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# COUNTY OF FLUVANNA

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*"Responsive & Responsible Government"*

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## IMPORTANT CONSTRUCTION NOTES

**Please pay attention to the following comments and requirement's for a residential structure. If you should have questions regarding this information, contact the County Building Inspection Department at (434) 591-1935.**

### International Residential Code/2006:

The Virginia Uniform Statewide Building Code has adopted the 2006 edition of the International Residential Code for construction of detached one and two-family dwellings and townhouses of three or less stories. This is the code book that builders need and it contains the requirements for building, plumbing, electrical, and mechanical work. You can get your copy from the International Code Council for about \$103.00. Contact information is below:

ICC Headquarters  
5203 Leesburg Pike, Suite 600  
Falls Church, VA 22041  
Phone: 703-931-4533  
Fax: 703-379-1546  
Web site: [www.iccsafe.org](http://www.iccsafe.org)  
Email: [webmaster@iccsafe.org](mailto:webmaster@iccsafe.org)

### Setbacks:

Verification of setback distances to property lines for compliance of zoning regulations is done during the footing inspection. The owner is responsible to clearly mark all relevant property lines. Failure to verify setbacks will result in a stop-work order being issued.

### Erosion Control:

Compliance with the Virginia Erosion and Sediment Control law must be performed during excavation. Compliance with the inspector's recommendations is mandatory. Silt Fence must be maintained during construction until permanent stabilization is achieved.

## Footings:

The minimum depth for footings in Fluvanna County is 18-inches below final grade and a minimum 12-inches below original grade. Footing work cannot start until the permit is issued and the Soil and Erosion Measures are taken. Footings are to comply with IRC R403 as modified by the USBC.

**Exception:** One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, not exceeding 256 square feet (16'X16') of building area do not need footings provided all of the following conditions are met:

1. The building height is not more than 12 feet.
2. The maximum height from the finished floor level to the grade does not exceed 18-inches.
3. The supporting structural elements in contact with the ground are placed level on firm soil and wood elements are approved for ground contact.
4. The structure is anchored to withstand the wind load.
5. The structure is light frame wood or steel construction without brick, masonry, slate or tile.

Deck Plugs allowed only for uncovered one-story decks.

## Masonry Veneer Weep Flashing:

Corrosive-resistant flashing must be installed beneath the first course of masonry above the foundation wall or slab (*above ground level*) and at other points of support including structural floors, shelf angles and lintels. Weep holes of at least 3/16-inch in diameter are to be located immediately above the flashing with a maximum spacing of 33-inches.

## Masonry Veneer Support:

The IRC now proscribes the minimum support requirements for masonry veneers supported by wood construction. Support can include steel angles bolted to wall studs or steel angles supported by beefed-up rafters. A movement joint is required to be installed between veneers supported by foundations and veneers supported by wood or steel. There are too many detail options to print them all here, so see Section R703.7.2 of the IRC for details. Veneers supported by roofs with a slope greater than 7:12 require design by a registered design professional.

## Foundation Anchorage:

Residential foundations are required to be anchored with ½-inch diameter anchor bolts embedded a minimum of 7-inches into masonry or concrete foundations, spaced not more than 6-feet apart. **A new requirement in Section R403.1.6 of the IRC now requires a bolt to be installed within 12-inches of the ends of each plate.** (Manufactured products such as Simpson Strong-ties are acceptable if installed per the manufacturer's requirements.)

## Unbalanced Fill/Foundation Walls:

Typically, the level of unbalanced fill cannot be determined during the plan review due to a lack of information provided with the drawings. The contractor must select the appropriated foundation wall to accommodate the actual unbalanced fill conditions. Revised drawings are required if the as-built foundation is different from the approved plans. See the tables provided in Sections 404.1.1 of the IRC for details. (Block-Hollow- 8"-5', 10"-6', 12"-7') (Poured-6"-5', 8"-7', 10"-8')

## Retaining Walls:

Retaining walls that are not laterally supported at the top and that retain in excess of 24 inches (610mm) of unbalanced fill shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning.

## Truss Roof Details:

The engineer-sealed wood truss design drawings are to be provided on site at the time of the framing inspection. Unsealed roof truss layout drawings may be required also. Trusses are to be installed and braced per TPI/HIB as referenced by the IRC. **The snow load for Fluvanna County is 30 psf. (Figure R301.2).** Truss designs need to reflect this.

## Steel Beams:

Structural steel beam construction requires the seal of a Registered Design Professional (RDP) (professional engineer or architect licensed in Virginia) or a letter from the RDP specifically identifying that he has reviewed the plans for structural adequacy.

Exception: A letter from the designer, manufacturer or supplier of the structural steel, certifying that the members have been sized to support all required loads, must be submitted. This letter must identify the project by permit number and owner's name.

## Engineered Wood Products:

Construction documents must indicate the manufacturer, member size, number of members and E-value. This includes beams, joists and rafters. Complete details from the engineered wood product manufacturer that include layout, blocking, point loads, beams sizes and hanger type and location must be on site at the framing inspection. Failure to provide these documents may cause the work to be rejected.

## Stairs:

Minimum width:	36-inches above the handrail (31½ -inches below the handrail).
Handrail Projection:	4½ -inches on either side.
Minimum height:	6-foot 8-inches measured from the landing or the plane of the nosing of the treads.
Stair Lighting:	required to illuminate the steps and landings. The lights must be activated from both the top and bottom of the stairs.
Treads and Risers:	the maximum riser height is 8¼-inches and the minimum tread depth is 9-inches (leading edge to leading edge). The maximum difference between risers or treads cannot exceed 3/8-inch for the run.

For circular stairs, spiral stairs and winders, see Section 311 of the IRC.

## Window Glazing for Hazardous Locations:

Tempered or safety glazing is required in the following hazardous locations as defined by Section R308.4 of the IRC:

1. doors,
2. enclosures for tubs, showers, whirlpools, saunas and steam rooms where any part of the glazing is less than 60-inches above the standing or walking surfaces,
3. windows within 24-inches of the arc of a door (closed position) where the bottom edge is less than 60-inches above the floor or walking surface, and
4. any window that meets the following four criteria:
  - the individual pane is greater than 9 square feet,
  - the bottom edge of the pane is less than 18-inches above the floor,
  - the top edge of the pane is greater than 36-inches above the floor, and
  - there is a walking surface within 36-inches horizontally of the window on either side.
5. walls enclosing stairway landings or within 60" of the top and bottom of stairway's

## Handrails:

Handrails are required on at least one side of all stairs with four or more risers. Handrails are to be continuous the full length of the stairs (ok to interrupt on turns with a newel post) and ends are to be returned to the wall or terminate in a newel post. Handrails adjacent to walls must provide a 1½ -inch space between the wall and the handrail. Handrail cross-section must be a minimum of 1 ¼-inches and a maximum of 2 ⅝-inches.

## Guardrails:

A guardrail is always required for any walking surface greater than 30-inches above the floor or grade. This includes porches, balconies, raised floor areas and stairs. Guardrail geometry is as follows:

1. The minimum height of guardrails is 36-inches above the floor.
2. For stairs, the minimum guardrail height is 34-inches above the nosing of the tread.
3. Guards are to be constructed to prevent a 4-inch sphere from passing through (the triangular opening formed by tread, riser and bottom of guardrail must prevent a 6-inch sphere from passing through).

## Landings:

Landings are required at the top and bottom of each stairway, and on each side of an exterior door. The floor or landing cannot be more than 1½-inches lower than the top of the threshold on the interior and not more than 7¾-inches on the exterior provided that the door (other than the screen or storm door) does not swing over the landing. Landing width must be as wide as the door served and a minimum of 36-inches measured in the direction of travel.

- Exceptions:
1. The landing at the top of an interior stair can be interrupted by a door provided the door does not swing over the stair.
  2. For exterior stairs of two or fewer risers, on the exterior side of the door and the door is not the required exit door.

## Engineered Roof Design:

An engineered design for the room framing, prepared by a Registered Design Professional (RDP) is required based on the opinion of the inspector after the initial inspection of your project. This engineered design must be available on the jobsite for the framing inspection. Failure to provide this when required will result in a rejection.

## Garage Separation:

Attached garages must be separated from the dwelling and its attic by not less than ½-inch gypsum board applied to the garage side. If this includes the garage ceiling, the structure supporting the ceiling must also be protected with ½-inch of gypsum board (or equivalent). Garages beneath potentially habitable rooms must have ceilings of ⅝- inch thick type X gypsum or equivalent.

## Insulation:

Compliance with the energy efficiency requirements of Chapter 11 of the IRC are as follows, based on Type A-2 residential buildings (< 25% glazing-U value of .45) and Section 502.2.4.5 of the IECC that allows for full-height insulation over the exterior wall plate:

Attics	R-38
Walls	R-13
Floors over crawlspace	R-19
Floors over outside air	R-30
Slab perimeter	R-5 (< 2' fill)
Conditioned crawlspace	R-11
Basement walls	R-8

Paper face insulation cannot be left exposed. Visible markers are now required in attics to determine the depth of blown in insulation.

## Wall Bracing:

Wood frame walls must be braced according to Section 602.10 of the IRC and as amended by the USBC. This is a significant change to the previous requirements for wall bracing. The options are too numerous to detail here, but care must be taken for garage wall openings with less than 48-inches of bracing. For walls constructed beyond limits proscribed by the IRC, a design by a registered design professional is required.

## Egress:

Bedrooms and basements must have exterior door or operable window. Windowsill within 44" of the floor and minimum 5.7 sq.ft. opening (5.0 for grade & below.) Exit door must be 36" wide and side hinged by 6'8" in height.

## Window Sills:

In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 18 inches (457 mm) above the finished floor of the room in which the window is located. Glazing between the floor and 18 inches (457 mm) shall be fixed or have openings though which a 4-inch-diameter (102 mm) sphere cannot pass.

### Exceptions:

1. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.
2. Openings that are provided with window guards that comply with ASTM F 2006 or F 2090.

## Electrical:

### Smoke Detectors:

Interconnected smoke detectors, AC powered w/battery backup are to be installed per Section R313 of the IRC:

1. in each sleeping room,
1. immediately outside each sleeping room,
2. on each story of the dwelling,
3. roughed-in unfinished spaced that have the potential to be finished later, and when interior alterations or additions occur, smoke detectors shall be installed as required for new dwellings if it is possible w/o the removal of the existing interior finishes.

Electrical panels prohibited in clothes closets and bathrooms.

ARC-fault circuit interrupter's required for protection of all bedroom electrical outlets. This includes receptacles, lights, smoke detectors and closet lights.

Clothes dryer exhaust vents must be rigid metal duct.

Receptacle needed within 25 feet of all outdoor mechanical units.

All exterior receptacles have to have In Use Covers.

### Temporary Pool Barrier:

A temporary barrier around all in-ground swimming pools is required until the permanent barrier is installed. This barrier must be in place to guard the excavation as soon as it is dug. Failure to install the temporary barrier will result in the issuance of a stop-work order.

### Type and Order of Required INSPECTIONS:

1. Footer inspection before placing concrete
2. Temporary electrical service inspection
3. Groundwork plumbing inspection for basement plumbing
4. Before insulation placement:
  - Framing
  - Rough-in mechanical
  - Rough-in electrical
  - Rough-in plumbing
5. Insulation inspection
6. Before backfill:
  - Backfill inspection for basement wall
  - Damp-proofing and drainage in place
7. Chimney throat inspection (if applicable)
8. Early electrical service inspection
9. Sewer Line inspection (where applicable)
10. Final inspection
11. Issue Certificate of Occupancy
12. MOVE IN



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**FINAL CHECKLIST**  
**ALL REQUIRED INSPECTIONS HAVE BEEN APPROVED**

**LM HOUSE # \_\_\_\_\_**

**BUILDING**

1. Water in crawl
2. Guardrails and handrail/spacing.
3. Deck guardrails & handrail/picket spacing
4. Grade 10' from house 6" fall
5. Dryer Vent.
6. Crawl space insulation & vapor barrier
7. Decks lagged to house.
8. Decks flashed
9. Glass in hazardous locations
10. Insulation in Attic/basement

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**ELECTRICAL**

1. Polarities correct
2. Heat and A/C connections
3. Correct wiring and Fusing at panel
4. Light and receptacle in attic
5. Grounding correct
6. Correct wire and fusing Heat & A/C
7. Light and receptacle in crawl
8. Disconnects at appliances
9. ARC fault on bedroom circuits
10. GFCI protection where required

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**PLUMBING**

1. Fixtures connected
2. Leaks
3. Sewer line connection (LM)
4. O/P
5. Fixture cutoffs
6. Water heater installation with pan & drain
7. Water on
8. Vents through roof

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**MECHANICAL**

1. Condensation lines
2. Appliance clearances  
Combustion Air
4. Clearance, working space at airhandler
5. Gas line shut offs