

The Inspection Process

In

Waxhaw N.C.

This information is provided by the Waxhaw Enforcement Division to assist you in the progression of your project. Nothing in this document should be considered "Code" and does not supersede the North Carolina technical codes in any way. This is merely a guide to help you understand what you as the builder must provide the inspector before requesting each inspection. We strongly urge you to consult competent, licensed professionals to assist you with your construction project. This document is not all inclusive and may not list all required inspections.

Inspection Process

Footings/Foundations

Crawlspace

1. Footing

- Plans on site.
- All ditches and pier footings dug to code.
- All bulkheads (if needed) in place.

Decks, porches, etc., also REQUIRE footing, foundation, and floor framing inspections.

Slab (conventional)

- Footing
- Same requirements as crawlspace.

2. Plumbing under slab, if building has plumbing.

- Under-slab plumbing installed, tested to code & inspection passed.
- Plans on site.
- Foundation repaired at sewer & water lines.
- Termite treatment may or may not be done at this time.

Monolithic Slab

1. Plumbing under slab

- Drain system installed & tested w/10 feet of head pressure.
- Water lines that will be under slab installed.

2. Mono-slab

- Plans on site.
- All ditches dug to code.
- All bulkheads (if needed) in place.
- Footings dug to code for monolithic slabs (20 inches deep minimum from top of form to bottom of ditch & bottom of ditch is to be minimum 12 inches below the frost line).
- Slab prep complete.
- After this inspection passes, concrete may be poured & framing may begin.
- Termite treatment may or may not be done at this time.

General notes for **ALL** of the above foundations:

A *footing inspection* is REQUIRED for any structure pertaining to the home. This includes decks, screen porches, sunrooms etc.

- For any inspection not just the foundation having the plans on site for the inspector is required.
- ALL foundations require anchor bolts or straps be installed per the Code.
- Any pipe, wire, etc. passing through a foundation or footing is to be sleeved per Code, this includes thickened slab areas.
- All plumbing lines that are to stub up through the concrete slab require a "bond breaker wrap" per Code. This can be done with a layer of poly wrapped around & taped to the pipe.

After the listed *slab inspections* have been passed, concrete may be poured and the framing on the building may begin.

The next inspection for crawlspace foundations and conventional slabs will be the *foundation* inspection.

Foundation (for crawlspace and conventional slab foundations)

- Plans on site
- Foundation completed with no backfill on any footings, piers or perimeter walls.
- Damp proofing or water proofing, (depending on depth of proposed fill), completed.
- All required lintels, if any, in place.
- Foundation drain may or may not be installed at this time.

It is preferred, but not required for (crawlspace foundations), that sleeves for the sewer line, water line, electrical lines, etc., passing through the foundation be installed at this time. For slabs, the plumbing under the slab will have already been installed. The foundation is to be repaired (if needed) and the sleeves sealed to code.

After this inspection has passed backfilling may be begin and the floor framing or slab prep may be started. The next inspection is *Floor Framing or Slab*.

Open Floor Framing (crawlspace) *Slab* (conventional)

- Plans on site. If TJI's or floor trusses are used, a layout plan is required to be on site.
- Floor system with no floor sheeting completed. (crawlspace)
- All backfilling & leveling of fill inside foundation completed.
- Treatment for termites may or may not be done at this time.

- Slabs also require vapor barriers to be installed with the seams sealed per Code.

Concrete may now be poured or floor sheathing installed.

After either of the above inspections has passed, floor sheathing may be installed (crawl space), or concrete poured, (slab) and framing of the house may begin. The next inspection is *Concealed Insulation*.

Pre-Air Barrier, Concealed Insulation & Exterior Walls

- Insulation and air barrier installed in all concealed areas. The sides and tops of the air barriers are to be left loose so the inspector can pull the material back and see the insulation behind it.
- Energy blocking as required installed. It may be sealed around at this inspection but does not have to be. It is required to be completed by the *framing & rough* inspection.
- All doors and windows set.
- Roof completely covered with felt (tar paper). Completed roof preferred.
- Air barrier installed on exterior walls.

Note: If a masonry fireplace/chimney is to be constructed, it must be in place at this inspection. There can be no holes in the walls or roof that will allow rain, snow etc., into the house and allow the insulation to get wet.

In order to meet the requirements of the 2012 Energy Code a *concealed insulation* inspection had to be added to the process of constructing a dwelling. The Energy Code now requires all insulation to be encapsulated. It also requires insulation behind tubs, showers, in gas log chases, chases on outside walls, attic knee walls and anywhere unheated and heated areas meet to be covered with an approved air barrier. The joints in this air barrier shall be sealed before it is "concealed" behind the above mentioned items & others.

Blocking is also to be installed and the edges sealed between joists, trusses, & Other framing members that pass from an unheated area (such as a garage ceiling

Joist that crosses the garage wall and then becomes a floor joist for a 2nd floor room) to a heated area.

Waxhaw does not require a specific Wall Sheeting inspection. This inspection takes place at the same time as the *Concealed Insulation* inspection. After the *Concealed Insulation* inspection has passed, the air barriers (Examples of approved air barriers are sheetrock, OSB or plywood, Tyvek and others) are installed over the concealed insulation and any joints in the air barriers are sealed. Plumbing, mechanical and electrical roughs may begin.

Framing & Roughs Inspection

- Plans on site. If engineered wood products are used (trusses, TJI's, lam beams, etc.), all layout plans, beam calculations, bracing plans, etc., are to be on site.
- Completed roof on house. This is required as interior wiring can't be allowed to get wet from rain, snow, ice, etc. If the interior wiring is exposed to water it must be replaced.
- Electrical rough complete, all boxes installed, all joints made up to Code.
- Mechanical rough complete with gas lines tested per Code (if applicable).
- Plumbing rough complete w/drains & water lines tested per Code.

- All trade rough inspections must be passed prior to scheduling a framing inspection.

- All framing is to be complete with plans on site.
- All air barriers installed over concealed insulation with joints (if any) in the air barrier sealed per Code.
- All required Energy Code blocking to be sealed per Code.
- All fire & draft stopping complete.
- Bottom plates of exterior walls may be sealed (caulked) to floor. Required before insulation inspection.
- All lintels and exterior flashings installed.
- All walkways to attic platforms (if any) to be in place.
- All required insulation shields on HVAC vents in place.
- Proof of treatment for termites is required to be on site by this inspection.

The above list is the absolute minimum in order for this inspection to take place. There are other aspects of this inspection that can vary depending on the assorted ways to install each trade. This list cannot include every aspect of this inspection and the above list should be considered at best, a rough guide.

After the electrical, mechanical and plumbing roughs, and framing have passed, the next inspection is the *Insulation Inspection*.

Insulation

- All insulation not installed at the concealed insulation inspection (with the exception of any blown insulation in the attic) is to be in place and supported per the Building Code. Batt insulation must be used under any permanent attic platforms.
- All soffit vents installed.
- Bottom plates sealed (caulked) to floor.
- Cavities around door & window frames insulated to code.

Insulation in the crawl may be installed at this time but will not be checked until the *Final inspection* is done.

Conditional Power (required prior to final inspection)

- Ensures building is safe to bring power into the structure.
- All conductors are properly terminated and concealed in a box, covered with a plate, or connected to a device/appliance.
- All panels are properly made up and labeled.
- Grounding conductor and ground rods are in place and visible.

Conditional Gas (required prior to final inspection) (if applicable)

- 10 psi test in place.
- All gas lines are properly terminated.
- Connections to appliances made or line is capped.

Final inspections

Exterior

- Final grading done.
- All paint and/or caulking done.
- All hand & guardrails installed.
- Required 10 pound gas test.

- All exterior electrical fixtures, outlets, covers, etc., installed. Vacuum breakers on exterior sill cocks.
- All holes in boxing, siding, foundation, etc., sealed per Code.
- PRV (if on county or city water supply) installed.
- Weep holes to code, if brick veneer. Crawlspace (if applicable)
- Crawl door built & installed.
- Vapor barrier installed per Code.
- Crawl insulation installed per Code.
- HVAC ducts installed per Code.
- Crawl drain installed at low point of crawl.
- Crawlspace must be dry. No standing water is allowed in the crawl at the *Final*.
- If a furnace and/or a water heater are installed in the crawl, it can be no more than 20 feet from the crawl door to the control side of the appliance.
- If a water heater is installed in the crawl, the pap-off drain must exit the crawlspace through an air gap.
- All required disconnects to electrical equipment in the crawl installed per Code.
- A switched light and a receptacle are required in the crawl if any equipment is present.

Interior

- All hand and guardrails installed per Code.
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- ○ Electrical, plumbing, and mechanical systems completed.

Carpet is not required for *afinal inspection*, but if it is installed it must be covered to prevent damage. OSHA & insurance regulations prohibit inspectors from removing their boots or wearing boot covers while at an active construction site.

- Form N1101.9 must be completed in full and permanently affixed in one of three places; on the breaker box cover (cannot cover the breaker labels), inside a kitchen cabinet door or beside the insulation card in the attic.
- Code compliant window opening limitation devices installed if required.
- CO detectors to code, (1 per story and outside of every sleeping area.)

Attic

- Code compliant attic access.
- All insulation, insulation dam, insulation shields, etc., in place.
- If any equipment is located in the attic, the installation of the equipment must be completed.
- Code compliant walkways to any equipment located in attic.
- If a light is required in the attic it must be installed, bulb included.
- If a smoke detector is required in the attic it must be installed at this inspection.

While this list seems to be relatively simple, bear in mind it is not all inclusive. It's some of the most commonly missed items we as inspectors have noted in years past. The *final inspection* is just that. The home with very few exceptions is to be complete and very close to move in condition. The *final inspections* are much like the framing & roughs inspections noted earlier. Many things and people must come together at one time. Any list of requirements is not and cannot be complete and should be at best, a rough guide as to what must be done before the home is ready to be occupied.

Other Inspections

There are several inspections that are required but not listed under any category as they can be requested at several different stages of construction. It is up to the person performing the work to request these inspections. These include, but aren't limited to:

- Buried water and sewer lines.
- Buried electric and gas lines
- Deck footings