

170210 MCA  
 Engineer of Record:  
 Project Designer:  
 MCA  
 CAD Technician:

SPECIAL INSPECTIONS			
1. Special inspections shall be performed in accordance with Section 1705 of 2012 IBC. An independent testing agency shall be employed to provide special inspections during construction on the types of work listed under Section 1705. The following areas of work require special inspections in accordance with 2012 IBC. 2. Refer to project specification for additional quality control/quality assurance requirements. 3. Construction Manager/Contractor shall coordinate any additional special inspection requirements with the Owner and applicable building authorities. 4. Special inspections are not the responsibility of the Structural Engineer of Record. 5. Copies of all Special Inspections Reports shall be emailed to the SEOR, Richard M. Weicher, P.E. (rmw@tatumsmith.com) within five (5) days of completing the individual inspection tasks.			

STRUCTURAL STEEL (IBC 1705.2.1, 1705.11.1 & 1705.12.2)			
PRIOR TO WELDING (TABLE N5.4-1, AISC 360-10):			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Verify welding procedures (WPS) and consumable certificates	X	----	----
Material identification	----	X	Verify type and grade of material.
Welder identification	----	X	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	----	X	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Access holes	----	X	Verify configuration and finish.
Fit-up of fillet welds	----	X	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.

DURING WELDING (TABLE N5.4-2, AISC 360-10):			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Use of qualified welders	----	X	Verify that welders are appropriately qualified.
Control and handling of welding consumables	----	X	Verify packaging and exposure control.
Cracked tack welds	----	X	Verify that welding does not occur over cracked tack welds.
Environmental conditions	----	X	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	----	X	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	----	X	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.

AFTER WELDING (TABLE N5.4-3, AISC 360-10)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Welds cleaned	----	X	Verify that welds have been properly cleaned.
Size, length, and location of welds	X	----	----
Welds meet visual acceptance criteria	X	----	----
Arc strikes	X	----	----
K-area	X	----	----
Backing & weld tabs removed	X	----	----
Repair activities	X	----	----
Document acceptance or rejection of welded joint/member	X	----	----

NONDESTRUCTIVE TESTING (SECTION N5.5, AISC 360-10)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
CJP welds (Risk Cat. II)	----	X	Ultrasonic testing shall be performed on 10% of CJP groove welds in butt, T-and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater. Testing rate must be increased if > 5% of welds tested have unacceptable defects.
CJP welds (Risk Cat. III or IV)	X	----	<b>A reduction in the rate of ultrasonic testing is allowed per Section N5.5.</b>
Access holes (flange > 2')	X	----	----
Welded joints subject to fatigue	X	----	----

AFTER BOLTING (TABLE N5.6-3, AISC 360-10):			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Document acceptance or rejection of bolted connections	X	----	----

OTHER STEEL INSPECTIONS (SECTION N5.7, AISC 360-10; Tables J8-1 & J10-1, AISC 341-10)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Structural steel details	----	X	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, stiffeners, member location, and proper application of joint details at each connection.
Anchor rods and other embedments supporting structural steel	----	X	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel. Verify compliance with construction documents, including the design grade, size and length of the anchor rod or embedment item, and the extension of embedment prior to placement of concrete.
Reduced beam sections (RBS)	----	X	Verify correct and finish as well as dimensional tolerances.
Protected zones	----	X	Verify that no holes or unapproved attachments occur within the protected zone (see Table J8-1 of AISC 341-10).
H-piles	N/A	----	Verify that no holes or unapproved attachments occur within the protected zones of piling (see Table J10-1 of AISC 341-10).

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Reinforcing steel, including prestressing tendons	----	X	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Cast-in bolts & embeds	----	X	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used.
Post-installed anchors or dowels	----	X	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report.
Use of required mix design	----	X	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 4, 5.2-5.4; and IBC 1904.2, 1910.2, 1910.3.
Concrete sampling for strength tests, slump, air content, and temperature	X	----	----
Concrete & shotcrete placement	X	----	----
Curing temperature and techniques	----	X	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 5.11.3). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Pre-stressed concrete	N/A	N/A	----
Erection of precast concrete	N/A	N/A	Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents.
Strength verification	----	X	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	----	X	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.
Reinforcement complying with ASTM A 615 in special moment frames, special structural walls and coupling beams	N/A	N/A	Verify that ASTM A 615 reinforcing steel used in these areas complies with ACI 318: 21.1.5.2 by means of certified mill test reports. If this reinforcing steel is to be welded chemical tests shall be performed in accordance with ACI 318: 9.5.2.

SOILS CONSTRUCTION (IBC 1705.6)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Verify subgrade is adequate to achieve design bearing capacity	----	X	Prior to placement of concrete.
Verify excavations extend to proper depth and material	----	X	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	----	X	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	----	X	All materials shall be checked at each lift for proper classification and gradations not less than 100 ft <sup>2</sup> (10,000 ft <sup>2</sup> ) of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction.	X	----	----

INSPECTION OF FABRICATORS (IBC 1704.2)			
Verification and Inspection	Continuous	Periodic	Detailed Instructions
Verify fabricator maintains detailed fabrication and quality control procedures	----	X	----
Review procedures for completeness and adequacy relative to the Code requirements for the fabricators scope of work	----	X	----
Submit a certificate of compliance	----	X	Where work is done on premises of "Approved" fabricator, fabricator shall submit a Certificate of Compliance to the building official stating work was performed in accordance with the approved construction documents.

Order Plans

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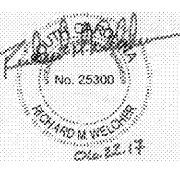


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**REQUIRED IBC SPECIAL INSPECTIONS**

SHEET:  
**S1.0**