

Planning and Development
Building & Safety Division
E3 Inspection Program

Exterior Elevated Elements Inspection Guidelines

1. Guideline Purpose

Buildings containing three or more dwelling units with projecting exterior elevated wood and metal decks, balconies, landings, stairway systems, guardrails, handrails, or any parts thereof in weather-exposed areas are required to be inspected in accordance with the California Health and Safety Code Section 17973 or California Civil Code Section 5551.

These guidelines are intended to assist practicing professionals in complying with the Berkeley Municipal Code (BMC) inspection and certification requirements for exterior elevated elements, which align with State legislation under SB326 and SB721. For more information about the Exterior Elevated Elements (E3) Program, please refer to the Frequently Asked Questions posted on the E3 Program webpage: <http://www.berkeleyca.gov> (search *Exterior Elevated Elements*).

2. Program Scope

Berkeley requires inspection of multi-unit buildings with weather-exposed, exterior, elevated elements located more than six feet above adjacent grade. Inspections for multifamily rental properties (excluding condominium projects) containing three or more dwelling units, shall be completed by March 31, 2022 and every six years thereafter. Condominium projects with exterior elevated elements containing three or more dwelling units, shall be inspected by January 1, 2025, and then at least once every nine years. Please visit the [E3 Program webpage](#) for current updates regarding City of Berkeley extensions. The program applies to all such buildings regardless of their original construction date.

Building owners must file the Inspection Certification form with the E3 Inspection Program office by the designated deadline for each 6-year or 9-year inspection cycle per Berkeley Municipal Code Section 19.40.040. If building owners believe their building is exempt from the program, they must file the Exemption Declaration form to be removed from the program's inventory.

The program applies to the following elements located more than 6 feet above adjacent grade, constructed of wood or steel, and accessible to occupants, known collectively in this document as exterior elevated elements (E3s):

- 2.1. Balconies
- 2.2. Exterior walkways
- 2.3. Decks
- 2.4. Exterior stairs and landings
- 2.5. Guards and associated handrails serving any elements listed above

E3s whose structural system is constructed of reinforced concrete are exempt from the program. E3s

featuring a concrete topping slab as a wearing surface are subject to the program if the topping slab is supported by wood or steel framing.

E3s located in areas accessible only to maintenance personnel, such as roofs, are not subject to the program.

Figure 1 on page 7 is a sample illustration of E3s that are subject to the program.

3. Program Purpose

The program's purpose is to safeguard the public safety by maintaining the strength of structural components supporting E3s. Program objectives include the following:

- 3.1. Identify wood framed E3s exhibiting significant deterioration due to wood destroying organisms (fungal decay or insect infestation).
- 3.2. Identify steel framed E3s exhibiting significant section loss due to corrosion.
- 3.3. Ascertain whether the extent of deterioration or corrosion poses a significant compromise to the load-carrying adequacy of structural components supporting E3s.
- 3.4. Attempt to locate the water source if wood destroying organism infestation or corrosion is observed in wood framing or steel framing respectively.
- 3.5. Remediate deficient components.

Before assessing the building's E3s, confirm the applicability of the program to the building. If the building is not subject to the program, the building owner should file the Exemption Declaration form with the City. In this case, the City would not require assessment of the building's E3s.

The inspection and condition assessment process is comprised of a Tier 1 screening and a Tier 2 evaluation and remediation. An overview of the Tier 1 screening and Tier 2 evaluation and remediation procedures is illustrated in **Figure 2** on page 8.

4. Tier 1 Screening Procedure

The Tier 1 screening by an eligible licensed professional is comprised of two components: condition assessment of E3s' structural components and condition assessment of the waterproofing system.

4.1. Tier 1 Structural Screening

The Tier 1 screening of structural components will most commonly entail the following:

4.1.1. *Visit the Site*

Visually review all E3s, and interior and exterior areas proximate thereto, as necessary.

For condominium projects, pursuant to California Civil Code Section 5551, the inspection shall be conducted by a licensed structural engineer, civil engineer, or architect of a random and statistically significant sample of exterior elevated elements for which the association has maintenance or repair responsibility. Prior to conducting the first visual inspection, the inspector shall generate a random list of the locations of each type of exterior elevated element. The list shall be provided to

the association for future use.

4.1.2. ***Develop an Investigative Program***

In the case of E3s on rental properties with soffit finishes, selectively identify at least 15% of locations for investigative openings to reveal concealed structural components. Finish removal need only be the minimum amount sufficient to ascertain whether wood structural components have suffered decay due to wood destroying organisms or whether steel structural components have suffered corrosion. Inspections should be conducted at the most probable locations where water intrusion may occur, for example at the intersection of horizontal and vertical assemblies, guardrail penetrations of the element assembly, floor drains where present, or other similar locations.

For condominium projects, the inspector shall perform the visual inspections in accordance with the random list generated. If during the visual inspection the inspector observes building conditions indicating that unintended water or water vapor has passed into the associated waterproofing system, thereby creating the potential for damage to the load-bearing components, then the inspector may conduct a further inspection based on their best professional judgment in determining the necessity, scope, and breadth of any further inspection.

The licensed professional shall inspect a sufficient number of dwelling units to provide 95 percent confidence that the results from the sample are reflective of the whole, with a margin of error of no greater than plus or minus 5 percent.

4.1.3. ***Create Investigative Openings***

For rental properties, selectively create investigative openings to reveal at least 15% of concealed structural components and conditions. A building permit is not required for selective removal of finishes associated with investigative work.

For condominium projects, the licensed professional shall exercise their best professional judgement in determining the necessity, scope, and breadth of inspections performed.

4.1.4. ***Determine if Wood Destroying Pests, Organisms or Corrosion are Present***

If wood destroying organisms are identified on wood components or corrosion is identified on steel structural components, initiate Tier 2 structural evaluation as recommended below.

4.1.5. ***Patch Investigative Openings***

If no significant presence of wood destroying organisms or corrosion is identified, patch the openings to match the existing surface. The owner may wish to install vents and/or access openings to provide easy access for future inspections. Be mindful that the affected areas may be components of a fire rated assembly where located in close proximity to side or rear property lines and therefore subject to certain building code requirements.

Note: A building permit is not required for patching of selectively removed finishes

in-kind.

Note: A building permit is required for the installation of vents and/or access openings.

4.2. Tier 1 Waterproofing System Screening

Practically assessing the adequacy of the waterproofing system is difficult in many instances. The waterproofing barrier is often concealed by a wearing surface topping, in the case of balconies and walkways, or wall finish. At a minimum, the Tier 1 screening of the waterproofing system ought to include visual review of readily observable exposed surface areas, including topping membrane if surface-applied, and flashings for signs of active water intrusion. It is not necessary to replace the waterproofing system if it is performing adequately.

If minor waterproofing defects are observed, but have not caused water intrusion or triggered a Tier 2 Evaluation and Remediation, these defects should be reported to the building owner with recommended maintenance measures.

4.3. File Certification Form

If no significant presence of wood destroying organisms, corrosion or water intrusion are identified and after investigative openings are patched, file the Certification form with the City's E3 Inspection Program office.

5. Tier 2 Evaluation and Remediation Procedure

5.1. Methods of Evaluation and Remediation

When the Tier 1 screening determines that wood destroying organisms, corrosion or water intrusion are present, further evaluation and/or remediation are required. This process may consist of replacement of damaged components in-kind, an engineering analysis assessing whether the damaged components are structurally adequate, modification of the existing components to repair the damage, or any combination thereof. Analysis of, and modifications to, existing structural components requires a licensed structural or civil engineer or architect.

5.2. Search for Documents

Consider searching for the original building design drawings. Inquire about availability with the building owner and/or the City of Berkeley.

5.3. Tier 2 Evaluation and Remediation

5.3.1. Structural Evaluation and Remediation

Evaluate the original element design and extent of damage to determine the most practical and economic means of remediation. In most cases it would be advantageous to have a licensed engineer or architect perform a structural evaluation of the damaged components to determine their adequacy. In some circumstances, for example when the damage is significant or easily observable, the

complete removal and replacement in-kind of damaged components can be a possible solution. The following types of remediation require a licensed engineer or architect:

- 5.3.1.1. Modifications to existing structural systems, for example alterations to cantilever framing members that are not a complete replacement in-kind.
- 5.3.1.2. Complete removal and replacement of E3s.
- 5.3.1.3. Complete removal of E3s with associated restoration of building facade.

Note: Replacement or retention of original materials and the use of original methods of construction is permitted provided such materials or methods complied with the building code provisions in effect at the time of original construction. Complete replacements will require conformance to current code requirements.

5.3.2. Waterproofing Remediation

If water damage or signs of active water intrusion are observed, the licensed professional should make a reasonable attempt to locate the source(s) of water and remediate it prior to completion of the Certification Form. The exact method of determining leakage is up to the licensed professional; it may or may not include the following:

- 5.3.2.1. Review of available original and prior modification construction documents.
- 5.3.2.2. Review slope to drain at surface and membrane levels.
- 5.3.2.3. Review drain/gutter/downspout function.
- 5.3.2.4. Review conditions at penetrations, fenestrations, changes in plane, etc. (e.g., door threshold, deck-to-wall flashing).
- 5.3.2.5. Review function of existing concealed space ventilation if present.
- 5.3.2.6. Perform water testing, thermal imaging, and/or electronic leak detection (as appropriate for the existing building conditions).
- 5.3.2.7. Determine moisture content of materials.
- 5.3.2.8. Perform invasive testing to observe condition of concealed membrane system. Invasive testing may include isolated borescope openings or selective demolition of larger areas.

5.4. Prepare Remedial Design

Develop the remediation design, prepare construction drawings and file a building permit application. Some forms of maintenance-based remediation, for example application of preservatives or sealants, may not require a building permit.

5.5. Execute Remediation Work

Perform the remedial work, restore building finishes and final building permits, as applicable.

5.6. File Certification Form

After the remedial work is completed, file the Certification form with the City of Berkeley's E3 Inspection Program office. One certification form must be filed for each separate building and a single professional must be responsible for certification of all E3s on the building.

5.7. Written Report

The California Health and Safety Code Section 17973 requires inspectors to provide a written report of the evaluation stamped or signed by the inspector to the owner of the building or the owner's designated agent within 45 days of completion of the inspection. The report shall include photographs, any test results, and narrative sufficient to establish a baseline of the condition of the components inspected that can be compared to the results of subsequent inspections. In addition to the evaluation required by this section, the report shall advise which, if any, exterior elevated element poses an immediate threat to the safety of the occupants, and whether preventing occupant access or conducting emergency repairs, including shoring, are necessary. It is not necessary to submit this report to the City, unless requested to do so. Any immediate threats to life safety must be addressed without delay.

For condominium projects, California Civil Code Section 5551 requires inspectors to provide a written report of the evaluation stamped or signed by the inspector to the association. In addition to the evaluation required by this section, the report shall include the following information:

- (1) The identification of the building components comprising the load-bearing components and associated waterproofing system.
- (2) The current physical condition of the load-bearing components and associated waterproofing system, including whether the condition presents an immediate threat to the health and safety of the residents.
- (3) The expected future performance and remaining useful life of the load-bearing components and associated waterproofing system.
- (4) Recommendations for any necessary repair or replacement of the load-bearing components and associated waterproofing system.

If any exterior elevated element poses an immediate threat to the safety of the occupants, the inspector shall provide a copy of the inspection report to the association immediately upon completion of the report and to the local code enforcement agency within 15 days of completion of the report, and preventative measures must be performed immediately.

Figure 1

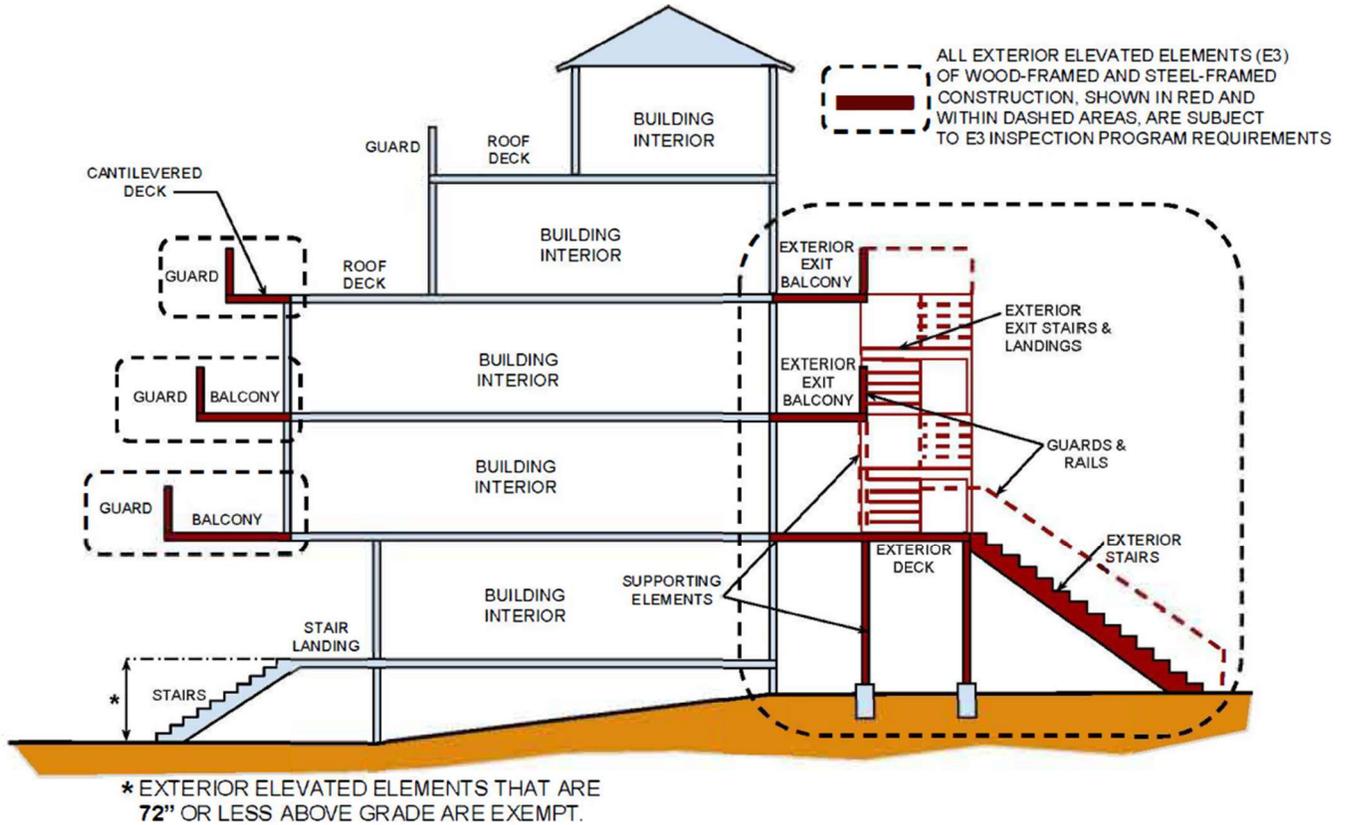


Figure 2

