Zoning for Coastal Flood Resiliency
Chapter 11: Water & Sewer Infrastructure

A. INTRODUCTION

New York City's water and sewer network is fundamental to the operation, health, safety, and quality of life of the city and its surrounding environment, and it must be sized to fit the users and surface conditions in order to function adequately. Ensuring these systems have adequate capacity to accommodate land use or density changes and new development is critical to avoid environmental and health problems such as sewer back-ups, street flooding, or pressure reductions. This chapter assesses the potential effects of the Proposed Action on the City's water supply, wastewater treatment, and stormwater management infrastructure in accordance with the 2020~~14~~ *City Environmental Quality Review* (CEQR) *Technical Manual*.

As detailed in **Chapter 1, "Project Description,"** the New York City Department of City Planning (DCP) is proposing a zoning text amendment to update the Special Regulations Applying in Flood Hazard Areas (Article VI, Chapter 4) of the New York City Zoning Resolution (ZR), which includes the "Flood Resilience Zoning Text" (the "2013 Flood Text") and "Special Regulations for Neighborhood Recovery" (the "2015 Recovery Text"). These temporary zoning rules were adopted on an emergency basis to remove zoning barriers that were hindering the reconstruction and retrofitting of buildings affected by Hurricane Sandy and to help ensure that new construction there would be more resilient. The 2013 Flood Text provisions are set to expire with the adoption of new and final Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), which is anticipated to occur within the next few years. Applicability of the 2015 Recovery Text expired in July 2020. Therefore, DCP is proposing a citywide zoning text amendment, "Zoning for Coastal Flood Resiliency" (the "Proposed Action"), to improve upon and make permanent the relevant provisions of the existing temporary zoning rules of the 2013 Flood Text and 2015 Recovery Text. In addition, the Proposed Action includes special provisions to help facilitate the city's long-term recovery from the COVID-19 pandemic and its associated economic effects by providing more time for existing non-conforming uses to reopen and builders to undertake certain construction projects. The Proposed Action also includes updates to other sections of the ZR, including the Special Regulations Applying in the Waterfront Area (Article VI, Chapter 2) and provisions within various Special Purpose Districts. The Proposed Action would mostly affect New York City's current 1% annual and 0.2% annual chance floodplains. However, select provisions of the Proposed Action would be applicable citywide. To help the City prepare for or respond to other disasters, select provisions in the Proposed Action regarding power systems and other mechanical equipment, ramps and lifts, vulnerable populations, and disaster recovery rules, would be applicable citywide.

Due to the broad applicability of the Proposed Action, it is difficult to predict the sites where development would be facilitated. In addition, the Proposed Action is not in-and-of-itself expected to induce development where it would not otherwise have occurred absent the Proposed Action. Although the Proposed Action may allow developments and existing buildings to retrofit to resilient standards, the overall amount, type, and location of construction within the affected area is not anticipated to change. Owing to the generic nature of this action, there are no known or projected as-of-right development sites identified as part of the Proposed Action's Reasonable Worst-Case Development Scenario (RWCDS). To produce a reasonable analysis of the likely effects of the Proposed Action, 14 representative Prototypical Analysis Sites containing either new developments, infill, reconstructions, or retrofits of existing buildings in the city's 1% and 0.2% annual chance floodplains were identified to demonstrate the wide range of proposed

regulations for sites that would be able to develop as-of-right in the future with the Proposed Action, as detailed further in **Chapter 1**.

B. PRINCIPAL CONCLUSIONS

The Proposed Action would not result in significant adverse impacts on water and sewer infrastructure. To determine the need for water and sewer impact assessments, a screening analysis was performed for the Proposed Action that compares the development of Prototypical Analysis Sites under the No-Action and With-Action scenarios. The *CEQR Technical Manual* states that a preliminary infrastructure analysis is needed if a project (1) would result in an exceptionally large demand for water (e.g., those that are projected to use more than one million gallons per day such as power plants, very large cooling systems, or large developments); or (2) is located in an area that experiences low water pressure (e.g., areas at the end of the water supply distribution system such as the Rockaway Peninsula and Coney Island). The results of the screening analysis indicate that the Proposed Action would not result in significant adverse impacts on water and sewer infrastructure, and detailed analyses are not warranted.

Water Supply

The Proposed Action would not result in significant adverse impacts on water supply. The preliminary screening concludes that the effects of the Proposed Action would not be great enough to warrant a detailed analysis of water supply.

Wastewater Treatment, Stormwater & Drainage Management

The Proposed Action would not result in significant adverse impacts on wastewater or stormwater conveyance or treatment, or drainage management. The preliminary assessment shows that the incremental development that may occur at any one Prototypical Analysis Site would fall below the CEQR guidance thresholds.

C. PRELIMINARY SCREENING

The Proposed Action is generic, and as such, there are no known projected or potential development sites at this time. To produce a reasonable analysis of the likely effects of the Proposed Action, 14 Prototypical Analysis Sites were established as described in **Chapter 1, "Project Description."** These sites are not necessarily representative of a specific lot, but rather reflect prevalent conditions as a basis for analysis. In accordance with the methodology outlined in the *CEQR Technical Manual*, a screening analysis of the potential for the Prototypical Analysis Sites to affect the adequacy of the city's infrastructure systems was performed.

Water Supply

A preliminary water supply assessment would be required if a project results in an exceptionally large demand of more than one million gallons of water per day, including power plants, large cooling systems, or large developments. A preliminary water supply assessment would also be necessary if the project is in an area that experiences low water pressure.

The Proposed Action is not expected to result in an exceptionally large demand of more than one million gallons of water per day and would not involve the development of a power plant, large cooling system, or other large developments. As discussed above, the Proposed Action would not induce development on a lot

where development would not occur under No-Action conditions. While the individual sites to which the Proposed Action would apply would be located throughout the five boroughs that and may potentially include areas that experience low water pressure, any incremental density is expected to fall well below CEQR thresholds. Therefore, the Proposed Action would not result in significant adverse impacts on water supply, and a detailed assessment is not warranted.

Wastewater Treatment, Stormwater & Drainage Management

Because the city's sewers are sized and designed based on designated zoning for an area, related population density, and surface coverage characteristics, projects that greatly increase density or would substantially increase hard surfaces would require further analysis for potential impacts on the city's wastewater and stormwater infrastructure. Although most projects would not require a detailed assessment on wastewater and stormwater conveyance and treatment, the 20<u>20</u>~~14~~ *CEQR Technical Manual* indicates that a preliminary assessment would be needed if a project is in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action scenario:

- 400 residential dwelling units (DUs) or 150,000 square feet (sf) of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens.

A preliminary assessment would also be needed if a project located in a separately sewered area would exceed:

- 25 residential DUs or 50,000 sf of commercial or public facility/institutional/community facility use in the residential R1, R2, or R3 zoning districts;
- 50 residential DUs or 100,000 sf of commercial or public facility/institutional/community facility use in residential R4 and R5 zoning districts; or
- 100 residential DUs or 100,000 sf of commercial or public facility/institutional/community facility use in all remaining zoning designations, including commercial, manufacturing, and mixed-use districts.

As mentioned above, the Proposed Action is generic, and no known potential or projected as-of-right development sites have been identified. Because of the Proposed Action's broad applicability, it is difficult to predict the sites where development would be facilitated. To produce a reasonable analysis of likely effect of the Proposed Action, 14 Prototypical Analysis Sites (of less than one acre) have been identified for analysis. The analysis in **Table 11-1** shows that the incremental development that could occur on the 14 Prototypical Analysis Sites as a result of the Proposed Action would all fall below the CEQR thresholds described above.

Analysis may also be warranted if a project is partially sewered or currently unsewered; or involves development on a site of five acres or larger where the amount of hard surface would increase; or involves development on a site one acre or larger where the amount of hard surface would increase, and located in either Jamaica Bay watershed, or in certain specific drainage areas including: Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek; or involves construction of a new stormwater outfall that requires federal and/or state permits. As detailed above, none of the Prototypical Analysis Sites are one acre or larger in size. Although development pursuant to the proposed flood text regulations could occur on partially sewered or currently unsewered sites, such development also could occur at the same locations under No-Action conditions and accordingly, there would be no incremental change in conditions relative to wastewater treatment and stormwater and drainage management.

Table 11-1: Prototypical Analysis Site Sizes and CEQR Thresholds Requiring Further Analysis

Site	Zoning District	Lot Area (SF)	Threshold	Meets the Threshold to Require Further Assessment?
1	R3-1	*4,000*	25 residential units or 50,000 square feet of commercial/public and institution/community facility use	No
2	R3-1	*2,500*	25 residential units or 50,000 square feet of commercial/public and institution/community facility use	No
3	R4 Infill	*2,000*	50 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
4	R5 Infill	*2,500*	50 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
5	R7A	*11,500*	100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
6	R6	*100,000*	100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
7	R5/C1-2	*12,000*	50 residential units or 100,000 square feet of commercial/public and institution/community facility use OR 100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
8	C1-2/R71	*2,500*	50 residential units or 100,000 square feet of commercial/public and institution/community facility use OR 100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
9	C1-2/R3-1	*10,000*	25 residential units or 50,000 square feet of commercial/public and institution/community facility use OR 100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
10	M1-1	*10,000*	100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
11	R4	*2,500*	50 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
12	R3A	*2,500*	25 residential units or 50,000 square feet of commercial/public and institution/community facility use	No
13	R3X	*2,000*	25 residential units or 50,000 square feet of commercial/public and institution/community facility use OR 100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No
14	C2-4/R8	*50,000*	100 residential units or 100,000 square feet of commercial/public and institution/community facility use	No

Source: 2020~~14~~ *CEQR Technical Manual*.

D. CONCLUSIONS

Screening analyses were conducted to assess potential impacts on water and sewer infrastructure that could result from the Proposed Action. As detailed therein, the Proposed Action would not result in significant adverse impacts to water supply, and further analysis is not warranted. Additionally, the preliminary assessment of wastewater and stormwater conveyance and treatment and drainage management showed that the incremental development that could occur on the 14 Prototypical Analysis Sites would all fall below the CEQR guidance thresholds. Therefore, the Proposed Action would not result in significant adverse wastewater or stormwater impacts, and as such, no further analysis is needed.