

Statement of Special Inspections 2019 CBC



Planning & Building Department
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PROJECT ADDRESS _____

PERMIT APPLICATION # _____

DESCRIPTION OF WORK: _____

This **Statement of Special Inspections** is submitted in fulfillment of the requirement of CBC Sections 1704 and 1705. Included in the Schedule of Special Inspections and tests applicable to this project are:

- Special Inspections per Sections 1704 and 1705.
- Special inspections for Seismic Resistance per Section 1704.3.2.
- List of the Testing Agencies and other special inspectors that will be retained to conduct the tests and inspections.
- Structural Observation: In addition to special inspection requirements, the engineer or architect shall provide structural observation when required by Section 1704.6 or by the Building Official. The scope and frequency for structural observation shall be clearly noted on the plans.

The **Schedule of Special Inspections** summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will 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.

A **Final Report of Special Inspections** documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to final completion or issuance of a Certificate of Occupancy (Section 1704.2.4). The Final Report will document:

- Required special inspections.
- Correction of discrepancies noted in inspections.

The **Owner** recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner or registered design professional in responsible charge acting as the owner's agent shall employ one or more approved agencies to perform Special Inspections as required in CBC Section 1704.2.

This plan has been developed with the understanding that the Building Official will:

- Review and approve the qualifications of the Special Inspectors who will perform the inspections.
- Monitor special inspection activities on the job site to assure that the Special Inspectors are qualified and are performing their duties as called for in this Statement of Special Inspection.
- Review submitted inspection reports.
- Perform inspections as required by the California Building Code.

Prepared by:

Registered Design Professional in Responsible Charge

Email Address

Signature

Date

Statement of Special Inspections 2019 CBC

Owner's Authorization:

Building Department Acceptance:

Owner

Name Title

Signature Date

Signature Date

CONTRACTOR'S STATEMENT OF RESPONSIBILITY (Section 1704.4): Each contractor responsible for the construction of a main wind – or seismic-force-resisting system, designated seismic system or a wind – or seismic-resisting component listed in the statement of special inspections acknowledges:

- 1) Awareness of the special requirements contained in the statement of special inspections;
- 2) Control will be exercised to obtain conformance with the construction documents approved by the Building Official;
- 3) Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of the reports.

Contractor or Owner/Builder Acknowledgment of Responsibilities:

Contractor Name Contractor Company Name

Signature Date CSLB Number

Schedule of Inspection, Testing Agencies, and Inspectors

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project.

Responsibility	Firm	Address, Telephone, Email
1. Geotechnical Inspections		
2. Special Inspection		
3. Material Testing		
4. Structural Observation		
5. Other		

Seismic Requirements (Section 1704.3.2)

Description of seismic-force-resisting system and designated seismic systems subject to **special inspections and testing** as per Section 1705.12 or 1705.13:

The extent of the seismic-force-resisting system is defined in more detail in the construction documents.

Structural Observations (Section 1704.6)

Description of frequency and extent of required **structural observations**:

The extent of the structural observations is defined in more detail in the construction documents.

Schedule of Special Inspection

Notation Used in Table:

Column headers:

- C Indicates continuous inspection is required.
- P Indicates periodic inspections are required. The notes and or contract documents should clarify.

Box entries:

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

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

Verification and Inspection	C	P	Notes
1704.2.5 – Inspect fabricator’s approved detailed fabrication and quality control procedures.		---	
1704.2.5 – Certificate of Compliance from Approved Fabricator 1704.2.5.1		---	
Section 1705.2 – Structural Steel Quality Assurance Inspection Requirements of AISC 360			
1. Fabricator and erector documents. (Verify reports, certifications, specifications and qualifications listed in AISC 360, Section N3 for compliance with construction documents.)		---	
2. Material verification of structural steel.		X	

Verification and Inspection	C	P	Notes
3. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents.		X	
4. 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.)		---	
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:			EXCEPTION: NDT of welds completed in an approved fabricator's shop. See AISC 360, N7
1) Complete penetration groove welds 5/16" or greater in risk category III or IV.		---	UT on 100%, may reduce to 25% per AISC 360, N5e
2) Complete penetration groove welds 5/16" or greater in risk category II.		---	UT on 10%, may increase to 100% per AISC 360, N5f
3) Thermally cut surfaces of access holes when material t > 2".		---	
4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1.		---	
5) Fabricator's NDT reports when fabricator performs NDT.		---	AISC 360, N5d
5. Structural steel 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.)		---	
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2.)		---	
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3.)		---	
6. Inspection of steel elements of composite construction prior to concrete placement in accordance with QA tasks listed in AISC 360, Table N6.1.		---	
1705.2.2 – Cold-Formed Steel Deck			
1. Material verification of cold-formed steel deck:			
a. Identification markings to conform to ASTM standards specified in the approved construction documents.		X	
b. Manufacturer's certified test reports.		X	
2. Inspection of welding:			
a. Cold-formed steel deck:			
1) Floor and roof deck welds.		X	SDI QA/QC

Verification and Inspection	C	P	Notes
Table 1705.2.3 Open-Web Steel Joists and Joist Girders			
1. Installation of open-web steel joists and joist girders.			
a. End connections – welding or bolted.		X	SJI specifications listed in Section 2207.1
b. Bridging – horizontal or diagonal.			CBC 1705.2.4 (spans > 60')
1. Standard bridging.		X	SJI specifications listed in Section 2207.1
2. Bridging that differs from the SJI specifications listed in Section 2207.1.		X	
Table 1705.3 – Concrete Construction			
1. Inspection of reinforcing steel, including prestressing tendons and placement.		X	ACI 318: 3.5
2. Reinforcing bar welding:			AWS D1.4 ACI 318: Section 26.5.4
a. Verification of weldability of reinforcing bars other than ASTM A 706;		X	
b. Inspect single-pass fillet welds, maximum 5/16";		X	AWS D1.4 ACI 318: Section 26.5.4
c. Inspect all other welds.	X		AWS D1.4, ACI 318: Section 26.5.4
3. Inspection of anchors cast in concrete.		X	ACI 318: 17.8.2
4. Inspection of anchors post-installed in hardened concrete members.		X	ACI 318: 17.8.2.4
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		
b. Mechanical anchors and adhesive anchors not defined in 4.a.		X	ACI 318: 17.8.2
5. Verify use of required design mix.		X	ACI 318: Ch. 19, 26.4.3, 26.4.4 CBC 1904.1, 1910.2, 1908.2, 1908.3
6. Prior to concrete placement, 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: 26.4.5, 26.12; CBC 1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X		ACI 318: 26.4.5; CBC 1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.		X	ACI 318: 5.11-5.13; CBC 1910.9
9. Inspection of prestressed concrete for:			
a. Application of prestressing forces; and	X		ACI 318: 26.9.2.1
b. Grouting of bonded prestressing tendons.	X		ACI 318: 26.9.2.3
10. Inspect erection of precast concrete members.		X	ACI 318: Ch. 26.8
11. Verify 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: 26.10.2
12. Inspect formwork for shape, location, and dimensions of the concrete member being formed.		X	ACI 318: 26.10.1(b)
1705.4 – Masonry Inspections (TMS 402/ACI 530/ASCE 5 and TMS 602/ACI 530.1/ASCE 6)			
1. Verify compliance with the approved submittals.		X	TMS 602; Art.1.5
2. Verification of $f'm$ and f'_{AAC} prior to construction except where specifically exempted by the code.		X	TMS 602; Art 1.4B
3. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X		TMS 602; 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	TMS 602; Art.2.6A
b. Construction of mortar joints.		X	TMS 602; Art.3.3B

Verification and Inspection	C	P	Notes
c. Location of reinforcement, connectors, prestressing tendons, and anchorages.		X	TMS 602; Art.3.4, 3.6A
d. Prestressing technique.		X	TMS 602; Art.3.6B
e. Grade and size of prestressing tendons and anchorages.		X	TMS 602; Art.2.4B, 2.4H
5. During construction verify:			
a. Compliance with required inspection provisions of the construction documents and the approved submittals.		---	
b. Size and location of structural elements.		X	TMS 602; Art.3.3F
c. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, etc.		X	TMS 402;1.16.4.3, 1.17.1
d. Welding of reinforcing bars.	X		TMS 402; Sec. 2.1.7.7.2, 3.3.3.4(c); 8.3.3.4(b)
e. Protection of masonry during cold weather (temperature below 40 degrees F) or hot weather (temperature above 90 degrees F)		X	CBC 2104.3, 2104.4; TMS 602; Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.		X	TMS 602; Art. 3.6B
6. Prior to grouting verify the following:			
a. Grout space is clean.		X	TMS 602; Art. 3.2B
b. Specified size, grade, and type of reinforcement.		X	TMS 602; Art.2.4, 3.4
c. Placement of reinforcement and connectors and prestressing tendons and anchorages.		X	TMS 402; Sec. 1.16; TMS 602; Art. 3.4
d. Proportions of site-prepared grout and prestressing grout for bonded tendons.		X	TMS 602; Art. 2.6B
e. Construction of mortar joints.		X	TMS 602; Art. 3.3B
7. Verify grout placement to ensure compliance with code and construction document provisions.	X		TMS 602; Art. 3.5
a. Observe grouting of prestressing bonded tendons.	X		TMS 602; Art. 3.6C
8. Observe preparation of required grout specimens, mortar specimens, and/or prisms.	X		CBC 2105.2.2, 2105.3; TMS 602; Art. 1.4
9. Additional levels of masonry inspection are required as otherwise noted on the plans.		---	
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. Inspect high-load diaphragms:		---	CBC 1705.5.1
1) Inspect grade and thickness of structural panel sheathing.			
2) Verify nominal size of framing members at adjoining panel edges. Verify nail or staple diameter and length, number of fastener lines, and spacing between fasteners in each line and at edge margins.			
b. Metal-plate-connected wood trusses with overall height of 60		---	CBC 1705.5.2

Verification and Inspection	C	P	Notes
inches or spanning 60 feet or greater: that the temporary installation restraint/bracing and the permanent individual truss members restraint bracing are installed in accordance with the approved truss submittal package.			
Table 1705.6 – Required Special Inspections and Tests of Soils			
1. Verify materials below shallow foundations are adequate to achieve the desired 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, inspect subgrade and verify that site has been prepared properly.		X	
Table 1705.7 – Required Special Inspections and Tests 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 CBC Section 1705.2.		---	
6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with CBC Section 1705.3.		---	
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.			
Table 1705.8 – Required Special Inspections and Tests of Cast-In-Place Deep Foundation Elements			
1. Observe drilling operations and maintain complete and accurate records for each element.	X		
2. Verify locations of piers and their plumbness, 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		
3. For concrete elements, perform additional inspections in accordance with CBC Section 1705.3.			

Verification and Inspection	C	P	Notes
1705.9 – Required Verification and Inspection for Helical Pile Foundation			
1. Record installation equipment used, pile dimensions, tip elevations, final depth, final installation torque, and other pertinent data.	X		
1705.12 – Special Inspections for Seismic Resistance			
1. Structural Steel Special Inspections for Seismic Resistance:			CBC 1705.12.1, Seismic Design Category (SDC)
a. Inspection of structural steel in accordance with AISC 341.		---	CBC 1705.12.1 or 1705.12.1.2, SDC D, E or F
2. Structural Wood Special Inspection for Seismic Resistance:			CBC 1705.12.2, SDC C, D, E or F
a. Inspection of field gluing operations of elements of the seismic-force resisting system.	X		
b. Inspection of nailing, bolting, anchoring and other fastening of components within the seismic-force resisting system, including wood shear walls, panels, diaphragms, collectors, and hold-downs.*		X	* Not required where fastener spacing of sheathing is more than 4" o.c.
3. Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance:			CBC 1705.12.3, SDC C, D, E or F
a. Inspection during welding operations of elements of the seismic-force resisting system.		X	
b. Inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force resisting system, including shear walls, diaphragms*, collectors, and hold-downs.		X	* Not required where fastener spacing of sheathing is more than 4" o.c.
4. Designated Seismic Systems Verification:			
a. Inspect and verify that the component label, anchorage or mounting conforms to the certificate of compliance in accordance with Section 1705.12.4.		X	ASCE 7, Section 13.2.2, SDC C, D, E or F
5. Architectural Components Special Inspections For Seismic Resistance:			CBC 1705.12.5, SDC D, E or F
a. Inspection during the erection and fastening of exterior cladding and interior and exterior veneer.		X	*Not required if 30' or less in height above grade or walking surface or weighing 5 psf or less.
b. Inspection during the erection and fastening of interior and exterior nonbearing walls.		X	
c. Inspection during anchorage of access floors.		X	SDC D, E or F
6. Plumbing, Mechanical and Electrical Components Special Inspections for Seismic Resistance:			CBC 1705.12.6
a. Anchorage of electrical equipment for emergency or standby power systems.		X	SDC C, D, E or F
b. Anchorage of other electrical equipment.		X	SDC E or F
c. Installation and anchorage of piping systems designed to carry hazardous materials, and their associated mechanical units.		X	SDC C, D, E or F
d. Installation and anchorage of HVAC ductwork that will contain hazardous materials.		X	SDC C, D, E or F

Verification and Inspection	C	P	Notes
e. Installation and anchorage of vibration isolation systems.		X	SDC C, D, E or F
7. Storage Racks Special Inspections for Seismic Resistance:			CBC 1705.12.7, SDC D, E or F
a. Inspection during the anchorage of storage racks 8 feet or greater in height.		X	
8. Seismic Isolation Systems:			CBC 1705.12.8
a. Inspection during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system.		X	SDC B, C, D, E or F
9. Cold-formed steel special bolted moment frames.		X	CBC 1705.12.9, SDC D, E or F
1705.13 – Testing for Seismic Resistance			
1. Structural Steel Testing for Seismic Resistance:			CBC 1705.13.1
a. Nondestructive testing of structural steel in seismic force-resisting systems of buildings and structures assigned to Seismic Design Category B, C, D, E or F shall be performed with the quality assurance requirements of AISC 341.		---	* Not required for buildings or structures assigned to SDC B or C not specifically detailed for seismic resistance with $R < \text{or} = 3$ excluding cantilever column systems.
2. Seismic Certification of Nonstructural Components:			CBC 1705.13.2
a. Review certificate of compliance for designated seismic system components.			ASCE 7, Section 13.2.1, SDC B, C, D, E or F
3. Designated Seismic Systems:			
a. For structures assigned to Seismic Design Category C, D, E or F and designated seismic that are subject to the requirements of ASCE 7, Section 13.2.2 for certification.		---	
a. Test in accordance with the quality assurance requirements of AISC 341.		---	
4. Seismic Isolation Systems:			CBC 1705.13.4
a. Test seismic isolation system in accordance with ASCE 7 Section 17.8.		---	
1705.14 – Sprayed Fire-Resistant Materials			
1. Verify surface condition preparation of structural members.		X	CBC 1705.14.2
2. Verify application of sprayed fire-resistant members.		X	CBC 1705.14.3
3. Verify minimum allowable thickness of sprayed fire-resistant materials applied to structural members.		X	CBC 1705.14.4
4. Verify density of the sprayed fire-resistant material complies with approved fire-resistant material.		---	CBC 1705.14.5
5. Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material.		---	CBC 1705.14.6
1705.15 – Mastic and Intumescent Fire-Resistant Coatings			
1. Inspect mastic and intumescent fire-resistant coatings applied to structural elements and decks.		X	

Verification and Inspection	C	P	Notes
1705.16 – Exterior Insulation and Finish Systems (EIFS)			
1. Verify materials, details and installations are per the approved construction documents.		X	
2. Inspection of water-resistive barrier over sheathing substrate.		X	CBC 1705.16.1
1705.17 – Fire-Resistant Penetrations and Joints			
1. Inspect penetration firestop systems.		---	ASTM E2174
2. Inspect fire-resistant joint systems.		---	ASTM E2393
1705.18 – Testing for Smoke Control Systems			
1. Leakage testing and recording of device locations prior to concealment.		X	CBC 1705.18.1
2. Prior to occupancy and after sufficient completion, pressure difference testing, flow measurements, and detection and control.		X	
1705.2.4 – Cold Formed Steel Trusses Spanning 60 Feet or Greater			
1. Verify temporary installation restraint/bracing.		X	Accordance with truss submittal package
2. Verify permanent individual truss member restraint/bracing		X	Accordance with truss submittal package
1705.1.1 Special Cases			
1. Construction materials and systems that are alternatives to materials and systems prescribed by CBC.		---	
2. Unusual design applications of materials described in the CBC.		---	
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the CBC or in standards referenced by the CBC.		---	See "Elevated Structures"