A. INTRODUCTION

In accordance with the City Environmental Quality Review (CEQR) and the State Environmental Quality Review Act (SEQRA), this chapter examines four alternatives to the proposed Astoria Cove project, which includes a zoning map amendment, City map amendments, a zoning text amendment, Special Permits, and waterfront authorizations and certifications. As described in the *CEQR Technical Manual*, alternatives selected for consideration in an Environmental Impact Statement (EIS) are generally those that are feasible and have the potential to reduce, eliminate, or avoid adverse impacts of a proposed action while meeting some or all of the goals and objectives of the action.

This chapter considers the following four alternatives to the Proposed Action:

- A No-Action Alternative, which is mandated by CEQR and SEQRA, and is intended to demonstrate environmental conditions that would exist if the project were not implemented. Under the No-Action Alternative, existing zoning would remain in the area affected by the Proposed Action. It is assumed that 166 market-rate residential dwelling units would be developed on the upland portion of the project site which is currently zoned R6, and the approximately 194,700 gross square feet (gsf) of industrial/warehouse uses on the waterfront portion of the project site would not be redeveloped in this alternative. No affordable residential units would be developed under this alternative.
- A Lower Density Alternative that considers a zoning district with less density compared to the Proposed Action, resulting in reduced residential development. In the Lower Density Alternative, the proposed R7-3/C2-4 zoning district along the waterfront parcel would be replaced with a R7A/C2-4 zoning district and the proposed R7A/C2-4 and R6B zoning districts on the upland parcel would be replaced with a R6B/C2-4 zoning district. The Lower Density Alternative would result in an incremental decrease of 267 dwelling units (DU), including 33 fewer affordable DU, compared to the Proposed Action; the same amount of commercial and community facility square footage (109,470 gsf and 62,248 gsf, respectively) and open space (1.92 acres) would be developed under both scenarios.
- A Ferry Alternative that, in addition to the project as proposed under the Proposed Action, considers the development of a ferry dock on the waterfront parcel that would service Astoria Cove via Roosevelt Island, Long Island City North, East 34th Street, and Pier 11. This alternative would require a zoning text amendment to extend ferry service to Queens Community District (CD) 1, City Planning Commission (CPC) certification, New York State Department of Environmental Conservation (NYSDEC) and United States Army Corp of Engineers (USACE) permits for its construction and operation as well as public funding, and therefore would be subject to a separate environmental review if pursued. As under the Proposed Action, the Ferry Alternative would result in the development of approximately 1,689 dwelling units (approximately 1,689,416 gsf of residential floor area), of which 295 dwelling units would be affordable; approximately 109,470 gsf of local retail space, including an approximately 25,000 gsf supermarket; a site for an elementary school with approximately 456 seats (PK-5); and approximately 900 accessory parking spaces. For analysis purposes it is assumed that up to

approximately 0.36 acres of additional passive open space (comprised of the ferry pier) would be developed under this alternative, for a total of 2.28 acres of open space.

- A No Unmitigated Significant Adverse Impacts Alternative, which considers a development scenario that would not result in any identified unmitigated significant adverse impacts. In order to result in no unmitigated significant adverse impacts, the proposed project would have to be reduced substantially, by up to approximately 89 percent to include 241 residential units and no community facility or commercial uses, and, therefore, would be unlikely to include affordable residential units.

In addition to a comparative impact analysis, the above-listed alternatives are assessed to determine to what extent they would meet the goals and objectives of the Proposed Action, which include: (1) providing opportunities for new residential and commercial development; (2) enhancing and upgrading the waterfront area to provide waterfront access; (3) creating opportunities for new housing development, including affordable housing; (4) providing a sensitive transition to the adjoining neighborhoods; (5) advancing the City's Comprehensive Waterfront Plan; (6) improving traffic flow in the area by completing the street grid; and (7) creating a superior site plan, building layout, and design through the requested Large-Scale General Development (LSGD) Special Permits.

B. PRINCIPAL CONCLUSIONS

No-Action Alternative

The No-Action Alternative examined future conditions absent the Proposed Action (i.e., none of the discretionary approvals proposed as part of the Proposed Action would be adopted). Under the No-Action Alternative, existing zoning would remain in the area affected by the Proposed Action and it is assumed that two residential buildings with a combined 166 market-rate residential units would be constructed as-of-right on the upland parcels. No affordable housing would be developed on the project site under the No-Action Alternative. All existing industrial uses on the waterfront parcels would remain. It is further anticipated that 83 accessory parking spaces would be developed and portions of 8th Street and/or 26th Avenue would be constructed in order to satisfy New York City zoning and New York City Department of Buildings (DOB) requirements. The technical chapters of the EIS have described the No-Action Alternative as the "Future without the Proposed Action (No-Action Condition)."

The significant adverse community facilities, active open space, transportation, and construction traffic impacts anticipated for the Proposed Action would not occur under the No-Action Alternative. Many of the study area intersection movements that are congested under existing conditions would continue to operate at the same level of service with slight increases in volume-to-capacity (v/c) ratios and delays. Subway station elements and area bus routes would similarly be increasingly congested under the No-Action Alternative. As no Restrictive Declaration would be recorded outlining requirements pertaining to potential archaeological resources, potential impacts on archaeological resources could occur due to construction on the upland parcels under the No-Action Alternative. Compared to the mitigation measures identified for the Proposed Action, this alternative would require less mitigation to address the significant adverse impacts that would result from its development.

However, as detailed below the No-Action Alternative would not meet the goals and objective of the Proposed Action. The benefits expected from the Proposed Action, including improvements to the area street network, the provision of waterfront open space, improved public access and visual corridors to the waterfront, the construction of new stormwater outfalls and associated infrastructure improvements, the provision of a new elementary school, and the creation of much-needed residential units, local retail, and a supermarket, would not be realized under the No-Action Alternative.

Lower Density Alternative

A Lower Density Alternative to the Proposed Action was developed to determine whether the impacts to community facilities, open space, urban design, transportation, noise, and construction could be reduced or eliminated while accomplishing the purpose and need established for the Proposed Action. The Lower Density Alternative would result in 267 fewer DU compared to the Proposed Action, including 33 fewer affordable DU; the same amount of commercial and community facility square footage (109,470 gsf and 62,248 gsf, respectively) and open space (1.92 acres) would be developed under both scenarios.

As outlined below, the Lower Density Alternative would still result in significant adverse impacts on community facilities, active open space, transportation, and construction traffic. The Lower Density Alternative is expected to result in the same number of significant adverse traffic impacts than the Proposed Action, and would result in three fewer partially mitigated or unmitigated significant adverse traffic impacts. In addition, both the Lower Density Alternative and the Proposed Action would result in significant adverse bus line haul and subway station element impacts. As the Lower Density Alternative would not substantially alter the anticipated construction schedule, similar or slightly lesser construction traffic and construction noise impacts are anticipated under this alternative. These impacts could be mitigated using the same mitigation measures identified for the Proposed Action, with slightly lesser mitigation needed to mitigate the child care and bus impacts.

Overall, although the Lower Density Alternative would meet a number of the goals and objective of the Proposed Action, it is the Applicant's position that this Alternative would meet these goals to a lesser degree than the Proposed Action. Specifically, as the Lower Density Alternative would result in fewer residential units, it would be less supportive of the objective of the Proposed Action to create opportunities for new housing development, including affordable housing, while continuing to result in significant adverse impacts on child care facilities, active open space, transportation, and construction traffic, as well as a temporary impact on elementary schools.

Ferry Alternative

The Ferry Alternative analyzes the provision of a ferry dock on the upland parcel and the establishment of a ferry route to the project site that would serve the proposed project's residents and workers, as well as the greater Astoria neighborhood. As under the Proposed Action, the Ferry Alternative would result in the development of approximately 1,689 dwelling units (approximately 1,689,416 gsf of residential floor area), of which 295 dwelling units would be affordable; approximately 109,470 gsf of local retail space, including an approximately 25,000 gsf supermarket; a site for an elementary school with approximately 456 seats (PK-5); and approximately 900 accessory parking spaces. For analysis purposes it is assumed that up to approximately 0.36 acres of additional passive open space (comprised of the ferry pier) would be developed under this alternative, for a total of 2.28 acres of open space. While the provision of ferry service at the project site is being considered at this time, it should be noted that this would be contingent upon City funding to extend ferry service to this area and would be a discretionary action subject to City approval.

As outlined below, as the Ferry Alternative would not alter the proposed project's building bulk or program, the community facilities, open space, transportation, and construction traffic impacts associated with the Proposed Action are similarly anticipated under the Ferry Alternative, and therefore, similar measures would mitigate these identified significant adverse impacts. The Ferry Alternative would result in minor decreases in subway demand from both the proposed project and the surrounding area, and therefore would likely lessen the anticipated impacts at the 30th Avenue (N and Q lines) Station. The Ferry Alternative would result in a minor increase in traffic volumes (less than five additional vehicles in any peak hour), and therefore would result in minor incremental increases in mobile source noise and air

quality emissions. However, as the Ferry Alternative would require additional discretionary actions not being sought at this time, a separate environmental assessment would be conducted at a later date if this alternative is pursued.

No Unmitigated Significant Adverse Impacts Alternative

The No Unmitigated Significant Adverse Impact Alternative examines a scenario in which the density of the Proposed Action is changed specifically to avoid the unmitigated significant adverse impacts associated with the Proposed Action. Based on the analyses presented in the other chapters of this EIS, there is the potential for unmitigated impacts in the areas of active open space, traffic, and construction traffic. As discussed in Chapter 20, "Mitigation," the proposed mitigation measures would fully mitigate all of the significant adverse community facilities and transit impacts.

As detailed below, in order to result in no unmitigated significant adverse impacts, development on the project site would have to be reduced by up to approximately 89 percent, including an 86 percent reduction in residential units (to 241 DU) and no community facility or commercial uses on the project site. As such, this alternative would be unlikely to include affordable residential units. Overall, this alternative would be less successful than the Proposed Action at meeting the project's goals of providing opportunities for new residential and commercial development; enhancing and upgrading the waterfront area to provide waterfront access; creating opportunities for new housing development, including affordable housing; advancing the City's Comprehensive Waterfront Plan; and creating a superior site plan, building layout, and design.

C. NO-ACTION ALTERNATIVE

Description of the No-Action Alternative

In the future without the Proposed Action, the project site would not be rezoned. For analysis purposes, it is expected that the existing light industrial and warehousing uses on the waterfront portion of the project site would remain. These consist of approximately 194,700 gsf of warehouse and storage space and an estimated 100 accessory parking spaces. It is assumed that the upland portions of the project site, which are currently zoned R6, would be redeveloped on an as-of-right basis in the future without the Proposed Action. These upland parcels are estimated to accommodate approximately 166 residential units in the No-Action condition.[1] Pursuant to zoning, approximately 83 accessory parking spaces are assumed to be provided for the as-or-right residential development. In conjunction with this as-of-right residential development, it is assumed that portions of the unbuilt segment of 8th Street to the south of 26th Avenue and/or portions of the unimproved segment of 26th Avenue would be built-out in order to satisfy DOB requirements regarding street frontage.

This alternative is described earlier in Chapter 1, "Project Description," and has been used in other chapters of this EIS as the baseline against which impacts of the Proposed Action are measured.

No-Action Alternative Compared With the Proposed Action

The effects of the No-Action Alternative in comparison to those of the Proposed Action are summarized below. As outlined below, the significant adverse community facilities, active open space, transportation, and construction traffic impacts anticipated for the Proposed Action would not occur under the No-Action

[1] Based on the following assumptions: lot area of approximately 65,237 sf, a maximum allowable floor area ratio (FAR) of 2.43, a five percent increase in estimated gsf, and an assumption of 1,000 gsf per unit.

Alternative. Therefore, compared to the mitigation measures identified for the Proposed Action, this alternative would require less mitigation to address the significant adverse impacts that would result from its development. However, as detailed below, the No-Action Alternative would not meet the goals and objective of the Proposed Action.

Land Use, Zoning, and Public Policy

Under the No-Action Alternative, the zoning of the project site would remain M1-1 on the waterfront parcel and R6 on the upland parcel, and the project site uses would be comprised of warehouse and storage uses on the waterfront parcel and approximately 166 residential units on the upland parcel. None of the public open space, retail, and other commercial uses that would be facilitated by the Proposed Action would be created under the No-Action Alternative.

While neither the Proposed Action nor the No-Action Alterative would result in significant adverse impacts to land use, zoning, or public policy, unlike the Proposed Action, the No-Action Alternative would not enhance the waterfront parcel with residential and commercial uses consistent with existing and future uses in the greater Astoria neighborhood and would not meet public policy objectives outlined in the City's Comprehensive Waterfront Plan, PlaNYC, Housing New York, or the Waterfront Revitalization Program (WRP).

Socioeconomic Conditions

Neither the No-Action Alternative nor the Proposed Action would result in significant adverse impacts on socioeconomic conditions. While the No-Action Alternative would result in lesser direct business displacement as compared to the Proposed Action, as outlined in Chapter 3, "Socioeconomic Conditions," the direct business displacement under the Proposed Action would not constitute a significant adverse impact. In addition, unlike under the Proposed Action, no affordable residential units would be developed on the project site under the No-Action Alternative.

Community Facilities

The No-Action Alternative would introduce fewer residents to the study area as compared to the Proposed Action and, therefore, would result in a smaller increase in demand on area community facilities.

As described in Chapter 3, "Community Facilities," in the No-Action Alternative Community School District (CSD) 30, Sub-district 3 elementary schools will operate with a shortfall of 946 seats (120.9 percent utilization); CSD 30, Sub-district 3 intermediate schools will operate with surplus capacity (89.8 percent utilization and an estimated 304 available seats); and Queens high school enrollment in the No-Action Alternative will be approximately 95,839 (136.6 percent utilization). In addition, absent the Proposed Action, the proposed 456-seat PK-5 school would not be constructed, resulting in an elementary school utilization rate higher than with the proposed project.

Under both No-Action and With-Action conditions, publicly funded child care centers in the study area would operate over capacity. In the No-Action Alternative, no affordable housing would be constructed on the project site, and, therefore, no additional publicly funded child care-eligible children would be added to the study area. As described in Chapter 3, "Community Facilities," demand for publicly funded child care facilities would increase in the No-Action Alternative, resulting in a shortfall of 85 available slots and increasing the collective utilization rate to approximately 140.7 percent. However, absent the Proposed Action, the proposed mitigation (which could include adding capacity to existing facilities) would not be implemented.

As with the Proposed Action, the No-Action Alternative would not result in any significant adverse impacts with regard to libraries, police services, fire protection, and/or emergency medical services.

Open Space

Neither the No-Action Alternative nor the Proposed Action would remove or alter any existing publicly accessible open space resources. Under the No-Action alternative, smaller buildings would be constructed on the upland parcel. As with the proposed project, study area open spaces would not experience significant adverse shadow, air quality, or noise impacts. Therefore, neither the No-Action Alternative nor the Proposed Action would result in significant adverse direct impacts to open space.

The addition 166 residents introduced on the project site's upland parcels in the No-Action Alternative would generate an estimated 388 residents to the study area.[2] However, absent the proposed project, neither the 1.92-acre waterfront open space nor the 4,000 sf private open space associated with the proposed school would be developed. In the future without the Proposed Action, the total open space ratio for the study area would be 2.97 acres per 1,000 residents, which is significantly above the recommended citywide community district median of 1.5 acres per 1,000 residents. As such, in the No-Action Alternative, no significant adverse open space impacts would occur. However, the open space benefits associated with the proposed project would not occur under the No-Action Alternative.

Shadows

Under the No-Action Alternative, the existing buildings on the waterfront parcel would remain unchanged, and the upland parcels would be developed as-of-right, maximizing the allowable FAR under R6 zoning (2.43 FAR). It is assumed that the upland parcel as-of-right buildings would each rise to four stories in height. Shadows from the as-of-right No-Action structures would be significantly less than under the Proposed Action, and neither alternative would result in significant adverse shadow impacts.

Historic and Cultural Resources

There are no designated or potential architectural resources within the project site study area, and, therefore, no significant adverse impacts on architectural resources would occur under the No-Action Alternative or the Proposed Action. However, as the upland lots were identified as areas of potential archaeological significance by the New York City Landmarks Preservation Commission (LPC), No-Action subsurface disturbance on these lots (including foundation work and/or potential below-grade parking for the No-Action as-of-right residential developments) could disturb or destroy archaeological resources that may be located on these parcel. As the waterfront parcel would remain as under existing conditions, any potential archaeological resources that may be located on this site would not be disturbed or destroyed under the No-Action Alternative.

Urban Design and Visual Resources

In the No-Action Alternative two residential buildings with parking would be constructed on the upland parcels. Absent the proposed C2-4 commercial overlay, no ground floor retail would be developed on the upland parcels. In conjunction with the as-of-right residential development on the upland parcels and in accordance with DOB building frontage requirements, portions of 8th Street to the south of 26th Avenue and/or portions of the unimproved segment of 26th Avenue would be built-out. The extension of these streets would be a marked improvement over existing conditions. However, absent the proposed City map amendments and the development of 4th and 8th Streets north of 26th Avenue, as well as the proposed

[2] Assumes 2.34 residents per household based on 2010 Census data for Queens CD1.

vehicular right-of-way along the proposed waterfront public access area, pedestrian and vehicular access to the waterfront would remain limited.

Unlike the proposed project, which would redevelop the waterfront parcel with residential and ground floor retail uses, as well as establishing new streets, public access easements, and waterfront open space, the waterfront parcel would retain its existing industrial uses with no public access to the waterfront. The existing and No-Action Alternative industrial uses along the waterfront would be out of context with known and anticipated development in the surrounding area, including the Halletts Point development to the southwest. In addition, certain benefits to the pedestrian realm associated with the proposed project, including the reactivation of the pedestrian realm through continuous ground floor retail and the connection of the project site to surrounding open space resources, would not be realized in the No-Action Alternative.

Natural Resources

Neither the No-Action Alternative nor the Proposed Action would result in significant adverse impacts on natural resources. Under the No-Action Alternative, the upland portion of the project site is anticipated to be developed with residential uses per the existing R6 residential zoning district and the waterfront portion would continue to be occupied by the existing industrial uses. Therefore, groundwater and floodplains would be unlikely to differ from existing conditions. As with the Proposed Action, water quality is expected to gradually improve as a result of several policy initiatives, thereby improving living conditions for aquatic biota and potentially allowing more pollution intolerant species to occur in the East River. Terrestrial natural resources within the study area are not expected to change under the No-Action Alternative. The waterfront portion of the project site would continue to be used by the same suite of urban-adapted disturbance-tolerant plant and wildlife species as under existing conditions. As the upland parcels are composed of vacant asphalt/dirt areas, no terrestrial natural resources would be disturbed due to as-of-right No-Action development.

However, absent the Proposed Action, the proposed stormwater outfalls and stormwater management measures, which are expected to improve the quality of stormwater discharged to the East River, would not be implemented. Runoff from the project site would continue to be discharged into the East River untreated, and the associated benefits to the NYSDEC tidal wetland adjacent area and aquatic resources adjacent to the project site would not occur.

Hazardous Materials

Absent the Proposed Action, the project site would not be rezoned and would not be assigned with a hazardous materials (E) designation. Compared with development anticipated on the project site as a result of the Proposed Action, the No-Action Alternative would result in less construction and fewer residential units on the project site. However, any construction involving soil disturbance on the project site could potentially increase pathways for human exposure to any subsurface hazardous materials present. Thus, the amount of soil disturbance would be reduced, but the controls on its performance would not be as thorough as under the Proposed Action. In addition, the continued use of the waterfront buildings for warehouse and storage uses in the No-Action Alternative could lead to possible opportunities for potential exposure to petroleum and non-petroleum compounds. Legal requirements pertaining to petroleum tank maintenance, spill reporting, worker exposure to chemicals, etc., would be followed under the No-Action Alternative.

Water and Sewer Infrastructure

As with the Proposed Action, the No-Action Alternative would not result in significant adverse impacts to the City's water supply, wastewater and stormwater conveyance, and treatment infrastructure. However, absent the proposed project, no new stormwater outfalls, storm sewers, or sanitary sewers would be constructed on or adjacent to the project site and a new amended drainage plan (ADP) would not be developed absent the Proposed Action's City map amendment.

As described in Chapter 11, "Water and Sewer Infrastructure," under the No-Action Alternative, anticipated growth in the vicinity of Queens CD 1 and as-of-right development that would occur on the project site would result in additional demand for water, wastewater production, and stormwater runoff. Water consumption on the project site would increase by approximately 50 percent over existing conditions. Given the resultant level of consumption (a net increment of less than 0.04 million gallons per day [mgd]), incremental demand would not be large enough to significantly affect the ability of the City's water system to deliver water in the No-Action Alternative. As additional sanitary discharges would be well within the 40 mgd average available capacity of the Bowery Bay Water Pollution Control Plant (WPCP), the facility would continue to operate within its design capacity under the No-Action Alternative. Furthermore, assuming that the area of impermeable surface within the project site would only undergo changes on the upland parcels, and since there would only be small increases in sanitary flow to the combined sewer resulting from increased detention measures, it is anticipated that no significant change in the frequency or duration of combined sewer overflow (CSO) events would occur under the No-Action Alternative, as compared to existing conditions.

Transportation

Under the No-Action Alternative, the as-of-right residential development on the upland parcels would result in minor increases in area traffic volumes. However, known and anticipated development in the surrounding area would substantially increase traffic congestion in the area. As described in Chapter 13, "Transportation," in the No-Action Alternative (assuming the Halletts Point development is complete and all associated traffic mitigation measures identified in the 2013 *Halletts Point Rezoning FEIS* have been implemented), many of the study area intersection movements that are congested under existing conditions would continue to operate at the same level of service with slight increases in v/c ratios and delays at some intersections, due to No-Action traffic anticipated in the traffic study area and slight improvements in the v/c ratios and delays at some intersections, as a result of mitigation measures proposed as part of the 2013 *Halletts Point Rezoning FEIS* and/or the 2012 *Cornell NYC Tech FEIS*.

As under With-Action conditions, transit ridership is expected to increase under the No-Action Alternative, due largely to the development of Halletts Point. At the 30th Avenue (N and Q line) Station, the southwest platform stair would deteriorate to LOS D during the weekday AM peak hour, with a v/c ratio of 1.05. During the AM peak hour, the Manhattan-bound N and Q lines would operate near capacity, with v/c ratios of 0.97 and 0.99, respectively. It is further anticipated that service adjustments to the Q103 bus route would need to be implemented to meet the increased bus demand under the No-Action Alternative.

Neither the No-Action Alternative nor the Proposed Action would result in significant adverse parking or pedestrian impacts.

Air Quality

Based on the mobile source analysis presented in Chapter 14, "Air Quality," the No-Action Alternative traffic would not result in CO, PM_{10}, or $PM_{2.5}$ concentrations in exceedance of the United States

Environmental Protection Agency's (EPA's) National Ambient Air Quality Standards (NAAQS). In addition, the No-Action Alternative would result in lesser incremental emissions from new heating, ventilation, and air conditioning (HVAC) systems, and new HVAC systems would be limited to the No-Action Alternative's two four-story residential buildings anticipated on the upland parcels. Unlike development under the Proposed Action, as an air quality (E) designation would not be assigned to the project site under the No-Action Alternative, the new residential development in the No-Action Alternative would not be required to use natural gas for all new HVAC systems.

Greenhouse Gas Emissions and Climate Change

As the No-Action Alternative would result in significantly less development on the project site, the increase in energy use, fuel consumption, and vehicle trips compared to existing conditions would be lower. Therefore, the associated increase in greenhouse gas (GHG) emissions under the No-Action Alternative would be less than with the proposed project. However, absent the proposed commercial overlay, the No-Action Alternative would result in residential development that would not address the City's greenhouse gas reduction goal of incorporating mixed-use design. Neither the Proposed Action, nor the No-Action Alternative would result in significant adverse GHG emission or climate change impacts.

Noise

Under the No-Action Alternative, changes to area noise levels would occur as a result of the as-of-right residential development and associated incremental traffic, general increase in background traffic volumes by 2023, and traffic rerouting with the extension of 26th Avenue west of 9th Street. The highest increase in noise levels under the No-Action Alternative (2.9 dBA) is expected at the intersection of 27th Avenue and 9th Street due to incremental vehicle volumes along 27th Avenue generated by anticipated No-Action development. In comparison, under the Proposed Action, the highest increase would occur along 26th Avenue, adjacent to the project site. In addition, as the proposed school would not be developed under the No-Action Alternative, the increased noise levels associated with the school's potential rear yard playground would not occur. As under the Proposed Action, no significant adverse noise impact would occur under the No-Action Alternative.

In terms of CEQR noise exposure guidelines, noise levels at Receptor Location 3 would remain "marginally unacceptable," and noise levels at Receptor Locations 2 and 5 would remain "acceptable," as under existing conditions. Noise levels at Receptor Location 1 would change from "acceptable" to "marginally acceptable." Noise levels at Receptor Location 4 change from "marginally acceptable" to "marginally unacceptable," and noise levels at Receptor Location 6 would fall within the "marginally unacceptable" category.

Neighborhood Character

Like the Proposed Action, the No-Action Alternative would not result in any significant adverse impacts to neighborhood character. However, the No-Action Alternative would not result in enlivening the waterfront lot with new mixed-use buildings with active ground floor uses, nor would it add new publicly accessible open space. The benefits to neighborhood character that would result from development on the project site would be limited to the 166 new residential units on the upland parcel; the existing industrial uses on the waterfront parcel would remain in the No-Action Alternative. As such, the benefits to neighborhood character under the No-Action Alternative would be significantly less than those realized under the Proposed Action.

Construction

As described in Chapter 19, "Construction Impacts," the Proposed Action would result in significant adverse construction-related transportation impacts. Under the No-Action Alternative, construction on the project site would be limited to the construction of 166 residential units on the upland parcel and paving/improving portions of 8th Street and/or 26th Avenue in accordance with DOB building frontage requirements. As the No-Action Alternative would involve less new construction, the duration of construction would be shorter. During active periods of construction the effects would be similar to those of other low- to mid-rise residential construction projects in the City. As such, any associated construction-related noise and traffic impacts would be limited in duration, and would therefore not be considered significant. However, as no (E) designations would be mapped on the project site under the No-Action Alternative, the controls on construction performance involving soil disturbance on the project site would not be as thorough as under the Proposed Action, and thus could potentially increase pathways for human exposure to any subsurface hazardous materials present. The restriction to use Tier 3 or higher construction equipment would not occur under the No-Action Alternative. In addition, absent implementation of the Phase 1B archaeological testing that would be mandated for the proposed project through the Restrictive Declaration to be recorded, potentially archaeologically significant resources could be damaged during as-of-right construction on the upland parcels.

Public Health

Neither the Proposed Action nor the No-Action Alternative would result in significant adverse public health impacts. As described above, the No-Action Alternative would not have the potential for unmitigated significant adverse impacts in any of the technical areas related to public health.

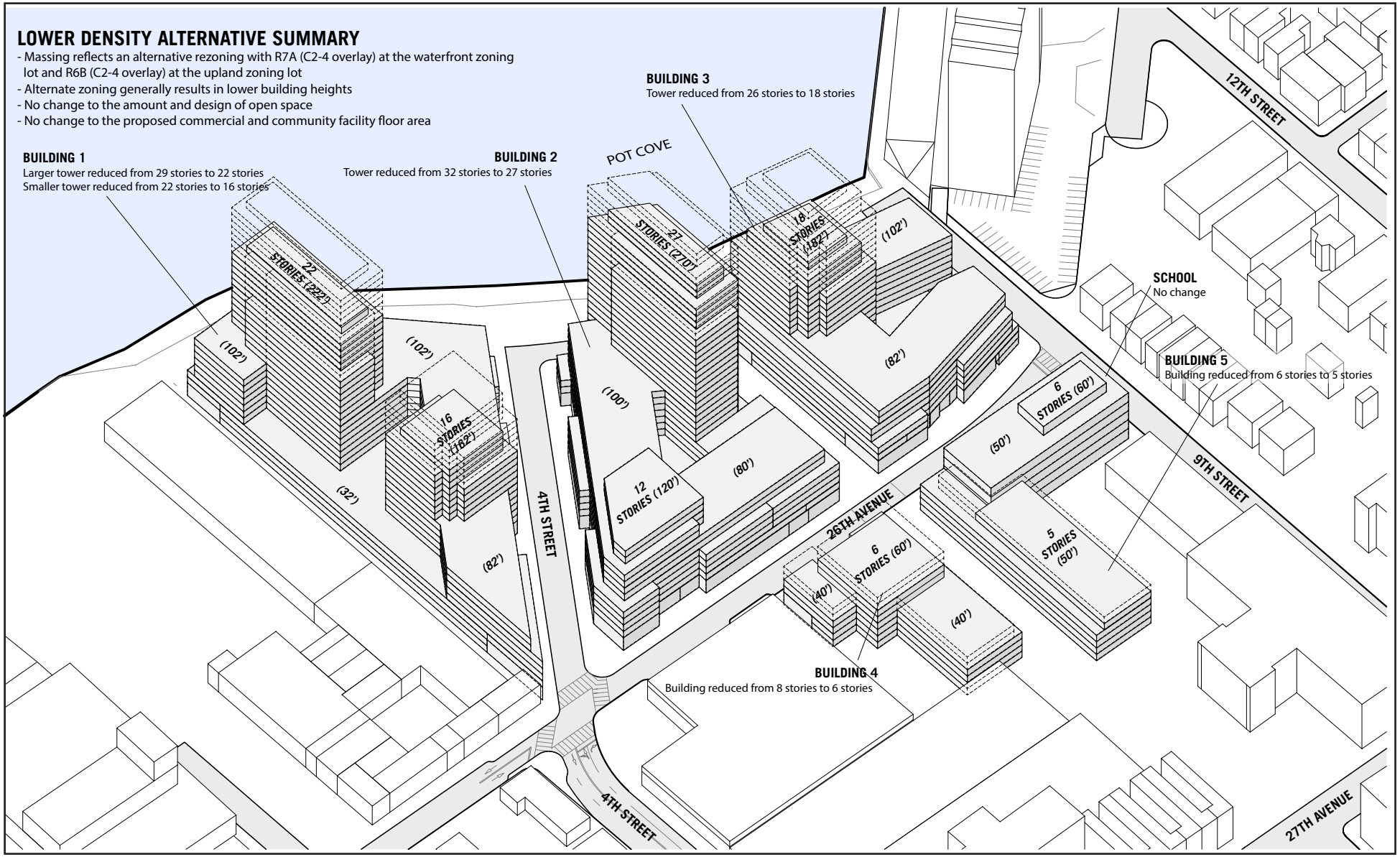
D. LOWER DENSITY ALTERNATIVE

Description of the Lower Density Alternative

A Lower Density Alternative to the Proposed Action was developed to determine whether the impacts to community facilities, active open space, traffic, transit, and/or construction traffic could be reduced or eliminated while accomplishing the purpose and need established for the Proposed Action. Under the Lower Density Alternative, the waterfront parcels would be rezoned from M1-1 to R7A/C2-4 (compared to R7-3/C2-4 under the Proposed Action) and the upland parcels would be rezoned from R6 to R6B/C2-4 (compared to R7A/C2-4 and R6B under the Proposed Action). Table 21-1 provides a comparison of the upland and waterfront zoning districts as currently proposed under the Proposed Action, and those analyzed under the Lower Density Alternative.

As shown in Table 21-2, the Lower Density Alternative would result in 267 fewer residential units (including 33 fewer affordable DU) and 167 fewer accessory parking spaces; the same amount of commercial and community facility floor area and open space would be developed under both alternatives. An illustrative massing of the Lower Density Alternative is provided in Figure 21-1.

As shown in Figure 21-1, it is anticipated that under the Lower Density Alternative the site plan, proposed base heights, and proposed setbacks would not change; the Lower Density Alternative would result in slight reductions in the maximum building heights. Building 1's two towers would rise to 22 and 16 stories (222 feet and 162 feet, respectively), Building 2's tower would rise to 27 stories (270 feet); Building 3's tower would rise to 18 stories (182 feet); Building 4 would rise to 6 stories (60 feet); and the residential portion of Building 5 would have a maximum height of five stories (50 feet).



Source: Studio V

Astoria Cove

Figure 21-1

Lower Density Alternative - Illustrative Massing

Table 21-1: Zoning District Comparison – Proposed Action vs. Lower Density Alternative

Parcel	Proposed Action				Lower Density Alternative			
	Zoning District(s)	Max. FAR	Streetwall Base Height	Max. Building Height	Zoning District(s)	Max. FAR	Streetwall Base Height	Max. Building Height
Waterfront	R7-3/C2-4	R: 3.0 (5.0 with IH) CF: 3.0 C: 2.0	40 ft. min. 65 ft. max.	185 ft.	R7A/C2-4	R: 4.0 (4.6 with IH) CF: 4.0 C: 2.0	40 ft. min 65 ft. max	80 ft.
Upland	R7A/C2-4	R: 4.0 CF: 4.0 C: 2.0	40 ft. min. 65 ft. max.	80 ft.	R6B/C2-4	R: 2.0 CF: 2.0 C: 2.0	30 ft. min 40 ft. max	50 ft.
	R6B	R: 2.0 CF: 2.0 C: 2.0	30 ft. min. 40 ft. max.	50 ft.				

Notes: R = Residential, CF = Community Facility, C = Commercial

Table 21-2: Lower Density Alternative Compared to the Proposed Action

Use	Proposed Action	Lower Density Alternative	Difference
Total Residential Units	1,689	1,422	-267
Market-Rate Units	*1,394*	*1,160*	*-234*
Affordable Units	*295*	*262*	*-33*
Commercial gsf	109,470	109,470	0
Community Facility gsf (Elementary School)	62,248	62,248	0
Accessory Parking Spaces	900	733	-167
Open Space sf	83,846 (1.92 acres)	83,846 (1.92 acres)	0

Lower Density Alternative Compared with the Proposed Action

The effects of the Lower Density Alternative in comparison to those of the Proposed Action are summarized below. As outlined below, the Lower Density Alternative would still result in significant adverse impacts on community facilities, active open space, transportation, and construction traffic. These impacts could be mitigated using the same mitigation measures identified for the Proposed Action, with slightly lesser mitigation needed to mitigate the child care and transportation impacts.

According to the Applicant, the Lower Density Alternative would not be compatible with the goals of the Proposed Action. While this alternative would provide some affordable housing, there would be less than under the Proposed Action. As such, the Lower Density Alternative would contribute less to the goal of the Proposed Action of introducing much-needed affordable housing units on the project site. In addition, the Lower Density Alternative would result in the construction of approximately 18 percent fewer residential units than under the Proposed Action and, therefore, would be less supportive of the proposed project's and the City's goals to create more housing for the City's growing population.

Land Use, Zoning, and Public Policy

As under the Proposed Action, the Lower Density Alternative would introduce a mix of residential, commercial, community facility (elementary school), and open space uses on the project site. Compared to the Proposed Action, the Lower Density Alternative would include 267 fewer residential units (including 33 fewer affordable DU) and 167 fewer accessory parking spaces. Neither the Lower Density nor the Proposed Action would result in significant adverse land use impacts. In addition, both alternatives would involve the same discretionary actions. However, the Lower Density would rezone the waterfront parcels to R7A/C2-4 (compared to R7-3/C2-4 under the Proposed Action) and the upland

parcels to R6B/C2-4 (compared to R7A/C2-4 and R6B under the Proposed Action). Both alternatives would extend residential zoning with similar districts onto the 377,726 sf project site and, therefore, would not represent a significant adverse zoning impact.

However, the Lower Density Alternative would be less supportive of applicable public policies, as compared to the Proposed Action. Because this alternative would result in fewer residential units, including fewer affordable units, it would be less supporting of the Housing New York affordable housing goals and the PlaNYC goal of creating enough housing for almost a million more people by 2030.

Socioeconomic Conditions

The Lower Density Alternative would result in less development than under the Proposed Action. Like the Proposed Action, the Lower Density Alternative would not result in impacts related to either direct or indirect displacement of residences of businesses, nor would it result in impacts on specific industries. However, the Lower Density Alternative would result in the construction of fewer affordable units and therefore would be less supportive of the project's goal of creating new opportunities for affordable housing development.

Community Facilities

The Lower Density Alternative would result in less demand on area community services than development under the Proposed Action. With 267 fewer DU, the Lower Density Alternative would introduce 107 fewer elementary and intermediate school students and 37 fewer high school students. As with the Proposed Action, the Lower Density Alternative would include construction of a 456-seat elementary (PK-5) school on the upland parcel, and no significant adverse public school impacts would result in the 2023 Build Year. Similar to the Proposed Action, a temporary significant adverse elementary school impact could occur in 2022, prior to the Building 5 school's completion.

With 33 fewer affordable units, the Lower Density Alternative would decrease the number of anticipated publicly funded child care-eligible children generated on the project site by four, thereby reducing future 2023 child care enrollment to 331 (158 percent utilization). Like the proposed project, this would represent an increase of more than five percentage points over the No-Action condition and would therefore result in a significant adverse impact on study area child care facilities. As the increase in the publicly funded child care center utilization rate from No-Action conditions, would be less than the incremental increase anticipated under the Proposed Action, slightly lesser mitigation measures would be needed to fully mitigate the significant adverse impact.

Neither the Lower Density Alternative nor the Proposed Action would result in significant adverse impacts on libraries or police, fire, or healthcare services.

Open Space

With 267 fewer residential units, the Lower Density Alternative would result in a reduction in the project site's residential population (open space users) by approximately 625. Under the Lower Density Alternative, the total, active, and passive open space ratios would be slightly higher than under the Proposed Action and would represent decreases of 7.9, 9.3, and 7.0 percent from the No-Action open space ratios, respectively. As under the Proposed Action, the total and passive open space ratios would continue to be higher than the City's optimal planning goals. However, as under the Proposed Action, the future active open space ratio would be less than the City's optimal planning goal of 2.0 acres of active

open space per 1,000 residents. As such, significant adverse active open space impacts would occur under both the Proposed Action and the Lower Density Alternative.

Shadows

As indicated in Figure 21-1, the project site buildings that would be constructed under the Lower Density Alternative would be lower in height than those to be developed under the Proposed Action. Specifically, on the waterfront parcels the Building 1 towers would be reduced from 29 and 22 stories to 22 and 16 stories, respectively; the Building 2 tower would be reduced from 32 to 27 stories; and the Building 3 tower would be reduced from 26 to 18 stories. On the upland parcels, Building 5 would be reduced from a maximum height of eight stories to six stories, and the residential portion of Building 5 would be reduced from six stories to five stories. As such, the maximum shadow length from the project site buildings would be lower than under the Proposed Action. Like the Proposed Action, the Lower Density Alternative would not result in significant adverse shadow impacts on area sunlight-sensitive resources.

Historic and Cultural Resources

Both the Lower Density Alternative and the Proposed Action would result in development and in-ground excavation on areas identified as potentially sensitive for archaeological resources. However, with implementation of the Phase 1B Archaeological Field Testing and Mitigation (Phase 1B Work Plan), neither alternative would result in significant adverse impacts to archaeological resources, if present on the project site.

The Lower Density Alternative, like the Proposed Action, would have no adverse impact on architectural resources as there are no architectural resources located on the project site or in the study area.

Urban Design and Visual Resources

Both the Lower Density Alternative and the Proposed Action would result in significant changes to the pedestrian realm, including the construction of new mixed-use buildings and roadways, reactivation of the streetscape with ground floor retail, improvements to existing roadways and sidewalks, and the creation of new waterfront open space. Compared to the Proposed Action, the Lower Density Alternative would map contextual residential zoning districts with commercial overlays on both the upland and waterfront parcels. As such, the resultant buildings constructed under the Lower Density Alternative would be lower in height than currently proposed. However, as discussed in Chapter 8, "Urban Design and Visual Resources," the taller buildings constructed under the Proposed Action would be consistent with existing and planned development in the surrounding area.

Natural Resources

The Lower Density Alternative, like the Proposed Action, would not result in significant adverse impacts to natural resources, including groundwater, floodplains, vegetation, wildlife, threatened and endangered species, and littoral zone tidal wetlands and aquatic resources of the East River. It is anticipated that the Lower Density Alternative would result in minor reductions in the project site buildings' bulk and would result in minimal tree removal. New stormwater outfalls would be constructed at the northern termini of 4th and 9th Streets under both the Lower Density Alternative and the Proposed Action and would not result in the loss of tidal wetland or disturbance to the river bottom.

Hazardous Materials

Development under the Proposed Action and the Lower Density Alternative would not result in significant adverse hazardous materials impacts with implementation of the measures outlined in Chapter 10, "Hazardous Materials."

Water and Sewer Infrastructure

Neither the Proposed Action nor the Lower Density Alternative would result in a significant adverse impact to the City's water supply or sanitary sewage systems. It is assumed that new stormwater outfalls would be constructed at the northern termini of 4th and 9th Streets, new storm sewers would be constructed along portions of 4th and 9th Streets and 26th Avenue, and new sanitary sewers would be constructed along portions of 4th Street and 26th Avenue to accommodate development of the project site, as under the Proposed Action.

With a reduction of 267 residential units (an estimated 625 residents), the Lower Density Alternative would result in approximately 62,478 gallons per day (gpd) less domestic water demand, as compared to the proposed project. Similar to the development facilitated by the Proposed Action, the Lower Density Alternative would not result in a significant increase in water demand over the No-Action condition.

Transportation

Based on the trip generation assumptions detailed in Chapter 13, "Transportation," the Lower Density Alternative would generate 2,018, 3,174, and 2,822 incremental person trips and 469, 335, and 568 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively (see Tables 21-3 and 21-4).[3] In comparison, under the reasonable worst-case traffic scenario, the proposed project would generate 2,216, 3,272, and 3,040 incremental person trips and 534, 365, and 633 incremental vehicle trips in the weekday AM, midday, and PM peak hours. As shown in Tables 21-3 and 21-4, the Lower Density Alternative would generate between 98 and 218 fewer peak hour person trips and between 30 and 65 fewer peak hour vehicle trips. This would represent a three to nine percent decrease in project-generated person trips and an eight to twelve percent decrease in project-generated vehicle trips.

Weekday Traffic

Detailed LOS tables for the Lower Density Alternative are provided in Appendix I. As outlined in Appendix I, the Lower Density Alternative is expected to result in the same number of significantly adversely impacted intersections in the weekday AM, midday, and PM peak hours as under the Proposed Action: 21, nine, and 17 intersections, respectively. However, ones of the identified impacted intersections that could be partially mitigated or that would remain unmitigated under the Proposed Action could be mitigated under the Lower Density Alternative (see Appendix I). Specifically, in the weekday AM peak hour, the intersections of 27th Avenue/12th Street and Astoria Boulevard/31st Street could be fully mitigated by implementing the same mitigation measures proposed to partially mitigate the impacts resulting from the Proposed Action (refer to Chapter 20, "Mitigation"); and the intersection of Hoyt Avenue South/Astoria Park South and 21st Street (which would be unmitigated under the Proposed Action) could be partially mitigated by implementing signal timing modifications. As under the Proposed Action, the impacts at 27th Avenue and 12th Street would remain unmitigated in the PM peak hour. In the weekday midday peak hour, the intersection of Vernon Boulevard and Welling Court/8th Street could be fully mitigated through implementation of the same mitigation measure proposed to partially mitigate the impact resulting from the Proposed Action; as under the Proposed Action, this intersection would only be

[3] Travel demand factor and trip generation tables for the Lower Density Alternative are provided in Appendix I.

partially mitigated in the AM and PM peak hours (refer to Chapter 20). In the weekday PM peak hour, the intersection of Astoria Boulevard and 8th Street could be fully mitigated through implementation of the same mitigation measures proposed to partially mitigate the impact resulting from the Proposed Action (refer to Chapter 20). Table 21-5, below, summarizes the potential significant adverse traffic impacts under the Lower Density Alternative based on the detailed LOS tables provided in Appendix I and identifies whether the identified impacts could be fully or partially mitigated with the implementation of traffic improvement measures.

Table 21-3: Comparison of Weekday Peak Hour Incremental Person Trips by Mode—Proposed Action vs. Lower Density Alternative

	Auto		Taxi		Subway		Bus		School Bus		Walk/Other		Total		
Scenario	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**Total**
AM															
Proposed Action	181	362	7	11	154	551	29	48	20	0	588	265	979	1,237	2,216
Lower Density Alternative	168	310	7	10	132	463	28	43	20	0	584	253	939	1,079	2,018
Difference	***-13***	***-52***	***0***	***-1***	***-22***	***-88***	***-1***	***-5***	***0***	***0***	***-4***	***-12***	***-40***	***-158***	***-198***
Midday															
Proposed Action	190	190	39	39	242	242	90	90	0	0	1,075	1,075	1,636	1,636	3,272
Lower Density Alternative	174	174	38	38	215	215	88	88	0	0	1,072	1,072	1,587	1,587	3,174
Difference	***-16***	***-16***	***-1***	***-1***	***-27***	***-27***	***-2***	***-2***	***0***	***0***	***-3***	***-3***	***-49***	***-49***	***-98***
PM															
Proposed Action	409	293	24	22	519	304	72	63	0	0	663	671	1,687	1,353	3,040
Lower Density Alternative	363	269	24	22	441	261	67	60	0	0	651	664	1,546	1,276	2,822
Difference	***-46***	***-24***	***0***	***0***	***-78***	***-43***	***-5***	***-3***	***0***	***0***	***-12***	***-7***	***-141***	***-77***	***-218***

Table 21-4: Comparison of Weekday Peak Hour Incremental Vehicle Trips by Mode—Proposed Action vs. Lower Density Alternative

	Auto		Taxi (Balanced)		Shuttle/ School Bus		Truck		Total		
	In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**Total**
AM											
Proposed Action	139	333	11	11	14	14	5	7	169	365	534
Lower Density Alternative	127	286	10	10	12	12	5	7	154	315	469
Difference	***-12***	***-47***	***-1***	***-1***	***-2***	***-2***	***0***	***0***	***-15***	***-50***	***-65***
Midday											
Proposed Action	141	137	40	40	0	-1	4	4	185	180	365
Lower Density Alternative	127	123	40	40	0	-1	3	3	170	165	335
Difference	***-14***	***-14***	***0***	***0***	***0***	***0***	***0***	***0***	***-15***	***-15***	***-30***
PM											
Proposed Action	342	225	24	24	7	10	0	1	373	260	633
Lower Density Alternative	301	203	24	24	6	9	0	1	331	237	568
Difference	***-41***	***-22***	***0***	***0***	***-1***	***-1***	***0***	***0***	***-42***	***-23***	***-65***

Table 21-5: Weekday Traffic Impact and Mitigation Summary—Lower Density Alternative vs. Proposed Action

Intersections	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
	Proposed Action	Lower Density Alternative	Proposed Action	Lower Density Alternative	Proposed Action	Lower Density Alternative
No significant impact	9	9	21	21	13	13
Impact could be fully mitigated	8	10	8	9	9	10
Impact could be partially mitigated	10	9	1	0	5	4
Unmitigated impact	3	2	0	0	3	3

The overall finding of the weekday traffic mitigation analysis for the Lower Density Alternative is that 17 of the 30 intersections would either not experience significant impacts or could be fully mitigated with readily implementable traffic improvement measures, including installing traffic signals at currently unsignalized intersections, signal timing changes, parking regulation changes to gain a travel lane at key intersections, and lane restriping. In comparison, under the Proposed Action, 14 of the 30 intersections would either not experience significant adverse impacts or could be fully mitigated.

Transit

Both the Proposed Action and the Lower Density Alternative would result in significant adverse subway station impacts. Specifically, impacts are anticipated at the 30th Avenue (N and Q line) Station's southbound fare array during the AM peak hour and at the station's northwest street stair during the PM peak hour. The same mitigation measures proposed to mitigate these impacts under the Proposed Action would similarly mitigate the impacts that would occur under the Lower Density Alternative.

Under both the Proposed Action and the Lower Density Alternative, the Q103 bus route would experience significant adverse bus line haul impacts. As the Lower Density Alternative would result in a reduction of approximately seven to 15 percent in project-generated peak hour bus trips (bus-only and subway-bus transfer trips) on the Q103 bus route, these impacts would require mitigation of a lesser magnitude compared to the Proposed Action. To meet projected demand, the Lower Density Alternative would require the addition of two buses along the northbound route in the weekday PM peak hour; and two and one bus(es) along the southbound route in the weekday AM and PM peak hours, respectively. This compares to the service additions proposed as mitigation for the Proposed Action of three buses along the northbound route in the weekday PM peak hour; and three and two buses along the southbound route in the weekday AM and PM peak hours, respectively.

Pedestrians

Neither the Proposed Action nor the Lower Density Alternative would result in significant adverse impacts to area sidewalks, crosswalks, or corner areas. As the Lower Density Alternative would result in a reduction of approximately two to eight percent in project-generated walk trips (walk-only and walk trips to and from area subway stations and bus stops), pedestrian elements within the study area would experience future levels of service slightly better than levels projected under the Proposed Action.

Parking

The Lower Density Alternative would result in a reduction in parking demand and a reduction in the number of accessory off-street parking spaces, as compared to the Proposed Action. Under the Lower Density Alternative, the maximum parking demand (828) would occur between 8 and 9 PM and overnight parking demand would be approximately 806 (refer to parking accumulation tables in Appendix I). As such with the 733 accessory parking spaces that would be developed under the Lower Density Alternative, the maximum parking shortfall would be 95 spaces during the parking demand peak hour, 28 percent greater than the shortfall anticipated under the Proposed Action (74). As under the Proposed Action, the anticipated maximum parking shortfall could be accommodated by on-street parking available in the surrounding area (up to a ten-minute walk from the project site). Under the Lower Density Alternative, approximately 98 percent of the area parking spaces would occupied under future conditions, as compared to 98.9 percent occupancy under the Proposed Action (refer to parking utilization tables in Appendix I).

Saturday Traffic

As under the Proposed Action, the Lower Density Alternative is expected to result in significant adverse impacts at seven study area intersections, three of which could be fully mitigated, three of which could be partially mitigated, and one of which would be unmitigated. Table 21-6, below, summarizes the potential significant adverse traffic impacts under the Lower Density Alternative and identifies whether the identified impacts could be fully or partially mitigated with the implementation of traffic improvement measures.

Table 21-6: Saturday Traffic Impact and Mitigation Summary—Lower Density Alternative vs. Proposed Action

	Proposed Action	Lower Density Alternative
No significant impact	6	6
Impact could be fully mitigated	3	3
Impact could be partially mitigated	3	3
Unmitigated impact	1	1

This table is new to the FEIS.

Saturday Parking

Under the Lower Density Alternative, the maximum Saturday parking demand (864) would occur between 5 and 6 PM and overnight parking demand would be approximately 806. As such with the 733 accessory parking spaces that would be developed under the Lower Density Alternative, the maximum parking shortfall would be 131 spaces during the parking demand peak hour, 25 percent greater than the shortfall anticipated under the Proposed Action (105). As under the Proposed Action, the anticipated maximum parking shortfall could be accommodated by on-street parking available in the surrounding area (up to a ten-minute walk from the project site). However, parking capacity in the area would be closer to capacity under the Lower Density Alternative, with approximately 96.4 percent of the area parking spaces occupied under future conditions, as compared to 96.0 percent occupancy under the Proposed Action (refer to parking utilization tables in Appendix I).

Air Quality

The Lower Density Alternative would generate approximately eight to twelve percent fewer vehicular trips than the Proposed Action. Consequently, the Lower Density Alternative would result in lower mobile source pollutant concentrations than the Proposed Action. As such, similar to the Proposed

Action, no significant adverse mobile source air quality impacts would result. In addition, as the Lower Density Alternative would include fewer parking spaces, vehicle emissions within the parking garages would be slightly lower.

As with the Proposed Action, no potential significant adverse stationary air quality impacts from the project site buildings are anticipated with the Lower Density Alternative. Like the Proposed Action, the Lower Density Alternative would create new sources of stationary source emissions. An air quality (E) designation would be assigned to the project site under both the Proposed Action and this alternative and would be require the use of natural gas for heating and hot water systems; the proposed stack location restrictions for Building 3 would need to be modified under this alternative.

While, unlike under the Proposed Action, Buildings 1 and 3 (reduced to 222 feet and 182 feet, respectively) would be shorter than the adjacent Shore Towers, and Building 4 (at 60 feet) would be shorter than the existing residential building at 8-15 27th Avenue in the Lower Density Alternative, based on the stationary source air quality analysis nomograph screen included in the *CEQR Technical Manual Appendix*, further analysis is unwarranted, and no significant adverse stationary source air quality impacts on these existing buildings would occur under the Lower Density Alternative.

Greenhouse Gas Emissions and Climate Change

Both the Proposed Action and the Lower Density Alternative would be consistent with the City's greenhouse gas reduction goals. However, due to the reduction in total residential floor area under the Lower Density Alternative as well as the small reduction in associated vehicle trips, greenhouse gas emissions would be slightly lower than under the Proposed Action. Buildings associated with the Proposed Action and the Lower Density Alternative, as a dense mixed-use development, would advance New York City's greenhouse gas reduction goals as outlined in PlaNYC. In addition, both alternatives would be subject to changes in the New York City Building Code that are currently being considered to require greater energy efficiency. As under the Proposed Action, buildings on the waterfront parcel be constructed to meet the standards of the New York City Building Code and the Best Available Flood Hazard Data available from FEMA at the time of their construction. As such, neither the Proposed Action nor the Lower Density Alternative would result in significant adverse greenhouse gas emission or climate change impacts.

Noise

As described above, the Lower Density Alternative would result in an eight to twelve percent decrease in project-generated vehicle trips, as compared to the Propose Action, and therefore would result in slightly lower incremental mobile source noise emissions. In addition, the Lower Density Alternative would include a site for a 456-seat elementary school, which could be located in the rear yard of the Building 5 school site. Noise generated by the potential playground under the Lower Density Alternative would be same as under the Proposed Action. As such, as under the Proposed Action, the Lower Density Alternative would not result in any significant adverse noise impacts.

Neighborhood Character

Like the Proposed Action, the Lower Density Alternative would result in substantial changes to the project site; neither alternative would result in significant adverse impacts on neighborhood character in the area. Both alternatives would improve the neighborhood character of the area by replacing industrial buildings and largely underutilized lots with new mixed-use buildings with active ground floor uses, publicly accessible open space, and improved access to the waterfront and circulation on the project site.

Construction

While the Lower Density Alternative is somewhat smaller in overall density and size, it would require essentially the same construction process and phasing as anticipated under the Proposed Action. Since the buildings would be smaller and would be developed over the same construction schedule, there could be a modest reduction in the amount of materials and construction workers associated with building the Lower Density Alternative. This could slightly reduce the duration and total level of activity. These reductions would not materially affect the construction-related analysis assumptions and conclusions. Therefore, while the overall construction duration could be shorter, the Lower Density Alternative could result in significant adverse traffic impacts at similar locations and of a similar magnitude to the proposed project (see Chapter 19, "Construction").

Like the Proposed Action, there would be no significant adverse construction impacts with respect to land use and neighborhood character, socioeconomic conditions, community facilities, open space, natural resources, hazardous materials, air quality, or noise.

Public Health

Neither the Proposed Action nor the Lower Density Alternative would result in significant adverse public health impacts. As described above, the Lower Density Alternative would not have the potential for unmitigated significant adverse impacts in any of the technical areas related to public health.

E. FERRY ALTERNATIVE

Description of the Ferry Alternative

The Ferry Alternative analyzes the provision of a ferry dock on the upland parcel and the establishment of a ferry route to the project site that would serve the proposed project's residents and workers, as well as the greater Astoria neighborhood. While the provision of ferry service at the project site is being considered at this time, it should be noted that this would be contingent upon City funding to extend ferry service to this area and would be a discretionary action subject to City approval.

East River Ferry Background

In 2010, the New York City Economic Development Corporation (NYCEDC) completed the *Comprehensive Citywide Ferry Study* (CFS2010), which provided a road map for the successful operation of ferries in New York City. The CFS2010 identified numerous factors as essential to successful ferry operation including frequent service, connections to the Midtown and Downtown Central Business Districts (CBDs), connections to other transit modes, rider comfort, and convenience of use. The CFS2010 also identified potential ferry routes with the highest likelihood of success based on projected ridership levels and the amount of public subsidy that would be required. Using the results of the CFS2010, the NYCEDC launched a three-year pilot program in 2011 to provide East River Ferry services through a competitively procured operator.

On December 13th, 2013, the NYCEDC announced that the East River Ferry, originally scheduled to terminate in June of 2014, would continue to provide service until at least 2019—a five-year extension. The pilot service will continue to provide service along the Manhattan, Brooklyn, and Queens waterfront seven days a week throughout the year. All service frequency, with the exception of winter weekends, will continue its present operation. On weekdays, 149-passenger vessels operate from approximately 6:45 AM until 8:45 PM in both directions, with three boats servicing each landing every twenty minutes during

peak hours. On weekends during the summer, three 399-passenger vessels operate every 45 minutes from approximately 9:35 AM until 9:30 PM.

In addition, December 2013 marked the release of two additional planning tools for ferry service expansion: a Preliminary Report for the updated NYCEDC CFS2013 and a second report, *Ferry Policy and Planning in New York City: Considerations for a Five-Borough Ferry System*, which provides best practices and lessons learned from implementing ferry services within the five boroughs. The CFS2013 Preliminary Report modeled six potential ferry routes for 2013 and 2018. Two of the modeled routes (Routes 2 and 2B) included a ferry stop in Astoria: the modeled Route 2 would make stops at Astoria, Roosevelt Island, Long Island City North, and East 34th Street; and Route 2B would also stop at Pier 11. Route 2B was selected as a feasible potential future ferry route, with an overall capture rate of ten to 16 percent, dependent on the cost of the ferry commute.

With a per-ride cost of $2.75 and 20-minute headways, the CFS2013 Preliminary Report estimated that in 2018, approximately 21 percent of the estimated 427 Astoria residents[4] who work in midtown Manhattan would choose to commute via ferry (rather than subway), for an estimated 90 daily riders. Based on the same assumptions, an estimated 18 percent of the approximately 714 Astoria residents who work in downtown Manhattan would choose to commute via ferry (rather than subway), for an estimated 128 daily riders. With a higher ferry one-way trip cost, it is estimated that fewer commuters would choose to travel by ferry.

Analysis Framework

Provision of a ferry at Astoria Cove would require the approval of several discretionary actions that are not being sought as part of the Proposed Action: a zoning text amendment to allow for the extension of ferry service to Queens CD 1 as well as CPC certification to allow for ferry vessels. The Ferry Alternative would also require NYSDEC and USACE permits for the construction of a ferry dock and for operation of a ferry at this location. In addition, the operation of a ferry at Astoria Cove would require public funding. While zoning certifications are not considered discretionary actions requiring environmental review, zoning text amendments and the approval of public funding and required permits from the USACE and NYSDEC would be subject to a separate environmental review.

As currently contemplated, the ferry dock at the project site would be located at the northern terminus of 9th Street, and would be up to approximately 0.36 acres in size.[5] It is further assumed that the Ferry Alternative ferry route would follow the route proposed and modeled in the CFS2013 Preliminary Report, with service between Astoria Cove, Roosevelt Island, Long Island City North, East 34th Street, and Pier 11. Based on the CFS2013 and the terms of the NYCEDC's agreement with New York Waterway (the current operator), it is expected that the maximum vessel size would be a 399-passenger monohull boat, ferry service would operate with 20-minute headway frequency, and the hours of operation would be the same as under existing conditions (6:45 AM to 8:45 PM on weekdays and 9:35 AM to 9:30 PM on weekends).[6]

As under the Proposed Action, the Ferry Alternative would result in the development of approximately 1,689 dwelling units (approximately 1,689,416 gsf of residential floor area), of which 295 dwelling units would be affordable; approximately 109,470 gsf of local retail space, including an approximately 25,000 gsf supermarket; a site for an elementary school with approximately 456 seats (PK-5); and approximately

[4] Includes all residents who live within approximately 0.5 miles of the analyzed Astoria Cove ferry landing.
[5] Based on the India Street Pier in Greenpoint, Brooklyn.
[6] Since issuance of the DEIS, the City approved the NYCEDC application to operate 399-passenger monohull boats on weekdays. As such, the larger 399-passenger vessel is conservatively assumed in the Ferry Alternative analysis.

900 accessory parking spaces. For analysis purposes, it is assumed that up to approximately 0.36 acres of additional passive open space (comprised of the ferry pier) would be developed under this alternative, for a total of 2.28 acres of open space.

As the operation of a ferry at the project site would require a separate environmental review, a primarily qualitative analysis of the CEQR technical areas is provided below. However, as the introduction of a ferry at this location would affect the transportation planning factors for the proposed project, a preliminary quantitative transportation analysis is included.

Ferry Alternative Compared with the Proposed Action

The effects of the Ferry Alternative in comparison to those of the Proposed Action are summarized in the following. As outlined below, the Ferry Alternative would not alter the proposed project's building bulk or program, the community facilities, open space, transportation, and construction traffic impacts associated with the Proposed Action are similarly anticipated under the Ferry Alternative, and therefore, similar measures would mitigate these identified significant adverse impacts.

Land Use, Zoning, and Public Policy

The project site development program under the Ferry Alternative would be the same as under the Proposed Action. As under the Proposed Action, the Ferry Alternative would rezone the project site from M1-1 and R6 to R7-3/C2-4, R7A/C2-4, and R6B and require Special Permits and waterfront authorization and certifications. The Ferry Alternative would further require a zoning text amendment to extend ferry service to Queens CD 1, CPC certification to permit ferry vessels to dock at the project site, as well as public funding and permits from the NYSDEC and the USACE.

As under the Proposed Action, the Ferry Alternative would be consistent with, and support, existing public policies, including the New York City WRP, Housing New York, and PlaNYC. In addition to the provision of affordable housing, supporting and facilitating commercial and residential development in a waterfront area well-suited to such development, and increasing access to parks and open space, the Ferry Alternative would meet the aforementioned City policies' objectives of enhancing the blue network and expanding water-based transportation services. As such, as under the Proposed Action, the Ferry Alternative would not result in significant adverse impacts to area land use, zoning, and public policy.

Socioeconomic Conditions

Like the Proposed Action, the Ferry Alternative would not result in impacts related to either direct or indirect displacement of residences or businesses, nor would it result in impacts on specific industries.

Community Facilities

The Ferry Alternative would not result in a change in the total number of residential units or residents introduced on the project site, compared to the Proposed Action. Nor would the Ferry Alternative result in any direct impacts on area community facilities. As a result, the conclusions of Chapter 4, "Community Facilities," would be the same under the Ferry Alternative, and a significant adverse child care impact and a temporary significant adverse elementary school impact would result. The same measures outlined in Chapter 20, "Mitigation," for the Proposed Action would fully mitigate the significant adverse community facilities impacts under the Ferry Alternative.

Open Space

The Ferry Alternative would result in a slight increase in passive open space (up to approximately 0.36 acres) on the project site through the provision of a ferry dock, while generating additional on-site users and, therefore, potentially increasing open space demand. As no changes to the project site residential population and active open space acreage would occur under the Ferry Alternative, the Ferry Alternative would result in a residential active open space ratio of 0.96 acres per 1,000 residents, a decrease of 11.2 percent from the No-Action condition, as under the Proposed Action. Therefore, the Ferry Alternative is similarly expected to result in a significant adverse impact on active open space resources and the same mitigation measures outlined in Chapter 20, "Mitigation," would apply. With a potential increase in the total passive open space to 2.29 acres, the residential total and passive open space ratios would be 2.69 and 1.73 acres per 1,000 residents, respectively, and therefore would be above the City's optimal planning goals for open space acreage. As under the Proposed Action, no significant adverse impacts on total and passive open space would result.

Shadows

As noted above, the potential future ferry landing under the Ferry Alternative would require the approval of a number of discretionary actions, including a zoning text amendment, CPC certification, NYSDEC and USACE permits, and public funding. As a result, this alternative (if pursued) would be subject to a separate environmental review at a later date. While the Ferry Alternative would not result in the construction of any new buildings or structures greater than 50 feet in height other than those proposed under the Proposed Action, this alternative would entail the construction of a ferry dock that would cast shadows on the East River, a sunlight-sensitive natural resource. Therefore, an assessment of potential resulting shadow impacts would be required as part of the Ferry Alternative's future environmental review.

However, it should be noted that due to the East River's strong velocities, fish and other aquatic biota would move quickly through the shaded area created by the ferry pier under the Ferry Alternative. In terms of vessel-generated shadows, as the ferry vessels would not be permanently stationed at the pier, ample sunlight would be able to penetrate the water. Therefore, as under the Proposed Action, no significant adverse shadow impacts are anticipated under the Ferry Alternative.

Historic and Cultural Resources

The Ferry Alternative, like the proposed project, would not result in any significant adverse impacts to historic and cultural resources.

Urban Design and Visual Resources

The Ferry Alternative would alter the built environment with the construction of a docking facility, including passenger queuing shelters, ticketing machines, bike parking, and trash receptacles, along the Pot Cove waterfront in Astoria. As the ferry docking facility would be required to meet site design standards and would be subject to review by the CPC Chairperson, the physical alterations to the built environment associated with the Ferry Alternative would be consistent with New York City urban design standards. Any structures associated with the docking facility would be required to not unduly limit views from the waterfront public access area and to complement the waterfront public access area.

As the potential future ferry landing would require discretionary actions, a detailed analysis of potential significant adverse urban design impacts would be conducted in a separate environmental review at a later date, should the Ferry Alternative be pursued.

Natural Resources

The Ferry Alternative would include the construction of new marine structures and the operation and limited idling of ferry vessels in Pot Cove. As such, potential impacts on water quality and/or aquatic biota could result. Pile driving during construction of the ferry landing would likely result in short term increases in turbidity from the resuspension of bottom sediments. The increase in turbidity and suspended soils would be small and localized, only occurring at the locations below each of the dock's piles, and would dissipate in a manner of minutes after each pile driving is completed. While East River sediments have been found to contain contaminants at concentrations that may pose a risk to some benthic macroinvertebrates,[7] the East River's swift currents should dissipate these sediments such that redepositioning would not be expected to significantly adversely affect these aquatic biota.

The installation of new piles associated with the ferry landing would result in the loss of benthic habitat and benthic macroinvertebrates associated with these areas that are unable to move from the area of activity. However, the permanent loss of benthic macroinvertebrates within the piling footing would not significantly impact the food supply for fish foraging in the area. Additionally, the new piles would provide new sites for algae and sessile envertebrates, and some piles could provide suitable refuge for fish. The change from a mud-bottom to hard-surface habitat would represent a small and localized effect that would produce new habitat similar to the vast majority of shoreline habitat along the East River.

It is anticipated that spud piles places at the landing would have only negligible effects on water velocities and sedimentation rates. Sediment types in the area of the ferry landing would remain similar to that found throughout the Pot Cove portion of the East River. Some shifts in grain-size distribution may occur, causing a shift in benthos distribution. Such a microhabitat shift would only affect a very small area.

Operation of the ferry vessels could result in potential impacts on natural resources. The prop wash from deep-draft vessels can cause turbidity increases when such vessels enter relatively shallow water. Generally, two to three feet of clearance between the propeller of a vessel and the water bottom in necessary to prevent increased turbidity associated with boat operations. As most fish species that occur in the East River are transient and do not restrict their activities to localized areas for long periods of time, fish migrations or movements would likely not be impacted. In terms of vessel-generated overwater coverage, because ferry vessels would not be permanently stationed at the Astoria Cove ferry landing, there would be no increase in shading of aquatic habitat due to the introduction of new vessels.

As the potential future ferry landing would require discretionary actions, a detailed analysis of potential significant adverse impacts on natural resources would be conducted in a separate environmental review at a later date, should the Ferry Alternative be pursued.

Hazardous Materials

According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: (a) hazardous materials exist on a site and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials. As outlined in Chapter 11, "Hazardous Materials," several recognized environmental concerns (RECs) were identified on the project site. As such, any additional construction work associated with the Ferry Alternative could increase pathways to their exposure. As the potential future ferry landing under the Ferry Alternative would require discretionary approval and would involve construction on a site with identified RECs, an assessment of potential resulting hazardous materials impacts would be required as part of the Ferry Alternative's future environmental review.

[7] Bethnic macroibvertebrate are small animals that live at the bottom of streams, rivers, and lakes among the sediment and stones.

Water and Sewer Infrastructure

The Ferry Alternative would not generate any additional water demand, nor would it generate additional wastewater or stormwater, as compared to the Proposed Action. In addition, the operation of ferry vessels and the associated development of a ferry dock on the project site would not alter or interfere with any existing or proposed water and sewer infrastructure. As such, no significant adverse impacts to water and sewer infrastructure would occur.

Transportation

As stated in the CFS2013, earlier research on ferry use in New York City indicates that ferry service to midtown and downtown Manhattan draws overwhelmingly from existing transit, with ferry ridership declining with increases in fare, in-vessel time, wait time, and access time. As previously stated, based on these factors and potential 2023 ferry demand, the anticipated number of future commuters that would choose to travel via ferry rather than subway was determined for both on-site (Astoria Cove) and off-site (½-mile capture zone) residents.

According to the CFS2013, approximately 21 percent of Astoria residents who currently commute to midtown Manhattan via subway would choose to travel by ferry, and approximately 18 percent of Astoria residents who currently commute to downtown Manhattan via subway would choose to travel by ferry, if a ferry landing were to be developed on the project site. No changes to daily private auto, taxi, local bus, bike, or pedestrian commuters are anticipated with the introduction of a ferry landing at the project site. These rates assume a ten-minute walk to the ferry and were applied to the approximately 495 daily residential users from the surrounding ½-mile area, including Halletts Point, anticipated in 2023.[8] Travel modes to the potential future ferry landing for all off-site users were based on the 2013 *East River Ferry Environmental Assessment Statement* (EAS), with the majority of users walking or biking.[9]

Tables 21-7 and 21-8 combine the modal split and trip generation assumptions described above, indicating the incremental effects of the Ferry Alternative on traffic, transit, and pedestrians, as compared to the Proposed Action. As shown in the tables, the Ferry Alternative would generate a higher number of total trips, as the ferry dock would draw users from the surrounding area to the project site. It is anticipated that the Ferry Alternative would result in fewer incremental subway trips; walk/other trips would increase over No-Action conditions (approximately 900 and 1,385 in the weekday AM and PM peak hours, compared to 853 and 1,334 under the Proposed Action), with a minor increase in total vehicle trips. As such, significant adverse traffic impacts would occur under the Ferry Alternative, as under the Proposed Action.

As outlined in Chapter 13, "Transportation," parking demand generated by the proposed residential, retail, and community facility uses would be adequately accommodated by the proposed accessory parking facilities during the weekday daytime hours. For conservative analysis purposes, it is assumed that no additional parking spaces would be provided on the project site under the Ferry Alternative. As outlined in Table 21-7, below, as the majority of ferry-generated trips would be walk/other trips, additional parking demand generated under this alternative would be limited to one vehicle over the Proposed Action. As daytime parking demand in the surrounding predominantly residential neighborhood is generally lower during the weekday daytime hours, it is anticipated that limited number of private auto

[8] Calculated by applying the CFS2013 capture rate to the estimated 2023 area residential population expected to work in midtown or downtown Manhattan (based on the 2005-2010 ACS 5-Year Estimates).

[9] The 2013 *East River Ferry EAS*'s trip generation factors for the Schaefer's Landing/South Williamsburg ferry landing were applied as it is similarly located over 0.5 miles from the subway and had no designated on-site parking for ferry users.

trips generated under the Ferry Alternative during the weekday daytime hours would be sufficiently accommodated by on-street parking in the surrounding area.

Table 21-7: Comparison of Weekday AM and PM Incremental Person Trips by Mode—Proposed Action vs. Ferry Alternative

Scenario	Auto		Taxi		Subway		Ferry[1]		Bus		School Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM																	
Proposed Action	181	362	7	11	154	551	0	0	29	48	20	0	588	265	979	1,237	2,216
Ferry Alternative	182	362	8	11	155	542	0	9	29	48	20	0	635	265	1,029	1,237	2,266
Difference	***1***	***0***	***1***	***0***	***1***	***-9***	***0***	***9***	***0***	***0***	***0***	***0***	***47***	***0***	***50***	***0***	***50***
PM																	
Proposed Action	409	293	24	22	519	304	0	0	72	63	0	0	663	671	1,687	1,353	3,040
Ferry Alternative	409	294	24	23	509	305	10	0	72	63	0	0	663	722	1,687	1,407	3,094
Difference	***0***	***1***	***0***	***1***	***-10***	***1***	***10***	***0***	***0***	***0***	***0***	***0***	***0***	***51***	***0***	***54***	***54***

Notes: [1] Does not include off-site user ferry trips.

Table 21-8: Comparison of Weekday Peak Hour Incremental Vehicle Trips by Mode—Proposed Action vs. Ferry Alternative

Scenario	Auto		Taxi (Balanced)		Shuttle/ School Bus		Truck		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM											
Proposed Action	139	333	11	11	14	14	5	7	169	365	534
Ferry Alternative	140	333	12	12	14	14	5	7	171	366	537
Difference	***1***	***0***	***1***	***1***	***0***	***0***	***0***	***0***	***2***	***1***	***3***
PM											
Proposed Action	342	225	24	24	7	10	0	1	373	260	633
Ferry Alternative	342	226	25	25	7	10	0	1	374	262	635
Difference	***0***	***1***	***1***	***1***	***0***	***0***	***0***	***0***	***1***	***2***	***3***

The Ferry Alternative would result in a reduction in both project-generated subway trips and subway trips generated by existing and future residents and workers in the surrounding ½-mile catchment area. These combined reductions in subway ridership could, therefore, reduce and/or eliminate the subway station element impacts identified in the future with the Proposed Action.

As noted above, the potential future ferry landing under the Ferry Alternative would require discretionary actions, including a zoning text amendment, CPC certification, NYSDEC and USACE permits, and public funding. As a result, this alternative (if pursued) would be subject to a separate environmental review at a later date. Therefore, a more detailed analysis of the transportation implications of an Astoria Cove ferry landing would be conducted at that time.

Air Quality

As stated above, under the Ferry Alternative, incremental vehicle trips in the weekday AM and PM peak hours would be slightly greater than with the Proposed Action: approximately 537 and 635, compared to 534 and 633 under the Proposed Action. Assuming that the three additional vehicle trips would access the ferry landing via 9th Street, the Ferry Alternative would result in a maximum of three vehicle trips, or a less than one percent increase, at the worst-case 27th Avenue/9th Street intersection analyzed in Chapter 14, "Air Quality." This minimal increase is not expected to result in significant additional air quality emissions from project-generated vehicles. In addition, as no additional stationary sources of pollution (e.g., emission stacks) would be introduced under the Ferry Alternative, no significant adverse stationary source air quality impacts would result.

Mobile source emissions would also be generated by the ferry vessels traveling to and from the project site's dock. As stated in the 2013 *East River Ferry EAS* (CEQR No. 13DME009Y), the New York City Department of Environmental Protection (DEP) concluded that significant adverse mobile source (ferry) air quality impacts would not occur with a maximum ferry headway of approximately 20 minutes, a maximum 399-passenger monohull boat, and a minimum distance to sensitive receptors of 100 feet.

As currently contemplated, the ferry dock would be constructed at the northern terminus of 9th Street under the Ferry Alternative. As such, the nearest sensitive receptor would be Shore Tower, which is located approximately 100 feet from the point where 9th Street meets the shoreline. As such, the minimum distance to sensitive receptors would be equal to or greater than the worst-case scenario analyzed in the 2013 *East River Ferry EAS*. Therefore, no significant adverse air quality impacts from ferry emissions would occur, assuming the aforementioned maximum frequency and vessel sizes. The potential future ferry landing under the Ferry Alternative would require discretionary actions, including a zoning text amendment, CPC certification, NYSDEC and USACE permits, and public funding, and therefore a separate environmental assessment, including a detailed assessment of potential air quality impacts, would be conducted at that time.

Greenhouse Gas Emissions and Climate Change

In addition to the energy use, fuel consumption, and vehicle trips associated with the proposed project, the Ferry Alternative's vessels would require further fuel consumption and would result in a slight increase in total vehicle trips, as described in the transportation analysis above. As such, it is anticipated that the Ferry Alternative would generate more greenhouse gas emissions than the proposed project, as analyzed in Chapter 15, "Greenhouse Gas Emissions." While these incremental increases in greenhouse gases under the Ferry Alternative are not expected to result in significant adverse greenhouse gas emission impacts. As under the Proposed Action, buildings constructed under the Ferry Alternative would minimize the potential for public and private losses due to flood damage, reduce the exposure of public utilities to flood hazards, and prepare for and address future risks, and therefore would be consistent with the City's climate change goals. As previously stated, the potential future ferry landing under the Ferry Alternative would require discretionary actions, including a zoning text amendment, CPC certification, NYSDEC and USACE permits, and public funding, and therefore a separate environmental assessment would be conducted at that time.

Noise

The Ferry Alternative would result in higher incremental noise levels, as compared to the Proposed Action, due to incremental vehicle trips generated by the ferry and noise emissions from the ferry service operations. Based on the trip generation for the Ferry Alternative presented in Table 21-8, above, the level of traffic increases over the Proposed Action (a maximum of three vehicle trips, or a less than once percent increase in incremental traffic) would not be significant enough to alter the conclusions of the noise analysis presented in Chapter 16, "Noise."

While the Ferry Alternative would not result in significant increases in traffic or the introduction of new sensitive receptors on the project site, noise emissions from the ferry service operations would have the potential to impact sensitive land uses (including the proposed project) adjacent to the ferry landing. The 2013 *East River Ferry EAS* concluded that the maximum noise level increases from ferry service operation (2.9 dBA[10]) would not exceed the CEQR threshold for a significant adverse noise impact with a minimum of 100 feet between the ferry docking area and nearby sensitive receptors. As the minimum

[10] Receptor 5, Table F9: 2014 With-Action Noise Levels, *East River Ferry EAS* (CEQR No.13DME009Y, Oct. 15, 2013).

distance between a ferry landing at the northern terminus of 9th Street and the nearest sensitive receptor (Shore Towers) would be equal to or greater than 100 feet, no significant adverse noise impacts are expected as a result of the ferry.

As the construction of a ferry dock and the extension of ferry service to the project site would require discretionary actions (including a zoning text amendment, CPC certification, NYSDEC and USACE permits, and public funding), a more detailed analysis of potential additional noise impacts would be undertaken at a later date, if this alternative is pursued.

Neighborhood Character

Like the proposed project, the Ferry Alternative would not result in any significant adverse impacts to neighborhood character. As under the Proposed Action, the Ferry Alternative would enliven largely vacant and underutilized lots with new mixed-use buildings with active ground floor uses and would create new publicly accessible open space. While both the Ferry Alternative and the Proposed Action would result in significant adverse impacts to open space and transportation, these identified impacts would not affect any defining features of neighborhood character, nor would any combination of moderately adverse effects affect the neighborhood's defining features.

The Ferry Alternative would revitalize the waterfront area along Pot Cove with the creation of a ferry dock and additional associated furnishings. The ferry service under the Ferry Alternative would draw additional pedestrians from the surrounding area, further activating the streetscape. While the ferry vessels would generate additional noise emissions that would not occur under the Proposed Action, the maximum noise levels would occur in limited durations and would not represent significant noise impacts. As such, the benefits to neighborhood character that would result from the proposed uses and design under the Proposed Action would be realized and heightened under the Ferry Alternative.

Construction

In addition to the buildings, streets, and landscaping that would be developed on the project site under the Proposed Action, the Ferry Alternative would involve in-water construction to build the ferry dock as well as the necessary connections to the waterfront open space. Additional construction activities associated with the ferry dock could include pile driving and potentially minimal dredging. It is also possible that construction of the ferry dock and the associated connections to the adjacent project site open space could result in temporary disruptions necessitating closures of portions of the proposed project's open space. As under the Proposed Action, significant adverse construction-related traffic impacts are anticipated, warranting mitigation, as outlined in Chapter 20, "Mitigation." As the Ferry Alternative would require additional discretionary actions not being sought at this time, a separate environmental assessment, including an analysis of potential additional construction-related impacts, would be conducted at a later date if this alternative is pursued.

Public Health

Neither the Proposed Action nor the Ferry Alternative would result in significant adverse public health impacts. As described above, the Ferry Alternative is not expected to have the potential for unmitigated significant adverse impacts in any of the technical areas related to public health. However, as the Ferry Alternative would require additional discretionary actions not being sought at this time, a separate environmental assessment, including an analysis of potential public health impacts, would be conducted at a later date if this alternative is pursued.

F. NO UNMITIGATED SIGNIFICANT ADVERSE IMPACTS ALTERNATIVE

Description of the No Unmitigated Significant Adverse Impacts Alternative

According to the *CEQR Technical Manual*, when a project would result in unmitigated significant adverse impacts, it is often CEQR practice to include an assessment of an alternative to the project that would result in no unmitigated impacts. This alternative demonstrates those measures that would have to be taken to eliminate all of the Proposed Action's unmitigated significant adverse impacts. As detailed below, in order to result in no unmitigated significant adverse impacts, the total development program would have to be reduced by up to approximately 89 percent, including an 86 percent reduction in the number of residential units on the project site, with none of the proposed commercial or community facility components on the project site, and, therefore, would be unlikely to include affordable residential units.

Based on the analysis presented in the other chapters of this EIS, there is the potential for significant adverse impacts in the areas of community facilities, open space, transportation, and construction traffic. As discussed in Chapter 20, "Mitigation," the proposed mitigation measures would fully mitigate all of the significant adverse community facilities and transit impacts. As further discussed in Chapter 20, "Mitigation," as the significant adverse traffic and construction traffic impacts on some of the study area intersections would not be fully mitigated and the significant adverse active open space and construction noise impacts would be only partially mitigated, the Proposed Action would result in an unavoidable adverse impact on active open space and operational and construction traffic. No significant adverse impacts are anticipated in the other technical areas.

The No Unmitigated Significant Adverse Impacts Alternative would result in the same actions as the future with the Proposed Action, but considers the magnitude of development that could occur on the project site without resulting in any significant adverse impacts. The analysis framework is determined by focusing on an alternative that avoids the anticipated potentially unmitigated significant adverse active open space and operational and construction traffic impacts associated with the Proposed Action. As construction-phase impacted intersections would warrant the same traffic mitigation measures as those proposed for the project's full build-out, the discussion below focuses on traffic impacts associated with the project's full build-out.

No Unmitigated Significant Adverse Impacts Alternative Compared with the Proposed Action

The density of this alternative would be substantially less than with the Proposed Action and therefore would have similar or lesser effect on the CEQR technical areas analyzed in the EIS, compared to the Proposed Action. However, unlike the Proposed Action, this alternative would not result in unmitigated significant adverse impacts. The analysis provided below focuses on the CEQR technical areas that would experience unmitigated significant adverse impacts with the Proposed Action.

Open Space

The proposed project's residential population would place new demands on the area's open space resources. Although the proposed project's waterfront open space would include approximately 0.24 acres of active open space resources, comprised of a playground, it would not be sufficient to satisfy the City's optimal active open space goal of 2.0 acres of active open space per 1,000 residents. While this goal is recognized as infeasible for many areas of the City and is, therefore, not considered an impact threshold, given the anticipated decrease in the residential open space study area's active open space ratio and the

fact that this ratio would be below the City's guideline ratio, the Proposed Action would result in a significant adverse impact to active open space resources in the study area. In consultation with DCP and DPR, the Applicant is exploring possible mitigation measures to mitigate this impact. However, as the identified active open space impact would only be partially mitigated, it would represent an unmitigated significant adverse impact.

The avoid the active open space impact, the proposed project's residential component would need to be reduced to 687 DU, a 59 percent reduction in the amount of residential units, as compared to what is being proposed. Limiting the number of housing units on the project site would therefore substantially reduce the amount of new housing created on the project site and would not be supportive of the proposed project's goals of creating much-needed housing, including affordable housing, for the City's growing residential population. In addition, at this reduced size, the Applicant would be unlikely to develop the entire waterfront site and, therefore, this alternative would result in a reduction in the amount of public open space from what is currently proposed and would be less supportive of the project's goals, including advancing the City's Comprehensive Waterfront Plan.

Overall, this alternative would be less successful than the Proposed Action at meeting the project's goals of providing opportunities for new residential and commercial development; enhancing and upgrading the waterfront area to provide waterfront access; creating opportunities for new housing development, including affordable housing; advancing the City's Comprehensive Waterfront Plan; and creating a superior site plan, building layout, and design.

Traffic

The Proposed Action would result in significant adverse traffic impacts at several intersections within the study area that cannot be fully mitigated with standard traffic capacity improvement measures. Specifically, 17 of the 30 study area intersections would have significant adverse traffic impacts that could not be fully mitigated in at least one peak hour. Because of existing congestion at a number of these intersections, even a minimal increase in traffic would result in unmitigated impacts. A sensitivity analysis determined that the addition of just four eastbound through vehicles at the intersection of Astoria Boulevard and 21st Street during the weekday PM peak hour would result in a significant adverse impact that would not be fully mitigated.

Based on a screening analysis, to avoid unmitigated significant adverse traffic impacts, the project site building program would have to be reduced by approximately 89 percent, with an 86 percent reduction in the number of residential units (to approximately 241 residential units, or a net of 75 units over the No-Action condition), and no retail or community facility uses on the project site. In total, this would represent approximately ten percent of the 2.189 million gsf proposed. Such a substantial reduction in development on the project site would substantially compromise the goals of the proposed project. The Proposed Action's goals of providing opportunities for new mixed-use development, activating the waterfront, and creating opportunities for new affordable housing would not be met under this alternative.