



METROPOLIS  
GROUP, INC.

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# CODE COMPARISON

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NYC Building Code 2014 & 2022

PREPARED BY | DATE

Metropolis Technical Affairs Department | July 26, 2022



## 2014/2022 NYC BUILDING CODE COMPARISON

Starting November 7, 2022 all new buildings and many alterations will be required to comply with the 2022 NYC Building code. In order to assist the design and development community in understanding what implications the updated code may have on current and future projects, Metropolis has developed the enclosed comparison chart. We have separated our analysis in line with the individual chapters contained in the NYC construction code. The chart lists a 2014 code section with it's corresponding 2022 section next to it. The final column in the chart provides a brief commentary summarizing the substance of any change that occurs in that section. Note that to create a more useful and readable document we have omitted all sections that did not change or had only clerical changes (ex. referenced code sections where the section numbers changed).

Note that we have also color-coded certain sections that we believe represent significant code changes that can have a major effect on certain building types (see example below). Of course, code compliance and the impact that compliance can have on building design is always project specific and the professional must decide for themselves the significance of all code changes.

Example:

**903.2.1.6 Assembly occupancies on roofs.** Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied

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# APPENDIX G

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## Flood-Resistant Construction



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**2014/2022 Building Code Comparison, Appendix G**  
**Flood-Resistant Construction**

2014 Building Code	2022 Building Code	Comments
<b>BC G101 – PURPOSE AND OBJECTIVES</b>		
<b>G101.3 Reserved.</b>	<b>G101.3 Referenced standards.</b> Where this code makes reference to the nationally recognized standard ASCE 24, such standard shall be as modified for New York City in accordance with Section G501 of this appendix.	<b>Clarification</b>
<b>BC G102 - APPLICABILITY</b>		
<p><b>G102.1 General.</b>  <b>10. Other alterations to pre-FIRM construction.</b> This appendix shall apply to alterations or repairs to pre-FIRM buildings and structures, including installation of new components, materials, finishes and equipment, that increase the degree of noncompliance with this appendix. The following alterations or repairs, other than substantial improvements, shall not be deemed as an increase in the degree of noncompliance:            10.1. Where the alteration or repair comprises the replacement of pre-FIRM components, materials, finishes or equipment;            10.2. Where the alteration or repair comprises the installation of new components, materials, finishes or equipment in a space within the structure where similar pre-FIRM components, materials, finishes or equipment already exist; and            10.3. Where such alteration is a change in use, occupancy or how such space is used, provided that such change would not increase the degree of noncompliance with requirements of this appendix. The conversion of any space below the design flood elevation from nonhabitable space into habitable space shall be deemed an increase in the degree of noncompliance.</p>	<p><b>G102.1 General.</b>  <b>10. Other alterations to pre-FIRM construction.</b> This appendix shall apply to <del>alterations or repairs</del> repair, alteration, reconstruction, rehabilitation, or additions to pre-FIRM buildings and structures <del>including installation of new components, materials, finishes and equipment, that increase the degree of noncompliance with this appendix</del>. <u>No increase in the degree of noncompliance with this appendix shall be permitted. The requirements of this Item 10 shall be deemed satisfied if the work would not increase the degree of noncompliance with this appendix.</u>  <b>10.1. Work that increases the degree of noncompliance.</b> Work to pre-FIRM construction deemed as an increase in the degree of noncompliance includes, but is not limited to:  <u>10.1.1. The conversion of any space below the design flood elevation from nonhabitable space into habitable space;</u>  <u>10.1.2. The creation of a direct communication between a dwelling unit and a space below the design flood elevation;</u>  <u>10.1.3. Where a dwelling unit already has space below the design flood elevation or has space with which the dwelling unit directly communicates that is below the design flood elevation, an increase in such space;</u>  <u>10.1.4. The conversion of any space below the design flood elevation in a non-residential building (for flood zone purposes) to accessory (as such term is defined in NYC ZR) to a group R-1, R-2, or R-3 occupancy, when such space was not previously accessory to such occupancy;</u>  <u>10.1.5. The installation of new components, materials, finishes, plumbing fixtures and equipment below the design flood elevation that are not permitted by this appendix to be located below the design flood elevation, where such similar items did not previously exist, except for new components, materials, finishes, and equipment as permitted by Item 10.2.2;</u></p>	<p><b>Significant restrictions have been added related to residential occupancies 10.0. Items 10.2 &amp; 10.3 have been combined and clarified.</b></p>

10.1.6. The lowering of the elevation of a floor of a basement (for flood zone purposes), or a portion thereof located below the design flood elevation, except as permitted by Item 10.2.4;

10.1.7. An alteration consisting of a change in use, occupancy or how such space is used in a building, or portion thereof, that results in a more restrictive flood design class per ASCE 24; and

10.1.8. Any condition not addressed in Items 10.1.1 through 10.1.7 as determined by the commissioner.

**10.2. Work that does not increase the degree of noncompliance.** The following ~~[alterations or repairs]~~ work to pre-FIRM construction, other than substantial improvements, shall not be deemed as an increase in the degree of noncompliance:

~~[10.1. Where the alteration or repair comprises the replacement of pre-FIRM components, materials, finishes or equipment;]~~

~~[10.2. Where the alteration or repair comprises the installation of new components, materials, finishes or equipment in a space within the structure where similar pre-FIRM components, materials, finishes or equipment already exist; and]~~

~~[10.3. Where such alteration is a change in use, occupancy or how such space is used, provided that such change would not increase the degree of noncompliance with requirements of this appendix. The conversion of any space below the design flood elevation from nonhabitable space into habitable space shall be deemed an increase in the degree of noncompliance.]~~

10.2.1. Plumbing fixtures:

10.2.1.1. The in-kind replacement of plumbing fixtures below the design flood elevation; and

10.2.1.2. The installation of new plumbing fixtures in a space within the structure where similar plumbing fixtures already exist, provided that the number of plumbing fixtures is not increased and provided any required backflow prevention and/or sewage ejection is provided in accordance with this appendix.

10.2.2. Components, materials, finishes, equipment, fire protection systems and equipment, and appliances, other than plumbing fixtures:

10.2.2.1. The in-kind replacement of components, materials, finishes, equipment, fire protection systems and equipment, and appliances;

	<p><u>10.2.2.2. The installation of new components, materials, finishes, equipment, fire protection systems and equipment, and appliances, in a space within the structure where similar pre-FIRM items already exist; and</u> 2098</p> <p><u>10.2.2.3. Within existing nonresidential portions of a nonresidential (for flood zone purposes) building, the installation of new components, materials, finishes, equipment, fire protection systems and equipment, and appliances which serve only the space(s) being altered below the design flood elevation, provided such items, as well as any associated electrical wiring, are designed and/or isolated so as not to affect the operation of building components, systems and wiring of other parts of the building if submerged. This item shall not include increases to the number of plumbing fixtures or the installation of building systems which support other areas of the building.</u></p> <p><u>10.2.3. Change in use, occupancy or how such space is used. Alteration consisting of a change in use, occupancy or how such space is used in a nonresidential building (for flood zone purposes), or portion thereof, that does not result in a more restrictive flood design class per ASCE 24, is not a conversion from nonhabitable space into habitable space, and is not otherwise required by Item 10.1.4 to comply with this appendix. Such alteration shall also comply with the provisions of Item 10.2.2; and</u></p> <p><u>10.2.4. Pits. The lowering of the elevation of a floor or a portion thereof located below the design flood elevation for pits to accommodate sump pumps, house traps, valve access, cleanouts, ejector pumps and elevators.</u></p>	
<b>BC G103 - ADMINISTRATION</b>		
<b>G103.3 Determination of base flood elevations.</b>	<b>G103.3 Determination of flood elevations.</b> Flood elevations shall be determined in accordance with Sections G103.3.1 through G103.3.2.	<b>Identical information transferred to G103.3.1</b>
<p><b>G103.3.1 Determination of 500-year flood elevations.</b> <i>(Moved to 103.3.2 and 103.3.1 changed to Determination of base flood elevations')</i></p> <p>Where 500-year flood elevations are not specified in the FEMA FIRMs 360497 or FEMA FIS 360497, such elevations shall be determined by a registered design professional using modeling based on generally accepted engineering methods or a review of available data from city, state and federal agencies.</p>	<p><b>G103.3.1 Determination of base flood elevations.</b> Flood elevations shall be determined in accordance with Sections G103.3.1 through G103.3.2.</p>	<b>Former G103.3.1 now G103.3.2</b>

<p><b>G103.5 Floodway encroachment.</b> Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing activity, the commissioner shall require submission of a certification, along with supporting technical data, demonstrating that such development will not cause any increase of the level of the base flood. However, a floodway encroachment that increases the level of the base flood may be authorized if the applicant has:</p> <ol style="list-style-type: none"> <li>1. Applied for a conditional Letter of Map Revision; and</li> <li>2. Received the approval of the Federal Emergency Management Agency (FEMA).</li> </ol>	<p><b>G103.5 Floodway encroachment.</b> Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing activity, the commissioner shall require submission of a certification, <u>prepared by a registered design professional</u>, along with supporting technical data, demonstrating that such development will not cause any increase of the level of the base flood. <del>{However, a floodway encroachment that increases the level of the base flood may be authorized if the applicant has:}</del></p> <p><del>{1. Applied for a conditional Letter of Map Revision; and}</del></p> <p><del>{2. Received the approval of the Federal Emergency Management Agency (FEMA).}</del></p>	<p><b>Exception allowing floodway encroachment move to G103.5.1</b></p>
<p><b>G103.5.1 Floodway revisions. (Not in 2014 Code)</b></p>	<p><b>G103.5.1 Floodway revisions.</b> A floodway encroachment that increases the level of the base flood is authorized if the applicant has applied for a conditional Flood Insurance Rate Map (FIRM) revision and has received the approval of the Federal Emergency Management Agency (FEMA).</p>	<p><b>See above</b></p>
<p><b>G103.7 Sand dune alterations in V-Zones.</b> Prior to issuing a permit for any alteration of sand dunes in a V-Zone, the commissioner shall require submission of an engineering analysis demonstrating that the proposed alteration will not increase the potential for flood damage.</p>	<p><b>G103.7 <del>{Sand dune alterations in V-Zones}</del> Alterations in coastal areas.</b> Prior to issuing a permit for any alteration of sand dunes <del>{in a V-Zone}</del> in coastal high-hazard areas and coastal A- zones, the commissioner shall require submission of an engineering analysis, <u>prepared by a registered design professional</u>, demonstrating that the proposed alteration will not increase the potential for flood damage.</p>	<p><b>V-zone change to coastal high hazard area</b></p>
<p><b>BC G104 - PERMIT</b></p>		
<p><b>G104.3 Site Plan.</b> The permit application shall include a site plan. The site plan shall include plans and drawings, shall be sealed by a registered design professional and shall include the following information and any other data as may be required by the department:</p> <ol style="list-style-type: none"> <li>1. A delineation of the flood hazard areas, including identification of the base and design flood and elevations;</li> <li>2. If applicable, the location of the regulatory floodway;</li> </ol>	<p><del>{G104.3 Site plan}</del> <b>G104.2.1 Flood zone compliance plans.</b> The permit application shall include <del>{a site plan}</del> <u>flood zone compliance plans</u>. <del>{The site plan}</del> Such plans shall include plans and drawings, shall be sealed by a registered design professional and shall include a site plan and the following information and any other data as may be required by the department:</p> <ol style="list-style-type: none"> <li>1. Flood design class assigned according to ASCE 24;</li> <li>2. A delineation of the flood hazard areas, including identification of the base <del>{and}</del> <u>flood elevation(s)</u>, design flood <del>{and}</del> elevations <u>and still water flood depth</u>;</li> <li>3. If applicable, the location of the regulatory floodway;</li> </ol>	

<p>3. For all proposed structures, spot ground elevations at building corners and in 20-foot (6096 mm) or smaller intervals along the foundation footprint, or 1-foot (305 mm) contour elevations throughout the building site;</p> <p>4. Proposed locations of water supply, sanitary sewer, and utilities;</p> <p>5. Drainage patterns and facilities; and</p> <p>6. Foundation design details, including but not limited to:</p> <ul style="list-style-type: none"> <li>a. 6.1. Proposed elevation of the lowest floor including basement (for flood zone purposes) of all structures;</li> <li>b. 6.2. For crawl spaces and enclosed parking, storage and building access that are wet floodproofed below the design flood elevation, location and total net area of foundation openings in accordance with ASCE 24;</li> <li>c. 6.3. For dry floodproofed spaces in buildings or structures that are nonresidential (for flood zone purposes), the proposed elevation to which the enclosure will be dry floodproofed in accordance with ASCE 24; and</li> <li>d. 6.4. Any proposed fill and excavation details. <ul style="list-style-type: none"> <li>i. <b>Exception:</b> Applications for subdivisions shall comply with Section G302.</li> </ul> </li> </ul>	<p>4. For all proposed structures, spot ground elevations at building corners and in 20-foot (6096 mm) or smaller intervals along the foundation footprint, or 1-foot (305 mm) contour elevations throughout the building site;</p> <p>5. Proposed locations of water supply, sanitary sewer, and utilities;</p> <p>6. Drainage patterns and facilities;</p> <p>7. Foundation design details, including but not limited to:</p> <ul style="list-style-type: none"> <li>7.1. Proposed elevation of the lowest floor including basement (for flood zone purposes) of all structures;</li> <li>7.2. For crawl spaces and enclosed parking, storage and building access that are wet floodproofed below the design flood elevation, location and total net area of foundation openings in accordance with ASCE 24;</li> <li>7.3. For dry floodproofed spaces in buildings or structures that are nonresidential (for flood zone purposes), the proposed elevation to which the enclosure will be dry floodproofed in accordance with ASCE 24;</li> <li>7.4. Any proposed fill and excavation details ; and</li> <li><u>7.5 In coastal high-hazard areas and coastal A-zones, the proposed elevation of the bottom of the lowest horizontal structural member of the lowest floor; and</u></li> </ul> <p>8. <u>For structures in coastal high-hazard areas or coastal A-zones, and for dry-flood proofed structures: flood loading and parameters including average velocity of water (V), debris impact load (Fi), scour depths, and wave loads (Ft or FD).</u></p>	<p><b>Additional plan requirements coastal floors hazard area.</b></p>
<p><b>G104.5.1 A-Zones.</b> For construction in A-Zones, the permit application shall include the following certifications, as applicable:</p> <p><b>1. Wet flood proofing certification.</b> For wet flood proofed enclosures below the design flood elevation, construction documents shall include a certification by the applicant</p>	<p><del>[G104.5.1]</del> <b>G104.2.3.1 A-Zones.</b> For construction in A-Zones, the permit application shall include the following certifications, as applicable:</p> <p><b>1. Wet flood proofing certification.</b> For <u>applications involving wet flood proofed enclosures below the design flood elevation, [construction documents]-flood zone compliance plans</u> shall include a certification by the applicant, <u>as applicable to the scope of work proposed</u>, that "in accordance with ASCE 24, the use of the enclosure is limited</p>	<p><b>Code is requiring more precise stage memo on plans concerning wet &amp; dry flood proofing design.</b></p>

<p>that the design provides for the automatic entry and exit of floodwaters for equalization of hydrostatic flood forces in accordance with Section 2.6.2, ASCE 24.</p> <p><b>2. Dry flood proofing certification for nonresidential buildings.</b> For dry flood proofed buildings and structures that are nonresidential (for flood zone purposes), construction documents shall include a certification by the applicant that the dry flood proofing is designed in accordance with ASCE 24.</p> <p><b>3. Utility certifications.</b> For all applications involving utility or mechanical work, including applications where such work is to be filed in a separate, related application, construction documents shall include a certification by the applicant that "all heating, ventilation, air conditioning, plumbing, electrical and other services facilities and equipment within the structure or site will be located or constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24."</p>	<p>to the parking of vehicles, building access, or storage, and that the design <del>[provides for]</del> <u>incorporates openings to allow for</u> the automatic entry and exit of floodwaters for equalization of hydrostatic flood forces <del>[in accordance with Section 2.6.2, ASCE 24]</del> <u>and flood damage-resistant materials and techniques that minimize damage to a structure by floodwater."</u></p> <p><b>2. Dry flood proofing certification for nonresidential buildings.</b> For <u>applications involving</u> dry flood proofed buildings and structures that are nonresidential (for flood zone purposes), <del>[construction documents]</del> <u>flood zone compliance plans</u> shall include a certification by the applicant that "the <del>[dry flood proofing is designed]</del> <u>structure is designed to be dry flood proofed with walls that are substantially impermeable to the passage of water and that all walls, floors, and flood shields are designed to resist hydrostatic, hydrodynamic, and other flood-related loads, including the effects of buoyancy resulting from flooding to the elevation listed in Table 6-1</u> in accordance with ASCE 24."</p> <p><b>3. Utility certifications.</b> For all applications involving utility or mechanical work, including applications where such work is to be filed in a separate, related application, <del>[construction documents]</del> <u>flood zone compliance plans</u> shall include a certification by the applicant that "all heating, ventilation, air conditioning, plumbing, electrical and other services facilities and equipment within the structure or site will be located or constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24."</p>	
<p><b>Sections within chapter 'G104' changed section number but still present within chapter</b></p>		
<p><b>BC G105 – VARIANCES</b></p>		
<p><b>SECTION BC G105 PROGRESS AND SPECIAL INSPECTION REQUIREMENTS</b></p>	<p><b>SECTION BC G105 VARIANCES</b></p>	<p><b>Sections rearranged former G105 now G107</b></p>

<p><b>G105.1 General.</b> Progress and special inspections shall be performed in accordance with this section. All work applications, regardless of the scope of work, shall be subject to the progress and special inspection requirements of Sections G105.2 through G105.4.</p>	<p><b>G105.1 General.</b> The Board of Standards and Appeals shall hear and decide requests for <u>variances from the requirements of this appendix. The Board of Standards and Appeals shall base its determination on technical justifications, and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of this appendix.</u></p> <p><b>Exception:</b> <u>In specific cases, provided that noncompliance with the requirements of the 44 CFR section 60.3 is not created, the commissioner shall be authorized to vary the standards prescribed in this appendix under and pursuant to the provisions of Section 28-103.3 of the Administrative Code and Section 645(b)(2) of the New York City Charter, including but not limited to:</u></p> <ol style="list-style-type: none"> <li><u>1. Increases to the number of plumbing fixtures on an existing non-dry floodproofed story located below DFE including to accommodate compliance with the New York City Plumbing Code or Chapter 11 of this code for accessibility for persons with disabilities, or both; and</u></li> <li><u>2. Modifications to the egress provisions of ASCE 24, Section 6.2.2.</u></li> </ol>	
<p><b>G105.2 All work applications other than new buildings and substantial improvements.</b> All work applications other than new buildings and substantial improvements, shall be subject to the following special inspection:</p> <p><b>1. Flood zone compliance special inspection.</b> Prior to sign-off of work, a special inspector or special inspection agency shall inspect during the course of construction and certify that: “the structure was constructed” or “alterations were performed,” “with methods and practices that minimize flood damage and that are in accordance with approved plans, and with any applicable provisions of Appendix G of the New York City Building Code and ASCE 24.”</p>	<p><b>G105.2 Records.</b> The Board of Standards and Appeals shall:</p> <ol style="list-style-type: none"> <li><u>1. Maintain a record of all variance actions, including justification for their issuance; and</u></li> <li><u>2. Report such variances issued in its biennial report submitted to the Federal Emergency Management Agency (FEMA).</u></li> </ol>	

<p><b>G105.3 New buildings and substantial improvements.</b> All applications for new buildings or substantial improvements shall be subject to the following inspections:</p> <p><b>1. Elevation progress inspection.</b> Upon placement of the lowest floor, including the basement (for flood zone purposes), an engineer or licensed professional surveyor shall inspect the site and verify the elevation of such lowest floor. The inspection report verifying the elevation shall be submitted to the department prior to further vertical construction. The commissioner shall be permitted to issue a stop work order if such inspection report is not submitted.</p> <p><b>2. Flood zone compliance special inspection.</b> Prior to sign-off of work, a special inspector or special inspection agency shall inspect during the course of construction and certify that: “the structure was constructed” or “alterations were performed,” with methods and practices that minimize flood damage and that are in accordance with approved plans, and with any applicable provisions of Appendix G of the New York City Building Code and ASCE 24.”</p> <p><b>3. Final elevation required items.</b> Prior to the sign-off of the flood zone compliance special inspection, the special inspector or special inspection agency shall verify that the following required items have been submitted to the department, as applicable:</p> <p><b>3.1. Elevation certificate.</b> The elevation certificate shall be made utilizing FEMA Form 086-0-33 titled, “Elevation Certificate,” and shall be signed by an engineer or surveyor.</p> <p><b>3.2. Dry floodproofing certificate.</b> The Dry floodproofing certificate shall be made utilizing FEMA Form 086-0-34 titled, “Floodproofing Certificate,” and shall be signed by an engineer.</p>	<p><b>G105.3 Historic structures.</b> <u>A variance is authorized to be issued by the Board of Standards and Appeals for the repair or rehabilitation of a historic structure upon a determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as a historic structure, and the variance is the minimum necessary to preserve the historic character and design of the structure.</u></p>	
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<p><b>G105.4 Flood shield inspection.</b> Where flood shields or other flood control devices are installed as part of a dry floodproofing system in buildings and structures that are nonresidential (for flood zone purposes), the special inspector or special inspection agency responsible for the flood zone compliance special inspection shall inspect the shields or devices in their stored positions or locations, witness their activation or transportation to their installed positions, and witness their deactivation or transportation back to their stored locations. The special inspector or special inspection agency shall also confirm the installation of signage required by ASCE 24, Section 6.2.3, Item 3.</p>	<p><b>G105.4 Functionally dependent facilities.</b> The Board of Standards and Appeals is <u>authorized to issue a variance for the construction or substantial improvement of a functionally dependent facility provided the criteria in Sections G105.3, G105.5 and G105.7 are met and the variance is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to methods and materials that minimize flood damages during the base flood and create no additional threats to public safety.</u></p>	
<p><b>G105.5 Reserved.</b></p>	<p><b>G105.5 Floodway restrictions.</b> The Board of Standards and Appeals shall not issue a <u>variance for any proposed development in a floodway if any increase in flood levels would result during the base flood discharge.</u></p>	

**G105.6 Reserved.**

**G105.6 Conditions.** In reviewing applications for variances, the Board of Standards and Appeals shall consider all technical evaluations, all relevant factors, all other portions of this appendix and the following:

1. The danger that materials and debris may be swept onto other lands resulting in further injury or damage.
2. The danger to life and property due to flooding or erosion damage.
3. The susceptibility of the proposed development, including contents, to flood damage and the effect of such damage on current and future owners.
4. The importance of the services provided by the proposed development to the community.
5. The availability of alternate locations for the proposed development that are not subject to flooding or erosion.
6. The compatibility of the proposed development with existing and anticipated development.
7. The relationship of the proposed development to the comprehensive plan and floodplain management program for that area.
8. The safety of access to the property in times of flood for ordinary and emergency vehicles.
9. The expected heights, velocity, duration, rate of rise and debris and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
10. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets and bridges.

<p><b>G105.7 Reserved.</b></p>	<p><b>G105.7 Conditions for issuance.</b> Except for historic structures as provided for in Section G105.3, the Board of Standards and Appeals is authorized to issue a variance where all of the following criteria are met: <u>1. A technical showing of good and sufficient cause that the characteristics of the size, configuration or topography of the site renders the standards inappropriate;</u> <u>2. A determination that failure to grant the variance would result in exceptional hardship to the applicant for the variance;</u> <u>3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nor create nuisances,</u> <u>2108</u> <u>cause fraud on or victimization of the public or conflict with existing local laws or ordinances;</u> <u>4. A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;</u> <u>5. Notification to the applicant in writing over the signature of the Executive Director of the Board of Standards and Appeals that the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and that such construction below the base flood level increases risks to life and property; and</u> <u>6. A determination that the new construction, substantial improvement, or other proposed development is located on a tax lot that, on November 16, 1983, was no more than 1/2 acre (0.2 hectare) in size. However, where the tax lot has been determined to be larger than 1/2 acre (0.2 hectare), the technical justification required for issuing the variance increases with the lot size.</u></p>	
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BC G106 – CERTIFICATES OF OCCUPANCY		
<p><b>G106.2 Enclosed areas subject to flooding in A-Zones.</b> The certificate of occupancy shall describe all wet floodproofed enclosed areas below the design flood elevation as “subject to flooding”. Such wet floodproofed enclosed areas shall be usable solely for parking, storage, building access or crawl spaces.</p>	<p><b>G106.2 Enclosed areas subject to flooding in A-Zones.</b> The certificate of occupancy shall describe all <del>wet floodproofed</del> enclosed areas below the design flood elevation that are subject to flooding and <u>that meet the requirements of this appendix for wet floodproofing as "wet floodproofed, subject to flooding".</u> <del>Such wet floodproofed enclosed areas shall be usable solely for parking, storage, building access or crawl spaces.</del> <u>The certificate of occupancy shall indicate the use of wet floodproofed spaces as either parking, storage, building access or crawl spaces. The certificate of occupancy shall be issued with the following restriction: “Levels subject to flooding shall not be used for any other use except as stated on this certificate.”</u></p>	
<p><b>G106.4 Dry flood proofed spaces.</b> The certificate of occupancy shall describe any dry flood proofed spaces as “dry flood proofed.” For such buildings containing dwelling units, patient care areas (for flood zone purposes) or spaces intended to be used by persons for sleeping purposes, the certificate of occupancy shall also provide notations as required by Section G304.1.2, Item 2.2.5. Where flood shields or other flood control devices are installed, the certificate of occupancy shall also provide notations describing these features.</p>	<p><b>G106.4 Dry flood proofed spaces.</b> The certificate of occupancy shall describe any dry flood proofed spaces as "dry flood proofed." <u>Where flood shields or other flood control devices are installed, the certificate of occupancy shall also provide notations describing these features. For evacuated buildings or evacuated portions of buildings utilizing the temporary stair or ramp provisions of Section G308.10.1, the certificate of occupancy shall note "In portions of this building planned to be evacuated during flood conditions, occupancy shall be prohibited except for maintenance or emergency personnel."</u></p>	
BC G107 – PERIODIC, PROGRESS AND SPECIAL INSPECTION REQUIREMENTS		
<p><b>SECTION BC G107 VARIANCES</b></p>	<p><b>SECTION BC G107 PERIODIC, PROGRESS AND SPECIAL INSPECTION REQUIREMENTS</b></p>	
<p><b>G107.1 General.</b> The Board of Standards and Appeals shall hear and decide requests for variances from the requirements of this appendix. The Board of Standards and Appeals shall base its determination on technical justifications, and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of this appendix.</p>	<p><b>G107.1 General.</b> <u>Periodic, progress and special inspections shall be performed in accordance with this section. All work applications, regardless of the scope of work, shall be subject to the progress and special inspection requirements of Sections G107.2 through G107.4.</u></p>	

<p><b>G107.2 Conditions for variance.</b></p>	<p><b><u>G107.2 All work applications other than new buildings, horizontal enlargements and substantial improvements.</u></b> All work applications other than new buildings, horizontal enlargements and substantial improvements, shall be subject to the following special inspection:</p> <p><b><u>1. Flood zone compliance special inspection.</u></b> Prior to sign-off of work, a special inspector or special inspection agency shall inspect during the course of construction and certify that: "the structure was constructed" or "alterations were performed," "with methods and practices that minimize flood damage and that are in accordance with approved plans, and with any applicable provisions of Appendix G of the New York City Building Code and ASCE 24."</p>	
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**G107.3 Standards for variance.** In reviewing applications for variances, the Board of Standards and Appeals shall consider all technical evaluations, all relevant factors, all other portions of this appendix and the following:

- 1.The danger that materials and debris may be swept onto other lands resulting in injury or damage;
- 2.The danger to life and property due to flooding or erosion damage;
- 3.The susceptibility of the proposed development, including contents, to flood damage and the effect of such damage on current and future owners;
- 4.The importance of the services provided by the proposed development to the community;
- 5.The availability of alternate locations for the proposed development that are not subject to flooding or erosion;
- 6.The relationship of the proposed development to the comprehensive plan and flood plain management program for that area;
- 7.The safety of access to the property in times of flood for ordinary and emergency vehicles;
- 8.The expected heights, velocity, duration, rate of rise and debris and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
- 9.The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets and bridges.

**G107.3 New buildings, horizontal enlargements and substantial improvements.** All applications for new buildings, horizontal enlargements or substantial improvements shall be subject to the following inspections:

**1. Elevation progress inspection.** Upon placement of the lowest floor, including the basement (for flood zone purposes), an engineer or licensed professional surveyor shall inspect the site and verify the elevation of such lowest floor. The inspection report verifying the elevation shall be submitted to the department prior to further vertical construction. The commissioner shall be permitted to issue a stop work order if such inspection report is not submitted.

**2. Flood zone compliance special inspection.** Prior to sign-off of work, a special inspector or special inspection agency shall inspect during the course of construction and certify that: "the structure was constructed" or "alterations were performed," "with methods and practices that minimize flood damage and that are in accordance with approved plans, and with any applicable provisions of Appendix G of the New York City Building Code and ASCE 24."

**3. Final elevation required items.** Prior to the sign-off of the flood zone compliance special inspection, the special inspector or special inspection agency shall verify that the following required items have been submitted to the department, as applicable:

**3.1. Elevation certificate.** The elevation certificate shall be made utilizing FEMA Form 086-0-33 titled, "Elevation Certificate," and shall be signed by a registered design professional or surveyor.

**3.2. Dry floodproofing certificate.** The dry floodproofing certificate shall be made utilizing FEMA Form 086-0-34 titled, "Floodproofing Certificate," and shall be signed by a registered design professional.

<p><b>G107.4 Notification of risks.</b> Upon issuance of a variance, the Executive Director of the Boards of Standards and Appeals shall provide written notice to the owner and the applicant that:</p> <ol style="list-style-type: none"> <li>1.The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars for each one hundred dollars of insurance coverage; and</li> <li>2. That such construction below the base flood level increases risks to life and property.</li> </ol>	<p><b>G107.4 Flood shield inspection.</b> Where flood shields or other flood control devices are installed as part of a dry floodproofing system in buildings and structures that are <u>nonresidential (for flood zone purposes), the special inspector or special inspection agency responsible for the flood zone compliance special inspection shall inspect the shields or devices in their stored positions or locations, witness their activation or transportation to their installed positions, and witness their deactivation or transportation back to their stored locations. The special inspector or special inspection agency shall also confirm the installation of signage required by ASCE 24, Section 6.2.3, Item 3.</u></p>	
<p><b>G107.5 Records.</b> The Board of Standards and Appeals shall:</p> <ol style="list-style-type: none"> <li>1. Maintain a record of all variance actions, including justification for their issuance; and</li> <li>2. Report such variances issued in its biennial report submitted to the Federal Emergency Management Agency (FEMA).</li> </ol>	<p><b>G107.5 Periodic inspections of dry floodproofing systems.</b> Covered buildings, as described in Section 28-324 of the Administrative Code, shall be subject to periodic inspections for dry floodproofing systems in accordance with Sections G107.5.1 and G107.5.2.</p>	
<p><b>G107.5.1 (Not in the 2014 Code)</b></p>	<p><b>G107.5.1 Annual inspection of dry floodproofing system.</b> An inspection of the dry floodproofing system shall be conducted annually in accordance with Section 28-324.2 of the Administrative Code.</p>	
<p><b>G107.5.2 (Not in the 2014 Code)</b></p>	<p><b>G107.5.2 Triennial full scale deployment inspection.</b> A full-scale deployment inspection shall be conducted every three years in accordance with Section 28-324.3 of the Administrative Code.</p>	
<p><b>BC G201 - DEFINITIONS</b></p>		
<p><b>G201 Definitions</b></p>	<p><b>202 Definitions</b></p>	
<p><b>G201.1.2 Definitions specific to this appendix. (Not in 2014 Code)</b></p>	<p><b>G201.1.2 Definitions specific to this appendix.</b> The following words and terms shall, for the purposes of this appendix, have the meanings shown herein:  <b>DEVELOPMENT.</b> Any man-made change to improved or unimproved real estate, including but not limited to, buildings or other structures, temporary structures, temporary or permanent storage of materials, mining, dredging, filling, grading, paving, excavations or drilling operations and other land-disturbing activities.  <b>EXISTING CONSTRUCTION.</b> See “Pre-FIRM development.”  <b>EXISTING STRUCTURE.</b> See “Pre-FIRM development.”</p>	<p><b>Definitions are now moved to chapter 2 of the code, except for flood specific definitions described in this section.</b></p> <p><b>No Change</b></p>

	<p><b>FLOOD DESIGN CLASS.</b> A classification of buildings and other structures for determination of flood loads and conditions, and determination of minimum elevation requirements on the basis of risk associated with unacceptable performance.</p> <p><b>FUNCTIONALLY DEPENDENT FACILITY.</b> A facility that cannot be used for its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for loading and unloading of cargo or passengers and shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing, sales or service facilities.</p> <p><b>HISTORIC STRUCTURE.</b> Any structure that meets one of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Listed individually in the National Register of Historic Places;</li> <li>2. Certified by the Secretary of the U.S. Department of the Interior as meeting the requirements for individual listing in the National Register;</li> <li>3. Certified or preliminarily determined by the Secretary of the U.S. Department of the Interior to be contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary of the U.S. Department of the Interior to qualify as a registered historic district;</li> <li>4. Individually listed or preliminarily determined to be eligible for listing in the New York State Register of Historic Places; or</li> <li>5. Individually listed as a landmark by the NYC Landmarks Preservation Commission.</li> </ol> <p>Location within a historic district does not alone qualify as being an individually listed landmark.</p> <p><b>LETTER OF MAP AMENDMENT (LOMA).</b> An official amendment to the FIRM, issued and approved by the Federal Emergency Management Agency (FEMA), removing structures or tax lots or portions of tax lots from special flood hazard areas, resulting from a demonstration that the pre-FIRM ground elevations are at or above the base flood elevation.</p> <p><b>LETTER OF MAP REVISION BASED ON FILL (LOMR-F).</b> An official amendment to the FIRM, issued and approved by the Federal Emergency Management Agency (FEMA), removing structures or tax lots or portions of tax lots from special flood hazard areas, resulting from the post-FIRM placement of compacted fill, such that the new ground elevation is at or above the base flood elevation.</p> <p><b>LETTER OF MAP REVISION (LOMR).</b> An official amendment to the FIRM, issued and approved by the Federal Emergency Management Agency (FEMA), removing or adding structures or tax lots or portions of tax lots from special flood hazard areas, which</p>	<p><b>No Change</b>  <b>No Change</b>  <b>New Definition</b></p> <p><b>Insignificant to definition</b></p> <p><b>Definition clarifies historic structure. Individual landmarked buildings qualify but not necessarily located in a historic district.</b></p> <p><b>No Change</b></p>
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	<p>self-propelled or permanently towable by a light-duty truck, and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect-type utilities and security devices and has no permanently attached additions.</p> <p><b>START OF CONSTRUCTION.</b> The date of permit issuance for: (i) post-FIRM developments; (ii) substantial improvements to pre-FIRM structures; and (iii) those pre-FIRM developments that, at the time of permit issuance, were not within a special flood hazard area but that, prior to completion, were within a special flood hazard area as a result of map change; provided the actual commencement of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement is within 180 days after the date of permit issuance and such construction activity is not thereafter suspended or abandoned for 180 days or more. For the purposes of this definition:</p> <ol style="list-style-type: none"> <li>1. The actual commencement of construction means the first placement of permanent construction of a building (including a manufactured home or prefabricated building) on a site, such as the pouring of a slab or footings, installation of pilings or construction of columns.</li> <li>2. Permanent construction does not include land preparation (such as clearing, excavation, grading or filling), the installation of streets or walkways, excavation for a basement (for flood zone purposes), footings, piers or foundations, the erection of temporary forms or the installation of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main building.</li> <li>3. For a substantial improvement, the actual commencement of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, regardless of whether that alteration affects the external dimensions of the building.</li> </ol> <p><b>VARIANCE.</b> A grant of relief from the requirements of this appendix, which permits construction in a manner otherwise prohibited by this appendix.</p>	<p><b>No Change</b> <b>No Change</b></p> <p><b>No Change</b> <b>No Change</b></p> <p><b>No Change</b> <b>No Change</b></p> <p><b>No Change</b></p>
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<b>BC G301 - CONSTRUCTION STANDARDS</b>		
<b>BC G302 - SUBDIVISIONS</b>		
<b>BC G303 - SITE IMPROVEMENT</b>		
<b>G303.2 Sewer facilities. (Added new subsection to 303.2 and moving all current subsections up .1)</b>	<b>G303.2 Coastal high-hazard areas and coastal A-Zones. In coastal high-hazard areas and coastal A-Zones:</b> <u>1. New buildings, not including substantial improvements, shall only be authorized landward of the reach of mean high tide.</u> <u>2. The use of fill for structural support of buildings is prohibited.</u>	<b>New restrictions for new buildings &amp; uses of fill</b>
<b>BC G304 – POST-FIRM CONSTRUCTION, HORIZONTAL ENLARGEMENTS AND SUBSTANTIAL IMPROVEMENTS</b>		
<b>G304.1.1 Residential</b> For buildings or structures that are residential (for flood zone purposes), all post-FIRM new buildings and substantial improvements shall comply with the applicable	<b>G304.1.1 Residential</b> For buildings or structures that are residential (for flood zone purposes), all post-FIRM new buildings and substantial improvements shall comply with the applicable requirements in Chapter G3 of this code and ASCE 24, and shall be elevated as follows:	

<p>requirements in Chapter G3 of this code and ASCE 24, and shall be elevated as follows:</p> <p><b>1. Lowest floor.</b> The lowest floor, including the basement (for flood zone purposes), shall be elevated to at or above the design flood elevation specified in ASCE 24, Table 2-1;</p> <p><b>2. Enclosures below the design flood elevation.</b> Enclosed spaces below the design flood elevation specified in ASCE 24, Table 2-1, shall be useable solely for parking of vehicles, building access, storage, or crawlspace, and shall be wet floodproofed in accordance with ASCE 24. Breakaway walls are not required in A-Zones;</p> <p><b>2.1 (Not in 2014 Code)</b></p> <p><b>3. Under-floor spaces.</b> The finished ground level of an under-floor space, such as a crawl space, shall be equal to or higher than the outside finished ground level on at least one side.</p> <p><b>4. Materials.</b> Only flood-damage-resistant materials and finishes shall be utilized below the design flood elevation specified in ASCE 24, Table 5-1;</p> <p><b>5. Utilities and equipment.</b> Utilities and attendant equipment shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, or shall be constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24;</p> <p><b>5.1. Fire protection systems and equipment.</b> The following fire protection systems and equipment shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, except that where the system or equipment or portion thereof serves only spaces located below such design flood elevation, the system or equipment or portion thereof may be located below such design flood elevation:</p>	<p><b>1. Lowest floor.</b> The lowest floor, including the basement (for flood zone purposes), shall be elevated to at or above the design flood elevation specified in ASCE 24, Table 2-1;</p> <p><b>2. Enclosures below the design flood elevation.</b> Enclosed spaces below the design flood elevation specified in ASCE 24, Table 2-1, shall be useable solely for parking of vehicles, building access, storage, or crawlspace, and shall be wet floodproofed in accordance with ASCE 24. Breakaway walls are not required in A-Zones;</p> <p><u>2.1. A restrictive declaration noting the above restriction shall be filed with the City Register or County Clerk, and the City Register File Number (CRFN) shall be identified in the permit application and on the certificate of occupancy.</u></p> <p><b>3. Under-floor spaces.</b> The finished ground level of an under-floor space, such as a crawl space, shall be equal to or higher than the outside finished ground level on at least one side.</p> <p><b>4. Materials.</b> Only flood-damage-resistant materials and finishes shall be utilized below the design flood elevation specified in ASCE 24, Table 5-1;</p> <p><b>5. Utilities and equipment.</b> Utilities and attendant equipment shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, <u>or with the exception of the items below</u>, shall be constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24;</p> <p><b>5.1. Fire protection systems and equipment.</b> The following fire protection systems and equipment shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, except that where the system or equipment or portion thereof serves only spaces located below such design flood elevation, the system or equipment or portion thereof may be located below such design flood elevation:</p> <p>5.1.1. Sprinkler control valves that are not outside stem and yoke valves;</p> <p>5.1.2. Fire standpipe control valves that are not outside stem and yoke valves;</p> <p>5.1.3. Sprinkler booster pumps and fire pumps;</p> <p>5.1.4. Dry pipe valve-related electrically operated alarm appurtenances;</p> <p>5.1.5. Alarm control panels for water and non-water fire extinguishing systems;</p> <p>5.1.6. Alarm control panels for sprinkler systems, pre-action sprinkler systems, deluge sprinkler systems, and combined dry pipe and pre-action sprinkler systems;</p> <p>5.1.7. Electrically operated water flow detection devices serving sprinkler systems; and</p> <p>5.1.8. Air compressors serving sprinkler systems and pre-action sprinkler systems.</p>	<p><b>New requirements for approval &amp; CO issuance. Restrictive declarations for residential properties.</b></p>
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<p>5.1.1. Sprinkler control valves that are not outside stem and yoke valves;</p> <p>5.1.2. Fire standpipe control valves that are not outside stem and yoke valves;</p> <p>5.1.3. Sprinkler booster pumps and fire pumps;</p> <p>5.1.4. Dry pipe valve-related electrically operated alarm appurtenances;</p> <p>5.1.5. Alarm control panels for water and non-water fire extinguishing systems;</p> <p>5.1.6. Alarm control panels for sprinkler systems, pre-action sprinkler systems, deluge sprinkler systems, and combined dry pipe and pre-action sprinkler systems;</p> <p>5.1.7. Electrically operated water flow detection devices serving sprinkler systems; and</p> <p>5.1.8. Air compressors serving sprinkler systems and pre-action sprinkler systems.</p> <p>5.2. Fire alarm systems and components. Where a zoning indicator panel is provided at the main building entrance in accordance with Section 907.6.3.1 and such panel is located at or below 5 feet (1524 mm) above the design flood elevation specified in ASCE 24, Table 7-1, at least one secondary zoning indicator panel complying with the following requirements shall be provided:</p> <p>5.2.1. The secondary zoning indicator panel, associated controls, power supplies and means of transferring control shall be provided at least 5 feet (1524mm) above the design flood elevation specified in ASCE 24, Table 7-1, in a location accessible to responding Fire Department personnel and approved by the department and the Fire Department; and</p> <p>5.2.2. Where the secondary zoning indicator panel or associated controls are only operable upon transfer of control from another zoning indicator panel, such transfer shall be by a means that is approved by the Fire Department.</p>	<p>5.2. Fire alarm systems and components. Where a zoning indicator panel is provided at the main building entrance in accordance with Section 907.6.3.1 and such panel is located at or below 5 feet (1524 mm) above the design flood elevation specified in ASCE 24, Table 7-1, at least one secondary zoning indicator panel complying with the following requirements shall be provided:</p> <p>5.2.1. The secondary zoning indicator panel, associated controls, power supplies and means of transferring control shall be provided at least 5 feet (1524mm) above the design flood elevation specified in ASCE 24, Table 7-1, in a location accessible to responding Fire Department personnel and approved by the department and the Fire Department; and</p> <p>5.2.2. Where the secondary zoning indicator panel or associated controls are only operable upon transfer of control from another zoning indicator panel, such transfer shall be by a means that is approved by the Fire Department.</p> <p>5.3. Fuel-oil piping systems. The following requirements shall apply to fuel-oil piping systems, as defined by Section 202 of the New York City Mechanical Code:</p> <p>5.3.1. Fill piping that does not terminate in a watertight terminal approved by the department shall terminate at least 3 feet (914 mm) above the design flood elevation specified in ASCE 24, Table 7-1; and</p> <p>5.3.2. Normal vent piping and emergency vent piping shall terminate at least 3 feet (914 mm) above the design flood elevation specified in ASCE 24, Table 7-1.5.4. Plumbing systems and components. The structure shall comply with the following requirements:</p> <p>5.4.1. Relief vents and fresh air intakes. Relief vents and fresh air intakes serving building traps in accordance with Section 1002.6 of the New York City Plumbing Code shall be carried above grade and shall terminate in a screened outlet that is located outside of the building and at or above the design flood elevation specified in ASCE 24, Table 7-1; and</p> <p>5.4.2. Reduced pressure zone backflow preventers. Reduced pressure principle backflow preventers complying with Section 608.13.2 of the New York City Plumbing Code and backflow preventers with intermediate atmospheric vents complying with Section 608.13.3 of the New York City Plumbing Code shall be located at or above the design flood elevation specified in ASCE 24, Table 7.1.</p> <p><u>5.4.2.1. Primary reduced pressure principle backflow preventers complying with the requirements of the Department of Environmental Protection shall be located at or above the design flood elevation specified in ASCE 24, Table 7.1.</u></p>	
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<p>5.3. Fuel-oil piping systems. The following requirements shall apply to fuel-oil piping systems, as defined by Section 202 of the New York City Mechanical Code:</p> <p>5.3.1. Fill piping that does not terminate in a watertight terminal approved by the department shall terminate at least 3 feet (914 mm) above the design flood elevation specified in ASCE 24, Table 7-1; and</p> <p>5.3.2. Normal vent piping and emergency vent piping shall terminate at least 3 feet (914 mm) above the design flood elevation specified in ASCE 24, Table 7-1.5.4. Plumbing systems and components. The structure shall comply with the following requirements:</p> <p>5.4.1. Relief vents and fresh air intakes. Relief vents and fresh air intakes serving building traps in accordance with Section 1002.6 of the New York City Plumbing Code shall be carried above grade and shall terminate in a screened outlet that is located outside of the building and at or above the design flood elevation specified in ASCE 24, Table 7-1; and</p> <p>5.4.2. Reduced pressure zone backflow preventers. Reduced pressure principle backflow preventers complying with Section 608.13.2 of the New York City Plumbing Code and backflow preventers with intermediate atmospheric vents complying with Section 608.13.3 of the New York City Plumbing Code shall be located at or above the design flood elevation specified in ASCE 24, Table 7.1.</p> <p>5.4.2.1 <i>(Not in 2014 Code)</i></p> <p>5.4.2.2 <i>(Not in 2014 Code)</i></p> <p>5.4.3 <i>(Not in 2014 Code)</i></p> <p><b>6. Certifications.</b> Applications shall contain applicable certifications in accordance with Section G104.5; and</p> <p><b>7. Special inspections.</b> Special inspections shall be as required by Section G105.</p>	<p>5.4.2.2. <u>[Reduced] Secondary reduced pressure principle backflow preventers complying with Section 608.13.2 of the New York City Plumbing Code and backflow preventers with intermediate atmospheric vents complying with Section 608.13.3 of the New York City Plumbing Code shall be located at or above the design flood elevation specified in ASCE 24, Table 7.1.</u></p> <p>5.4.3. <u>Relief vents for gas service, equipment, and appliance pressure regulators. Relief vents for gas service, equipment, and appliance pressure regulators complying with the New York City Fuel Gas Code shall be located at or above the design flood elevation specified in ASCE 24, Table 7.1.</u></p> <p><b>6. Certifications.</b> Applications shall contain applicable certifications in accordance with Section G104.5; and</p> <p><b>7. Special inspections.</b> Special inspections shall be as required by Section G105.</p>	<p><b>RP2's, gas vents and equipment must be above design flood evaluation.</b></p>
<p><b>G304.1.2 Nonresidential.</b> For buildings or structures that are nonresidential (for flood zone purposes), all post-FIRM</p>	<p><b>G304.1.2 Nonresidential.</b> For buildings or structures that are nonresidential (for flood zone purposes), all post-FIRM new buildings, <u>horizontal enlargements</u> and substantial</p>	

new buildings and substantial improvements shall comply with the applicable requirements in Chapter G3 of this code and ASCE 24, and shall comply with either of the following:

**1. Elevation option.** The structure shall comply with Items 1 through 7 of Section G304.1.1; or

**2. Dry floodproofing option.** The structure shall comply with the following:

2.1. Elevation of dry floodproofing. The structure shall be dry floodproofed to at or above the design flood elevation specified in ASCE 24, Table 6-1;

2.2. Dwelling units, patient care areas (for flood zone purposes) and sleeping areas. Where dwelling units, patient care areas (for flood zone purposes) or spaces intended to be used by persons for sleeping purposes are located in a building utilizing the dry floodproofing option, the following additional requirements shall be met:

2.2.1. All rooms and spaces within dwelling units, patient care areas (for flood zone purposes) and all spaces intended to be used by persons for sleeping purposes shall be located at or above the design flood elevation;

2.2.2. A restrictive declaration noting the above restriction shall be filed with the City Register or County Clerk, and the page number and liber number shall be identified in the permit application and on the certificate of occupancy.

2.3. Utilities and equipment. Utilities and attendant equipment shall be located within the dry floodproofed enclosure, or may be located outside the dry floodproofed enclosure provided that they are located at or above the design flood elevation specified in ASCE 24, Table 7-1, or are constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24.

improvements shall comply with the applicable requirements ~~[in Chapter G3]~~ of this ~~[code]~~ appendix and ASCE 24, and shall comply with either of the following:

**1. Elevation option.** The structure shall comply with Items 1 through ~~{6}~~ 7 of Section G304.1.1; or

**2. Dry floodproofing option.** The structure shall comply with the following:

2.1. Elevation of dry floodproofing. The structure shall be dry floodproofed to ~~{at}~~ or above the design flood elevation specified in ASCE 24, Table 6-1;

2.2. Dwelling units, patient care areas (for flood zone purposes) and sleeping ~~{spaces}~~ areas. Where dwelling units, patient care areas (for flood zone purposes) or spaces intended to be used by persons for sleeping purposes are located in a building utilizing the dry floodproofing option, the following additional requirements shall be met:

2.2.1. All rooms and spaces within dwelling units, patient care areas (for flood zone purposes) and all spaces intended to be used by persons for sleeping purposes shall be located at or above the design flood elevation;

2.2.2. A restrictive declaration noting the above restriction shall be filed with the City Register or County Clerk, and the ~~{page number and liber number}~~ City Register File Number (CRFN) shall be identified in the permit application and on the certificate of occupancy.

2.3. Utilities and equipment. Utilities and attendant equipment shall be located within the dry floodproofed enclosure, or may be located outside the dry floodproofed enclosure provided that they are located at or above the design flood elevation specified in ASCE 24, Table 7-1, or are constructed so as to prevent water from entering or accumulating within the components during conditions of flooding in accordance with ASCE 24.

2.3.1. Additional requirements. ~~{The structure shall comply with}~~ Notwithstanding the above, utilities and attendant equipment, listed in Items 5.1 through 5.4 of Section G304.1.1, shall not be located in dry floodproofed enclosures and shall be elevated in accordance with Section G304.1.1.

2.4. Fire department connections. Dry floodproofing measures including temporary shields, stairs and ramps shall be located and arranged so as to allow hose lines to be attached to the inlets of fire department connections without interference in accordance with Section 6.4.5 of NFPA 14, as modified by Appendix Q of this code.

2.5. Certifications. Applications shall contain applicable certifications in accordance with Section ~~{G104.5}~~ G104.2.3; and

<p>2.3.1. Additional requirements. The structure shall comply with Items 5.1 through 5.4 of Section G304.1.1.</p> <p>2.4. Certifications. Applications shall contain applicable certifications in accordance with Section G104.5; and</p> <p>2.5. Special inspections. Special inspections shall be as required by Section G105</p>	<p>2130</p> <p><del>[2.5.]</del> <u>2.6.</u> Special inspections. Special inspections shall be as required by Section <del>[G105]</del> <u>G107.</u></p>	
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**G304.3 Coastal A-Zone construction standards.** In addition to the requirements of ASCE 24, all post-FIRM new buildings and substantial improvements in a Coastal A-Zone shall comply with the V-Zone construction standards of Section G304.2.

**Exceptions:** The following structural systems shall be permitted in a Coastal A-Zone:

**1. Wave-resisting stem wall foundation.** Stem walls supporting a floor system above, and backfilled with soil or gravel to the underside of the floor system, shall be permitted in Coastal A-Zones. The design and construction of the shallow foundation system shall comply with the following:

1.1 The underside of such floor system shall be located at or above the design flood elevation specified in ASCE 24, Table 4-1.

1.2 Stem walls enclosing areas below the design flood elevation shall not be permitted. Stem walls shall be designed to transfer all vertical and lateral forces to the slab above and to the foundation elements below;

1.3 The design shall consider all forces resulting from flooding, including wave action, debris impact, erosion, and local scour;

1.4 The design shall consider all forces resulting from soil pressure behind the walls, including the effect of hydrostatic loads, and all live and dead surcharge loads from the slab above;

1.5 Flood openings shall not be required in stem walls constructed in accordance with this section;

1.6 Where soils are susceptible to erosion and local scour, stem walls shall be supported by deep footings;

1.7 Shallow foundations including spread footing, mat and raft foundations shall be designed to prevent sliding, uplift, or overturning when exposed to the combination of loads in ASCE Section 1.6.2.

**2. Wave-resisting dry floodproofing wall and foundation system.** Buildings that are nonresidential (for flood zone

**G304.3 Coastal A-Zone construction standards.** In addition to the requirements of ASCE 24, all post-FIRM new buildings, horizontal enlargements and substantial improvements in a Coastal A-Zone shall comply with the [~~V-Zone~~] coastal high-hazard area construction standards of Section G304.2.

**Exceptions:** The following structural systems shall be permitted in a Coastal A-Zone:

2. **Wave-resisting stem wall foundation.** Stem walls supporting a floor system above, and backfilled with soil or gravel to the underside of the floor system, shall be permitted in Coastal A-Zones. The design and construction of the shallow foundation system shall comply with the following:

- The underside of such floor system shall be located at or above the design flood elevation specified in ASCE 24, Table 4-1.
- Stem walls enclosing areas below the design flood elevation shall not be permitted. Stem walls shall be designed to transfer all vertical and lateral forces to the slab above and to the foundation elements below;
- The design shall consider all forces resulting from flooding, including wave action, debris impact, erosion, and local scour;
- The design shall consider all forces resulting from soil pressure behind the walls, including the effect of hydrostatic loads, and all live and dead surcharge loads from the slab above;
- Flood openings shall not be required in stem walls constructed in accordance with this section;
- Where soils are susceptible to erosion and local scour, stem walls shall be supported by deep footings;

Text has been changed to clarify that all horizontal enlargements must comply. The rest of the section is unchanged

purposes) and that are located in Coastal A-Zones shall be permitted to be dry floodproofed in accordance with Section G304.1.2 provided the structure is dry floodproofed to at or above the design flood elevation specified in ASCE 24, Table 6-1. For buildings or structures utilizing this exception, construction documents shall include calculations demonstrating that the foundation and building, including flood shields if provided, will resist the wave action, including the combination of loads in ASCE Section 1.6, to at or above the design flood elevation specified in ASCE 24, Table 4-1.

- Shallow foundations including spread footing, mat and raft foundations shall be designed to prevent sliding, uplift, or overturning when exposed to the combination of loads in ASCE 24, Section 1.6.2.

**3. Wave-resisting dry floodproofing wall and foundation system.**

Buildings that are nonresidential (for flood zone purposes) and that are located in Coastal A-Zones shall be permitted to be dry floodproofed in accordance with Section G304.1.2 ~~[provided the structure is]~~. Such structure shall be dry floodproofed to ~~[at]~~ or above the design flood elevation specified in ASCE 24, Table 6-1. ~~[For buildings or structures utilizing this exception, construction documents]~~ Flood zone compliance plans shall include calculations demonstrating that the foundation and building, including flood shields if provided, will resist the wave action, including the combination of loads in ASCE 24, Section 1.6, to at or above the design flood elevation ~~[specified in ASCE 24, Table 4-1]~~

<p><b>G304.4.1 Alterations to certain flood design class 4 buildings. (Not in 2014 Code)</b></p>	<p><b>G304.4.1 Alterations to certain flood design class 4 buildings.</b> Where existing emergency vehicle garages and fire, rescue, ambulance, and police stations located within shaded X-Zones are undergoing either a substantial improvement or an increase in the degree of noncompliance as such term is described in Item 10 of Section G102.1, they shall comply with this appendix to the maximum extent practicable as described in Sections G304.4.1.1 through G304.4.1.4.</p>	<p>Rules formerly applicable to I-2 buildings have been extended to more buildings</p>
<p><b>G304.4.1.1 Existing emergency vehicle garages and fire, rescue, ambulance, and police stations to remain. (Not in 2014 Code)</b></p>	<p><b>G304.4.1.1 Existing emergency vehicle garages and fire, rescue, ambulance, and police stations to remain.</b> Where an existing emergency vehicle garage or fire, rescue, ambulance, or police station building is undergoing substantial improvement or an increase in the degree of noncompliance, such existing emergency vehicle storage area shall be permitted to be located below the design flood elevation, provided such space is wet flood proofed in accordance with ASCE 24 and an emergency action plan is filed with the department in accordance with ASCE 24, Section 6.2.3. Such emergency action plan shall include actionable directives for the relocation of such emergency vehicles in advance of a flood event.</p>	<p>EAP plan now required</p>
<p><b>G304.4.1.2 Equipment within existing emergency vehicle garages and fire, rescue, ambulance, and police stations. (Not in 2014 Code)</b></p>	<p><b>G304.4.1.2 Equipment within existing emergency vehicle garages and fire, rescue, ambulance, and police stations.</b> Where an existing emergency vehicle garage or fire, rescue, ambulance, or police station building is undergoing substantial improvement or an increase in the degree of noncompliance, equipment necessary to support operations of such facilities may be located below the design flood elevation where elevation of such equipment to the design flood elevation is physically unfeasible. Such equipment shall be elevated to the maximum extent practicable.</p>	<p>Exception for relocation of existing equipment</p>
<p><b>G304.4.1.3 Conversion of space below the design flood elevation. (Not in 2014 Code)</b></p>	<p><b>G304.4.1.3 Conversion of space below the design flood elevation.</b> Conversion of existing nonoccupiable space to occupiable space without such space being in full compliance with this appendix shall be prohibited.</p>	<p>Prohibition on creating new spaces below design flood elevation.</p>
<p><b>G304.4.1.4 Subgrade spaces to remain. (Not in 2014 Code)</b></p>	<p><b>G304.4.1.4 Subgrade spaces to remain.</b> Where an existing emergency vehicle garage or fire, rescue, ambulance, or police station building is undergoing substantial improvement or an increase in the degree of noncompliance, the existing subgrade space shall be provided with a sump pump system, designed to be fully submerged and remain operational post-flood-event to remove flood waters after a storm surge has receded. Such pump system shall be designed with the pump controller located above</p>	<p>Requirement for sump pumps in existing sub grades spaces.</p>

	<p><u>the design flood elevation and all electrical wiring below the design flood elevation shall be listed and marked for use with a submersible pump. The pump system shall be connected to a standby power source, which shall be elevated above the design flood elevation.</u></p>	
<b>BC G305 - MANUFACTURED HOMES</b>		
<p><b>G305.1 General</b>  Manufactured homes shall be prohibited in V-Zones.  Within A-Zones, all new, replaced or substantially improved manufactured homes shall be:</p> <ol style="list-style-type: none"> <li>1. Installed using methods and practices that minimize flood damage;</li> <li>2. Elevated to or above the design flood elevation specified in ASCE 24, Table 2-1;</li> <li>3. Placed on a permanent, reinforced foundation that is designed in accordance with ASCE 24;</li> <li>4. Securely anchored to a foundation system designed to resist floatation, collapse and lateral movement. Methods of anchoring are authorized to include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.</li> </ol>	<p><b>G305.1 Elevation.</b> <u>All new and replacement manufactured homes shall be prohibited in coastal high-hazard areas. Within A-Zones, all new, replaced or substantially improved manufactured homes shall be elevated such that the lowest floor of the manufactured home is elevated to or above the design flood elevation as specified in ASCE 24, Table 2-1.</u></p>	<p><b>Section has been reformatted . No change to elevation requirements</b></p>
<p><b>G305.2 (Not in 2014 Code)</b></p>	<p><b>G305.2 Foundations.</b> <u>Within A-Zones, all new and replacement manufactured homes, including substantial improvement of existing manufactured homes, shall be placed on a permanent, reinforced foundation that is designed in accordance with ASCE 24.</u></p>	<p><b>Section has been reformatted . No change to foundation requirements</b></p>

<p><b>G305.3 (Not in 2014 Code)</b></p>	<p><b>G305.3 Anchoring.</b> <u>Manufactured homes shall be securely anchored to [a] an adequately anchored foundation system [designed] to resist flotation, collapse and lateral movement. Methods of anchoring are authorized to include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.</u></p>	<p><b>Section has been reformatted . No change to anchoring requirements</b></p>
<p><b>G305.4 (Not in 2014 Code)</b></p>	<p><b>G305.4 Protection of mechanical equipment and outside appliances.</b> <u>Mechanical equipment and outside appliances shall be elevated to or above the design flood elevation.</u>  <b>Exception:</b> <u>Where such equipment and appliances are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the elevation required by ASCE 24, Table 2-1, the systems and equipment shall be permitted to be located below the elevation required by ASCE 24, Table 2-1. Electrical wiring systems shall be permitted below the design flood elevation provided they conform to the provisions of the New York City Electrical Code.</u></p>	<p><b>New sub-section addressing mechanical equipment</b></p>
<p><b>G305.5 (Not in 2014 Code)</b></p>	<p><b>G305.5 Enclosures.</b> <u>Fully enclosed areas below elevated manufactured homes shall comply with the requirements of Section G304.1.1, Item 2.</u></p>	<p><b>New sub-section addressing enclosures</b></p>
<p><b>BC G306 - RECREATIONAL VEHICLES</b></p>		
<p><b>G306.1 General</b>  The following shall apply to placement of all recreational vehicles within areas of special flood hazard:</p> <p>1. <b>Placement in V-Zones and floodways prohibited.</b> The placement of recreational vehicles is prohibited in V-Zones and floodways.</p>	<p><b>G306.1 [General] Placement prohibited.</b> <u>The [following shall apply to] placement of [all] recreational vehicles [within areas of special flood hazard:] shall not be authorized in coastal high-hazard areas or in floodways.</u>  <del>[1. Placement in V-Zones and floodways prohibited. The placement of recreational vehicles is prohibited in V-Zones and floodways.]</del></p>	<p><b>Section has been reformatted . No change to placement requirements</b></p>

<p>2. <b>Temporary placement in A-Zones.</b> Within A-Zones, recreational vehicles shall be fully licensed and ready for highway use, and shall be placed on a site for less than 180 consecutive days.</p> <p>3. <b>Permanent placement in A-Zones.</b> Within A-Zones, recreational vehicles that are not fully licensed and ready for highway use, or that are to be placed on a site for 180 or more consecutive days, shall meet the requirements of Section 28.2-G305 for manufactured homes.</p>		
<p><b>G306.2 (Not in 2014 Code)</b></p>	<p><del>[2.]</del> <b>G306.2 Temporary placement in A-Zones.</b> Recreational vehicles in A-Zones shall be fully licensed and ready for highway use, and shall be placed on a site for less than 180 consecutive days.</p>	<p>Section has been reformatted . No change to temporary placement</p>
<p><b>G306.3 (Not in 2014 Code)</b></p>	<p><del>[3.]</del> <b>G306.3 Permanent placement <del>[in A-Zones].</del></b> Recreational vehicles in A-Zones that are not fully licensed and ready for highway use, or that are to be placed on a site for 180 or more consecutive days, shall meet the requirements of Section G305 for manufactured homes.</p>	<p>Section has been reformatted . No change to permanent placement requirements</p>
<p><b>BC G107 - TANKS</b></p>		
<p><b>G307.5 Elevation of certain tanks and containers serving critical facilities.</b> The following tanks and containers shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, unless such tanks and containers serve buildings that include I-2 occupancies that are hospitals, in which case such tanks and containers shall be located at or above the greater of (i) the design flood elevation specified in ASCE 24, Table 7-1, or (ii) the 500-year flood elevation. Such tanks and containers must be designed to maintain service to such structure during flood conditions and shall comply with section 9.6 of ASCE 24:</p>	<p><b>G307.5 Elevation of certain tanks and containers serving <del>[critical facilities]</del> flood design class 4 buildings.</b> The following tanks and containers shall be located at or above the design flood elevation specified in ASCE 24, Table 7-1, <del>[unless such tanks and containers serve buildings that include I-2 occupancies that are hospitals, in which case such tanks and containers shall be located at or above the greater of (i) the design flood elevation specified in ASCE 24, Table 7-1, or (ii) the 500-year flood elevation]</del> when serving flood design class 4 buildings. Such tanks and containers must be designed to maintain service to such structure during flood conditions and shall comply with <del>[section 9.6]</del> Section 9.7 of ASCE 24:</p>	<p>Rules formerly applicable to I-2 buildings have been extended to more buildings</p>

<p>1. Medical and compressed gas storage tanks, oxygen tanks, and other cryogenic system storage tanks;</p> <p>2. Hazardous material storage tanks;</p> <p>3. Stationary compressed gas containers;</p> <p>4. Stationary cryogenic containers and</p> <p>5. Stationary flammable gas storage containers.</p>	<p>1. Medical and compressed gas storage tanks, oxygen tanks, and other cryogenic system storage tanks;</p> <p>4. Hazardous material storage tanks;</p> <p>5. Stationary compressed gas containers;</p> <p>6. Stationary cryogenic containers; and</p> <p>5. Stationary flammable gas storage containers.</p>	
<p><b>BC G308 - OTHER BUILDING WORK</b></p>		
<p><b>G308.1 Detached accessory structures.</b> Detached accessory structures shall be anchored to prevent flotation, collapse and lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of flooding to the design flood elevation. Enclosed accessory structures usable solely for parking or storage shall be wet floodproofed and shall have flood openings to allow for the automatic entry and exit of flood waters designed in accordance with ASCE 24.</p>	<p><b>G308.1 <del>Detached</del> Garages and accessory structures.</b> <del>Detached</del> Garages and accessory structures shall be <del>anchored to prevent flotation, collapse and lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of flooding to the design flood elevation.</del> Enclosed accessory structures <del>usable solely for parking or storage shall be wet floodproofed and shall have flood openings to allow for the automatic entry and exit of flood waters</del> designed and <u>constructed</u> in accordance with ASCE 24, <u>Section 9.4.</u></p>	<p><b>Section has been simplified to dictate that such structures must comply with ASCE</b></p>
<p><b>G308.5 Prefabricated swimming pools in floodways.</b> Prefabricated swimming pools in floodways shall meet the requirements of Section G103.5.</p>	<p><b>G308.5 <del>Prefabricated swimming pools in floodways.</del></b> <del>Prefabricated swimming pools</del> <b>Swimming pools.</b> Swimming pools shall be designed and constructed in accordance with ASCE 24. Above-ground swimming pools, on-ground swimming pools and in-ground swimming pools that involve placement of fill in floodways shall also meet the requirements of Section G103.5.</p>	<p><b>Section covers all swimming pools not just pre-fabricated</b></p>
<p><b>G308.6 Temporary flood shields.</b> Temporary flood shields shall be permitted in accordance with Section 6.2.3 of ASCE 24.</p>	<p><b>G308.6 <del>Temporary flood shields. Temporary flood shields shall be permitted in accordance with Section 6.2.3 of ASCE 24.</del></b> <b>Decks, porches, and patios.</b> Decks, porches and patios shall be designed and constructed in accordance with ASCE 24.</p>	<p><b>New section</b></p>
<p><b>G308.7 Temporary stairs and ramps.</b> Temporary stairs and ramps shall comply with the requirements of Sections G308.7.1 and G308.7.2. <b>(Moved to G308.10)</b></p>	<p><b>G308.7 <u>Nonstructural concrete slabs in coastal high-hazard areas and coastal A-Zones.</u></b> <u>In coastal high-hazard areas and coastal A-Zones, nonstructural concrete slabs used as parking pads, enclosure floors, landings, decks, walkways, patios and similar nonstructural uses are permitted beneath or adjacent to buildings and structures provided that the concrete slabs shall be constructed in accordance with ASCE 24, Section 9.3.</u></p>	<p><b>New section</b></p>

<b>G308.8 (Not in 2014 Code)</b>	<b>G308.8 Roads and watercourse crossings in regulated floodways.</b> Roads and watercourse crossings that encroach into regulated floodways, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other, shall meet the requirement of Section G103.5.	<b>New section</b>
<b>G308.9 (Not in 2014 Code)</b>	<b>G308.9 Temporary flood shields.</b> Temporary flood shields shall be permitted in accordance with Section 6.2.3 of ASCE 24. Temporary flood shields shall be located and arranged so as to allow hose lines to be attached to the inlets of fire department connections without interference in accordance with Section 6.4.5 of NFPA 14 as modified by Appendix Q. Where temporary flood shields extend beyond the property line, Section 3202 for permitted encroachments into the public right-of-way shall apply.	<b>Addresses previous conflict between flood shield installation and FDNY Siamese access. References shields as encroachments.</b>
<b>G308.10 (Moved from 308.7)</b>	<b>G308.10 Temporary stairs and ramps.</b> Temporary stairs and ramps shall comply with the requirements of Sections [ <del>G308.7.1</del> ] G308.10.1 and [ <del>G308.7.2</del> ] G308.10.2. Temporary stairs and ramps shall be located and arranged so as to allow hose lines to be attached to the inlets of fire department connections without interference in accordance with Section 6.4.5 of NFPA 14, as modified by Appendix Q. Where temporary stairs and ramps extend beyond the property line, Section 3202 for permitted encroachments into the public right-of-way shall apply.	<b>Addresses previous conflict between temporary structures installation and FDNY Siamese access. References structures as encroachments</b>
<b>G308.10.1 (Moved from 308.7.1)</b>	<b>G308.10.1 Evacuated buildings.</b> Temporary stairs and ramps shall be permitted to provide elevated ingress and egress in compliance with Item 3 of Section 6.2.2 of ASCE 24 for buildings or portions of buildings that are planned to be evacuated during design flood conditions, except for maintenance and emergency personnel, provided that such temporary stairs and ramps shall not be permitted to serve as a required means of egress for a dwelling unit or for any area described in Item 2.2.1 of Section G304.1.2 required to be located at or above the design flood elevation.	<b>No change</b>
<b>G308.10.2 (Moved from 308.7.2)</b>	<b>G308.10.2 Existing buildings.</b> Temporary stairs and ramps for an existing building or portions thereof shall be permitted to provide elevated ingress and egress in compliance with Item 3 of Section 6.2.2 of ASCE 24, including as a required means of egress for dwelling units or for areas described in Item 2.2.1 of Section G304.1.2 required to be located at or above the design flood elevation, where such temporary stairs and ramps comply with Sections 1009 and 1010.	<b>No change</b>
<b>G308.11 (Not in 2014 Code)</b>	<b>G308.11 Alterations to pre-FIRM buildings involving flood protective works.</b> Where alterations to pre-FIRM buildings within the flood hazard area, other than substantial improvements or horizontal enlargements, include the installation of flood protective	<b>New compliance path for certain pre-firm buildings.</b>

	works, compliance with ASCE 24, Section 6.2.2 shall be required. Flood protective works shall be located and arranged so as to allow hose lines to be attached to the inlets of fire department connections without interference in accordance with Section 6.4.5 of NFPA 14, as modified by Appendix Q of this code.	<b>Addresses potential conflicts with compliance and FDNY Siamese access.</b>
<b>BC G309 - TEMPORARY STRUCTURES AND TEMPORARY STORAGE</b>		
<b>BC G310 - UTILITY AND MISCELLANEOUS GROUP U</b>		
<p><b>G310.6 Protection of mechanical, plumbing and electrical systems.</b> Mechanical, plumbing and electrical systems, including plumbing fixtures, shall be elevated to or above the design flood elevation.</p> <p><b>Exception:</b> The following shall be permitted to be located below the design flood elevation provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of this code:</p> <ol style="list-style-type: none"> <li>1. Electrical systems, equipment and components;</li> <li>2. Heating, ventilating, air conditioning, and plumbing appliances;</li> <li>3. Plumbing fixtures;</li> <li>4. Duct systems; and</li> <li>5. Other service equipment.</li> </ol> <p>Electrical wiring systems shall be permitted to be located below the design flood elevation provided they conform to the provisions of the <i>New York City Electrical Code</i>.</p>	<p><b>G310.6 Protection of mechanical, plumbing and electrical systems.</b> Mechanical, plumbing and electrical systems, including plumbing fixtures, shall be elevated to or above the design flood elevation.</p> <p><b>Exception:</b> <del>{The following}</del> <u>Electrical systems, equipment and components; heating, ventilating, air conditioning and plumbing appliances; plumbing fixtures, duct systems and other service equipment</u> shall be permitted to be located below the design flood elevation provided that they are designed and installed <del>{to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of this code:}</del></p> <p><del>{1. Electrical systems, equipment and components;}</del>  <del>{2. Heating, ventilating, air conditioning, and plumbing appliances;}</del>  <del>{3. Plumbing fixtures;}</del>  <del>{4. Duct systems; and}</del>  <del>{5. Other service equipment.}</del></p> <p><u>in compliance with Section G304.1.2, Item 2.3 and other applicable flood-resistant construction requirements of this code.</u></p> <p>Electrical wiring systems shall be permitted to be located below the design flood elevation provided they conform to the provisions of the <i>New York City Electrical Code</i> and <u>Section 7.2 of ASCE 24.</u></p>	<b>No significant change. Reference is made to dry floodproofing requirements for non-residential buildings.</b>
<b>BC G311 - HAZARDOUS SUBSTANCES</b>		
<p><b>SECTION BC G311</b>  <b>Retroactive Requirements (<i>Moved to G312</i>)</b></p>	<p><b>SECTION BC G311</b>  <b><u>Hazardous Substances</u></b></p>	
<p><b>G311.1 General.</b> Notwithstanding any other provision of the New York City Construction Codes, the provisions of this section shall apply retroactively to all buildings and structures specified herein.</p>	<p><b>G311.1 Hazardous substances.</b> <u>Portable containers located in the flood hazard area that store hazardous substances, as defined in Section 41-03 of Title 15 of the Rules of the City of New York, shall comply with Section 41-14 of Title 15 of the Rules of the City of New York.</u></p>	<b>New Section related to Hazardous substance storage</b>

<b>BC G312 - RETROACTIVE REQUIREMENTS</b>		
SECTION BC G312 <i>(Not in 2014 Code)</i>	<u>SECTION BC G312</u> Retroactive Requirements	
<b>BC G401 - REFERENCED STANDARDS</b>		
SECTION BC G401 General	<u>SECTION BC G401</u> <u>Referenced Standards</u>	
G401.4 Reserved. G401.5 Reserved. G401.6 Reserved.	<i>(Removed from 2014 Code)</i>	No significant changes
<b>BC G402 - STANDARDS</b>		
SECTION BC G402 Standards	<i>(Same Reference standards. Versions updated and coordinated with code references)</i>	ASCE 7- 2016 ASCE 24 - 2014
<b>BC G501 - MODIFICATIONS TO REFERENCED STANDARDS</b>		
SECTION BC G501 Modifications	<u>SECTION BC G501</u> <u>Modifications to Referenced Standards</u>	
	<b>Changes to Tables 1-1, 2-1, 4-1, 5-1, 6-1, 7-1</b> <i>(Reference Bottom of Appendix G to see the changes on the Tables)</i>	
	<p><b>G501.1 Amendments to <del>[ASCE 24-05] ASCE 24-14.</del></b> The following amendments are hereby made to the applicable sections of <del>[ASCE 24-05] ASCE 24-14.</del> Refer to the rules of the department for any subsequent additions, modifications or deletions that may have been made to this standard in accordance with Section 28-103.19 of the <i>Administrative Code</i>.</p> <p><b>Section 1.1.</b> Section 1.1 (Scope) is amended by deleting the sentence “In addition to the requirements of this section (see Fig. 1-2):” and Items 1 through 4, and by adding the following paragraph to read as follows:  <del>[The scope]</del> In addition to the requirements of this section, the applicability of this standard is as provided for in Section G102.1 of the New York City Building Code, Appendix G.</p> <p>Section 1.1. Figure 1-2 (Application of Chapters) of Section 1.2. Delete.</p> <p><b>Section <del>[1.1.2] 1.1.1.</del></b> A new Section <del>[1.1.2] 1.1.1</del> is added to read as follows:  <del>[1.1.2] 1.1.1</del> <b>High-risk flood hazard areas.</b> Notwithstanding any other provision in this standard, no special flood hazard area in New York City shall be classified as alluvial fan area, flash flood area, mudslide area, ice jam and debris area, erosion-prone area, high-velocity flow area.</p>	<p><b>1.1.1</b> modified to clarify that certain flood hazard categories do not apply to NYC</p>

**Section 1.2.** Section 1.2 (Definitions) is amended by modifying only the following definitions to read as follows:

**Breakaway wall**— As defined in Section G201 of the New York City Building Code, Appendix G.

**Design flood elevation**—The applicable elevation specified in Table 2-1, 4-1, 5-1, 6-1, or 7-1, depending on the ~~{structural occupancy category}~~ flood design classification designated in Table 1-1.

**High-risk flood hazard area**—An area designated as a coastal high-hazard area, being those areas identified on the FIRM as a V-Zone or Coastal A-Zone.

**Nonresidential**—~~{As defined}~~ Defined as Nonresidential (for flood zone purposes) in Section G201 of the New York City Building Code, Appendix G.

**Residential**—~~{As defined}~~ Defined as Residential (for flood zone purposes) in Section G201 of the New York City Building Code, Appendix G.

**Section 6.2.1.** (Dry Floodproofing Limitations) is amended to add the following exceptions:

**Exceptions:**

1. Upon special application to the commissioner, the department may authorize dry floodproofing for designs that demonstrate resistance to flood velocities exceeding 5 ft/s while meeting the other limitations of this standard.
2. Dry floodproofing shall be permitted in Coastal A-Zones, provided:
  - 2.1 such dry floodproofing complies with the requirements of Appendix G of the New York City Building Code; and
  - 2.2 where flood velocities adjacent to the structure exceed 5 ft/s, the commissioner has authorized the dry floodproofing in accordance with Exception 1.

**Section 6.2.2.** Item 1 of Section 6.2.2 (Dry Floodproofing Requirements) is amended to read as follows:

1. Be designed and constructed so that any area below the applicable elevation specified in Table 6-1, together with attendant utilities, equipment, and sanitary facilities, is flood resistant with walls that are substantially impermeable to the passage of water. Where acceptable to the commissioner, fixed flood-resistant glazing systems may be used when tested and designed to be within walls substantially impermeable to water. Walls, floors, and flood shields shall be designed and constructed to resist hydrostatic, hydrodynamic,

**Certain definitions have been modified from what is Listed in ASCE 24-14**

**Note that many of the definitions have been moved to Chapter 2 of the code.**

**NYC specific exceptions allowing for floodproofing for buildings subject to higher flood velocities and in Coastal A zones with commissioner’s approval.**

**Clarifies that fixed glazing can be part of a dry floodproofing system when approved by the commissioner.**

and other flood-related loads, including the effects of buoyancy resulting from flooding to the elevation listed in Table 6-1;

**Section 6.2.2.** Item 3 of Section 6.2.2 (Dry Floodproofing Requirements) is amended to read as follows:

3. ~~{Have either:}~~ Provide egress and ingress, where a means of egress is required by Chapter 10 of the New York City Building Code, to such dry floodproofed areas of structures in accordance with Item 3.1, 3.2 or 3.3, or a combination thereof, where permitted, as follows:

~~{3.1.}~~ **3.1 Egress and ingress not blocked by shields.** ~~{All required means}~~ Means of egress shall be elevated to or above the applicable DFE specified in Table 6-1, capable of providing human ingress and egress during the design flood between the dry floodproofed area to the exterior, without being blocked by flood shields or flood control devices; or

~~{3.2.}~~ 3.2 ~~{At least one elevated door located in close proximity to each required means of egress to the exterior that is to be blocked by flood shields or flood control devices, such that the}~~ **Egress and ingress blocked by shields not serving dwelling units.** Where a means of egress required by Chapter 10 of the New York City Building Code that does not serve a dwelling unit is to be blocked by flood shields or flood control devices, an alternate means of egress shall be provided capable of providing human ingress and egress during the design flood between the dry floodproofed area to the exterior. The alternate means of egress shall comprise of: (i) a door providing ingress and egress opening directly to the exterior at or above the DFE, and such door shall be permitted to be accessed by steps or ramps; or (ii) a means of egress leading to an exterior exit door not blocked by shields or which is constructed as a wet floodproofed enclosure where discharging below the DFE, and such means of egress shall be permitted to be accessed by stairs and ramps. In either case, such alternate means of egress shall also comply with Items 3.2.1 through 3.2.6:

3.2.1 Alternate Means of Egress Entrance. The alternate means of egress entrance door, or directional signage to such alternate means of egress entrance door shall be readily visible and identifiable within a direct line of sight to a person approaching the blocked egress door(s). The path of travel from the blocked egress door to the alternate means of egress entrance shall be unobstructed with a travel distance of not more than 40 ft as measured from the blocked means of egress. Directional signage to the alternate means

**These sections have been added to help designers address the former requirement that spaces with entrances below DFE (ex. Ground floor retail space) needed to maintain an exit above DFE after flood shields were installed. The space now has the option to provide a path to an exit in another part of the building above DFE.**

of egress shall be installed on the exit door blocked by flood shields prior to flood condition and removed during non-flood conditions.

3.2.2 Travel Distance. The path of travel from the alternate means of egress entrance door leading to the exterior of the building shall not exceed 100 ft.

3.2.3 Temporary Stairs, Ramps and Platforms. For buildings or portions of buildings that are planned to be evacuated during the design flood condition and pre-FIRM buildings, temporary stairs and ramps shall be permitted to serve as an alternate means of egress if their only purpose is to provide supplemental egress and ingress during conditions of flooding subject to the limitations of Section G308.10 of the New York City Building Code.

3.2.3.1 Doors. Any door opening directly onto such temporary stairs or platforms shall be secured during non-flood conditions to prevent use when such temporary stairs and ramps are in storage.

3.2.3.2 Signage. Directional signage to an egress utilizing temporary stairs, ramps or platforms shall be removed to prevent accidental operation during non-flood conditions.

3.2.4 Visibility from outside. Permanent signage affixed to the outside of flood shields or flood control devices that block the egress door shall provide directions to first responders or other personnel seeking to locate the path into the space from the exterior.

3.2.5 Compliance with egress requirements. Such alternate means of egress shall meet all requirements of Chapter 10 of the New York City Building Code for a required means of egress, including, travel distances, hardware and signage. Where an alternate means of egress may be used as a means of egress at any time other than a flood event, temporary stairs and ramps shall not be permitted.

Exceptions for buildings or portions of buildings that are planned to be evacuated during the design flood conditions:

1. Such alternate means of egress shall not be required to comply with occupant load calculations of the New York City Building Code if its only purpose is to provide supplemental egress and ingress during conditions of flooding.

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2. The alternate means of egress may serve more than one required exit provided that the travel distances to and within the alternate means of egress comply with Item 3.2.1 and Item 3.2.2 from each required means of egress that is blocked by flood shields or flood control devices.

3.2.6 Accessibility. The alternate means of egress shall not be required to comply with Chapter 11 of the New York City Building Code if its only purpose is to provide supplemental egress and ingress during conditions of flooding, unless the structure is intended for occupancy during the design flood.

**3.3 Egress and ingress blocked by shields serving dwelling units.** For each means of egress required by Chapter 10 of the New York City Building Code that serves a dwelling unit and is to be blocked by flood shields or flood control devices, at least one alternate means of egress shall be provided capable of providing human ingress and egress during the design flood between the dry floodproofed area to the exterior. The alternate means of egress shall comprise either an elevated door opening directly to the exterior of the building arranged in accordance with Section 3.3.1 or an enclosure that incorporates wet floodproofing and is arranged in accordance with Section 3.3.2.

3.3.1 Elevated door. Where an elevated door is provided, such door shall be capable of providing human ingress and egress during the design flood. The elevated door shall open directly to the exterior of the building and shall be located in close proximity to the required means of egress to the exterior that is to be blocked by flood shields or flood control devices as follows:

3.3.1.1 Face of door. The face of the elevated door itself, and not merely its directional signage, shall be arranged so it is clearly visible to a person approaching the blocked egress door(s).

3.3.1.2 Elevation of door. Such door(s) shall be elevated to ~~at~~ or above the applicable DFE specified in Table 6-1, ~~capable of providing human ingress and egress during the design flood~~.

3.3.1.3 Compliance with egress requirements. Such door shall meet all New York City Building Code requirements for a required means of egress to the exterior of the structure including hardware and signage ~~, but shall not be required to comply with occupant load calculations, unless the structure is intended for occupancy during the design flood~~.

3.3.1.4 Accessibility. Such door may be accessed by open steps and shall not be required to comply with Chapter 11 of the New York City Building Code if its only purpose is to provide supplemental egress and ingress during conditions of flooding and to provide emergency egress at other times.

3.3.2 Enclosure that incorporates wet floodproofing. Where an enclosure which is partially wet floodproofed is used to provide alternate means of egress, such means of

**Alternate means of egress requirements are more restrictive for means that serve dwelling units**

egress shall be capable of providing human ingress and egress during the design flood and shall be located in close proximity to the required means of egress to the exterior that is to be blocked by flood shields or flood control devices as follows:

3.3.2.1 Face of door to enclosure. The face of the door to the enclosure, and not merely its directional signage, shall be arranged so it is clearly visible to a person approaching the blocked egress door(s).

3.3.2.2 Wet floodproofing within an enclosure. Wet floodproofed portions of the enclosure shall be designed to comply with Section 6.3 and resist all flood related loads while prohibiting infiltration of floodwater to dry floodproofed spaces within the building.

3.3.2.3 Travel Distance. The path of travel from the alternate means of egress entrance door to the door leading to the exterior of the building shall not exceed 25 ft.

3.3.2.4 Compliance with egress requirements. The entrance and exit door shall meet all requirements of Chapter 10 of the New York City Building Code for a required means of egress to the exterior of the structure including hardware and signage.

**Section 6.2.3 Limits on human intervention.** Dry floodproofing measures that require human intervention to activate or implement prior to or during a flood, including temporary stairs or ramps, shall be permitted only when all of the following conditions are satisfied:

1. The flood warning time (alerting potential flood victims of a pending flood situation) shall be a minimum of 12 ~~hours,~~ h unless the community operates a flood warning system and implements an emergency plan to ensure safe evacuation of flood hazard areas, in which case human intervention is allowed only if the community can provide a minimum flood warning time equal to or longer than the cumulative time:
  - (a) ~~time~~ to notify ~~person(s)~~ persons responsible for installation of floodproofing measures, ~~plus~~
  - (b) ~~time~~ for responsible persons to travel to structure to be floodproofed, ~~plus~~
  - (c) ~~time~~ to install, activate, or implement floodproofing measures, [plus] and
  - (d) ~~time~~ to evacuate all occupants from the flood hazard area.
2. All removable shields or covers for openings such as windows, doors, and other openings in walls and temporary stairs or ramps shall be designed to resist flood loads specified in Section 1.6.
3. Where removable shields or temporary stairs or ramps are to be used, a flood emergency plan shall be approved by the authority having jurisdiction and shall specify,

**No substantial changes**

at a minimum, the following information: storage ~~[location(s)]~~ locations of the shields and temporary stairs and ramps; the method of installation and removal; conditions activating installation and removal; maintenance of shields and attachment devices and temporary stairs and ramps; periodic practice of installing and removing shields and temporary stairs and ramps; testing sump pumps and other drainage measures; and inspecting necessary material and equipment to activate or implement floodproofing. The flood emergency plan shall be posted permanently [posted] in at least two conspicuous locations within the structure.

4. Where removable shields or temporary stairs or ramps are to be used, they shall be stored on site within a building or within a secured, weather-resistant enclosure. Off-site storage shall be prohibited for buildings required to comply with Section G304.

5. Where removable shields or temporary stairs or ramps are proposed as per Section G304, periodic inspections, including a triennial full scale deployment, shall be conducted in accordance with Article 324 of the Administrative Code.

**7.2.4 Panel boards, Disconnect ~~[switches]~~ Switches, and ~~[circuit breakers]~~ Circuit Breakers.** The panel boards, load centers, main disconnect ~~[switch]~~ switches, all service disconnecting means, and all circuit breakers shall be located above and be accessible from the elevation specified in Table 7-1, or within a dry floodproofed enclosure, except where prohibited by the New York City Building Code. ~~[Switches]~~ Panel boards, load centers, main disconnect switches, all service disconnecting means, and circuit breakers shall be located no more than 6 feet 7 inches (2 m) above the floor, or a platform shall be installed to provide access.

**Section 8.1.** Section 8.1 (General) is amended to read as follows:

**8.1 General.** Stairways and ramps, including stairs and ramps pursuant to Section G308.10 of the New York City Building Code, that are located below the elevations specified in Tables 2-1 and 4-1 shall be designed and constructed to:

1. Resist flood-related loads specified in Section 1.6 and minimize transfer of flood-related loads to the structure and structure foundation; or
2. Break away during design flood conditions without causing damage to the structure, including the foundation; or
3. Use materials that conform to Chapter 5 for those portions of stairways and ramps that are located below the elevations specified in Tables 2-1 and 4-1, including items such as gates and doors.

**Off site storage of flood shields prohibited for post-firm construction, horizontal enlargements and substantial improvements**

In flood hazard areas other than Coastal High-Hazard Areas and Coastal A-Zones, enclosures for stairways and ramps that extend below the elevations specified in Table 2-1 shall conform to the requirements for enclosures in Section 2.7. In Coastal High-Hazard Areas and Coastal A-Zones, enclosures for stairways and ramps that extend below the elevations specified in Table 4-1 shall conform to the requirements for enclosures in Section 4.6.

Elevators shall conform to the requirements of Section 7.5.

~~[Section 9.5. Section 9.5 (Pools) is amended by adding a new paragraph to read as follows:]~~

~~[Mechanical equipment for pools such as pumps and water heaters, and associated electrical wiring, shall comply with Section 7.2 and 7.4.]~~

**Section 9.7.** The first sentence of Section 9.7 (Tanks) is amended to read as follows: Tanks and tank inlets, fill openings, outlets, and vents shall terminate in accordance with Section G307.3 of the New York City Building Code or where located below the design flood elevation, shall be designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during flooding up to and including the design flood and without release of contents into floodwaters or infiltration of floodwaters into the tanks.

**Section related to retractable stairs  
in ASCE 24-14 not adopted**

TABLE 1-1  
 [CLASSIFICATION OF STRUCTURES FOR FLOOD-RESISTANT DESIGN AND CONSTRUCTION]  
 [(CLASSIFICATION SAME AS NEW YORK CITY BUILDING CODE TABLE 1604.6)]  
 FLOOD DESIGN CLASS OF BUILDINGS AND STRUCTURES

[STRUCTURAL OCCUPANCY/ CATEGORY]	[NATURE OF OCCUPANCY] USE OF OCCUPANCY OF BUILDINGS AND STRUCTURES	FLOOD DESIGN CLASS
[I]	<p>Buildings and [other] structures that [represent a low-hazard to human life in the event of failure, including but not limited to:] normally are unoccupied and pose minimal risk to the public or minimal disruption to the community should they be damaged or fail due to flooding. Flood Design Class 1 includes:</p> <ol style="list-style-type: none"> <li>1. [Agricultural facilities-]</li> <li>[2-] [Certain] certain temporary [facilities-] structures that are in place for less than 180 days.</li> <li>[3-] 2. [Minor] accessory storage buildings and minor storage facilities.</li> <li>3. small structures used for parking of vehicles, and</li> <li>4. certain agricultural structures.*</li> </ol>	1
[II]	<p>Buildings and [other] structures that pose a moderate risk to the public or moderate disruption to the community should they be damaged or fail due to flooding, except those listed [in Occupancy Categories I, III and IV] as Flood Design Classes 1, 3, and 4. Flood Design Class 2 includes the vast majority of buildings and structures that are not specifically assigned another Flood Design Class, including most residential, commercial, and industrial buildings.</p>	2
[III]	<p>Buildings and [other] structures that [represent a substantial hazard to human life in the event of failure, including but not limited to:]</p> <ol style="list-style-type: none"> <li>[1- Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300-]</li> <li>[2- Buildings and other structures containing elementary school, secondary school or day care facilities with an occupant load greater than 250-]</li> <li>[3- Buildings and other structures containing adult education facilities, such as colleges and universities with an occupant load greater than 500-]</li> <li>[4- Group I-2 occupancies with an occupant load of 50 or more resident patients but not having surgery or emergency treatment facilities-]</li> <li>[5- Group I-3 occupancies-]</li> <li>[6- Any other occupancy with an occupant load greater than 5,000*-]</li> <li>[7- Power generating stations, water treatment facilities for potable water, waste water treatment facilities and other public utility facilities not included in Occupancy Category IV-]</li> <li>[8- Buildings and other structures not included in Occupancy Category IV containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released-]</li> </ol> <p>pose a high risk to the public or significant disruption to the community should they be damaged, be unable to perform their intended functions after flooding, or fail due to flooding. Flood Design Class 3 includes:</p>	3

The table was updated to match ASCE 24 -14 with the following changes

Class 3 structures include any assembly space containing more than 300 people

Buildings containing certain toxic chemicals, buildings needed for national defense and water storage facilities added to Class 4.

	<u>[STRUCTURAL OCCUPANCY/ CATEGORY]</u>	<u>[NATURE OF OCCUPANCY] USE OF OCCUPANCY OF BUILDINGS AND STRUCTURES</u>	<u>FLOOD DESIGN CLASS</u>
		<ol style="list-style-type: none"> <li>1. <u>buildings and structures in which 300 or more persons may assemble in one place, such as theaters, lecture halls, and religious institutions with large areas used for worship;</u></li> <li>2. <u>museums;</u></li> <li>3. <u>community centers and other recreational facilities;</u></li> <li>4. <u>athletic facilities with seating for spectators;</u></li> <li>5. <u>elementary schools, secondary schools, and buildings with college or adult education classrooms;</u></li> <li>6. <u>jails, correctional facilities, and detention facilities;</u></li> <li>7. <u>healthcare facilities not having surgery or emergency treatment capabilities;</u></li> <li>8. <u>care facilities where residents have limited mobility or ability, including nursing homes but not including care facilities for five or fewer persons;</u></li> <li>9. <u>preschool and child care facilities not located in one- and two-family dwellings;</u></li> <li>10. <u>buildings and structures associated with power generating stations, water and sewage treatment plants, telecommunication facilities, and other utilities which, if their operations were interrupted by a flood, would cause significant disruption in day-to-day life or significant economic losses in a community; and</u></li> <li>11. <u>buildings and other structures not included in Flood Design Class 4 (including but not limited to facilities that manufacture, process, handle, store, use, or dispose of such substances as hazardous fuels, hazardous chemicals, hazardous waste, or explosives) containing toxic or explosive substances where the quantity of the material exceeds a threshold quantity established by the authority having jurisdiction and is sufficient to pose a threat to the public if released.<sup>b</sup></u></li> </ol>	
	[IV]	<p>Buildings and <del>(other)</del> structures <del>(designated as)</del> that contain essential facilities<del>(, including but not limited to)</del> and services necessary for emergency response and recovery, or that pose a substantial risk to the community at large in the event of failure, disruption of function, or damage by flooding. Flood Design Class 4 includes:</p> <ol style="list-style-type: none"> <li>1. <del>[Group]</del> <u>group</u> I-2 occupancies having surgery or emergency treatment facilities<del>(-)</del> ;</li> <li>2. <del>[Fire]</del> <u>fire</u>, rescue, ambulance, and police stations and emergency vehicle garages<del>(-)</del> ;</li> <li>3. <del>[Designated earthquake, hurricane or other]</del> <u>designated</u> emergency shelters<del>(-)</del> ;</li> <li>4. <del>[Designated]</del> <u>designated</u> emergency preparedness, <del>(communications)</del> <u>communication</u>, and <del>(operations)</del> <u>operation</u> centers and other facilities required for emergency response <del>(-)</del> ;</li> <li>5. <del>[Power-generating]</del> <u>power generating</u> stations and other public utility facilities required <del>(as emergency backup facilities for Occupancy Category</del></li> </ol>	4

<u>[STRUCTURAL OCCUPANCY/ CATEGORY]</u>	<u>[NATURE OF OCCUPANCY] USE OF OCCUPANCY OF BUILDINGS AND STRUCTURES</u>	<u>FLOOD DESIGN CLASS</u>
	<p><del>IV structures.] in emergencies:</del></p> <p>6. <del>[Structures] structures</del> containing highly toxic materials as defined by Section 307 where the quantity of the material exceeds the maximum allowable quantities of Table 307.1(2)<del>[-] ;</del></p> <p>7. <del>[Aviation] critical aviation facilities such as</del> control towers, air traffic control centers, <del>and [emergency aircraft] hangars[-] for aircraft used in emergency response:</del></p> <p>8. <del>ancillary structures such as communication towers, electrical substations, fuel or water storage tanks, or other structures necessary to allow continued functioning of a Flood Design Class 4 facility during and after an emergency:</del></p> <p><del>[8-] 9. [Buildings] buildings</del> and other structures having critical national defense functions<del>[-] ; and</del></p> <p><del>[9-] 10.[Water] water</del> storage facilities and pump structures required to maintain water pressure for fire suppression.</p>	
<p>a. <del>[For purposes of occupant load calculation, occupancies required by Table 1004.1.1 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.]</del> Certain agricultural structures may be exempt from some of the provisions of this standard; see Section C1.4.3.</p> <p>b. <del>Buildings and other structures containing toxic, highly toxic, or explosive substances shall be eligible for assignment to a lower Flood Design Class if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.3 of Minimum Design Loads for Buildings and Other Structures that a release of the substances is commensurate with the risk associated with that Flood Design Class.</del></p>		

TABLE 2-1  
 MINIMUM ELEVATION OF THE TOP OF LOWEST FLOOR  
 [RELATIVE TO DESIGN FLOOD ELEVATION (DFE) — A ZONES\*]  
 FLOOD HAZARD AREAS OTHER THAN COASTAL HIGH-HAZARD AREAS<sup>a</sup>, COASTAL A-ZONES<sup>a</sup>

[STRUCTURAL OCCUPANCY CATEGORY] FLOOD DESIGN CLASS <sup>b</sup>	MINIMUM ELEVATION [OF LOWEST FLOOR] RELATIVE TO BASE FLOOD ELEVATION (BFE) OR DESIGN FLOOD ELEVATION (DFE)
[H] 1 <sup>c</sup>	DFE=BFE+ 2 ft
[II (1- and 2-family dwellings)]	[DFE=BFE+ 2 ft]
[II* <sup>d</sup> (all others)] 2 <sup>d</sup>	DFE=BFE+ [1-ft] 2 ft
[III* <sup>d</sup> ] 3 <sup>d</sup>	DFE=BFE+ [1-ft] 2 ft
[IV* <sup>d</sup> ] 4 <sup>d</sup>	DFE=BFE+ 2 ft, or 500-year flood elevation, whichever is higher

- a. Minimum elevations shown in Table 2-1 do not apply to [V-Zones] Coastal High-Hazard Areas and Coastal A-Zones (see Table 4-1). Minimum elevations shown in Table 2-1 apply to [A-Zones] other high risk flood hazard areas 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] Flood Design Class descriptions.
- c. Flood Design Class 1 structures shall be allowed below the minimum elevation where the structure is permitted to be wet floodproofed in accordance with the requirements of Section 6.3.1 and is wet floodproofed in accordance with Section 6.3.2.
- [e] d. 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] 6.2.
- [d] Buildings that include 1-2 occupancies that are hospitals shall use the greater of (i) the DFE for the applicable structural-occupancy-category as indicated in this table or (ii) the 500-year flood elevation.]

Substantial change. The DFE has been changed to 2 feet above BFE. Current rules require 1 foot above.

TABLE 4-1  
 MINIMUM ELEVATION OF BOTTOM OF LOWEST SUPPORTING  
 HORIZONTAL STRUCTURAL MEMBER OF LOWEST FLOOR  
 [RELATIVE TO DESIGN FLOOD ELEVATION (DFE) - V ZONES] - COASTAL HIGH-HAZARD  
 AREAS AND COASTAL A-ZONES

[STRUCTURAL OCCUPANCY CATEGORY] FLOOD DESIGN CLASS <sup>a</sup>	[MEMBER ORIENTATION RELATIVE TO THE DIRECTION OF WAVE APPROACH] MINIMUM ELEVATION, RELATIVE TO BASE FLOOD ELEVATION (BFE) OR DESIGN FLOOD ELEVATION (DFE)	
	[Parallel] <sup>b</sup>	[Perpendicular] <sup>b</sup>
[I] 1	[DFE=BFE]	DFE=BFE + 2 ft
[II (1- and 2-family dwellings)]	[DFE=BFE+ 2 ft]	[DFE=BFE+ 2 ft]
[II* (all others)] 2	[DFE=BFE]	DFE=BFE+ [1-ft] 2 ft
[III*] 3	[DFE=BFE+ 1 ft]	DFE=BFE+ 2 ft
[IV*] 4	[DFE=BFE+ 1 ft]	DFE=BFE+ 2 ft, or 500-year flood elevation, whichever is higher

- a. See Table 1-1 [or Table 1604.5 of the *New York City Building Code*] for [structural occupancy category] Flood Design Class 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.
- c. Buildings that include I-2 occupancies that are hospitals shall use the greater of (i) the DFE for the applicable structural occupancy category as indicated in this table or (ii) the 500-year flood elevation.

Substantial change. The DFE has been changed to 2 feet above BFE. Current rules require 1 foot above.

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

[STRUCTURAL OCCUPANCY CATEGORY] FLOOD DESIGN CLASS <sup>a</sup>	[A-ZONE]	[Coastal High Hazard Areas and Coastal A-Zones]	
		[Orientation Parallel <sup>b</sup> ] MINIMUM ELEVATION IN FLOOD HAZARD AREAS, OTHER THAN COASTAL HIGH-HAZARD AREAS AND COASTAL A- ZONES, RELATIVE TO DESIGN FLOOD ELEVATION (DFE)	[Orientation Perpendicular <sup>b</sup> ] MINIMUM ELEVATION IN COASTAL HIGH- HAZARD AREAS AND COASTAL A- ZONES, RELATIVE TO DESIGN FLOOD ELEVATION (DFE)
[I] 1	[DFE=BFE]	DFE=BFE + 2 ft	DFE=BFE + 2 ft
[II (1 and 2 family dwellings)]	[DFE=BFE + 2 ft]	[DFE=BFE + 2 ft]	[DFE=BFE + 2 ft]
[II*(all others)] 2	[DFE=BFE + 1 ft]	DFE=BFE + [1 ft] 2 ft	DFE=BFE + 2 ft
[III] 3	[DFE=BFE + 1 ft]	DFE=BFE + 2 ft	DFE=BFE + 3 ft
[IV] 4	[DFE=BFE + 2 ft]	DFE=BFE + 2 ft, or 500-year flood elevation, whichever is higher	DFE=BFE + 3 ft, or 500-year flood elevation, whichever is higher

a. See Table 1-1 [or Table 1604.5 of the *New York City Building Code*] for [structural occupancy category] Flood Design Class 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.

c. Buildings that include I-2 occupancies that are hospitals shall use the greater of (i) the DFE for the applicable structural occupancy category as indicated in this table or (ii) the 500-year flood elevation.

Substantial change. The DFE has been changed to 2 feet above BFE. Current rules require 1 foot above.

**TABLE 6-1  
MINIMUM ELEVATION OF FLOODPROOFING [~~RELATIVE TO  
DESIGN FLOOD ELEVATION (DFE) — A ZONES~~] ~~FLOOD HAZARD AREAS OTHER THAN COASTAL  
HIGH-HAZARD AREAS~~<sup>a</sup>**

<del>[STRUCTURAL OCCUPANCY CATEGORY<sup>a</sup>] FLOOD DESIGN CLASS<sup>b</sup></del>	MINIMUM ELEVATION OF <del>[FLOODPROOFING<sup>b</sup>] FLOODPROOFING<sup>c</sup> RELATIVE TO DESIGN FLOOD ELEVATION (DFE)</del>
<del>[I]</del> 1	DFE=BFE+ [1- <del>ft</del> ] 2 ft
<del>[II-<sup>a</sup>]</del> 2 <sup>d</sup>	DFE=BFE+ [1- <del>ft</del> ] 2 ft
<del>[III<sup>a</sup>]</del> 3	DFE=BFE+ [1- <del>ft</del> ] 2 ft
<del>[IV<sup>a</sup>]</del> 4	DFE=BFE+ 2 ft, or 500-year flood elevation, whichever is higher

- a. ~~Dry floodproofing is not allowed in Coastal High-Hazard Areas.~~
- b. See Table 1-1 [~~or Table 1604.5 of the New York City Building Code~~] for [structural-occupancy-category] Flood Design Class descriptions.
- ~~[b-] c. Wet or dry floodproofing shall extend to the same level.~~
- ~~[e-] d. Dry floodproofing [of residential buildings and residential portions of mixed-use buildings shall not be permitted.] shall not be permitted (i) in buildings that are "residential for flood zone purposes"; (ii) for certain systems and equipment as provided for in Section G304.1.2, Item 2.3.1 of the New York City Building Code; and (iii) for dwelling units and spaces directly accessed from dwelling units in buildings that are "nonresidential for flood zone purposes".~~
- ~~[d- Buildings that include I-2 occupancies that are hospitals shall use the greater of (i) the DFE for the applicable structural occupancy category as indicated in this table or (ii) the 500-year flood elevation.]~~

Substantial change. The DFE has been changed to 2 feet above BFE. Current rules require 1 foot above.

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

[ <del>STRUCTURAL OCCUPANCY CATEGORY</del> ] FLOOD DESIGN CLASS <sup>a</sup>	LOCATE <del>(UTILITIES AND)</del> ATTENDANT UTILITIES AND EQUIPMENT ABOVE <sup>b</sup>		
	[A-Zones] MINIMUM ELEVATION IN FLOOD HAZARD AREAS, OTHER THAN COASTAL HIGH- HAZARD AREAS AND COASTAL A-ZONES, RELATIVE TO DESIGN FLOOD ELEVATION (DFE)	[Coastal High Hazard Area and Coastal A-Zones]	
		[Orientation Parallel*] MINIMUM ELEVATION IN COASTAL HIGH- HAZARD AREAS AND COASTAL A-ZONES, RELATIVE TO DESIGN FLOOD ELEVATION (DFE)	[Orientation Perpendicular*]
[I] 1	DFE=BFE + 2 ft	DFE=BFE + 2 ft	[DFE=BFE]
[H (1 and 2 family dwellings)]	[DFE=BFE + 2 ft]	[DFE=BFE + 2 ft]	[DFE=BFE + 2 ft]
[H <sup>+</sup> (all others)] 2	DFE=BFE + [1 ft] 2 ft	DFE=BFE + [1 ft] 2 ft	[DFE=BFE + 2 ft]
[HH <sup>+</sup> ] 3	DFE=BFE + [1 ft] 2 ft	DFE=BFE + [2] 3 ft	[DFE=BFE + 3 ft]
[IV <sup>+</sup> ] 4	DFE=BFE + 2 ft, or 500- year flood elevation, whichever is higher	DFE=BFE + [2] 3 ft, or 500-year flood elevation, whichever is higher	[DFE=BFE + 3 ft]

a. See Table 1-1 [~~or Table 1604.5 of the New York City Building Code~~] for [~~structural occupancy category~~] Flood Design Class descriptions.

b. Locate ~~(utilities and)~~ attendant utilities and equipment above elevations shown unless otherwise provided in [~~the text~~] Chapter 7 of ASCE 24.

[c. 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.]

[d. Buildings that include 1-2 occupancies that are hospitals shall use the greater of (i) the DFE for the applicable structural occupancy category as indicated in this table or (ii) the 500-year flood elevation.]

Substantial change. The DFE has been changed to 2 feet and 3 feet above BFE. Current rules require 1 & 2 foot above.

