

**NEW MEXICO
GUIDELINE PROGRAM FOR SPECIAL STRUCTURAL
INSPECTION AND TESTING**

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PART 1 GENERAL

1.01 Purpose, Intent, and Conditions

A. Purpose

1. Special inspection is the monitoring of the materials and workmanship that are critical to the integrity of the building structure. It is the review of the work of the contractors and their employees to ensure that the approved plans and specifications are being followed and that relevant codes and ordinances are being observed. The special inspection process is in addition to those conducted by the municipal building inspector and by the Structural Engineer of Record or Architect of Record as part of periodic structural observation. Special inspectors furnish continuous or periodic inspection as prescribed in IBC Table 1704.3 for that construction which requires their presence (IBC Sections 109.3.9 and 1704).

B. Intent

1. Define and coordinate special structural inspection and testing services.
2. Provide greater confidence that the specified work is constructed in compliance with the contract documents and Chapter 17 of the 2006 International Building Code as adopted by the current New Mexico Commercial Building Code.
3. Inspection and testing services are intended to assist in determining probable compliance of the work with requirements specified. These services do not relieve the Contractor of responsibility for compliance with the requirements of the contract documents.

C. Conditions

1. If inspection of fabricator's work is required, the Owner's representative may require inspection and testing of the work at the plant, before shipment. Owner, Architect and Structural Engineer of Record (SER) reserve the right to reject material not complying with the contract documents.
2. Inspection and testing shall be performed in accordance with the industry standard used as the reference for the specific material or procedure unless other criteria are specified. In the absence of a referenced standard, tests shall be accomplished in accordance with generally accepted industry standards.
3. Work shall be checked as it progresses, but failure to detect any defective work or materials shall in no way prevent later rejection if defective work or materials are discovered, nor shall it obligate Owner to accept such work.

1.02 Related Requirements

- A. Refer to PART 2 for technical scope sections regarding specific qualifications, inspections, tests, frequency and standards required.

1.03 Definitions

- A. Testing – Evaluation of systems, primarily requiring physical manipulation and analysis of materials, in accordance with approved standards.
- B. Inspection – Evaluation of systems, primarily requiring observation and engineering judgment.
- C. Special Structural Inspection and Testing– Special Structural Inspection and Testing Services herein include items required by the 2006 IBC as adopted by the current New Mexico Commercial Building Code, and other items which in the professional judgment of the Structural Engineer of Record, are critical to the integrity of the building structure.
- D. Architect of Record – The prime consultant in charge of overall design and coordination of the project.
- E. Structural Engineer of Record (SER) – The Licensed Engineer in responsible charge of the structural design for the project.
- F. Licensed Structural Engineer: – A professional engineer with education and experience in the design of structures similar to this project licensed to practice in the state in which the project is located.
- G. Testing Agency (TA) – The properly qualified firm performing testing services.
- H. Special Inspector (SI) – A properly qualified individual or firm performing special inspections.
- I. Building Official – The Officer or his duly authorized representative charged with the administration and enforcement of the New Mexico Commercial Building Code.
- J. Continuous –The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.
- K. Periodic –The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

1.04 References

- A. ASTM E329-02 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
- B. ASTM E43-02 - Standard Practice for Agencies Performing Nondestructive Testing.
- C. ASTM C1077-02 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- D. ASTM C1093-95 - Practice for Accreditation of Testing Agencies for Unit Masonry.

- E. ASTM D3740-01 - Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- F. International Building Code (2006)
- G. New Mexico Commercial Building Code (2006).
- H. See technical sections of PART 2 for specific references.

1.05 Qualifications

- A. Testing Agency (TA) – The testing agency shall be an approved independent testing agency acceptable to the Owner, Architect, SER and as noted below:
 - 1. Authorized to operate in the state in which the project is located and experienced with the requirements and testing methods specified in the technical scope sections of PART 2.
 - 2. Meeting applicable requirements of Section 1.04 "References".
 - 3. Testing equipment shall be calibrated at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards, or to accepted values of natural physical constants.
- B. Special Inspector (SI) – The special inspector shall be under the direct supervision of a registered civil/structural engineer, experienced with the type of work requiring special structural inspection and testing.
 - 1. The categories of special inspector are
 - a. Technical I, II, and III or Structural I and II.

1.06 Responsibilities

- A. Special Structural Inspection and Testing
 - 1. Special Inspectors:
 - a. Shall review approved plans and specifications for special inspection requirements.
 - b. Comply with the special inspection requirements of the enforcing jurisdiction found in the Special Inspections Agreement including work and materials.
 - c. Sign the Special Inspection Agreement in conjunction with other responsible parties prior to commencement of construction.
 - d. Attend a pre-construction meeting to review the scope of special structural inspection and testing.
 - e. Notify contractor personnel of their presence and responsibilities at the job site. Sign in on the appropriate special inspection record posted at the job site.
 - f. Special inspectors shall inspect and test all work according to the Special Inspection Agreement for which they are responsible for conformance with the building department

approved design drawings, specifications and applicable material and workmanship provisions of the Code. Perform inspection and testing in a timely manner to avoid delay of work.

- g. Bring discrepancies to the immediate attention of the contractor for correction, confirm that they are corrected and, if uncorrected after a reasonable period of time, bring to the attention of the Structural Engineer of Record, and to the Architect and note item in special inspector's report.
 - h. Submit test and/or inspection reports to the Contractor, the Structural Engineer of Record, and other designated persons in accordance with the Special Inspections Agreement. Reports shall be submitted in a timely manner to avoid delay of work.
 - i. Submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications and the applicable workmanship provisions of the Code.
2. Testing Agency:
- a. Sign the Special Inspection Agreement in conjunction with other responsible parties prior to commencement of construction.
 - b. Attend a pre-construction meeting to review the scope of special structural inspection and testing.
 - c. When engaged as a special inspector, provide special structural inspection and testing services as required for the work being performed.
3. Architect of Record (or other prime consultant):
- a. Complete and sign the Special Inspection Agreement in conjunction with other responsible parties prior to commencement of construction. Provide a completed copy of the agreement to all signed parties including Building Official.
 - b. Arrange and attend a pre-construction meeting to review the scope of special structural inspection and testing. Include Contractor, Building Official, Structural Engineer of Record, Testing Agency and other parties concerned.
 - c. Coordinate the flow of reports and related information to expedite resolution of construction issues.
4. Structural Engineer of Record (SER):
- a. Identify items requiring special structural inspection and testing including special cases through development of the Schedule of Structural Special Inspection and Testing.
 - b. Define "type" of special inspector required for "description" of work indicated on the special structural inspection and testing schedule.
 - c. Complete and sign the Special Inspection Agreement prior to commencement of construction.

- d. Attend a pre-construction meeting to review the scope of special structural inspection and testing.
 - e. Review reports submitted by special inspectors.
5. Contractor:
- a. Sign the Special Inspections Agreement in conjunction with other responsible parties prior to commencement of construction.
 - b. Attend a pre-construction meeting to review the scope of special structural inspection and testing.
 - c. Post or make available the Special Inspection Record within its office at the job site. Also, provide adequate notification to those parties designated on the schedule so they may properly prepare for and schedule their work.
 - d. Provide the special inspectors access to the approved drawings and specifications at the job site.
 - e. Review reports submitted by special inspectors.
 - f. Retain at the job site all reports submitted by the special inspectors for review by the building official upon request.
 - g. Correct in a timely manner, deficiencies identified in inspection and/or testing reports.
 - h. Provide the special inspector safe access to the work requiring inspection and/or testing.
 - i. Provide labor and facilities to provide access to the work and to obtain, handle and deliver samples, to facilitate inspection and testing and for storage and curing of test samples.
 - j. Verification of conformance of the work within specified construction tolerances is solely the Contractor's responsibility.
6. Fabricator:
- a. Sign the Special Inspections Agreement in conjunction with other responsible parties prior to commencing construction.
 - b. Submit a Certificate of Compliance to the Building Official, Special Inspector, and Structural Engineer of Record that the work was performed in accordance with the approved plans and specifications.
7. Building Official (Typical responsibilities noted for information only):
- a. Determine work, which in the Building Official's opinion requires additional special inspection.
 - b. Review special inspector qualifications.

- c. Verify all structural steel fabricators who perform work in their shop are certified to the appropriate National Standard as listed in IBC 2006. If the Fabricator is not certified, they shall provide for special inspection in their shop by a Special Inspector.
 - d. Review reports and recommendations submitted by the special inspectors.
 - e. Review the "final signed reports" submitted by the special inspector(s). These documents should be accepted and approved by the building department prior to issuance of a Certificate of Occupancy.
 - f. Approve Special Inspection Program.
 - g. Monitor special inspection activities.
 - h. Issue stop work orders.
8. Owner:
- a. Establish direct funding to provide for cost of special structural inspection and testing services.
 - b. Provide special inspector with approved design drawings, specifications and approved shop drawings.
 - c. Provide special inspectors and testing agencies with full access to site at all times.
 - d. Sign the Special Inspection Agreement in conjunction with other responsible parties prior to commencement of construction.
 - e. Enable measures to ensure that the scope of work and duties of the special inspector as outlined in the Special Inspection Agreement are not compromised.

1.07 Payment

- A. Owner or the Owner's Agent shall directly employ and pay for services of the special inspectors to perform required Special Structural Inspection and Testing.
- B. Unless noted otherwise, the Contractor shall provide and pay for all materials, samples, mock-ups, and assemblies required for inspection and testing and shall pay for all shipping costs related to delivery of this work. Testing agency will pay for shipping costs of samples transported from site to lab.
- C. Should any work be performed that does not meet the Contract Documents as noted by the Special Inspector or Testing Agency, the costs incurred to correct the deficiency shall be borne by the Contractor. If exploratory work is required to determine the cause of defects, the Contractor shall pay the cost of such work, if the work is found to be defective, in the judgment of the Architect/Engineer. Contractor shall reimburse the Owner for all costs incurred in this event.
- D. Any tests required to qualify the Contractor, or the workmen for any phase of the work, shall be performed at no additional cost to the Owner.

1.08 Inspection Notice

- A. Contractor shall provide minimum of two full business days notice for all items requiring testing or inspection unless different arrangements have been agreed upon at the pre-construction meeting by the respective parties. Items requiring inspection and testing services prior to or during placement shall not be placed until inspection and testing services are available. Items requiring inspection and testing services after placement shall not be enclosed or obscured until inspection and testing services are performed.

1.09 Reports

- A. Testing agency and/or special inspectors shall submit reports in accordance with the Special Inspection Agreement and shall conduct and interpret tests and inspections and state in each report whether; (1) test specimens and observations comply with Contract Documents, and specifically state any deviations, (2) record types and locations of defects found in work, (3) record work required and performed, to correct deficiencies.
- B. Reports for special structural inspection and testing shall be submitted in a timely manner to the Contractor, Structural Engineer of Record, and Architect of Record. The reports shall be made available to the Building Official at the project site or as requested.
 - 1. Submit reports for ongoing work, to provide the information noted below:
 - a. Date issued.
 - b. Project title and number.
 - c. Firm name and address.
 - d. Name and signature of tester or inspector.
 - e. Date and time of sampling.
 - f. Date of test or inspection.
 - g. Identification of product and specification section.
 - h. Location in project, including elevations, grid location and detail.
 - i. Type of test or inspections.
 - j. Results of tests or inspections and interpretation of the same.
 - k. Observations regarding compliance with Contract Documents or deviations there from.
 - l. Indicate nonconforming items (discrepancies) and how they were resolved.
 - m. List unresolved items, parties notified, and time and method of notification.
 - n. Itemize changes authorized by engineer or architect of record if not included in nonconforming items.

2. Submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications and the applicable workmanship provisions of the Code.

1.10 Protection and Repair

- A. Upon completion of testing, sample-taking, or inspection, the Contractor shall repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed surfaces, as judged solely by the Architect/Engineer of Record. Protect work exposed by or for testing and/or inspection and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for testing and/or inspection.

1.11 Tests to Demonstrate Qualification

- A. If the Contractor proposes a product material, method, or other system that has not been pre-qualified, the Architect, or Structural Engineer, and Building Official may require applicable tests, to establish a basis for acceptance or rejection. The Contractor will pay for these tests.
- B. The Architect/Engineer of Record reserves the right to require certification or other proof that the system proposed, is in compliance with any tests, criteria or standards called for. A representative of an independent testing agency shall sign the certificate.