



GUILFORD COUNTY PLANNING AND DEVELOPMENT

MODULAR HOMES MANUFACTURED HOMES

The following questions are commonly asked concerning manufactured homes.

1. What is the difference between a modular home and manufactured home?

Modular - Per Volume VIII of the State Building Code: A manufactured building designed to be used as a one or two family dwelling unit which has been constructed and labeled indicating compliance with the North Carolina State Building Code, 2000 International Residential. It is composed of components substantially assembled in a manufacturing plant and transported to the building site for final assembly on a permanent foundation; these units are inspected at the factory during construction by an agency which is approved by the State of North Carolina. After inspection the agency affixes a validating stamp inside the unit. The local inspection's department inspects the footings, foundation, the placement of the units at the building site, as well as the exits and all utility connections. Note: Plan Review may be required prior to the issuance of a building permit.

Manufactured - A structure transportable in one or more sections, which in the traveling mode, is eight (8) body feet or more in width or forty (40) body feet or more in length, or, when erected on the site, is 320 or more square feet and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating,

air conditioning and electrical systems contained therein. They are not constructed in accordance with the standards of the North Carolina State Residential Building Code. Manufactured homes constructed after July 1, 1976 will meet or exceed the construction standards promulgated by the U.S. Department of Housing and Urban Development that were in effect at the time of construction. After construction a metal tag is affixed on

the rear exterior of the unit. The local inspection's department inspects the set up: poured concrete footing if required, piers, tie downs, exits and house numbers of the unit at the building site as well as all utilities installed and connected to them.

2. Can any type of manufactured home be set up in any residential zones?

1. The primary zone which allows Manufactured Dwellings of all classes is the AG – Agricultural Zoning District. In accordance with the Guilford County Development Ordinance, PERMITTED USE SCHEDULE, Class AA Manufactured Dwellings can be set up in the following zoning districts: RS-40MH, RS-30MH, RS-20MH, RS-15MH, RS-12MH, RS-9MH, RS-7MH, RS-5MH, RM-5MH, RM-8MH, RM-12MH, RM-18MH, and RM-26MH. Class AA Manufactured Dwellings are permitted in the Scenic Corridor Overlay District.
2. Class A or B Manufactured Dwellings can be set up in the following zones: RS-40MH, RS-30MH, RM-12MH, RM-18MH, and RM-26MH. Class A or B Manufactured Dwellings are **not** permitted in the Scenic Corridor Overlay District.
3. Class C Manufactured Dwellings are not permitted except on Bona Fide Farms. [See Section 2-1.3(D) 4)].
4. The definitions of Class AA, A, B and C Manufactured Dwellings are found in Guilford County Development Ordinance, Section 2-1.3(D).

NOTE: Modular - Dwellings are permitted in the same zoning districts as “site” built homes.

3. Who can set up the manufactured home?

In accordance with North Carolina General Statute 143-143.11, any manufactured home manufacturer, dealer, sales associate or set-up contractor engaging in the



business of set-up must first obtain a license from the North Carolina Housing Board. An individual may set up his or her own home provided they comply with the North Carolina Manufactured Home requirements and occupy the home for at least twelve (12) months following completion.

4. Can porches, decks, awnings, cabanas and stairs be attached to the manufactured home?

All auxiliary structures (such as porches, decks, awnings, cabanas, stairs, etc.) shall be entirely self-supporting, unless designed and approved by a professional engineer or architect or manufacturer to be supported on the manufactured home. All such structures must be constructed in accordance with the North Carolina State Building Code, 2000 International Residential.

5. What is the difference between a landing and a deck?

A landing is a platform at the top or bottom of the steps thirty-six (36) square feet or less in area. A landing should be a minimum of 3' x 3'. A deck is an exterior floor system greater than thirty-six (36) square feet, for which a separate permit is required. Decks shall be constructed according to the North Carolina State Building Code, 2000 International Residential.

6. When are guard railings required on landings and how must they be built when they are required?

Every porch, terrace, or entrance platform thirty inches (30") above an adjacent finished grade shall be equipped with railings or guards not less than thirty-six (36") high. The railings shall have intermediate rails or ornamental closures which will not allow passage of an object 6" or more in diameter horizontally, and 4" vertically, between rails.

7. How many exits are needed and how are the stairs to be built?

Each manufactured home shall have a minimum of two (2) remote exterior egress doors. See pages 55 and 56 of the North Carolina Regulations for Manufactured Homes Code book for information on how to build the steps and stairways.

8. What are the manufacturer's installation instructions? What if the manufacturer's instructions are not provided with the manufactured home?

Each new manufactured home shall have its stabilizing system installed in accordance with the manufacturer's installation instructions. These instructions shall be left with the manufactured home following installation. Manufactured homes not provided with the manufacturer's instructions for stabilizing devices, in the zone in which the manufactured home is to be installed shall be provided with anchoring and support systems designed by a registered professional engineer or architect or shall comply with the State of North Carolina Regulations for Manufactured Homes Code. Every attempt must be made to obtain a copy of the original set up instructions.

9. What are the instructions for the manufactured home owner?

Information needed for a permit

1. We must know the year, model name, number of bedrooms, number of baths, and size (minus the tongue) of your home.
2. We must know the name of your setup, electrical, mechanical and plumbing contractors at the time of permit application.
3. If a homeowner plans to do their own plumbing or mechanical work, prior approval must be



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obtained. Please call (336) 641-3334, between 8:00 and 9:00 A.M.

4. If a homeowner plans to do their own wiring, prior approval must be obtained. Please call (336) 641-3334, between 8:00 and 9:00 A.M.

Procedure to follow for Inspections

1. If the home is a doublewide, any poured concrete footings for the piers (or permanent foundation) must be inspected before pouring concrete.
2. Be sure the home is tied down properly, using new straps and anchors.
3. Do not skirt the unit until after the set-up (footings when required, piers, and tie down) and plumbing (water supply and sewer lines) have been approved.
4. The steps must meet minimum requirements, with steps (or a deck with steps) at all required exits (See pages 55, 56 and 57 of the North Carolina Regulations for Manufactured Homes Code book).
5. Leave your homeowners manual (which gives information regarding tie downs, pier, and ground anchors) between the inner and outer front door, or on a countertop inside the home when the unit will be unlocked.
6. Make arrangements for the electrical inspector to be able to check the electrical panel inside the home.
7. If your home is on a private lot or in a manufactured home park you may call for the building, mechanical, plumbing, and electrical inspections separately. (Do not skirt prior to these inspections).

8. The address numbers must be in place before the final inspection.

9. You may reach the Electrical, Plumbing, Mechanical and Buildings Departments by calling (336) 641-3707 or by directly calling the Guilford County Planning and Development Department at (336) 641-3334.

10. Site Preparation

1. Suitability of Site

Each site shall be suitable for its intended use and acceptable to the authority having jurisdiction based on the Code and local land use regulation. *The installer should inspect the site well in advance of the arrival of the home to determine if conditions exist such as poor soil conditions, severe slope, uncompacted fill, or other factors that may require the services of a soil testing agency or consultation with a professional engineer.* If, during the inspection of the site, the installer determines that the services of a soil testing agency or professional engineer are required or that the site will require extensive grading in order to obtain proper drainage, the responsibility for securing and paying for these services shall rest with the homeowner unless otherwise agreed by contract. If the installer has failed to inspect the site prior to the *setting* of the home, and it is determined that such services are required, the responsibility for securing and paying for these services shall rest with the installer.

2. Removal of Debris

The installer shall remove all debris from under the home after completion of the set-up.



3. Vegetation and Organic Material

All vegetation under the home shall be cut to a maximum height of 2 inches above grade. Roots, tree stumps, etc. shall be cut to grade level. ALL sod, stumps and other organic material shall be removed from areas where footings are to be located.

4. Proper Drainage

The area under and within a minimum of 3 feet of the perimeter of every manufactured home shall be graded such that no water will collect and stand in these areas and such that surface runoff is diverted away from the home. Such drainage may be accomplished as follows or by other acceptable methods in the Code (See Figure 3.3.4):

- A. The grade outside the home shall be sloped at a minimum of $\frac{1}{2}$ " per foot for a minimum of 3 feet on each side of the home.
- B. If the ground level under the home is below outside finished grade, adequate precautionary measures shall be taken to assure positive drainage at all times.

In ALL cases, the area under the home shall have all pockets filled and shall be reasonably smooth, and all excavations for footings shall be backfilled up to grade level to prevent entrapment of water.

11. Footings

1. Soil Bearing Capacity

Footings shall be placed on firm, level undisturbed soil or controlled fill. Controlled fill shall be free of grass and organic materials and shall be compacted to at least 90% of maximum relative density with a minimum load bearing capacity of 2,000 PSF. The

soil bearing capacity of the site must be determined in order to select an adequate footing size and pier spacing. Prior to setting up a home, the soil bearing capacity of the site shall be determined by the installer in accordance with the test method indicated in Section 3.5.3.1 of the North Carolina Regulations for Manufactured Homes Code book. If unusual conditions are encountered, or if the soil appears to be peat or uncompacted fill, the services of a local soil testing agency, geologist, or North Carolina professional engineer will be required. If, during the inspection of the site prior to arrival of the home, the installer determines that the services of a soil testing agency, geologist or professional engineer are required, the responsibility for securing and paying for these services shall rest with the homeowner unless otherwise agreed by contract. If the installer has failed to inspect the site prior to the *setting* of the home, and it is determined that such services are required, the responsibility for securing and paying for these services shall rest with the installer.

2. Soil Bearing Capacity Test Method

The use of a *pocket penetrometer* is approved for normal soil conditions. The procedure for use of the pocket penetrometer is as follows:

- A. Test a typical area adjacent to or within 10 feet of the perimeter of the unit. Additional test sites may be required.
- B. Dig down to the depth required for the bottom of footings (below the frost line or a minimum of 4 inches, whichever is greater). The size of this excavation shall not be less than one square foot. The frost line depth for each, in North Carolina, is indicated in Table 3.5.2 (Guilford County 6").



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- C. Using the pocket penetrometer take seven readings. Eliminate the highest and lowest and average the remaining five.
- D. Drive a wooden stake beside this area and record the final average on the stake. This will allow the Inspector to check or verify this reading.

12. Footing Size, Slabs or Continuous Footings

1. Footing Size

No footing, whether solid masonry, poured concrete, or other listed and labeled footing material shall be smaller than 16" x 16". A 16" x 16" or 20" x 20" footing of solid masonry may consist of either a single unit, or may be made up of two 8" x 16" or two 10" x 20" units respectively placed side by side. All masonry or concrete footings larger than 20" x 20" shall be a single unit, precast or poured.

2. Concrete Slabs or Continuous Footings

If cast in place steel anchors in concrete slabs or continuous footings are used to anchor the home, then each cast in place steel anchor shall be capable of resisting a load of 4,725 pounds in the direction of the tie without displacement of either the anchor or surrounding concrete. The top surface of concrete slabs or continuous footings shall be level to within 1/2" in 10 feet. Concrete for such slabs or footings shall have a minimum 28 day compressive strength of 2,500 psi. *Such anchoring systems shall be designed by a North Carolina registered engineer or architect.*

13. Piers and Pier Spacing

1. New Manufactured Homes

For all NEW manufactured homes the design and spacing of all main I-beam, marriage line, and

perimeter support piers shall be in accordance with the Code for homes produced by manufacturers listed in Appendix A, and shall utilize the predetermined soil bearing capacity of the site as specified in Section 3.5.3. For manufacturers NOT listed in Appendix A, pier spacing shall be as indicated in the Manufacturer's Installation Instructions for a given soil bearing capacity and footing size (See Section 1.3.1) ALL FOOTINGS, WHETHER PIER SPACING AND CONFIGURATION ARE DETERMINED BY THE CODE OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, SHALL COMPLY WITH SECTION 3.5 OF THE NORTH CAROLINA REGULATIONS FOR MANUFACTURED HOMES CODE AS TO MINIMUM SIZE RESTRICTIONS, ORIENTATION, DEPTH TO BOTTOM OF FOOTING, AND FOOTING MATERIALS. Marriage line and perimeter support piers shall be located as indicated either by markings or tags provided by the manufacturer, by guidelines provided in the Code, or as indicated in the Manufacturer's Installation Instructions.

2. Used Manufactured Homes

For USED manufactured homes the design and spacing of all main I-beam, marriage line, and perimeter support piers shall be in accordance with the requirements of Section 3.7 of the Code, and main I-beam pier spacing shall be in accordance with Table 3.7, utilizing the predetermined soil bearing capacity of the site as specified in Section 3.5.3. Marriage line and perimeter support piers shall be located on both sides of all openings greater than 4 feet in width. Footing sizes for marriage line and perimeter support piers shall be determined using the procedure given in Section 3.7.10.



14. Skirting - Is skirting around the manufactured home required? Yes, what type of Material can be used as skirting?

1. Skirting Material

Skirting shall be of material that is acceptable for exterior construction. Skirting shall be durable and suitable for exterior exposures. Masonry skirting or curtain walls shall be installed in accordance with Section 3.6.3 or Section 3.6.4. Any wood framing used in the support of skirting shall be approved pressure treated wood. Manufactured skirting material shall be with the skirting manufacturer's instructions.

2. Masonry Curtain Walls Not More Than 40 inches in Height – Footings for Masonry Curtain Walls Not More than 40 inches in height

Brick curtain walls for skirting which are not more than 40 inches in height shall be installed on a poured-in-place concrete footing with a minimum 28 day compressive strength of 2,500 psi. The footing shall be placed on firm, level, undisturbed soil or controlled fill and shall be 8 inches wide with minimum thickness of 4 inches. The bottom of the footing shall be below the frost line. (Guilford County - 6")

EXCEPTION: Masonry curtain walls less than 40" in height may be placed on a footing made up of 8" x 16" x 4" thick solid masonry blocks. The bottom of the blocks shall be placed on firm, level, undisturbed soil or controlled fill, with the bottom of the blocks below the frost line (Guilford County - 6"). The blocks shall be placed with no space between individual blocks and with the 16" dimension parallel to the masonry curtain wall.

3. Masonry Curtain Walls More Than 40 inches in height

Masonry curtain walls more than 40 inches in height shall be installed as a pier and curtain wall system in accordance with the prescriptive requirements below, *or the system shall be designed and certified by a North Carolina professional engineer or architect.* (See Figure 3.6.4)

4. Ventilation

All crawlspace enclosures, whether of brick or other materials, shall be ventilated in accordance with Section 3.10.

5. Crawl Space Access

Access shall be provided to the crawl space by either an opening which is a minimum of 18 inches high by 24 inches wide or by panels which are removable without the use of tools.

15. Plumbing Requirements

Plumbing requirements must meet all North Carolina Plumbing Codes.

Water distribution system above ground

Material for water-distribution pipes and tubing shall be brass, copper water tube minimum type M, stainless steel water tube minimum grade H, cast iron pressure pipe, galvanized steel, chlorinated polyvinyl chloride (CPVC) or polybutylene (PB) or PEX. All pipe to be installed with approved fittings; except that changes in direction in copper tube (ASTM B88) may be made with bends having a radius of not less than four diameters of tube, providing that such bends are made by use of forming equipment which does not deform or create a loss in cross-sectional



area of the tube. Vacuum breakers are required and need to be built in. An air test of 100 pounds is required on water pipe. A Manufactured Home must have a check valve installed and all shall have 100% opening cut-off on water coming into home at least within 3 feet of crawl space door or inside home or within 5 feet of exterior foundation wall in a valve box.

Water distribution system below ground

Underground water distribution piping shall be copper water tube type L, brass, cast iron pressure pipe, galvanized steel, chlorinated polyvinyl chloride (CPVC) or polbutylene (PB) or PEX. All to be installed with approved fittings or bonds and a minimum of 12 inches in ground. Any materials subject to corrosive soils shall be protected when used in corrosive soils. Please note there is a difference in water service and water distribution.

Drainage & Sewer Piping

The grade or slope of the sewer piping is to be 1/4 inch per 1 foot for pipe sizes less than 3 inches and 1/8 inch per 1 foot 3 inches and larger diameter pipe. Joints between two different types of pipe must have proper fittings. ABS and PVC pipe **cannot** be glued together. Long turn fittings shall be used and clean outs shall be accessible the minimum clearance in front of clean outs shall be 18 inches on 3" or larger pipes. There shall be a clean out near the junction of the building drain and building sewer. This clean out may be either inside or outside the building wall provided it is elevated to finish grade. Clean outs shall be of the same size of as the pipe served. Clean

outs shall be installed at each change of direction greater than 45 degrees, at every drop, and every 100 feet. A minimum of 3 inches of cover on sewer is needed. All pipes must be hung to code with proper spacing on all pipes. Cleaner must be used on all PVC (purple primer).





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**MANUFACTURED HOME
PERMIT APPLICATION**

Permit Number: _____ Tracking Number: _____

Applicant Name

Phone Number

Mailing Address

City

State

Zip Code

MANUFACTURED HOME ON A PRIVATE LOT

Information Needed to Submit for Permit:

3 Copies of Plot Plan to Scale

Note: If applicant is not the landowner, a notarized statement from landowner giving permission for permit is required.

Job Location

Property Owner

Phone Number

Mailing Address

City

State

Zip Code

Plat/Deed Book: _____ Page #: _____ Zoning: _____

Tax Map # _____ -- _____ -- _____ Block # _____ -- _____ Parcel # _____

Property Served By:

Well

Community Well

Public Water

Septic

Public Sewer

Description of Home: Year: _____ Model: _____ Size: _____

of Baths: _____ # of Bedrooms: _____ # of Decks: _____

MANUFACTURED HOME IN A PARK

Mobile Home Park Name

Phone Number

Park Mailing Address

Job Location

Lot Number

Description of Home: Year: _____ Model: _____ Size: _____

of Baths: _____ # of Bedrooms: _____ # of Decks: _____

SUB-CONTRACTORS

THIS INFORMATION IS REQUIRED FOR ALL PERMITS

LOCATION: _____
Name Phone Number State License Number

PLUMBING: _____
Name Phone Number State License Number

ELECTRICAL: _____
Name Phone Number State License Number

MECHANICAL: _____
Name Phone Number State License Number

Applicant Signature

Date