

Update and Clarification of Floodplain Development Standards Recommendations for the Town of Big Flats

General Comments

The Town of Big Flats floodplain development regulations are included in the Town's Municipal Code as Chapter 15.12, Flood Damage Prevention. These town standards for development in the regulated floodplain were most recently revised in 2001 based on the New York State Model Local Law for Flood Damage Prevention (which is based on federal regulations 44 CFR 60.3 through 44 CFR 60.6), with some changes to the organization and wording. Adoption and enforcement of these regulations for floodplain development are required to enable sale of National Flood Insurance Program insurance policies for structures in the town. New York State has also incorporated floodplain management requirements that apply to buildings in the Uniform Fire Prevention and Building Code.

Town personnel have expressed interest in updating the Town of Big Flats Flood Damage Prevention Chapter based on the most recent Model Local Law language developed by the NYS Department of Environmental Conservation (NYS DEC) in October 2022. The most significant changes since 2001 are:

- 1) The State's updated model language is consistent with changes to the NYS Residential and Building Codes that require flood protection to a level two or more feet above the Base Flood Elevation (BFE). The Big Flats 2001 law, which pre-dates this change to the NYS Uniform Code, requires the lowest floor of residential buildings to be three or more feet above the BFE (a higher standard than the Residential Code) and that the lowest floor of non-residential buildings to be at or above the BFE (a lower standard than the current code).
- 2) Standards have been added for wet floodproofing of accessory structures so that detached garages and sheds can be protected from flood damage without being elevated or made watertight.
- 3) The elevation requirement for residential buildings in Zone A without a Base Flood Elevation (BFE) is changed to be consistent with the 2020 NYS Residential Code. The top of the first floor of any residential building in the regulated floodplain must now be elevated two feet or more above the Base Flood Elevation. This requires an engineering analysis to determine the BFE if it is not available from a reliable source. (The previous standard allowed elevation to three or more feet above the highest adjacent grade for many projects when no BFE was available.)

Southern Tier Central Region Planning and Development Board has prepared the attached recommended language for updating Chapter 15.12 of the Big Flats Code. This recommended chapter is based on the October 2022 model Local Law for Flood Damage Prevention provided by the NYS, with revisions recommended by NYS DEC Floodplain Management staff. Information specific to the community was inserted and sections were re-numbered and formatted for consistency with the Big Flats Code. Administrative information found elsewhere in the Big Flats code is omitted.

The attached draft chapter includes the requirement that residential buildings be elevated so that the lowest floor is three or more feet above the Base Flood Elevation, a higher standard than the town enacted previously. For consistency, this 3-foot freeboard requirement is also applied to manufactured homes and recreational vehicles. The attached recommended language also includes additional changes to the state model ordinance that enable improved understanding of the federally established standards for floodplain development and facilitate enforcement. These suggested changes are based on FEMA documents, model ordinances of other states, and correspondence with NYS DEC Floodplain

Management staff. This proposed text has been submitted to NYS DEC for review and adjusted accordingly. The reasoning for recommended changes is presented below.

Authority to Regulate Counties, School Districts, and Public Improvement Districts

Article 36 of the New York State Environmental Conservation Law gives municipalities the power to regulate development projects conducted in the floodplain by counties, school districts, and public improvement districts. However, because municipalities do not generally have control over actions taken by a higher level of government, they may fail to require municipal floodplain development permits for such projects. A sentence was added to Section 15.12.080 (permits required) to clarify this authority.

Note: Local floodplain management authority does not apply to state and federal projects. State agencies evaluate flood hazards in connection with state-owned and state-financed buildings, roads and other facilities, the disposition of state land and properties, the administration of state and state-assisted planning programs and the preparation and administration of state building, sanitary and other pertinent codes. Federal agencies make flood risk management decisions for federal actions based on criteria in Executive Orders 11988 and 13690.

Determination of Flood Hazard Data at the Development Site

Determination of whether proposed development is in the regulated floodplain is often difficult, particularly in areas with paper Flood Insurance Rate Maps that provide few landmarks. Some floodplain ordinances adopted by NYS communities in the 1980s include the following language, which explicitly gave the local administrator the authority to make this determination: “The local administrator shall have the authority to make interpretations when there appears to be a conflict between the limits of the federally identified area of special flood hazard and actual field conditions.” This is not included in the current model ordinance.

Language has been inserted in Section 15.12.100 (administration) and Section 15.12.110(I) (application documentation) to enable the local administrator to require submittal of floodplain information at the site (by a licensed professional if requested). Proposed additional language in 15.12.120(A&B) (duties and responsibilities of the local administrator) specifies that the town responsibilities include determination flood hazard information at the project location (special flood hazard area, regulatory floodway, and base flood elevation).

An addition to the initial paragraph in Section 15.12.180 (development standards) clarifies the treatment of development projects that are located in more than one flood zone, using language consistent with the NYS Uniform Code (2020 Section 1612.1 and R322.1).

Base Flood Elevations Developed by the Applicant

For some development proposals in Zone A for which a base flood elevation is not available from an authoritative source, the applicant is required to provide a base flood elevation. Clarification of this requirement in the Sections 15.12.110(H) (application documentation) and 15.12.170(F) (information to be retained) improves consistency with the development standards in Section 15.12.180(F) for residential structures and with FEMA guidance (FEMA 265, “Managing Floodplain Development in Approximate Zone A Areas, A Guide for Obtaining and Developing Base (100-Year) Flood Elevations”).

Standards for Non-Building Development

Because the definition of “development” is quite broad (“any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, paving, excavation or drilling operations or storage of equipment or materials”), many types of activities require a floodplain development permit and are subject to the requirements of this law. However, the “Construction Standards” articulated in the NYS Model Law do not clearly specify the requirements that apply to non-building development proposals. It is recommended that this section (15.12.180) be renamed to “Development standards” and include the following requirements (some of which are only in the administrative sections of the model law):

4. Proposed development shall not result in physical damage to any other property (e.g., stream bank erosion or increased flood velocities). If requested by the local administrator, the applicant shall provide a technical analysis, by a licensed professional engineer, demonstrating that this condition has been met;
5. Proposed development shall be designed, located, and constructed so as to offer the minimum resistance to the flow of water and shall be designed to have a minimum effect upon the height of flood water;
6. Any equipment or materials located in a special flood hazard area shall be elevated, anchored, and floodproofed as necessary to prevent flotation, flood damage, and the release of hazardous substances; and
7. No alteration or relocation of a watercourse shall be permitted unless:
 - a. A technical evaluation by a licensed professional engineer demonstrates that the altered or relocated segment will provide conveyance equal to or greater than that of the original stream segment and will not result in physical damage to any other property;
 - b. If warranted, a conditional revision of the Flood Insurance Rate Map is obtained from the Federal Emergency Management Agency, with the applicant providing the necessary data, analyses, and mapping and reimbursing the town for all fees and other costs in relation to the application; and
 - c. The applicant provides assurance that maintenance will be provided so that the flood carrying capacity of the altered or relocated portion of the watercourse will not be diminished.

Encroachments

Encroachments in the floodway

The regulatory floodway is the channel of a stream and the adjacent area that must be kept free from encroachments in order to convey floodwater. The section of the NYS model law entitled “encroachments” requires certification that development in the floodway will not cause increased base flood heights (or that the map will be revised to show the higher flood level). However, no definition of encroachment is provided. FEMA guidance indicates that the community may make judgements about whether minor projects require an encroachment analysis:

“Minor projects: Some projects are too small to warrant an engineering study and the certification. Many of these can be determined using logic and common sense: a sign post or telephone pole will not block flood flows. Barbed wire farm fences that will be pushed over or ripped out early in the flood may also be permitted without a certification; however, larger more massive fences could be an obstruction to flood flows and may require an engineering study and certification. A driveway, road or parking lot at grade (without any filling) won’t cause

an obstruction either.” (FEMA 480, Floodplain Management Requirements: A Study Guide and Desk Reference for Local Officials, page 5-23).

In order to recognize that not all development constitutes an encroachment and assist with this judgement, a definition of encroachment is proposed (“any development in a riverine floodplain with the potential to obstruct or divert flood flows”) and the requirements in Section 15.12.180(B) (encroachments) are explicitly applied to encroachments. The required engineering certification is also added to Sections 15.12.110(J) (application documentation) and 15.12.170(G) (information to be retained).

Encroachments in Zone A (approximate floodplains without floodways)

For streams with Approximate Zone A floodplains (where no base flood elevations were determined), Flood Insurance Rate Maps do not show a floodway and Zone A floodplains are not mentioned in the “encroachments” section of the current NYS model law. However, fill, berms, or other encroachments in these areas can affect the flood carrying capacity of the stream, contribute to channel instability, and cause damage to other properties. Some floodplain ordinances adopted by NYS communities in the 1980s address this issue with the following language: “All proposed development in riverine situations where no flood elevation data is available (unnumbered A Zones) shall be analyzed to determine the effects on the flood carrying capacity of the area of special flood hazards set forth in section 4.3-1(3), Permit Review. This may require the submission of additional technical data to assist in the determination.” Enforcement of this requirement has been an effective tool for preventing the placement of fill in locations where it could adversely affect the stream system. The following proposed language has been added to Section 15.12.180(B) (encroachments) to include riverine floodplains mapped as Zone A:

3. Within Zone A in riverine areas, any permit application for an encroachment associated with new construction, substantial improvements or other development (including fill) shall be reviewed as set forth in Section 15.12.120(E) to evaluate the effects of the encroachment on the flood carrying capacity of the stream. The local administrator may require submission of additional technical analysis and data necessary to complete the determination;

Alteration of Existing Structures

The following recommendations are intended to clarify how the floodplain development standards apply to improvements to existing structures.

The definition of “new construction” includes subsequent improvements to structures built after floodplain management regulations were adopted by the community. However, local administrators sometimes fail to require a floodplain development permit for alterations to existing buildings. This can result in alterations or repairs that are not compliant (such as the installation of utilities below the required elevation or conversion of an enclosed area below an elevated structure into finished living space).

When a building is substantially improved or substantially damaged (meaning that the cost of the improvement or damage exceeds 50% of the market value of the structure), federal standards require that the entire structure be brought into compliance with current floodplain development standards.

In order to clarify these requirements, it is recommended that the following introductory statement be added to Section 15.12.180(C) (standards for all structures):

...Any alteration, repair, reconstruction, addition, or improvements to a structure that was built or substantially improved after the adoption of floodplain management regulations shall meet the requirements for new construction. Any alteration, repair, reconstruction, addition, or improvements to an existing structure that constitutes a substantial improvement (including repairs to a substantially damaged structure) shall require that the entire structure comply with the requirements for substantially improved structures.

Enclosed Areas Below the Lowest Floor

FEMA has issued guidance about the standards for enclosed areas below the lowest floor, including attached garages. The proposed language for Section 15.12.180(C.2.c) includes additional requirements from this guidance. In addition, the incorrect language in the model law about the height of flood openings is corrected. (The federal requirement as specified in the Elevation Certificate Instructions is “no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening.”)

Utilities

The proposed language in Sections 15.12.180(D) (utilities) clarifies the requirements for equipment, water supply systems, and sanitary sewage systems.

Fuel Tanks

During a flood, home heating tanks can be dislodged and cause oil spills or other property damage. Because many tanks are not adequately protected and anchored, the proposed language in Section 15.12.1680(E) is intended to clarify the requirements for installation of fuel tanks in special flood hazard areas. (Resource: “Recommended Practice for Home Heating Oil Tank Flood Resistance” by National Oilheat Research Alliance, <https://noraweb.org/2015/07/nora-releases-procedures-for-proper-oil-tank-securement/>)

Elevation of Structures Relative to Natural Grade

In regulated floodplains for which there are no Base Flood Elevations, the 2020 New York State Building Code allows elevation of non-residential buildings so that the top of the lowest floor is three or more feet above the “highest adjacent grade, where the highest adjacent grade is the natural ground elevation within the perimeter of the proposed building prior to construction” (Section 1612.3.1). Elevation requirements in Zone AO are also measured relative to natural ground elevations. However, if any fill or grading takes place during construction, it may be difficult to document compliance relative to natural grade. The proposed language for Section 15.12.130(B) (as-built certification) requires documentation of the natural grade at the building site prior to any grading or placement of fill when the certified as-built elevations will be measured relative to the highest adjacent natural grade.

Elevation of the Lowest Floor

In riverine floodplains, the elevation requirement for residential and non-residential buildings applies to the top of the lowest floor. In the model law, the only reference to the top of the lowest floor is in the definition for “elevated building” (which is a term that is not used anywhere else in the law). It is

recommended that the elevation requirement be clarified in Sections 15.12.180(F) (residential structures) and 15.12.180(G) (nonresidential structures).

Dry Floodproofing of Non-Residential Structures

Non-residential structures can be protected from flood damage by elevation or can be “floodproofed so that the structure is watertight below two feet above the base flood elevation...” This use of the word “floodproof” can be confusing because the term can also be used to describe wet floodproofing techniques, in which flood resistant measures and materials are used in an area that is subject to flooding. The definition of “floodproofing” in the NYS model law encompasses both wet and dry floodproofing techniques and the word is used to described protection of utilities as well as dry floodproofing of non-residential structures. Recommended language adds a definition for dry floodproofing and clarifies that the floodproofing allowed for non-residential structures must be “dry floodproofing.”

Recreational Vehicles

Zones A and AO are omitted from the recreational vehicle requirements in the model law. Although this is consistent with federal regulations, it is sensible to apply floodplain standards within all high hazard flood zones (Section 15.12.180(H.1), manufactured homes and recreational vehicles).

Minor Edits

Additional minor edits include elimination of information that is not relevant to the Town of Big Flats, such as high velocity coastal flood zones.