



Promulgation Details for 1 RCNY 3606-04

This rule became effective on January, 31, 2013.

Since such date, one or more amendments have been made to this rule. Each rule amendment has its own effective date and Statement of Basis and Purpose.

Below you will find one or more rule amendments (the most recent appearing at the top), followed by the original rule.

The effective date of each amendment and the original rule can be found at the top of each "NOTICE OF ADOPTION OF RULE."

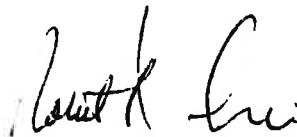
This amendment has an effective date of 05-31-13.

Statement of Substantial Need for Earlier Implementation

I hereby find, pursuant to §1043(f)(1)(c) of the New York City Charter, and hereby represent to the Mayor, that there is substantial need for the implementation of Section 3606-04 of Title 1 of the Rules of the City of New York, regarding the level above the base flood elevation to which new, substantially damaged or substantially improved buildings that are located in areas of special flood hazard must be designed and constructed, upon the publication in the City Record of its Notice of Adoption.

On October 28 and 29, 2012, Hurricane Sandy brought unprecedented flooding and destruction to many parts of the City. The flooding levels were by all accounts several feet higher than the base flood elevation estimated by FEMA. However, the requirements in effect at the time required flood protection only as high as FEMA's base flood elevation for one- and two-family homes.

On January 31, 2013, this rule was signed as an emergency rule by the Mayor. Its effectiveness was extended another sixty days to afford an opportunity for notice and comments regarding the rule. That extension expires May 31, 2013. Without earlier implementation of this permanent rule, the provisions applicable to applications for building permits to reconstruct the buildings damaged or destroyed by Hurricane Sandy will revert to the provisions in effect prior to the emergency rule promulgation, resulting in confusion for applicants and threats to public safety with regard to future construction and flood protection. Many applications for this type of rebuilding work are anticipated to be filed in the coming months. If these permits are issued and the buildings constructed under the prior requirements because of a gap in the effectiveness of this rule, these completed buildings would not be protected against future flooding events similar to Hurricane Sandy. Further, many of these buildings would be deemed noncompliant with the increased base flood elevations anticipated in the revised final flood insurance rate maps to be issued by FEMA.



Robert D. LiMandri
Commissioner
Department of Buildings

APPROVED: 

Michael R. Bloomberg
Mayor


DATE: May 28, 2013

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Sections 643 and 1043 of the New York City Charter and Section 28-103.19 of the Administrative Code of the City of New York, and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the addition of Section 3606-04 to Subchapter G of Chapter 3600 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding the level above the base flood elevation to which new, substantially damaged or substantially improved buildings that are located in areas of special flood hazard must be designed and constructed.

This rule was first published on March 26, 2013, and a public hearing thereon was held on May 9, 2013.

Dated: 5/23/13
New York, New York



Robert D. LiMandri
Commissioner

Statement of Basis and Purpose

This rule is promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter and Section 28-103.19 of the Administrative Code of the City of New York.

The current reference standard American Society of Civil Engineers (“ASCE”) 24, as modified by Section BC G501.1 of the New York City Building Code, does not mandate freeboard above the Base Flood Elevation (“BFE”) for buildings in Structural Occupancy Category I or II. As per Section BC G201.2 of the New York City Building Code, the BFE is the elevation of a flood that has a 1-percent chance of being equaled or exceeded in any given year.

This rule amends this reference standard so as to require freeboard of up to two feet for these categories of buildings, depending on the type of building and the type of flood risk.

As defined in the regulations of the Federal Emergency Management Agency relating to the National Flood Insurance Program, 44 C.F.R. 59.1, the term “freeboard” is a way to represent a measure of safety concerning flooding, usually expressed in feet above a flood level for purposes of flood management. Freeboard requires a building to be elevated higher than the BFE. Freeboard aims to compensate for the many unknown factors that could contribute to flood heights greater than the floods predicted for a particular area, such as waves, bridge openings, and the effect that development has on ground water absorption.

In accordance with Table 1-1 of ASCE 24, as modified by Section BC G501.1, buildings in Structural Occupancy Category I or II include the majority of new construction in New York City, including 1- and 2-family dwellings, apartment houses, retail stores, and office buildings.

This rule requires freeboard of up to two feet for new, substantially damaged or substantially improved buildings that are located in areas of special flood hazard. The rule brings the New York City Building Code into alignment with the latest edition of New York State Uniform Fire Prevention and Building Code (2010) by requiring two feet of freeboard for 1- and 2-family dwellings, and into alignment with the latest edition of ASCE 24 (2005) by requiring one or two feet of freeboard for other Structural Occupancy Category II buildings and for Structural Occupancy Category I buildings with certain flood risks.

This rule will result in new construction and substantial improvements that exceed the BFE, preventing loss of life, property and business interruption in cases of flooding.

Matter underlined is new to Title 1 of the Official Compilation of the Rules of the City of New York. Matter **underlined and bold italic** is new to reference standard ASCE 24.

The rule was not included in the agency’s most recent regulatory agenda because it was not anticipated at the time the agenda was published.

Subchapter G of chapter 3600 of title 1 of the rules of the city of New York is amended by adding a new section 3606-04, to read as follows:

§3606-04 American Society of Civil Engineers (“ASCE”) 24 amendments relating to mandatory freeboard. Pursuant to Section 28-103.19 of the New York City Administrative Code, Table 2-1 of Section 2.3, Table 4-1 of Section 4.4, Table 5-1 of Section 5.1, Table 6-1 of Section 6.2, and Table 7-1 of Section 7.1 of ASCE 24 as amended by Section BC G501.1 of the New York City Building Code, are hereby amended to read as follows:

TABLE 2-1
MINIMUM ELEVATION OF THE TOP OF LOWEST FLOOR
RELATIVE TO DESIGN FLOOD ELEVATION (DFE)—A-ZONES^a

<u>STRUCTURAL OCCUPANCY</u> <u>CATEGORY^b</u>	<u>MINIMUM ELEVATION OF</u> <u>LOWEST FLOOR</u>
<u>I</u>	<u>DFE=BFE</u>
<u>II (1- and 2-family dwellings)</u>	<u>DFE=BFE+ 2 ft</u>
<u>II^c (all others)</u>	<u>DFE=BFE+ 1 ft</u>
<u>III^c</u>	<u>DFE=BFE+ 1 ft</u>
<u>IV^c</u>	<u>DFE=BFE+ 2 ft</u>

- a. Minimum elevations shown in Table 2-1 do not apply to V Zones (see Table 4-1). Minimum elevations shown in Table 2-1 apply to A-Zones unless specific elevation requirements are given in Section 3 of this standard.
- b. See Table 1-1 or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- c. For nonresidential buildings and nonresidential portions of mixed-use buildings, the lowest floor shall be allowed below the minimum elevation if the structure meets the floodproofing requirements of Section 6.

TABLE 4-1
MINIMUM ELEVATION OF BOTTOM OF LOWEST SUPPORTING
HORIZONTAL STRUCTURAL MEMBER OF LOWEST FLOOR
RELATIVE TO DESIGN FLOOD ELEVATION (DFE)—V ZONES

STRUCTURAL OCCUPANCY CATEGORY^a	MEMBER ORIENTATION RELATIVE TO THE DIRECTION OF WAVE APPROACH	
	Parallel^b	Perpendicular^b
I	<u>DFE=BFE</u>	<u>DFE=BFE</u>
<i>II (1- and 2-family dwellings)</i>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>
<i>II (all others)</i>	<u>DFE=BFE</u>	<u>DFE=BFE+ 1 ft</u>
III	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>
IV	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>

- a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- b. Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

TABLE 5-1
MINIMUM ELEVATION, RELATIVE TO DESIGN FLOOD
ELEVATION (DFE), BELOW WHICH FLOOD-DAMAGE-RESISTANT
MATERIALS SHALL BE USED

STRUCTURAL OCCUPANCY CATEGORY^a	A-ZONE	V-ZONES	
		Orientation Parallel^b	Orientation Perpendicular^b
I	<u>DFE=BFE</u>	<u>DFE=BFE</u>	<u>DFE=BFE</u>
<i>II (1- and 2-family dwellings)</i>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>
<i>II (all others)</i>	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>
III	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 3 ft</u>
IV	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 3 ft</u>

- a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- b. Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

TABLE 6-1
MINIMUM ELEVATION OF FLOODPROOFING, RELATIVE TO
DESIGN FLOOD ELEVATION (DFE)—A-ZONES

STRUCTURAL OCCUPANCY CATEGORY^a	MINIMUM ELEVATION OF FLOODPROOFING^b
I	<u>DFE=BFE+ 1 ft</u>
II^c	<u>DFE=BFE+ 1 ft</u>
III	<u>DFE=BFE+ 1 ft</u>
IV	<u>DFE=BFE+ 2 ft</u>

- a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
- b. Wet or dry floodproofing shall extend to the same level.
- c. Dry floodproofing of residential buildings and residential portions of mixed use buildings shall not be permitted.

TABLE 7-1
MINIMUM ELEVATION OF UTILITIES AND ATTENDANT EQUIPMENT RELATIVE TO DESIGN FLOOD ELEVATION (DFE)

<u>STRUCTURAL OCCUPANCY CATEGORY^a</u>	<u>LOCATE UTILITIES AND ATTENDANT EQUIPMENT ABOVE^b</u>		
	<u>A-Zones</u>	<u>V-Zones</u>	
		<u>Orientation Parallel^c</u>	<u>Orientation Perpendicular^c</u>
<u>I</u>	<u>DFE=BFE</u>	<u>DFE=BFE</u>	<u>DFE=BFE</u>
<u>II (1- and 2-family dwellings)</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>
<u>II-(all others)</u>	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>
<u>III</u>	<u>DFE=BFE+ 1 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 3 ft</u>
<u>IV</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 2 ft</u>	<u>DFE=BFE+ 3 ft</u>

a. See Table 1-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.

b. Locate utilities and attendant equipment above elevations shown unless otherwise provided in the text.

Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach

This rule has an effective date of 01-31-13.

**NOTICE OF ADOPTION OF EMERGENCY RULE RELATING TO THE LEVEL ABOVE THE
BASE FLOOD ELEVATION TO WHICH NEW, SUBSTANTIALLY DAMAGED OR
SUBSTANTIALLY IMPROVED BUILDINGS THAT ARE LOCATED IN AREAS OF SPECIAL
FLOOD HAZARD MUST BE DESIGNED AND CONSTRUCTED**

Pursuant to the authority of the Commissioner of Buildings under sections 643 and 1043(i) of the New York City Charter and section 28-103.19 of the New York City Administrative Code, notice is hereby given of the adoption of the following emergency rule, effective immediately, relating to the level above the base flood elevation to which new, substantially damaged or substantially improved buildings that are located in areas of special flood hazard must be designed and constructed.

Matter underlined is new to Title 1 of the Official Compilation of the Rules of the City of New York. Matter double-underlined is new to reference standard ASCE 24.

Subchapter G of chapter 3600 of title 1 of the rules of the city of New York is amended by adding a new section 3606-04, to read as follows:

§3606-04 American Society of Civil Engineers ("ASCE") 24 amendments relating to mandatory freeboard. Pursuant to Section 28-103.19 of the New York City Administrative Code, Table 2-1 of Section 2.3, Table 4-1 of Section 4.4, Table 5-1 of Section 5.1, Table 6-1 of Section 6.2, and Table 7-1 of Section 7.1 of ASCE 24 as amended by Section BC G501.1 of the New York City Building Code, are hereby amended to read as follows:

**TABLE 2-1
MINIMUM ELEVATION OF THE TOP OF LOWEST FLOOR
RELATIVE TO DESIGN FLOOD ELEVATION (DFE)—A-ZONES^a**

STRUCTURAL OCCUPANCY CATEGORY^b	MINIMUM ELEVATION OF LOWEST FLOOR
I	DFE=BFE
<u>II (1- and 2-family dwellings)</u>	<u>DFE=BFE+ 2 ft</u>
<u>II^c (all others)</u>	<u>DFE=BFE+ 1 ft</u>
<u>III^c</u>	<u>DFE=BFE+ 1 ft</u>
<u>IV^c</u>	<u>DFE=BFE+ 2 ft</u>

a. Minimum elevations shown in Table 2-1 do not apply to V Zones (see Table 4-1). Minimum elevations shown in Table 2-1 apply to A-Zones unless specific elevation requirements are given in Section 3 of this standard.

b. See Table 1-1 or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.

c. For nonresidential buildings and nonresidential portions of mixed-use buildings, the lowest floor shall be allowed below the minimum elevation if the structure meets the floodproofing requirements of Section 6.

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STRUCTURAL OCCUPANCY CATEGORY ^a	MEMBER ORIENTATION RELATIVE TO THE DIRECTION OF WAVE APPROACH	
	Parallel ^b	Perpendicular ^b
I	DFE=BFE	DFE=BFE
II (1- and 2-family dwellings)	DFE=BFE+ 2 ft	DFE=BFE+ 2 ft
II (all others)	DFE=BFE	DFE=BFE+ 1 ft
III	DFE=BFE+ 1 ft	DFE=BFE+ 2 ft
IV	DFE=BFE+ 1 ft	DFE=BFE+ 2 ft

- a. See Table I-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
b. Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

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II (1- and 2-family dwellings)	DFE=BFE+ 2 ft	DFE=BFE+ 2 ft	DFE=BFE+ 2 ft
II (all others)	DFE=BFE+ 1 ft	DFE=BFE+ 1 ft	DFE=BFE+ 2 ft
III	DFE=BFE+ 1 ft	DFE=BFE+ 2 ft	DFE=BFE+ 3 ft
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- a. See Table I-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
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TABLE 6-1
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I	DFE=BFE+ 1 ft
II ^c	DFE=BFE+ 1 ft
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- a. See Table I-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.
b. Wet or dry floodproofing shall extend to the same level.
c. Dry floodproofing of residential buildings and residential portions of mixed use buildings shall not be permitted.

TABLE 7-1
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	A-Zones	V-Zones	
		Orientation Parallel ^a	Orientation Perpendicular ^a
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a. See Table I-1, or Table 1604.5 of the *New York City Building Code*, for structural occupancy category descriptions.

b. Locate utilities and attendant equipment above elevations shown unless otherwise provided in the text.

Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach

Statement of Basis and Purpose

This rule is promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter and Section 28-103.19 of the New York City Administrative Code.

The current reference standard American Society of Civil Engineers ("ASCE") 24, as modified by Section BC G501.1 of the New York City Building Code, does not mandate freeboard above the Base Flood Elevation ("BFE") for buildings in Structural Occupancy Category I or II. This rule will amend this reference standard so as to require freeboard of up to two feet for these categories of buildings, depending on the type of building and the type of flood risk.

As defined in the regulations of the Federal Emergency Management Agency relating to the National Flood Insurance Program, 44 C.F.R. 59.1, the term "freeboard" means a factor of safety usually expressed in feet above a flood level for purposes of flood plain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

As per Section BC G201.2 of the New York City Building Code, the BFE is the elevation of the flood having a 1-percent chance of being equaled or exceeded in any given year.

In accordance with Table 1-1 of ASCE 24, as modified by Section BC G501.1, buildings in Structural Occupancy Category I or II include the majority of new construction in New York City, including 1- and 2-family dwellings, apartment houses, retail stores, and office buildings.

This rule will require freeboard for new, substantially damaged or substantially improved buildings that are located in areas of special flood hazard. The rule will bring the New York City Building Code into alignment with the latest edition of New York State Uniform Fire Prevention and Building Code (2010) by requiring two feet of freeboard for 1- and 2-family dwellings, and into alignment with the latest edition of ASCE 24 (2005) by requiring one or two feet of freeboard for other Structural Occupancy Category II buildings and for Structural Occupancy Category I buildings with certain flood risks.

This rule will result in new construction and substantial improvements that exceed the BFE, preventing loss of life, property and business interruption in cases of flooding.

Finding of Imminent Threat Pursuant to New York City Charter Section 1043(i)(1)

IT IS HEREBY CERTIFIED that the immediate effectiveness of this emergency rule relating to the level above the base flood elevation to which new, substantially damaged or substantially improved buildings must be designed and constructed is necessary to prevent an immediate threat to health, safety and property, by addressing the recent devastation wrought by a severe storm ("Hurricane Sandy") and the immediate reconstruction efforts that are currently underway. I hereby make the following finding of immediate threat to health, safety and property necessary to establish that an emergency rulemaking is required in relation to the protection of health, safety and property.

On October 28th and 29th, Hurricane Sandy brought unprecedented flooding and destruction to many parts of the city. The flooding levels were by all accounts several feet higher than the base flood elevation estimated by FEMA. However, the current requirements for reconstruction of most buildings damaged or destroyed requires flood protection only as high as FEMA's base flood elevation.

Applications for building permits to reconstruct the buildings damaged or destroyed by Hurricane Sandy have already begun to be filed with the department, and many more applications are anticipated to be filed in the coming months. If these permits are issued and the buildings constructed under the current requirements, these completed buildings would not be protected against future flooding events similar to Hurricane Sandy. Further, these buildings would be deemed noncompliant with the increased base flood elevations anticipated in the revised final flood insurance rate maps to be issued by FEMA by the end of 2013.

IT IS THEREFORE HEREBY CERTIFIED that the immediate effectiveness of a rule relating to the level above the base flood elevation to which new, substantially damaged or substantially improved buildings must be designed and constructed is necessary to address an immediate threat to health, safety and property.

Dated: January 31, 2013



ROBERT D. LiMANDRI
COMMISSIONER OF BUILDINGS

APPROVED:



MICHAEL R. BLOOMBERG
MAYOR