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Time 11:25am

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 Inspected Exterior and Interior

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Inspector Comments: No apparent damage.

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Inspector ID / Agency: ID #55555

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Anytown, USA

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Guidance for Accelerated Building Reoccupancy Programs

FEMA P-2055-1 / January 2023



FEMA



Guidance for Accelerated Building Reoccupancy Programs

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Preface

Following the passage of the *Disaster Recovery Reform Act* (DRRA) in October 2018, FEMA commenced work with the Applied Technology Council (ATC) under Task Order Contract HSFE60-12-D-0242 to develop a guidance document for structural integrity and livability of buildings after disasters, as requested by the 115th United States Congress (2017-2018). The resulting report, FEMA P-2055, *Post-disaster Building Safety Evaluation Guidance – Report on the Current State of Practice, including Recommendations Related to Structural and Nonstructural Safety and Habitability*, was published in 2019. In 2021, FEMA commenced work with ATC to develop a supplemental publication to FEMA P-2055 to provide guidance on the use of building owner contract engineering services to perform building code-mandated post-disaster building safety evaluations.

Development of this *Guide* included review of existing programs in the Nation and identification of key issues and recommendations, as well as administrative tools, to facilitate the establishment of such programs.

ATC is indebted to the leadership of David Cocke, Project Technical Director, and to the members of the ATC-137-5 ABR Project Team for their efforts in developing this *Guide*. The Project Technical Committee, consisting of David Cocke (chair), Laurence Kornfield, Kevin Moore, Ines Pearce, and Jonathan Siu, served as principal authors of the *Guide*. The Project Review Panel, consisting of Anne Castleton, Amit Kumar, Bret Lizundia, Brent Maxfield, Rachel Minnery, David Ojala, Stuart Tom, and Greg Wilken, provided technical review, advice, and consultation at key stages of the work. The names and affiliations of all who contributed to this report are provided in the list of Project Participants.

ATC gratefully acknowledges Michael Mahoney (FEMA) who served as Project Officer on this and many other impactful publications over his 38-year career. Christina Aronson served as the FEMA Task Monitor for the project. Ginevra Rojahn and Kiran Khan (ATC) provided report production services.

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Chapter 1: Introduction

1.1 Background and Scope

Lessons from recent major disasters have proven that a pre-disaster plan can lead to a community's quicker recovery and minimize the long-term economic impact. FEMA P-2055 report, *Post-disaster Building Safety Evaluation Guidance – Report on the Current State of Practice, including Recommendations Related to Structural and Nonstructural Safety and Habitability*, (FEMA, 2019), prepared in response to Section 1241(a) of the Disaster Recovery Reform Act (DRRA) of 2018 recommends “development of standardized programs [...] allowing building owners to hire independent engineers authorized by jurisdictions to provide building-specific evaluation and official placarding.” This *Guide* fulfills this purpose by presenting recommendations, discussion of key issues, and template administrative documents for designing and managing such programs and has been prepared as a supplement to FEMA P-2055.

In addition, Recommendation 5, “Develop and implement pre-disaster recovery planning focused on recovery-based objectives” as presented in NIST-FEMA Special Publication FEMA P-2090/NIST SP-1254, *Recommended Options for Improving the Built Environment for Post-Earthquake Reoccupancy and Functional Recovery Time* (FEMA, 2020), identifies development and implementation of Building Occupancy Resumption Programs as Task 5.5.

Several cities have active programs where the jurisdiction and building owners share a joint responsibility for conducting building safety evaluations in order to expedite post-earthquake recovery. These programs are administered by the Authority Having Jurisdiction (AHJ) and provide building owners guidance on how to best prepare for post-earthquake safety evaluation of their buildings by qualified building safety evaluators and specialty contractors upon acceptance into the program. This *Guide* presents best practices, and discussion of key issues, to inform a target audience comprising those who may wish to implement an Accelerated Building Reoccupancy (ABR) program. The *Guide* also includes templates that may be useful for setting up a successful program, including:

- An agreement to be signed by the AHJ, building owner, and building safety evaluators establishing the scope and administration of the program
- A consultant agreement to be signed by the building owner and building safety evaluators

Although the scope of this *Guide* is limited to earthquake events, similar programs can be developed for other incident types using similar methods and processes. As discussed in FEMA P-2055 report, safety evaluation guidelines for wind and flood events are well developed, and a program similar to the one described here is envisioned to be implemented easily. However, for incident types where safety evaluation guidelines are lacking, it may be more difficult to implement a program.

1.2 Target Audience

This *Guide* has been prepared for the following target audience:

- A representative from AHJ, such as a building official.
- A building owner who is interested in accelerated reoccupancy of their building and understands the resources needed. This program might be especially valuable for those with a campus of multiple buildings and to building owners with a risk of high interruption costs.
- A design professional or specialty contractor who is interested in entering into an agreement with a building owner.

Report Organization

This *Guide* is organized as follows:

- Chapter 2 presents the context of post-earthquake building safety evaluations
- Chapter 3 presents an overview of the program, including benefits of setting up a program, two types of program models, and recommended program outreach activities
- Chapter 4 presents discussion and recommendations on key issues pertaining to program management and design, expected to take place prior to earthquake event
- Chapter 5 presents discussion and recommendations on key issues pertaining to field implementation of program, expected to take place following earthquake event
- Appendix A presents a summary of active programs
- Appendix B through E present templates for administrative documents to facilitate ABR programs. Electronic versions of these templates are available at [FEMAP2055.atcouncil.org](https://www.femap2055.atcouncil.org)

Lists of Acronyms, References, and project participants are included at the end of this *Guide*.

Chapter 2: Post-earthquake Safety Evaluations

2.1 Best Practice for Post-earthquake Safety Evaluations

Following an earthquake event, the local jurisdiction may conduct a windshield or flyover survey of damaged areas to further assess the severity and distribution of damage. For evaluation of buildings following earthquakes, FEMA P-2055 report (FEMA, 2019) recommends the current second edition of the ATC-20-1, *Field Manual: Procedures for Postearthquake Safety Evaluation of Buildings*. The following overview of the ATC-20-1 *Procedures* is reproduced from FEMA P-2055 Section 2.2.

The Applied Technology Council (ATC) first published the ATC-20 report, *Procedures for Postearthquake Safety Evaluation of Buildings*, (ATC, 1989) to document procedures and guidelines for the safety evaluation of damaged buildings following earthquakes. Shortly after the completion of the ATC-20 report, the methodology was used following the magnitude-6.9 Loma Prieta earthquake that struck the San Francisco Bay Area in California and caused casualties and significant damage to buildings and infrastructure. ATC has continued to refine and augment the original ATC-20 report, and there are now a family of related documents, including the ATC-20-1 *Field Manual: Procedures for Postearthquake Safety Evaluation of Buildings, Second Edition* (ATC, 2005). ATC-20-1 procedures are considered the de facto standard in the United States and in many parts of the world for post-earthquake building safety evaluations.

ATC-20-1 procedures are written specifically for use by qualified professionals who are required to make on-the-spot evaluations and decisions regarding continued use and occupancy of damaged buildings. They provide procedures and forms for Rapid Evaluations and Detailed Evaluations that result in the posting of buildings as INSPECTED (green placard), RESTRICTED USE (yellow placard) or UNSAFE (red placard). Also included in ATC-20-1 are special procedures for evaluation of essential buildings (e.g., hospitals), evaluation procedures for nonstructural elements (such as ceilings, partitions, and cladding), geotechnical hazards, and limited guidance on dealing with occupants and owners of damaged property. In general, Rapid and Detailed Evaluations are conducted based on information from a windshield survey conducted by the Authority Having Jurisdiction (AHJ). In this *Guide*, evaluators are recommended to conduct ATC-20 evaluations using ATC-20-1 *Procedures*.



Detailed Evaluations Recommended

The Accelerated Building Reoccupancy (ABR) program described in this *Guide* relies on conduct of Detailed Evaluations in accordance with ATC-20-1 *Procedures* by qualified building safety evaluators. Engineering Evaluations are out of scope for a typical ABR program.

2.1.1 Rapid Evaluation

Rapid Evaluations, conducted in accordance with ATC-20-1 *Procedures*, typically take an average of 30 minutes per building and provide an initial general evaluation of damage and safety; the suggested personnel include structural engineers, professional engineers with a specialization in structures, architects, building officials, building inspectors, and experienced general contractors. Entry into damaged buildings should be done according to guidance in ATC-20-1.

2.1.2 Detailed Evaluation

Detailed Evaluations, conducted in accordance with ATC-20-1 *Procedures*, typically take one to four hours per building; they are a more thorough visual examination of the building and its structural system; they occur after an initial Rapid Evaluation (or sometimes in lieu of a Rapid Evaluation); and structural engineers, professional engineers with a specialization in structures, and architects are the recommended personnel. Evaluation of very complex buildings can require longer than four hours and can be complicated by challenges associated with evaluating highly specialized systems or equipment (e.g., magnetic resonance imaging (MRI) devices), or presence of hazardous materials.

2.1.3 Engineering Evaluation

A third level of evaluation, termed an Engineering Evaluation, is defined but not discussed in detail in ATC-20-1 *Procedures*. It is typically conducted by structural engineering consultants hired by the owner. Engineering Evaluation guidance is available for select building types in FEMA 352, *Recommended Postearthquake Evaluation and Repair Criteria for Welded Steel Moment-Frame Buildings*, (FEMA, 2000) and FEMA 306, *Evaluation of Earthquake-Damaged Concrete and Masonry Wall Buildings: Basic Procedures* (FEMA, 1998).

Although this tier of evaluation may be warranted for certain building types, such as certain non-ductile concrete buildings, that may be enrolled in an ABR program, depending on the severity of the triggering event, they are typically not covered under the scope of an ABR program. Evaluators should identify such buildings during their ABR application and consider including contingency plans for continuing with an Engineering Evaluation as required.

2.2 AHJ Response to Damaging Earthquakes

In an emergency such as the aftermath of an earthquake, model building codes in the United States give the AHJ the authority to declare buildings unsafe and to be vacated [Section 116 of *International Existing Building Code* (ICC, 2022); Section 1.7.5.3.7.1 of NFPA 5000 (NFPA, 2021)]. AHJs generally use this authority to activate an emergency response and conduct safety evaluations for buildings within their jurisdiction, posting placards in accordance with the procedures in ATC-20-1 as described in Section 2.1 above. AHJs typically report aggregated placard results to policy makers through their local emergency management agency or emergency operations center as part of the jurisdiction's overall emergency response.

Some AHJs have established triggers for activating their emergency response, such as a specified earthquake magnitude, or the issuance of an emergency declaration by the local jurisdiction. Once activated, the initial AHJ building safety evaluations generally consist of Rapid Evaluations in accordance with ATC-20-1 *Procedures*. The AHJ may conduct Detailed Evaluations of a limited number of buildings, but many AHJs will require the building owner to hire a building safety evaluator if a Detailed Evaluation is deemed to be necessary.

AHJs do not typically have enough resources within their departments to respond expeditiously to the large number of buildings needing to be evaluated following a large earthquake and may need to focus their available staff only on higher priority buildings. Experience has also shown that even large building departments may have difficulty responding to moderate events, because they cannot cease operations in their normal, everyday work of regulating construction through issuing permits and conducting inspections to focus entirely on building safety evaluation efforts.

To acquire the necessary additional resources to conduct building safety evaluations, an AHJ usually goes through a series of steps in the following order, as established by their emergency management procedures:

- Request a reassignment of trained staff from other departments (e.g., public works engineers)
- Activate pre-existing mutual aid agreements to bring in personnel from other jurisdictions, as available
- Request aid from statewide volunteer emergency worker programs or registries such as California Office of Emergency Services Safety Assessment Program (CalOES SAP), Missouri Structural Assessment and Visual Evaluation (Missouri SAVE), or Washington Safety Assessment Facility Evaluators (WAsafe)
- Request aid from volunteer emergency workers outside the state, usually through the Emergency Management Assistance Compact (EMAC) activation process

Volunteer emergency workers are expected to be authorized by the AHJ to conduct building safety evaluations and post placards under the authority of the AHJ. In many states, these volunteer emergency workers are exempted from personal or professional liability by state laws, known as “Good Samaritan” laws. Under such laws, when the volunteer is acting under the authority of the AHJ, and they are not negligent in their evaluations, the volunteer cannot be personally sued by a discontented building owner or tenant, or by a person who is injured in a subsequent event such as an aftershock. In states without Good Samaritan laws, design professionals and other volunteers might be held liable for perceived shortcomings in their work. After the 9/11 building collapses in New York, a state did not have Good Samaritan laws in place, there were cases where professional engineers had to defend themselves against liability lawsuits associated with medical conditions suffered by other responders. FEMA P-2055 Chapter 5 presents a discussion on resource typing, mutual aid resources, volunteers, and Good Samaritan laws.

Chapter 3: Accelerated Building Reoccupancy Program Summary

3.1 Program Overview

After an earthquake, the Authority Having Jurisdiction (AHJ) conducts post-earthquake safety evaluation of structures within their jurisdiction. Building officials, and where necessary, volunteer evaluators, use evaluation and posting procedures with priorities geared toward public safety rather than expeditious business resumption. However, engaging volunteer services, providing orientation to them of the local jurisdiction's policies, and getting them assigned to evaluate particular buildings or areas all take time. It is also uncertain whether local design professionals will be available to volunteer, as they may be preoccupied with the safety of their own homes, families, and businesses.

As-rapid-as-possible reoccupation of buildings is important for economic recovery of communities, and if an earthquake is large enough, the building official may not have the resources, including volunteers, available to provide the necessary safety evaluations in a timely manner. As a result, some building owners may wish to enroll in a program that supports private evaluation of buildings that will permit rapid, individualized emergency response. The Accelerated Building Reoccupancy (ABR) program described in this *Guide* is one method for achieving a rapid emergency response that is aligned with the AHJ's protocols and responsibilities.

Adopting an ABR program does not preclude an AHJ from utilizing volunteer evaluators. That is, the AHJ can implement an ABR program in combination with the use of volunteer evaluators, where the volunteers can help evaluate buildings not participating in the ABR program.

3.1.1 Benefits

ABR programs refer to programs that engage private sector building safety evaluators under contract to the building owner to evaluate buildings for safety and habitability after an earthquake event. The objective of the program is to minimize the time required to evaluate damage to buildings with the following benefits:

- **Faster recovery of the community:** Following a damaging earthquake, establishing safety of the building and surrounding areas allows the building to be reoccupied. This means that residential occupants will have shelter, reducing the burden on social services that would have been required if they were displaced. Commercial tenants, some of which may be critical to community recovery, can continue their business and provide employment. Building owners who are leasing space in the building can still receive income. The general public (passers-by or visitors to the building) can be reassured that there are not likely to be hazards that would deter them from entering. All of this contributes to a faster recovery for the community.

- **Reduced burden on the AHJ:** The AHJ benefits by being relieved of some of the burden to conduct immediate safety evaluations in a chaotic post-earthquake environment. This allows the AHJ to better-distribute their resources, which could be focused on mission-critical facilities. The submitted reports will also give the AHJ a better understanding of the situation regarding damaged buildings, which allows them to provide better information to emergency managers and policymakers.
- **More accurate safety evaluation results:** Building owners and the AHJ benefit from more accurate safety evaluation results due to pre-event information that allow the building safety evaluators conduct a more rigorous evaluation in an efficient and timely manner. The required pre-event work allows the building safety evaluators to familiarize themselves with the building structural and non-structural systems and identify critical areas to evaluate after an event.



Can a building be occupied before it has been posted?

There may be a perception that buildings cannot be legally occupied until the AHJ declares they are safe. This is not the case because the adopted building codes usually only give the AHJ the authority to declare a building “unsafe,” with the implication that the building is permitted to be occupied until the AHJ makes such a determination.

3.1.2 Key Elements

In the mid 1990’s, the City of San Francisco Department of Building Inspection (DBI) launched the Building Occupancy Resumption Emergency Inspection Program (BORP). The program allows San Francisco building owners to pre-certify private post-earthquake inspection of their buildings by qualified engineers and specialty contractors upon DBI acceptance into the program. In the years since San Francisco adopted BORP, several other jurisdictions have adopted similar programs; most of them are modeled on San Francisco’s program. Programs in nine jurisdictions were reviewed as part of preparing this *Guide*. Appendix A provides a list of all programs, as well as a detailed review of attributes observed in the program materials. The following are the main pillars or common elements of the reviewed programs:

- A building owner contracts with qualified building safety evaluators to evaluate the safety of their building after an earthquake or other event that has potential to damage the building.
- Building safety evaluators are almost always required to have a professional civil or structural engineering license; most programs also allow architects to conduct the structural evaluation. Demonstrating proficiency in Detailed Evaluation procedures documented in ATC-20-1 (ATC, 2005), as well as experience in design or inspection of buildings similar to the subject building, is generally required.
- A pre-event building evaluation and preparation of an emergency response plan are required or recommended.

- In the aftermath of a triggering event, contracted building safety evaluators are expected to go to the building site, usually within 72 hours of the triggering event, and conduct a structural safety evaluation in accordance with ATC-20 Detailed Evaluation procedures. Inclusion of other evaluations, such as for life-safety systems, is usually an option at the discretion of the building owner.
- The building safety evaluator is authorized by the AHJ to post placards on the building, indicating whether the building is classified as UNSAFE, RESTRICTED USE, or INSPECTED, and reports the results to the AHJ.
- Quality assurance is provided by the AHJ by conducting their own evaluation and potentially overriding the posting by the building safety evaluator; however, there are usually limited conditions that trigger this.

3.1.3 Key Personnel

A successful ABR program will rely on commitments from key personnel including:

- AHJ representative, e.g., building official
- Building owner or agent
- Building safety evaluator(s) under contract with the building owner

3.2 Types of Programs

ABR programs are part of a continuum of options available to building owners who want to make plans for building reoccupancy following an earthquake event. The owner needs to balance the risk that a determination that their building is safe to reoccupy may be significantly delayed against the cost of involving design professionals and working with the AHJ. The least-cost but highest-risk options, aside from waiting for the AHJ to post the building, are to try to acquire the services of a building safety evaluator after the event occurs, or to make minimal arrangements with a design professional to respond as soon as possible after an event. A higher-cost but lower-risk option is to hire a design professional and work with them and the AHJ on an ABR plan for the building.

The AHJ must consider a similar balance of cost and risk. While some or all of the cost may be offset by fees (see discussion in Section 4.6), there is a cost in developing and staffing an ABR program, versus relying purely on owners to independently make agreements with design professional. The risk to the AHJ is that if they rely only on their normal staffing to conduct necessary building safety evaluations, community recovery may be slowed if residents and business tenants are afraid to return to their buildings, or if reoccupancy of a particular building is essential to community recovery. Similar to the cost/risk equation for the building owner, the least-cost/highest-risk option for the AHJ is relying on building owners to make as-soon-as-possible arrangements with a design professional, and the highest-cost/lowest-risk option is to engage in ABR program development and adoption.

There are two known models for administering ABR programs in the United States. For the purposes of this *Guide*, these programs will be referred to as an Authorized Evaluator Program and an Advisory Evaluator Program. These two types of ABR programs are part of the cost/risk continuum described above and illustrated in Figure 3-1. The Authorized Evaluator Program is the highest-cost/least-risk option to building owners and AHJs.

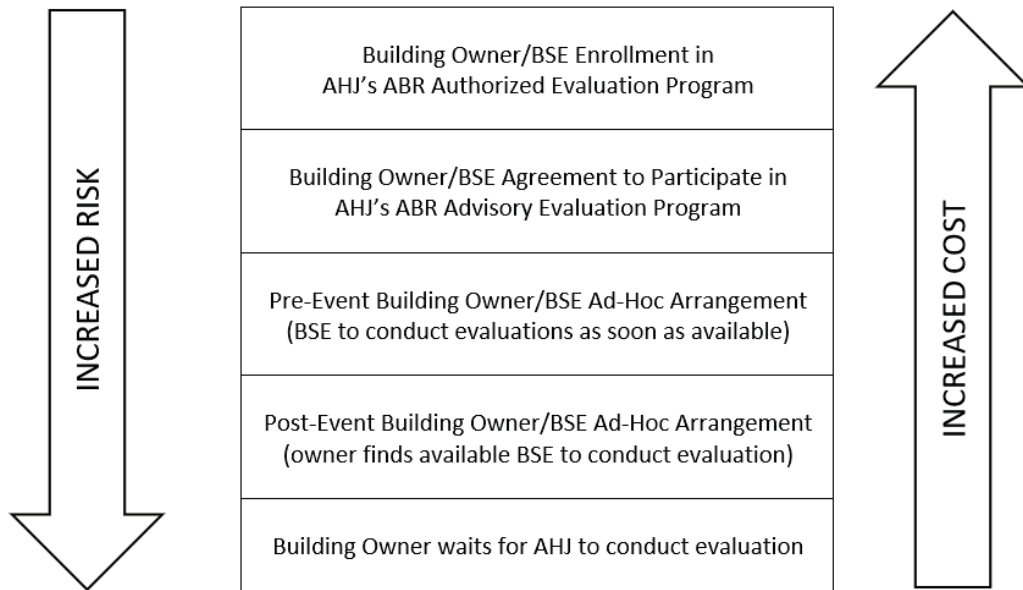


Figure 3-1 Cost vs. risk continuum.

The remainder of this section will discuss the features of both the Authorized and Advisory Evaluator programs, but the primary focus of this *Guide* is on the Authorized Evaluator Program. Where relevant, additional discussion is provided for Advisory Evaluator Programs. A comparison of these two types of programs along with a more minimal ad hoc arrangement option is summarized in Tables 3-1 and 3-2, where the ad hoc arrangement could be an agreement between the building owner and the building safety evaluator that only says the evaluator will get to the building as soon as they can, or where the building owner hires an evaluator immediately after the event to conduct an evaluation.

3.2.1 Common Features

All ABR programs will require AHJ resources, either to administer prior to an event or to respond or follow up after an event. The AHJ needs to decide how best to utilize their available resources, weighing and balancing the factors of authority, effort, and certainty discussed in this section.

In any ABR program, the building owner contracts with a building safety evaluator to provide post-earthquake building safety evaluations using ATC-20-1 Detailed Evaluation procedures. The contract may include the preparation of the materials required by the ABR agreement and a pre-event building safety evaluation.

A successful ABR program relies on a degree of trust among the participants—the building owner, the building safety evaluator, and the AHJ. In particular, the AHJ has to trust that the evaluators will carry out their building safety evaluation duties within the dictates of their professional licensing and ethics, without giving in to any undue influence from the building owner on the resulting placard decision.



Authorized vs. Deputized

This *Guide* uses the term “authorized” in the context of ABR programs, as it conveys the intended meaning as is reflected in the definition for building official in the *International Building Code* (ICC, 2021):

“BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code, **or a duly authorized representative** [emphasis added].”

It is noted that several of the existing programs reviewed specify that the contracted building safety evaluators will be “deputized,” that is, acting as full agents for the AHJ.

3.2.2 Authorized Evaluator Program

An Authorized Evaluator Program is the most widely-adopted type of program in the United States. Eight of the nine programs reviewed for this *Guide* and summarized in Appendix A are consistent with the Authorized Evaluator Program described in this section. In this type of program, a building safety evaluator hired by the owner is allowed to act as an agent of the AHJ. All placarding decisions are made by the evaluator with little or no oversight by the AHJ, but the placards carry the full authority of the AHJ. All eight programs reviewed specify that the AHJ retains the authority to conduct quality assurance evaluations, usually under specified conditions.

Building owner participation in this type of program must be approved by the AHJ prior to any earthquake event; all the existing programs reviewed have a moratorium on new approvals for three months after an earthquake. This also means that contract arrangements between the owner and the evaluators are made before or during the program application and approval process, and must be regularly renewed.

The strength of this type of program lies in rigorous documentation, including qualifications of the authorized evaluator as well as the building systems (structural and other). The program documents are required to be updated at regular intervals. In this program, expectations for building owners, building safety evaluators, and AHJs are clearly laid out, resulting in a high degree of certainty for all involved. This is expected to allow the AHJ to focus their limited resources to evaluate other buildings that are either higher priority to the jurisdiction or not included in the ABR program. However, reviewing and approving the rigorous documentation for an Authorized Evaluator Program, including the ongoing update and maintenance of the records, can be a resource and staffing issue for many AHJs—especially for smaller jurisdictions. (See discussion in Section 4.6.)

Table 3-1 Key Issues for Evaluator Program Type Continuum

Key Issues	No Program (Owner/BSE Ad Hoc Agreement)	Advisory Evaluator Program ¹	Authorized Evaluator Program
Evaluator under contract to building owner	Yes	Yes	Yes
Evaluator contract required prior to event	No	No ²	Yes
Evaluator as authorized agent of the AHJ	No	No	Yes
Final placarding decisions made by	AHJ ³	AHJ	Building Safety Evaluator ⁴
Level of certainty for building owner that placard posted by building safety evaluator is final	N/A ³	Moderate	High
Final placards posted under the authority of	AHJ	AHJ	AHJ
Expected time for posting of placards by evaluator	Variable	1-3 days	1-3 days
Expected level of compliance with AHJ expectations	N/A	Moderate	High

¹ Ratings assume pre-arrangements have been made between building owner and building safety evaluator, as recommended in the Advisory Evaluator Program.

² A pre-event contract is highly recommended, but not required.

³ Building safety evaluator is not permitted to post placards.

⁴ AHJ retains authority to override placards posted by building safety evaluator, but only perform their own evaluation under specified conditions.

Table 3-2 Level of Effort Comparison for ABR Program Tasks in the Evaluator Program Type Continuum

Task and Participant	No Program (Owner/BSE Ad Hoc Agreement)	Advisory Evaluator Program ^{1,2}	Authorized Evaluator Program ¹
Initial Program Development Building Owner Building Safety Evaluator AHJ	N/A N/A N/A	N/A N/A Moderate	N/A N/A High ³
Application Preparation and Approval Building Owner Building Safety Evaluator AHJ	N/A N/A N/A	Low ⁴ Low ⁴ Low ⁴	Moderate High Moderate
Ongoing Program Documentation (Maintenance) Building Owner Building Safety Evaluator AHJ	N/A N/A N/A	Low Low N/A	Low Low Low
Post-event Actions Building Owner Building Safety Evaluator AHJ	High High High	Low High Moderate	Low High Low ⁵

¹ Level of effort ratings are based on anticipated amount of additional effort to comply with the requirements of the ABR program, over and above emergency response without an ABR program.

² Ratings assume pre-arrangements have been made between building owner and building safety evaluator, as recommended in the Advisory Evaluator Program description. The post-event level of effort for building owners and building safety evaluators may increase if pre-arrangements are not made.

³ AHJ effort can be reduced to Moderate if they adopt previously-approved ABR program documentation.

⁴ Assumes recommendation for documenting agreement via a memorandum of understanding is followed. Agreements not documented with the AHJ would reduce efforts to N/A.

⁵ If the AHJ takes an active role in engagement and follow-up, the level of effort will be Moderate.

3.2.3 Advisory Evaluator Program

In this type of program, the evaluator performs the building safety evaluation under a contract with the building owner, but acts only as an advisor to the owner, not as an authorized agent for the AHJ. The placards the evaluators are allowed to post inform occupants the building has been evaluated, but do not carry the same legal authority as in an Authorized Evaluator Program. The evaluator posts an interim “advisory tag” and reports the results to the AHJ. Similar to the Authorized Evaluator Programs described above, the AHJ retains authority over final placarding decisions. In an Advisory Evaluation Program, the AHJ is expected to conduct a follow-up evaluation as a quality-assurance measure, and may replace the advisory tag. Any differences in conclusions are expected to be discussed by the evaluator and the AHJ before the AHJ makes a final decision. It is also expected, however, that in the vast majority of cases, the AHJ would accept the contracted building safety evaluator’s recommendation.

By its nature, an Advisory Evaluator Program is less formal than its Authorized Evaluator Program counterpart. Adopting such a program is an option for AHJs who want to allow buildings to be evaluated more quickly than their normal staffing resources would allow, but are concerned about the liability of “abdicating” their authority to a private party.

Although pre-arrangements are strongly recommended, Advisory Evaluator Programs have no such requirements—if the building owner can find a willing building safety evaluator to evaluate the building after an event, the two can enter into a contract on the spot. Such contracts were entered into in previous earthquakes such as the 2001 Nisqually Earthquake, in the absence of any ABR program (see case study box). Following an earthquake, many building owners will try to engage the design professional who designed the building, but absent any pre-event arrangement, there may be delays in their availability to perform the building safety evaluation.



2001 Nisqually Earthquake

The 2001 M6.8 Nisqually Earthquake resulted in 31 buildings being posted UNSAFE (red placard) and over 500 buildings being posted RESTRICTED ENTRY (yellow placard) in the City of Seattle. Seattle’s Department of Design, Construction and Land Use (DCLU) and its hired consultant only canvassed a few selected high-hazard neighborhoods to conduct ATC-20 safety evaluations, and relied mostly on building owners, tenants, or the general public to report damage and request evaluations.

During the recovery period following the earthquake, some engineers’ reports requesting downgrades to DCLU-posted placards (usually from yellow to green) clearly showed that some building owners were hiring whatever engineers were available immediately after the earthquake to conduct safety evaluations. In addition, as DCLU received applications for permits to repair buildings, DCLU did not have ATC-20 evaluations or placards documented for many of these buildings needing repairs. Based on the required repairs in the engineer’s drawings, several of the buildings should have been at least posted yellow. One year after the

earthquake, DCLU determined they had no ATC-20 records for approximately two-thirds of the earthquake repair-related permit applications received.

These findings resulted in the development of the Advisory Tag Program described in WABO/SEAW Liaison Committee White Paper 5, *Guideline—Post-Disaster Contract Safety Evaluations*. The white paper, originally published in 2011 and updated in 2021, is linked in the resources below. The Advisory Tag Program has been adopted by the City of Seattle Department of Construction and Inspections (successor to DCLU).

For an AHJ, the main incentive to adopt an Advisory Evaluator Program over an Authorized Evaluator Program is the reduction of the workload associated with establishing, implementing, and maintaining an Authorized Evaluator Program. In contrast to an Authorized Evaluator Program, an Advisory Evaluator Program has minimal required documentation, other than post-event reports of the results of the ABR evaluator's placarding decisions, and no need for fees. The Advisory Evaluator Program relies heavily on trust in the building safety evaluator's professionalism, that is, that the building safety evaluators providing services to their clients will report those results as expected. If the results are reported, the building safety evaluation workload for the AHJ should be reduced, and should allow the AHJ to prioritize their resources to other buildings. Although formal documentation is not required, a building owner can request documentation of the AHJ's agreement to allow the implementation of an Advisory Evaluator Program on one or more buildings through a "memorandum of understanding."

An important feature of an Advisory Evaluator program is that the AHJ conducts a follow-up quality assurance site visit to post the AHJ's official placard. If the evaluation reports are filed in accordance with the program, the site visit will afford the AHJ with the opportunity to correct any egregious errors. As is the case whether or not an ABR program is adopted, there is a backstop to on-the-spot contracts or lack of reporting of results: if the placarding results for buildings are not reported, the AHJ may independently conduct a building safety evaluation of the building in their own timeframe. If the building safety evaluator has posted advisory tags, the AHJ will find them, but can still conduct a quality assurance evaluation and post their official placards accordingly. If no advisory tags have been posted, the AHJ will conduct their normal evaluation and will post their official placards accordingly.

One of the recognized downsides of an Advisory Evaluator Program is that the AHJ has to devote resources to follow up on the reported advisory tags after an event, which could be perceived as a duplication of effort in comparison to an Authorized Evaluator Program. Another downside is the process results in somewhat less certainty for the building owner and building safety evaluator as to the final placard status in the interim between posting of the advisory tag and the AHJ's posting of the official placard. However, this uncertainty is not much different from the AHJ retaining the authority to post their own placards in an Authorized Evaluator Program, as described above.

Two AHJs have incorporated a concept similar to the Advisory Evaluator Program into their Authorized Evaluator Program, as follows: The building owner is allowed to have qualified personnel conduct an interim building safety evaluation and post interim placards that expire after one week; this

potentially gives the owner and occupants some level of assurance the building can be safely occupied in the period of time between the event and the deadline for submittal of the building safety evaluator's detailed evaluation report.

It is recommended that building owners document an agreement with the AHJ for each building or campus via a Memorandum of Understanding (MOU), a template is provided in Appendix D. This is a partway step between an undocumented Advisory Evaluation Program, and a fully-documented Authorized Evaluator Program, and should more clearly allow the AHJ to reprioritize their resources.

Lacking an MOU to document an agreement, at a minimum, it is recommended the AHJ require minimal notification that a particular building and its building safety evaluator are participating in an Advisory Evaluator Program, a template is provide in Appendix E.



Resources

- WABO/SEAW Liaison Committee White Paper 5-2021, Guideline - Post-Disaster Contract Safety Evaluations. Available at: https://wabo.memberclicks.net/assets/SEAWPapers/_WABO%20SEAW%20WP-5%20final_1.11.21%282%29.pdf, last accessed September 9, 2022.
- Appendix D presents a template for a Memorandum of Understanding (MOU) and sample placards for an Advisory Evaluator Program.
- Appendix E presents template for notice to AHJ of participation in Advisory Evaluator Program.
- Electronic versions of Appendix D and E are available at [FEMAP2055.atcouncil.org](https://www.femap2055.atcouncil.org)

3.3 Program Outreach

Once an ABR program is adopted by an AHJ, ongoing outreach and promotion of the program by the AHJ is critical for program success. Building owners and design professionals need to know the ABR program exists within the jurisdiction, the benefits of their participation in the program, and their individual responsibilities within the program. From the AHJ's viewpoint, the number of participating buildings must be large enough to offset the workload of reviewing and approving ABR plans. If only a few buildings enroll in an ABR program, there will be no significant reduction of the AHJ's workload in an earthquake response. Outreach can be conducted via professional associations such as BOMA and local engineering and architecture associations.

An AHJ should also promote their ABR program through their department websites. Building owners who participate in ABR programs in other jurisdictions may want to know if the jurisdiction has adopted an ABR program and the associated requirements. A building owner who has heard of ABR programs and wants more information may search the jurisdiction's website for that information.



Resources

The City of Berkeley web page hosts an excellent overview of the authorized BORP program. Available at: <https://berkeleyca.gov/construction-development/seismic-safety/building-occupancy-resumption-program>, last accessed September 7, 2022.

Additional Considerations for Advisory Programs

Outreach and education will be critical to outline expectations and achieve the desired outcomes with an advisory program, since there is no required interaction with building owners and building safety evaluators before an earthquake. Outreach by the AHJ will need to focus on educating building owners and design professionals about the AHJ's policies and expectations for reporting the results of the building safety evaluations.

Chapter 4: Program Design and Management

4.1 Information Necessary for Participation in Program

Discussion

A building is enrolled in an ABR program after the AHJ has accepted the submitted agreement. To facilitate this, the AHJ will review information about the building, the proposed building safety evaluators (BSE), and information needed for coordination and logistics to be used during the evaluation. The AHJ may require a regular renewal process that could include submittal of updated information.

Recommendations

There is some key content that should be included in the documentation submitted to the AHJ to enroll a building in the ABR program. Appendix B presents a template agreement to be signed by an AHJ, a building owner (or agent), and BSEs. The agreement includes implementation instructions for the program, qualifications for BSEs, and requirements for compilation of a Building Information File. The agreement includes a template for identifying and authorizing approved BSEs.

The building owner should work with the contracted BSE to complete the Building Information File to include:

- Part A: List of emergency contact individuals for the building.
- Part B: Building description, including a plan showing important structural element locations, building exit, and location of potential nonstructural hazards including falling hazards, hazardous materials, and potentially hazardous equipment.
- Part C: Emergency response protocols including any specific trigger parameters and access procedures.
- Part D: Procedures for safety evaluation, including reporting instructions and checklists.

A print-out of the complete Building Information File, related documents, access keys and codes, and other information gathered should be kept in a location readily accessible to BSEs, bearing in mind that the chaos and damage in an emergency may make some areas of buildings inaccessible. An electronic file of these documents should also be prepared for convenience, while recognizing that power and access to the internet may not be available during the post-event scenario.

It is important to periodically review all of the information in the Building Information File including personnel contact and building information to ensure preparation for a triggered event. In practice, the AHJ should not bear the responsibility to initiate the renewals or track the submittals, but a reminder for renewal from the AHJ would increase the chances of a better result. The responsibility to schedule and submit the renewals of applications should fall to the building owner and the BSE.

For any changes, such as termination of the ABR program by the AHJ, change of building ownership, or change of BSEs, the participant parties (owners, evaluators, and AHJ) must communicate these changes to ensure that respondents do not commit themselves to activities that are no longer necessary or desired. This will ensure that AHJs and owners are not misinformed and disappointed following a major earthquake.

For a campus comprising multiple buildings, it is recommended that each building be enrolled individually with separate documentation for each, while coordinating all documents. The Building Information File prepared for each building should include a prioritized list of the buildings to be inspected assuming that actual conditions do not necessitate the need to reorder the list, and should include a campus map with labeled buildings. See Section 5.5 for information regarding prioritization of evaluations on a campus.



Resources

- Appendix B provides a template agreement for an ABR program, to be signed by the AHJ, building owner, and BSE.
- Appendix C provides a template agreement to be signed by building owner and BSE.

Electronic versions of these templates are available at FEMAP2055.atcouncil.org

4.2 Minimum Qualifications for Building Safety Evaluators

Discussion

For a successful program, the AHJ needs an assurance that the authorized evaluators are properly trained and familiar with their assigned duties and the building.

Depending on the agreement with the owner and AHJ, more than one individual can be assigned to serve as a building safety evaluator: A Primary BSE is the person expected to be the lead respondent and will serve as a structural safety evaluator; and an Alternate BSE can serve as the “backup” person if the Primary BSE is unable to reach the subject building or extra evaluation help is required because of building size. Both evaluators are subject to the same minimum qualifications. There may be others assisting the Primary and Alternate BSEs under their supervision with structural safety evaluations; they are not subject to the minimum qualifications listed below.

As necessary, Habitability BSEs are engaged for their unique skill sets. If systems requiring special expert evaluation are critical to building reoccupancy, Habitability BSEs should be identified in the ABR program documentation and engaged in the agreement between evaluation team and building owner. Qualification for Habitability BSEs will vary depending on the expertise needed.

Recommendations

Selection of qualified evaluators is an important element of a successful program. The minimum qualification for a Primary (and Alternate) BSE conducting structural safety evaluations is training on ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings*, (ATC, 2005).

The easiest confirmation of this training is the volunteer credential issued by the California Office of Emergency Services Safety Assessment Program (CalOES SAP), Missouri SAVE, or WAsafe for each individual certifying their completion of an ATC-20 training program and confirmation of their licensure (Professional Engineer or licensed Architect).

The ABR program should also require the Primary BSE to reflect experience with buildings similar to the type of the subject building, e.g., highrise commercial. Qualifications for those assisting the Primary and Alternate BSEs and working under their supervision need not be submitted to the AHJ for approval.

If the building has been designed and built recently, it would be good practice to engage the professionals who designed the building to serve as BSEs, since they would have intimate knowledge of the building design.

Because much of the program requirements rely on the active participation of the Primary BSE, this person must be one of the first respondents at the building and, where necessary, be capable of leading the entire evaluation team (including Habitability BSEs and any additional evaluators).



Resources

FEMA NIMS Resource Typing Library presents minimum qualifications for a Post-Disaster Building Safety Evaluator resource. Although the building safety evaluator participating in the ABR program is not required to have background in Incident Command System (ICS) procedures as required for this resource type, personnel fulfilling the requirements for a Type 1 evaluator (per the referenced minimum qualifications) could serve as a Primary (or Alternate) BSE. The library is available at this link: <https://rtlt.preptoolkit.fema.gov/Public/Position/View/10-509-1448?q=post-disaster%20building%20safety%20evaluator>, last accessed September 7, 2022.

Additional Considerations for Advisory Program

If the AHJ adopts an advisory program, the AHJ will not be performing a rigorous review of evaluator qualifications and the building owner will need to make their own due diligence efforts to ensure the evaluators hired are qualified. It is recommended that the owner make arrangements with an evaluator ahead of time, and review their qualifications based on the same criteria as listed above.

4.3 Structural Safety Evaluations (Pre-event)

Discussion

One of the primary benefits of establishing and participating in an ABR program is the increased accuracy of the post-event evaluation results. This is primarily due to the familiarity of the Primary BSE with the building, developed during the preparation of information necessary for participation in the program (described in Section 4.1) that includes the Building Information File.

The Building Information File is a critical part of the agreement signed by the AHJ, Building Owner, and the Primary BSE and presents the necessary information for facilitating efficient safety evaluations. The material compiled also comprises a valuable “dossier” to the BSEs, summarizing all relevant information. To serve both of these purposes most efficiently, the Building Information File should be set up so that it reads like a building evaluation report, with additional program information provided so that the BSE is aware of responsibilities and reporting requirements important to the AHJ.

Recommendations

The template agreement presented in Appendix B lists the required components of a Building Information File. Part B of the Building Information File pertains to the building and can be completed during a pre-event field visit by including:

- Photograph of building
- Address of building
- Description of building including age, number of stories, size, materials, and structural system
- Building floor plans showing entrances, evacuation routes, and recommended locations for observation
- Number and location of building entrances to be posted with AHJ placards
- List of building use(s), e.g., office, apartments
- Estimated current building valuation

- Description of life-safety systems including location of emergency power generator
- Description of building fire detection and suppression systems
- Description and locations of potential falling hazards
- Location, type, and handling instructions for any hazardous material

4.4 Habitability Evaluations (Pre-event)

Discussion

The determination of occupant safety and usability of a building after an event goes beyond structural issues and is often the issue of greatest concern to building owners, users, and AHJs. These issues are encompassed by the term, “habitability.”



Habitability

“Habitability” is the term used in FEMA P-2055 report to refer to the factors to be considered when evaluating whether a building is safe enough to be occupied after a damaging event, aside from its structural condition. The existence of environmental hazards, the condition of building systems and services, and compliance with other building code issues factor into a more complete picture of building habitability. See Section 5.4 of this *Guide* for further discussion.

A building safety evaluation strictly adhering to an ATC-20 Detailed Evaluation procedures includes evaluation of whether sufficient egress paths are open and available and whether damaged building system components create falling hazards to occupants. Several of the existing ABR programs reviewed require “life-safety systems” and “elevator” inspections focused on system operability, which would be in addition to the ATC 20-1 Detailed Evaluation procedures. FEMA P-2055, Chapter 4 presents an overview of habitability evaluations and other considerations. Figure 4-1 is reproduced from FEMA P-2055 and presents a list of potential habitability evaluation topics.

Not all elements can be examined or evaluated, and Primary BSEs are not expected to be expert in all building systems. The continued use of buildings in a post-earthquake scenario certainly requires some, but probably not all, systems and features to be operational. It is unlikely that all building systems and elements will be in perfect operational order following a large earthquake event, but it is likely that increased risk in some areas will be need to be tolerated in order to minimize residential displacement, allow commerce to proceed, and allow for restoration of normal functions while repairs are undertaken.

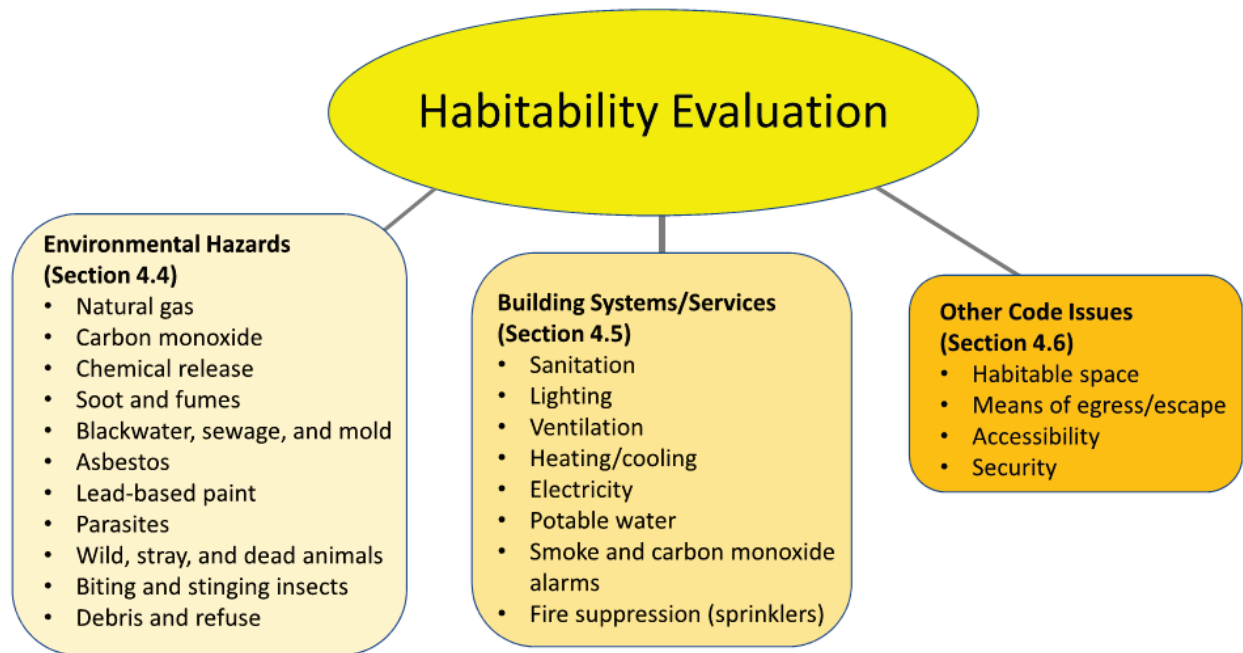


Figure 4-1 Habitability evaluation topics presented in FEMA P-2055 (Section numbers in the figure refer to FEMA P-2055).

A habitability evaluation of the building conducted prior to an event will acquaint the building safety evaluation team, expanded to include a Habitability BSE, where necessary, with critical areas and systems to inspect after an event. When conducted in conjunction with the pre-event structural evaluation, the habitability evaluation may help the whole evaluation team identify particularly vulnerable areas that should be prioritized for inspection, for example, a critical merge point in the building egress system that would be affected by the failure of a key structural member.

Recommendations

- An AHJ adopting an ABR program should consider whether to require habitability evaluations in addition to the minimal egress evaluation included in an ATC-20 Detailed Evaluation. Inclusion of such a requirement may aid in community recovery but may also increase the cost of participation in the ABR program. Because building owners may potentially benefit from having this further evaluation, they should discuss including habitability in the scope of the evaluations with their building safety evaluation team. BSE teams can be expanded to include Habitability BSEs.
- The AHJ should adopt regulations or policies to clarify the applicability of habitability standards to residential units and commercial spaces in a post-event environment. In particular, they should address policies for sheltering in place and accessibility for people with disabilities.

4.5 Building Safety Evaluator Staffing and Fees

Discussion

A successful ABR program is dependent upon efficient response, without requiring active AHJ management or oversight. To facilitate an immediate and efficient response, owners and BSEs need to have well documented agreements that guarantee a timely response with adequate support within a reasonable timeframe. Because all three dimensions of consulting (time, capacity, and capability) are required of the responding evaluator, staffing is an important consideration.

If the Primary BSE is not available (due to personal limitations or physical changes between the evaluator and the subject building, such as a bridge failure), the Alternate BSE is expected to arrive at the site within the agreed upon timeframe.

The BSE (or their firm) will charge fees for the initial set up of the program including the pre-event evaluation described in Section 4.3. The fees will depend on the availability of documents for review, the structural complexity, and the level of effort necessary to prepare the Building Information File and to coordinate with the building owner. Fees for a periodic update will also be charged but will depend on whether a simple check in with exchange of contact information and some access protocols are included, or if there are changes to the building that trigger a reevaluation for the Building Information File. Finally, the agreement between the Owner and BSE should include provisions for a “time and material” or other arrangement for services to be provided after an earthquake.

Recommendation

Appendix C presents a template for a consultant agreement between a building owner and a BSE and includes the following key content:

- Identification of all evaluators (Primary BSE, and where necessary Alternate BSE and Habitability BSE) by name, including place of employment and contact information.
- A contractual mechanism to ensure that evaluators will respond as indicated, such as an annual stipend or retainer.
- A requirement for periodic renewal of training or certifications for all evaluators per their expertise.
- Contact protocols to confirm review of building and submission of findings.

It is critically important that the professional individual/firm serving as the contracted BSE rigorously track their responsibility to be adequately staffed so that they can meet their obligations to send designated individuals to their assigned ABR program locations and not overcommit staff ability to respond after an earthquake.



Resources

Appendix C provides a template agreement to be signed by building owner and BSE. An electronic version is available at FEMAP2055.atcouncil.org

4.6 AHJ Staffing and Fees

Discussion

An ABR program requires active engagement, coordination, monitoring, and maintenance from the AHJ. Program applications and plans must be reviewed and approved, placards need to be printed and issued to the building owner, follow-up may be required on renewals (e.g., reminders and approval of changes), and post-earthquake safety evaluation results for the buildings enrolled in the program need to be tracked, including any placard changes resulting from aftershocks.

All of the existing programs reviewed are administered by the local building department, whose operations are geared toward their typical responsibilities of regulating construction via plan review and inspections. The workload associated with administering an ABR program is in addition to those daily, pressing activities. However, it is unlikely that ABR program administration will constitute enough work to justify a full-time employee that is dedicated to this job. It is more likely that this becomes part of one employee's job, at which point, the AHJ needs to decide whether to just absorb the extra work or hire additional staff to offset the loss of capacity on the daily work.

Some ABR programs make allowances for the AHJ to charge a fee to administer the program. The fees can then be used to offset the cost of hiring additional staff. However, it is recognized that a high administration fee will create a disincentive for building owners to apply for the program, so AHJs need to take this into account when determining their fees. In the existing ABR programs that were reviewed, some AHJs specify an hourly rate to review the applications in their ABR program documents. There may be other factors that also weigh into the decision-making process for fee amounts, such as whether the building department is funded by the permit fees they collect or by the jurisdiction's general fund. Some building departments are restricted from using permit fees collected for any activity that is not directly related to administration of permits.



Existing Programs

- The Berkeley, California, program documents include an hourly rate and estimate that it may take two to six hours to review the plan.
- The City of Portland, Oregon recognized the issue of fee amount versus cost recovery in developing and implementing their EQUIP program and is using their 2022 pilot program to verify the length of reviews to inform fee amounts.

To reduce the ongoing maintenance workload demands, the AHJ could choose to reduce their engagement once the ABR agreement is signed and rely solely on the building owners and BSEs to provide updates and submit for renewals as required.



Volunteers Assisting the AHJ

The San Francisco Division of Building Inspections conducts review of new applications to the Building Occupancy Resumption Program (BORP) with the assistance of private-sector engineers who are engaged in approved BORP plans.

This solution may not meet the needs of all AHJs, particularly if the program was approved based on the Building Official's assurance that the AHJ would be closely scrutinizing the program, including the personnel qualifications.

Recommendations

Staffing and fee determinations will be made by each individual jurisdiction, but the AHJ should consider whether the fees charged might disincentivize participation in the program.

4.7 Legal Considerations

Discussion

There may be concerns by any or all of the involved parties that liability may be increased by participating in an ABR program. Some concerns are real and some are perceived, but they must be clearly addressed when establishing the program. The issues are complicated due to the legal interpretation of each state's laws by the AHJ attorney or risk manager.

An ABR program is separate and distinct from any use of volunteer emergency workers. While the emergency volunteers may be authorized by the AHJ to evaluate buildings and to post placards, the Primary and Alternate BSEs are under contract to the building owner and are therefore not volunteers. Because they are not volunteers, even in states with Good Samaritan laws, they might be held professionally liable for their work.

This discussion addresses selected concerns and provides some example code provisions that might be appropriate.

OWNER

The liability of the owner essentially remains the same regardless of whether their building is enrolled in the program or not. The owner will have an agreement in place with a Primary BSE that is a licensed consultant to provide professional services. The BSE is a paid consultant, not a volunteer, and therefore their responsibilities and liabilities to the owner may be seen as similar to other

professional engineering service agreements, unless otherwise agreed upon. A written contract between the two parties should be in place that covers both responsibilities and limitations of liability. Proper insurance coverage for the consultant should be in place and are likely required by the owner.

BUILDING SAFETY EVALUATOR

Although hired by a building owner, the BSE (whether Primary, Alternate, or Habitability) is protected first and foremost as a licensed professional via all of the applicable laws related to practicing as a professional in their state. As for financial protection, their services in a post-event scenario are closely related to their “regular” services since they are under contract with the owner and therefore covered by the same professional and liability insurance that covers those “regular” services. The following are some unique conditions to consider during the post-event scenario:

- Specialized qualifications are required
- There is sense of urgency during an emergency
- Evaluators are operating under high-stress conditions
- Because actual working conditions during the period of service after the event cannot be predicted, firm owners may be exposing their personnel to potentially hazardous conditions
- Actual building condition information available to the BSE may be limited and therefore use of judgement may be necessary

Because of these conditions, it should also be recognized that the “standard of care” may not be the same as for “regular” design services. It should be noted that in the ABR model, because the professional is a compensated consultant, they are most likely not covered by the state’s Good Samaritan protections nor by the same protection that might be provided as a volunteer agent of the AHJ.

AUTHORITY HAVING JURISDICTION

The AHJ is generally immune from liability in accordance with “sovereign immunity” or similar state laws that protect government agencies. If they adopt an ABR program, their actions as a government agency to delegate their authority to the Primary or Alternate BSE may fall under these laws. However, the AHJ also derives their authority from the locally adopted building code. The building codes generally give the AHJ the authority to delegate their responsibilities. The 2021 *International Building Code* (IBC) defines Building Official as (emphasis added) “The officer or other designated authority charged with the administration and enforcement of this code, or a **duly authorized representative**.” In the case of an ABR program, the Primary and Alternate BSEs would be authorized representatives of the building official. There are many other provisions and precedents from California (and other states) law regarding immunity. It is clear that governmental liability for acts of

authorized inspectors, are covered by sovereign immunity or similar provisions with limited explicit exceptions.



Existing Programs

The following are examples of state and local laws in California regarding AHJ immunity.

- From the 2019 San Francisco Building Code:
- **104A.2.6 Liability.** *The building official charged with the enforcement of this code, acting in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance shall not thereby be rendered personally liable for damages that may accrue to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties. A suit brought against the building official or employee because of such act or omission performed by the building official or employee shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction.*

From the California Government Code:

- **Gov. Code, § 818.2.** *A public entity and its employees are immune from liability for an injury caused by enacting or failing to enact laws, or by failing to enforce any law.*
- **Gov. Code, § 818.6.** *A public entity is not liable for injury caused by its failure to make an inspection, or by reason of making an inadequate or negligent inspection, of any property, other than its property (as defined in subdivision (c) of Section 830), for the purpose of determining whether the property complies with or violates any enactment or contains or constitutes a hazard to health or safety.*
- An exhaustive search of code provisions in other states has not been performed but based on the examples provided, terminology can be included in an ABR program that provides appropriate protection for each of the three parties entered in the program.

Recommendations

Provisions related to liability should be included in the signed ABR agreement between all parties to ease any concerns or perceptions of increased liability to owners, consultants, or the AHJ. Further, the BSE should communicate with their professional insurance carrier in consideration of the conditions described above that will be present in the post-event scenario.

Additionally, immunity language provided in applicable state and local codes should be confirmed and coordinated with the terminology to be included in the documents related to a new ABR program. Further, in the initial establishment of a new ABR program, the AHJ Attorney should be closely involved in preparation of the provisions related to liability in the program documentation.



Existing Programs

The following are three examples from reviewed program materials. These must be adjusted for appropriate code references, where necessary. There is a range between implied (San Francisco) and very specific terminology (Portland), but all presumably provide the same level of protections, and an AHJ can use any of those three examples as a template for its program.

- From San Francisco, California:
- *The extent of responsibility and liability is governed by the agreement between the owner and inspectors.*

From Salt Lake City, Utah:

- *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.*

From Portland, Oregon:

- *As a public body, the City of Portland is subject to the Oregon Tort Claims Act (OTCA) (ORS30.260 et seq.) and is immune from any claim for any injuries or damages arising under or in connection with any policies, practices, or actions relating to the Emergency Quick Inspection Program (EQUIP). The City of Portland expressly reserves and does not waive any immunity, defenses, and limitations it has pursuant to Oregon law.*
- *Any responsibility or liability associated with EQUIP shall be attributed solely to the owner of the facility and their contracted building safety evaluation team members. The extent of any responsibility and liability is governed by the agreement between the owner of the facility and their respective building safety evaluation team members.*
- *EQUIP participants, to the extent permitted by any applicable constitutional or OTCA limitations, agree to hold harmless, defend and indemnify the City of Portland and its officers, agents, and employees against any and all claims or actions, including attorney’s fees and costs brought against it arising out of EQUIP.*



Resources

Appendix A provides website links to existing program materials that were reviewed. Review of existing program documentation may provide additional examples of provisions related to legal considerations.

4.8 Training

Discussion

Training of all parties is imperative to ensure the success of an ABR program. Further, none of the established ABR programs have been fully tested in a large earthquake event, and therefore, the discussions in this *Guide* are theoretical in nature, assuming the program will work as planned in the post-earthquake environment. However, some testing of the plan is possible through conducting exercises.



Existing Programs

- One building manager in Salt Lake City conducted a practice run of an ABR plan with the participating BSE following the 2020 Magna Earthquake, even though the plan was not formally triggered (personal communication, 2022). The building manager found the exercise to be very valuable, as it provided them with specific information on how the process would work.
- The City of Portland requires participation in their exercises (anticipated to be conducted every four years) as a condition for renewal in their EQUIP program, although setting up and conducting these exercises is likely to increase the City's staffing needs related to ongoing program administration.

Recommendations

The BSE has specific responsibilities regarding training:

- ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings*, is the foundation of the technical training for Primary and Alternate BSEs, and it is strongly recommended to take a refresher course every 5 years.
- Building-specific training is recommended as needed to address topics, such as access to building, communication with the owner staff, communication with occupants, coordination with the onsite staff, and storage locations of equipment, documents, and other information.

The building owner may implement training of their own staff, including security, maintenance, and facilities staff, to confirm protocols and procedures to be used in the post-event scenario. For a campus of multiple buildings, a drill at the owner's emergency operations center (EOC) with on-site personnel can be extremely valuable.

The AHJ can improve the efficacy of the program by implementing ongoing training with AHJ staff and by conducting jurisdictional and regional exercises and evaluating the successes and shortcomings of those exercises on a regular basis.

Additional Considerations for Advisory Programs

An advisory program does not lend itself to exercises, as the AHJ may not know that the owner of a particular building has engaged an evaluator. Further, a building owner may not be willing to pay the evaluator for the time necessary to conduct the drills if the drills are not required by the AHJ. Lastly, the AHJ may not have the resources available to conduct such drills. However, such exercises would increase the likelihood of producing the desired results for all parties.

Chapter 5: Program Implementation

5.1 Triggering Event

Discussion

A successful ABR program relies heavily on automation and accountability for timely response. A triggering event is established by the jurisdiction or the owner/evaluator team and serves as the objective measure that teams and jurisdictions can use (or are required to use) to mobilize resources and establish operational conditions to manage information flow and processes. Once chosen, the triggering event is documented in the ABR agreement. In some cases, the evaluator will respond to the building without a triggering announcement, often in an effort to be certain that operations are uninterrupted.

Typically, triggering events are related to ground shaking (Modified Mercalli Intensity, MMI) or ground motion moment magnitude (e.g., M6.5). However, a jurisdiction may consider choosing a triggering event that depends on a disaster declaration issued by a local, state or federal entity. An example would be that the program is not officially operational until the governor declares a disaster associated with the event. When the trigger is pulled (via an announcement or MMI published on ShakeMap), the Primary Building Safety Evaluator (BSE) will be expected to respond to the building. It is the responsibility of the BSE to search for trigger event conditions following ground shaking. In most cases, triggering events are set high enough that the “awareness” of the need for the team to respond is straightforward.

Jurisdictions should consider choosing triggering events in collaboration with community emergency response leaders, as appropriate for the geographic/seismic conditions and the characteristics of the building stock. Many jurisdictions have buildings that pre-date building codes and modern seismic design provisions. In some cases, certain buildings, such as unreinforced masonry buildings, might be significantly damaged in low energy events (less than M6), so the trigger may be damage to these certain building types. In most seismically active areas, an ABR program may identify two or more triggering events based on the vulnerability of certain building portfolios.

Recommendations

A jurisdiction should identify a triggering event that ensures the highest probability of repair/recovery with individual buildings and the collective building stock, without creating unnecessary resource mobilization. Using an emergency declaration as a triggering event is often the most useful and effective trigger. For more predictability and comfort level for building owners, establishing an additional magnitude- or shaking-intensity-based trigger may also be appropriate depending on the building type, vulnerability, site conditions, location and occupancy. Appendix A presents a list of reviewed programs along with triggering event descriptions, where available.

Additional Discussion and Needs

- Triggering events may be set by individual participants, which might cause challenges for the Authority Having Jurisdiction (AHJ). A program trigger could be set at a low level of ground motion or shaking intensity so that participants must propose a different option if desired, but the low trigger will ensure that the AHJ will be adequately mobilized to receive reports from evaluation teams. The AHJ should identify the triggering event in context with recovery and resilience programs.
- There may be benefits associated with AHJs using USGS ShakeMap or strong motion sensors within their jurisdiction. USGS ShakeMap intensity measures can help the jurisdiction identify hard hit areas and focus resources where they might be most effective.
- In very rare cases, building owners install ground motion and building acceleration sensors in buildings (usually for reasons associated with anticipating better than life safe performance in large earthquake events). Those owners that have sensors in their building and have incorporated specific consideration in their individual ABR procedures should be allowed to establish a floor acceleration threshold as a triggering event, often tied to analysis results that the AHJ can review and incorporate into resilience planning efforts.

5.2 Time to Respond

Discussion

After an event, building owners will want some level of assurance as to how soon they can expect the BSE they have an agreement with to be on site to conduct the building safety evaluation. Also, the AHJ will want to know when they can expect reports from the BSE, so they can decide if there is a need to conduct a site visit to evaluate the building.

Most of the ABR programs reviewed had goals of initiating the evaluation program within a few hours or days, and with deadlines for submittal of an ATC-20 Detailed Evaluation report ranging from 48 hours to one week (Appendix A presents a summary). The program in Salt Lake City gives some flexibility to the evaluator, i.e., submit the detailed evaluation report “as soon as reasonably possible,” but also states the goal is for the Detailed Evaluation report to be received within one week. In most cases, if the Detailed Evaluation report is not received within the stated timeframe, the plans state the AHJ might conduct its own evaluation on their own schedule.

Recommendations

When establishing an ABR Program, the AHJ should decide how long they want to wait for the evaluation report before they place the building in the queue for their jurisdiction’s own evaluations and incorporate this timeframe into the ABR agreement to be signed by the AHJ, building owner, and the BSE. If habitability evaluations are required, the deadline should take the availability of qualified evaluators into account. For example, the pool of qualified elevator inspectors may be extremely

limited, and this may increase the time to complete a habitability evaluation. Several of the existing plans reviewed specify that the elevator and life safety evaluations can be submitted later than the structural evaluation. An agreed-upon deadline should be documented in the ABR agreement.

To comply with the ABR agreement, the response timeframe is an issue that should be agreed upon between the building owner and the BSEs. The building owner should decide before an event how soon they need to know whether they should allow occupants back into the building, and as discussed in Section 4.5, the BSEs should decide whether they can provide the requested service based on their anticipated capacity and anticipated post-event conditions, e.g., road closures. The negotiated, agreed-upon timeframe will be part of the contractual agreement between the owner and the BSEs and should form the basis of the documented anticipated ABR program response times.

Additional Discussion for Advisory Programs

Since Advisory Evaluation Programs have minimal documentation requirements, there are no deadlines for submitting reports; it is left to the building owners and evaluators to determine on-site response timeframes. WABO/SEAW Liaison Committee White Paper 5 (WABO, 2021) recommends reporting red and yellow placards to the AHJ “as soon as practical,” with the idea that this would occur somewhere between “immediately” and the end of the day. Reporting green placards is not as urgent and can be done later, as determined by the AHJ.

5.3 Structural Safety Evaluations (Post-event)

Discussion

Following a triggering event, the first priority of the Primary BSE is to conduct a structural safety evaluation of the building in accordance with the documented ABR agreement and Building Information File.

Another area of great impact and concern is damaged nearby structures. The Primary BSE should note the surroundings of their subject building for any damaged adjacent buildings that could potentially represent a hazardous condition to the subject building or the public and inform the AHJ as soon as possible of the noted hazard. In addition, the AHJ should be informed immediately if the subject building is damaged and represents a threat to nearby buildings or the public. Immediate action must be taken regarding possible imminent safety hazards. This action may be through the use of barrier tape, personnel keeping persons at a safe distance, movable or fixed barriers or fencing, or solid construction of secure fencing or other barriers. This may require immediate notification and coordination with the AHJ, typically public works and related departments, police, and, through the AHJ, building owners.

Recommendations

During the post-event site visit, the Primary BSE will conduct building safety evaluations in accordance with ATC-20 Detailed Evaluation procedures and post building entrances with AHJ placards.

The Primary BSE will lead the entire evaluation team that may include Habitability BSEs, and the team will work together to determine the final posting status of the building.

5.4 Habitability Evaluations (Post-event)

Discussion

Section 4.4 described the need for including habitability evaluations in addition to the minimal egress evaluation included in an ATC-20 Detailed Evaluation to aid with community recovery. FEMA P-2055 recognizes that “an underlying assumption is that the standards that apply to permanent occupancy do not necessarily need to fully apply [when evaluating habitability] in the immediate aftermath of an incident.”

Following a damaging earthquake, it is unlikely that all building systems and elements will be perfectly operational, and some flexibility will be needed to allow buildings to continue to be occupied. For the sake of community recovery, some flexibility in allowing buildings to be occupied following damage will be needed.

Recommendations

The Habitability BSE will conduct system-specific evaluations and work in conjunction with the Primary BSE to determine the final posting status of the building. The AHJ will provide guidance to all BSEs as to acceptable standards of habitability.



Resources

Chapter 4 of FEMA P-2055 presents general guidance regarding potential temporary habitability standards, addressing environmental hazards, building systems and services, and other code issues.

5.5 Prioritization of Evaluations for Multiple Buildings on a Campus

Discussion

At a campus environment where the owner has enrolled multiple buildings in the ABR program, the evaluator team will have to prioritize evaluations. Factors to consider when prioritizing include: each building's importance to operations, occupancy, and anticipated structural performance. For example, one campus of 2,000 workers may comprise several office buildings, a central plant, a data center, a commissary, and a parking structure. Although at first, the data center or central plant might be considered as the top priority, based on discussions, it might become apparent that the first concern after immediate safety is to enable workers to leave the campus with their cars, thus the condition of the parking structure could be considered the highest priority.

If there is a team already on campus (facilities personnel or security), they likely will already have some reports of obvious damage and should brief the arriving team about what has already been observed. This may allow identification of a severely damaged building that was a lower priority in the original list to be prioritized higher due to safety concerns.

Recommendations

Unless otherwise directed by the AHJ, the owner and the Primary BSE should establish an initial priority list of buildings. As part of the program set up for a campus with multiple buildings, a Building Information File should be prepared for each building, including a prioritized list of the buildings to be evaluated, assuming that actual conditions do not necessitate the need to reorder the list. A campus map with labeled buildings should be included. The plan should be flexible to allow changes to the priority order when the evaluation team arrives at the campus following the event.

Key characteristics for high priority buildings may include:

- Occupancy – How critical is the occupancy of the particular building to recover operations?
- Hours of operation – Are there any occupants in the building or scheduled to occupy?
- Importance to operations – How critical is this particular building to operations?
- Anticipated structural performance – is the building expected to perform well, or is it likely to be significantly damaged? What are the consequences?
- Life safety risk – Is the building expected to perform so poorly as to represent a life safety risk?
- Importance to recovery efforts – Is the building housing any important materials that might be needed for recovery?

Immediately following an event, a triage process is required, starting with a briefing of the arriving evaluation team by the owner's staff on site. Assuming that the evaluation team will not be on site immediately, it is recommended to provide some training to the owner's team that is likely to be present. It should be emphasized that these personnel are not expected to post a building, but to observe from a safe position and cordon off any spaces where they expect that there may be a potentially hazardous condition. The training should include protocols for documentation so that upon arrival of the BSEs, the on-site personnel can brief the team, and the order of the evaluations can be finalized.



Resources

Appendix C provides a template agreement to be signed by building owner and BSE that includes a table to identify priority list of buildings. An electronic version is available at FEMAP2055.atcouncil.org

5.6 Placards

Discussion

ATC-20 Detailed Evaluation procedures result in posting buildings as INSPECTED (green placard), RESTRICTED USE (yellow placard), or UNSAFE (red placard), shown in Figure 5-1. These placards are used to communicate whether buildings are unsafe, allowed to be occupied with some restrictions, or allowed to be occupied without restrictions. This procedure provides the public with an easy method to discern a building's safety after an earthquake. The red, yellow, and green placards are easy to see, identify with the public's normal knowledge base, and make sense in the earthquake aftermath.

In the reviewed ABR programs, the AHJ presents blank placards to the building owner once the program application has been approved. The placards generally have standard text as presented in ATC-20-1, although the AHJ may add an identifier, such as as the logo of the AHJ, in order to show they carry the AHJ's authority.

AHJs generally issue a limited number of placards. In most cases, the number is tied to the number of building entrances, in accordance with ATC-20 procedures, although the exact number is typically not specified in the ABR plans. The building owner is responsible to store the placards in a location that is readily accessible to the owner and BSEs, along with other ABR program documents and equipment, where they will be available for use after an event that triggers evaluations. The placards are to be completed by the Primary or Alternate BSE only.

INSPECTED
LAWFUL OCCUPANCY PERMITTED

This structure has been inspected (as indicated below) and no apparent structural hazard has been found.

Inspected Exterior Only
 Inspected Exterior and Interior

Report any unsafe condition to local authorities; reinspection may be required.

Inspector Comments: _____

Facility Name and Address: _____

Date _____
Time _____

(Caution: Aftershocks since inspection may increase damage and risk.)

This facility was inspected under emergency conditions for: _____
(Jurisdiction)

Inspector ID / Agency _____

Do Not Remove, Alter, or Cover this Placard until Authorized by Governing Authority

RESTRICTED USE

Caution: This structure has been inspected and found to be damaged as described below:

Entry, occupancy, and lawful use are restricted as indicated below:

Facility Name and Address: _____

Date _____
Time _____

(Caution: Aftershocks since inspection may increase damage and risk.)

This facility was inspected under emergency conditions for: _____
(Jurisdiction)

Inspector ID / Agency _____

Do Not Remove, Alter, or Cover this Placard until Authorized by Governing Authority

UNSAFE
DO NOT ENTER OR OCCUPY
(THIS PLACARD IS NOT A DEMOLITION ORDER)

This structure has been inspected, found to be seriously damaged and is unsafe to occupy, as described below:

Do not enter, except as specifically authorized in writing by jurisdiction. Entry may result in death or injury.

Facility Name and Address: _____

Date _____
Time _____

This facility was inspected under emergency conditions for: _____
(Jurisdiction)

Inspector ID / Agency _____

Do Not Remove, Alter, or Cover this Placard until Authorized by Governing Authority

Figure 5-1 INSPECTED, RESTRICTED USE, and UNSAFE placards from ATC-20-1 (ATC, 2005).

In some existing ABR programs, the AHJ-issued placards are printed with identification numbers to allow for strict accounting for each placard in a logbook that the building owner is required to store and maintain with the placards. The logbook is then used to track where and when each placard is posted by the evaluator. This practice is not recommended, as it is unwarranted and an unnecessary burden for building owners and evaluators. In addition, while not intended by the AHJs who adopted these accounting procedures, imposing such a requirement can send a message that the AHJ does not trust the building owner or evaluators to act in a professional manner—that there is concern that the evaluators will misuse the issued placards. A functional and successful ABR program must be built on mutual trust among the owner, the building safety evaluator, and the AHJ.

Recommendations

- The text on placards should be based on the standard ATC-20 placards. This will ease recognition and uniformity in understanding of what the placards mean.
- The placards should be printed on the appropriately-colored card stock and stored on-site with other required program documents and equipment in a readily-accessible location, so they are available when an earthquake occurs.

- Consistent with the recommendation in Section 5.7 that re-posting should be specified in the ABR plan, the number of placards issued should be adequate for the likely need for a re-evaluation and possible re-posting needed after significant aftershocks.



Resources

ATC-20-1 placards are available for download on the ATC website: <https://atcouncil.org/placards-and-evaluation-forms#atc-20>

Additional Considerations for Advisory Program

- The Advisory Evaluator Program placards should also use the ATC-20 placards as a template. However, these placards should have additional text identifying the placard as being an “Advisory Building Evaluation tag” that may be superseded by the AHJ’s placard. Where the program is formally documented, the advisory placards may include additional text specifically stating the placards do not carry the authority of the AHJ. See examples in the resources below.
- There are no particular requirements or restrictions for who can print placards for an Advisory Evaluator Program, or where they need to be stored. However, it is likely to be most efficient if they are printed on the appropriately-colored card stock and stored at the evaluator’s office, so they can be available to be used for multiple clients.



Resources

Appendix E presents templates for placards for use with Advisory ABR programs (along with a template MOU between the building owner and AHJ). An electronic version is available at FEMAP2055.atcouncil.org

5.7 Changing Posted Placards

Discussion

In the ebb and flow of emergency response, placards that have been posted may need to be changed. Reasons for changing placards include aftershocks, mitigation of hazards, such as shoring or sidewalk canopies provided, and temporary or permanent repairs.

None of the current ABR programs reviewed explicitly allow the BSE to re-post the buildings based on changing conditions; however, allowing the BSE to re-post the buildings makes reasonable sense, given their knowledge of the condition of the building and any other hazards at the time of the initial posting.

Some programs require the ABR agreement to include detailed procedures to be performed following aftershocks. The inclusion of the post-aftershock procedures in the approved ABR agreement is a strong indication that buildings are allowed to be re-posted, if warranted, to consider increased damage. Some programs also allow nonstructural hazards to be mitigated without permits. This implies the building could be re-posted by the BSE, e.g., moving from a yellow to green placard if nonstructural hazards are mitigated. This may be helpful in the case where the cause of the yellow placard is a localized hazard (e.g., gas leak), and the mitigation that warrants a change in status can be completed quickly.

There is an implicit expectation in the reviewed program documents that building permits to shore or repair the building are to be applied for in accordance with the AHJ's procedures, but the program documents are silent as to whether the Primary BSE is permitted to re-post buildings as structural hazards are mitigated, for example, by temporary shoring or constructing overhead protection to mitigate falling hazards. The apparent expectation is that changing placards for structural mitigation or repairs remains under the authority of the AHJ.

A red placard indicates that the building is deemed a life safety hazard and may not be replaced without a building evaluation completed by a licensed professional engineer. This evaluation can be performed as described in Section 4.7, or the AHJ can develop their own evaluation criteria based on documents that are focused on damaged buildings. For any change associated with a red placard, the AHJ should review the evaluation and repair/retrofit design, and approve each. The *International Existing Building Code* (IEBC) can be used to regulate evaluations and repair projects. Some jurisdictions have created administrative bulletins (e.g., San Francisco AB-098, AB-099 and AB-100) to help administer post-earthquake evaluations and repairs. It is important to have clear and easily retrieved information on buildings that have been evaluated and repaired, such that future work can be identified in context with observed damage.

Recommendations

ABR programs should explicitly identify conditions when the Primary BSE is permitted to change the placard posted on a building. The BSE should be allowed to re-post buildings after conducting a re-evaluation of a building's condition subjected to subsequent events, such as aftershocks.

ABR programs should also allow the BSE to re-post buildings, if warranted, after temporary shoring is installed or other hazards are mitigated (e.g., nonstructural hazard mitigation).

Additional Considerations for Advisory Programs

Similar to the ABR program discussed in this *Guide*, the advisory program documentation is silent on all aspects of re-posting buildings. However, if a program is documented, a memorandum of understanding (MOU) can address when re-posting is permitted. Absent an MOU, similar to the program discussed above, any re-posting is expected to be conducted by the AHJ. A template MOU is presented in Appendix D.

5.8 Emergency Shoring and Repairs

Discussion

The primary intent of the program is to complete safety evaluations as soon as possible; a clear secondary goal is to expedite recovery from an emergency. After completion of the post-event evaluation of a building, the owner will likely be interested in resuming occupancy and operations as soon as possible. The Primary BSE may recommend shoring and may have the engineering ability to immediately start the design of repairs or shoring as needed; however, many AHJs will require building permits prior to starting the work that may extend this timeline. None of the programs reviewed specifically waive the requirement for shoring permits.

Recommendation

In circumstances where the evaluated building poses a significant public safety hazard, the AHJ should adopt provisions allowing the owner, with guidance from the Primary BSE, to conduct emergency shoring (or removal of hazardous structural conditions), with follow-up documentation, such as “as built plans,” to be provided at a later time.

Timeliness of emergency shoring is particularly important when considering the potential for subsequent earthquake aftershocks. Generally, it is expected that significant aftershocks can continue to occur for weeks after an earthquake with decreasing intensity, and this shaking can exacerbate the damage to the structure that was weakened from the main shock. In addition, rapid shoring may allow occupants to recover belongings in a safer manner. An appropriate time period in which to provide the AHJ with details of emergency shoring is recommended as 7 days after the work has been completed. The BSE is responsible for submitting documentation to the AHJ related to emergency shoring, which includes the design, construction oversight, inspection of installed emergency shoring and repairs, and other related documents.

Some of the programs reviewed allow nonstructural hazards to be mitigated without requiring a building permit. Repairs of nonstructural hazards could be allowed prior to specific AHJ approval with the same follow-up, allowing for quicker recovery.

This policy of allowing shoring and repair work to begin under the direct supervision of a design professional who is a member of the BSE team relies on the principle that the owner would agree to proceed at their own financial risk. Upon submittal of the documentation, if the AHJ requires any changes to the design of the shoring or repair work, the owner would be responsible for the costs to modify the previously completed work as required.

A regulation for emergency shoring or repair to be adopted by the AHJ might parallel the language of the 2021 *International Building Code* (IBC), Section 105.2.1 that states “Emergency repairs: Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.” In a larger emergency scenario, the submittal time should be significantly increased. In addition, in

accordance with 2022 *International Existing Building Code* (IEBC) Section 116, the building official can also order measures be taken to “render such structure temporarily safe” if there is an imminent hazard.

The Primary BSE may recommend shoring, either by others or may participate as part of their own scope of services. The design of shoring should follow the following guidelines:

- Identify and apply the standards set by the AHJ for barriers, applying professional judgement.
- Seek assistance for shoring and repairs from contractors with specialized knowledge and equipment, such as housemovers.
- Document all work with extensive photography, including aerial views.
- Implement emergency permitting requirements as directed by the AHJ.
- Prepare, update, and file with the AHJ “as built” documentation for shoring and repairs.
- Following shoring and stabilization work, consider additional barricades for safety and security purposes. If necessary, guards and other personnel may be engaged.
- Maintain careful records of on-site supervision. A compilation of all personnel time and all other costs and expenses can be used for possible reimbursement.



Resources

DHS BIPS 08, *Field Guide to Building Stabilization and Shoring Techniques*, published in 2011 is a field reference book for vertical and lateral shoring, and in-situ rapid strengthening and/or repair of damaged building components.

5.9 Access to Site

Discussion

In many events, law enforcement personnel and security services are called upon to provide a security cordon for damaged buildings or areas containing damaged buildings. Depending on their orders and the nature of the event causing the damage, there may be cases where this personnel may not allow persons without recognized authorization to have access to a building.

Some statewide volunteer building safety evaluator programs (e.g., CalOES, Missouri SAVE, and WAsafe) provide badges that can be used as credentials to gain access to sites under the authority of the AHJ. If BSEs are enrolled in these volunteer programs, they would have these credentials. However, while there are incidences of individual engineers successfully using their volunteer

program credentials to be allowed to cross law enforcement barricades, it is unknown whether these will be universally recognized and therefore, it would be unwise to rely on them.

An example of private sector credentialing for emergency access is the Corporate Emergency Access System (CEAS, www.CEAS.com, last accessed September 9, 2022), adopted by several cities (New York, Buffalo, Chicago, and Boston). CEAS “establish[es] a means for private-sector employers to identify the individuals who are essential to their company’s viability,” and builds a partnership with local law enforcement agencies as part of the system. Through this system, for a small fee, business owners can issue credentials for their critical employees. The credentials are recognized by the adopting jurisdiction’s police department, so these critical employees should be able to cross police lines to gain access to the business premises. While CEAS appears to be aimed at business owners (i.e., building tenants, not building owners), such a system could be adapted or expanded to also allow building owners to issue recognized credentials to their BSEs.

Recommendations

It is recommended that a building owner enrolling their building into an ABR program provide documentation or credentials to the BSEs, showing they have the owner’s permission to perform the required building safety evaluation. If CEAS or a similar system have been adopted by the local jurisdiction, the building owner could provide jurisdiction-recognized credentials to allow the BSE access through police lines. Lacking such a system, the documentation could take the form of a letter with the appropriate letterhead and signature, identifying the BSE and the building.

5.10 Communicating with the AHJ

Discussion

Communication between BSEs working for the property owner and the AHJ is critical to maintaining the necessary records of post-disaster evaluation services, including building condition and postings, identification of evaluators, dates of actions, and other information. The AHJ has the responsibility to collect and compile information submitted by the Primary BSE about building condition and postings.

The most critical information to the public is posting status and date of evaluation. Jurisdictions, through the AHJ, need comprehensive information for effective policy and operational decisionmaking and for compiling documentation needed for financial and legal follow-up actions. Certain information may be considered confidential, either at the request of the building owners, users, or jurisdiction. Such confidential information might include the names or contact information of the individual BSEs, or proprietary information about building condition or uses. Typically, the AHJ would be responsible for redacting information, with the evaluator providing complete information and data.

Communications may be in either digital and hard-copy form, as requested by the AHJ. Digital is generally preferred as these reports can often be immediately prepared and transmitted from the

site and can be readily sorted or entered into database and other reporting formats. All reporting should be backed-up in a secure manner.

As discussed in Section 5.3, evaluators should expect to be confronted with imminent hazards, either on the site of the structure or in adjoining areas. Information about these conditions, such as immediate needs for demolition, shoring, or barricading, required medical assistance, presence of hazardous materials or potential fire, should be urgently transmitted to the AHJ and other emergency providers. These issues must be communicated separately from the avalanche of other submitted information.

Recommendations

- Communications should be directed as specifically instructed by the AHJ. If communication is not possible due to service interruptions, damage, or other reasons, the Primary BSE should ensure that inspection results and related information are delivered to the AHJ.
- Communications should use standard forms and terms when possible, such as completed ATC-20 Detailed Evaluation forms, as required by the program approved by the AHJ.
- In addition to standard forms, the following should be communicated to the AHJ:
 - a clear indication that this is an ABR report and the name of the Primary BSE
 - Action recommended or taken by the Primary BSE regarding nonstructural hazards and other repairs initiated and carried out in accordance with AHJ policies
- Further reporting should be provided as above for all re-evaluations or noted changes in building conditions.
- Other than immediate reporting of imminent hazards and public safety concerns, the actual timing of reporting should meet defined requirements of the AHJ with an objective of no more than 24 hours from the completion of the detailed evaluation. One of the benefits of this program is to relieve the AHJ from the need to send evaluators for evaluation and reporting of these structures, freeing personnel for other essential job duties. This benefit can best be enhanced by carefully meeting the AHJ's reporting goals and formats. Reports must be directed to the persons specified by the AHJ in the plan.

Structures providing housing or other services for persons with special needs, e.g., seniors, children services, disabled persons, pharmacies, should be given priority in communication with AHJ. These should be specifically and prominently noted in communications.

Chapter 6: Key Information

6.1 Program Overview

After an earthquake, the authority having jurisdiction (AHJ) generally provides post-earthquake safety evaluations of structures within their jurisdiction. Today, building officials have become much more aware of the necessities of as-rapid-as-possible economic recovery in their jurisdictions, and if an earthquake is large enough, the building official may not have the resources, including volunteers, available to provide those evaluations in a timely manner. As a result, some building owners may wish to enroll in a program that supports private evaluation of buildings that will permit rapid, individualized emergency response. The Accelerated Building Reoccupancy (ABR) program described in this *Guide* is one method for achieving a rapid emergency response that is aligned with the AHJ's protocols and responsibilities.

6.2 Program Benefits

ABR programs allow building owners to engage private-sector building safety evaluators to evaluate buildings for safety after an earthquake. The objective of an ABR program is to minimize the time required to evaluate damage to buildings with the following benefits to building owners and tenants, the AHJ, and potentially, the community:

- Establishing safety of the building and surrounding areas allows the building to be reoccupied.
- Accelerated reoccupancy of undamaged buildings will spur economic recovery of the community.
- The AHJ is relieved of some of the burden to conduct immediate safety evaluations in a chaotic post-earthquake environment, freeing personnel for other essential job duties.
- Building owners and AHJs benefit by having a more accurate safety assessment that relies on a pre-event building assessment.

6.3 Key Recommendations

- The AHJ should identify a triggering event that ensures the highest probability of repair/recovery with individual buildings and the collective building stock, without creating unnecessary resource mobilization.
- The building owner should select a building safety evaluation team that fulfills the minimum qualifications required by the ABR program and work with the contracted building safety evaluators to complete the Building Information File to be kept in a location readily accessible to building evaluators.

- A contract between the building owner and the evaluation team should identify: all evaluators, including place of employment and contact information; a contractual mechanism to ensure that evaluators will respond as indicated; and a requirement for periodic renewal of training or certifications for all evaluators per their expertise. The response timeframe should be stipulated in the contract.
- Formal training on Detailed Evaluation procedure in ATC-20-1, *Field Manual: Postearthquake Safety Evaluation of Buildings*, (ATC, 2005) is essential for the primary and alternate evaluators, as well as relative experience with similar buildings.
- Additional building-specific training is recommended as needed to address topics such as access through security, communications, coordination with the owner, storage locations of equipment and documents, and other information.
- Habitability evaluators should be chosen for their unique skill sets and ability to quickly assess and release the use of critical systems (e.g., life safety, elevators).
- Key content that should be included in the documentation submitted to the AHJ to enroll a building in the ABR program should include the terms of agreement between the AHJ, Primary building safety evaluator, and the building owner (or agent), communication information and protocols, and the Building Information File.
- The AHJ should adopt regulations or policies to clarify the applicability of habitability standards to residential units and commercial spaces in a post-event environment and should consider whether to include habitability evaluations in addition to the minimal egress evaluation included in an ATC-20-1 Detailed Evaluation.
 - To ease any concerns or perceptions of increased liability to owners, consultants or the AHJ, it is recommended to include provisions related to liability in the signed application documents between all parties.
 - In the likelihood that the evaluation team will not be on site immediately following an event, it is recommended to provide some training to the owner's on site team. The building owner may implement training of their own staff, including security, maintenance, and facilities staff, to confirm protocols and procedures to be used in the post-event scenario.
 - To address the likely circumstance where a damaged building in the ABR program poses a significant public safety hazard, the AHJ should adopt provisions allowing for emergency shoring (or removal of hazardous structural conditions) with follow-up documentation, such as submittal of as built plans.

Appendix A: Summary of Existing Programs

Program or guideline documents for existing programs adopted in nine municipal jurisdictions in four states were reviewed for this *Guide*:

- California (CA)
 - Berkeley: Building Occupancy Resumption Program (BORP)
 - Culver City: Back to Business Program (B2B)
 - Glendale: Back to Business Program (B2B)
 - San Francisco: Building Occupancy Resumption Program (BORP)
 - San Jose: Building Occupancy Resumption Program (BORP)
- Oregon (OR)
 - Portland: Emergency Quick Inspection Program (EQUIP)
- Utah (UT)
 - Murray City: Building Occupancy Resumption Program (BORP)
 - Salt Lake City: Building Occupancy Resumption Program (BORP)
- Washington (WA)
 - Seattle: Advisory Tag Program

The tables provided in this Appendix document key features and characteristics of existing programs as follows:

- Table A-1 presents a list of program websites.
- Table A-2 presents general program information including program name, adoption year and update year, program type, and AHJ department administering the program.
- Table A-3 documents post-earthquake program procedures in three parts: Part 1 includes triggers for program implementation and timelines for evaluator activation, notification to AHJ, and report submittal; Part 2 includes post-earthquake program procedures including requirement for progress report filing to AHJ, evaluation level, requirement for elevator and life

safety considerations, and conditions for AHJ verification of postings by the evaluator; and Part 3 includes the existence of an interim inspection program, procedures after aftershocks, and permits regarding emergency repairs.

- Table A-4 documents program details in two parts: Part 1 includes storage of program documentation and placards, placard tracking, and liability statements; Part 2 includes application exclusion period, program renewal frequency, reviewers for program applications, and application and review fees charged by the AHJ.
- Table A-5 documents required qualifications of evaluators in two parts: Part 1 includes relationship of evaluator to the AHJ, submittal of evaluator resumes, and training and licensing required for structural building safety evaluator; Part 2 includes training and licensing required for life safety and evaluator inspectors.

With the exception of Seattle’s Advisory Tag Program, all listed programs are based on San Francisco’s BORP, with the result that many of the requirements are the same or very similar among those jurisdictions. Program documents for Murray City and Salt Lake City in Utah are essentially identical to each other; as well as documents for Glendale and Culver City in Southern California. Thus, Tables A-3 through A-5 that summarize key features and characteristics of existing programs present these entries as “Utah” and “Southern California.”

Table A-1 Program Websites¹

State	Jurisdiction	Program URL
CA	Berkeley	https://berkeleyca.gov/construction-development/seismic-safety/building-occupancy-resumption-program
CA	Culver City	None
CA	Glendale	Being revised—not available at time of publication
CA	San Francisco	https://sfdbi.org/borp
CA	San Jose	https://www.sanjoseca.gov/home/showpublisheddocument/26041
OR	Portland	None (program is in pilot phase)
UT	Murray City	https://www.murray.utah.gov/DocumentCenter/View/4796/BORPRevisedMurrayLogo?bidId=
UT	Salt Lake City	https://codelibrary.amlegal.com/codes/saltlakecityut/latest/saltlakecity_ut/0-0-0-72900; http://www.slcdocs.com/building/BORP_March_2014.pdf
WA	Seattle	https://wabo.memberclicks.net/assets/SEAWPapers/WABO%20SEAW%20WP-5%20final_1.11.21%282%29.pdf

1: Websites last accessed September 7, 2022.

Table A-2 General Program Information

State	Jurisdiction	Program Name	Year of Adoption (and Update)	Program Type	AHJ Department Administering Program
CA	Berkeley	Building Occupancy Resumption Program (BORP)	2014 (2018)	Authorized	Planning & Development Department, Building and Safety Division
CA	Culver City	Back to Business Program (B2B)	2012	Authorized	Building & Safety Division
CA	Glendale	Back to Business Program (B2B)	2013 (2014)	Authorized	Building & Safety Division
CA	San Francisco	Building Occupancy Resumption Program (BORP)	1999 (2011)	Authorized	Department of Building Inspections
CA	San Jose	Building Occupancy Resumption Program (BORP)	2020	Authorized	Department of Planning, Building & Code Enforcement, Building Division
OR	Portland	Emergency Quick Inspection Program (EQUIP)	2022 pilot	Authorized	Bureau of Development Services
UT	Murray City	Building Occupancy Resumption Program (BORP)	2014	Authorized	Building Services Division
UT	Salt Lake City	Building Occupancy Resumption Program (BORP)	2014	Authorized	Division of Building Services
WA	Seattle	Advisory Tag Program	2011	Advisory	Seattle Department of Construction and Inspections (SDCI)

Table A-3.1 Post-earthquake Program Procedures – Part 1

Jurisdiction	Trigger(s) to Implement Program		Timeline		
	Automatic	AHJ-Initiated	Evaluator Activation	Notification of AHJ of Evaluator Activation	Evaluator Report Submittal
Berkeley	Damage to buildings in city and declared state of emergency	None specified	Within 8 hours of daylight	Within 72 hours	None specified
San Francisco	Automatic triggers can be specified in program application documents.	Notification of an earthquake resulting in a declared state of emergency	1. Within 8 hours of daylight access to building, or 2. As agreed between evaluator and owner	None specified	72 hours of declared state of emergency
San Jose	Automatic triggers can be specified in program application documents.	Notification of an earthquake resulting in a declared state of emergency	Within 8 hours of daybreak	None specified	72 hours of declared state of emergency
Southern California	Automatic triggers determined in Emergency Inspection Dossier	Notification of an earthquake of intensity that triggers emergency inspections for the AHJ	1. Within 8 hours of daylight access to building, or 2. As agreed between evaluator and owner	None specified	72 hours of declared state of emergency
Portland	Damage to facilities and declared state of emergency	None specified	1. Within 8 hours of daylight, or 2. As agreed between evaluator and owner	Within 72 hours	None specified. Estimated completion time to be reported along with notification of program initiation. Detailed evaluation to be completed "as soon as reasonably possible."

Jurisdiction	Trigger(s) to Implement Program		Timeline		
	Automatic	AHJ-Initiated	Evaluator Activation	Notification of AHJ of Evaluator Activation	Evaluator Report Submittal
Utah	None specified	Notification of an earthquake resulting in City declaring the need for post-earthquake safety evaluation of buildings	1. Within 72 hours of earthquake 2. As agreed between evaluator and owner if < 72 hours	None specified	1 week
Seattle	None	None	Governed by owner/evaluator agreement	Not applicable	Red (UNSAFE) or Yellow (RESTRICTED USE): As soon as practical Green (INSPECTED): on a regular schedule to be determined by AHJ

Table A-3.2 Post-earthquake Program Procedures – Part 2

Jurisdiction	Evaluator Progress Reports to AHJ Required?	ATC-20-1 Evaluation Level	Elevator Inspection Requirement	Life Safety Evaluation Requirement	Conditions requiring AHJ Verification of Evaluator Posting
Berkeley	Yes	Detailed	Yes	Yes, if high rise.	1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety
San Francisco	No	Detailed	No	Yes, if high rise.	1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety

Table A-3.2 Post-earthquake Program Procedures – Part 2 (continued)

Jurisdiction	Evaluator Progress Reports to AHJ Required?	ATC-20-1 Evaluation Level	Elevator Inspection Requirement	Life Safety Evaluation Requirement	Conditions requiring AHJ Verification of Evaluator Posting
San Jose	No	Detailed	Yes	Yes, if high-rise building	<ol style="list-style-type: none"> 1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety
Southern California	No	Detailed	No	No	<ol style="list-style-type: none"> 1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety
Portland	Yes, if delay in submitting report.	Detailed	Yes	Yes, if high-rise building	When deemed necessary, including: <ol style="list-style-type: none"> 1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety
Utah	No	Detailed	If applicable.	No	<ol style="list-style-type: none"> 1. Posted Red 2. Unsafe conditions 3. AHJ receives concerns about building safety
Seattle	Not applicable	Governed by owner/evaluator agreement	No	No	Yes, with priority on Red and Yellow Advisory Tags

Table A-3.3 Post-earthquake Program Procedures – Part 3

Jurisdiction	Does Interim Inspection Program Exist?	Procedures after Aftershocks	Permits for Emergency Repairs
Berkeley	No	Instructions to be included in procedures in Emergency Inspection Plan	Nonstructural hazards can be mitigated without permit.
San Francisco	No	Instructions to be included in procedures in Emergency Inspection Plan	Nonstructural hazards allowed to be mitigated per department procedures.
San Jose	No	Instructions to be included in procedures in Emergency Inspection Plan	Nonstructural hazards allowed to be mitigated without a building permit
Southern California	No	Instructions to be included in procedures in Emergency Inspection Dossier	Nonstructural hazards can be mitigated per Building & Safety Division procedures.
Portland	No	Instructions to be included in procedures in Building Safety Evaluation Plan. Evaluator is permitted to re-post.	None specified
Utah	Rapid Evaluation by qualified building technical staff allowed, at owner's risk. Rapid evaluation documentation required to be submitted within 24 hours of posting. Interim placards expire one week after earthquake.	None specified	None specified
Seattle	No	None specified	Per department procedures

Table A-4.1 Program Details – Part 1

Jurisdiction	Requirements for Program Document Storage	Requirements for Placard Storage On Site	Placard Tracking Requirements (Yes/No)	Liability Statements
Berkeley	On-site implied	Not specified	No	Liability governed by owner/evaluator agreement
San Francisco	Not specified	Not specified	No	Liability governed by owner/evaluator agreement
San Jose	Not specified	Not specified	No	Liability governed by owner/evaluator agreement
Southern California	To be stored with each building owner and inspector. Location not specified, but should be "readily available" to each inspector.	Not specified. "Locked and secured location accessible to owner, owner's rep, and designated emergency inspector."	Yes	Liability governed by owner/evaluator agreement
Portland	One copy with BDS. Onsite preferred for 2nd copy ("should")	Preferred ("should")	No	1. AHJ immune per State law. 2. Liability governed by owner/evaluator agreement 3. Participants hold harmless, defend, and indemnify AHJ
Utah	At the building	Yes	No	1. AHJ is immune. 2. Liability governed by owner/evaluator agreement
Seattle	No documentation required	Not required	No	None specified

Table A-4.2 Program Details – Part 2

Jurisdiction	Application Exclusion Period	Program Renewal Frequency	Reviewers for Program Applications	AHJ Application Review Fee
Berkeley	3 months after declared state of emergency	Biennial	AHJ	\$200/hour. Anticipate 2-6 hours to review.
San Francisco	3 months after declared state of emergency	Biennial	DBI and volunteers	None
San Jose	3 months after declared state of emergency	Annual	AHJ	\$255/hour for application review
Southern California	3 months after declared state of emergency	Annual	AHJ	Amount to be determined (not specified in program documents)
Portland	3 months after state-declared state of emergency	Every 3 years. Must participate in AHJ-organized exercises every 4 years.	AHJ	Amount to be determined (not specified in program documents)
Utah	3 months after declared state of emergency	Biennial	AHJ	None for initial review. Additional reviews may be subject to review fees (not specified).
Seattle	Not applicable	Governed by owner/evaluator agreement	Not applicable	Not applicable

Table A-5.1 Qualifications of Building Safety Evaluators – Part 1

Jurisdiction	Evaluator Relationship to AHJ	Resumes required?	Required Evaluator Training (Structural)	Required Evaluator Experience (Structural)	Required Evaluator Licensing (Structural)
Berkeley	Deputized	No	ATC-20-1 Detailed Evaluation Procedure	Structural design or inspection of similar buildings	PE (civil), SE, or Arch
San Francisco	Deputized	No	Proficiency in ATC--20-1 Detailed Evaluation Procedures	Structural design or inspection of similar buildings	PE (civil), SE, or Arch
San Jose	Deputized	No	1. Proficiency in ATC-20-1 Detailed Eval Procedures 2. Additional or refresher training as necessary for readiness	Structural design or inspection of similar buildings	PE (civil), SE, or Arch
Southern California	Deputized	Yes	Proficiency in ATC-20-1 Detailed Evaluation Procedures.	Structural design or inspection of similar buildings	PE (civil), SE, or Arch
Portland	Authorized to post	No	ATC-20-1 Detailed Evaluation Procedure, CalOES SAP, or WAsafe	Structural design or evaluation of similar buildings	PE (civil). SE for "significant structures" per state law
Utah	Authorized to post	No	ATC-20-1 Detailed Evaluation Procedure	1. Familiarity with the building structural systems 2. Structural design of buildings of similar size and complexity	PE (civil) or SE
Seattle	Authorized to post Advisory Tags	No	Governed by owner/evaluator agreement, or MOU with City	Governed by owner/evaluator agreement, or MOU with City	Governed by owner/evaluator agreement, or MOU with City

⁴Per Glendale's building official, proficiency can be demonstrated by being registered as a CalOES SAP evaluator.

Table A-5.2 Qualifications of Building Safety Evaluators – Part 2

Jurisdiction	Required Evaluator Training (Life Safety)	Required Evaluator Experience (Life Safety)	Required Evaluator Licensing (Life Safety)	Required Elevator Inspector Qualifications
Berkeley	None specified	Familiarity with building life-safety systems	None specified	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business 2. Familiarity with the building elevator installation
San Francisco	None specified	Familiarity with building life-safety systems	None specified	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business 2. Familiarity with the building elevator installation
San Jose	None specified	Familiarity with building life-safety systems	None specified	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business, and 2. Familiarity with the building elevator installation. 3. Alternative: Structural inspector can assume responsibility
Southern California	None specified	Familiarity with building life-safety systems	None specified	None specified
Portland	ATC-20-1 Detailed Evaluation Procedures, CalOES SAP, or WAsafe	<ol style="list-style-type: none"> 1. Structural design of facility or 2. Familiarity with building's structural, life safety, fire, mechanical systems, or 3. Evaluation of similar buildings, and 4. For high-rise buildings, familiar with building life-safety systems (egress, heat, cooling) 	PE, Arch, Building Evaluator, Facility Manager	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business 2. Familiarity with the building elevator installation

Table A-5.2 Qualifications of Building Safety Evaluators – Part 2 (continued)

Jurisdiction	Required Evaluator Training (Life Safety)	Required Evaluator Experience (Life Safety)	Required Evaluator Licensing (Life Safety)	Required Elevator Inspector Qualifications
Berkeley	None specified	Familiarity with building life-safety systems	None specified	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business 2. Familiarity with the building elevator installation
San Francisco	None specified	Familiarity with building life-safety systems	None specified	<ol style="list-style-type: none"> 1. Firm with elevator maintenance and installation as primary business 2. Familiarity with the building elevator installation

Appendix B: Agreement for ABR Program

This appendix presents a template agreement to be signed by the AHJ, Primary Building Safety Evaluator, and the Building Owner, as well as necessary forms. An electronic version is available for download as an editable Microsoft Word file at [FEMAP2055.atcouncil.org](https://www.femap2055.atcouncil.org).

The completion of the template agreement materials constitutes the owner's "application" to the AHJ for acceptance into the Accelerated Building Resumption program.

AGREEMENT FOR ACCELERATED BUILDING REOCCUPANCY (ABR) PROGRAM

[AUTHORITY HAVING JURISDICTION (AHJ)]

Building Name: _____

Building Address: _____

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AGREEMENT

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Accelerated Building Reoccupancy (ABR) Program

AHJ: _____

Building Address: _____

AGREEMENT

After an earthquake with intensity capable of causing structural damage, affected buildings must be inspected and appropriately posted for occupancy. Through provisions of the building code, the AHJ is the agency who has the legal authority to determine these postings. While the AHJ retains their authority over the final posting, the Accelerated Building Reoccupancy (ABR) Program establishes an agreement between the building owner, AHJ, and designated building safety evaluators to allow private-sector post-earthquake emergency evaluation satisfying accepted standards and procedures.

I. PURPOSE

The purpose of an ABR program is to provide prioritized, thorough evaluation of possible damage to a building by persons familiar with the structural design and life-safety systems of the building. The program allows rapid decisions regarding the closure or re-occupancy of building areas to be made by qualified individuals pre-authorized by the AHJ for a specified property. The program reduces evaluation delays and eases the burden of evaluation on government entities that may need to focus resources on more severely stressed areas or areas of greater public hazard, which may not include the property in question.

II. PREPARATION

Building owners or their authorized representatives may request participation in this program at any time except during the aftermath of 60 days of an earthquake resulting in a declared state of emergency. A building designated as having met the requirements outlined herein shall be placed on a list of buildings accepted for private emergency evaluation. The AHJ may require a 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 building safety evaluation team - (Section III.A)
- Obtain, document, and store emergency earthquake safety and evaluation equipment/supplies (Section III.B), including completed the Building Information File (Section IV) including all available building plans and details; evacuation plan, evaluator response requirements, equipment and drawing locations, and other pertinent equipment and information
- Prepare pre-authorization documentation (Section V)
- Submit completed materials and pay required fees

As a government entity the AHJ is immune from suit for any injuries or damages arising under or in connection with the policies, practices, or actions relating to the ABR program. The AHJ expressly refuses to waive any immunity it possesses pursuant to state law, and any responsibility or liability associated with the ABR program shall be attributed solely to the owner and their contracted building safety evaluators. The extent of any responsibility and liability is governed by the contract between the owner and their building safety evaluators.

III. BUILDING SAFETY EVALUATOR REQUIREMENTS

A minimum of one Primary and one Alternate building safety evaluator (BSE) shall be retained by the building owner for the evaluation discipline listed in Section III.A.1 below.

Architect(s) or engineer(s) trained in ATC 20 Detailed Evaluation procedures may supplement the identified evaluators as required. Design professionals experienced with historical structures should be considered for the emergency evaluation of historic buildings.

Requirements for a Habitability BSE vary depending on the specialty expertise required.

In accordance with local law or the Building Code [ref], approved building safety evaluators for this program are authorized by the AHJ to perform evaluations and post official AHJ placards on the building for which the ABR arrangement has been approved and is current.

A. MINIMUM QUALIFICATIONS AND REQUIREMENTS

1. Primary/Alternate Building Safety Evaluator (required)
 - a) Proof of completion of training on ATC-20-1 Detailed Evaluation procedures
 - b) Current [state] _____ license as a professional civil or structural engineer or architect (if required by ATC-20-1 training)
 - c) Relevant experience in the structural design and/or evaluation of similar buildings

B. REQUIRED DOCUMENTS, EQUIPMENT AND SUPPLIES

1. Copy of proposed Building Information File prepared by the Primary Building Safety Evaluator
2. Structural, architectural, and/or life-safety system drawings; as-built drawings; or if structural drawings are unreadable, incomplete, or do not exist, a clear written description of the structural system and any known weaknesses and unique features
3. Personal safety equipment including hardhat, protective clothing, respirator
4. Evaluation equipment including spare flashlights, measuring devices, ladders, and other applicable items
5. ATC-20-1 Detailed Evaluation forms (latest edition) for reporting evaluation findings to AHJ
6. Caution tape and barricades
7. Walkie-talkies or other emergency communication equipment for large buildings, if applicable
8. Sufficient green, yellow, and red official AHJ safety assessment placards to allow appropriate posting at each entrance to the building - to be supplied by AHJ upon approval

IV. BUILDING INFORMATION FILE

The building owner and the Primary BSE shall maintain hard and digital copies of the Building Information File (BIF) and other useful documents, and at least one shall be readily available to each safety evaluator for use and reference following a triggering event. Hard copies should be stored on site at the building and additional copies at the office of the Primary BSE. The BIF shall include the following information:

A. CONTACT INFORMATION

1. Primary and Alternate BSEs retained for emergency structural evaluation
2. Staff building engineers, security personnel, and/or owner's personnel responsible for the building
3. Habitability BSE

B. BUILDING INFORMATION

1. Photograph of building
2. Street address
3. Overview description of building including age, number of stories, size, materials, and structural system
4. Building floor plans showing entrances, means of egress, and recommended locations for damage observation
5. Number and location of building entrances to be posted with city placards
6. List of building occupancies and use(s), e.g., office, apartment
7. Description of life-safety system(s) including fire detection and suppression systems, location of emergency power generator, (if applicable);
8. Description and locations of potential falling hazards;
9. Location, type, and of any apparent hazardous material.

C. EMERGENCY RESPONSE REQUIREMENTS AND INFORMATION

1. Trigger for activation of emergency response (e.g., declaration of emergency, earthquake magnitude greater than 6.0, recorded local ground or building acceleration) or agreed-upon response time between the building owner and the Primary BSE.
2. Access procedures and/or location of keys for entrance to the site and all building areas.
3. Inventory and location of required documents, equipment and supplies (See Section III.B).

D. EMERGENCY EVALUATION PROCEDURE

1. Evaluation guidelines consistent with ATC-20-1 Detailed Evaluation Procedure.
2. Fire/Life-Safety System Checklist (if applicable).
3. Detailed instructions regarding where to look, what to look for, and how to gain necessary access.
4. Detailed instructions regarding how to inspect specific structural and non-structural elements and how to interpret and document observed damage.

5. Detailed instructions regarding additional evaluation procedures to be performed following aftershocks.
6. [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.

V. PRE-AUTHORIZATION DOCUMENTATION

Pre-authorization must occur before the earthquake. No documentation will be accepted for a period of at least 60 days after a declared state of emergency. Submit the following to the AHJ:

1. This agreement signed by representatives of building owner, Primary BSE and AHJ (signature block in Section XII)
2. Request for pre-authorization form signed by building owner or authorized representative (Annex B)
3. Evidence of qualifications for each Primary and Alternate BSE
 - a) Signed Primary BSE Pre-authorization form (Annex C) showing relevant experience in the structural design and/or evaluation of buildings of similar size, construction, and complexity
 - b) Signed Habitability BSE Pre-authorization form (Annex D), if required
4. Copy of Building Information File (Annex D, see content requirements, Section IV)

VI. IMPLEMENTATION

Upon notification of an earthquake triggering an emergency response in accordance with Section IV.C.1, the emergency evaluation team shall take the following steps in implementing the ABR program:

1. Initiate the ABR program as specified in Section IV.C.1 above.
2. Contact the AHJ immediately if building or area (including sidewalk, street, or parking area) presents a public safety hazard or if emergency demolition or shoring permit is needed.
3. Arrange for barricading of all unsafe areas. Contact the AHJ immediately if areas barricaded include a public right-of-way or otherwise adversely affect AHJ services, or if barricades provided by the building owner are insufficient.
4. Submit Detailed Evaluation report signed and dated by prequalified engineer(s)/architect to the Building and Safety Division within 72 hours of agreed-upon program response time in Section IV.C above. If reports are not received by that time, an evaluation may be made by AHJ building evaluators or deputized volunteer evaluators using standard City-wide evaluation criteria.
5. Post building at the main entry of the building or at all entrances of multi-entrance buildings with AHJ-provided placards. Elevator and life safety evaluation may occur separately from structural evaluation.
6. Take preventive measures regarding gas leaks, hazardous material spills, or other life-safety mitigation.
7. Mitigate nonstructural hazards per the AHJ procedures.

VII. PLACARD MANAGEMENT

The AHJ will issue one set of green, yellow, and red placards for each entrance to the building to the building owner. The placards are controlled documents and recipients must carefully manage their storage and use.

Placards must be stored at the building site in a locked and secure location accessible only to the building owner, owner's authorized representative, and the Primary BSE.

VIII. AHJ VERIFICATION

The AHJ may perform its own evaluation of the building under any of the following conditions:

1. The Primary BSE has reported the building unsafe and has posted it with a red placard.
2. There is reason to believe that unsafe conditions exist.
3. Building owners, tenants, other agencies, or members of the general public express specific concerns.
4. The Detailed Evaluation report has not been received by the time specified in Section VI.H.

IX. PROGRAM MAINTENANCE

An Annual Program Renewal form (Annex E) should be completed and submitted to the AHJ before the yearly anniversary of the original approval date. It is important to prepare and submit this form so as to review the details of the agreement and make necessary changes due to any building modifications, supplies location and inventory, protocols, communication information, and personnel changes.

Before each yearly anniversary of original approval date, a courtesy reminder notice to renew the ABR program documents will be sent to the owner or agent and Primary BSE listed in the program documents via email.

X. TERMINATION

The building can be removed from the ABR program for several reasons:

1. Annual renewal forms have not been submitted before the renewal date. If there is no response to the courtesy reminder notice from the AHJ to the owner regarding required submittal of the Annual Program Renewal form within 180 calendar days of the date the notice was sent, then the building will be removed from the program.
2. The agreement between the building owner and the evaluation team has been terminated.
3. Revised evaluation team members do not meet minimum requirements.
4. Alterations made to the building affecting seismic response or evaluation procedures have not been reflected in the Building Information File.
5. Placards have not been managed in accordance with Section VII.

XI. ABR PROGRAM APPROVAL

The AHJ will add the building to the list of buildings approved for the Accelerated Building Reoccupancy Program and provide the copies of the approved program documentation to the owner, Primary BSE, and retain one copy for the AHJ records.

XII. ACCEPTANCE

	Name	Signature	Date
AHJ: [_____]			
Primary Building Safety Evaluator			
Building Owner (or Agent)			

<p>Accelerated Building Reoccupancy (ABR) Program</p> <p>AHJ: _____</p> <p>Building Address: _____</p>
--

ANNEX A

CONTACT INFORMATION

(To be completed for initial authorization and for annual renewal)

Building Name:	
Building Address:	
Building Owner (or Agent):	
Building Owner Address:	
Building Owner Phone Number:	
Building Owner Email:	
Building Safety Evaluator - Primary:	
Company:	
Phone number:	
Email:	
Building Safety Evaluator - Alternate:	
Company:	
Phone number:	
Email:	
Habitability Evaluator:	
Phone number:	
Email:	
Other	
Other	

Accelerated Building Reoccupancy (ABR) Program

AHJ: _____

Building Address: _____

ANNEX B

BUILDING INFORMATION FILE CHECKLIST

Attach material providing information including the following:

Part A. List of emergency contact individuals for this building with pertinent contact information:

- _____ 1. Licensed engineers/architects retained for building safety evaluation
- _____ 2. Staff building engineers, security personnel, and/or owner's personnel responsible for the building
- _____ 3. Elevator inspector, if elevator evaluation required
- _____ 4. Life-safety system inspector, if required

Part B: Building information:

- _____ 1. Photograph of building
- _____ 2. Address
- _____ 3. Description of building including age, number of stories, size, materials, and structural system
- _____ 4. Building floor plans showing entrances, evacuation routes, and recommended locations for observation
- _____ 5. Number and location of building entrances to be posted with AHJ placards
- _____ 6. List of building use(s)
- _____ 7. Estimated current building valuation
- _____ 8. Description of life-safety system including location of emergency power generator
- _____ 9. Description of building fire detection and suppression systems
- _____ 10. Description and locations of potential falling hazards
- _____ 11. Location, type, and handling instructions for any hazardous material

Part C: Emergency response requirements and information including:

- _____ 1. Trigger for activation of emergency
- _____ 2. Access procedures and/or location of keys for entrance to the site and all building areas
- _____ 3. Inventory and location of required documents, equipment and supplies including:
 - ___ a. Structural, architectural, and/or life-safety system drawings; as-built drawings, or (if structural drawings are unavailable or otherwise inadequate) a clear description of the structural system and any known weaknesses and unique features
 - ___ b. Personal safety equipment
 - ___ c. Evaluation equipment

- ___d. ATC-20-1 Detailed Evaluation Forms (latest edition) for reporting evaluation findings to AHJ
- ___e. Caution tape and barricades
- ___f. Walkie-talkies or other emergency communication equipment for large buildings, if applicable
- ___g. Sufficient green, yellow, and red official AHJ safety assessment placards to provide one of each color for each entrance to the building - to be supplied by City upon approval

Part D: Emergency Evaluation Procedure including:

- _____1. Evaluation guidelines consistent with latest edition of ATC-20-1, *Field Manual: Procedures for Post-Earthquake Safety Evaluation of Buildings*, including Detailed Evaluation procedure.
- _____2. Detailed instructions regarding where to look, what to look for, and how to obtain access for evaluation.
- _____3. Detailed instructions regarding how to inspect specific structural and non-structural elements and how to interpret observed damage.
- _____4. Detailed instructions regarding additional evaluation procedures to be performed following aftershocks.
- _____5. [Optional] Accelerometer placement - may reduce requirement for evaluation of welded joints.

Accelerated Building Reoccupancy (ABR) Program

AHJ: _____

Building Address: _____

ANNEX C

AUTHORIZATION FOR PRIMARY/ALTERNATE BUILDING SAFETY EVALUATOR

[When used for annual renewal, complete only for NEW evaluators]

[Separate forms are required for each evaluator]

(Name) _____

I request preauthorization as the Primary/Alternate building safety evaluator for the building located at:

(address) _____

I am the PRIMARY ALTERNATE Building Safety Evaluator for this building.

I certify that:

1. I have relevant experience in the design and/or evaluation of similar buildings. 3 similar buildings are listed here:

Building Address	Building Type	No. Stories

2. I have completed training in ATC-20 Detailed Evaluation Procedures and will complete any additional and/or refresher training in a manner consistent with maintaining readiness.
[optional] I am currently registered as a Volunteer Disaster Service Worker in the Safety Assessment Program with the State of _____ Emergency Management Agency.

ID# _____

Exp: _____.

I am a [] structural engineer [] civil engineer [] architect licensed in the State of (state:) _____ with Lic. No. _____.

I understand that while I am acting as an Emergency Evaluator under this ABR agreement, my activities are in no way affiliated with the Safety Assessment Program of the State of _____, and I am not entitled to worker's compensation benefits or limited immunity from liability provided by the State of _____ Disaster Service Worker Volunteer Program.

3. I am familiar with and maintain a complete and current copy of the Building Information File for this building.
4. I am familiar with and will adhere to the management protocol for placards.

I accept authorization as an Emergency Evaluator by the AHJ and will present this form upon request.

Accelerated Building Reoccupancy (ABR) Program

AHJ: _____

Building Address: _____

ANNEX D

AUTHORIZATION FOR HABITABILITY BUILDING SAFETY EVALUATOR

[When used for annual renewal, complete only for NEW evaluators]

[Separate forms are required for each evaluator]

(name) _____

I request preauthorization as a Habitability Building Safety Evaluator for the building located at:

(address) _____

I certify that:

1. I am familiar with the building system indicated below and have reviewed relevant available drawings.
2. I will report findings to the Primary Building Safety Evaluator for inclusion in emergency evaluation reports, or submit findings directly to the Building & Safety Division with copy to the Primary Building Safety Evaluator;
OR,
 I have reviewed the building and available drawings and have prepared a checklist of specific items to be completed by the Primary or Alternate Building Safety Evaluator prior to posting building occupancy. The checklist is included with the Building Information File.
3. Systems to be evaluated:
 - Exits
 - Fire sprinklers
 - Fire alarm
 - Smoke control
 - Elevator

Note: Habitability Evaluator need not maintain complete copy of Building Information File, but shall maintain current and complete contact information, drawings and other materials relevant to his or her emergency evaluation duties.

Accelerated Building Reoccupancy (ABR) Program AHJ: _____ Building Address: _____

ANNEX E

ANNUAL PROGRAM RENEWAL

TO BE SUBMITTED EVERY YEAR PRIOR TO ANNIVERSARY OF DATE OF ORIGINAL APPROVAL

- No change has been made in the building or any element of emergency evaluation 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 new Agreement signed by the new owner, and an updated list of Contact Information (Annex A) is enclosed.
- The building use or occupancy has changed.
- Contact information for Primary or Alternate Building Safety Evaluator has changed. Updated contact information (Annex A), as well as completed Authorization forms (Annex C and Annex D) for all new evaluators are enclosed. The Building Information File has been updated.
- Changes have been made to the building that affect the Emergency Evaluation Procedure. Building Safety Evaluators have been given revised drawings for all relevant changes to the building.
- The Building Information File has been revised and the Primary and Alternate Building Safety Evaluator have been given a copy of all Building Information File revisions.

ACCEPTANCE

	Name	Signature	Date
AHJ: [_____]			
Primary Building Safety Evaluator			
Building Owner (or Agent)			

Appendix C: Agreement between Owner and BSE

This appendix presents a template agreement to be signed by the Primary Building Safety Evaluator and the building owner. An electronic version is available for download as an editable Microsoft Word file at [FEMAP2055.atcouncil.org](https://www.femap2055.atcouncil.org).

AGREEMENT BETWEEN OWNER AND BSE

Accelerated Building Reoccupancy Program to Perform Pre-earthquake/Disaster Planning, Post-earthquake Safety Evaluations, and Annual Program Update Services

January _____ through December _____

This is an agreement between _____, “Owner” and _____, “Consultant” to enter an agreement to perform post-earthquake building safety evaluation services in the event of a significant earthquake affecting the _____ area. There are several tasks that are required to establish a plan to properly respond in the event of an earthquake (or other disaster if needed).

Pre-earthquake Services

1. Attend a kick-off meeting to discuss the program setup, clarify our role in preparing for and responding to an earthquake emergency affecting the Owner’s facilities, establish response triggers, and arrange points of contact. Discuss the format of the final deliverables that will be prepared and provided to Owner for use immediately after an event.
2. [for use with campuses with multiple buildings] A list of the buildings has been established to be evaluated as Priority A and are included in this program. The list of Priority A buildings is included below. *Please note that the buildings in Priority A will be given top priority in the post-earthquake triage process. Our evaluators will placard all other buildings as needed, but they will be a lower priority and will therefore likely be posted by evaluators dispatched by the AHJ.*

The Owner agrees that Priority A Buildings will be included in the ABR program of the AHJ as follows:

Priority A Buildings	
1	XXXX
2	XXXXX
3	XXXXX
4	XXXXXX
5	XXXXX
6	XXXXX
7	XXXXXX
8	XXXXX

3. **Documentation Collection:** The Consultant will collect and review available structural drawings to determine structural systems of the buildings. The information will be tabulated as it is collected.
4. **On-site Survey:** The Consultant will conduct an on-site survey of the buildings to review accuracy of the drawings and to take notes and photos where drawings are inadequate or not available.
5. **Building Information File Preparation:** For each of the designated buildings, a Building Information File will be prepared by the Consultant and kept on file with the Owner and with the Consultant to serve as instructions and information for Building Safety Evaluators to reference after an event. These files will include contact information of both the Owner and the Consultant's key staff for access and for the building evaluation, key plans of the building showing egress and key areas for our evaluation, and other important information for an efficient building evaluation after our arrival.
6. **Preparation of Post-earthquake Evaluation Plans:** A post-event evaluation plan will be prepared between the Owner and Consultant, and it will include contacts, communications procedures, authorizations for access, triage procedures, and other details.
7. **ABR Program Application to AHJ:** The Consultant will complete the ABR program application for the Owner to submit to the AHJ for review and acceptance of each building into the program.

Post-earthquake Services

8. **Response Commitment:** With this agreement, the Consultant commits to provide pre-trained and pre-designated staff individuals to respond to the Owner as the first priority in the event of a declared emergency as a result of an earthquake or other natural disaster. The Owner agrees to pay the Consultant an annual retainer for this commitment and for future update services as described. The retainer amount will be reviewed annually and adjusted as agreed between the parties if necessary.
9. **Post-disaster Evaluations:** As will be described in the program and the Building Information Files, the Consultant's primary and alternate Building Safety Evaluators will be identified for each of the buildings. In the event of an earthquake, the evaluators will perform the following tasks:
 - Arrive at the facility and begin evaluations within 8 hours of daylight after the event.
 - Coordinate evaluations with the Owner, if possible. The Evaluator will make all best efforts to notify the Owner, in the event communication is not possible, will proceed with the evaluation of the buildings. Consultant will wait for the Owner's clearance before entering any facilities that are not previously included in the program.
 - Contact the Owner and/or the AHJ Official immediately if any building or area (including sidewalk, street, or parking area) presents a public safety hazard or if an emergency demolition or shoring permit is needed.
 - Perform an ATC-20 Post-Earthquake Detailed Evaluation Safety Assessment of all included buildings.

- Post the buildings with ATC-20 placards as appropriate. The placards will be placed at the main entry of the building or at all entrances of multi-entrance buildings.
- Facilitate repairs/temporary measures as required.
- Communicate with the AHJ Official as required.
- Stay in constant communication with the Owner's Emergency Operations Center as needed.
- Make recommendations for any repair/temporary measures and remain present as required for observations of those measures.
- If required by the Owner or by the AHJ, perform and submit an ATC-20 Post-Earthquake Detailed Evaluation Safety Assessment report of all buildings within 72 hours of a declared emergency.

Annual Program Update

10. On an annual basis, the Owner or their representatives will annually report changes to the buildings, and/or changes in building owner personnel or Building Safety Evaluators, and complete any City-required or Owner requested training. As part of the Consultant's commitment to the Owner, the Consultant will work with the Owner throughout the year to record modifications to structures, personnel, etc., and make necessary revisions to the files, and update any reports.

If there are any structural modifications or any other significant modifications to any of the buildings included in the program that affect seismic performance, the Consultant may request additional fees to evaluate those changes and modify the dossiers as required.

Compensation

- **Pre-earthquake Evaluations:** Compensation is based on the list of Priority A buildings. The Consultant will complete the evaluations and prepare Building Information Files for each building. For this first group of buildings, the Consultant will be paid **\$X** for Pre-earthquake Evaluations of the designated Priority A buildings as directed.
- **Post-earthquake Evaluations:** The Consultant will perform the outlined tasks above on an **hourly** basis (see attached hourly rates). The Consultant hourly rate schedule will be submitted with the invoice for the annual retainer.
- **Annual Retainer (includes Annual Program Update):** **\$X** to be paid each calendar year. The Consultant will provide an invoice upon authorization of this agreement and on the subsequent anniversary of that authorization.

- **Reimbursables:** This program requires a significant amount of copying and hardcopy files to be available for use post-event. The Owner should provide an allowance of \$X for initial printing costs for the set-up phase, and \$X per year afterwards.

General Conditions and Terms

We propose to provide these services in accordance with our *Structural Engineering Services - General Conditions and Compensation*, a copy of which is attached.

Exemptions: Although the evaluators will make every effort to arrive within eight hours of daylight, there may be circumstances when no one can access the building site. It is feasible that either all access is blocked, or conditions are such that entering the site puts the inspector in grave danger. The inspector will determine if conditions are acceptable.

The Building Safety Evaluators do not perform fire/life-safety system or elevator inspections but will work with other client-designated inspectors to coordinate inspections of those systems whenever possible.

Accepted

Building Owner: _____ Consultant: _____

Signature: _____

By: _____

Date: _____

Attachments

Appendix D: Memorandum of Understanding

This appendix presents a template memorandum of understanding (MOU) for use with advisory evaluation programs. The template includes sample advisory placards. An electronic version is available for download as an editable Microsoft Word file at [FEMAP2055.atcouncil.org](https://www.femap2055.atcouncil.org).

Memorandum of Understanding

Initial Post-Damage Safety Evaluation of Facilities

PURPOSE

The purpose of this Memorandum of Understanding (MOU) between the [AHJ] and [name] is to document [AHJ]'s agreement to, and to establish policies and procedures for, [name] to conduct initial post-damage safety evaluations of buildings it owns at [building addresses].

BACKGROUND

Under [applicable law] and the [adopted building code], [AHJ] has direct responsibility and authority over the safety and inspection of structures within the [name of jurisdiction]. However, [name] employs staff or consultants who have the skills and training to perform post-damage safety evaluations of the buildings owned by [name]. In a large-scale disaster, [AHJ] and [name] both recognize these staff are likely to be able to conduct the necessary safety evaluations sooner than [AHJ] staff, which will aid [name of jurisdiction] in responding to and recovering from the disaster.

[AHJ] has designed policies and procedures to accommodate other entities who wish to conduct advisory safety evaluations of damaged buildings they own. These policies and procedures allow the entity, with [AHJ] approval as documented in a MOU, to post buildings with “advisory tags” that effectively communicate the safety status of the building, **but do not carry [AHJ]'s authority**.

PROVISIONS

[Name] is permitted to conduct initial safety evaluations of the buildings it owns and post the results on the buildings, subject to the conditions documented in this MOU and only in the following circumstances:

1. When [name of jurisdiction] has declared an emergency or disaster because of an event that affected or may have affected the structural integrity of one or more of [name]'s buildings; or
2. Following a significant event that gives [name] concern for the structural integrity of one or more of [name]'s buildings.

Safety evaluations following related subsequent events, such as earthquake aftershocks, are permitted to follow the initial evaluation policies and procedures in this MOU.

[AHJ] retains its authority to determine whether a building is or is not safe to occupy.

CONDITIONS

1. Employees or consultants who conduct the initial safety evaluations for [name] under this MOU shall not be considered employees or deputies of [AHJ], and therefore, are not acting for or in lieu of [AHJ].
 - a) Employees or consultants shall only conduct safety evaluations of buildings owned by [name], unless they volunteer with [AHJ].
 - b) Volunteers must be formally deputized by [AHJ] before conducting any safety evaluations, and are only authorized to act under [AHJ]'s direction.
 - i. [AHJ] will not deputize volunteers before an event occurs.
2. Safety evaluations of damaged buildings shall be conducted and documented in accordance with the procedures of ATC 20-1, *Field Manual: Procedures for Post-earthquake Safety Evaluation of Buildings*, as published by the Applied Technology Council, with the following exceptions:
 - a) In lieu of the standard ATC 20-1 red/yellow/green placards, [department name] shall post an [AHJ]-approved "advisory tag" on the building to communicate the safety status to building occupants and visitors. Such an advisory tag shall contain a statement that the posting is advisory, shall not communicate any legal requirement or prohibition, and shall state: "This is an **ADVISORY BUILDING EVALUATION TAG** issued by [Name] and is not an evaluation by [AHJ]. [AHJ] has not evaluated the structural integrity of this site. Dangerous conditions may exist in the tagged building." Template advisory tags are attached as Annex 1.
 - b) [Name] shall communicate the results of the evaluation(s), including the color of the advisory tag, to [AHJ].
 - i. The results of buildings posted with red or yellow advisory tags shall be communicated to [AHJ] as soon as reasonably practical.
 - ii. The results of buildings posted with green advisory tags shall be communicated to [AHJ] on a regular schedule not to exceed 2 weeks.
 - c) [AHJ] will conduct its own safety evaluation of damaged buildings as time permits and will post a [AHJ] red, yellow, or green placard.
 - i. [AHJ] will evaluate buildings [name] has posted with red or yellow advisory tags as soon as reasonably practical, within the priorities and procedures in the [AHJ] Emergency Response Plan.
 - ii. [AHJ] will evaluate buildings [name] has posted with green advisory tags as staffing and time permit.
3. [Name] will apply for reevaluation of [AHJ] placards and all required building permits related to work on the damaged building in compliance with normal [AHJ] procedures.
4. [Name] is responsible for ensuring employees or consultants conducting safety evaluations for [name] have the necessary knowledge, skills, and training to properly conduct the evaluations in accordance with ATC-20-1.

- a) ATC-20-1 procedures are predicated on the evaluator having some knowledge of construction or principles of structural behavior.
 - b) At a minimum, any person conducting evaluations shall have had an ATC-20-1 training or refresher training (or equivalent) within the 5 years preceding the time of conducting the evaluation.
5. This MOU does not preclude [name] from establishing its own internal policies and procedures for evaluating damaged buildings and reporting damage, provided they are in general conformance with the principles in ATC-20-1 and this MOU.
6. [Name] is responsible for determining which buildings to evaluate pursuant to this MOU and the schedule for such evaluations.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding by having their representatives affix their signatures below.

[AHJ]

[NAME]

By: _____

[Name, position title]

By: _____

[Name, position title]

Date: _____

Date: _____

Annex 1 – Template Unsafe (Red), Restricted Use (Yellow), and Inspected (Green) Advisory Tags:

See following pages for Advisory Tags to be used by [name]

UNSAFE

DO NOT ENTER OR OCCUPY

This structure has been found to be seriously damaged and is unsafe to occupy, as described below:

**Do not enter, except as specifically authorized by [AHJ].
Entry may result in death or injury.**

Facility Name and Address:

Date _____
Time _____

This facility was evaluated under emergency conditions for damage assessment.

This is an ADVISORY BUILDING EVALUATION TAG issued by [name] and is not an evaluation by [AHJ]. [AHJ] has not evaluated the structural integrity of this site. Dangerous conditions may exist in the tagged building.

Inspector ID:

Do Not Remove, Alter, or Cover this Placard

RESTRICTED USE

This structure has been evaluated and found to be damaged as described below:

Entry, occupancy, and lawful use are restricted as indicated below:

Do not enter the following areas: _____

Brief entry allowed for access to contents: _____

Other restrictions: _____

Facility Name and Address:

Date _____

Time _____

(Caution: Aftershocks since evaluation may increase damage and risk.)

This facility was evaluated under emergency conditions for damage assessment.

This is an ADVISORY BUILDING EVALUATION TAG issued by [name] and is not an evaluation by [AHJ]. [AHJ] has not evaluated the structural integrity of this site. Dangerous conditions may exist in the tagged building.

Inspector ID:

Do Not Remove, Alter, or Cover this Placard

INSPECTED

LAWFUL OCCUPANCY PERMITTED

This structure has been evaluated (as indicated below) and no apparent structural hazard has been found.

- Evaluated Exterior Only**
- Evaluated Exterior and Interior**

Report any unsafe condition to local authorities; re-evaluation may be required.

Inspector Comments:

Facility Name and Address:

Date _____

Time _____

(Caution: Aftershocks since evaluation may increase damage and risk.)

This facility was evaluated under emergency conditions for damage assessment.

This is an ADVISORY BUILDING EVALUATION TAG issued by [name] and it is not an evaluation by [AHJ]. [AHJ] has not evaluated the structural integrity of this site. Dangerous conditions may exist in the tagged building.

Inspector ID

Do Not Remove, Alter, or Cover this Placard

Appendix E: Notice of Participation

This appendix presents a template notice of participation for use with advisory evaluation programs. An electronic version is available for download as an editable Microsoft Word file at FEMAP2055.atcouncil.org.

NOTICE OF PARTICIPATION

[AHJ name]

Advisory Evaluation Program

Accelerated Building Reoccupancy Post-Damage Safety Evaluation

Building Name: _____

Building Address: _____

Owner Name: _____

Owner's Representative: _____

Building Safety Evaluator (name or firm): _____

Building Safety Evaluator Contact:

Phone: _____

Email: _____

This is a notice to [AHJ name] that after a damaging event, the building at the address above will be evaluated for safety by the building safety evaluator listed above under the policies and procedures of the [AHJ name] Advisory Evaluation Program.

I/we acknowledge that:

- [AHJ name] retains its authority to determine whether a building is or is not safe to occupy.
- The results of the building safety evaluation will be sent to [AHJ name] in accordance with the Advisory Evaluation Program procedures.
- [AHJ name] will conduct a follow-up safety evaluation and may post its own notification placards.

Owner/Owner Representative Signature: _____

Owner/Owner Representative Contact:

Phone: _____

Email: _____

Acronyms and Abbreviations

ABR	Accelerated Building Reoccupancy
AHJ	Authority Having Jurisdiction
ATC	Applied Technology Council
BIF	Building Information File
BORP	Building Occupancy Resumption Program
MOU	Memorandum of Understanding
BSE	Building Safety Evaluator
SEAW	Structural Engineers Association of Washington
WABO	Washington Association of Building Officials

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