

1. STATEMENT OF SPECIAL INSPECTIONS NOTES:

- A. THIS STATEMENT OF SPECIAL INSPECTIONS IS INCLUDED AS REQUIRED BY CHAPTER 17 OF 2015 INTERNATIONAL BUILDING CODE AND AISC 360.
- B. SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THIS SHEET, SPECIFICATIONS, AISC 360, AND 2015 INTERNATIONAL BUILDING CODE. GENERAL REQUIREMENTS ARE LISTED BELOW AND IN THE ATTACHED INSPECTION TABLES.
- C. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTION REQUIREMENTS. IF CONFLICTING REQUIREMENTS ARE FOUND BETWEEN STATEMENTS OF SPECIAL INSPECTIONS AND THE PROJECT SPECIFICATIONS, THE MORE STRINGENT PROVISION SHALL CONTROL UNLESS DIRECTED OTHERWISE IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
- D. THE GENERAL CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS FOR THIS PROJECT. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- E. THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING HIS OR HER COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING. EXPERIENCE OR TRAINING SHALL BE CONSIDERED RELEVANT WHEN THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES.
- F. THE SPECIAL INSPECTOR SHALL PROVIDE CONTINUOUS OR PERIODIC INSPECTIONS AS SHOWN IN THE ATTACHED INSPECTION TABLES
- CONTINUOUS INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT AT ALL PROCEDURAL EVENTS.
  - PERIODIC INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT AT THE START OF THE WORK AND PERIODIC INSPECTION IS MADE TO VERIFY PROGRESS OF WORK IS IN COMPLIANCE.
- G. INSPECTION OF FABRICATORS: WHERE FABRICATION OF STRUCTURAL LOADBEARING MEMBERS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED BY SECTION 1704.2 OF THE 2009 INTERNATIONAL BUILDING CODE AND SECTION 1704.2.5 OF THE 2015 INTERNATIONAL BUILDING CODE AND AS REQUIRED ELSEWHERE IN THE CODE.
- H. FABRICATOR APPROVAL: SPECIAL INSPECTIONS REQUIRED BY SECTION 1704 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- I. REPORT REQUIREMENTS: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL.
- J. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING REASONABLE NOTICE TO THE SPECIAL INSPECTOR(S) REGARDING WHEN ELEMENTS OF THE PROJECT WILL BE READY FOR EFFICIENT IMPLEMENTATION OF SPECIAL INSPECTIONS.
- K. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE LATEST VERSION OF ALL APPROVED PLANS AND SHOP DRAWINGS FOR THE SPECIAL INSPECTOR'S USE IN PERFORMING SPECIAL INSPECTIONS.
- L. CONTRACTOR SHALL GRANT ACCESS TO OWNER'S SPECIAL INSPECTOR AS IS REASONABLY NECESSARY FOR THE PROPER PERFORMANCE OF SPECIAL INSPECTIONS.
- M. SPECIAL INSPECTIONS DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND JOBSITE SAFETY ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- N. STEEL QUALITY INSPECTOR QUALIFICATIONS.

- QUALITY CONTROL INSPECTOR OF ERECTOR/FABRICATOR SHALL BE QUALIFIED TO THE SATISFACTION OF THE ERECTOR/ FABRICATOR'S QC PROGRAM AND AISC 360 SECTION N.4.1 REQUIREMENTS.
- QUALITY ASSURANCE INSPECTOR SHALL BE QUALIFIED BY A QA AGENCY AND AISC 360 SECTION N.4.2 REQUIREMENTS.
- NON-DESTRUCTIVE TESTING PERSONNEL, OR OTHER THAN VISUAL, SHALL BE QUALIFIED IN ACCORDANCE W/ EMPLOYER'S WRITTEN PRACTICE MEETING OR EXCEEDING REQUIREMENTS OF AWS D1.1/D1.1M AND EITHER ANST SNT-TC-1A OR ANST CP-189 REQUIREMENTS.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION			
VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION		REFERENCED STANDARD
	CONTINUOUS (inspect each joint/member)	PERIODIC (inspect random joint/members)	
<b>1. Material verification of high-strength bolts, nuts and washers:</b>			
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	QC and QA	AISC 360, Section A3.3 and applicable ASTM material standards
b. Manufacturer's certifications available for fastener materials.	QA	QC	AISC 360, Table N5.6-1
c. Fasteners marked in accordance with ASTM requirements.	-	QC and QA	
d. Proper fasteners selected for the joint detail (grade, type, bolt length & threads are to be excluded from shear plane).	-	QC and QA	
e. Proper bolting procedure selected for joint detail.	-	QC and QA	
f. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.	-	QC and QA	
g. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.	QC	QA	
h. Proper storage provided for bolts, nuts, washers and other fastener components.	-	QC and QA	
<b>2. Inspection of high-strength bolting:</b>			
<ul style="list-style-type: none"> <li>For bolts requiring pretensioning, the special inspector shall observe the preinstallation testing and calibration procedures; determine that all piles of connected materials have been drawn together and properly snugged prior to pretensioning and monitor the installation of bolts to verify that fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point to the free edges.</li> <li>For joints required to be tightened only to the snug-tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged.</li> </ul>			
a. Snug-tight joints.	-	QC and QA	AISC 360, Section M2.5
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	-	QC and QA	
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking of calibrated wrench methods of installation.	QC and QA	-	
d. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.	-	QC and QA	
e. Fastener component not turned by the wrench prevented from rotating.	-	QC and QA	
f. Document acceptance or rejection of bolted connections.	QC and QA	-	
<b>3. Material verification of structural steel and cold-formed steel deck U.N.O.:</b>			
a. For structural steel, identification markings to conform to AISC 360.	-	QC and QA	AISC 360, Section M1
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	-	QC and QA	Applicable ASTM material standards
<b>4. Inspection prior to welding:</b>			
a. Verify identification markings of weld filler materials conform to AWS specification in the approved construction documents.	-	QC and QA	AISC 360, Section A3.5 and applicable AWS AS documents
b. Welding procedure specifications are available.	QC and QA	-	AISC 360, Table N5.4-1
c. Manufacturer certifications for welding consumables available.	QC and QA	-	
d. Material identification (type/grade) and welded identification system.	-	QC and QA	
e. Fit-up of welds including but not limited to joint preparation, dimensions, cleanliness, tacking, and backing type/fit as applicable.	-	QC and QA	
f. Configuration and finish of access holes	-	QC and QA	
g. Check welding equipment.	-	QC	

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<b>5. Inspection of welding:</b>			
a. AISC 360 requirements for welding structural steel			
1) Use of qualified welders	-	QC and QA	AISC 360, Table N5.4-2 During Welding
2) Packaging and exposure control and handling of welding consumables.	-	QC and QA	
3) Welding over cracked tack welds	-	QC and QA	
4) Environmental conditions including but not limited to precipitation, temperature and wind.	-	QC and QA	
5) Verify settings on equipment, travel speeds, electrode materials, shielding gas type/floor rate, preheating interpass temperatures and proper position meets WPS standards.	-	QC and QA	
6) Verify welding techniques for interpass, final cleaning, profile limitations, and quality requirements.	-	QC and QA	
7) Welds are cleaned and painted where required.	-	QC and QA	
8) Verify size, length and locations of welds.	QC and QA	-	
9) Visually verify welds for crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercutting, and porosity.	QC and QA	-	
10) Arc strikes, k-area cracks within 3" of weld, removal of backing, and repair activities as applicable.	QC and QA	-	
11) Documentation of acceptance or rejection of welded joint or member.	QC and QA	-	
b. American Welding Society requirements for structural steel and cold-formed steel deck:			
1) Complete and partial joint penetration groove welds.	X	-	AWS D1.1
2) Multipass fillet welds.	X	-	
3) Single-pass fillet welds > 5/16"	X	-	
4) Plug and slot welds.	X	-	
5) Single-pass fillet welds ≤ 5/16"	-	X	AWS D1.3
6) Floor and roof deck welds.	-	X	
7) Welded studs & deformed bar anchors (DBA's).	-	X	
8) Welded sheet steel for cold-formed steel members	-	X	
9) Welding of stairs & railing systems	-	X	
c. Reinforcing steel:			
1) Verification of weldability of reinforcing steel other than ASTM A 706.	-	X	AWS D1.4, ACI 318, Section 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.	X	-	
3) Shear reinforcement.	X	-	
4) Other reinforcing steel.	-	X	
<b>6. Inspection of steel elements of composite construction prior to concrete placement:</b>			
a. Placement and installation of steel deck.	QC and QA	-	AISC 360, Table N6.1
b. Placement and installation of steel HSA.	QC and QA	-	AISC 360, Table N6.1
c. Documentation of acceptance or rejection of steel elements.	QC and QA	-	AISC 360, Table N6.1

TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1) Inspect reinforcement, including prestressing tendon, and verify placement.	-	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2) Reinforcing bar welding: a) Verify weldability of reinforcing bars other than ASTM A706; b) Inspect single-pass fillet welds, maximum 5/16"; and c) Inspect all other welds.	-	X	AWS D1.4 ACI 318: 26.5.4	-
3) Inspect anchors cast in concrete.	-	X	ACI 318:17.8.2	-
4) Inspect size, embedment, and installation of post-installed anchors.	X	-	Manuf. Requirements	-
5) Verify use of required design mix.	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 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, 26.12	1908.10
7) Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8) Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9) Inspect prestressed concrete for: a) Application of prestressing forces; and b) Grouting of bonded prestressing tendons.	X	-	ACI 318: 26.10	-
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: 26.11.2	-
12) Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	X	ACI 318: 26.11.1.2(b)	-

TABLE 1705.6 REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS		
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
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, inspect subgrade and verify that site has been prepared properly.	-	X

TABLE 1705.2.3 REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS			
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD
1. Installation of open-web steel joists and joist girders.			
a. End connections – welding or bolted.	-	X	SJI specification listed in Section 2207.1
b. Bridging – horizontal or diagonal.			
1. Standard bridging.	-	X	SJI specification listed in Section 2207.1
2. Bridging that differs from SJI specifications listed in Section 2207.1	-	X	

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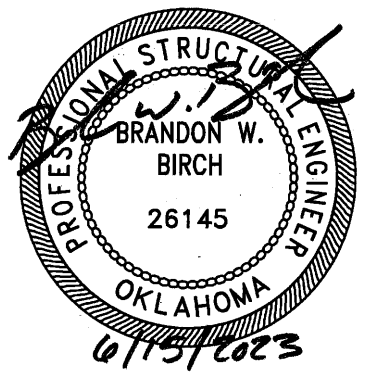
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