Plan Review Requirements for NYS Residential Code

The *New* Building Codes of NYS, adopted in July 2002 have been in full effect since January 2003 and the 2020 Residential code of NYS has come into effect fully May 12th, 2020. There are some significant differences in the new codes, a few of which are outlined below. Building Plans must show compliance with the new codes; buildings and structures must be constructed per plan to the requirements of the Codes.

SECTION R301
DESIGN CRITERIA
Buildings and structures, and parts thereof, shall be constructed to safely support all loads, including dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code. The construction of buildings and structures in accordance with the provisions of this code shall result in a system that provides a complete load path that meets the requirements for the transfer of loads from their point of origin through the load-resisting elements to the foundation. Buildings and structures constructed as prescribed by this code are deemed to comply with the requirements of this section.

R301.1.1 Alternative provisions.
As an alternative to the requirements in Section R301.1, the following standards are permitted subject to the limitations of this code and the limitations therein. Where engineered design is used in conjunction with these standards, the design shall comply with the International Building Code.

1. AF&PA Wood Frame Construction Manual (WFCM).

2. AISI Standard for Cold-Formed Steel Framing—Prescriptive Method for One- and Two-Family Dwellings (AISI S230).

3. ICC Standard on the Design and Construction of Log Structures (ICC 400).

The design must account for uplift, shear and overturning moments due to wind.

All high wind load design & framing elements that are now required and which are normally not required for conventional construction need to be identified and shown in detail on the plans. Reference standards have many illustrations of framing and clipping details for high wind load design and standard building practice. It is recommended the Design Professional review these elements with the building contractor.

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Table R301.2 (1) Climatic and Geographic Design Criteria for Town of Smithtown

Ground Snow Load	Wind zone	Seismic Design Category	Weathering	Frost line Depth	Termite	Decay	Winter design Temp.	Ice shield required	Flood hazards
20	See Figure R301.2(5)A	B	Severe	3 Feet	Moderate to Heavy	Slight to Moderate	11	See Section 905.1.2	AE/VE

The following are some of the essential items we will be looking for on the plans. Submit <u>all</u> information for your project required by NYS Codes and the (zoning) Codes of the Town of Smithtown. Submit Three (3) sets of plans with your application.

- <u>In a conspicuous area</u> on the plans indicate if the design is Engineered or Prescriptive. Provide a copy of the analysis where applicable. Indicate Wind Exposure category used in the design (R301.2.1.4), Exposure B is urban, suburban or wooded; Exposure C is open and shoreline. List the Design Loads: Dead & Live for all floors, attic, porches, decks, balconies, Ground Snow (20 psf), Wind (R301.2(5)A), Seismic (B), etc. Also list floor areas including decks & porches.
- Plans must show all structural elements including girders, floor joist, walls, header and roof rafter dimensional, engineered lumber sizes and their supports. Indicate lumber species & grades. Flooring, wall and roof sheathing must be specified. Indicate this information on the appropriate drawings.
- Show critical load paths from the roof to foundation. Show framing details on plans, including clips, straps and foundation anchoring that are appropriate for the required loads (Foundation anchor spacing is much closer in high wind zones). Also, clip and connector manufacturers allow some of their products to be installed under or over the sheathing. However, there is a difference in the attachment fastener length. Specify the details on the plan.
- Each roof rafter must be strapped across the ridge or appropriately clipped to the ridge, or have a collar tie. They must also be appropriately clipped to the plates. .
- Include a top view illustration of the roof showing the component & cladding pressure zones. Indicate both the edge and interior panel-nailing schedule for each zone to provide the required uplift restraint. Specify spacing and type of nails, including nail gun options.
- The design for open porches, elevated (i.e. 2nd story) decks, carports, and similar open type structures must account for uplift. Show connections for the critical path to the foundation (including those for hollow columns). Lag bolt decks & porches to house structure.
- Indicate the nailing schedule for all walls. <u>Sheathing must be nailed to top plate</u>, other plates, all studs and all headers. This is a common framing mistake in the field. Show detail on plan.

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- Great rooms, and all wall areas with large or continuous windows & doors will need a wall diaphragm that is designed to resist wind pressure and shear. Strapping between floors, around openings and multiple hold down brackets are probably required (show details). All floor joists must be restrained at the ends to prevent rotation (R502.7 and High Wind Loads). Show the details for corner hold down brackets, floor and roof diaphragm bracing in the two end bays, gable end wall bracing (or balloon framing) and other elements of high wind load design.
- Truss design drawings shall be provided prior to their installation and shall be in conformance with the requirements of R502.11 and R802.10. Blocking and attachment details are to be shown in the building plans. Truss plans must be on site for the framing inspection. Draft stopping is required in concealed spaces every 1000 sq. ft. (R502.12).
- Emergency Escape R310: All sleeping rooms and habitable space in a basement requires an Emergency escape opening (5.7 sq. ft. (or 5 sq. ft. if within +/- 44 inches of grade). Identify each Emergency Escape Window on the floor plan. Include basement window well design plan if applicable.
- Energy Code: See the International Residential Code of NYS, Chapter 11 and the International Energy Conservation Construction Code, submit appropriate worksheet and certification. Methods of Compliance: Systems Analysis, Renewable Energy Sources, Component, Prescriptive or REScheck software for residential. Suffolk is zone 4.
- Install smoke alarms as required by R314
- Install carbon monoxide alarms as required by R315
- The NYS Codes also applies to accessory structure design.

Additionally, for any parcel located within 1 mile of the coastal mean high water of Smithtown Town the following is required for new construction, exterior windows must be protected via glazing meeting the large missile test certification of ASTM E 1996 and ASTM E 1886, or via structural shutters with attachment hardware provided, or building designed as a partially enclosed structure per the Building Code of NYS. See Residential Code Definitions (Chapter 2) & R301.2.1.2.

Note: The items listed on this sheet are common deficiencies noted during new construction plan reviews and are not intended to list all code and structural requirements. For all code and structural requirements see the New York State Residential Code and your design professional.