

Statement of Special Inspections

CNI-033

Name of Owner

Address

Permit Number

Job Description

This Statement of Special Inspections is submitted to outline the requirements of **2013** CBC Chapter 17. Included are:

- Schedule of special inspections and tests applicable to this project:
 - Special inspections, per Section 1704 & 1705
 - Special inspection for seismic resistance, per Sections 1704.3.2, 1705.11, 1705.12
 - Structural observations, per Section 1704.5
 - Material testing and/or load testing, per Sections 1706 through 1711
- List of the special inspectors, testing agencies, and registered design professionals that will be retained to conduct the applicable tests, observations, and testing required.
- Contractor's statement of responsibility, per Section 1704.4

Special inspections and testing, and structural observations, shall be performed in accordance with the approved plans and specifications, this statement, approved testing procedures, applicable listing information for fabricated items, and CBC Section 17.

The Schedule of Special Inspections summarizes the special inspections and tests required. Special inspectors shall refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests or observations required by the approved plans, specifications, or required by the building official shall also be performed.

Interim reports will be submitted to the building official and the registered design professional in responsible charge, in accordance with CBC Section 1704.2.4.

At the conclusion of work included in the permit, a report of special inspections and structural observations shall be submitted to the building inspector. This final report shall document:

- Required special inspections
- Final results of structural testing
- Correction of discrepancies noted in inspections
- Written statement of structural observations, and identify any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved

This plan has been developed with the understanding that the building official shall:

- Review and approve the qualifications of special inspectors who shall perform required inspections
- Review submitted inspection reports
- Perform inspections as required by the locally adopted building codes

Prepared by:

Registered Design Professional in Responsible Charge

License Number

Signature

Date

Owner's Authorization:

Building official's acceptance:

Owner

Building official

Signature

Date

Signature

Date

Schedule of Inspections, Testing Agencies, and Inspectors

The following are the testing agencies, registered design professionals, and special inspectors that will be retained to conduct tests, inspections, and structural observations for this project:

Responsibility	Firm	Address, telephone, e-mail
1. Special Inspection (Except for Geotechnical)		
2. Material Testing		
3. Geotechnical Inspections		
4. Structural Observations		

Seismic Requirements (Section 1704.3.2):

Identify the designated seismic systems and seismic-force-resisting systems subject to special inspections, per CBC Sections 1705.11. Identify any required testing and qualification for seismic resistance per CBC Section 1705.12.

Summary of Required Special Inspections, Structural Testing, and Structural Observations:

Brief description of required special inspections and structural observations for this project. Full schedule of inspections are those that are checked off on the following pages. Include additional sheets as necessary to identify frequency and extent of structural observations.

SPECIAL INSPECTION	STRUCTURAL OBSERVATION

Schedule of Special Inspections

Column headers:

- C = Full-time observation of work by an approved special inspector while the work is being performed.
- P = Intermittent observation of work by an approved special inspector where the work has been performed and at the completion of work.

Box entries:

- X = Is placed in the appropriate column denoting either "C" continuous or "P" periodic inspections.
- = Denotes an activity that is either a one-time activity or whose frequency is defined in some other manner.

Notes/Referenced Standards: Indicates the applicable reference standard applicable to the criteria, method and frequency of the special inspection or testing required. Additional notes may be included in this box denoting frequency of inspections or the special inspection agency responsible for the particular inspection item.

Additional details regarding inspections and tests are provided in the project specifications or notes on the drawings.

Verification and Inspection	C	P	✓ if Req'd	Notes/ Referenced Standards
1704.2.5 – Inspection of Fabricators:				
1. Fabrication and implementation procedures	--	--		
2. Fabricator approval	--	--		
1704.5 – Structural Observations				
1. Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations	--	--		
2. At the conclusion of work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which have not been resolved	--	--		
1705.1.1 – Special Cases:				
1. Construction materials and systems that are alternatives to materials and systems prescribed by the applicable code	--	--		
2. Unusual design applications of materials described in the applicable code	--	--		
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the applicable code or referenced standards	--	--		List code reports (attached to construction documents) for each applicable material/system.
1705.2.1 – Steel Construction, Quality Assurance per AISC 360				
1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, chapter N, paragraph 3.2 for compliance with construction documents. Includes structural steel, castings, forgings, fasteners, rods, welding, anchors, braces, stiffeners, member locations, joint details, etc.)	--	--		AISC 360: N3.2, N5.7
2. Identification markings for structural steel materials conform to ASTM standards specified in the approved construction documents (e.g. structural shapes, castings, forgings, bolts, washers, nuts, rods, consumables for welding, anchors, etc.)		X		AISC 360: A3
3. Embedments (Verify diameter, grade, type, length, and depth of embedded item)		X		AISC 360: N5.7
4. Verify compliance with details on the construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.		X		AISC 360: N5.7

5. Structural Steel Welding:			
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1).	Random Basis (O) or Each Joint or Member (P) per applicable table.		See form CNI-033A Statement of Special Inspections Steel Appendix.
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2).			
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3).			
d. Nondestructive Testing (NDT) of welded joints:			AISC 360: N5.5
1) Complete penetration groove welds 5/16" or greater in risk category III or IV.		X	N5.5b
2) Complete penetration groove welds 5/16" or greater in risk category II.		X	N5.5b
3) Thermally cut surfaces of access holes when material t > 2".		X	N5.5c
4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1.		X	N5.5d
5) Fabricator's NDT reports when fabricator performs NDT.		X	N5.5g
6. Inspection of High-Strength Bolting			
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1).	Random Basis (O) or Each Joint or Member (P) per applicable table.		See N5.6 for exceptions based on installation method.
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2).			
1) Pre-tensioned and slip-critical joints.			See form CNI-033A Statement of Special Inspections Steel Appendix.
2) Snug-tight joints			
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3).			
7. Inspection of steel elements of composite construction prior to concrete placement in accordance with QA tasks listed in AISC 360: Table N6.1.	-----		AISC 360: N6, Table N6.1. Perform these tasks for each steel element.
Table 1705.2.2 – Steel Construction other than Structural Steel			
1. Material verification of cold-formed steel deck:			
a. Identification markings to conform to ASTM standards specified in the approved construction documents.		X	Applicable ASTM material standards
b. Manufacturer's certified test reports		X	
2. Inspection of welding:			
a. Cold-formed steel deck: Floor and roof deck welds		X	AWS D1.3
b. Reinforcing Steel:			AWS D1.4, ACI 318: Section 3.5.2
1) Verification of weldability of reinforcing steel other than ASTM A 706.		X	
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.	X		
3) Shear reinforcement.	X		
4) Other reinforcing steel		X	
3. Cold-formed steel trusses spanning 60 feet or greater		X	CBC 1705.2.2.2

Table 1705.3 – Concrete Construction			
1. Inspection of reinforcing steel, including prestressing tendons, and placement.		X	ACI 318: 3.5, 7.1-7.7 CBC 1910.4
2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2 Item 2b.	--	--	AWS D1.4 ACI 318: 3.5.2
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.		X	ACI 318: 3.8.6, 8.1.3, 21.2.8 CBC 1908.5, 1909.1
4. Inspection of anchors post-installed in hardened concrete members ¹ .		X	ACI 318: 3.8.6, 8.1.3, 21.2.8 CBC 1912.1
5. Verify use of required design mix		X	ACI 318: Ch.4, 5.2-5.4 CBC 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		ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8 CBC 1910.10
7. Inspection of concrete and shotcrete placement for proper application techniques	X		ACI 318: 5.9, 5.10 CBC 1910.6, 1910.7, 1910.8
8. Inspection for maintenance of specified curing temperature and techniques		X	ACI 318: 5.11-5.13 CBC 1910.9
9. Inspection of prestressed concrete:			
a. Application of prestressing forces	X		ACI318: 18.20 ACI 318:18.18.4
b. Grouting of bonded prestressing tendons in the seismic-force-resisting system	X		
10. Erection of precast concrete members		X	ACI 318: Ch. 16
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs		X	ACI 318: 6.2
12. Inspect formwork for shape, location and dimensions of the concrete member being formed		X	ACI 318: 6.1.1
1705.4 – Masonry construction			TMS 602/ACI 530.1/ASCE 6, Table 1.19.2 Level B Quality Assurance
1. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified		X	Art.1.5
2. Verification of f'_m and f'_{AAC} prior to construction except where specifically exempted by this code		X	Art.1.4B
3. Verification of slump flow and VSI as delivered to the site for self-consolidating grout	X		Art.1.5B.1.b.3
4. As masonry construction begins, the following shall be verified to ensure compliance:			
a. Proportions of site-prepared mortar		X	Art.2.6A
b. Construction of mortar joints		X	Art.3.3B
c. Grade and size of prestressing tendons and anchorages		X	Art.3.4, 3.6A
d. Location of reinforcement, connectors, prestressing tendons and anchorages		X	Art.3.6B
e. Prestressing technique		X	Art.2.4B, 2.4H

¹ Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

f. Properties of thin-bed mortar for AAC masonry	X	X		Art. 2.1C Continuous inspection required for first 5000sf of AAC masonry. Periodic inspection required after first 5000sf.
5. Prior to grouting, verify that the following are in compliance:				
a. Grout space		X		Art. 3.2D, 3.2F
b. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages		X		Art. 2.4, 3.4 & TMS402/ACI530/ASCE5 Sec. 1.16
c. Placement of reinforcement and connectors and prestressing tendons and anchorages.		X		Art. 3.2E, 3.4, 3.6A & TMS402/ACI530/ASCE5 Sec. 1.16
d. Proportions of site-prepared grout and prestressing grout for bonded tendons.		X		Art. 2.6B, 2.4G.1.b
e. Construction of mortar joints		X		Art. 3.3B
6. Verify during construction:				
a. Size and location of structural elements		X		Art.3.3F
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction		X		ACI530 Sec. 1.16.4.3, 1.17.1
c. Welding of reinforcement	X			TMS402/ACI530/ASCE5 Sec. 2.1.7.7.2, 3.3.3.4(c), 8.3.3.4(b)
d. Preparation, construction and protection of masonry during cold weather (temp. below 40°F) or hot weather (temp. above 90°F)		X		Art.1.8C, 1.8D
e. Application and measurement of prestressing force	X			Art.3.6B
f. Placement of grout and prestressing grout for bonded tendons is in compliance	X			Art. 3.5, 3.6C
g. Placement of AAC masonry units and construction of thin-bed mortar joints	X	X		Art. 3.3B.8 Continuous inspection required for first 5000sf of AAC masonry. Periodic inspection required after first 5000sf.
7. Observe preparation of grout specimens, mortar specimens, and/or prisms		X		Art. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.3, 1.4B.4
8. Risk Category IV Engineered Masonry Structures shall have special inspections per TMS402/ACI530/ASCE5 Table 1.19.3 – Level C Quality Assurance (QA) . Empirically designed masonry structures shall comply with Level B QA	--	--		TMS402/ACI530/ASCE5 Sec. 1.19, CBC 1705.4.1
9. Vertical masonry foundation elements: Inspections shall be performed in accordance with Section 1705.4 for vertical masonry foundation elements	--	--		
1705.5 – Wood Construction				
1. Inspect prefabricated wood structural elements and assemblies in accordance with Section 1704.2.5	--	--		
2. Inspect site built assemblies.				
a. High Load Diaphragms: Verify grade and thickness of structural panel and sheathing, framing members at adjoining edges, nails/staple diameter and length, number of fastener lines, and spacing between fasteners in each line and at edge margins.		X		

b. Metal-plate-connected wood trusses spanning more than 60 feet: Verify that temporary installation restraint bracing and the permanent individual truss member restraint bracing are installed in accordance with the approved truss submittal package.		X		
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Table 1705.6 – Verification and Inspection of Soils

1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity		X		
2. Verify excavations are extended to proper depth and have reached proper material		X		
3. Perform classification and testing of compacted fill materials		X		
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	X			
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly		X		

Table 1705.7 – Verification and Inspection of Driven Deep Foundation Elements

1. Verify element materials, sizes and lengths comply with the requirements	X			
2. Determine capacities of test elements and conduct additional load tests, as required	X			
3. Observe driving operations and maintain complete and accurate records for each element	X			
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 damage to foundation element	X			
5. For steel elements, perform additional inspections in accordance with Section 1705.2	--	--		
6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3	--	--		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	--	--		

Table 1705.8 – Verification and Inspection of Cast-in-place Deep Foundation Elements

1. Observe drilling operations and maintain complete and accurate records for each element	X			
2. Verify placement locations and plumbness, confirm element diameters, bell diameters, lengths, embedment into bedrock and adequate end-bearing strata capacity. Record concrete or grout volumes	X			
3. For concrete elements, perform additional inspections in accordance with Section 1705.3	--	--		

1705.9 – Helical Pile Foundations

1. Record installation equipment used, pile dimensions, tip elevations, final depth, final installation torque, and other pertinent data as required.	X			
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1705.10 – Verification and Inspection for Wind Resistance (N/A in Sonoma County)				
1705.11 – Verification and Inspection for Seismic Resistance				
1. Structural Steel: Inspection in accordance with AISC 341- Welding, Nondestructive Testing, High-strength bolting, Composite Structures, Piling, Etc.	See form CNI-033A Statement of Special Inspections Steel Appendix			CBC 1705.11.1, AISC 341: Chapter J Quality Control and Quality Assurance
2. Structural Wood:				CBC 1705.11.2
a. Inspection of field gluing operations of elements of the seismic-force resisting system.	X			
b. Nailing, bolting, fastening, and other fastening of components within the seismic-force-resisting system, where the fastener spacing of the sheathing is 4 inches or less on center.		X		
3. Cold-formed Steel Light-Frame Construction:				CBC 1705.11.3
a. Inspection during welding operations of elements of the seismic-force-resisting system.		X		
b. Screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system where the sheathing is wood structural panels or steel sheets with fastener spacing is 4 inches or less on center		X		
4. Designated Seismic Systems Verification for Nonstructural Components: Inspect and verify that that the component label, anchorage or mounting conforms to the certificate of compliance in accordance with Section 1705.12.3.		X		CBC 1705.11.4 ASCE 11.2, Chapter 13
5. Architectural Components: Erection and fastening of exterior cladding (more than 5 psf), interior (more than 15 psf) and exterior nonbearing walls, and interior and exterior veneer (more than 30 feet in height and more than 5 psf). Anchorage of access floors.		X		CBC 1705.11.5
6. Mechanical and electrical components				CBC 1705.11.6
a. Anchorage of electrical equipment for emergency or standby power systems		X		
b. Installation of anchorage of other electrical equipment		X		
c. Installation of piping systems intended to carry flammable, combustible, or highly toxic contents and their associated mechanical units		X		
d. Installation of HVAC ductwork that will contain hazardous materials		X		
e. Installation of vibration isolation systems where the construction documents require a nominal clearance of ¼ inch or less between the equipment support frame and restraint		X		
7. Storage Racks: Inspection is required during the anchorage of storage racks 8 feet or greater in height.		X		CBC 1705.11.7
8. Seismic Isolation Systems: Fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system		X		CBC 1705.11.8

1705.12 – Testing and Qualification for Seismic Resistance				
1. Concrete Reinforcement: Applies where reinforcement is used to resist earthquake-induced flexural and axial forces in special moment frames, special structural walls, and coupling beams connecting special structural walls.				CBC 1705.12.1
a. Review certified mill test reports for each shipment of reinforcement	--	--		
b. Verify weldability where reinforcement complying with ASTM A 615 is welded	--	--		
2. Structural Steel: Testing shall be in accordance with quality assurance requirements of AISC 341	See form CNI-033A Statement of Special Inspections Steel Appendix			CBC 1705.12.2 AISC 341: Chapter J Quality Control and Quality Assurance
3. Seismic Certification of Nonstructural Components: Review and acceptance of certificate of compliance by registered design professional with submittal of the review and certificate and to the building official.	--	--		CBC 1705.12.3 ASCE7 Sec. 13.2
4. Seismic isolation systems: Tested in accordance with Section 17.8 of ASCE7	--	--		CBC 1705.12.4
1705.13 – Sprayed fire-resistant materials				
Special inspections shall include the following tests and observations to demonstrate compliance with the listing and fire resistance rating:				
1. Condition of substrates	--	--		
2. Thickness of application	--	--		ASTM E 605
3. Density in pounds per cubic foot	--	--		ASTM E 605
4. Bond strength adhesion/cohesion	--	--		ASTM E 736
5. Condition of finished application	--	--		
1705.14 – Mastic and Intumescent Fire-resistant Coatings				
Special inspection for mastic and intumescent fire resistive coatings applied to structural elements and decks	--	--		AWCI 12-B
1705.15 – Exterior Insulation and Finish Systems (EIFS)				
1. Inspection required for all EIFS installations Exceptions: EIFS installed over a water-resistive barrier with means of draining moisture to the exterior and EIFS installed over masonry or concrete.	--	--		
2. Special inspection of the water-resistive barrier coating when installed over a sheathing substrate	--	--		ASTM E 2570
1705.16 – Fire-resistant Penetrations and Joints				
Applicable to high-rise buildings or in buildings assigned to Risk Category II or IV				
1. Penetration firestops	--	--		ASTM E2174
2. Fire-resistant joint systems	--	--		ASTM E2393
1705.17 – Testing Scope for Smoke Control Systems				
1. During erection of ductwork and prior to concealment for the purpose of leakage testing and recording of device location	--	--		
2. Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detection and control verification	--	--		

1706 – Design Strength of Materials				
1. Design strengths and permissible stresses of any structural material that are identified by a manufacturer's designation as to manufacture and grade by mill tests, or otherwise confirmed to the satisfaction of the building official, shall conform to the applicable specifications	--	--		
2. Materials that are not specifically provided for in the applicable code shall justify design strengths and permissible stresses to the satisfaction of the building official	--	--		
1707 – Alternate Test Procedure				
1. Testing required as a condition of approval of alternate materials, design and methods of construction and equipment				CBC 104.11, CBC 1701.2
1708 – Test Safe Load and 1710 – Preconstruction load tests				
1. Load Test Procedures Specified: An applicable load test procedure and acceptance criteria in CBC Chapter 35 Referenced Standards applies.	--	--		CBC Chapter 35, 1710.2
2. Load Test Procedures Not Specified: Proposed structure is subjected to a test procedure developed by a registered design professional	--	--		CBC Chapter 16, 1604.3, 1710.3,
3. Wall and partition assemblies	--	--		CBC 1710.4
4. Exterior window and door assemblies	--	--		CBC 1710.5
5. Skylights	--	--		CBC 1710.6
1709 – In-Situ Load Tests for completed construction				
1. Load Test Procedure Specified: An applicable load test procedure and acceptance criteria in CBC Chapter 35 Referenced Standards applies.	--	--		CBC Chapter 35, 1709.2
2. Load Test Procedures Not Specified: The existing structure/construction is subjected to a test procedure developed by a registered design professional	--	--		CBC Chapter 16, 1604.3, 1709.3
1711 – Material and Test Standards				
1. Joist Hangers	--	--		
2. Concrete and Clay Roof Tiles	--	--		

Contractor Responsibility

Per Section 1704.4, each contractor responsible for the construction of a main seismic-force resisting system, designated seismic system or a seismic-resisting component listed in the Statement of Special Inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the Statement of Special Inspections.

Each contractor responsible for the construction of the applicable system or component as specified above shall use the following lines to enter their name, signature, company, license number, date, and particular system or component that they are taking responsibility for prior to commencement of work on the indicated system or component. A copy of this page shall be presented to the building official, and it is the contractor's responsibility to also provide the owner a copy of this document.

Name

Signature

Company

License Number

Date

Main seismic-force resisting system or designated seismic system or seismic-force resisting component

Name

Signature

Company

License Number

Date

Main seismic-force resisting system or designated seismic system or seismic-force resisting component