



Special Inspection Manual

**City of Richmond
Bureau of Permits and Inspections
From 2006 IBC**

**Adopted by Virginia Uniform Statewide Building Code
900 East Broad Street Room 110
Richmond, VA 23219
(804) 646-6955**

The purpose of this document is to familiarize the Owner, Engineer, Architect, Testing/Inspection Laboratory, and Contractor of the Special Inspections required by Chapter 17 of 2006 International Building Code, as adopted by the State of Virginia Uniform Statewide Building Code.

Chapter 17 of the 2006 International Building Code (IBC) has specific requirements for Structural Tests and Special Inspections. These tests and inspections are in addition to the inspections required by VUSBC section 113. The special inspection does not waive the requirement for inspections by the building inspector. The contractor is responsible for scheduling all inspections required by VUSBC, with the Bureau of Permits and Inspections. These tests and inspections are to be made by an agency, inspector, testing lab, and fabricator shop approved by the Commissioner of Buildings.

The approved agency, inspector, testing lab, and fabricator shop must be employed by the owner or the registered design professional in responsible charge acting as the owner's agent.

This handout outlines the mandatory requirements and responsibilities of all parties involved with special inspection and construction. However, recognizing that there are many ways to evaluate construction quality and inspection, this handout is NOT intended to be a step-by-step procedural specification sufficient for all projects. Adjustments may be needed to satisfy a project's particular conditions.

It is hoped that by becoming more familiar with items which will be examined by the special inspector, all parties to the construction process can better prepare to foster quality control in the constructed project.

When special inspection required by IBC 2006 edition, the registered design professional in responsible charge shall prepare a Statement of Special Inspections, for submittal by the permit applicant (see attached exhibit 2). This statement shall include the following:

1. The materials, systems, components, and work required to have special inspection
2. The type and extent of each inspection
3. The type and extent of each test

4. Identification as to whether it will be a continuous or periodic special inspection

This agreement applies to special inspections covered in Chapter 17 of the IBC. It does not waive any other inspections that do not fall under chapter 17. It is the permit holder's responsibility to call for all required inspections prior to concealment and prior to proceeding on with the work.

PRECONSTRUCTION MEETING

Prior to the issuance of a building permit, a preconstruction meeting shall be held at the building of Bureau of Permits and Inspections. The City of Richmond Plan Examiner Engineer II shall contact the Register Design Professional in responsible charge of the project, owner or owner agent to schedule the meeting time and location. The following are required to attend this meeting.

1. The Building Official, Plans Examiner, and Building Inspector
2. Owner or designated agent
3. The Registered Design Professional in Responsible Charge or representative.
4. Architect of Record or representative.
5. Structural Engineer of record or representative
6. Geotechnical Engineer of Record or representative
7. The General Contractor or representative.
8. Special Inspections Engineer of Record or representative
9. The Approved Agency or representative.

I DEFINITIONS AND PURPOSE

A. Approval of Special Inspection Agencies, Special Inspectors, Fabricator Shop and/or Testing labs:

Special Inspections Agencies, Special Inspectors, Fabricator Shop, and Testing Labs shall disclose any possible conflicts of interest. The Registered Design Professional in responsible charge shall pre-qualify the designated Special Inspection Agencies, Special Inspectors, Fabricator Shop, and Testing Labs, and submit their qualifications as part of the Statement of Special Inspections. The City of Richmond Bureau of Permits and

Inspections shall approve the designated Special Inspection Agencies, Special Inspectors, Fabricator Shops, and Testing Labs, prior to any work being performed.

B. Duties and Responsibilities of the Project Owner:

1. Agree and sign the Special Inspection and Testing Agreement

2. Employ and Fund Special Inspections and Testing Services:

The project Owner is responsible for employing and funding the Special Inspection and Testing services. The Special Inspection Agencies, Special Inspectors and Testing Labs, shall not be in the employ of the contractor, a subcontractor or material supplier. In the case of an Owner who is also acting as the contractor; Special Inspection Agencies, Special Inspectors, and Testing Labs shall be employed as specified and approved by the Commissioner of Buildings, and Bureau of Permits and Inspections.

C. Duties and Responsibilities of the Engineer of Record

The engineer or architect of record has many duties and responsibilities related to special inspection and structural observation activities. These include the following:

1. Agree and sign the Special Inspection and Testing Agreement:

The Engineer or Architect of record shall complete the Special Inspection and Testing Agreement and submit with the Building Permit Application.

2. Identify the need for special inspections and structural observation services:

The project plans and-or specifications which are submitted to the building official shall clearly indicate the design parameters and material selection. The engineer or architect of record is the development team member who analyzes the critical elements of the design and determines where special inspection and structural observation is required in accordance with 2006 IBC sections 1704, 1707, 1708, 1709. See exhibit (3), Special Inspection and Structural Observation Requirements. The engineer is responsible for submitting the special inspection and structural observation requirements form into the structural plan sets. Also one separate copy shall be submitted to the Bureau of Permits and Inspections Plan Examiner for office record.

3. Respond to field discrepancies

Material and design discrepancies which are not resolved in a timely manner or are about to be incorporated in the work must be brought to the attention of the engineer or architect of record and the office of the Commissioner of Buildings. Uncorrected field deficiencies observed by the special inspector must also be brought to their attention. The engineer or architect of record is instrumental in effecting the remedial process of deficiency correction. The engineer or architect of record is responsible for any design changes in addition to acknowledgment and approval of shop drawings which may detail structural information, and for submission of such changes to the Bureau of Permits and Inspections for approval.

4. Submit final completion report

The engineer of record shall submit an overall final completion report to The Bureau of Permits and Inspections stating that all items requiring special inspection and structural observation were performed in

accordance with the approved plans, specifications, and applicable workmanship provisions of the VUSBC. See Exhibit (5), Special Inspection Final Compliance Report and Exhibit (6), Structural Observation Final Compliance Report

D. Duties and responsibilities of the engineer responsible for the structural observation program

The owner shall employ the engineer or architect responsible for structural design, or another engineer or architect designated by the engineer or architect responsible for structural design, to perform structural observation as defined in IBC. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor, and the City of Richmond Bureau of Permits and Inspections. The structural observer shall submit to the Commissioner of Buildings a written statement declaring that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved. See exhibits 5 and 6 structural observation final compliance report.

E. Duties and Responsibilities of the Special Inspector

1. Agree and sign the Special Inspection and Testing Agreement.

2. Special Inspector :

The special inspectors are individuals with highly developed, specialized skills who observe those critical building or structural features which they are qualified to inspect. Duties of special inspectors and/or inspection agencies include the following:

3. Observe and inspect all work for which they are responsible:

Special inspector shall inspect all work for conformance with the Bureau of Permits and Inspections approved plans and specifications and applicable of the code. The special inspector shall be on site at all times to observe construction operations that require continuous or periodic inspections as per tables 1704.3, 1704.4, 1704.5.1, 1704.5.3, 1704.7, 1704.8 and 1704.9 of IBC 2006 edition. Work shall be inspected according to the approved construction documents, listed standards and nationally recognized testing methods.

4. Provide Timely Progress Report:

The special inspector should complete written inspection reports for each inspection visit and provide the report in a timely manner. The special inspector or inspection agency shall furnish these reports directly to the building official, engineer or architect of record and the general contractor. Special inspectors shall bring all non-conforming items to the immediate attention of the contractor. If any such item is not resolved in a timely manner or is about to be incorporated in the work, the engineer or architect of record and the building official shall be notified immediately. See exhibits 4 and 5. A copy of exhibit 4 shall be attached to every report done by the special inspector.

Special inspections reports are due within 48 hours of the inspection. The reports can be emailed or faxed to the Bureau of Permits and Inspections office.

5. Submit a Final Report.

Special inspectors or inspection agencies shall submit a final report that is sealed, signed and dated by the registered engineer or architect who is responsible for the special inspection to the Bureau of Permits and Inspections office stating that all items requiring special inspection and testing were constructed, to the best of their knowledge, in conformance with the approved design plans, specifications, approved change order and the applicable provision of the building code. **See special inspection final report.**

This report shall be submitted no later than 10 days prior to application for a Certificate of Occupancy.

F. Duties and Responsibilities of the Contractor:

1. Agree and sign the Special Inspection and Testing Agreement.

2. Notifying the Special Inspection Agency, Special Inspector, and Testing Lab.

The contractor or the holder of the Building Permit is responsible for notifying the Special Inspector, special inspection agency and Testing Lab regarding special inspections required by the Bureau of permits and Inspections. Adequate notice shall be provided so that the special inspector has time to become familiar with the project. The permit holder is responsible for calling for all required inspections both from the building inspector and the special inspector.

3. Provide access to approved Construction documents.

The contractor is responsible for providing the special inspector with access to approved plans, construction documents, and approved shop drawings.

4. Retain special inspection records at the job site:

The contractor is responsible for retaining at the job site all special inspection records submitted by the special inspector and testing labs, and providing these records for review by the Bureau of Permits and Inspections inspector upon request.

5. Obtain Bureau of Permits and Inspections approval prior to concealment:

The Contractor shall contact the Bureau of Permits and Inspections for required inspections and obtain approval prior to concealing any work requiring Special Inspections.

G. Duties and responsibilities of Bureau of the Permits and Inspections

The specific duties and responsibilities of the Bureau of Permits and Inspections relating to Special Inspections include the following:

1. **Review and examine plans, specifications, structural observation, and contract documents for approval and compliance with the Code and Special Inspection Program Requirements:**

The Bureau of Permits and Inspections is responsible for reviewing all submitted construction plans, specifications, forms related to the Special Inspection Program, and any other submitted documents for compliance with Virginia Uniform Statewide Building Code. All items submitted must be reviewed and approved prior to issuance of the Building Permit. This includes the following:

- Check the qualifications of each Special Inspector, Special Inspection Agency, Testing Lab, and Fabricator Shop that is listed on the Statement of Special Inspections in accordance with The City of Richmond's **Qualification Standard for Special Inspections**.
- Check that all parties involved in the Special Inspection Program have completed their portion of the Special Inspection and Testing Agreement.
- Issue the Building Permit with the approved Statement of Special Inspections, Special Inspection and testing Agreement, and permit conditions attached to the approved plans that will be kept on the job site.
- Determine if pre-construction meeting is required to review the Special Inspection Program with all appropriate members of the construction team.

2. **Monitor Special Inspection and Testing Activities:**

The Bureau of Building Permits and Inspections will monitor work requiring Special Inspection and Testing Activities at the jobsite to assure that the designated qualified Special Inspectors are performing their duties when work requiring Special Inspection is in progress.

3. **Review Special Inspection Progress Reports:**

The Bureau of Permits and Inspections will review the submitted Special Inspection progress reports and perform field inspections to verify conformance to the approved plans, construction documents, and specifications prior to concealing any work related to the Special Inspections

4. **Perform Final Inspection and Issue Certificate of Occupancy:**

The Bureau of Permits and Inspections will approve all site inspections as partial inspection, and will not perform a final inspection nor approve the final inspection until the final Special Inspection Report has been reviewed and approved by the office of the Commissioner of Buildings.

City of Richmond
Statement of Special Inspections
Exhibit (2)

Project Address: _____

Permit Number: _____ **Code Edition:** _____

Permit Applicant: _____

Applicant Address: _____

Architect of Record: _____

Structural Engineer of Record: _____

Geotechnical Engineer of Record: _____

Special Inspector Engineer of Record: _____

General Contractor: _____

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with Section 1704 of the **IBC 2006** as adopted by the Virginia Uniform Statewide Building Code. It includes a schedule of special inspections (Exhibit #xx) applicable to this project as well as the name of the Special Inspector, and any testing agencies retained for conducting inspections.

The Special Inspector shall keep records of all inspections and furnish all inspections reports to the code official and appropriate design professionals. Discrepancies found from the approved construction documents shall be brought to the immediate attention of the contractor for correction, the City of Richmond Code Official, as well as the appropriate design professional of record. Daily, weekly, and monthly reports shall be submitted to the Code Official as required unless otherwise agreed upon by the Building Official. A final report of special inspection shall be submitted to the City of Richmond prior to the building final inspection and issuance of certificate of occupancy.

Prepared by:

Type or print name

Signature

Date

Owner/ Representative Authorization

Building Official Acceptance

Name and signature **Date**

Name and signature **Date**

Special Inspection Daily Report

City of Richmond Bureau of Permits and Inspections

Exhibit (4)

Permit No: _____

Date: _____

Project Name and Address: _____

Inspection Type: Continuous Periodic Frequency: _____

Inspection Kind and Location: _____

Tests Performed: _____

Inspection Approved Inspection Rejected

Comments:

To the best of my knowledge, work inspected was in accordance with the Bureau of Permits Inspections approved plans, specifications, and applicable workmanship provisions of IBC 2006 Edition Except as noted above

Signed: _____ Inspection Agency: _____

Print full name: _____ Time of Inspection: _____

Completion Report for Special Inspection of a Particular Construction Item

City of Richmond Bureau of Permits and Inspections

Exhibit (5)

Permit No: _____ **Project Address:** _____

Special Inspections Engineer of Record: _____

Construction Item: _____

Pursuant to the requirements of the City of Richmond Special Inspections for construction item specified for this permit have been completed. The building elements subjected to special inspections have been found to be in compliance with project construction documents and the Virginia Uniform Statewide Building Code. All discrepancies discovered during the conduct of special inspections for this particular construction item were brought to the attention of appropriate registered design professional of record, the General Contractor, and Building Code Official for resolution and have been corrected and approved.

Submitted by Special Inspections Engineer:

Signature Date

Type or Print Name

| |
|-----------------------------|
| SIER P. E. Seal & Signature |
|-----------------------------|

Reviewed By:

Registered Design Professional of Record:

Signature Date

Type or Print Name

Building Official:

Signature Date

Type or Print Name

Structural Observation Final Completion Report

City of Richmond Bureau of Permits and Inspections

Exhibit (6)

Date: _____

Mr. Anthony G. Jones Sr.
Special Inspection Engineer II
900 East Broad Street
Richmond, VA 23219

Project Address: _____ **Permit No:** _____

In accordance with Section 1702 Of International Building Code 2006 edition, I have provided structural observation for the following items:

Based upon inspections performed and my substantiating reports, it is my professional judgment that the observed structural work was performed in accordance with the approved plans, specifications, and applicable workmanship provisions of the International Building Code 2006 edition.

Signed: _____

Type or Print Name

| |
|--|
| Stamp of Engineer/Architect of Record Performing structural observation |
|--|

Schedule of Chapter 17 Inspections

Name of Firm: _____

Date: _____

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|---|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| Site | | | | | | | | |
| Location of work per site plans | Field test and inspection | | | | | 1704.7.1 | | |
| Soil compaction | Field test and inspection – density test | | | | | 1704.7.3 | | |
| Foundation sub-grade & bearing capacity | Field test and inspection | | | | | | | |
| Fill Placement | Field test and inspection | | | | | 1704.7.2 | | |
| | | | | | | | | |
| Pile Foundations | | | | | | | | |
| 1. Verify pile materials, sizes and lengths comply with requirements and construction documents | Field inspection – per approved construction documents | | | X | | 1704.8 | | |
| 2. Determine capacities of test piles and conduct additional load tests as required | Field inspection – per approved construction documents | | | X | | 1704.8 | | |
| 3. Observe driving operations and maintain complete and accurate records for each pile | Field inspection – per approved construction documents | | | X | | 1704.8 | | |
| 4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any pile damage | Field inspection – per approved construction documents | | | X | | 1704.8 | | |
| 5. for steel piles, perform additional inspections in accordance with section 1704.3 | Field inspection – per approved construction documents | | | | | 1704.8 | | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|--|--|-----|------|--------|--------|-------------|----------------|---|
| 6. For concrete piles and concrete filled piles, perform additional inspections in accordance with section 1704.4 | Field inspection – per approved construction documents | | | | | 1704.8 | | |
| 7. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge | Field inspection – per approved construction documents | | | | | 1704.8 | | |
| 8. For augured uncased piles and caisson piles, perform inspections in accordance with section 1704.9 | Field inspection – per approved construction documents | | | | | 1704.8 | | |
| | | | | | | | | |
| Pier Foundations- concrete | | | | | | | | |
| Drilling | Observe drilling and placement | | | | | 1704.9 | | |
| Placement | Verify placement, size, location, adequate bearing | | | | | 1704.9 | | |
| Materials | Review product supplied, certifications of mix | | | | | 1704.4.1 | ACI 318 | 1904, 1905.2-1905.4, 1903.5,1907,1914.4 |
| Location of footing | Field inspection of footing | | | | | 1704.4 | | |
| Size of footing | Field inspection of footing | | | | | 1704.4 | | |
| Strength of footing PSI | Laboratory testing | | | | | 1704.4 | | |
| | | | | | | | | |
| Pier Foundations- masonry | | | | | | | | |
| Drilling | Observe drilling and placement | | | | | 1704.9 | | |
| Placement | Verify placement, size, location, adequate bearing | | | | | 1704.9 | | |
| Materials | Review products supplied versus material submitted | | | | | 1704.5 | ACI 530 | Materials |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|----------------------------|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| Acceptance test | | | | | | 1704.5 | ACI 530 | Acceptance test |
| Strength | Testing & review of strength | | | | | 1704.5 | ACI 530 | Strength |
| Reinforcing in walls | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Placement of anchors | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Mortar and grout placement | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Mortar joints | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Grout strength | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | Grout strength |
| Mortar type | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | Mortar type |
| Grade of reinforcing | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | Grade of reinforcing |
| Protection | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | Protection |
| | | | | | | | | |
| Footings/Concrete | | | | | | | | |
| Location of footing | Field inspection of footing – per approved plans? | | | | | 1704.4 | | |
| Size of footing | Field inspection of footing– per approved plans? | | | | | 1704.4 | | |
| Strength of footing PSI | Laboratory testing– per approved plans? | | | | | 1704.4 | | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|---|---|-----|------|--------|--------|-------------|--------------------------|--------------------------|
| 1. Reinforcing Steel | Filed inspection including proper size and placement | | | | X | 1704 | ACI 318 | 1913.4 |
| | | | | | | | | |
| Concrete | | | | | | | | |
| 1. Reinforcing Steel(vertical/horizontal) | Filed inspection including proper size and placement | | | | X | 1704 | ACI 318 | 1913.4 |
| 2. Reinforcing steel welding | Filed inspection for proper welding | | | | | 1704.3 | AWS D1.4; ACI 318 | |
| 3. Bolts | Field inspection prior to and during pouring | | | X | | 1704 | | 1911.5 |
| 4. Design Mix | Verify required design mix was used | | | | X | 1704 | ACI 318 | 1904.2.2, 1913.2, 1913.3 |
| 5. Samples | Take samples for strength, perform slump tests, air content tests, determine concrete temperature | | | X | | 1704 | ASTM C 172; C31; ACI 318 | 1913.10 |
| 6. Placement- concrete & shotcrete | Field inspection | | | X | | 1704 | ACI 318 | 1913.6, 1913.7, 1913.8 |
| 7. Curing | Inspect for maintenance and curing | | | X | | 1704 | ACI 318 | 1913.9 |
| 8. Prestressed: | | | | | | | | |
| a. application of prestress forces | | | | X | | 1704 | 318 | |
| b. Grouting and bonded prestressing tendons | | | | X | | 1704 | 318 | |
| 9. Erection of precast members | | | | | X | 1704 | 318 | |
| 10. Verification of in-situ concrete strength, prior to stressing tendons and prior to removal of shoring and forms | | | | | X | 1704 | 318 | |
| 11. inspect formwork for shape, location, dimensions of concrete member being | | | | | X | 1704 | 318 | |

| | | | | | | | | |
|--|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| formed | | | | | | | | |
| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
| Precast Concrete | | | | | | | | |
| Quality controls in plant | | | | | | 1704.2 | | |
| Erection and installation | | | | | | | ACI 318 | |
| | | | | | | | | |
| Walls/Masonry | | | | | | | | |
| 1. Masonry | | | | | X | 1704.5 | ACI 530 | |
| a. Proportions of site prepared mortar | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| b. Construction of mortar joints | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| c. Location of reinforcement, connectors, prestressing tendons and anchorages | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| d. Prestressing technique | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| e. Grade and size of prestressing tendons and anchorages | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| 2. Inspection shall verify: | | | | | X | 1704.5 | ACI 530 | |
| a. Size and location of structural elements | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| b. Type, size and location of anchors, including details of anchorage of masonry to structural members, frames or other construction | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|--|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| c. Specified size, grade and type of reinforcement | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| d. Welding of reinforcing bars | Field inspection – per approved construction documents | | | X | X | 1704.5 | ACI 530 | |
| e. Protection of masonry during cold weather <40 or hot weather >90. | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| f. Application and measurement of prestressing forces | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| 3. Prior to grouting, verify: | | | | | X | 1704.5 | ACI 530 | |
| a. Grout is clean | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| b. Placement of reinforcement and connectors and prestressing tendons and anchorages | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| c. Proportions of site prepared grout and prestressing grout for bonded tendons | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| d. Construction of mortar joints | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| 4. Grout placement shall be verified to ensure compliance with code and construction documents | Field inspection – per approved construction documents | | | X | | 1704.5 | ACI 530 | |
| a. Grouting of prestressing bonded tendons | Field inspection – per approved construction documents | | | X | | 1704.5 | ACI 530 | |
| 5. preparation of any required grout specimens, mortar specimens and/or prisms shall be observed | Field inspection – per approved construction documents | | | X | | 1704.5 | ACI 530 | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|---|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| 6. Compliance with required inspection provisions of the construction documents and approved submittals shall be verified | Field inspection – per approved construction documents | | | | X | 1704.5 | ACI 530 | |
| Materials | Review products supplied versus material submitted | | | | | 1704.5 | ACI 530 | |
| Acceptance test | | | | | | 1704.5 | ACI 530 | |
| Strength | Testing & review of strength | | | | | 1704.5 | ACI 530 | |
| Size of Block | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Wall height | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Location of wall | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Reinforcing in walls | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Placement of anchors | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Mortar and grout placement | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Mortar joints | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Wall bracing | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Grout strength | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Mortar type | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|-----------------------------------|--|-----|------|--------|--------|-------------|----------------|--|
| Grade of reinforcing | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| Protection | Field inspection – per approved construction documents | | | | | 1704.5 | ACI 530 | |
| | | | | | | | | |
| Slabs (ground or elevated) | | | | | | | | |
| Thickness | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1905.9,1905.10, 1914.6, 1914.7, 1914.8 |
| Rebar sizes | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1903.5, 1907, 1914.4 |
| Rebar spacing | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1903.5, 1907, 1914.4 |
| Rebar location in slab | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1903.5, 1907, 1914.4 |
| Floor penetrations | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1905.9,1905.10, 1914.6, 1914.7, 1914.8 |
| Vapor barrier and insulation | | | | | | | | |
| Sand or gravel | | | | | | | | |
| Strength of concrete | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1906.2, 1914.10 |
| Grade of rebar or reinforcing | Field inspection – per approved construction documents | | | | | 1704.4 | ACI 318 | 1903.5, 1907, 1914.4 |
| Anchorage | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|--|---|-----|------|--------|--------|-------------|----------------|-------------------------|
| Structural Steel | | | | | | | | |
| Quality control | In plant inspection | | | | | 1704.2 | | |
| 1. Bolts, nuts, washers | | | | | | | AISC 360 | |
| a. Marking | Markings meets ASTM standards | | | | X | 1704.3 | AISC 335; LRFD | |
| b. certificate of compliance | Markings versus certificate of compliance | | | | X | 1704.3 | AISC 335; LRFD | |
| 2. High strength bolting | | | | | | 1704.3 | AISC 360 M2.5 | |
| a. bearing type connections | Field inspection | | | | X | 1704.3 | AISC 360 M2.5 | |
| b. slip critical connections | Field inspection | | | X | X | 1704.3 | AISC 360 M2.5 | |
| 3. Material verification | Material markings versus certifications | | | | | 1704.3 | ASTM A6, A568 | |
| a. conforms to ASTM standards | | | | | | 1704.3 | ASTM A6; A568 | |
| b. certified mill test reports | | | | | | 1704.3 | ASTM A6; A568 | |
| 4. verification of weld filler materials | | | | | | 1704.3 | | |
| a. markings conform to AWS specification in construction documents | Field inspection | | | | | 1704.3 | AISC 360 | |
| b. manufacturer's certificate of compliance | Field inspection | | | | | 1704.3 | | |
| 5. Inspection of welding | | | | | | | | |
| a. structural steel | | | | | | | | |
| 1. penetrations of welds | | | | X | | 1704.3.1 | AWS D1.1 | |
| 2. multipass fillet welds | | | | X | | 1704.3.1 | AWS D1.1 | |
| 3. Single pass welds >5/16" | | | | X | | 1704.3.1 | AWS D1.1 | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|--|--|-----|------|--------|--------|-------------|-------------------------|-------------------------|
| 4. Single pass welds <5/16 | | | | | X | 1704.3.1 | AWS D1.1 | |
| 5. Floor & roof deck welds | | | | | X | 1704.3.1 | AWS D1.3 | |
| b. Reinforcing Steel | | | | | | | | |
| 1. verification of weldability | | | | | X | | AWS D1.4; ACI 318:3.5.2 | |
| 2. Flexural & axial forces | | | | | | | AWS D1.4; ACI 318:3.5.2 | |
| 3. shear reinforcement | | | | X | | | AWS D1.4; ACI 318:3.5.2 | |
| 4. Other reinforcement | | | | | X | | AWS D1.4; ACI 318:3.5.2 | |
| 6. Steel Frame Joint inspections | | | | | | | | |
| a. bracing & stiffening | | | | | X | 1704.3.2 | | |
| b. member locations | | | | | X | | | |
| c. joint details at connections | | | | | X | | | |
| Structural steel - installation | Field inspection – per approved construction documents | | | | | 1704.3 | ASTM A6, A568 | |
| Structural steel – size of each member | Field inspection – per approved construction documents | | | | | 1704.3 | ASTM A6, A568 | |
| Location of members | Field inspection – per approved construction documents | | | | | 1704.3 | ASTM A6, A568 | |
| Bearing of members | Field inspection – per approved construction documents | | | | | 1704.3 | ASTM A6, A568 | |
| | | | | | | | | |
| Bolts, nuts, washers - installation | In place inspections | | | | | 1704.3 | AISC 335; LRFD | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|---------------------------------------|--|-----|------|--------|--------|-------------|----------------|-------------------------|
| Torque of bolts | Field verify | | | | | 1704.3 | AISC 335; LRFD | |
| Connections | Field verify | | | | | 1704.3 | AISC 335; LRFD | |
| Structural details | Inspection in field | | | | | 1704.3.2 | | |
| | | | | | | | | |
| Wood | | | | | | | | |
| Fabrication/quality control | Review submittals and installation | | | | | 1704.6 | | |
| High load diaphragms | Inspection of sheathing, framing size, nail and staple size, number of fasteners, and spacing of fasteners | | | | | 1704.6.1 | | |
| Structural wood | | | | | | 1704.5 | | |
| Fire resistive wood | | | | | | | | |
| | | | | | | | | |
| Fire Resistance | | | | | | | | |
| Spray on materials | Review surface conditions, applications, thickness | | | | | 1704.10 | | |
| Fire resistant coatings | Review surface conditions, applications, thickness | | | | | 1704.11 | | |
| | | | | | | | | |
| Exterior Insulation and Finish | Review applications | | | | | 1704.12 | | |
| | | | | | | | | |
| Special Cases | Review surface preparations and applications | | | | | 1704.13 | | |

| Work Type | Description | y/n | Firm | Contin | Period | IBC Section | Other Standard | Non Chapter 17 sections |
|---------------------------|----------------------|-----|------|--------|--------|-------------|----------------|-------------------------|
| | | | | | | | | |
| Smoke Control | | | | | | | | |
| Duct testing for leaks | Prior to concealment | | | | | 1704.14 | | |
| Pressure and flow testing | Prior to completion | | | | | 1704.14 | | |
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| Firm No. | Firm Name | Telephone Number | Contact name | Email |
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