

# Special Inspections Manual

Department of Planning and Development Review Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219 (804) 646-4169

Revised 02-28-2023



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### **Special Inspection Manual**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

https://www.rva.gov/planning-development-review/permits-and-inspections

Email: PDRPermitsAndInspections@rva.gov

#### **Introduction:**

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 2018 International Building Code, as adopted by the State of Virginia Uniform Statewide Building Code.

Chapter 17 of the 2018 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 inspections are required by VCC 2018 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 VCC. 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.

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#### **Preconstruction Meeting / Special Inspection Meeting**

Prior to the issuance of a building permit, a special inspection meeting shall be held with the staff of the Bureau of Permits and Inspections. The City of Richmond Senior Engineer shall inform the Registered Design Professional in responsible charge of the project, owner or owner agent to contact the City of Richmond's Permit Architect – Special Inspections, to schedule the meeting time and location. The following are required to attend this meeting.

- 1. The Building Official or the officials representative, 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.

#### **Definitions and Purpose**

#### 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.

#### **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 employment 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.

#### **Duties and Responsibilities of the Engineer of Record (SER)**

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.

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#### 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 2018 VCC chapter 17. 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 special inspection completion report package

The engineer of record shall submit an overall final complete special inspection package (include <u>all</u> inspection reports & pictures etc.; all exhibits) 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. Final special inspection completion report package shall also include (EXHIBIT 3; 4; 5; 6 & 7 + 1; 2 & Schedule of Chapter 17 Inspections).

#### 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. In addition to structural observations per section 1704.6 of VCC, SER periodically (especially prior to concealment) to make visual observations of structural components, to ensure design intend has been met (i.e.: structural steel; structural wood etc...). 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.

#### **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:

#### a. 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 to observe construction operations that require continuous or periodic inspections as per tables 1705.2.3, 1705.3, 1705.6, 1705.7 and 1705.8 of VCC 2018 edition. Work shall be inspected according to the approved construction documents, listed standards and nationally recognized testing methods.

#### b. 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 nonconforming 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 exhibit 4. 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 are to be emailed to the Bureau of Permits and Inspections office, attn.: Permit Architect – Special Inspections. Permit BLDC# & project address should be noted.

#### c. 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 submit final special inspection completion report package (EXHIBIT 3; 4; 5; 6 & 7 + 1; 2 & Schedule of Chapter 17 Inspections).

This report shall be submitted no later than 30 days prior to application for a Certificate of Occupancy or Temporary Certificate of Occupancy. Click below for the Certificate of Occupancy application:

**Certificate of Occupancy Application** 

#### **Duties and Responsibilities of the Contractor:**

1. Agree and sign the Special Inspection and Testing Agreement – Exhibit 1, 2 & 3

#### 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

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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. Email Exhibit 3, shortly after permit is issued, to Special Inspection Manager at the City of Richmond w/ Construction Schedule.

#### 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.

#### **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:

- a. 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.
- b. Check that all parties involved in the Special Inspection Program have completed their portion of the Special Inspection and Testing Agreement.
- c. 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.
- d. 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 Permit Architect may 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 Permit Architect and Senior Building Inspector will review the submitted Special Inspection progress reports and perform field inspections, as/if necessary, 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.



# **Exhibit (1): Special Inspections – Acknowledgements**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Project Address:	Plan Number:		
I have read and agree to comply with Inspection and Testing Agreement:	n the terms, conditions, and my	responsibilities as they are outli	ned in the Special
Owner:			
Print Name/Company Name	Provide Signature	Date	
Register Design Professional in	Responsible Charge (Projection)	ct Engineer or Architect of	Record):
Print Name/Company Name	Provide Signature	Date	
Register Design Professional St	ructural Engineer (SER):		
Print Name/Company Name	Provide Signature	Date	
Register Design Professional St	ructural Engineer (SER):		
Print Name/Company Name	Provide Signature	Date	
Register Design Professional St	ructural Engineer (SER):	*	
Print Name/Company Name	Provide Signature	Date	Agent #
Print Name/Company Name	Provide Signature	Date	Agent #
Print Name/Company Name	Provide Signature	* Date	Agent #
*This signature must be	that of the responsible Professional Eng	gineer withing the Special Inspection A	gency
Accepto	ed By the City of Richmond Bureau o	of Permits and Inspections	
Print Plan Reviewer Nan	ne I	Provide Signature	Date
Print Name Permit Architect – Special Inspections (Cit		Provide Signature	Date



# **Exhibit (2): Statement of Special Inspections**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Project Address:		
Plan Number:	Code Edition:	
Permit Applicant:		
Applicant Address:		
Special Inspector's Engineer of Record (SIER):		
IBC 2018 as adopted by the Virginia Uniform	ed as a condition for permit issuance in accordance. Statewide Building Code. It includes a schedules the name of the Special Inspector, and any testi	e of special inspections
appropriate design professionals. Discrepancies immediate attention of the contractor for correcti professional of record. Daily, weekly, and monotherwise agreed upon by the Building Official	inspections and furnish all inspections reports to found from the approved construction documents on, the City of Richmond Code Official, as well anothly reports shall be submitted to the Code Official. A final report of special inspection shall be submitted to the Code Official. TCO and/or final inspection and issuance of	s shall be brought to the as the appropriate design ficial as required unless submitted to the City of
Prepared by:		
Type or Print Name	Provide Signature	Date
Owner/Representative Authorization:		
Type or Print Name	Provide Signature	Date
Owner/Representative Authorization:		
Type or Print Name	Provide Signature	Date
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# **Exhibit (3): Schedule of Special Inspections**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Project Address:		
Permit Number:		Date Received:
Project Name:		Meeting Date:
Special Inspection First Site Meeting:	☐ Architect ☐ General Co☐ Special Inspection Engineer	
Notes:		
☐ Construction Schedule attache☐ Exhibit #3 emailed to City of I	ed Special Inspection Binder values of 1st Special Special Inspection Binder values of 1st Binder val	with Stamped Permit Drawings on Site pecial Inspection Meeting on Site
		neer of record, City Of Richmond will be notified
•	1 2	ions, and our responsibilities as they are outlined in City of Richmond with above checked items.
Architect:		
Print Name	Provide Signature	Email Address / Phone Number
General Contractor:		
Print Name	Provide Signature	Email Address / Phone Number
Superintendent:		
Print Name	Provide Signature	Email Address / Phone Number
Special Inspection Engineer of Ro	ecord:	
Print Name	Provide Signature	Email Address / Phone Number
Structural Engineer of Record:		
Print Name	Provide Signature	Email Address / Phone Number



# **Exhibit (4): Special Inspection Daily Report**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Project Address:	
Permit Number:	
Project Name:	
Inspection Type:	Frequency:
Inspection Kind and Location:	
Tests Performed:	
☐ Inspection Approved ☐ Inspection Rejected ☐ Re	eiected Inspection Approved on:
Comments:	
To the best of my knowledge, work inspected was in accorplans, specifications, and applicable workmanship provisions.	
Signed:	Inspection Agency:
Print Full Name:	Time of Inspection:



# **Exhibit (5): Completion Report for Special Inspection of a Particular Construction Item**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Permit Number:		Project Address:	
Special Inspector's Engineer of Reco	ord (SIER):		
Construction Item:			
have been completed. The building project construction documents and the conduct of special inspections for	elements subjected the Virginia Unifor this particular cons	I Special Inspections for construction item specified to special inspections have been found to be in corm Statewide Building Code. All discrepancies distruction item were brought to the attention of approand Building Code Official for resolution and have	ompliance with scovered during priate registered
Submitted by Special Inspections	Engineer:	SIER P.E. Seal and Signature	2
Signature	Date		
Type or Print Na	me		
Review By			
Structural Engineer of Record (SI	ER):	<b>Building Official:</b>	
Signature	Date	Signature	Date
Type or Print Na	me	Type or Print Name	



## **Exhibit (6): Structural Observation Final Completion Report**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

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Permit Number:	Project	Address:	
provided structural observation for	the items listed below. In a visual observations of structu	018 edition, I [Structural Engineer of Record addition to structural observations per sectional components, to ensure design intend wood etc)	on 1704.6 of
Submitted by Structural Engineer	r of Record performing stru	actural observation:	
		SER P.E. Seal and Signature	
Signature	Date		
Type or Print Na	ame		



# **Exhibit (7): Final Report of Special Inspections**

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

Permit Number:	Project A	ddress:		
Special Inspections Engineer of Recor	rd:			
Pursuant to the requirements of the Cilisted above for approval. Inspection submitted and reviewed prior to the this report.	on Report numbered	l to	, and test Report number	r, all
The special inspections relative to t special inspections have been fou conformance with project specifica for this permit were brought to the Contractor, and Building Code Off	nd to be in complations. All discrepar attention of approp	iance with th ncies discover riate registere	e approved construction of sed during the conduct of sed design professional of re	documents and in special inspections
Submitted by Special Inspections En	ngineer of Record:		SER P.E. Seal and Signa	ature
Signature	Date			
Type or Print Name	e			
Reviewed by: Structural Engineer of Record:		Accepted by Building O		
Signature	Date		Signature	Date



# Virginia Construction Code: Schedule of Chapter 17 Inspections

Department of Planning & Development Review, Bureau of Permits and Inspections 900 East Broad Street, Room 108 Richmond, Virginia 23219

Office: (804) 646-4169

https://www.rva.gov/planning-development-review/permits-and-inspections

#### From 2018 IBC -- Adopted by Virginia Uniform Statewide Building Code

Name of SER Firm/ PE:	Date:
Project Address:	Permit Number:

Make sure to Check the box Under the "Yes?" column if an inspection is required.

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Soils see table 1705.6								
1. Verify material below shallow foundations are adequate to achieve the design bearing capacity.					X	1705.6		
2.Verify excavations are extended to proper depth and have reached proper material					X	1705.6		
3.Perform classification and testing of compacted fill material					X	1705.6		
4. Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.				Х		1705.6		
5.Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly					X	1705.6		

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Structural Steel								
Quality control	In plant inspection					1705.2	AISC 360	
1. Bolts, nuts, washers	Markings meets ASTM standards					1705.2	AISC 360-10	
a. Marking	Markings versus certificate of compliance				X	1705.2	AISC 335; LRFD	
b. certificate of compliance					X	1705.2	AISC 335; LRFD	
2. High strength bolting	Field inspection					1705.2	AISC 360 M2.5	
a. bearing type connections	Field inspection				X	1705.2	AISC 360 M2.5	
b. slip critical connections	Field inspection				X	1705.2	AISC 360 M2.5	
3. Material verification	Material markings versus certifications					1705.2	ASTM A6, A568	
a. conforms to ASTM standards						1705.2	ASTM A6, A568	
b. certified mill test reports						1705.2	ASTM A6, A568	
4. Verification of weld filler materials						1705.2		
a. markings conform to AWS specification in construction documents	Field inspection					1705.2	AISC 360	
b. manufacturer's certificate of compliance						1705.2.1		
5. Inspection of welding	Field inspection					1705.2		
a. structural steel						1705.2		
1. penetrations of welds				X		1705.2.1	AWS D1.1	
2. multi-pass fillet welds				X		1705.2	AWS D1.1	
3. Single pass welds >5/16"				X		1705.2	AWS D1.1	
4. Single pass welds <5/16					X	1705.2	AWS D1.1	
5. Floor & roof deck welds					X	1705.2	AWS D1.3	

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
b. Reinforcing Steel						1705.2		
1. verification of weldability					X	1704.5 item6	AWS D1.4; ACI 318:26.6.4	
2. Flexural & axial forces						1705.2	AWS D1.4; ACI 318:3.5.2	
3. shear reinforcement				X		1705.2	AWS D1.4; ACI 318:3.5.2	
4. Other reinforcement					X	1705.2	AWS D1.4; ACI 318:3.5.2	
6. Steel Frame Joint inspections						1705.2.1		
a. bracing & stiffening						1705.2		
b. member locations						1705.2		
c. joint details at connections					X	1705.2		
Structural steel - installation					X	1705.2.1	ASTM A6, A568	
Structural steel – size of each member					X	1705.2.1	ASTM A6, A568	
Location of members	Field inspection – per approved construction documents				X	1705.2.1	ASTM A6, A568	
Bearing of members	Field inspection – per approved construction documents				X	1705.2.1	ASTM A6, A568	
Bolts, nuts, washers - installation	In place inspections				X	1705.2.1	AISC 335; LRFD	
Torque of bolts	Field verify				X	1705.2.1	AISC 335; LRFD	
Connections	Field verify				X	1705.2.1	AISC 335; LRFD	
Structural details	Inspection in field				X	1705.2.1		

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
<b>Deep Driven Foundation</b> see table 1705.7								
Verify pile materials, sizes and lengths comply with requirements and construction documents	Field inspection – per approved construction documents				X	1705.7		
2. Determine capacities of test piles and conduct additional load tests as required	Field inspection – per approved construction documents				X	1705.7		
Observe driving operations and maintain complete and accurate records for each pile	Field inspection – per approved construction documents				X	1705.7		
4. Verify placement locations and plumbing 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		1705.7		
5. for steel piles, perform additional inspections in accordance with section 1705.2	Field inspection – per approved construction documents					1705.7		
6. For concrete piles and concrete filled piles, perform additional inspections in accordance with section 1705.3	Field inspection – per approved construction documents					1705.7		
7. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge	Field inspection – per approved construction documents					1705.7		
Pier and Curtain Wall Foundations see 1809.10								
Drilling	Observe drilling and placement							1809.10
Placement	Verify placement, size, location, adequate bearing							1809.10
Materials	For concrete elements, perform additional inspections in accordance with section 1705.3.						ACI 318	1809.10

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Masonry see 1705.4								
Drilling	Observe drilling and placement					1705.4		
Placement	Verify placement, size, location, adequate bearing					1705.4		
Materials	Review products supplied versus material submitted				X	1705.4	ACI 318	
Acceptance test					X	1705.4	ACI 530	
Strength	Testing & review of strength				X	1705.4	ACI 530	2105.2.1 2105.2.2
Reinforcing in walls	Field inspection – per approved construction documents				X	1705.4	ACI 318:3.5,7.1-7.7	1910.4
Placement of anchors	Field inspection – per approved				X	1705.4	ACI 318:8.1.3,21.2.8	1908.5 1909.1
Mortar and grout placement	construction documents				X	1705.4	ASTM C 270	2103.9
Mortar joints	Field inspection – per approved				X	1705.4	ACI 530	
Grout strength	construction documents				X	1705.4	ASTM C 476	2103.13
Mortar type	Field inspection – per approved				X	1705.4	ASTM C 270	2103.9
Grade of reinforcing	construction documents				X	1705.4	ACI 530	
Cold weather construction	Field inspection – per approved				X	1705.4	ACI 530	2104.3
Shallow Foundation section 1809								
Location of footing	Field inspection of footing – per approved plans?							1809.6
Depth and Width of Footing	Field inspection of footing– per Approved plans?							1809.4

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Strength of footing PSI	Laboratory testing- per approved plans?							
Stepped Footing	Field inspection of footing							1809.3
Frost protection	Field inspection of footing							1809.5
Prescriptive Footing for Light –frame construction	Field inspection of footing							1809.7
Plain Concrete Footing	Field inspection of footing							1809.8
Concrete Construction see Table 1705.3								
Inspection of reinforcing steel, including pre-stressing tendons, and placement.	Field inspection including proper size and placement				X	1705.3	ACI 318:3.5 7.1-7.7	1910.4
2. Reinforcing steel welding						1705.2.2 item 2b	AWS D1.4 ACI318:3.5.2	
3.Inspection of anchors cast-in concrete where allowable loads have been increased or where strength design is used						1705.3	ACI 318: 8.1.8,21.2.8	1908.5 1909.1
4.Inspection of anchors post-installed in hardened concrete members					X	1705.3	ACI 318: 3.8.6, 8.1.8,21.2.8	1909.1
5. Verifying use of required design mix					X	1705.3	ACI 318: CH 4,5.2-5.4	1904.2 1910.2 1910.3
6.At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete					X	1705.3	ASTM C 172 ASTM C 31 ACI 318:5.6,5.8	1910.10
7. Inspection of concrete and shotcrete placement for proper application techniques.				X		1705.3	ACI 318:5.9,5.10	1910.6 1910.7 1910.8
8. Inspection for maintenance of specified curing temperature and techniques.					X	1705.3	ACI 318: 5.11- 5.13	1910.9
9.Inspection of pre-stressed concrete						1705.3		

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Application of pre-stressed forces				X		1705.3	ACI 318:18.20 ACI 318:18.18.4	
Grouting of bonded pre-stressed tendons in the seismic-force resisting system				X		1705.3	ACI 318:18.20 ACI 318:18.18.4	
10.Erection of precast concrete members						1705.3	ACI 318: CH16	
11. Verification of in-situ concrete strength prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs					X	1705.3	ACI 318:6.2	
12.Inspect formwork for shape location and dimensions of the concrete member being formed, shoring and reshoring					X	1705.3 VCC	ACI 318:6.1.1	
Cast- In-Place Deep Foundation Elements Verification/Inspection see table 1705.8								
Observe drilling operations and maintain complete and accurate records for each element.			X			1705.8		
2. Verify placement locations and plumpness confirm element diameters, bell diameters (if applicable) lengths embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes			X			1705.8		
3.For concrete elements perform additional inspections in accordance with section 1705.3						1705.3		
Helical Piers				X		1705.9		
Slabs (ground or elevated)								
Thickness	Field inspection – per approved construction documents					1705.3		Section 1910
Rebar sizes	Field inspection – per approved construction documents					1705.3		

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Rebar spacing	Field inspection – per approved construction documents					1705.2.2.1.2	AWS D1.4 ACI 318	
Rebar location in slab	Field inspection – per approved construction documents					1705.2.2.1.2	ACI 318	
Floor penetrations	Field inspection – per approved construction documents					1705.2.2.1.2		Section 714
STEEL Construction see Table 1705.2.2								
Material verification of cold-formed steel deck:					Х	1705.2.2		
a. Marking					X	1705.2.2	Applicable ASTM material standards	
b. certificate of compliance					X	1705.2.2		
2. Inspection of Welding:					Х	1705.2.2		
a. Cold-formed steel deck						1705.2.2		
1.)Floor and roof deck welds					Х	1705.2.2	AWS D1.3	
b. Reinforcing steel:						1705.2.2		
1.)Verification of weldability of reinforcing steel other than ASTM A 706					Х	1705.2.2	AWS D1.4 ACI 318: 3.5.2	
2.)Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames and boundary elements of special structural walls of concrete and shear reinforcement	Markings meets ASTM standards			X		1705.2.2	AWS D1.4 ACI 318: 3.5.2	
3.) Shear reinforcement	Markings versus certificate of compliance			x		1705.2.2	AWS D1.4 ACI 318: 3.5.2	
4.) Other reinforcing steel	Field inspection				X	1705.2.2	AWS D1.4 ACI 318: 3.5.2	

Work Type	Description	Yes?	Firm	Continuous	Periodic	Chapter 17	Other Standard	Non Chapter 17
Wood								
Fabrication/quality control	Review submittals and installation					1704.2.5		
High load diaphragms	Inspection of sheathing, framing size nail and staple size, number of fasteners, and spacing of fasteners					1705.5.1		
Structural wood						1705.5 1705.11.1		
Fire resistive wood								2303.2
Fire resistive wood marking	Paint once on site on the sides so that it can be identified when cut and MFG markings aren't visible					1703.5		2303.1.8.1
Fire Resistance								
Spray on materials	Review surface conditions, applications, thickness				Х	1705.13		722.5.2.2 722.5.1.3
Fire resistant coatings	Review surface conditions, applications, thickness				X	1704.11 1705.13.4		
Thermal and Sound -Insulating	Review applications							Section 720
Special Cases	Review surface preparations and applications					1705.1.1		
Smoke Control See section 909						1705.18		
Duct testing for leaks	Prior to concealment							909.5.2
Pressure and flow testing	Prior to completion							906.6,909.6.1,909. 6.2

#### **Links to Other Forms and Applications**

**Application for Permit Extension** 

**Building and Trade Permit Fees** 

**Certificate of Occupancy Application** 

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