

## Vermont Model Flood Hazard Bylaws - Higher Standards Cross-walk

Federal (NFIP) Minimum Requirement	Model Bylaw Higher Standard	Rationale
A building's lowest floor must be elevated equal to or above the base flood elevation (BFE). ( <a href="#">44 CFR, 60.3(c)(2) and (3)</a> )	A building's lowest floor must be elevated at least <b>2 feet above the base flood elevation</b> (model bylaw Section E.IV.C.12.a)	Elevation to the BFE does not provide adequate protection due to outdated federal flood studies that do not account for increased watershed development or future conditions hydrology, and larger flood events. Additional elevation (a.k.a. <i>freeboard</i> ) is relatively inexpensive to build into development, and typically pays for itself in reduced flood insurance premiums and prevented flood damage within the first 10 years of a structure's lifetime.
In lieu of elevation a <u>non-residential</u> building may be dry floodproofed to the base flood elevation. ( <a href="#">44 CFR, 60.3(c)(3)</a> )	In lieu of elevation, a non-residential building may be dry floodproofed to at least <b>2 feet above the base flood elevation</b> (model bylaw Section E.IV.C.12.b)	Dry floodproofing to the BFE does not provide adequate protection due to outdated federal flood studies that do not account for increased watershed development or future conditions hydrology, and larger flood events.
Absence of a standard regarding flood storage capacity: Filling and construction may occur in the flood fringe (outside the floodway) without considering loss of flood storage volume.	Above grade development is required to meet the compensatory storage requirement to ensure <b>no net loss of flood storage volume</b> (model bylaw Section E.IV.B.1)	A major shortcoming of the NFIP is that the standards are focused on reducing flood inundation risk to new development, but do not consider the cumulative degradation of floodplain resources and increased flood hazards to existing development that result over time due to continued encroachment and filling of floodplains.
Encroachments in the floodway are prohibited unless an engineer can certify that there will be no increase in base flood elevation ( <a href="#">44 CFR, 60.3(d)(3)</a> )	Encroachments in the floodway are prohibited unless an engineer can certify that there will be <b>no increase in</b> base flood elevation or <b>velocity</b> (model bylaw Section E.IV.A.2)	Vermont's mountainous terrain means we have higher gradient streams and thus, higher velocity floods. Along many reaches of river, encroachment in the floodway will not increase the water surface elevation, but instead will increase the velocity of the floodwaters. It is important to also consider velocity to ensure that there is no adverse impact to adjacent and downstream properties and infrastructure.
Absence of a standard regarding critical facilities.	<b>New critical facilities are prohibited</b> in the Flood Hazard Area (model bylaw Section E.III.D.1.b).	<a href="#">Facilities which provide critical services</a> (e.g. police, fire, hospital), or services that are depended on during and after disasters (public utilities and infrastructure) should be protected to an even higher standard than other development. Failure to either avoid flood hazard areas or

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	<b>Existing critical facilities</b> to be replaced or substantially improved shall be constructed so that the lowest floor, including basement, <b>shall be elevated or dry-floodproofed at least one foot above the elevation of the 0.2% annual flood height (500-year floodplain), or three feet above base flood elevation, whichever is higher.</b> (model bylaw section E.IV.C.12.d)	provide flood protection to critical facilities creates severe and unacceptable public safety risk.
Absence of a method and standard to manage for flood-related riverine erosion	<b>Adoption of the ANR-mapped <a href="#">River Corridors</a> and prohibition of new development in open/undeveloped river corridors.</b> Exceptions allow infill and redevelopment in areas that are already densely developed (model bylaw Section D)	NFIP flood hazard area maps only depict flood inundation risk and do not characterize areas at risk from <a href="#">flood-related erosion</a> . <a href="#">44 CFR 60.5</a> and <a href="#">24 V.S.A. § 4424</a> provide a mechanism for communities to regulate for erosion hazards but are not mandatory. Adoption/regulation of river corridor standards helps communities achieve greater flood resilience and maximize state flood recovery funding under <a href="#">ERAF</a> .
Absence of an explicit standard regarding storage and junk yards in the floodway	Prohibition of storage and junkyards in the floodway (model bylaw Section E.III.D.2.d)	With engineering certification of no increase in base flood elevation, the minimum standard does not prohibit the storage of materials and junkyards in the floodway, where floodwaters are typically fast and deep, thus increasing the risk that these materials get mobilized during a flood.
Substantial Improvements to existing buildings must be brought into compliance with the floodplain management regulations ( <a href="#">44 CFR, 60.3(c)</a> )	Requires improvements to be <b>tracked cumulatively over a 3-year</b> period to ensure that flood regulations are triggered given enough reinvestment in the building (model bylaw Section B – <i>Substantial Improvement</i> definition)	The minimum standard has an inherent loophole that undermines the intent. The intent is to ensure that structures are mitigated once a certain level of additional investment goes into improving the building (50% or more of the buildings market value). Without a specified timeframe, owners avoid triggering the regulations by doing multiple projects, each under the 50% threshold.
Absence of a Certificate of Occupancy requirement	Requires a Certificate of Occupancy (model bylaw Section C.III.C)	Violations may arise long after the project is complete because many communities do not verify that the project was built as proposed and permitted. The Certificate of Occupancy provides a tool to the community to ensure compliance with the provisions of the permit.
The NFIP provides relief to historic structures by giving communities the	If a historic structure is substantially damaged or being substantially improved, improvements	Requiring improvements to historic structures to meet “mitigation performance standards” helps to ensure that

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option to either exempt them from the substantial improvement calculations (via definition), or by using variance provisions as a means to provide relief to historic buildings.	must comply with “mitigation performance standards” (model bylaw section E.IV.C12.e)	such buildings are able to better withstand future flood events and reduces public safety concerns, while still maintaining their designation as an historic structure. Additionally, implementation of mitigation performance measures may help to lower flood insurance premiums since the subsidies for historic structures are being phased out.
New, substantially improved, or replacement manufactured homes in a <a href="#">pre-FIRM</a> portion of a manufactured home park must be elevated to either the BFE or to 36 inches in height above grade (44 CFR 60.3(c)(12))	Treats manufactured homes the same as conventional housing. The lowest floor of a new, replacement, or substantially improved manufactured home must be elevated at least <b>2 feet above the base flood elevation</b> (model bylaw Section E.IV.C.12.a)	For the same reasons that the model requires conventional housing elevated 2 feet above BFE, manufactured homes are included in this category. An assessment of pre-FIRM mobile home parks can help to determine if the community wants to consider relaxing the elevation requirement. If the community is considering this provision, DEC would recommend that the manufactured home is elevated at least 48-56 inches in height above grade.
Absence of a requirement to provide dry land access	Requires Subdivisions and Planned Unit Developments to be accessible by dry land access outside of the flood hazard area (model bylaw section E.IV.C.11).	Requiring dry land access provides safe egress for property owners and reduces risk to first responders that may need to access development during a flood emergency.

The above constitute the significant higher standards in the model bylaws. In many cases, the model adds specificity, not higher standards per se, since the NFIP minimum standards are silent with respect to many aspects of development that communities must regulate in federally-mapped flood hazard areas. The full text of the federal minimums a community must adopt to be compliant with the NFIP are found in Title 44 of the Code of Federal Regulations, Part 60.3: [https://www.ecfr.gov/cgi-bin/text-id?SID=768f4e857e402da788e29adf6bae24f6&mc=true&node=se44.1.60\\_13&rgn=div8](https://www.ecfr.gov/cgi-bin/text-id?SID=768f4e857e402da788e29adf6bae24f6&mc=true&node=se44.1.60_13&rgn=div8)

Communities may adopt the federal minimum standards of the NFIP and achieve access to federal flood insurance and be eligible for FEMA hazard mitigation grants. However, adoption of federal minimums is discouraged since these standards will result in increased flood hazard risk over time. In addition, adoption of federal minimums makes communities less competitive for federal hazard mitigation funding.