



BUILDINGS 2022-001 BULLETIN TECHNICAL

ISSUANCE DATE
January 10, 2022



ISSUER: Joseph Ackroyd, P.E., CFM
Assistant Commissioner
Technical Affairs & Code Development

PURPOSE: To describe FEMA's clarifications on residential ancillary spaces and building systems, and the applicability to applications required to comply with Appendix G of the New York City Building Code

SUBJECT(S): Residential ancillary spaces, elevation to flood elevation, dry floodproofing

RELATED CODE SECTIONS & RESOURCES: BC G304, BC G501, ASCE 24 Section 6.2.1, ASCE 24 Section 7.1, 44 CFR 59.1, 44 CFR 60.3(c), FEMA P-2037, NFIP TB 3, NFIP TB 6

I. Purpose

The **Federal Emergency Management Agency (FEMA)** provides flood insurance through the National Flood Insurance Program (NFIP) and has recently updated its guidance to clarify NFIP regulations regarding the elevation of ancillary areas that support residential uses and building systems serving residential units.

The City of New York participates in the NFIP and is subject to compliance with the minimum standards set forth in NFIP regulations. This bulletin describes how FEMA's clarifications apply to applications filed in conjunction with a new building, horizontal enlargement, or substantial improvement that are required to comply with the flood-resistant construction requirements of Appendix G of the New York City Building Code.

II. FEMA Clarifications

NFIP regulations are contained in Title 44 of the Code of Federal Regulations (44 CFR). FEMA's recent guidance specifically clarifies the intent of sections 44 CFR 59.1 and 44 CFR 60.3(c).

Section 44 CFR 59.1, Definitions, does not define the terms *residential*, *non-residential*, or *mixed-use*. FEMA's publication *Flood Mitigation Measures for Multi-family Buildings* (FEMA P-2037) incorporated definitions for these terms in order to meet NFIP regulations. FEMA P-2037 also begins to clarify how NFIP regulations, such as dry floodproofing, apply to ancillary areas and building systems that support residential uses.

From FEMA P-2037 section 1.7, when discussing dry flood proofing: "...While access to the residential spaces is allowed from a dry floodproofed lobby that serves both commercial and residential spaces, the lowest floor of all residential areas must be elevated to or above the BFE. The residential areas include all residential dwelling units, building systems (including electrical, heating, ventilation, plumbing, air conditioning, and other service equipment), and other finished ancillary areas (including laundry rooms, offices, mail rooms, meeting rooms, and exercise rooms) that support the residential units in the building."

Section 44 CFR 60.3(c) outlines the elevation requirements and the limits of enclosed spaces below. FEMA's Technical Bulletin 3: Requirements for the Design and Certification of Dry Floodproofed Non-residential and Mixed Used Buildings (NFIP TB 3) and Technical Bulletin 6: Requirements for Dry Floodproofed Below-Grade Parking Under Non-Residential and Mixed-Use Buildings (NFIP TB 6) clarify how ancillary areas that support residential uses and building systems serving residential units must also be elevated.

From NFIP TB 6 section 2.2: "...non-residential portions of mixed-use buildings are allowed to be dry floodproofed provided that all residential units, the building systems and service equipment that serve residential units, and the ancillary areas for use by residents are elevated above the required elevation."

Based on these clarifications, FEMA requires all ancillary areas supporting residential uses, and building systems serving residential units to be elevated, even when located in mixed-use buildings. Enclosures below the design flood elevation are permitted in accordance with Section 44 CFR 60.3(c)(5), i.e. wet floodproofed spaces, and the use of such wet floodproofed spaces is limited to parking of vehicles, storage and building access.

With regard to parking in mixed-use buildings, FEMA does recognize that sectioning off parking spaces for which would be used for residential purposes and those for non-residential purposes in below grade parking areas would not be practical. Properly designed buildings that have both commercial (non-residential) and residential uses may be designed with floodproofed below-grade parking garages and the parking can serve all uses within the building.

With regard to mailboxes, FEMA also recognizes that the United States Postal Service (USPS) provides standards for the type and installation of mailboxes and parcel lockers that serve residential units. Mailbox equipment subject to USPS regulations are permitted to be located in dry floodproofed non-residential areas of a mixed-use building and within wet floodproofed, building access areas of residential buildings. This allowance does not include mail rooms or package rooms that serve residential units but are not required by USPS.

III. Appendix G of the NYC Building Code and ASCE 24

Ancillary Areas Supporting Residential Uses: Based upon FEMA's recent clarifications, the Department interprets ASCE 24 section 6.2.1 requirement that "dry floodproofing of residential structures or residential areas of mixed-use structures shall not be permitted," to also prohibit ancillary areas supporting residential units from being located within dry floodproofed enclosures. Ancillary areas include lobbies, foyers, offices, mailrooms not required by USPS, meeting rooms and exercise rooms, and when supporting residential units, must be elevated above the design flood elevation. This requirement does not apply to spaces used solely for parking of vehicles, building access, or storage and other structures that are permitted to be wet floodproofed below the design flood elevation as set forth in ACSE 24 section 6.3, provided the areas meet the enclosure requirements of ASCE 24 section 2.6.

FEMA's guidance allows for buildings that have both non-residential and residential uses to be designed with dry floodproofed below-grade parking garages. This guidance shall also apply to required non-residential bicycle parking and residential bicycle parking located within the same space.

Building Systems Supporting Residential Uses: Based upon FEMA's recent clarifications, the Department interprets ASCE 24 section 7.1, which states in part that "utilities and attendant equipment shall be permitted in areas of structures that are dry floodproofed," to prohibit utilities and attendant

equipment supporting residential units from being located within dry floodproofed enclosures below the design flood elevation. The definition of “residential,” as clarified by NFIP TB 3, includes building systems, such as utilities and attendant equipment, that support residential units and must be elevated to the design elevation. Examples include but are not limited to mechanical equipment rooms, boiler rooms, gas meter rooms, electrical meter rooms, switchgear rooms, generator rooms, and compactor rooms. The point of entry for utility services may be below the design elevation provided that the system is designed, constructed, and installed to prevent floodwaters, including any backflow through the system, from entering or accumulating within the components in accordance with ASCE section 7.1. This requirement applies to building systems that support both non-residential and residential uses in mixed-use buildings. Systems that exclusively serve non-residential uses are not required to be elevated.

Where elevators comply, as applicable, with all requirements of NFIP Technical Bulletin 4, Elevator Installation for Buildings Located in Special Flood Hazard Areas and with ASCE 24, as modified by Appendix G, such elevators are permitted to serve levels below the design flood elevation.

IV. Applicability

Applications for construction document approval filed after January 10, 2022, the issuance date of this Bulletin, with the Department in conjunction with a new building, horizontal enlargement, or substantial improvement are required to show compliance with the requirement that ancillary areas and building systems that support residential uses and dwelling units be elevated above the design flood elevation as described above. Note that below-grade parking of vehicles serving commercial (non-residential) and residential uses within a mixed-use building may be permitted within dry floodproofed enclosures below the design flood elevation.