Building Occupancy Category (Table 1604.5):   □ II  □ III  □ IV

If Occupancy Category II:  Building height in feet_______  No. Stories_______

Periodic  Continuous

**Soils** (Table 1704.7)
- □  □  □  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.
- □  □  □  Verify excavations are extended to proper depth and have reached proper material.
- □  □  □  Perform classification and testing of compacted fill materials.
- □  □  □  Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.
- □  □  □  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.

**Driven Deep Foundations** (Table 1704.8)
- □  □  □  Verify element materials, sizes and lengths comply with the requirements.
- □  □  □  Determine capacities of test elements and conduct additional load tests, as required.
- □  □  □  Observe driving operations and maintain complete and accurate records for each element.
- □  □  □  Verify placement locations and plumbness.
- □  □  □  Confirm type and size of hammer.
- □  □  □  Record number of blows per foot of penetration.
- □  □  □  Record required penetrations to achieve design capacity.
- □  □  □  Document any pile damage.
- □  □  □  For steel elements, perform additional inspections in accordance with Section 1704.3.
- □  □  □  For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1704.4.
- □  □  □  For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.
- □  □  □  For augered uncased piles and caisson piles, perform inspections in accordance with Section 1704.9.

**Cast-In-Place Deep Foundations** (Table 1704.9)
- □  □  □  Observe drilling operations and maintain complete and accurate records.
- □  □  □  Verify placement locations and plumbness.
- □  □  □  Confirm element diameter.
- □  □  □  Confirm element bell diameter (if applicable).
- □  □  □  Confirm element length.
- □  □  □  Confirm element embedment into bedrock (if applicable).
- □  □  □  Confirm adequate end-bearing strata capacity.
- □  □  □  For hollow stem auger cast piles monitor and record rate at which the auger is withdrawn.
- □  □  □  Record concrete or grout volumes.
- □  □  □  For concrete elements, perform additional inspections in accordance with Section 1704.4.
## Special Inspections Checklist

### 2012 NC Building Code Section 1704
(check all boxes that apply)

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### Helical Pile Foundations (1704.10)
- Record installation equipment used.
- Record pile dimensions.
- Record tip elevations.
- Record final depths.
- Record final installation torques.
- Record other pertinent installation data as specified by the designer.

### Steel Construction (Table 1704.3)
Steel fabricator approved in accordance with Section 1704.2.2
- yes
- no (If no, then in-plant special inspection is required.)

#### Material verification of high-strength bolts, nuts and washers:
- Identification markings to conform to ASTM standards specified in the approved construction documents.
- Manufacturer’s certificate of compliance required.

#### Inspection of high-strength bolting:
- Snug-tight joints.
- Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.
- Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.

#### Material verification of structural steel and cold-formed steel deck
- For structural steel, identification markings to conform to AISC 360.
- For other steel, identification to conform to ASTM standards specified in the approved construction documents.
- Review structural steel mill test reports.
- Review fabricator’s certified test reports.

#### Material verification of weld filler materials:
- Identification markings to conform to AWS specification in the approved construction documents.
- Manufacturer’s certificate of compliance required.

#### Inspection of welding:
- Structural steel and cold-formed steel deck:
  - Complete and partial penetration groove welds (radiographic or ultrasonic testing).
  - Multipass fillet welds.
  - Single-pass fillet welds >5/16”.
  - Plug and slot welds.
  - Single-pass fillet welds ≤5/16”
  - Floor and roof deck welds.
  - Stud welding

#### Inspection of steel frame joint details for compliance:
- Details such as bracing and stiffening.
- Member locations.
Periodic	Continuous

Application of joint details at each connection. When the structure is designed to Seismic Design Category C, D, E, or F, special inspection shall be provided in accordance with AISC 341.

**Concrete Construction** (Table 1704.4)

*Concrete materials:*
- Verifying use of required design mix.
- 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.
- Inspection of concrete and shotcrete placement for proper application techniques.
- Inspection for maintenance of specified curing temperature and techniques.

*Reinforcing steel and embedded accessories:*
- Verify reinforcing steel and prestressing tendons conform to the material, size, and grade specified in the contract documents.
- Inspect placement of reinforcing steel, including prestressing tendons.
- Inspect reinforcing steel welding in accordance with Table 1704.3, Item 5b, including verification of weldability of reinforcing steel other than ASTM A 706.
- Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.
- Shear reinforcement.
- Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.
- Verify embedments for structural connections to the concrete members are provided and placed.

*Inspection of precast prestressed concrete:*
- Precast fabricator approved in accordance with Section 1704.2.2
  - yes
  - no
  (If no, then in-plant special inspection is required.)

Review mill test reports for prestressing tendons
- yes
- no

Review precast fabricators stressing records and concrete test reports.
- Verify erection of precast concrete members, including welded connections, placement of bearing pads, placement of expansion joint materials, and placement of joint sealants.
- Grouting of bonded prestressing tendons in the seismic-force-resisting system.

*Inspection of post-tensioned concrete:*
- Review mill test reports for prestressing tendons
  - yes
  - no

Application of post-tensioning forces. Record jacking forces and tendon elongations for post-tensioned concrete. Check recorded tendon elongations against calculated elongations for the applied prestressing forces.
- Grouting of bonded prestressing tendons in the seismic-force-resisting system.
## Special Inspections Checklist

### 2012 NC Building Code Section 1704

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### Masonry Construction (Level 1) (Table 1704.5.1)

- Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.
- Verification of $f'_m$ and $f'_m$ vac prior to construction except where specifically exempted by this code.
- Verification of slump flow and VSI as delivered to the site for self-consolidating grout.

As masonry construction begins, the following shall be verified to ensure compliance:

- Proportions of site-prepared mortar.
- Construction of mortar joints.
- Location of reinforcement, connectors, prestressing tendons and anchorage.
- Prestressing technique.
- Grade and size of prestressing tendons and anchorage.

During construction the inspection program shall verify:

- Size and location of structural elements.
- Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.
- Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.
- Welding of reinforcing bars.
- Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).
- Application and measurement of prestressing force.

Prior to grouting, the following shall be verified to ensure compliance:

- Grout space is clean.
- Placement of reinforcement and connectors and prestressing tendons and anchorage.
- Proportions of site-prepared grout and prestressing grout for bonded tendons.
- Construction of mortar joints.
- Grout placement shall be verified to ensure compliance with code and construction document provisions.
- Grouting of prestressing bonded tendons.
- Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.
Special Inspections Checklist
2012 NC Building Code Section 1704
(check all boxes that apply)

Periodic       Continuous

Masonry Construction (Level 2) (Table 1704.5.3)
☐ ☐ Compliance with required inspection provisions of the construction documents and the approved submittals.
☐ ☐ Verification of \( f'_{m} \) and \( f'_{acc} \) prior to construction and for every 5,000 square feet during construction
☐ ☐ Verification of proportions of materials in premixed or preblended mortar and grout as delivered to site.
☐ ☐ Verification of slump flow and VSI as delivered to the site for self-consolidating grout.

The following shall be verified to ensure compliance:
☐ ☐ Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons.
☐ ☐ Placement of masonry units and construction of mortar joints.
☐ ☐ Placement of reinforcement, connectors and prestressing tendons and anchorage.
☐ ☐ Grout space prior to grouting.
☐ ☐ Placement of grout.
☐ ☐ Placement of prestressing grout.
☐ ☐ Size and location of structural elements.
☐ ☐ Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.
☐ ☐ Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.
☐ ☐ Welding of reinforcement bars.
☐ ☐ Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).
☐ ☐ Application and measurement of prestressing force.
☐ ☐ Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.

Wood Construction (1704.6)
High-load diaphragms
☐ ☐ Inspect wood structural panels for grade and thickness shown in the approved construction documents.
☐ ☐ Verify nominal size of framing members at adjoining panel edges meet the requirements in the approved construction documents.
☐ ☐ Verify nail or staple diameter and length meet the requirements in the approved construction documents.
☐ ☐ Verify fastener lines and fastener spacing meets the requirements in the approved construction documents.

Wood Trusses
☐ ☐ For clear truss span is \( \geq 60' \) verification that temporary restraint/bracing is installed in accordance with the construction documents.
☐ ☐ For clear truss span is \( \geq 60' \) verification that permanent restraint/bracing is installed in accordance with the construction documents.

Where design wind velocity is \( \geq 110 \) mph Exposure Category B, \( \geq 120 \) mph for Exposure Category C, or Seismic Design Category is C, D, E, or F:
☐ ☐ Verify locations of shear walls.
### Special Inspections Checklist
#### 2012 NC Building Code Section 1704
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### Sprayed Fire-Resistant Materials (1704.12)
Structural member surface conditions:
- ☐ ☐ Verify surface is prepared in accordance with the approved fire-resistance design or the approved manufacturer’s written instructions.

Application:
- ☐ ☐ Verify the ambient temperature of the substrate before and after application meets the requirements of the manufacturer’s written instructions.
- ☐ ☐ Verify that the area for application is ventilated during and after application as required by the approved manufacturer’s written instructions.

Thickness:
- ☐ ☐ Verify the average thickness of the sprayed material is not less than the thickness required by the approved fire-resistance design.

Density:
- ☐ ☐ Verify that the density of the sprayed fire-resistant material is not less than that required by the approved fire-resistance design.

Bond Strength:
- ☐ ☐ Verify that the cohesive/adhesive bond strength of the sprayed fire-resistant material applied to structural elements is not less than 150psf.

### Smoke Control Systems (1704.16)
- ☐ ☐ Test leakage and record device location.
- ☐ ☐ Test pressure differences, flow measurements and detection and control verification.

### Mastic and Intumescent Fire-Resistant Coatings (1704.13)
- ☐ ☐ Inspection in accordance with AWCI 12-B and the approved construction documents.
- ☐ ☐ Verification of water-resistive barrier complying with ASTM E 2570 (if applicable)
Special Inspections Checklist
2012 NC Building Code Section 1704
(check all boxes that apply)

Periodic  Continuous

(Special Inspection required for conventional EIFS. Not required for EIFS drainage systems installed over water resistant barrier.)

- [ ] Verify correct installation of reinforcing mesh and application of base coat.
- [ ] Visually inspect all transitions in materials and joint sealants, including window, doors and run-out flashings.
- [ ] Conduct water penetration testing in accordance with Section 1403.2, exception 2.

**Special Cases (1704.15)**

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

**Architectural, Mechanical and Electrical Components**

- [ ] Provide periodic special inspection on buildings classified as Seismic Design Category D, E, or F for the fastening of interior and exterior wall claddings or veneers over 30 feet in height and weighing more than 5psf and anchorage of interior and exterior walls with the exception of interior nonbearing walls weighing 15 psf or less.
- [ ] Provide periodic special inspection for the anchorage of electrical equipment for emergency or standby power systems in buildings classified as Seismic Design Category C, D, E, or F.
- [ ] Provide periodic special inspection during the installation of piping systems intended to convey flammable, combustible, or highly toxic contents and their associated mechanical units in buildings classified as Seismic Design Category C, D, E, or F.
- [ ] Provide periodic special inspection during the installation of HVAC ductwork that will contain hazardous materials in structures assigned to Seismic Design Categories C, D, E, or F.
- [ ] Provide periodic special inspection during the installation of vibration isolation systems in structures assigned to Seismic Design Categories C, D, E, or F where the construction documents require a nominal clearance of ¼” or less between the equipment support frame and restraint.