



**BUILDING OCCUPANCY
RESUMPTION PROGRAM
(BORP)**

**SALT LAKE CITY CORPORATION
BUILDING SERVICES
EMERGENCY OPERATIONS PLAN**

March 2014

**For any questions regarding this
program, please call the Division of
Building Services at 801-535-6681.**



SALT LAKE CITY BUILDING SERVICES EMERGENCY OPERATIONS PLAN

BUILDING OCCUPANCY RESUMPTION PROGRAM

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SALT LAKE CITY BUILDING SERVICES

City of Salt Lake

451 South State Street #215, Salt Lake City, Utah 84111

BUILDING OCCUPANCY RESUMPTION PROGRAM

After a major earthquake involving damage to Salt Lake City buildings, it is important that local buildings can be inspected and reoccupied and that business can resume operations as soon as it is safely possible. The Division of Building Services and volunteer inspectors will be utilizing standard emergency inspection and posting procedures with priorities geared toward public safety rather than expeditious business resumption. Some building owners may wish to develop programs of private inspection for their buildings to permit rapid, individualized emergency response.

I. PURPOSE

The purpose of a pre-certified emergency inspection program is to allow a quick and thorough evaluation of possible damage to a structure by qualified persons familiar with the structural design and life-safety systems of the building. This private emergency inspection could facilitate rapid decisions regarding the closure or re-occupancy of building areas. Pre-certified emergency inspection could reduce inspection delays, as City inspection personnel typically are dispatched first to areas of greatest damage or public hazard, which may not include the building in question.

II. PREPARATION

Building owners or their authorized representatives may request participation in this program at any time except during the aftermath of an earthquake resulting in a declared state of emergency. A building designated as having met the requirements outlined below in preparing for emergency response shall be placed on a list of buildings for which private emergency inspection is acceptable. There is no Division of Building Services fee for participation in this program.

Building owners who wish to participate in the program should take the following steps; more detail is available in referenced sections.

- Select an architect or engineer to coordinate and prepare the BORP Plan.
- Select the emergency inspection team - (Section III) and initiate agreements with each of the inspectors listed in the BORP Plan. (See Appendix E, Item A).
- Locate the building construction drawings (if available).
- Develop building information. (See Appendix E, Item B).
- Create 11x17 building sketches or plans (See Section IV, Item E.1).
- Write Detailed Building Description. (See Appendix E, Item D).
- Write Emergency Inspection Plan - (See Section V and Appendix E, Item E)
- Obtain and store emergency earthquake safety and inspection equipment/supplies (See Appendix E, Item C)..



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- Submit written BORP Plan to the Division of Building Services using Appendix B. If the Division of Building Services requires changes, then revise the plan as requested and resubmit.
- As circumstances change, update inspection plan, supplies, personnel changes, and training as necessary.
- Submit Biennial Program Renewal form - Appendix D - before each biennial anniversary of initial approval date every other year

III. EMERGENCY INSPECTION TEAM REQUIREMENTS

A minimum of one primary and one alternate inspector shall be retained by the building owner for each applicable inspection discipline. Each inspector shall have familiarity with the building.

The structural inspection team shall consist of the primary structural engineer and one or more alternate structural engineers who are trained in ATC-20 Detailed Evaluation Procedures and are familiar with the building (Appendix G). Note that ATC-20 Detailed Evaluation Procedure is more extensive than the Rapid Evaluation Procedure.

The elevator inspection team (if applicable) shall consist of an elevator firm with at least two contacts.

Architects, mechanical engineers, and other experienced inspectors can add expertise to an inspection team to address nonstructural hazards such as blockage of exits, facade and ceiling assembly hazards, life safety system performance, and hazardous materials. The life-safety inspection team shall consist of the primary individual and one alternate individual for each needed discipline.

Architects/engineers experienced with historical structures should be considered for the emergency inspection of historic buildings.

Emergency inspectors who meet the necessary criteria for specific buildings associated with this program will be authorized by Salt Lake City Corporation to perform inspections and to post such specific buildings, provided such buildings are on the pre-certified list, with official City placards. As a governmental entity Salt Lake City Corporation is immune from suit for any injuries or damages arising under or in connection with policies, practices, or actions relating to the Building Occupancy Resumption Program ("BORP"). The City expressly refuses to waive any immunity it possesses pursuant to Utah law, and any responsibility or liability associated with BORP shall be attributed solely to the owner and their contracted inspectors. The extent of any responsibility and liability is governed by the agreement between the owner and their respective inspectors.

A. Minimum Qualifications and Requirements

1. Structural Inspectors

- a. Familiarity with the building structural systems
- b. Current Utah license as a professional civil or structural engineer
- c. Relevant experience in the structural design of similar size and complexity buildings
- d. Proficiency in ATC-20 Detailed Evaluation Procedures

2. Elevator Inspectors

- a. Familiarity with the building elevator installation
- b. Employment by a firm engaged in elevator maintenance and installation as their primary business.

3. Life-safety System Inspectors



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- a. Familiarity with the building life-safety systems.
- b. Each building is unique and will require building specific inspections. The BORP Plan should consider all aspects of the building safety and provide the necessary discipline inspectors to verify its condition in accordance with ATC-20 guidelines.

IV. REQUIRED SUBMITTAL DOCUMENTS, EQUIPMENT AND SUPPLIES

This section lists the information that must be included in the BORP Plan submittal.

- A. BORP Checklist from Appendix A.
- B. List of Emergency Inspection Team. Use Appendix E, Section A.
- C. Signed copies of Appendix C (Emergency Inspector Authorization) for each individual listed on the Emergency Inspection Team.
 1. Structural inspectors
 2. Elevator inspection firm contacts
 3. Life-safety inspectors (may include multiple disciplines)
- D. Information about the building and the location of the supplies within the building. Use Appendix E, Sections B and C.
- E. A Detailed Building Description using Appendix E, Section D. This will describe key structural, architectural, and life-safety elements and their expected behavior.
 1. The Detailed Building Description shall include structural, architectural, and life-safety system information on 11" x 17" sheets for each floor, roof, basement, and exterior building elevation. The sketches or drawings may be reductions of the original construction drawings, or they should be drawn to scale and show outside building dimensions, and locations of structural walls, columns, and lateral resisting elements. The sketches or drawings should also include the locations of essential life-safety systems and building exits. The sketches or drawings should also show the location of key inspection items. The purpose of the drawings is for the emergency inspectors to use during the post-earthquake inspection of the building.
- F. A building Emergency Inspection Plan (Section V) using Appendix E, Section E, including an evacuation plan and other pertinent information as described in Section V.
- G. Although not required by BORP, the building owner is encouraged to have the building evaluated by a structural engineer using ASCE 31 *Seismic Evaluation of Existing Buildings*, or ASCE 41 *Seismic Rehabilitation of Existing Buildings*. This evaluation can identify weaknesses or deficiencies in the building. This information will provide the owner with an understanding of how the building may respond to earthquake ground motions, and allow for better post-earthquake preparations. Because the purpose of BORP is to allow for rapid building reoccupancy, it would be in an owner's best interest to correct known weaknesses and deficiencies prior to an earthquake.
- H. Certify that the documents, equipment and supplies listed in Appendix E, Item C are currently at the building and will remain at the building while the building is accepted in the BORP.

V. EMERGENCY INSPECTION PLAN

The Emergency Inspection Plan describes an evacuation procedure, describes the inspection protocol, and explains in detail what structural and nonstructural elements will need to be inspected. Use Appendix E, Section E.

- A. [Optional] Placement of accelerometers. Instrumentation is recommended as part of an Emergency Inspection Program for all high-rise buildings in Salt Lake City. Correct placement of accelerometers can provide valuable post-earthquake information about the performance of a building. This option may be considered in certain cases as a means of reducing the percentage of joints required to be inspected after an earthquake.



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VI. BORP PLAN REVIEW

- A. Two copies of all pre-certification documents listed in Sections IV and V shall be submitted to the Division of Building Services for review.
- B. There is not cost for the initial review submittal. Additional reviews may be subject to review fees..
- C. The Division will review the documents to ensure that they conform to the requirements of the Building Occupancy Resumption Program.
- D. If review comments requiring changes or alterations are provided, then the Plan must be revised and two copies of the revised Plan must be submitted to the Division.

VII. PRE-CERTIFICATION

Pre-certification must occur before the occurrence of an earthquake the triggers the utilization of the processes and procedures set forth in these rules. No documentation pertaining to application for admission into the Business Occupancy Resumption Program will be accepted for a period of at least three months after a declared state of emergency.

VIII. PRE-CERTIFICATION ACCEPTANCE

Once the BORP Plan has been reviewed and accepted, the Division of Building Services will add the building to the list of buildings approved for the Building Occupancy Resumption Program and shall provide the applicant with the following documentation:

- A. City signed Appendix A – BORP Checklist
- B. City signed Appendix B – Owner Request for Pre-certification form
- C. City signed copy of Appendix C – Emergency Inspector Authorization form for each inspector on the inspection team
- D. Copy of the accepted Program Format from Appendix E
- E. Official City posting placards for each building entrance listed in the BORP Plan. Two types of placards will be provided.
 - 1. Official BORP placards which will signed by members of the inspection team.
 - 2. Interim placards which the building owner may choose to use at his or her own risk prior to the BORP inspection team inspections, subject to the guidelines listed in the Interim Inspection section below.
- F. Certificate of Approval to display in building

IX. IMPLEMENTATION

- A. Upon notification of an earthquake resulting in the City declaring the need for post-earthquake safety evaluation of buildings, the BORP Plan shall be initiated. The goal is to initiate the emergency inspection program within 72 hours of the earthquake, or sooner if agreed between inspection team and owner.
- B. Contact Building Services immediately if a building or area (including sidewalk, street, or parking area) presents a public safety hazard or if an emergency demolition or shoring permit is needed.



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- C. Arrange for barricading of all unsafe areas. Contact the Transportation Division, 801-535-6630, if areas barricaded include a City street, otherwise adversely affect City services, or if barricades provided by the building owner are insufficient.
- D. Complete and submit to City the ATC-20 Detailed Evaluation Safety Assessment Form (Appendix H) as soon as reasonably possible.
- E. Post building (green, yellow, or red) at the main entry of the building and at all entrances listed in the BORP Plan using City provided BORP placards. The elevator and life safety inspection may occur separately from structural inspection.
- F. Take preventive measures regarding gas leaks, release of hazardous materials, or other life-safety mitigation.
- G. The goal is to submit the ATC-20 Detailed Evaluation Safety Assessment Form (Appendix H) signed and dated by pre-certified inspectors to the Division of Building Services within 1 week of the earthquake. If reports are not received by that time, an inspection may be made by City inspectors or by authorized volunteer inspectors using standard City-wide inspection criteria.

X. INTERIM INSPECTION

- A. It is understood that building owners may want to reoccupy a building prior to the arrival of the identified BORP inspectors. The BORP Plan includes an Emergency Inspection Plan, which will make building owners better prepared to make an initial assessment of the building damage. As a governmental entity Salt Lake City Corporation is immune from suit for any injuries or damages arising under or in connection with policies, practices, or actions relating to the Building Occupancy Resumption Program ("BORP"). The City expressly refuses to waive any immunity it possesses pursuant to Utah law. Building owners with a current BORP Plan who determine that exigent circumstances require occupancy of the building within an accelerated time frame may elect, at their own risk, to use the building technical staff to make an interim inspection and to post the building exits with interim placards under the following conditions.
 - 1. Interim placards will only be posted until the BORP inspection is made.
 - 2. Interim placards will expire one week from the date of the earthquake.
 - 3. Building owner shall have a hard copy of ATC-20-1, *Field Manual: Postearthquake Safety evaluation of Building (2nd edition)*.
 - 4. Any interim inspectors must possess the necessary technical skills and be capable of interpreting the concepts of ATC-20-1 and the BORP Emergency Inspection Plan.
 - 5. Interim inspectors must be trained in use of ATC 20-1.
 - 6. Interim inspection is done at the owner's risk.
 - 7. ATC-20 Rapid Evaluation Safety Assessment Form must be turned into the Division of Building Services within 24 hours of posting the building with interim placards.

XI. DIVISION OF BUILDING SERVICES VERIFICATION

The Division of Building Services may perform inspection of a building accepted for the Building Occupancy Resumption Program under any of the following conditions:

- A. The emergency inspector has reported the building unsafe and has posted it with a red placard.
- B. There is reason to believe that unsafe conditions exist.



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- C. Building owners, tenants, other City agencies, or members of the general public have expressed specific concerns regarding the building at issue.

XII. TERMINATION

Before each biennial anniversary of original approval date, a courtesy reminder notice will be sent to the owner or agent via email. If there is no response from the owner within 180 calendar days, or for one or more of the following reasons, the building may be removed from the Building Occupancy Resumption Program:

- A. Biennial Program Renewal forms (Appendix D) have not been submitted.
- B. Agreement between building owner and inspection team has been terminated.
- C. Changes in building or inspection team do not meet minimum requirements.



BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX A

BORP CHECKLIST

Building Address: _____

- Appendix A – This BORP Checklist, marked by submitter to show all items submitted
- Appendix B – Owner Request for Pre-certification – signed by building owner or authorized agent
- Appendix C – Emergency Inspector Authorization – one form for each inspector
- Appendix E – Program Format - completed with applicable information listed below

Appendix E Information

1. List of primary & alternate emergency inspectors for this building with addresses and phone numbers (Appendix E, Item A):
 - Licensed engineers for structural inspection
 - Elevator firm, if elevator inspection required
 - Life-safety system inspectors, as required
 - Building contact persons
2. Building information (Appendix E, Item B):
 - Photograph
 - Address
 - Description of building including date of original construction, building height, number of stories, and size
 - Estimated current building valuation
 - Number of entrances for which placards are requested
 - Number of occupants
 - Listing of building uses – offices, apartments, etc.
3. Required Documents, Equipment, and Supplies (Appendix E, Item C):
 - Access procedures for entrance to the site and all building areas (Appendix E, Item C.1)
 - Verify location of Detailed Building Description, Emergency Inspection Plan, Evacuation Plan, construction drawings, and City placards (Appendix E, Item C.2)
 - Verify location of equipment and supplies (Appendix E, Item C.3)
 - Copy of ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings (2nd Edition)* for use with Interim inspection
4. Detailed Building Description (Section IV, Item B and Appendix E, Item D):
 - 11x17 sketches or drawings (Section IV, Item E.1)
 - Description of structural gravity and lateral system and structural materials
 - Description of expected seismic behavior or damage
 - Description of life-safety systems including location of emergency power generator
 - Description of building fire detection and suppression systems
 - Description of nonstructural components including the description and locations of potential falling hazards (interior and exterior)
 - Information about hazardous material, including known friable asbestos-containing materials



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5. Emergency Inspection Plan (Section V and Appendix E, Item E):

- Evacuation Plan
- Inspection instructions consistent with ATC-20 *Procedures for Postearthquake Safety Evaluation of Buildings* including Detailed Evaluation Procedure
- Inspection methodology for welded steel joint inspection (if applicable) according to FEMA 352
- Detailed instructions regarding where to look, how to obtain access, what to look for, and how to interpret observed damage to specific structural elements
- Detailed instruction regarding how to inspect specific nonstructural elements and how to interpret observed damage
- Detailed instructions regarding additional inspection procedures to be performed following aftershocks
- [Optional] Placement of accelerometers

Reviewed & Accepted by: _____

Date: _____

RETURN ONE COPY OF THIS FORM TO BUILDING OWNER AFTER REVIEW &
ACCEPTANCE



BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX B

OWNER REQUEST FOR PRE-CERTIFICATION

Pre-certification of the building at (address): _____,
Salt Lake City, Utah, is requested for acceptance in the Division of Building Services Building
Occupancy Resumption Program.

Name of person submitting BORP Plan: _____

I certify that:

1. The owner of the building at the above address is: _____
Address: _____
Phone: _____
1. I am authorized to act as the owner's agent in requesting participation in the program.
2. The enclosed pre-certification documentation and written emergency inspection program complies with the minimum requirements of the Building Occupancy Resumption Program.
3. Emergency inspectors have been given a copy of the Emergency Inspection Plan for the building at the address listed above, and will have access to relevant drawings.
4. Emergency inspectors upon implementation will be given means of access to all areas of the building at all times of day and night or have been given instructions regarding obtaining accompanied access.
5. All emergency inspectors will receive immediate notification of any changes in factors affecting the Emergency Inspection Plan (e.g. changes to structural or life-safety systems, access to building, etc).
6. If an owner determines that exigent circumstances require the performance of an interim inspection prior to the BORP Inspection, then such interim inspection will be performed at the owner's own risk and pursuant to the guidelines listed in Section X.

The documents, equipment, and supplies listed in Appendix E are currently at the building and will remain at the building while the building is accepted in the BORP.

Signature _____ Phone _____ Date _____
(typed name): _____

The pre-certification documentation for this building has been accepted by the Division of Building Services. The building will be placed on the list of buildings for the Building Occupancy Resumption Program.

Accepted by: _____ Date: _____

RETURN ONE COPY OF THIS FORM TO BUILDING OWNER AFTER REVIEW &
ACCEPTANCE



BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX C

EMERGENCY INSPECTOR AUTHORIZATION (One form for each inspector)

Name: _____

I request pre-certification as an emergency inspector for the building at: _____
Salt Lake City, Utah for the following type of emergency inspection:

A. Structural Inspector

I am a Utah licensed engineer: _____ Lic. No.: _____

I certify that:

1. I have relevant experience in the design of similar size and complexity buildings. Fill in requested information from opposite side of this form.
2. I am proficient in ATC-20 Detailed Evaluation Procedures and will complete any additional and/or refresher training in a manner consistent with maintaining readiness.
3. I am familiar with the BORP Emergency Inspection Plan and relevant drawings for this building.
4. I accept authorization as an emergency inspector by the City of Salt Lake Building Services and will display this form upon request.

B. Elevator Inspection Firm

I certify that:

1. Employees of my firm are authorized as qualified elevator technicians by the building owner.
2. My firm is familiar with the building elevator equipment, installation, and operation.
3. I will report findings to the structural inspector for inclusion in emergency inspection reports, or submit findings directly to Building Services with copy to the structural inspector.

C. Life-safety System Inspector. Discipline: _____

I certify that:

1. I am familiar with the building life-safety system and have access to relevant drawings.
2. I will report findings to the structural inspector for inclusion in emergency inspection reports, or submit findings directly to Building Services with copy to the structural inspector.

(Signature) Date: _____

(typed/printed name)

The inspector shown above is deputized as an emergency inspector for the above-listed building by the City of Salt Lake Division of Building Services and is authorized to post this building with official City post-earthquake safety evaluation placards.

Accepted by _____ Date: _____

RETURN ORIGINAL OF THIS FORM TO BUILDING OWNER AFTER REVIEW &
ACCEPTANCE
BUILDING OWNER TO GIVE ORIGINAL TO INSPECTOR FOR IDENTIFICATION PURPOSES



Appendix C (Cont)

Structural Engineer Relevant Experience

Please list four buildings that you have been involved in the structural design of and which are similar in size and complexity.

Building Name	City and State	Approximate Building Area	Approximate Number of Stories	Approximate Year Constructed



BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX D

BIENNIAL PROGRAM RENEWAL

TO BE SUBMITTED EVERY OTHER YEAR BEFORE EACH BIENNIAL ANNIVERSARY OF ORIGINAL APPROVAL DATE

Building Address: _____, Salt Lake City, Utah.

Estimated current building valuation is \$ _____

No change has been made in the building or any element of emergency inspection program.

All emergency equipment and supplies for the program have been checked and updated as necessary.

The building owner has changed. The new owner is _____

A Request for Pre-certification form signed by the new owner is enclosed.

Emergency inspectors/contact information has changed. Completed Emergency Inspector Authorization forms (Appendix C) for new inspectors are enclosed.

Changes have been made to the building that affect the Emergency Inspection Plan. Emergency inspectors have been given revised drawings for any relevant changes to the building.

Emergency inspectors have been given a copy of all Emergency Inspection Plan revisions.

Signed by: The designated contact person for biennial update (the structural inspector, or the owner, or the owner's agent):

(Signature): _____ Date: _____

(Typed name) _____

(Company): _____ (Phone No.): _____ (Email): _____

The updated documentation for this building has been accepted by Salt Lake City Building Services. The building will remain on the list of buildings for the Building Occupancy Resumption Program.

Accepted by: _____ Date: _____

RETURN ONE COPY OF THIS FORM TO BUILDING OWNER AFTER REVIEW & ACCEPTANCE



BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX E

PROGRAM FORMAT

Building Address: _____

A. Emergency Inspection Team

1. Licensed engineers retained for structural inspection:

Name and email address	Firm and Address	Work Phone	Cell Phone	Home Phone
Primary:				
Alternate:				
Alternate:				

2. Elevator firm retained for elevator inspection (if elevator inspection required):

Firm Name:				
Name and email address	Address	Work Phone	Cell Phone	Home Phone
Primary contact:				
Alternate contact:				

3. Life-safety system inspectors retained for life-safety inspections (Include as many disciplines as required):

Discipline:				
Name and email address	Address	Work Phone	Cell Phone	Home Phone
Primary:				
Alternate:				

4. Building Contact Persons:

Name, title, and email address	Address	Work Phone	Cell Phone	Home Phone
Primary:				
Alternate:				



Building Occupancy Resumption Program

B. Building Information

1. Photograph at main entrance:

2. Address: _____
3. Description of building:
 - a. Date of original construction: _____
 - b. No. of stories beginning at ground floor: _____
 - c. No. of levels below ground: _____
 - d. Building height: _____
 - e. Square footage on each level: _____
 - f. Total square feet: _____
 - g. Dimension of ground floor footprint: _____
4. Estimated current building valuation: \$ _____
5. Number of entrances for which placards are requested: _____
6. Estimated number of occupants: _____
7. Listing of building use(s): _____



Building Occupancy Resumption Program

C. Required Documents, Equipment, and Supplies:

1. Describe access procedures and/or keys for entrance to the site and all building areas:

2. List location within building of the following BORP Plan documents:
- a. Construction drawings (if available)
 - b. 11x17 sketches or drawings
 - c. Detailed Building Description
 - d. Evacuation Plan
 - e. Emergency Inspection Plan
 - f. Official City provided placards (one of each color for each building entrance)
 - g. BOPR Inspection report forms; ATC-20 Detailed Evaluation Safety Assessment Forms (Appendix G):
 - h. Copy of ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings (2nd Edition)* for use with interim inspection.
 - i. Interim Inspection report forms; ATC-20 Rapid Evaluation Safety Assessment Forms (Appendix H):

3. List location within building of the following equipment and supplies:
- a. Hard hats
 - b. Gloves
 - c. Safety glasses
 - d. Respirators
 - e. Flashlights
 - f. Measuring devices
 - g. Hammer
 - h. Screwdriver
 - i. Walkie-talkies or other emergency communication equipment (if needed in large building):

- j. Ladders or other equipment needed for inspection access:

- k. Caution tape, barricades

- l. Other necessary equipment or supplies:



Building Occupancy Resumption Program

D. **Detailed Building Description** (Use additional sheets as needed)

1. 11x17 sketches or drawings of building (See Section IV, Item E.1).
2. Description of structural gravity and lateral system and structural materials:
3. Description of expected seismic behavior or damage:
4. Description of life-safety systems including location of emergency power generator:
5. Description of building fire detection and suppression systems:
6. Description of nonstructural components including the description and locations of potential falling hazards (interior and exterior):
7. Information about hazardous material, including known friable asbestos-containing materials (Repeat for each type):
 - a. Type:
 - b. Location:
 - c. Handling Instructions:
 - d. Type:
 - e. Location:
 - f. Handling Instructions:



Building Occupancy Resumption Program

E. **Emergency Inspection Plan** (See Section V) (Use additional sheets as needed)

The Emergency Inspection Plan must include:

1. Evacuation Plan: A description of steps needed to be taken to safely evacuate the building. Consider location and distance to exits considering expected earthquake damage (structural and nonstructural) along the exit routes and at the exits:
2. Inspection instructions consistent with *ATC-20 Procedures for Postearthquake Safety Evaluation of Buildings* (Appendix G) including the Detailed Evaluation Procedure:
3. Inspection methodology for welded steel joint inspection (if applicable) according to FEMA 352:
4. Detailed instructions regarding where to look, how to obtain access, what to look for, and how to interpret observed damage to specific structural elements:
5. Detailed instruction regarding how to inspect specific nonstructural elements and how to interpret observed damage:
6. Detailed instructions regarding additional inspection procedures to be performed following aftershocks:
7. [Optional] Placement of accelerometers. (This option may be considered in certain cases as a means of reducing the percentage of joints required to be inspected after an earthquake.)



Building Occupancy Resumption Program

BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX F

ATC-20, ATC-20-1, and ATC-20-2

Appendix F is ATC-20, *Postearthquake Safety Evaluation of Buildings*, ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings (2nd Edition)*, and ATC-20-2, the *Addendum to the ATC-20 Postearthquake Building Safety Evaluation Procedures*. These copyrighted publications are not included in the materials of the program. To order these publications, contact the Applied Technology Council, 555 Twin Dolphin Drive, Suite 500, Redwood City, CA 94065, 650-595-1542; <http://www.atcouncil.org>.



Building Occupancy Resumption Program

**BUILDING OCCUPANCY RESUMPTION PROGRAM
APPENDIX G**

ATC-20 DETAILED EVALUATION SAFETY ASSESSMENT FORM

For use with BORP Inspections



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: _____

Continue on page 2



ATC-20 Detailed Evaluation Safety Assessment Form

Building name: _____ Inspector ID: _____

Sketch (optional)

Provide a sketch of the building or damaged portions. Indicate damage points.

Large grid area for sketching and damage estimation.

Estimated Building Damage

If requested by the jurisdiction, estimate building damage (repair cost ÷ replacement cost, excluding contents).

- None
0-1%
1-10%
10-30%
30-60%
60-100%
100%

Posting

If there is an existing posting from a previous evaluation, check the appropriate box.

Previous posting: [] INSPECTED [] RESTRICTED USE [] UNSAFE Inspector ID: _____ Date: _____

If necessary, revise the posting based on the new evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Local Severe and overall Moderate conditions may allow a Restricted Use posting. Indicate the current posting below and at the top of page one.

- [] 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: _____
[] Engineering Evaluation recommended: [] Structural [] Geotechnical [] Other: _____
[] Other recommendations: _____

Comments: _____

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Building Occupancy Resumption Program

BUILDING OCCUPANCY RESUMPTION PROGRAM APPENDIX H

Interim Inspection Form,

ATC-20 RAPID EVALUATION SAFETY ASSESSMENT FORM

This form shall only be used for an Interim inspection prior to the BORP inspection and shall be used under the guidelines listed in Section X.



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	<input type="checkbox"/> None <input type="checkbox"/> 0-1% <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> 30-60% <input type="checkbox"/> 60-100% <input type="checkbox"/> 100%
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: _____

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