

SPECIAL INSPECTIONS

SPECIAL INSPECTION NOTES:

SP-1 SPECIAL INSPECTION WORK IS NOT INCLUDED IN THE STRUCTURAL ENGINEER'S SCOPE OF SERVICES. THE OWNER WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTION REPORTS SHALL BE COPIED TO THE JURISDICTION AS THE RESPONSIBILITY OF THE OWNER. ALL INSPECTION REPORTS SHALL BE COPIED TO THE STRUCTURAL ENGINEER, AND A FINAL LETTER OF COMPLIANCE SHALL BE PROVIDED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (TYPICALLY ARCHITECT) TO THE OWNER OR BUILDING AUTHORITY.

SPECIAL INSPECTION SHALL INCLUDE:

- o SITE PREPARATION
- o PIER FOUNDATION (NOT REQUIRED)
- o CONCRETE
- o WOOD
- o WELDS OF STRUCTURAL STEEL (NOT REQUIRED)
- o STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (NOT REQUIRED)
- o BOLTING OF STRUCTURAL STEEL (NOT REQUIRED)
- o STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (NOT REQUIRED)
- o MASONRY I (NOT REQUIRED)
- o MASONRY II (NOT REQUIRED)

SP-2 INSPECTOR QUALIFICATIONS: QUALIFICATIONS LISTED IN THE TESTING & INSPECTION REQUIREMENTS TABLES ARE RECOMMENDED. SPECIAL INSPECTION WORK SHOULD BE PERFORMED BY AN AGENCY ACCREDITED BY ANY NATIONALLY RECOGNIZED ACCREDITING BODY SUCH AS ASHTO, AZLA, NADAP, ICC ETC.

SP-3

- DEFINITIONS:
- ACI – AMERICAN CONCRETE INSTITUTE
 - ASCE – AMERICAN SOCIETY OF CIVIL ENGINEERS
 - ASST – AMERICAN INSTITUTE OF STEEL CONSTRUCTION
 - ASNT – AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING
 - AWI – AMERICAN WELDING INSTITUTE
 - AWW – AMERICAN WELDING SOCIETY
 - CMAA – CONCRETE REINFORCING STEEL INSTITUTE
 - CSA – CANADIAN STANDARDS ASSOCIATION
 - PCI – PRECAST/PRESTRESSED CONCRETE INSTITUTE
 - PTI – POST-TENSIONING INSTITUTE

SP-4 TESTING AND INSPECTION DIRECTED BY ASTM E339 GUIDELINES WHERE NOTED * ON THE TESTING & INSPECTION REQUIREMENTS TABLES.

SP-5 THE SPECIAL INSPECTOR CANNOT BE AN EMPLOYEE OF THE CONTRACTOR.

SP-6 WHERE CONTRACTOR, FABRICATOR AND ASSEMBLER ARE SUPERSEDED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO THE CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. UNLESS THE FABRICATOR IS REGISTERED AND APPROVED TO PERFORM SUCH WORK, THE SPECIAL INSPECTOR SHALL NOT BE PERMITTED TO SIGN OFF ON THE FABRICATION. THE SPECIAL INSPECTOR PROGRAM ACCEPTABLE TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE. AT THE COMPLETION OF FABRICATION, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE STAINING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

TESTING AND INSPECTION REQUIREMENTS FOR SITE PREPARATION FOR SOIL SUPPORTED FOUNDATIONS (INCLUDING SPECIAL INSPECTIONS)

Required Verification and Inspection	Frequency of Verification and Inspection	IPC Section and Reference Standard	Inspector Qualifications
1. Verify methods before shallow foundations are adequate to achieve the design bearing capacity.	Periodic	IPC 1705.6	Inspector
2. Verify excavations are extended to proper depth and below existing proper materials.	Periodic		
3. Perform classification and testing of compacted fill materials.	Periodic		
4. Verify use of proper methods, densities and lift heights during placement and compaction of compacted fill.	Continuous	Geotechnical Report, foundation notes on soil supported	* Qualifications based on ASTM D3740
5. Prior to placement of compacted fill observe subsurface and verify that site has been prepared properly.	Periodic		
6. Chemical injection: Quality controlled testing and evaluation prior and subsequent to injection shall be performed by the Geotechnical Engineer to determine the effectiveness of the chemical injection process. The Geotechnical Engineer or his representative shall monitor the injection process to ensure proper placement and to obtain and monitor the soil test results.	Periodic		

TESTING AND INSPECTION REQUIREMENTS FOR CONCRETE CONSTRUCTION (INCLUDING SPECIAL INSPECTIONS)

Required Verification and Inspection	Frequency of Verification and Inspection	IPC Section and Reference Standard	Inspector Qualifications
CONCRETE CONSTRUCTION			
1. Inspection of reinforcing steel, including prestressing tendons and placement.	Periodic	IPC 1910.4; ACI 318-15; 7.1-7.7; Concrete and Concrete Reinforcement construction documents and Specification Section 03300	* Qualifications based on ASTM E329
2. Inspection of reinforcing steel welding in accordance with IPC 1705.2; when 2b, concrete is placed.	Continuous	AMS D1.4; ACI 318-15; 5.2; Concrete and Concrete Reinforcement construction documents and Specification Section 03300	(M) or Associate (M)
3. Inspection of anchors cast in concrete prior to and during placement of concrete where anchor loads have been increased or where strength design is used.	Periodic	IPC 1908.5; 1909.1; ACI 318-15; 8.1.3; 21.2.8; Specification Section 03300	Technician trained in field of work and has experience one year of experience.
4. Inspection of mechanical anchors installed in hardened concrete members.	Periodic	IPC 1909.1; ACI 318-15; 8.1.3; 21.2.8; Specification Section 03300	Technician trained in field of work and has experience one year of experience.
5. Inspection of adhesive anchors installed in hardened concrete. Special Inspector must be certified by a recognized contractor. A report must be submitted to the contractor design professional and building official documenting, testing how anchor was installed in accordance with the manufacturer's instructions per ACI 318-11 (0.9.2.2 and D.9.2.4).	Continuous	IPC 1909.1; ACI 318-15; Appendix D; Post-Installed Concrete/Masonry Anchor construction documents	Technician trained in field of work and has at least one year of experience.
6. Verifying use of required design mix.	Periodic	IPC 1904.2; 1910.2; and 1910.3; Concrete and Concrete Reinforcement construction documents and Specification Section 03300	* Qualifications based on ASTM C1077
7. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and/or content tests and determine the temperature of the concrete.	Continuous	IPC 1910.10; ASTM C 172; Concrete and Concrete Reinforcement construction documents and Project Specification Section 03300	* Qualifications based on ASTM C1077
8. Inspection of concrete and rebar placement for proper application techniques.	Continuous	IPC 1910.6; 1910.7; 1910.8; ACI 318-15; 5.9; 5.10; Project Specification Section 03300	* Qualifications based on ASTM C1077
9. Inspection for deficiencies of specified curing temperature and techniques.	Periodic	IPC 1910.9; ACI 318-15; Concrete and Concrete Reinforcement construction documents and Project Specification Section 03300	* Qualifications based on ASTM C1077
10. Inspection of prestressed concrete:			
a. Application of prestressing forces.	Continuous	ACI 318-15; 18.20; 18.18.4; Concrete and Concrete Reinforcement construction documents and Project Specifications	* Qualifications based on ASTM C1077
b. Grouting of bonded prestressing tendons in the slab-in-place-relating system.	Continuous	ACI 318-15; CH 16; Structural Notes on construction	
11. Erection of precast concrete members.	Periodic	ACI 318-15; 6.2; Post-tensioned Notes on construction documents and Project Specification Section 03300	
12. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and curbs from beams and structural slabs.	Periodic	ACI 318-15; 6.2; Post-tensioned Notes on construction documents and Project Specification Section 03300	* Qualifications based on ASTM C1077
13. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Periodic	ACI 318-15; 6.1.1; Formwork construction documents and Project Specification Section 03300	

VERIFICATION AND SPECIAL INSPECTION OF WOOD CONSTRUCTION

Required Verification, Inspection and Testing	Frequency of Verification and Inspection	IPC Section and Frequency of Inspection	Inspector Qualifications
1. Fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with IPC 1704.2.9 and local jurisdiction.	Periodic	IPC 1704.2.9; 1705.5.2; Prefabricated Wood Truss and construction documents and specification sections 06100, 06150, 0617.3, 06181	Trained Representative under direction of Licensed Engineer
2. Inspect wood structural panel sheathing construction for the following:			
a. Grade and thickness shown on approved building plans.	Periodic	IPC 1705.5; Timber Framing Notes on construction documents and specification section 06150	Trained Representative under direction of Licensed Engineer
b. Nominal size of framing members at edge, nail or spike diameter and length per approved building plans.	Periodic		
c. Nail or spike diameter and length per approved building plans.	Periodic		
d. Number of fastener lines and the spacing edge margins, per approved building plans.	Periodic		
3. Trusses over 60'-0", inspector shall verify the following:			
a. Temporary bracing/retention/bracing per approved building plans.	Periodic	IPC 1704.2.9; 1705.5.2; Timber Framing Notes on construction documents and specification section 06173	Licensed Engineer or his/her Representative
b. Permanent individual truss member bracing per approved building plans.	Periodic		
c. Approved truss submittal.	Periodic		
4. Site built assemblies	Periodic	IPC 1705.5; Timber Framing Notes on construction documents section 06100	Licensed Engineer or his/her Representative
5. High-load diagonals:			
a. Verify sheathing grade and thickness, nominal size of framing members adjoining panel edges, nail/slope diameter and length, and approved construction documents.	Periodic	IPC 1704.2.9; 1705.5.1; Timber Framing Notes on construction documents section 06150	Licensed Engineer or his/her Representative
b. Verify that all permanent and lateral bracing has been installed per requirements of the approved construction documents.	Periodic	IPC 1705.5; Prefabricated Wood Truss construction documents and specification section 06173	Licensed Engineer or his/her Representative

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