### New Construction Design Guidelines Frequently Asked Questions (FAQ)

This FAQ provides questions and answers related to HPD's New Construction Design Guidelines. Have more questions? Reach out to HPD BLDS at <u>BLDS.Contact@hpd.nyc.gov</u>, HPD Sustainability at <u>sustainability@hpd.nyc.gov</u> and/or HPD Resiliency at <u>resiliency@hpd.nyc.gov</u>.

#### <u>General</u>

### 1. Which projects are subject to Version 2 of the Design Guidelines?

HPD's New Construction Design Guidelines Version 2.0, released in September 2023, are in force for all new projects.

Note: Projects that had already scheduled or held Design Consultations at the time of V2.0 release but were slated to close after June 30, 2024, or projects whose closings were targeted for before June 30, 2024 but postponed until after June 30, 2024, may be exempted from version 2.0 of the Guidelines at the discretion of HPD Program.

### 2. Which requirements are Design Waivers available for?

The Design Guidelines and the Workbook clearly denote which items may be waived. Generally, waivers are restricted to building design features and are not available for operational requirements. Design Guidelines waivers are limited to requirements within the HPD Design Guidelines and do not supersede any other regulatory or permitting requirements by HPD or other City agencies, such as DOB or DEP.

# 3. When and where should a Design Waiver request be submitted? When is approval provided?

Applicants are requested to submit a Design Waiver Request form as early as possible during schematic design once known waiver needs are identified, but no later than the Milestone 1 submission of BLDS Design Review.

Design waiver approval is typically provided once a project has been directed to submit for Milestone 1 by an HPD Program Office. Approval may be provided ahead of submission, but a formal, signed Design Waiver Request Form will only be provided after HPD accepts a Milestone 1 submission.

Applicants are welcome to submit questions or preliminary design materials to HPD Resiliency or Sustainability ahead of a formal submission for guidance, but only complete submissions will be reviewed for design waiver approval.

Waiver requests can be submitted via relevant HPD Program offices or directly to HPD Resiliency at <u>Resiliency@hpd.nyc.gov</u> or HPD Sustainability at <u>Sustainability@hpd.nyc.gov</u>



### 4. What must be included in a Design Waiver request?

A design waiver request submission should include all the information necessary for HPD to determine if a waiver is warranted. This includes a completed Design Waiver Request Form, relevant building site or sectional drawings, and any related narrative or cost information that demonstrate the infeasibility of meeting one or more of the requirements.

### Section 2.1 Flood Resistant Construction

### 5. How do Design Guidelines for New Construction define "flood-prone"?

Flood-prone projects are any projects determined to be at risk of current or future coastal flooding or moderate to extreme stormwater flooding as defined in Chapter 2, Section 2.

### 6. How are "critical mechanical, electrical and life safety equipment and controls" defined?

The Design Guidelines for New Construction identify the following building systems as critical utilities and equipment for the purposes of the resiliency requirements in Chapter 2, Section 2.

- HVAC systems
- Boilers, furnaces, and water heaters
- Fuel storage tanks
- Fire-suppression sprinkler controls
- Elevator machine rooms
- Electrical panels and switch gear
- Backup generators, and other emergency backup systems
- Alarm controls and components
- Energy management systems
- Telecommunications equipment
- Electric and gas meters
- Utility shut-off switches

This determination is based on NYC's Climate Resiliency Design Guidelines' (CRDG) definition for critical equipment as well as an understanding of the risks posed to building and resident life safety during a flood or heat event.

HPD may use its discretion to modify the above list for a proposal based on the available project, site and climate hazard information.

### 7. What is the 2080s future projected floodplain defined and why was it selected for the New Construction Design Guidelines?

For the purposes of determining new construction sites subject to future coastal flooding, HPD references the 2080s future projected coastal floodplain. The Design Guidelines utilize the same climate projections and associated useful life estimates as the NYC Climate Resiliency



Design Guidelines ("CRDG") which are based on the work of the New York City Panel on Climate Change ("NPCC"). The latest CRDG (V4.1 released in May 2022) reference NPCC projections published in the New York City Panel on Climate Change 2019 Report.

Consistent with the CRDG, the HPD Design Guidelines use the averaged middle-range projections for sea level rise to establish the Sea Level Rise-adjusted DFE. For the 2080s, the averaged middle-range projection, or 50th percentile, is 28 inches.

The 2080s return period aligns with the expected useful life of most HPD-financed new buildings to be constructed in the near future. The corresponding 2080s return period is based on averaged projected sea level rise increase between 2070-2099.

### 8. How is the 2080s Sea Level Rise-adjusted Design Flood Elevation ("SLRadjusted DFE") calculated?

The SLR-adjusted DFE is determined within the CRDG (Currently V4.1, Table 5). For the 2080s, the SLR-adjusted DFE is calculated by adding 28" of Sea Level Rise Adjustment on to the 24" of freeboard required under NYC Building Code to the nearest FEMA-established Base Flood Elevation ("BFE"). Therefore, a site located within or nearest to a mapped FEMA flood zone with a BFE of 11' (NAVD88) would have a SLR-adjusted DFE of 15' 4", or 11' + 24" (NYC BC) + 28" (Sea Level Rise Adjustment).

Where BFEs have not been established because a site exists beyond the FEMA 100-year floodplain, or for other reasons, the nearest FEMA-mapped BFE from the City's Preliminary Flood Insurance Rate Maps (PFIRMS) should be referenced for the purposes of determining the SLR-adjusted DFE.

9. Only a part of the development site for a multi-building project intersects with the floodplain. Does every building need to incorporate flood mitigations, or just the building(s) that intersects with the floodplain?

Each building is individually reviewed for compliance with the resiliency requirements in the Design Guidelines. Only buildings that intersect with the current or future floodplain are considered flood-prone.

# 10. If full elevation of a critical utility or dwelling unit is infeasible, what information must be provided for HPD to review a waiver application?

A waiver application must include sufficient information to demonstrate why elevation is infeasible and provide an alternative mitigation strategy that ensures any new critical system(s) or dwelling units remain resistant to flooding to the maximum extent feasible. This typically requires detail specifying the proposed waterproofing system(s) to be applied at the ground floor, cellar slabs and walls, and/or utility rooms, as applicable. It may also require information on mounting strategies to mitigate flooding, installation of any backflow



prevention, sump pump devices, or alternative interior or site drainage strategies. If deployable flood panel systems are proposed, information on storage and deployment strategies around such systems and components should be provided. All waiver applications are approved at the discretion of HPD.

### Section 2.2 Stormwater Management

11. Why does HPD include requirements for stormwater flooding when NYC Building Code does not?

HPD's New Construction Design Guidelines reference standards in the NYC Climate Resiliency Design Guidelines (CRDG) which go beyond building code standards in order to ensure that City-financed projects are built to withstand both current and future climate risks. With a projected increase in intensity and frequency of precipitation storm events, the CRDG provides guidance for enhanced stormwater management and resiliency.

HPD regularly reviews the Design Guidelines for compliance and consistency with other regulations, City guidance materials, and industry best practices.

# 12. What does 'adjacent' mean in the context of screening for stormwater risk using the NYC Stormwater Flood Maps?

The NYC Stormwater Flood Maps were developed to show likely flooding from rainfalls under a number of different scenarios to help New Yorkers understand how stormwater flood patterns may change over time. For HPD new construction projects, the Extreme Stormwater Flood with 2080 Sea Level Rise scenario map is used to determined applicability of stormwater requirements.

Because the NYC Stormwater Flood Maps largely mapped flood risk along public right-of-way, HPD has adopted an adjacency requirement for development sites. If any part of a project site touches a roadway or other public right of way shown as flooded on the Extreme Stormwater Flood scenario map, then that site is considered at risk of stormwater flooding. With projects located on campuses, or where a building may otherwise be proposed on a larger site farther from a flooded street, there HPD may utilize more discretion. The ultimate determination of stormwater flood risk is made by HPD Resiliency.

### 13. How is "grade" calculated for stormwater flooding purposes?

For stormwater flood-prone projects, HPD requires that all critical equipment and residential units be elevated out of a cellar to grade or higher.

For sites with significant grade variation across the site between bounding streets, project teams may be directed to site utilities or residential units at the Highest Adjacent Grade ("HAG"), or the highest ground elevation reading at the site. If the full ground floor cannot be elevated to the HAG, critical equipment should be sited away from any low points where



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#### flooding is shown in the NYC Stormwater Flood Maps.

# 14. What is DEP's Unified Stormwater Rule (USWR) and how do I determine if my project requires a stormwater construction permit?

NYC DEP adopted the Unified Stormwater Rule (USWR) in February 2022 extending stormwater management requirements citywide. Any development that drains to a City-owned sewer system and either disturbs 20,000 sf or more of soil or adds 5,000 sf or more of new impervious area will be required to retain and manage stormwater on-site. The USWR requires projects to meet thresholds for compliance and a new retention-first approach for design of post-construction stormwater management practices (SMPs).

All HPD projects must demonstrate compliance with DEP USWR permitting requirements. For more information on the USWR, please visit: <u>Unified Stormwater Rule - NYC DEP</u>

# 15. I am considering a solar rooftop installation for my development. What do I need to understand about possible conflicts with DEP's Unified Stormwater Rule?

Compliance with the Unified Stormwater Rule (USWR) may require projects that can't accommodate stormwater infiltration practices on the site (e.g., zero lot line buildings) to install a green roof over a portion of their rooftop. All HPD projects should assess whether they are subject to the USWR and how they can best meet requirements as early in the process as possible. Projects that can sufficiently accommodate vegetated infiltration practices on site will not likely be required to use their roofs for stormwater management.

Project teams are expected to have a defined stormwater management plan and initiated DEP's SWPPP approval process by the Design Consultation.

#### Section 2.4 Backup Power and Passive Survivability

### 16. How to determine what is adequate backup power generation?

Backup power generation should be sufficient to service critical/emergency loads and ensure that at least one elevator remains functional during an emergency.

Also, the backup power should be able to serve a community space (or spaces) that can serve as a "Place of Refuge" equal to 15 SF per bedroom provided with heating, cooling, lighting, outlets, WiFi, at least one refrigerator for every 50 bedrooms and at least one accessible bathroom with a potable water source, where required.

# 17. What building spaces can be considered as a part of "Place of Refuge" requirements?



Potentially any common or community space, or combination of community spaces, accessible to residents can be used to satisfy the "Place of Refuge" requirement so long as it complies with the "Place of Refuge" requirements in Section 2.4.

### Section 3.1 Heating Systems

#### 18. When is electric resistance permitted?

Electric Resistance backup is not permitted for space heating, including when used as 'auxiliary'. Electric resistance space heating may be used with HPD pre-approval in spaces such as common stairwells, utility rooms, basements, vestibules, and other spaces where heat pumps may not be appropriate. For additional guidance on electric resistance see the published <u>Clarifications on Electric Resistance</u>.

#### Section 4.4 Building Envelope

# 19. What is the difference between reach requirement C section in 2.3 Extreme Heat and requirement C in section 4.4 Building Envelope?

The requirement to have south and west-facing walls for buildings in high heat zones, to use exterior wall finishes that are light in color and/or exhibit an initial solar reflectance of at least 0.60 and exhibit an initial thermal emittance of at least 0.75 with vegetated walls also being acceptable is a reach requirement in both Section 2.3 and 4.4. However, we strongly recommend that projects in high heat zones and especially are designing to passive house standards consider implementing this reach requirement.

