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Water and Sewer Infrastructure

This section assesses whether the proposed action may adversely affect the City's water distribution or sewer system.

Introduction

This chapter evaluates the potential effects of the proposed action on the City's water supply, wastewater treatment and stormwater management infrastructure, in accordance with the *2014 CEQR Technical Manual*. 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.

The introduction of a CPC special permit for new hotels in M1 districts could result in shifting hotel development from M1 districts to other locations where they will continue to be permitted as-of-right, but would not otherwise change any rules regulating development in these locations. Thus the possible effects of a shift in some hotel development from M1 districts in the future No-Action and With-Action conditions will be considered by means of a prototypical analysis. The water and sewer infrastructure assessment will be performed for each of the seven prototypical sites as defined and described in Chapter 1, "Project Description" to identify the

possible effects of shifting from one use (such as a residential or different commercial use) in the No-Action condition to a commercial hotel use in the With-Action condition.

Principal Conclusions

Analyses were conducted on the prototypical sites to assess water and sewer infrastructure pertaining to the shift from non-hotel use (i.e., a residential or different commercial use) in the No-Action condition to commercial hotel use in the With-Action condition. In order to assess the possible effect of the proposed action, a screening analysis was conducted.

Water Supply

The screening analysis concluded that the effects of the proposed action would not be great enough to warrant a preliminary analysis of water supply.

Wastewater and Stormwater Conveyance and Treatment

The preliminary assessment shows that the incremental development that may occur at any one prototypical development site would fall below the CEQR guidance thresholds.

Screening Analysis

The proposed action is a generic action, and there are no known developments at this time. To produce a reasonable analysis of the likely effects of the proposed action, seven hotel prototypical development sites were established as described in Chapter 1, "Project Description." In accordance with the methodology outlined in the *CEQR Technical Manual*, a screening analysis of the potential for the prototypical development sites to affect the adequacy of the City's infrastructure systems has been 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 located 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 does not involve the development of a power plant, large cooling system, or large developments. As discussed in the description of the proposed action, most components of this proposal are not expected to induce development on a lot where development would not also be expected to occur as part of the No Action scenario.

While the proposed action would apply throughout the city's five boroughs, and may potentially include areas that experience low water pressure, the proposed action is not anticipated to induce development and thus, any changes are expected to fall well below the threshold. Therefore, a preliminary assessment is not warranted.

Wastewater and Stormwater Conveyance Treatment

Although most projects would not require a preliminary assessment on wastewater and stormwater conveyance and treatment, the *CEQR Technical Manual* indicates that a preliminary assessment would be needed if a project is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action condition:

- › 1,000 residential units or 250,000 sf of commercial space or more in Manhattan; or
- › 400 residential units or 150,000 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 sewer area would exceed:

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

Analysis may also be warranted if a project is located is partially sewer or currently unsewered; or involves development on a site of five acres or larger where the amount of impervious surface would increase; or involve development on a site one acre or larger where the amount of impervious 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 mentioned above the proposed action is a generic action, and there are no known potential or projected as of right development sites. Due to 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, seven prototypical development sites have been identified for analysis. The analysis shows that the development that may occur at any one prototypical development site would fall well below the thresholds described above.

Manhattan Prototypical Site

The Manhattan prototypical site would be a 355-foot-tall, 30,000-square-foot hotel comprised of 91 rooms in a C5-3 zoning district. In the No-Action Scenario, the site would instead be redeveloped with an approximately 465-foot-tall, 4,811-square-foot mixed-use building, with 2,049 sf of residential space (3 units), 2,000 sf of community facility and 762 sf of local retail. As such, the increment for analysis is 25,189 square sf of floor area.

- › Water Supply – The Manhattan Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Thus, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Manhattan Prototype is located in a combined sewer area and would not facilitate the incremental development of 1,000 units or 250,000 sf of commercial space in Manhattan above the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. As such, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Long Island City Prototypical Site

The Long Island City Prototype would be an approximately 75-foot-tall, 60,975-square-foot hotel with 203 rooms located in an M1-5/R7-3 zoning district. Under the No-Action Condition, the site would be developed with a 105-foot-tall, 60,975-square-foot office building. The increment of analysis is 0 sf of floor area.

- › Water Supply – The Long Island City Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Thus, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Long Island City Prototype is located in a combined sewer area and would not facilitate the incremental development of 400 residential units or 150,000 sf of commercial

space or more in the Bronx, Brooklyn, Staten Island, or Queens over the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. As such, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Jamaica Prototypical Site

The Jamaica Prototypes would consist of three hotels totaling 225,870 sf of floor area and 753 rooms in a C6-3 zoning district. The No-Action Condition would consist of three buildings totaling 301,160 sf of residential and retail space. In total, the buildings would contain 278,512 sf of residential space, including 279 market rate units and 70 voluntary affordable units and 22,648 sf of local retail. The increment of analysis for the site is -75,290 sf of floor area.

- › Water Supply – The Jamaica Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Thus, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Jamaica Prototype is located in a separately sewered area and would not facilitate 100 residential units or 100,000 sq. ft. of commercial, public and institution/community facility use in all remaining zoning designations, including commercial, manufacturing and mixed-use districts. As such, no further analysis of wastewater and stormwater conveyance and treatment is needed. In addition, the prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. As such, no further analysis of wastewater and stormwater conveyance and treatment is needed.

South Slope Prototypical Site

The South Slope Prototypical Site would be a 7,024-square-foot hotel with 23 rooms in a R6A zoning district. In the No-Action Condition, the site would be redeveloped with a 10,536-square-foot mixed-use building consisting of 9,186 sf of residential space (11 market rate units, 3 affordable voluntary units) and 1,350 sf of local retail space. Therefore, the increment of analysis is -3,512 sf of floor area.

- › Water Supply - The South Slope Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Thus, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The South Slope Prototypical Site is located in a combined sewer area and would not facilitate the incremental development of 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens over the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. Therefore, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Downtown Brooklyn Prototypical Site

The Downtown Brooklyn Prototypical Site would be a 46,400-square-foot hotel with 155 rooms in a C6-4 zoning district. Under the No-Action Condition, the site would be developed with a 55,598-square-foot residential building comprised of 66 units. The increment of analysis is -9,198 sf of floor area.

- › Water Supply – The Downtown Brooklyn Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Thus, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Downtown Brooklyn Prototypical Site is located in a combined sewer area and would not facilitate the incremental development of 400 residential units or 150,000 sf of

commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens over the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. Therefore, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Brownsville Prototypical Site

The Brownsville Prototypical Site would be a 25,500-square-foot hotel consisting of 85 rooms in a C4-3 zoning district. In the No-Action scenario, the site would be developed with two retail buildings totaling 9,450 sf. The increment of analysis is 16,050 sf of development.

- › Water Supply – The Brownsville Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Therefore, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Brownsville Prototypical Site is located in a combined sewer area and would not facilitate the incremental development of 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens over the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. Therefore, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Williamsburg Prototypical Site

The Williamsburg Prototypical Site would be a 50,000-square-foot hotel with 167 rooms in a M1-2/R6A zoning district. In the No-Action Condition, the site would be developed with 75,000 sf of residential space consisting of 78 units. As such, the increment of analysis is -25,000 sf of floor area.

- › Water Supply – The Williamsburg Prototype is not anticipated to have 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) and is not located in an area that experiences low water pressure (e.g. areas at the end of the water supply distribution system such as Rockaway Peninsula and Coney Island). Therefore, per CEQR guidelines, no further analysis of water supply is needed.
- › Wastewater and Stormwater Conveyance and Treatment – The Williamsburg Prototypical Site is located in a combined sewer area and would not facilitate the incremental development of 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens over the No-Action scenario. The prototype does not involve development on a site of more than five acres where the amount of impervious surface would increase, nor would it involve development on a site of one acre or larger where the amount of impervious surface would increase, located within the Jamaica Bay watershed or in certain specific drainage areas, including the Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek and Westchester Creek. Furthermore, the prototype does not involve the construction of a new stormwater outfall that requires federal and/or state permits. Therefore, no further analysis of wastewater and stormwater conveyance and treatment is needed.

Conclusion

Screening analyses were conducted to assess water and sewer infrastructure pertaining to the shift from non-hotel use (i.e., a residential or different commercial use) in the No-Action condition to a commercial hotel use on the prototypical sites in the With-Action condition. The water supply screening analysis concluded that the effects of the proposed action would not be great enough to warrant a preliminary analysis of water supply. Furthermore, the preliminary assessment of wastewater and stormwater conveyance and treatment showed that the incremental development that may occur at any one prototypical development site would fall below the CEQR guidance thresholds, and therefore no further analysis is needed.