Concealed Construction Verification Guidelines

Purpose: To provide minimum standards for verification of construction concealed without required inspections.

General:
It is the intent of this policy to establish reasonable compliance with approved plans, specifications, and applicable codes via independent verification and selective inspection. If selective inspection or independent verification indicates code compliance, then the remaining concealed construction is assumed to be in compliance.

It is also the intent of this policy to provide a reasonable method to verify concealed construction without endangering staff. Staff shall not be expected to enter into confined spaces as defined by CAL\OSHA.

This policy specifically applies to projects constructed according to conventional construction criteria and described in Chapters 18 and 23 of the California Building Code and generally applies to projects designed by licensed professionals. All construction concealed without required inspections shall require independent verification of code compliance in addition to any observation reports provided by a project engineer or architect. Self-certification, photographic or video-graphic information shall not be accepted in lieu of independent verification.

If the permit application is submitted under stamp and signature of a licensed professional, the verification methodology shall be proposed by the licensed professional and approved or rejected by the Building Official or his/her designee. The proposed verification plan shall include a non-destructive testing method, designation of finish materials to be removed and exposure of structural elements for inspection by a Building Inspector. The proposed verification plan shall not depend solely on observation reports provided. Photos submitted by a licensed professional in conjunction with a report that clearly identify the location of the work, materials, and installation method may be accepted to supplement a report or inspections. Inspection of the structural, electrical, mechanical, and plumbing systems for professionally designed buildings shall comply with PROCEDURE “C” of this policy.

If the project was not designed by a licensed professional, verification of concealed construction shall comply with the applicable requirements of PROCEDURE “C” of this policy.

AUTHORITY
Section 110.1 thru 110.6 California Building Code

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PROCEDURE

A. When Code Enforcement staff identifies concealed construction, they shall inform the responsible party of this policy.
   1. At the time of permit issuance, Code Enforcement staff shall direct the responsible party to immediately request a close-in inspection or an applicable inspection type if the project has not proceeded to the close-in inspection point. During the inspection, the Building Inspector will meet with the responsible party and discuss areas requiring exposure and verification per PROCEDURE "C" of this policy.

B. If construction has proceeded without inspection or if an inspection is missed and construction is concealed during the course of a permitted project, the Building Inspector shall write a correction notice informing the responsible party of this policy. Verification shall be per PROCEDURE "C" of this policy, as applicable.

C. The following minimum verifications shall be required.
   1. For foundations or retaining walls poured without required inspections:
      a. A non-destructive test and report shall be required from an independent materials testing company and provided at the expense of the responsible party. At a minimum, three locations must be examined and/or at least one enlarged pad for point loads must be verified. The non-destructive testing report shall sufficiently detail and verify the placement and size of reinforcing steel, footing depth and width. The locations examined shall be chosen by the independent materials testing company and submitted as a deferred plan check submittal in accordance with Section 107.3.4.1 California Building Code.
         OR
      b. A licensed professional may propose an alternative method of verification for unconventional construction. The verification method shall be subject to approval by the Building Official or his/her designee.

   2. For seismic anchorage systems or embedded seismic anchorages installed without required inspections:
      a. A pull test (to verify full designed load is achieved) shall be conducted by an independent materials testing company for at least 25% of all embedded seismic anchorages.
      b. For commercial projects, in addition to the pull test, review and approval by the engineer of records and the Plans Examiner is required. Any failed pull test will require testing of all embedded seismic anchorages and repair of any failed anchorage via engineering analysis.
         OR
         Visual verification may be allowed at the Building Inspectors discretion for embedded seismic anchorages for detached agricultural buildings.

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3. For slabs on grade requiring a moisture barrier that have been poured without required inspections, installation of a listed surface treatment or paint on moisture barrier is required.
4. For shear walls, metal straps, and connectors concealed without required inspections:
   a. Visual verification of at least 25% of the concealed construction shall be required.
      OR
      A non-destructive test in at least three locations may be accepted in lieu of visual verification of metal straps and connectors
      OR
      A licensed professional may propose an alternative method for independent verification of concealed shear walls.
5. For wallboard used as a fire rated assembly or bracing:
   a. Verification shall be via the use of a nail locator magnet or the installation of additional fasteners and compliance with approved assembly.
   b. Verification of wallboard thickness and material type shall be via removing a portion of the assembly to expose at least one wallboard grade and thickness stamp.
6. For plumbing, septic systems or mechanical systems concealed without required inspections.
   a. Testing per the currently adopted model Plumbing or Mechanical Code shall be required for entire systems installed and concealed without required inspections. Sanitary drainage, gas, and water distribution piping testing shall comply with the currently adopted model code. Three key locations shall be exposed as selected by the Building Inspector for verification of material size and configuration.
   b. For commercial under-slab mechanical and plumbing or process waste systems, video graphic verification provided by a licensed contractor of the as-built condition shall be required.
   c. Visual spot verification may be allowed for partial systems or repairs concealed without required inspections. The Building Inspector may require revealing concealed components if exposed components are not code compliant.
   d. Septic tanks, leach lines, distribution boxes, and connecting piping shall be completely uncovered for inspection. If the initial excavation of the system indicate code compliance, the district Environmental Health Specialist may allow verification of the remainder of the leach field by excavating the beginning, end, and points along the leach lines.
   e. If the septic system was designed by a licensed professional, the professional must also complete an inspection to their satisfaction. The licensed professional shall submit a final approval letter and as-built drawings prior to final approval of the septic system.

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7. For electrical systems concealed without required inspections:
   a. For commercial structures, industrial, and multi-family dwellings, a licensed electrician shall be on-site and the installation shall be de-energized prior to inspection. For single family dwellings and agricultural buildings, an electrician may be required on-site at the discretion of the Building Inspector.
   b. All electrical panels and splice boxes shall be opened for inspection for all circuitry installed without required inspections. The Building Inspector shall verify box fill and ground system bonding via selective inspection. The Building Inspector has the option of requiring the removal of electrical receptacles or switches as required. Bonds to metal piping systems shall be exposed and inspected. Concrete encased (Ufer) grounds shall not be accepted if installed in a foundation that was constructed without required inspections.
   c. The Building Inspector may allow visual spot checking to verify code compliance of partial systems or repair work concealed without required inspections.
   d. Electrical and bonding systems installed in conjunction with pools, fountains, and similar installations shall be tested by a licensed electrician and a report provided stating the wiring method used, resistance readings, and a statement of suitability of the system. The continuity resistance shall not exceed 25ohms.
8. For grading fill material placed without required inspections:
   a. Any fill material placed and compacted without required inspections proposed to support a structure, roadway, dam, pond, any other engineered structure or landslide repair shall be considered “engineered fill” and shall require design and verification proposed by a licensed engineer. The licensed engineer shall propose a method for verifying keyways and benching. Compaction testing shall be per ASTM D1557. A final report stating the project has been constructed in compliance with all plans and specifications shall be required per the currently adopted codes and ordinances.
   b. Shallow fill less than 12 inches deep, less than 5,000 cubic yards and not intended to support a structure, roadway, dam, pond or any other engineered structure shall be considered “regular grading” and subject to visual verification by Building Inspectors.

D. If any test, visual verification or report, determines that non-compliant conditions exist, then 100% of the concealed item shall be revealed or exposed for inspection.
   1. If code compliance cannot be achieved by installation or modification of the installed components, the responsible party shall remove and replace the non-compliant component.
      OR
      As an alternative, the responsible party may recommend an alternative method for achieving code compliance via engineering analysis provided by a licensed professional.

Approved by:
Jay Bradford, Building Official

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