

Higher Floodplain Development Standards

Recommendations for the Town of Horseheads

General Comments

The current Town of Horseheads regulations for Flood Damage Prevention (Chapter 111 of the Code of the Town of Horseheads, adopted in 1987) are based on the New York State Model Local Law for Flood Damage Prevention, which contains language that complies with the floodplain management requirements of the National Flood Insurance Program (NFIP) contained in federal regulations 44 CFR 60.3 through 44 CFR 60.6. These requirements are minimum requirements for participation in the NFIP. The Federal Emergency Management Agency (FEMA) has calculated that buildings built to these standards suffer 70% less flood related damage than unprotected buildings. However, they can still suffer damage, so higher protection levels are warranted in most instances. For example, floods can be higher than the base flood elevation for various reasons, including larger storms, downstream obstructions, increased watershed development and floodplain filling. Setting higher standards protects against these risks.

FEMA encourages local communities to adopt floodplain management standards that exceed NFIP minimum requirements and provides incentives through the Community Rating System (CRS). The CRS is a FEMA program that provides discounts on the cost of flood insurance in communities that implement flood damage reduction activities that go beyond the minimum requirements. The Town of Horseheads currently has a Class 9 CRS rating, which enables a 5% reduction in flood insurance premiums for buildings within the Town. Additional discounts could be achieved by implementing additional measures that are credited by the CRS program. 500 CRS activity points are required for each increase in CRS classification. The following recommended revisions would qualify for CRS credit and could thus result in lower flood insurance premiums. (Estimates of CRS credit points are approximate, based on the 2013 Community Rating System Coordinator's Manual.)

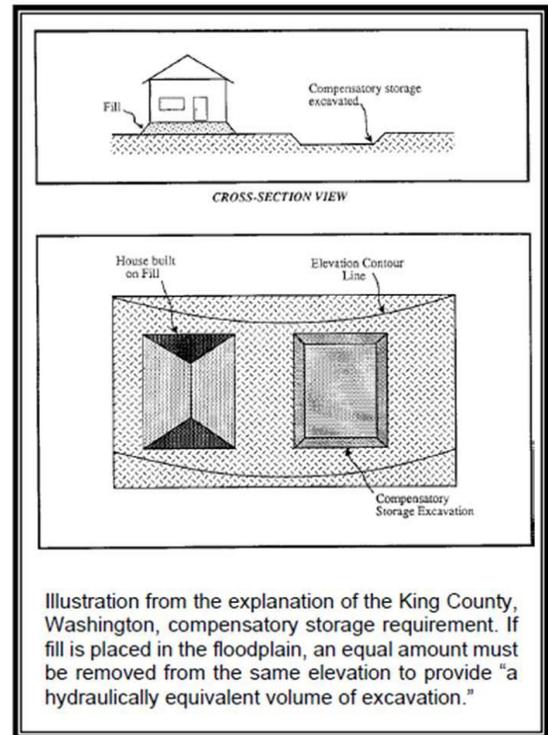
The following recommendations are optional changes to the Town's local regulations that would decrease flood risks within the Town. Each page contains an explanation of the measure and language that may be used. The following suggestions are based on recommendations developed by the NYS Department of Environmental Conservation (NYSDEC) and/or FEMA. Should your community decide to utilize any of these measures, the proposed changes should be submitted to NYSDEC so that they can review the final language and assure that it is compliant with FEMA's regulations.

Compensatory Storage

Explanation

Most of the regulated floodplains in the Town of Horseheads are based on detailed flood elevation studies and are mapped as “AE” zones with Base Flood Elevations. (The exceptions are the approximate flood zones along Jackson Creek, Latta Brook, and part of Halderman Hollow Creek.) Base Flood Elevations represent the anticipated height of water during the 1% annual probability flood (or 100-year flood). There is also a floodway analysis that delineates areas where development is excluded unless an engineering analysis determines that the development results in no measurable increase in the Base Flood Elevation. However, development, including fill, is allowed in the flood zone outside of floodways.

Flood Insurance Studies assume that when the entire riverine floodplain is filled outside of the floodway, an increase of up to one foot in the Base Flood Elevation will occur at the location of the encroachment. Some communities may wish to avoid that potential increase, and to also make certain that an encroachment does not result in increased flood elevations upstream or downstream of the development, by requiring developments that encroach into the floodplain to provide compensatory flood storage.



Proposed language

Add a new Part (3) to Section 5.1-2, “Encroachments” of the NYS model law:

(3) Whenever fill or other development that reduces the floodplain storage capacity is authorized in an area of special flood hazard for which base flood elevation data are available, compensatory storage shall be provided at hydraulically equivalent sites. The volume of space below the base flood elevation that is occupied by new development that does not allow for the entry and exit of flood waters shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood elevation at or adjacent to the development site. All such excavations shall be constructed to drain freely to the watercourse. No area below the waterline of a pond or other body of water can be credited as a compensating excavation.

Add a new Part (8) to Section 4.3, “Application for a Permit” of the NYS model law:

(8) Volumetric calculations demonstrating compensatory storage, as specified in Section 5.1-2, ENCROACHMENTS.

CRS Credit

Enforcement of this policy is expected to result in up to 130 CRS points for Element DL1b of Activity 430 (Higher Regulatory Standards). If Open Space credit (which earns more points) is obtained for part of the floodplain, then credit for DL1b would not be applied to those areas (resulting in fewer points for this element). Credit would also be reduced for the portion of the floodplain for which there are no base flood elevations.

Foundation Protection for Buildings on Fill

Explanation

Elevation requirements for buildings located in the regulatory floodplain are often met by elevating the structures on fill. This fill can be eroded during a flood, undermining the structure. In order to protect the foundation from settling and scour, supporting soils and fill should be properly compacted and have appropriate erosion protection.

Proposed language

Add a new Part (4) to Section 5.2-2, "Construction Materials and Methods" of the NYS model law:

- (4) When new construction and substantially improved structures, including manufactured homes, are elevated on fill, the fill must be properly designed and compacted as specified in the New York State Building Code, Section 1803, Excavation, Grading and Fill. Fill that supports a building foundation must have appropriate protection from erosion and scour. The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties.*

CRS Credit

Enforcement of this policy in conjunction with the Compensatory Storage recommendations on the preceding page is expected to result in up to 60 CRS points for Element FDN2 (Foundation Protection) of Activity 430 (Higher Regulatory Standards). If Open Space credit (which earns more points) is obtained for part of the floodplain, then credit for FDN2 would not be applied to those areas (resulting in fewer points for this element).

Cumulative Substantial Improvement

Explanation

For buildings that pre-date current floodplain development standards, the NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvements to the same structures. This can greatly increase the overall flood damage potential for the structure and within a community. The community may wish to define "substantial improvement" cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

In order to enforce the cumulative substantial improvement requirement, the Town must maintain records of the cost of all building improvements in the regulatory floodplain so that the history of improvements to a particular structure can be checked before the next permit is issued. An example form for maintaining building improvement records is on the following page.

Proposed language

Replace the definition of "Substantial improvement" on page 6 of the NYS model law with the following language:

***"Substantial improvement"** means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. The term includes "cumulative substantial improvement" and structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:*

- (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or*
- (2) any alteration of a "Historic structure," provided that the alteration will not preclude the structure's continued designation as a "Historic structure".*

Add a definition for "Cumulative substantial improvement" as follows:

***"Cumulative substantial improvement"** means any combination of reconstruction, rehabilitation, addition, or other improvement of a structure taking place during a period of five years, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure at the time of the improvement or repair.*

CRS Credit

Enforcement of this policy is expected to result in 20 CRS points for Element CSI 1b of Activity 430 (Higher Regulatory Standards). Extending the time period for cumulative substantial improvement from 5 years to 10 years would increase the CRS credit to 40 points for Element CSI 1a. Documentation of building improvement records is required.

BUILDING IMPROVEMENT RECORD

Property address: _____ Tax ID: _____

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Type of project: _____

Permit number: _____ Date: _____ Cost of project:¹ _____

Assessed value of building: \$ _____ Market value:² \$ _____

Cost of project divided by market value: ____% Cumulative percentage (over 5 years):³ ____%

.....

Type of project: _____

Permit number: _____ Date: _____ Cost of project:¹ _____

Assessed value of building: \$ _____ Market value:² \$ _____

Cost of project divided by market value: ____% Cumulative percentage (over 5 years):³ ____%

.....

Type of project: _____

Permit number: _____ Date: _____ Cost of project:¹ _____

Assessed value of building: \$ _____ Market value:² \$ _____

Cost of project divided by market value: ____% Cumulative percentage (over 5 years):³ ____%

.....

Type of project: _____

Permit number: _____ Date: _____ Cost of project:¹ _____

Assessed value of building: \$ _____ Market value:² \$ _____

Cost of project divided by market value: ____% Cumulative percentage (over 5 years):³ ____%

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¹The cost of the project must be the true cost, including the value of donated materials, owner’s labor, etc., based on prevailing construction costs and wages in the area.

²The market value is determined from the assessed value of the building (excluding land) and the equalization rate in effect at the time of the improvement. Market value calculated by a professional appraiser, if available, shall take precedence over this approach to basing market value on assessed value.

³Cumulative percentage is the sum of the cost of the project divided by market value for the current project and all projects in the preceding five year period. When the cumulative percentage equals or exceeds 50%, the project is considered a substantial improvement.

Additions to Existing Structures

Explanation

For buildings that pre-date current floodplain development standards, the NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. It can be argued that any improvements should be designed and built to minimize the potential for damage from flooding. In particular, when an addition is added to an existing structure, the new portion of the building can be elevated to protect it from flood damage. The following language clarifies the requirements for improvements to existing structures and also requires that any addition be elevated (or, for non-residential structures, floodproofed) to or above the level required for new construction.

Proposed language

Add a new Part 5.2-4 to the "Standards for All Structures" of the NYS model law:

5.2-4 EXISTING STRUCTURES

- (1) For existing structures for which the start of construction post-dates the requirements of this law, any modification, alteration, reconstruction, or improvement must be designed and constructed in such a manner as to maintain compliance.*
- (2) Substantial improvement of an existing structure shall be undertaken only if the entire structure is brought into full compliance with the provisions of this law.*
- (3) Any modification, alteration, reconstruction, or improvement of any kind to an existing structure that does not constitute a substantial improvement shall, to the extent possible, use methods, materials, and practices that minimize flood damage.*
- (4) Any addition to an existing structure shall be designed and constructed so that the new portion of the building is protected from flood damage in compliance with the requirements of this law, including the elevation and floodproofing standards.*

CRS Credit

Enforcement of this policy is expected to result in 20 CRS points for Element CSI 4 (Cumulative Substantial Improvements) of Activity 430 (Higher Regulatory Standards).

Critical Facilities and Hazardous Materials

Explanation

In order to reduce threats to life and health, certain types of facilities should be protected to a higher standard than other development. This includes:

- Facilities that are vital to flood response activities or critical to the health and safety of the public before, during and after a flood.
- Facilities that, if flooded, would make the flood problem and its impacts much worse, such as a hazardous materials facility, power generation facility, water utility, or wastewater treatment plant.

Critical facilities should be located outside of flood hazard areas so that critical services are not interrupted, floodwaters are not polluted by hazardous materials, and health risks are minimized. Current requirements for federally-funded projects specify that critical facilities be protected to the 500-year flood level. The following language provides greater protection by prohibiting new critical facilities within the mapped 100- and 500-year floodplains.

Proposed language

Add a definition of “Critical facility” to page 3 of the NYS model law as follows:

“Critical facility” means a structure or other improvement that, because of its function, size, service area, or uniqueness, has the potential to cause serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities if it is destroyed or damaged or if its functionality is impaired. Critical facilities include, but are not limited to:

- (1) Bulk storage of chemicals, petrochemicals, hazardous or toxic substances, or floatable materials;
- (2) Hospitals, nursing homes, correctional facilities, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a flood;
- (3) Emergency service facilities, such as police stations, fire stations, communication centers, and emergency operations centers that are needed for flood response activities before, during, and after a flood; and
- (4) Public and private utility facilities that are vital to maintaining or restoring normal services to flooded areas before, during, and after a flood.

Add a new Section 5.6 as follows:

5.6 CRITICAL FACILITIES

In order to prevent potential flood damage to certain facilities that would result in serious danger to life and health, no new critical facility shall be located within any area of special flood hazard or within any 500-year flood zone shown as Shaded Zone X on the community’s Flood Insurance Rate Maps.

CRS Credit

Enforcement of this policy is expected to result in up to 80 CRS points for Element PCF (Protection of Critical Facilities) and 20 CRS points for Element DL3 (Development Limitations) of Activity 430 (Higher Regulatory Standards). If Open Space credit (which earns more points) is obtained for part of the floodplain, then credit for PCF and DL3 would not be applied to those areas (resulting in fewer points for this element).

Enclosures – Non-Conversion Agreement

Explanation

If a floodplain building is constructed on an elevated foundation or has an attached garage, the area below the elevated living space or the garage is referred to as an “enclosed area below the lowest floor.” This type of enclosure is below the flood protection level and thus subject to flooding. Enclosures below elevated buildings are allowed if they are designed and constructed in a manner that allows water to enter and exit the area with minimal damage. This space must be unfinished and used solely for parking, storage, and/or building access. Permanent openings are required so that flood water can flow freely into and out of the enclosure. This provision is used for attached garages and to elevate a building on foundation walls over a crawl space, parking area, or other unfinished enclosure.

Any “enclosed area” that is built in compliance with these standards should not be subsequently altered to render it non-compliant, and thus more susceptible to flood damage. Communities can discourage subsequent alteration of enclosed areas by entering into non-conversion agreements whereby owners agree not to modify the enclosed area to make it more susceptible to flood damage. This agreement gives the community the right to enter the property and inspect the inside of the enclosure periodically. It must be filed with the deed and other property records so that it will remain effective as the ownership of the property changes in the future. An example agreement is on the following page.

Proposed language

Add the following paragraphs to Part (3) of Section 5.2-2, “Construction Materials and Methods” of the NYS model law:

Enclosed areas below the lowest floor shall not be subsequently modified or used in a manner that renders the enclosure non-compliant with the requirements of this section.

Add a new Part (4) to Section 4.4-7, “Certificate of Compliance” of the NYS model law:

(4) For any fully enclosed area below the lowest floor elevation in which the interior height is more than 4 feet, a signed non-conversion agreement prohibiting the conversion of the area below the lowest floor to a use or condition contrary to the building’s originally approved design, shall be presented as a condition of issuance of the final Certificate of Occupancy. This agreement must give the Town of Horseheads the right to periodically enter and inspect the enclosed area.

CRS Credit

Enforcement of this policy is expected to result in up to 60 CRS points for Element ENL 3b (Enclosure Limits) of Activity 430 (Higher Regulatory Standards). If Open Space credit (which earns more points) is obtained for part of the floodplain, then credit for ENL would not be applied to those areas (resulting in fewer points for this element).

**NONCONVERSION AGREEMENT
FOR CERTAIN STRUCTURES IN THE FLOODPLAIN**

Whereas, Floodplain Development Permit # _____ has been issued to construct, improve, or repair the property at _____ [address] in the Town of Horseheads, NY, and

Whereas, the permitted building has the lowest floor elevated above the base flood elevation plus 2 feet and the design and construction of the building meets current building code and flood damage prevention ordinance requirements, and

Whereas, as a condition of a Certificate of Occupancy, the owner must agree to not alter the building at a later date so as to violate the building code or flood damage prevention ordinance requirements,

Now, therefore, the undersigned owner of said property hereby agrees to the following:

1. That the enclosed area below the lowest floor shall be used solely for parking of vehicles, limited storage, or access to the building and will never be used for human habitation without first becoming fully compliant with the flood damage prevention ordinance in effect at the time of conversion.
2. That all interior walls, ceilings, and floors below the base flood elevation plus 2 feet shall be unfinished or constructed of flood-resistant materials.
3. That mechanical, electrical, or plumbing devices that service the building shall not be installed below the base flood elevation plus 2 feet unless they are designed to prevent damage from flooding.
4. That the openings in the walls of the enclosed area below the lowest floor shall not be blocked, obstructed, or otherwise altered to reduce the size of the openings or restrict the automatic entry and exit of floodwater.
5. That any variation in construction beyond what is permitted shall constitute a violation of this agreement and Chapter 111 of the Code of the Town of Horseheads.
6. That this Agreement shall be recorded with the deed to the above property so that subsequent owners are made aware of these restrictions.

Signature of Property Owner

Witness

Printed name: _____
Date: _____

Printed name: _____
Date: _____

This space reserved for deed recording notations.

Evacuation Plan

Explanation: When a floodplain development proposal would result in significant additional occupancy of the floodplain, this could necessitate the need for additional emergency evacuations during a flood. This could be addressed by an emergency action plan for the facility (such as a business) and/or by inclusion in the Town of Horseheads Emergency Action Plan. Although recreational use of floodplains is generally encouraged, a campground with overnight occupancy could pose safety concerns for campers, who may not be familiar with the area. Recreational vehicles are an additional concern because they are not required to meet the elevation and anchoring requirements for buildings if they are either on site for fewer than 180 consecutive days or are fully licensed and ready for highway use. A campground should thus have an emergency plan to facilitate removal of any recreational vehicles in the event of a flood.

Proposed language:

Add the following definitions to the Flood Damage Prevention law:

“Major subdivision” means... (from Chapter 175, Subdivision of Land)

“Campground” means a public or privately owned facility consisting of campsites offered for rent on a nightly, weekly, monthly, or seasonal basis, as well as common amenities intended to serve campground patrons.

Add a new Part (4) to Section 5.1-1, “Subdivision Proposals” of the NYS model law:

(4) For a major subdivision, campground, or manufactured home park or subdivision, all sites for buildings, manufactured homes, recreational vehicles, or tents should be located outside of the area of special flood hazard to the extent possible. If any sites for buildings, manufactured homes, recreational vehicles, or tents are located within an area of special flood hazard, an evacuation plan shall be prepared and approved by the Town. The evacuation plan must specify the flood conditions under which evacuation would be necessary, identify evacuation routes, and document procedures for notification and evacuation. The Local Administrator will specify whether the evacuation plan should be part of a facility emergency action plan or intended for inclusion in the Town of Horseheads emergency response plan.

Add a new Part (8) to Section 4.3, “Application for a Permit” of the NYS model law:

(8) Evacuation plan for a major subdivision, campground, or manufactured home park or subdivision if any sites for buildings, manufactured homes, recreational vehicles, or tents shall be located in an area of special flood hazard, as specified in Section 5.1-1, SUBDIVISION PROPOSALS.

CRS Credit: Enforcement of this policy is expected to result in CRS points (amount not determined) for Element OHS (Other Higher Standards) of Activity 430 (Higher Regulatory Standards).