is not the usual consequence for buildings posted Unsafe.

There are several options for building owners for the removal of goods from buildings posted Unsafe, depending on the specific condition of a building and the policies of the jurisdiction.

1. The owner, with or without the assistance of a construction professional, proposes to the jurisdiction a method of how and where the building may be entered without hazard in order to remove belongings. If this method is acceptable to the jurisdiction, it allows the owner or tenants to enter the building in accordance with the method. The jurisdiction may require that a permit be obtained. It may also require that any entry be under the supervision of the jurisdiction or the construction professional, and that hard hats be worn by those entering the building.
2. At the discretion of the jurisdiction, the owner takes out an emergency permit to perform sufficient work on the building to make it safe to enter to remove belongings. The owner will need to present a hazard mitigation and entry plan that is satisfactory to the jurisdiction. The jurisdiction may require that licensed engineers or contractors prepare this plan and supervise its execution. This plan might include shoring of parts of the building, removal of falling hazards, construction of overhead barriers, or other means that permit safe entry to all or part of the building. This plan may or may not be a part of an overall plan to repair the building.
3. The jurisdiction may believe that the building is so precarious that no hazard mitigation measures are possible that would permit even limited entry to remove belongings. This can occur when the building condition creates an undue risk even to workers attempting to mitigate the hazards. The jurisdiction should invite the owner and the owner’s professional construction consultants to propose a mitigation and entry plan. If no hazard and mitigation plan can be proposed that is satisfactory to the jurisdiction, the building would have to be demolished with the belongings still inside. The urgency of this determination will depend on whether the building threatens an adjacent property or important right-of-way.

Jurisdictions have often taken an active role in expediting the above options when the building owner has been unwilling or unable to perform. In the case of tenant demands for access and owner inaction, the jurisdiction may mitigate hazards as necessary to allow for limited belongings access. The jurisdiction may proceed with demolition if the need is pressing and the owner is uncooperative.

Restricted Use Posting (Yellow Placard)

An intermediate posting called Restricted Use is used by the evaluation team to address situations where a clearly unsafe condition does not exist but the observed damage precludes unrestricted occupancy. Unlike the Unsafe posting, the Restricted Use posting does not usually require that the owner obtain a permit to allow entry. For example, if the evaluation reveals damage of a nature that requires that there be no entry to a portion of the building or some restriction on the use or occupancy of the whole building, the yellow RESTRICTED USE placard will normally be used.

Examples of nonstructural damage that could lead to a Restricted Use posting include the loss of use of basic sanitary facilities due to broken water or sewer pipes or damage to a fire sprinkler system required for safe full occupancy. Localized structural damage may place a portion of a building in an unsafe condition while other areas remain usable. Overall damage may be such that entry is appropriate for occupants to remove belongings and for contractors to make repairs, but is not appropriate for normal

occupancy. A description of the limits or conditions of continued use will be written on the RESTRICTED USE placard. If you are present when a Restricted Use posting is made, you should ask the inspectors for a clear explanation of the limits placed on entry or occupancy and this verbal explanation should be consistent with the limits as written on the placard. If you return to your property and find a RESTRICTED USE placard that does not adequately explain the limits of entry or use, you should contact the jurisdiction for more specific information before entering the building.

When there is damage that is not a safety hazard but is detrimental to the quality of health or living conditions for long-term occupancy, the jurisdiction may have instructed the inspectors to place a Restricted Use placard. No occupancy or use restrictions would be stated, but the placard would note that the owner must correct the listed deficiencies under a permit.

In addition to posting the entire building, posting may be necessary at specific locations outside a building. In situations in which a potential falling hazard exists, the immediate area below that part of the building may be marked or otherwise barricaded with yellow tape having a message that reads *Do Not Cross Line, Restricted Area—Keep Out*, or similar cautionary wording. Damaged masonry chimneys, parapets, or veneers above outside spaces are examples of falling hazards requiring such barricading.

Inspected Posting (Green Placard)

Where damage does not pose any significant safety hazard, the proper posting should be a green INSPECTED placard. This posting is intended only to inform occupants that the building may be safely occupied; it does not imply that existing damage should be ignored or that repairs are not necessary.

If the inspection team was not able to enter the building but found no hazards at the exterior, the INSPECTED placard will be marked "Exterior Only." If the inspection team was also able to enter the building and found no hazards, the INSPECTED placard will be marked "Exterior and Interior." If you return to your building and find an INSPECTED placard marked "Exterior Only," you should request a reinspection if you believe there are hazards inside the building.

Posting Changes

It is possible that subsequent aftershocks could create new damage or increase the initial damage, causing the need for an Inspected or Restricted Use posting to be changed to a more restricted level of use. If you have evidence that an aftershock has substantially increased damage to your building, you should contact the building inspection office to schedule a reinspection. It is likely that the building inspection office will consider the reinspection of posted buildings after a major aftershock, even if reinspections are not requested by the owner.

The Rapid Evaluation team may decide that a more extensive inspection is needed. They will post the building to their best judgment, but they will also request what is called a Detailed Evaluation. The jurisdiction may also require that all Unsafe and Restricted Use postings by Rapid Evaluation teams receive a Detailed Evaluation as a second opinion to ensure that the restrictions on your property use are appropriate. The Detailed Evaluation team will have more time and will have specialist members to conduct a more thorough investigation that may result in a posting different from that given by the Rapid Evaluation team. In the meantime, however, the posting by the Rapid Evaluation team must be observed.

A.2 Steps to Take to Ensure Damage Is Properly Repaired

If your building is damaged in an earthquake and appears repairable, you will need to assess the damage, determine what efforts are necessary for reoccupancy, and begin these efforts. You will probably need the services of design and construction professionals and permits from the local building jurisdiction. Your choice of which construction professional to initially contact will depend on your preliminary assessment of the repair and hazard mitigation needs, your knowledge and acquaintance with the local professionals, and their availability.

You may begin the engagement of design and construction professionals at any time, that is, you need not wait until the Rapid and, if done, Detailed Evaluations are completed. The jurisdiction will usually allow the entry and occupancy of a building to be determined by a design professional engaged by the owner, if their written and signed occupancy recommendations appear reasonable and are posted on the building.

Most architects, contractors, and engineers belong to either a regional or state association that can provide names, phone numbers, and perhaps some information on the type of work in which their members specialize. The building inspection office may also provide similar lists but it is very unlikely that they will offer to recommend any specific firm. Recommendations are perhaps best sought from other individuals, business associates, family, friends, or neighbors who have recently used the services of the type of professional you are seeking. In certain cases an engineering geologist may also be needed when a building site is steeply inclined or has certain soil conditions that must be considered in the repair design.

After reviewing the recommendations for and availabilities of architects, contractors, or engineers, you can then begin the process of engaging them. When widespread damage occurs, the resulting demand for construction repairs may cause even legitimate local construction professionals to charge higher prices than would normally be expected. Obtaining several bids for the needed repair work can help secure a more reasonable price. Prior to signing any contract to perform repairs or other services, be sure that it contains a complete description of the scope of work and requires that a building permit be obtained. Contractors often require that a percentage of the full contract price be paid before beginning work, but it is generally neither necessary nor prudent to pay the entire amount in advance. For example, state law in California limits the advance payment that must be given to a contractor prior to beginning work to ten percent of the total contract price.

Permits will be needed from the jurisdiction to begin work, and obtaining them might be done by you or by the construction professionals you have engaged. The local building jurisdiction office will be a very busy and perhaps even a confusing place to obtain permits and information needed to initiate repairs after a major earthquake. The specific rules applying to the reconstruction or repair of your building will undoubtedly be somewhat different than those used in nondisaster situations. Since some of the requirements may be waived (e.g., fees) and others may be specially imposed (e.g., soil or engineering reports) under these circumstances, you should definitely inquire about what rules apply to your specific location and extent of damage. There may be situations that require an older structure to be repaired using current standards for earthquake resistance rather than those used in the original construction. Use of these current methods can substantially reduce the damage caused by future earthquakes, but this will also usually raise the cost of the repair work.

In the aftermath of most disasters where large numbers of buildings are damaged or destroyed, there are likely to be opportunists posing as legitimate contractors willing to assist you in making needed repairs. The best way to avoid these unscrupulous or illegal operators is to ask for proof of both a current state contractor's license and a certificate of worker's compensation insurance. Although this evidence cannot necessarily ensure top quality workmanship, it certainly will avoid other problems that can result from using the services of either uninsured or unlicensed individuals.

If you are attempting to make repairs on your own without the help of contractors, be aware that you will still need a building permit or similar authorization and that you must request the required inspections for that work. Certain minor cosmetic work (e.g., replacing or patching cracked interior wall finish materials) may be exempted, but other repairs (e.g., fixing chimneys, or repairing any damaged structural members) will likely need a permit. While this may seem bothersome, it will help prevent challenges to the adequacy of the work performed when a property is sold or if insurance claims are made.

A.3 Guidelines for Securing Disaster Assistance

The details, limitations, and eligibility requirements for various types of federal, state, or local aid cannot be specifically listed here, because they are subject to change and are often unique to the situation and the disaster. The best source for current information on these subjects will be the locally established disaster application center.

If earthquake-specific coverage is included in an insurance policy covering your property, your first step should be to contact the claims office of the insurance company. You may also be eligible to make a claim for federal or state assistance to cover uninsured losses or deductibles that may apply to your coverage. Whether or not insurance coverage applies to your losses, you should document all the visible damage with photographs and a narrative of what each shows. Also keep a record of the nature, extent, and cost of any emergency repairs made by yourself or others immediately after the earthquake and any other expenses related to the earthquake damage or the loss of use of the building. The importance of such documentation cannot be over-stressed, because the full amount of any insurance settlement or financial assistance that may be available in the form of low interest loans and, occasionally, grants, will require significant proof regarding damages, repairs, and expenses.

Damage to your home may be severe enough to require your family to relocate to temporary or even long-term alternative housing. Following a disaster, the local chapter of the American Red Cross is responsible for providing emergency shelters at locations such as schools. Information on the exact locations can be obtained from the Red Cross or local government authorities. Other local nonprofit and community service organizations may also be providing aid including food and clothing, and state and county health departments may offer personal counseling.

If a presidential declaration of a disaster is made, the Federal Emergency Management Agency (FEMA), or other cognizant federal agency, in conjunction with local government, will establish a local Disaster Application Center (DAC). These centers will normally begin functioning several days to a week after a disaster, and their locations will be announced by newspapers and other media. Representatives from local, state and federal agencies with disaster relief responsibility will be assigned to these centers.

FEMA, or other cognizant federal agency, will address the needs of owners or tenants facing long-term displacement from their principal housing. This assistance can take several forms but often is provided by vouchers that cover a portion of the costs to obtain alternative existing housing. Business owners will be able to apply for loans from the federal Small Business Administration (SBA) at the Disaster Application Center. There is also a program for homeowners. These loans are normally made at below-market interest rates and can be applied to repairing or replacing a building; however, loan eligibility is based on the ability of the borrower to repay. To verify reported damages and assess the amount of financial assistance you may be eligible to receive, representatives from the jurisdiction processing your assistance claim will normally inspect your building.