

# **GUIDELINES FOR INSPECTIONS AND MATERIAL TESTING**

## **A. SCOPE**

1. These guidelines are to aid the Agency and Design Professional(s) in understanding and implementing Chapter 1 inspections and Chapter 17 material testing and inspections per the International Building Code (IBC).
2. Chapter 1 inspections are required by Section 110 of the 2021 IBC and are performed by the Building Official, or his designee. Chapter 17 inspections are the detailed inspections of construction requiring the expertise of a Special Inspector in order to ensure compliance with the ICC Codes and the approved contract documents. Special inspections performed by a Special Inspector are above and beyond the Design Professional's regular construction observation visits per the requirements of the Design Contract.
3. For ease of understanding, Chapter 1 inspections shall be referred to as Building Inspections and are performed by the Building Official or his designee. Chapter 17 material testing and inspections shall be referred to as Special Inspections and are performed by the Special Inspector.

## **B. APPLICABILITY**

1. MATERIAL TESTING: As stated in the construction documents.
2. 2021 IBC CHAPTER 1 SECTION 110 - INSPECTIONS: These tests and inspections are required for state agency construction projects.
3. 2021 IBC CHAPTER 17: Per Section 1704.2, special inspections during construction on types of work listed in Section 1705 are in addition to the inspections identified in Section 110.
4. FIRE PROTECTION SYSTEMS:
  - a. All new fire protection system(s) shall be inspected and tested per International Fire Code (IFC) regardless of applicability of special inspections.
  - b. In the event any new fire protection system(s) is installed in an existing building, such fire protection system(s) shall be tested and inspected per the IFC.
  - c. In the event any existing fire protection system(s) is altered and/or modified, the fire protection system(s) shall be tested and inspected per the IFC.

## **C. PLANNING**

1. Agencies shall plan for and procure Building Inspections for all state construction projects.
2. Agencies should consider the possibility that Special Inspections will be required for most state construction projects. If there is any doubt regarding the applicability of Special Inspections, the agency should contact the OSE Project Manager for assistance in the determination.
3. The Agency shall contract directly with an OSE-approved firm utilizing the statewide contract. (See paragraph E)

## **D. CONTRACT DOCUMENTS**

1. The contract documents must contain the STATEMENT OF SPECIAL INSPECTIONS, from the OSE Manual included in a Quality Control section of the project manual. A Statement of Special Inspections shall be completed by the design team to inform the Special Inspector and the construction contractor of the inspections that are required and who will be performing them.
2. The design team can require special inspections above and beyond what is required by code based on unusual project conditions. These special inspections must be approved by OSE.
3. The Agency shall contract directly with an OSE-approved firm utilizing the statewide contract. (See paragraph E) For a list of approved firms, see <https://procurement.sc.gov/contracts/search?v=10227-9919-0-0>.

## **E. PROCUREMENT OF INSPECTIONS AND SPECIAL INSPECTIONS**

The state has entered into statewide term contracts for inspections and material testing services. Agencies can access the contracts and the schedules of unit prices for each firm at <http://webprod.cio.sc.gov/SCSolicitationWeb/contractSearch.do?solicitnumber=5400018150>. Access to the contract is by clicking on the "Solicitation.docx" document. Access to the schedules of unit prices is by clicking on the 10 digit "Contract Number" assigned to each firm.

1. The Agency shall provide the selected Inspector with a set of the Bid Documents (complete plans, specifications, and any addenda issued during the bidding period). Using these documents, the Inspector shall determine the following:
  - a. The types of inspections/testing the ICC Codes requires and the number of hours necessary to perform each type of inspection.
  - b. The estimated cost of the inspection (hourly rate x hours required, or unit price).
  - c. Mileage, lodging and meal compensation; and
  - d. Any subcontracted services required and cost to agency for those services.

2. The Inspector shall enter this information along with all assumptions supporting these numbers into the Inspection/Material Testing Order Negotiation Worksheet (SE-955A) and submit it to the agency for review.
3. The Agency reviews the SE-955A and supporting documentation and then negotiates the tasks and associated man-hours as necessary with the Inspector. The OSE Project Manager is available to assist the agency in the review of the Inspector's proposal. The Owner completes and signs the Inspection/Material Testing Order (SE-955) and forwards a copy to the Inspector for his signature and to serve as a Notice to Proceed. Since the Inspector is under contract through the statewide Master Agreement contract, additional contract language is not required.

#### **F. AMENDING INSPECTION DELIVERY ORDERS**

1. If it becomes necessary to change the services of the Inspector during the construction period, the Agency and the Special Inspector should amend the Delivery Order by completing the Inspection/Material Testing Order Amendment Worksheet (SE-960A).
2. The Agency reviews the SE-960A and supporting documentation and negotiates the revision with the inspector. The Agency completes and signs the Inspection/Material Testing Order Amendment (SE-960) and forwards a copy to the Inspector for signature.
3. In accordance with SC Division of Procurement Services, Office of the State Engineer Version of AIA A201-2017 General Conditions of the Contract for Construction Article 13.4, the construction contractor shall be responsible for the cost of inspections that are conducted without the agency's knowledge and for any increase in inspection cost due to inefficient scheduling or re-inspections. Any re-inspection charges applied to the contractor will be deducted from their final payment

#### **G. PROCESSING PAYMENT**

The Inspector should submit applications for payment to the Agency in a form acceptable to both parties. The Agency will review the Inspector's application for payment and accompanying back-up information in coordination with the Inspection/Testing Log (SE-965) at the jobsite. The Agency is required to pay the Inspector as the work progresses; but, no more than once a month and only after receiving an invoice with sufficient detail to justify the amount requested.

#### **H. PRE-CONSTRUCTION MEETING**

Once the agency awards a construction contract, the agency should invite the Inspectors, Special Inspector, Architect, Engineers, and OSE to discuss the schedule of the project with the construction contractor, expectations regarding required inspections and testing, and how required inspections and testing fit into the project schedule. The Agency shall supply the construction contractor with the names of the inspectors and testing technicians who will be working on the project. At this meeting, the parties should also discuss the Statement of Special Inspections, Contractor schedule and the requirements/expectations of both the Contractor and the Special Inspector.

#### **I. CONSTRUCTION SCHEDULE**

After the pre-construction meeting with the Agency, A-E, Inspector and Special Inspector, the Construction Contractor should include the proposed inspection events in the construction schedule.

#### **J. ROLES AND RESPONSIBILITIES AS IT RELATES TO INSPECTIONS**

##### **1. STATE AGENCY**

###### **a. Pre-Design Phase:**

- 1) The Agency shall be aware of the potential for special inspections and shall plan accordingly.

###### **b. Pre-Construction/Design Phase:**

- 1) The Agency must procure a firm to perform these duties. See Paragraph E.
- 2) Participate in the pre-construction meeting.
- 3) Prepare and Sign Statement of Special Inspection Responsibilities (SE-962).

###### **c. Construction Phase:**

- 1) Maintain inspection documentation.
- 2) Verify Inspection and Testing Log (SE-965) is being utilized.
- 3) Verify Inspection and Testing Non-Conformance Log (SE-966) is being utilized and non-conformities are being resolved.

##### **2. ARCHITECT**

###### **a. Design Phase:**

- 1) Ensure the Statement of Special Inspections is completed and incorporated into construction documents in a Quality Control section.

- b. Pre-Construction Phase:
    - 1) Facilitate Pre-construction meeting.
    - 2) Sign the SE-962.
  - c. Construction Phase:
    - 1) Provide construction administration as required.
    - 2) Provide necessary modifications or corrective measure for inspection discrepancies.
- 3. STRUCTURAL ENGINEER OF RECORD**
- a. Design Phase:
    - 1) Prepare the Statement of Special Inspections.
  - b. Construction Phase:
    - 1) Provide construction administration as required.
    - 2) Review inspection and testing reports.
    - 3) Provide necessary modifications or corrective measures for inspection discrepancies.
- 4. MEP ENGINEER(S) OF RECORD**
- a. Design Phase:
    - 1) Communicate with Structural Engineer of Record for the inclusion of inspection and testing for smoke control system(s), fire protection system(s), electrical and mechanical components, etc. in a Statement of Special Inspections.
  - b. Construction Phase:
    - 1) Provide necessary modifications or corrective measures for inspection discrepancies.
- 5. INSPECTOR**
- a. Pre-Construction Phase:
    - 1) Provide Agency and/or Architect an estimated fee for all inspection services, including re-inspection and re-testing fees to be charged to the contractor.
    - 2) Participate in preconstruction meeting.
  - b. Construction Phase:
    - 1) The Inspector shall provide all necessary inspections required by ICC and the contract documents.
    - 2) Administer inspection process including managing and coordinating the inspections of various agents.
    - 3) Adhere to reporting guidelines outlined in paragraph K.
    - 4) Report any construction discrepancies to the Architect, Agency, related Engineer of Record and Contractor.
    - 5) Re-inspect and/or re-test discrepancies after the Contractor has made such modification.
    - 6) Inspector shall document re-inspection services separate from other duties. These services shall be charged back to the Contractor by the Agency. Copies of all re-inspection and re-testing invoices shall be submitted to the Agency and Architect.
    - 7) Inspector shall attend normally scheduled construction meetings during the phase(s) inspections as needed.
    - 8) Inspector cannot and shall not propose, recommend, advise, or instruct the Contractor in any modifications, repairs, or corrective measures.
- 6. SPECIAL INSPECTOR**
- a. Pre-Construction Phase:
    - 1) The Special Inspector shall provide all necessary inspections and tests outlined in a Statement of Special Inspections and contract documents. The Special Inspector shall retain the services of other qualified agents as needed to fulfill these obligations.
    - 2) Provide Agency an estimated fee for all inspection services and material testing. Fee should include breakdown for inspections and testing. Re-inspection and re-testing fees are paid by the Contractor.
    - 3) Participate in preconstruction meeting.
    - 4) Sign the SE-962.
  - b. Construction Phase:
    - 1) Administer inspection process including managing and coordinating the inspections and testing of various agents.

- 2) Adhere to reporting guidelines outlined in paragraph K.
- 3) Report any construction discrepancies to the Architect, Agency, related Engineer of Record, OSE Project Manager and Contractor.
- 4) Re-inspect and/or re-test discrepancies after the contractor has made such modification.
- 5) Special Inspector shall document re-inspection services separate from other duties. These services shall be charged back to the Contractor by the Agency. Copies of all re-inspection and re-testing invoices shall be submitted to the Agency and Architect.
- 6) Special Inspector shall attend normally scheduled construction meetings during the phase(s) inspections as needed.
- 7) Special Inspector cannot and shall not propose, recommend, advise, or instruct the contractor in any modifications, repairs, or corrective measures.

#### 7. CONTRACTOR

##### a. Pre-Construction Phase:

- 1) Participate in preconstruction meeting.
- 2) Review inspections and testing required by a Statement of Special Inspections, IBC Chapter 1, and construction documents.
- 3) Sign the SE-962.

##### b. Construction Phase:

- 1) Notify Agency, Inspector and Special Inspector for each portion of work requiring inspection or testing in a timely manner.
- 2) Correct discrepancies and notify the Inspector or Special Inspector for re-inspection or re-testing.
- 3) Provide access to and means for safe and proper inspection of work.

#### 8. OFFICE OF STATE ENGINEER

##### a. Design Phase:

- 1) Aid in determining if special inspections are required per paragraph B.
- 2) Review completed Statement of Special Inspections in the contract documents.

##### b. Pre-Construction:

- 1) Participate in preconstruction meeting, as needed.
- 2) Provide assistance to Agency in selecting Inspector and Special Inspector.

##### c. Construction Phase:

- 3) Review all Inspection reports.
- 4) Review and monitor Deficiency Logs.

#### K. INSPECTION AND REPORTING PROCESS GUIDELINES

1. The Agency shall ensure the Inspector and Special Inspector have the latest copy of the approved contract documents prior to contract negotiations and construction.
2. The Inspector is to review the contract documents in advance of inspecting the work.
3. The Special Inspector is to review a Statement of Special Inspections and the contract documents in advance of inspecting or testing any work.
4. The Inspector and Special Inspector shall ensure any agents that are hired by him are qualified for that portion of work and have a copy of their qualifications.
5. At a minimum, the Agency, Inspector, Special Inspector, Architect and Contractor shall attend pre-construction meeting.
6. Contractor shall perform his own check of work prior to notifying the Agency, Inspector and Special Inspector of needed inspection.
7. The Contractor shall provide the Inspector or Special Inspector a minimum of 2 days (unless otherwise agreed upon) for any work that is ready for inspection or testing. "Days" means calendar days minus state observed holidays. In computing any period of time, the day of the event from which the designated period of time begins is not included. If the final day of the designated period falls on a Saturday, Sunday, or a legal holiday for the state or federal government, then the period shall continue until the end of the next business day.
8. The Contractor shall provide access to and means for safe and proper inspection of work.

9. The Special Inspector shall perform inspections and testing in accordance to a Statement of Special Inspections, the approved contract documents, and ICC Codes.
10. The Contractor is responsible to verify that all work requiring inspections and testing has been inspected or tested prior to concealment.
11. The Inspector and Special Inspector shall enter the appropriate data in the SE-965 and the SE-966 located in the Contractor's field office prior to leaving the site.
12. After each inspection, the Inspector or Special Inspector shall distribute a completed report to the Agency, the OSE Project Manager and A/E within two (2) business days. A copy of this report shall be left at the Contractor's field office. All reports must contain the State Project Name, State Project Number, Inspection date and time, Inspector, and weather conditions.
13. When all work requiring inspections is completed and all deficiencies have been resolved, the Inspector and Special Inspector shall prepare a Final Report indicating the inspections have been completed and all deficiencies have been completed and submit it to the Agency, Architect, OSE Project Manager and the Contractor.
14. Contractor is to maintain at the job site a 3-ring binder with all inspection reports in an organized orderly manner. The binder shall be available for review by the Agency, A/E, OSE or others upon request.

**L. QUALIFICATION OF INSPECTORS AND SPECIAL INSPECTORS**

Inspectors and Special Inspectors shall be certified by ICC for their particular area of expertise and listed as such on the statewide contract.