Flushing Commons
Draft Scope of Analyses for an Environmental Impact Statement

A. PROJECT DESCRIPTION

INTRODUCTION

Flushing Commons is the proposed redevelopment of a municipal parking lot in Flushing, Queens, into a mixed-use project containing residential, retail, commercial, community facility, and hotel uses; a multi-level underground parking garage; and an approximately 1.5-acre town square-style publicly accessible, privately owned open space (collectively the "proposed project"). Public actions required to permit the proposed project to go forward include disposition of interests in City-owned property from the New York City Department of Transportation (NYCDOT) to the New York City Economic Development Corporation (EDC) and, subsequently, from EDC to the designated developer based on business terms to be finalized pursuant to City Charter Section 384(b)(4), rezoning the project site block, a special permit for a public parking garage, a special permit for designation of the project as a General Large-Scale Development, and a special permit to allow for modification of height regulations that apply to areas around major airports. The proposed rezoning would encompass the block bounded by 138th Street, 37th Avenue, 39th Avenue, and Union Street (Block 4978, Lots 25 and 46) (see Figure 1). The proposed Flushing Commons project would be constructed on a portion of Lot 25 (the "project site"). The project site is located in Queens Community District 7.

PROPOSED ACTIONS

The proposed project would involve the following actions:

- **Disposition of City-owned property.** Disposition would require approval through the Uniform Land Use Review Procedure (ULURP) under City Charter Section 197(c) and separate Borough Board and Mayoral approval pursuant to City Charter Section 384(b)(4) for the approval of the business terms.
- **Zoning Map Amendment**. The applicant is requesting a zoning map amendment from the City Planning Commission (CPC) to rezone the block bounded by 37th Avenue to the north, Union Street to the east, 39th Avenue to the south, and 138th Street to the west from C4-3 to C4-4.
- **Special Permits**. The applicant is requesting special permits from the CPC and the Board of Standards and Appeals (BSA), including:
  - A special permit from the CPC pursuant to Zoning Resolution (ZR) Section 74-52 (Parking Garages or Public Parking Lots in High Density Central Areas) for the project's public parking garage;
  - Special permits and/or authorizations from the CPC pursuant to ZR Section 74-74 (General Large-Scale Development) to modify certain zoning provisions of the Zoning

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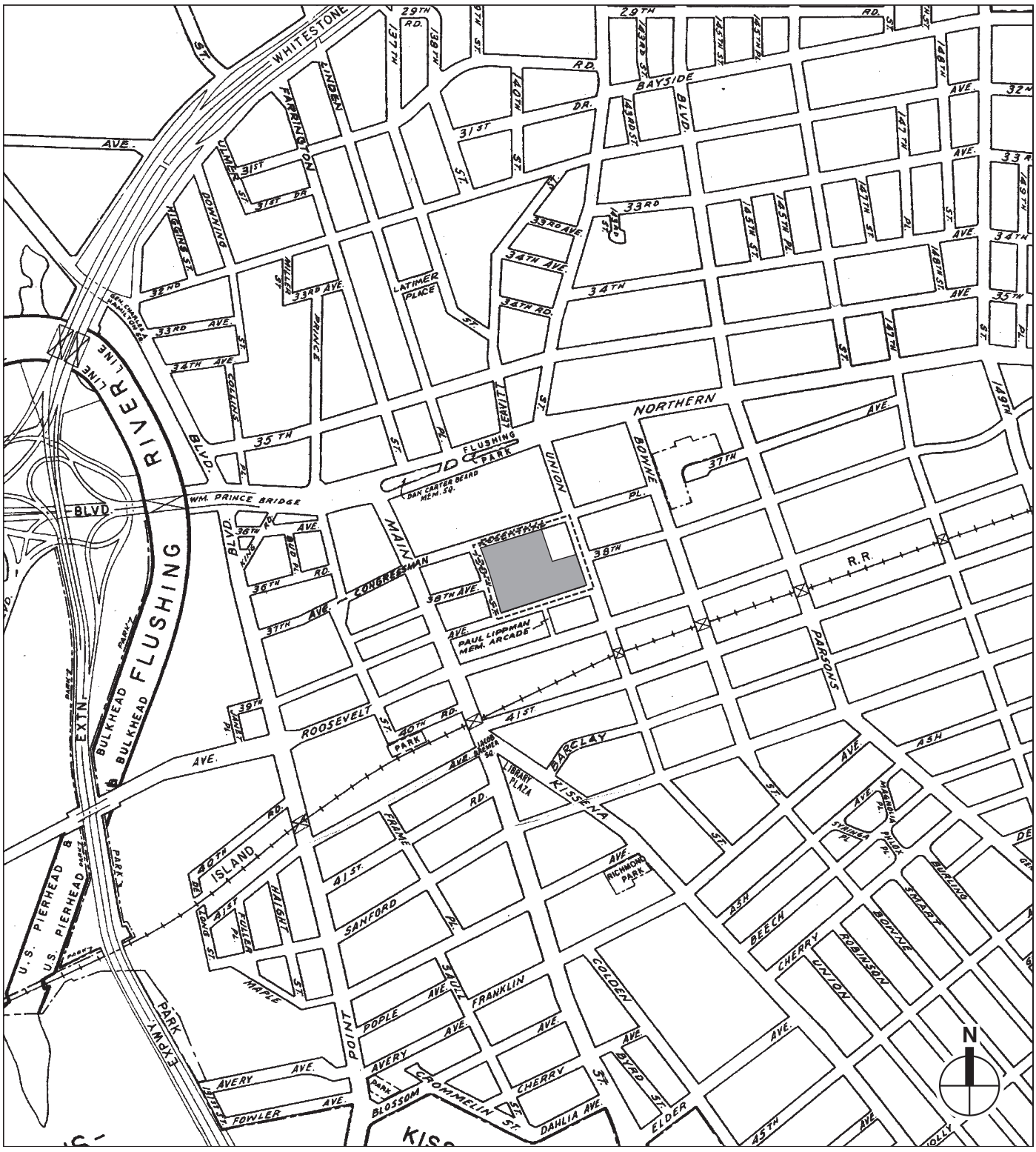

Project Site

--- *Rezoning Area Boundary*

0 1000 FEET

SCALE

Flushing Commons

Project Location

Figure 1

Resolution including those governing height and setback, yards, location of uses within buildings, and signage.

- A special permit from the BSA pursuant to ZR Section 73-66 (Height Regulations around Airports) for modification of height regulations applying to areas around major airports.

The proposed project would also require a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA).

PROPOSED PROJECT

The proposed Flushing Commons project would comprise a mix of uses. As presently conceived under the proposed business terms, the project would include approximately 517 market-rate apartments; 200 hotel rooms; nearly 390,000 square feet of retail, office, restaurant, and cinema space; and nearly 88,000 square feet of community facility space for such things as cultural and visitors' centers, a recreation center, and medical offices. The project would also include a below-grade public parking garage of 2,004 spaces, which would replace the 1,101 parking spaces presently in the municipal lot. Of these spaces, 708 would be accessory parking required by the Zoning Resolution for proposed uses. Total gross square footage, including parking, would be 1.9 million square feet. The project as described above represents a reasonable maximum development scenario under the proposed business terms and the proposed zoning. A summary of the proposed development is provided below in Table 1.

Table 1
Summary of Proposed Development by Use (in GSF)

USE	(1) Ash Building[1]	(2) Beech Building[1]	(3) Cherry Building[1]	(4) Elm Building[1]	Proposed Total
Retail/restaurant	202,062	0	62,773	70,762	335,597
Residential	310,796	125,128	225,026	0	660,950
Hotel	0	0	134,456	0	134,456
Community facility/cultural	0	0	22,647	0	22,647
Community facility/medical office	0	15,293	0	0	15,293
Commercial office	13,255	0	0		13,255
Cinema	44,373	0	0	0	44,373
Subtotal	570,486	140,421	444,902	70,762	1,226,571
Community facility/recreation center (unspecified building-below grade)					50,000
Accessory service and loading					90,987
Public parking (1,296 spaces)					319,820
Accessory parking (708 spaces)					263,333
				Total	**1,950,621**

Note: [1] See Figure 3 for building location.

The Flushing Commons buildings would be organized around a central (approximately 1.5-acre) publicly accessible, privately owned open space with walkways (see Figures 2 through 4). This open space would also be visible looking into the site along 38th Avenue and from Lippmann

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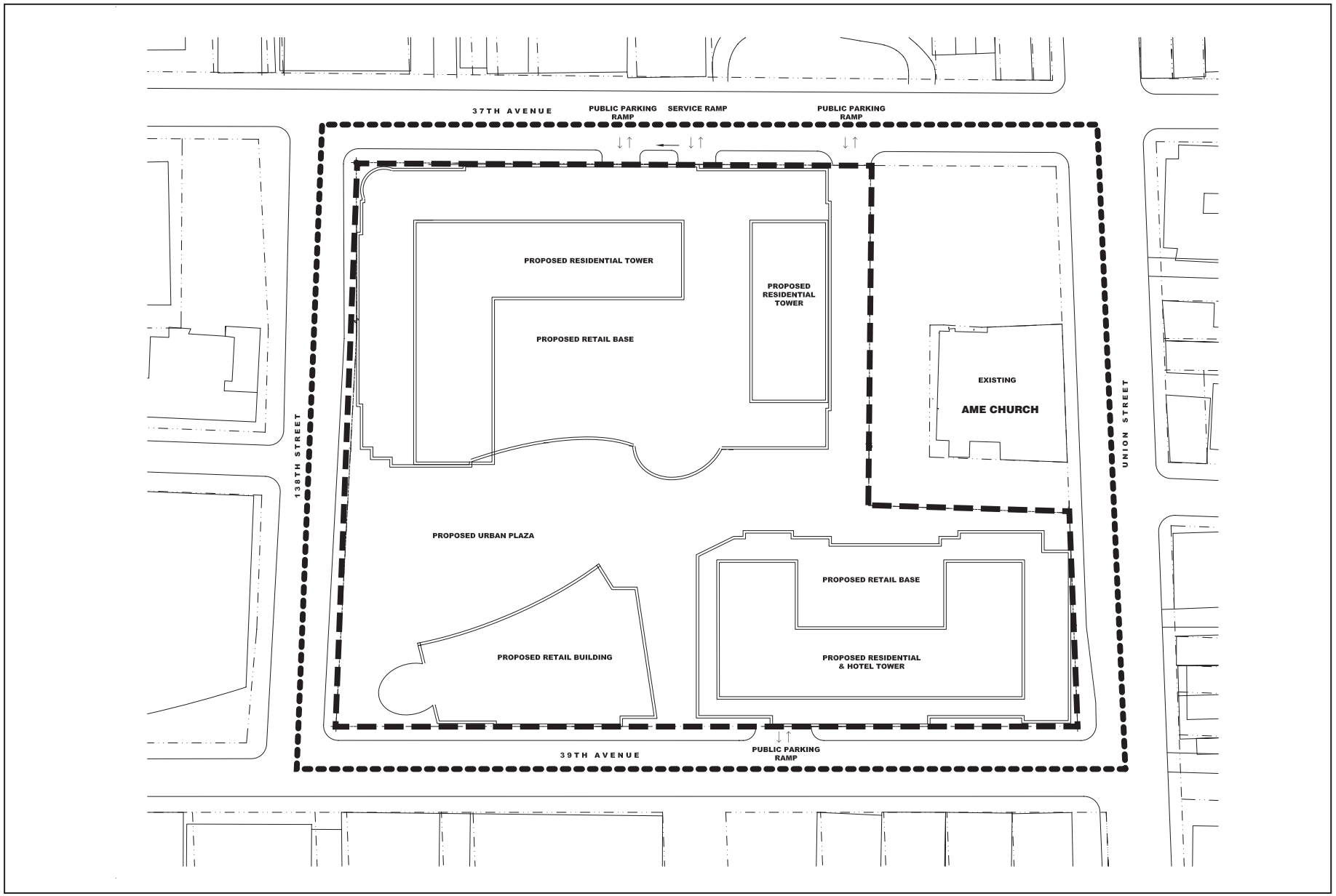

Rezoning Area Bounday

Project Site Boundary/Large Scale Site Plan Area

Flushing Commons

Site Plan
Figure 2

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Project Site Boundary

Remainder of Lot 25 Reasonable Worst-Case Development Scenario

1 *Ash Building*
2 *Beech Building*
3 *Cherry Building*
4 *Elm Building*
5 *Fountain Plaza*
6 *The Green*
7 *The Mews*
8 *Channel Gardens*
9 *Nursery Gardens*

For Illustrative Purposes Only

Flushing Commons

Illustrative Plan
Figure 3

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For Illustrative Purposes Only

Illustrative Aerial Perspective
Figure 4

Arcade (a pedestrian walkway that extends through the block from 39th Avenue to Roosevelt Avenue). Two elliptical structures would act as beacons to orient the pedestrian to the site and its open space (see Figure 4). The larger of the two would stand at the northern edge of the open space near the residential buildings (see below) and would serve as the entrance to the cinema; the smaller one would be located near the corner of 39th Avenue and 138th Street.

At the north side of the site, on 37th Avenue, three residential structures in a U-configuration would rise above a three- to four-story commercial base. Total height, including the base, would be approximately 18 stories (see Figures 5 and 6). A mixed-use building containing retail, hotel, community facility, and residential use would stand in the southeastern corner of the site, on 39th Avenue near Union Street. Also on 39th Avenue, a smaller entirely commercial/retail building would be located west of the hotel mixed-use building. Entrances to the parking garage would be on 37th and 39th Avenues. The project is expected to be completed and operational in 2010.

REMAINDER OF REZONING AREA

The rezoning area encompasses the entirety of Block 4978 located east of 138th Street, of which the vast majority comprises the project site (portion of Lot 25). The remainder of the rezoning area contains the Macedonia African Methodist Episcopal (AME) Church (Lot 46), located adjacent to the project site to the east along Union Avenue, and a portion of Lot 25 located to the north of the Macedonia AME Church. The rezoning itself is not expected to result in redevelopment of the Macedonia AME Church site (Lot 46).

The remainder of Lot 25 is located on City-owned property and is anticipated to be the subject of a future disposition and development plan. Since the potential disposition and development of the site is not yet fully known, the EIS assumes the disposition would facilitate potential development of the site under the proposed zoning changes. For the remainder of Lot 25, a "reasonable worst-case development scenario," has been developed based on the site size and the maximum development permitted under the proposed zoning. For analysis purposes, the reasonable worst-case development scenario for development under the proposed C4-4 zoning district would be a mixed-use development building comprising up to approximately 150 residential units (103,682 square feet), 195,910 square feet of community facility space, and 102,476 square feet of commercial space.

PURPOSE AND NEED FOR THE ACTION(S) AND APPROVAL(S)

The Flushing Commons project has been proposed in response to a request for proposals issued by the New York City Economic Development Corporation (EDC) to encourage new high-quality development on this large parcel of City-owned land in Downtown Flushing. Flushing Commons would create new employment and residential opportunities and generate economic and fiscal benefits to the City in the form of economic activity and tax revenue.

The project as proposed would respond to the City's land use strategy for the site, as reflected in the "Development Framework for Downtown Flushing," May 2004. That document addresses Municipal Lot 1, stating five specific goals for the site:

- Create a town square-style open space that will be a center of community activity.
- Enhance the pedestrian environment with street-level retail to attract shoppers east of Main Street.

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For Illustrative Purposes Only

South Elevation
Figure 5

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For Illustrative Purposes Only

West Elevation
Figure 6

Flushing Commons

- Help meet housing demand and stabilize the retail market by establishing a new residential community in Downtown Flushing.
- Maintain below-market priced parking on-site.
- Serve as a clear example of high-quality design and construction that will raise the standard for private investment in Downtown Flushing.

B. CITY ENVIRONMENTAL QUALITY REVIEW

The disposition, rezoning, and special permits all trigger ULURP, and all four City approvals require environmental review under the City Environmental Quality Review (CEQR) procedures. The Office of the Deputy Mayor for Economic Development and Rebuilding is the CEQR lead agency for the proposed project. As described in the EAS, the proposed project may potentially result in significant adverse environmental impacts, requiring that an Environmental Impact Statement (EIS) be prepared.

SCOPING

The CEQR scoping process is intended to focus the EIS on those issues that are most pertinent to the proposed action. The process at the same time allows other agencies and the public a voice in framing the scope of the EIS. During the period for scoping, those interested in reviewing the draft EIS scope may do so and give their comments in writing to the lead agency or at a public scoping meeting to be held on June 21, 2006, at 3:30 PM until 8:00PM at the Flushing Branch of the Queens Public Library, 41-47 Main Street, Flushing, New York. Written comments will be accepted until 5:00 PM on July 7, 2006. The lead agency will oversee preparation of a final EIS scope, which incorporates all relevant comments made on the scope and revises the extent or methodologies of the studies, as appropriate, in response to comments made during scoping. The DEIS will be prepared in accordance with the final Scope of Analyses for an EIS.

C. PROPOSED SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT

The EIS will be prepared in conformance with all applicable laws and regulations, including SEQRA (Article 8 of the New York State Environmental Conservation Law) and its implementing regulations found at 6 NYCRR Part 617, New York City Executive Order No. 91 of 1977, as amended, and the Rules of Procedure for CEQR, found at Title 62, Chapter 5 of the Rules of the City of New York. The EIS will follow the guidance of the *CEQR Technical Manual*, dated October 2001.

The EIS will contain:

- A description of the proposed project and its environmental setting;
- A statement of the environmental impacts of the proposed project, including its short- and long-term effects and typical associated environmental effects;
- An identification of any adverse environmental effects that cannot be avoided if the project is implemented;
- A discussion of reasonable alternatives to the proposed project;

- An identification of irreversible and irretrievable commitments of resources that would be involved in the proposed project should it be implemented; and
- A description of mitigation proposed to minimize any significant adverse environmental impacts.

If approved, the proposed project is expected to be completed by 2010.

Based on the preliminary screening assessments outlined in the *CEQR Technical Manual* and described in the Environmental Assessment Statement, the following environmental areas would not require detailed analysis in the EIS:

- **Natural Resources**. The project site is fully developed with a surface and two-story parking facility and is substantially devoid of natural resources, as defined by the *CEQR Technical Manual*. In addition, the study area does not contain "built resources" that are known to contain or may be used as habitat by a protected species as defined by the Federal Endangered Species Act (50 CFR 17) or the New York State Environmental Conservation Law (6 NYCRR Parts 182 and 193). The disruption of the subsurface of the proposed project site would not affect the function or value of natural resources. Therefore, detailed analysis is not warranted.
- **Waterfront Revitalization Program**. The project site is not within the boundaries of the City's coastal zone. Therefore, no assessment of the proposed project's conformance with the City's Waterfront Revitalization Program is necessary.

The specific areas to be included in the EIS, as well as their respective tasks, are described below.

TASK 1: PROJECT DESCRIPTION

The first chapter of the EIS introduces the reader to the proposed project and sets the context in which to assess impacts. The chapter will contain a project identification; the background and purpose and need for the proposed project and any related actions; a detailed description of the proposed action(s), the lots that are affected, and the proposed development program and a discussion of the approvals required, procedures to be followed, and the role of the EIS in the process. The chapter is the key to understanding the proposed project and its impacts, and gives the public and decision-makers a base from which to evaluate the project against both the Build and the No Build options.

The project description will consist of a discussion of key project elements, such as land use plans, site plans and elevations, access and circulation, and other project commitments. The section on required approvals will describe all public actions required to develop the project.

The role of any other public agencies and public benefit corporations, such as the New York City Economic Development Corporation (EDC) and the New York City Department of City Planning (DCP), in the approval process will also be described. The role of the EIS as a full disclosure document to aid in decision-making will be identified, and its relationship to any other approval procedures will be described.

TASK 2: LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would directly affect the land use on approximately 4.8 acres of land in Downtown Flushing through the replacement of Municipal Lot 1, a 1,101-space parking lot that serves commuter and short-term shopper parking, with a mixed-use complex. The proposed

project would also change the existing C4-3 zoning to a C4-4 district to allow the proposed development.

This chapter of the EIS will consider the proposed project's effects in terms of land use compatibility and land use trends, as well as trends related to zoning and public policy. This assessment will also provide a baseline for other analyses in the EIS. The EIS will:

A. Provide a brief development history of the rezoning area and study area.

B. Describe conditions in the rezoning area, including existing uses and the current zoning.

C. Describe predominant land use patterns in the study area, including recent development trends. Study areas will be the blocks immediately surrounding the rezoning area and land uses within approximately ½-mile.

D. Based on the City's zoning districts for the area, provide a clear zoning map and discuss existing zoning and recent zoning actions in the study area.

E. Summarize other public policies that may apply to the proposed project area and the study area, including the "Development Framework for Downtown Flushing."

F. Prepare a list of other projects expected to be built in the study area by the Build year of the proposed project. Describe the effects of these projects on land use patterns and development trends. Also, describe pending zoning actions or other public policy actions that could affect land use patterns and trends in the study area, including plans for public improvements.

G. Describe the proposed rezoning and the lots that are affected. Provide an assessment of the impacts of the proposed rezoning on land use and land use trends, zoning, and public policy. Present a map of the proposed zoning changes. Consider the effects related to issues of compatibility with surrounding land use, consistency with zoning and other public policy initiatives, and the effect of the project on development trends and conditions in the area.

TASK 3: SOCIOECONOMIC CONDITIONS

The proposed Flushing Commons project would introduce substantial new economic activity into Downtown Flushing. The mixed-use project includes about 517 new residential units, 1.3 million square feet of new retail and commercial space, a hotel, community facilities, and off-street parking. Since the *CEQR Technical Manual* establishes analysis thresholds of 200 or more residential units and commercial development in excess of 200,000 square feet, a socioeconomic analysis is required under CEQR in order to evaluate and disclose the potential for significant socioeconomic impacts.

The socioeconomic analyses examine the potential effects of the proposed action on the socioeconomic conditions in a defined study area, including population and housing characteristics, economic activity, and the commercial real estate market. The analysis will follow the guidelines of the *CEQR Technical Manual* in assessing the proposed project's effects on socioeconomic conditions generally within a ½-mile study area. According to the *CEQR Technical Manual*, the five principal issues of concern with respect to socioeconomic conditions are whether a proposed action would result in significant impacts due to: (1) direct residential displacement, (2) direct business and institutional displacement, (3) indirect residential displacement, (4) indirect business and institutional displacement, and (5) adverse effects on a specific industry. In conformance with *CEQR Technical Manual* guidelines, the assessment of

these five areas of concern will begin with a preliminary screening analysis. Detailed assessments will be conducted for those areas in which the preliminary assessment can not definitively rule out the potential for significant adverse impacts. The detailed assessments, if necessary, will be framed in the context of existing conditions and evaluations of the future with the proposed project and the future without the proposed project in the 2010 Build analysis year.

Since the proposed project would not directly displace residences or commercial business, it is anticipated that items (1) and (2), above, will be screened out in the preliminary assessment. The change in parking supply is considered as a potential indirect impact to businesses in Downtown Flushing.

In addition, as described in the *CEQR Technical Manual*, a significant adverse socioeconomic conditions impact could occur if a proposed project threatens the competitive condition of one or more anchor retailers in a neighborhood retail shopping street or shopping center or of a group of stores that could, in turn, undermine the overall competitive condition of a neighborhood shopping street or shopping center. Strong community shopping districts, such as Downtown Flushing, are clear examples of local shopping districts that require more detailed assessment.

Potential competitive impacts on individual stores do not constitute an environmental impact based on CEQR criteria. However, to the extent that a proposed retail development may affect a broader shopping area that constitutes an integral element defining the character of a neighborhood, environmental impacts need to be assessed. Because the proposed project is located in the heart of Downtown Flushing, an analysis of the project's potential effects on the surrounding areas is proposed. The detailed scope of work is described below.

DIRECT RESIDENTIAL AND BUSINESS/INSTITUTIONAL DISPLACEMENT

The EIS will disclose that there is no direct displacement of residences or businesses and no additional analysis is required.

INDIRECT RESIDENTIAL DISPLACEMENT

Indirect residential displacement is the involuntary displacement of residents that results from a change in socioeconomic conditions created by a proposed project. In most cases, the issue for indirect residential displacement is that an action would increase property values, leading to higher rents throughout the study area, making it difficult for some residents to afford their homes. To assess this potential impact, the *CEQR Technical Manual* seeks to answer a series of threshold questions in terms of whether the project substantially alters the demographic character of an area through population change or introduction of more costly housing. The analysis is based on a comprehensive demographic profile based on 1990 and 2000 Census data (and any more recent demographic data) to develop detailed demographic and housing profiles of the socioeconomic study area. Key factors will include total population, median age, race, household characteristics, median income and poverty status, housing units, median rooms, housing tenure, and contract rents and median housing value. Populations currently at risk of displacement will be identified.

INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS

The analysis to determine the potential indirect business, employment, and/or institutional displacement impacts will consider potential increases in commercial rents and property values resulting from the proposed project, and how vulnerable existing sector(s) or businesses may be

affected. The study area for this assessment will be the generally defined ½-mile study area noted above.

The methodology that will be used to conduct this analysis is described in the *CEQR Technical Manual* and data sources anticipated to be utilized include:

- Zip code employment data from the New York State Department of Labor (ES-202 data), which will provide a picture of the employment base by key industry sector and trends in employment.
- Commercial property value data from the New York City Department of Finance or DCP, which will include property values by parcel.
- Existing reports regarding commercial property values, rent trends, etc., which will be obtained from commercial real estate companies.
- 1990 and 2000 Census data (and any updates as available from DCP and other resources).
- Supplementary secondary data, which will be obtained as necessary through field surveys and interviews with real estate brokers, public officials, local businesses, and other business-related and real estate-related entities. Information contained in the "Development Framework for Downtown Flushing," May 2004, will be reviewed and incorporated as appropriate.

The assessment of potential indirect business, employment, and/or institutional displacements will be based on available relevant data sources and studies, and will:

A. Describe existing economic activity within the ½-mile study area, including the number and types of businesses/institutions and employment by key sectors. This will also include identifying potentially vulnerable categories of businesses or institutions.

B. Describe the physical characteristics of the buildings currently used for economic activities, including the general size of the structures, configurations, and conditions. The approximate vacancy rate and rent levels for these buildings will also be described. This will be based on field visits and discussions with DCP and real estate brokers.

C. Based on projects and policies identified in the "Land Use, Zoning, and Public Policy" chapter and pertinent economic and real estate data, discuss the potential economic trends that would be anticipated without the proposed project through build analysis year (to be determined), including commercial rents and property values and employment by key sectors.

D. Evaluate the indirect business, employment, and/or institutional displacement impacts from the proposed project, including effects of potential increases in property values and rental rates. Likely nearby relocation areas will be identified, as appropriate.

Indirect Business Displacement

The proposed Flushing Commons project will introduce a new vibrancy and level of activity to Downtown Flushing. To the extent that this results in a substantial shift of consumer activity to the new site, the project may result in a potential adverse impact in terms of indirect displacement of businesses. The EIS will examine the relationship of this new economic activity in terms of the development's primary trade area and to the existing downtown retail district in particular. The two critical elements to be examined in the EIS are the effects of the overall parking supply (in terms of capacity and location) serving Downtown Flushing, and the effect of new sales generated by the project in its roughly 3-mile primary trade area of northeastern Queens.

Downtown Parking Analysis

In coordination with the EIS traffic and parking analyses, the changes in overall parking supply and demand generated by the existing, No Build, and project-generated uses in Downtown Flushing will be evaluated in terms of potential impacts to the downtown retail districts.

Trade Area Capture Analysis/Indirect Displacement due to Competition

The approach to analyzing the potential for indirect business displacement is based on an assessment of the demand for retail space by retail sector, comparing it to the available and future supply of retail space by retail sector, and presenting a quantitative analysis of existing versus potential expenditures. The assessment will entail the following steps:

A. Present general data on the retail environment in New York City and Queens County, including trends in overall retail and department store sales, retail trade employment, and comparisons with other general retail statistics.

B. Provide a description of the project's anticipated retail uses. This description will be based on the anticipated stores, and for the remaining space a projected retail mix will be established that will enable evaluation of the potential consequences of the retail program.

C. Establish a trade area for the proposed project. Based on discussions with the project sponsors regarding the nature and size of tenants that have committed to or are likely to occupy the proposed retail space, establish a reasonable primary trade area for the project. It is anticipated that the project would incorporate a trade area generally within 3 miles of the project site.

D. Develop a demographic profile of the trade area to estimate retail demand. Conduct a demographic analysis of the population within the study area using Census data. This analysis will include a delineation of population, household, income, auto-ownership, and other characteristics for 1990 and 2000. Income data will be adjusted to current dollars using the consumer price index for the New York area. Research household spending expenditure potential found in the trade area for the range of goods likely to be offered at the proposed retail center. Based on these data, estimate retail demand by retail sector for the study area population. Assess the retail environment of the trade area in terms of the proportion of retail expenditure potential being captured by the current retail supply.

E. Develop a profile of the retail uses in the trade area. Within the study area, conduct land use inventories of retail uses and concentrations of such uses, categorized by the retail sectors they currently serve. Supplement retail surveys with discussions with local merchants, business groups, and/or planning and economic development officials to obtain a more complete picture of the retail market conditions and trends. Retail sales in the trade area will be estimated from on-line national planning data services, such as Claritas, Inc.

F. Provide a detailed description of retail characteristics on the key streets of the Downtown Flushing retail district. Inventory the number and type of stores through walking reconnaissance of the area. At a minimum, this would include Roosevelt Avenue (from College Point Boulevard to Union Street) and Main Street (from Northern Boulevard to 41st Avenue).

G. Estimate sales of comparable goods at existing retail facilities in the trade area and estimate the percentage of trade area expenditures captured by the existing retail inventory.

H. Identify changes that may be expected in the future without the proposed project. Specifically, AKRF will identify any large-scale projects within the trade area that could be expected to increase the population and expenditure potential of the trade area or any proposals for other large-scale retail developments. This information will be developed in conjunction with the Queens office of DCP and with other relevant public agencies.

I. Establish the future with the proposed project conditions by applying relevant sales per square foot from published sources, such as *Dollars & Cents of Shopping Centers* (ULI) and *Chain Store Age*, to square footage data for the proposed project. This scenario will be presented in the same format as that for the No Build condition.

J. Assess the potential for impacts within the primary trade area. Conduct an analysis of the demand (expenditures) versus the supply (sales) within appropriate retail sectors, and assess impacts on major existing retail anchors or groups of stores that serve as an anchor for neighborhood shopping. If, in the future with the proposed project, the retail supply is significantly greater than the analyzed demand, the analysis would then assess the potential for the proposed project to affect neighborhood character in the vicinity of major retail concentrations.

K. Assess the potential for impacts within the local shopping areas, as identified in Task F, above. The assessment will evaluate whether the proposed new development has the potential to affect the operations of competitive stores in the neighborhood shopping district, and whether these potentially affected stores are anchor stores that underpin the overall character and viability of the local district. Since the proposed project is likely to include a grocery store, the assessment will look specifically at food stores in the local area.

TASK 4: COMMUNITY FACILITIES AND SERVICES

The demand for community facilities and services is directly related to the type and size of the new population generated by development resulting from a proposed action. New workers tend to create limited demand on community facilities and services, while new residents create more substantial and permanent demands. The proposed project is not expected to introduce more than 600 low- to moderate-income residential units; therefore, a detailed assessment of healthcare facilities would not be required. Similarly, the proposed project is not expected to exceed the threshold of more than 50 children under the age of 12 eligible for slots at public day care centers—278 low-moderate or 250 low-income units in Queens—for a detailed day care center analysis. A detailed assessment of library services would not be required because the proposed project is also not expected to increase the number of residential units served by the Queens local branch libraries by more than 5 percent (621 residential units). The *CEQR Technical Manual* only requires analysis of impacts on police and fire services in cases of direct displacement. The proposed project would not directly cause the displacement of a police or fire facility; therefore a detailed assessment is not required. While the assessment areas described above will not be analyzed in the EIS, the screening analyses of libraries, daycare centers, hospitals, and police and fire protection will be provided in the EIS.

According to the *CEQR Technical Manual*, a detailed analysis of an action's potential impacts on public schools is necessary when an action would generate more than 50 elementary and intermediate school students. High school students can usually elect to attend schools other than their neighborhood high schools, depending on admissions criteria and space availability. However, since the proposed project is expected to generate fewer than 150 high school students, an analysis of public high schools is not required.

The issue of community facilities and services for the proposed project will be limited to an assessment of the public schools in the areas and how the proposed project may affect their utilization. Tasks include:

A. Identify public schools serving the project site.

B. Assess conditions within the ½-mile study area and the school district as a whole in terms of enrollment and utilization during the current school year, noting any specific shortages of school capacity.

C. Identify conditions that will exist in the future without the proposed project, taking into account any projected changes in future enrollment and plans to alter school capacity through either the construction of new school space or through administrative actions on the part of the New York City Department of Education.

D. Analyze future conditions with the proposed project by adding the number of new students generated by the proposed project to the projections for the future without the proposed project.

E. Impacts will be assessed based on the difference between conditions in the future without the proposed project and the future with the proposed project.

TASK 5: OPEN SPACE

The project site does not currently contain any public open space. Therefore, the proposed project is not expected to have a direct effect on open space or recreational facilities. However, it would provide a new approximately 1.5-acre town square-style publicly accessible, privately owned open space, and it would bring new residents, shoppers, visitors, and workers to the area. The *CEQR Technical Manual* recommends a detailed assessment of a project's effects on open space if a proposed action is expected to increase the population by more than 200 residents or 500 employees, or a similar substantial number of other users. Since the proposed project is expected to bring more than 500 employees and 200 residents to the project site, it would have an effect on the utilization of open space and recreational facilities in the surrounding area, and on the new publicly accessible, privately owned, open space to be created. Therefore, a detailed assessment of the proposed project's effect on open space will be provided. This analysis will determine whether the proposed project will affect the quantitative and qualitative measures of open space adequacy within the ¼-mile study area recommended for commercial projects and a ½-mile study area recommended for projects with residential populations in the *CEQR Technical Manual*. The open space analysis will:

A. Inventory existing open space and recreational facilities within approximately ½-mile of the rezoning area. Tally open space acreage for passive and active publicly accessible open space.

B. Estimate residential population of the open space study area using 1990 and 2000 Census data on population and reverse journey-to-work. U.S. Census Bureau data for the year 2000 will be used to the extent available for this analysis.

C. In conformance with *CEQR Technical Manual* methodologies, assess the adequacy of existing publicly accessible open space facilities. The assessment of adequacy is based on a comparison of the ratios of total, active, and passive space per 1,000 residents and passive space/1,000 workers and students to City guidelines.

D. Assess expected changes in future levels of open space supply and demand in the future without the proposed project based on other planned development projects within the study area. Develop open space ratios for future conditions and compare them with existing ratios to determine changes in future levels of adequacy.

E. Based on projected resident populations added by the proposed project and the proposed open space programming, assess the project's effects on open space supply and demand. This assessment will be based on a comparison of open space ratios with the project and open space ratios in the future without the project.

TASK 6: SHADOWS

The proposed project would result in new buildings of approximately 18 stories and have the potential to cast shadows at a length of approximately 700 feet. Of particular concern with regard to shadows are the stained-glass windows of the St. George Episcopal Church to the west of the project site and the Bowne Street Community Church to the east of the project site. In addition to the churches, the analysis will consider potential shadows on publicly accessible open spaces that could include Weeping Beech Park, Flushing Park Center Plots, Daniel Carter Beard Memorial Square, and additional historic resources with significant light dependent features, historic landscapes, and significant natural features.

An analysis of shadows will focus on the incremental shadows created by the proposed project's buildings on any sun-sensitive landscape or activities in the open spaces on and near the project site. These analyses will include the following tasks:

A. Determine the path of the shadow cast by proposed building's on each of the four analysis days recommended by the *CEQR Technical Manual*:

   1. March 21—the vernal equinox, which is the equivalent of September 21, the autumnal equinox;
   2. May 6—the midpoint between the equinox and the longest day of the year, which is the equivalent to August 6, the midpoint between the equinox and the shortest day of the year;
   3. June 21—the longest day of the year; and
   4. December 21—the shortest day of the year.

B. Identify public open spaces and sun-sensitive landscapes and historic resources within the path of the proposed project's shadows. In coordination with a survey for the open space and historic analyses, map and describe any sun-sensitive areas. For open spaces, map active and passive recreation areas and features of the open spaces, such as benches or play equipment.

C. Prepare a 3-D CAD model of the project site and adjacent area, which will include buildings as well as take into account topological data of the current condition of the area. Add proposed buildings data to the existing conditions CAD model in order to perform analysis of the future with the proposed project.

D. Prepare shadow diagrams for time periods when shadows from the new buildings could fall onto existing open spaces as well as the publicly accessible, privately owned open space that would be created as part of the project. The analysis will also take into account any historic resources identified in Task 7 that may have significant sunlight dependent features, such as stained-glass windows. These diagrams will be prepared for up to four representative analysis days (described above) if shadows from the proposed building would fall onto any of the open spaces on that day.

E. Describe the effect of the incremental shadows on the publicly accessible open spaces; the project's publicly accessible, privately owned open space; and any historic resources with significant sunlight-dependent features based on the shadow diagrams for each of the analysis dates.

F. Create a duration table that will show the entering and exiting times when an incremental shadow would fall on each affected open space or when an historic feature would be affected by a project-generated incremental shadow.

G. Assess the potential impacts of the incremental shadows on sun-sensitive resources. If potential adverse impacts are identified, the amount of remaining sunlight on those sensitive resources as well as the types of vegetation and or recreational activities involved will be considered in reaching impact conclusions.

TASK 7: HISTORIC RESOURCES

The proposed project is in close proximity to a number of architectural resources. The Friends Meeting House—which is a National Historic Landmark and New York City Landmark (NYCL) and is listed on the State and National Registers of Historic Places (S/NR-listed)—and the Flushing Armory, which is listed on the Registers, are both located within 400 feet of the project site. Also within the project area are: RKO Keith's Flushing Theater (NYCL interior, S/NR-listed), Flushing Town Hall (NYCL, S/NR-listed), Flushing High School (NYCL, S/NR-listed), St. George's Episcopal Church (NYCL, S/NR-listed), Flushing-Main Street IRT Subway Station (S/NR-eligible), Weeping Beech Tree (NYCL, S/NR-listed), Kingsland Homestead (NYCL, S/NR-listed), Bowne House (NYCL, S/NR-listed), and the Bowne Street Community Church (originally the Reformed Church of Flushing) (calendared for NYCL designation 9/23/03).

The project also would involve subsurface disturbance in an area previously determined in a Phase IA Archaeological Assessment Report to have archaeological sensitivity for 19th century historic-period resources, including certain home parcels, a former school, and a small area around the Macedonia African Methodist Episcopal (AME) Church. There are some concerns, however remote, that due to overcrowding, some 19th century burials might have exceeded the boundaries of the Macedonia AME Church property (Lot 46). Therefore, a 15-foot-wide "buffer zone" around the church was proposed to protect any human remains that might still be in place from on-site construction activities.

Historic resources issues are an important consideration for the project. The analysis will be undertaken in consultation with the New York City Landmarks Preservation Commission (LPC) and will be prepared in accordance with the *CEQR Technical Manual*.

The purpose of this chapter will be to assess whether construction of the project is likely to affect any historic architectural or archaeological resources either directly through construction activities or more indirectly through alteration of the context or visual environment of the resources. The following tasks will be undertaken as part of the archaeological and architectural resources analyses:

A. Define the project's study area for archaeological resources. This is the area in which on-site activities could affect archaeological resources. The archaeological resources study area includes the entirety of Block 4978. Although the proposed rezoning is not expected to result in redevelopment of the Macedonia AME Church site (Lot 46), there are some concerns, described above, that due to overcrowding, some 19th century burials might have exceeded the boundaries of the church property. For this reason, Lot 46 is included in the study area for archaeological resources.

B. Consult with LPC to determine the study area's potential archaeological sensitivity and next steps. It is expected that LPC will mainly rely upon the studies previously prepared in making their determination of sensitivity. Based on the results of those studies and changes to CEQR review standards, it is possible that LPC could request that additional documentary research could be undertaken.

C. Define the study area for architectural resources. This includes the area where direct physical impacts may occur and also accounts for a larger area where potential contextual or visual project effects may occur. Identify and describe any designated architectural resources, including historic districts, within the study area. Historic resources include any New York City Landmarks, properties pending New York City Landmark designation, sites listed on or determined eligible for inclusion on the State and/or National Register of Historic Places, and National Historic Landmarks.

D. Based on visits to the project site and study area by an architectural historian, survey standing structures in the study area to identify any properties that appear to meet eligibility criteria for New York City Landmark designation or listing on the State and/or National Registers of Historic Places. Identification of potential historic resources will be based on NR criteria for listing as found in 36 CFR Part 63.

E. Add any properties determined to be eligible for NYCL designation or listing on the Registers by LPC to the list of historic architectural resources to be assessed for potential project impacts. Prepare a map indicating the location of all designated and potential historic resources within the study area.

F. Assess the effects of planned development projects expected to be built by the project's Build year in the future without the proposed project.

G. Assess any potential physical, contextual, or visual impacts project on historic resources.

H. Where appropriate, develop measures to avoid and/or reduce any adverse effects on architectural and archaeological resources in consultation with LPC. These may include developing archaeological testing plans, further consultation regarding the potential for encountering human remains, and other mitigation measures as appropriate.

TASK 8: URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, a detailed assessment of urban design and visual resources is undertaken when a proposed action would result in a building or structure

substantially different in height, bulk, form, setbacks, size, scale, use, or arrangement than exists; when an action would change block form, demap an active street, map a new street, or would affect the street hierarchy, street wall, curb cuts, pedestrian activity, or other streetscape elements; or when an action would result in above-ground development or would change the bulk of new above-ground development and is proposed in an area that includes significant visual resources. The project site is located in an area with a variety of building types, styles, and sizes, creating a diverse streetscape. The EIS must assess the degree to which the project would affect existing views to visual resources from local publicly accessible areas and assess the proposed program elements in context with the existing urban design characteristics of the surrounding area.

The proposed work tasks for urban design/visual resources are as follows:

A. Based on field visits, describe the project site and the urban design and visual resources of the study area, 400-feet from the project site, using photographs and text as appropriate.

B. Based on planned development projects, describe the changes expected in the urban design and visual character of the study area that are expected in the future without the proposed project.

C. Describe the visual character of the proposed development. Assess the anticipated changes in urban design and visual resources that would result from the proposed project in the study area and evaluate the significance of that change.

TASK 9: NEIGHBORHOOD CHARACTER

The character of a neighborhood is established by numerous factors, including land use patterns, the characteristics of its population and economic activities, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include noise levels, traffic, and pedestrian patterns. The *CEQR Technical Manual* recommends a detailed assessment of neighborhood character if a proposed action could substantially change land use character; result in substantially different building bulk, form, size, scale, or arrangement; result in substantially different block form, street pattern, or street hierarchy; create a substantial addition to employment or businesses; or create substantial changes in the character of businesses. The identification of significant adverse impacts in the areas of land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, or noise could also warrant a detailed analysis of neighborhood character.

The Downtown Flushing neighborhood is characterized as a predominately commercial district serviced by a transportation hub that provides access to the No. 7 Subway, Long Island Railroad, and numerous bus lines. The neighborhood contains a wide variety of residential and commercial uses with heavy pedestrian activity in several key locations.

By replacing a municipal parking lot with a major new mixed-use development, the proposed project would change the site's land use and would involve a change in the scale of the development on the site. The action would also change the visual character of the project site and would increase the residential population and employment in the area, and create a town square-style publicly accessible, privately owned open space as a new center of community and pedestrian activity. These factors and others could contribute to a change in the character of the neighborhood, and this will be analyzed in the EIS.

A. Based on other EIS sections, describe the predominant factors that contribute to defining the character of the neighborhood surrounding the project site.

B. Based on planned development projects, public policy initiatives, and planned public improvements, summarize changes that can be expected in the character of the area in the future without the proposed project.

C. Assess and summarize the proposed project's impacts on neighborhood character, using the analysis of impacts as presented in other pertinent EIS sections (particularly urban design, historic resources, socioeconomic conditions, noise, and traffic).

TASK 10: HAZARDOUS MATERIALS

According to CEQR criteria, a hazardous materials assessment is conducted when elevated levels of hazardous materials exist on a site; when an action would increase pathways to their exposures, either human or environmental; or when an action would introduce new activities or processes using hazardous materials, thereby increasing the risk of human or environmental exposure. An analysis should be conducted for any site with the potential to contain hazardous materials or if any future redevelopment of the property is anticipated. The *CEQR Technical Manual* specifically states that development where underground and/or above-ground storage tanks are on or adjacent to a site would trigger an analysis. Because the excavation required for construction of the sub-grade levels of the proposed project requires that all fill material present be removed and properly disposed of, an analysis of hazardous materials on the project area will be included in the EIS.

A Phase I Environmental Site Assessment was prepared to identify any potential environmental concerns at the project site resulting from past or current usages, as well as similar usage of neighboring properties. The Phase I research indicated that the project site was historically part of a residential neighborhood until the late 1890s. The site began a transformation from residential to commercial property in the early 1900s and continued through 1964/1965 when the current parking facility was constructed. The surrounding area has been a commercial/residential neighborhood since the late 1880s. The Phase I research indicated that the site could be underlain by urban fill materials of unknown origin, which could include construction and demolition debris, abandoned petroleum tanks from former buildings, and/or other materials. The Phase I recommended a Phase II investigation to ascertain subsurface soil quality.

The EIS will summarize the results of the Phase I and Phase II Environmental Site Assessments, including any recommendations for additional testing or other activities that would be required either prior to or during implementation of the project. The analysis will also include a discussion of other hazardous materials issues related to demolition of the existing parking structure including a brief summary of available information and pre-demolition requirements relating to asbestos containing materials and lead-based paint.

TASK 11: INFRASTRUCTURE

As described in the *CEQR Technical Manual*, because of the size of the City's water supply system and because the City is committed to maintaining adequate water supply and pressure for all users, few actions would have the potential to result in significant adverse impact on the water supply system. Similarly, an evaluation of potential wastewater and stormwater impacts is not generally necessary unless a project is unusually large. Therefore, although the proposed project would increase the demand on water supply and increase the generation of stormwater

and sewage, it is not expected to create an adverse impact on these services. However, as recommended by the *CEQR Technical Manual*, the project's potential demand on water supply and potential generation of stormwater and sewage will be disclosed.

WATER SUPPLY

A. The existing water supply system will be described (including the location and size of the local distribution system), and any planned changes to the system will be discussed. Average and peak water demand for the proposed project will be projected. The effects of the incremental demand on the system will be assessed to determine if there is sufficient capacity to maintain adequate supply and pressure.

STORMWATER

B. Describe the existing storm water drainage system on the project site and amount of storm water generated by the site.

C. Describe the proposed project's stormwater plan, including the method of discharge and the proposed drainage area. Assess future storm water generation from the proposed project and assess its potential for impacts.

SEWAGE

D. The existing sewer system serving the development site (including the local and regional collection and treatment system) will be described based on information obtained from the New York City Department of Environmental Protection (DEP). The existing flows to the water pollution control plant (WPCP) that serves the site will be obtained for the latest 12-month period. The average monthly flow rate will be presented.

E. Sanitary sewage generation for the project will be estimated. The effects of the incremental demand on the system will be assessed to determine if there will be any impact on operations of the WPCP.

TASK 12: SOLID WASTE AND SANITATION SERVICES

According to CEQR criteria, a detailed solid waste and sanitation services assessment is appropriate if an action enacts regulatory changes affecting the generation or management of the City's waste or if the action involves the construction, operation, or closing of any type of solid waste management facility. The *CEQR Technical Manual* also states that actions involving construction of housing or other developments generally do not require evaluation for solid waste impacts unless they are unusually large. The proposed project's solid waste demand is not expected to create a significant adverse impact on sanitation services. Therefore, in accordance with the *CEQR Technical Manual*, the EIS will disclose the project's solid waste generation.

Existing and future New York City solid waste disposal practices will be described, including the collection system and status of landfilling, recycling, and other disposal methods. The impacts of the project's solid waste generation on the City's collection needs and disposal capacity will be assessed.

TASK 13: ENERGY

According to the *CEQR Technical Manual*, a detailed assessment of energy impacts is limited to actions that could significantly affect the transmission or generation of energy or that generate substantial indirect consumption of energy (such as a new roadway). The proposed project's energy demand is not expected to create a significant adverse impact on the consumption or supply of energy serving the project area. Therefore, in accordance with the *CEQR Technical Manual*, the EIS will disclose the project's energy consumption.

The energy systems that would supply the project with electricity and/or natural gas will be described. The energy usage for the project will be estimated, based on square footage. The effect of this new demand on the energy supply systems will be assessed.

TASK 14: TRAFFIC AND PARKING

The existing uses of the project site generate auto and truck trips. This traffic is largely expected to remain, and the proposed development would attract new customers, visitors, and residents, many of whom would travel by car. Thus, the project would create an increase in vehicular traffic in the neighborhood and increased demands for parking. The *CEQR Technical Manual* guidelines indicate that a detailed assessment of traffic and parking should be provided if a proposed action generates more than 50 vehicles in a peak hour. As the proposed project would create over 300,000 square feet of new retail development, as well as parking, a hotel, and a publicly accessible, privately owned open space, it would exceed this threshold, and consequently could have significant traffic impacts.

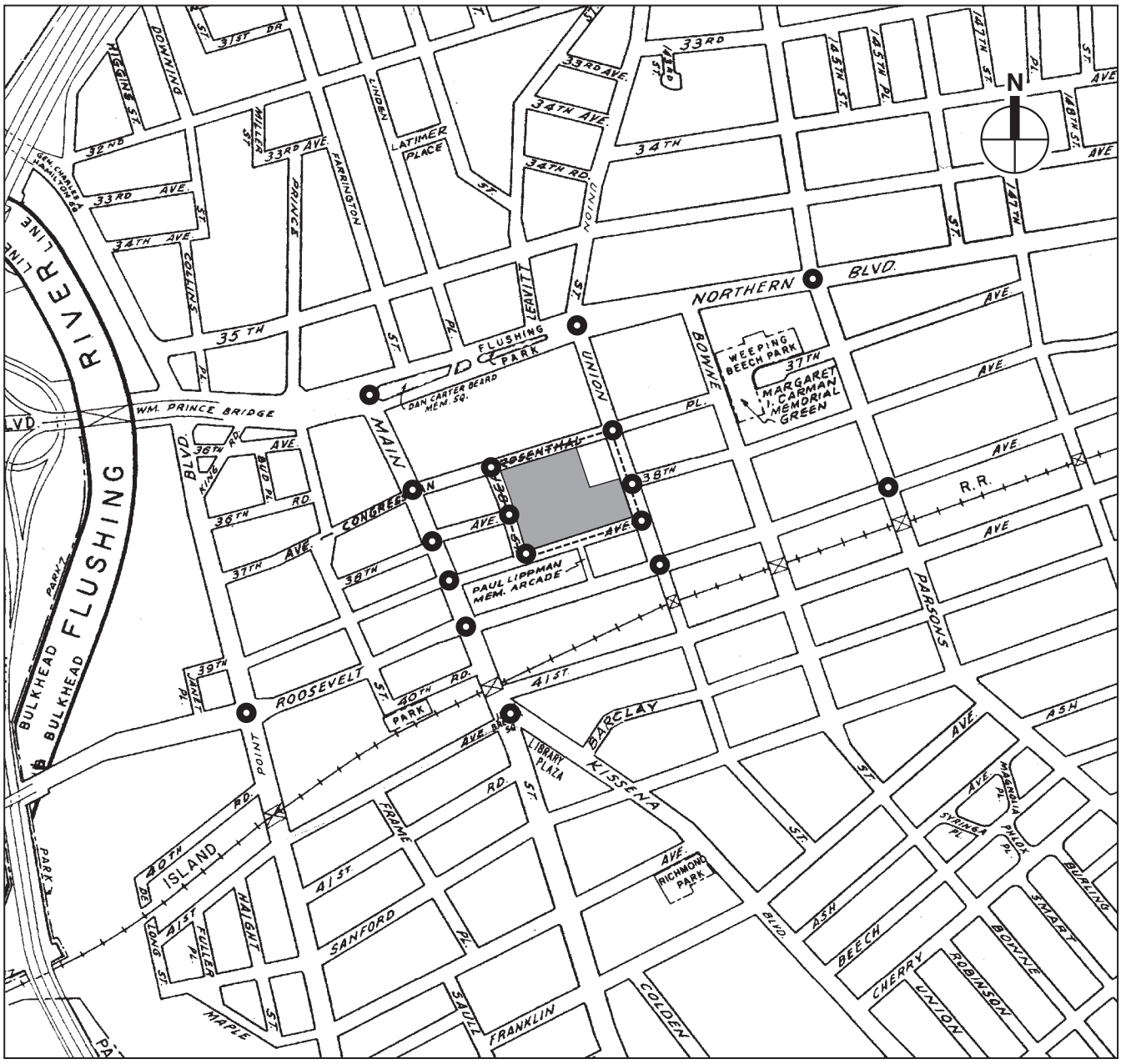
Therefore, a detailed analysis of the potential traffic and parking impacts of the proposed project will be required. The EIS will also reflect ongoing coordination with NYCDOT and EDC to incorporate traffic improvement initiatives by the City (i.e., "Development Framework for Downtown Flushing.")

The traffic and parking studies will include the following:

A. Define a local street traffic study area (see Figure 7) including the intersections most likely to be affected by project traffic. The study area will include:

- 39th Avenue/Main Street;
- 39th Avenue/138th Street;
- 39th Avenue/Union Street;
- 38th Avenue/Main Street;
- 38th Avenue/138th Street;
- 38th Avenue/Union Street;
- 37th Avenue/Main Street;
- 37th Avenue/138th Street;
- 37th Avenue/Union Street;
- Northern Boulevard/Main Street;
- Northern Boulevard/Union Street;
- Northern Boulevard/Parsons Boulevard;
- Roosevelt Avenue/College Point Boulevard;
- Roosevelt Avenue/Main Street;

5.15.06



Project Site

Rezoning Area Boundary

Intersections to be Analyzed

Traffic Study Area

Figure 7

- Roosevelt Avenue/Union Street;
- Roosevelt Avenue/Parsons Boulevard; and
- Main Street/Kissena Boulevard/41st Avenue.

The local street traffic study area also will include access driveways at the proposed parking garage.

B. Manual turning movement and vehicle classification counts for peak weekday and Saturday time periods will be conducted. The likely hours of peak traffic levels have been preliminarily identified as 7 to 9 AM in the weekday morning, 4 to 6 PM in the weekday evening, and noon to 2 PM in the Saturday midday. These manual counts will be supplemented with continuous (7-day) automatic traffic recorder (ATR) counts to develop an understanding of background temporal distribution of traffic and to determine/confirm peak analysis hours.

C. Collect physical street information needed for the subsequent capacity analyses: street directions, street and lane widths, turn prohibitions (if any), parking regulations, and signal phasing and timing data.

D. Determine intersection capacities, volume-to-capacity (v/c) ratios, average delays, and levels of service for existing conditions using 2000 Highway Capacity Manual (HCM) procedures.

E. Conduct travel time and delay runs along the following corridors: Northern Boulevard between College Point Boulevard and Parsons Boulevard (both directions), Union Street between Northern Boulevard and Sanford Avenue (both directions), 37th Avenue between College Point Boulevard and Bowne Street, 39th Avenue between College Point Boulevard and Union Street, Main Street between Northern Boulevard and Sanford Avenue, Roosevelt Avenue between College Point Boulevard and Parsons Boulevard, Sanford Avenue between College Point Boulevard and Parsons Boulevard, and Parsons Boulevard between Northern Boulevard and Sanford Avenue.

F. Apply an annual background traffic growth rate and the volume of trips expected to be generated by other significant proposed development projects in the immediate vicinity of the project site to determine future No Build traffic volume networks for the three traffic analysis periods in 2010.

G. Determine intersection capacities, volume-to-capacity (v/c) ratios, average delays, and levels of service for projected future No Build conditions.

H. Estimate the volume of trips generated by the proposed project. Person trip estimates, by mode of travel, and vehicle trip estimates will be prepared for each of the analysis hours.

I. Assign Build generated vehicle trips to the local street traffic analysis locations, and determine intersection v/c ratios, average delays, and levels of service. Significant traffic impacts will be identified as per *CEQR Technical Manual* guidelines.

J. Identify and evaluate traffic improvements needed to mitigate significant traffic impacts including, for example, signal phasing and timing changes, traffic and parking regulation modifications, and intersection geometric changes.

K. Develop projected travel speed and delay data to be used for air quality and noise analysis purposes.

L. Inventory off-street parking lots and garages within a half-mile from the edges of the project site, including their capacities and utilization levels during the traffic analysis hours, and inventory on-street parking regulations and their utilization as well.

M. Develop hourly in/out projections for each of the parking garages to be built as part of the proposed project, and develop hour-by-hour accumulation profiles for each of the traffic analysis conditions. Identify the adequacy of the amount of parking proposed to serve generated traffic trips.

TASK 14: TRANSIT AND PEDESTRIANS

The existing uses of the project site generate some transit and pedestrian trips. However, the proposed project is expected to create an increase in transit and pedestrian trips in the area. As described in the *CEQR Technical Manual*, a detailed analysis of transit and pedestrian trips should be provided if a proposed action is projected to result in more than 200 rail or bus transit riders in the peak hour. The proposed project would exceed this threshold, and consequently could have significant transit and/or pedestrian impacts. Therefore, a detailed analysis is warranted.

The transit and pedestrian analysis will assess the potential impacts of the proposed project on public transportation facilities and services (specifically on existing bus and subway services) and on pedestrian flows. This section of the EIS will analyze the existing conditions for these services and assess the incremental impact of the project-generated trips in 2010, when the project is scheduled for completion. The transit and pedestrian study will:

A. Identify nearest subway lines (Flushing-Main Street station on the No. 7 subway line) serving the project site, frequency of service, ridership and existing levels of service.

B. For both transit and pedestrian analyses, original data will be gathered to develop existing baseline conditions. Subway and bus data will be collected for the weekday AM, weekday PM, and Saturday midday peak periods. Pedestrian volumes will be collected for the weekday AM, weekday midday, weekday PM, and Saturday midday peak periods.

C. The transit analysis will include a description of nearby transit facilities and a characterization of subway and bus ridership levels. Transit service to the project site is available via NYCT subways and buses. Based on the *CEQR Technical Manual*, detailed analyses are required if a proposed action generates 200 or more peak hour trips at a particular subway station or bus route. Based on an understanding of the proposed project, a detailed assessment, including operational analyses of stairways and control areas, will be required for the Flushing-Main Street station. In addition, bus loading of nearby routes (Q12, Q14, Q15, Q16, Q17, Q20A, Q20B, Q25, Q27, Q28, Q34, Q48, Q65, Q66, QBx1, X32, N20, and N21) will be assessed in terms of their capability to accommodate additional riders from the project site.

D. Assess pedestrian conditions. The proposed project will generate pedestrian traffic along likely routes between the project area and connecting transit service and the adjacent neighborhoods. It is assumed that a quantified analysis of sidewalk, crosswalk, and corner conditions will be conducted, focusing on conditions along major pedestrian corridors, such as 39th Avenue, and other key locations where high pedestrian activities have been identified and/or would be generated.

E. As appropriate, potential mitigation measures, such as station improvements, widening crosswalks, and increasing frequency of nearby bus routes, will be recommended.

TASK 16: AIR QUALITY

As discussed in the EAS, an air quality assessment is required for actions that can result in either significant mobile source or stationary source air quality impacts. The mobile source air quality analysis will determine (using computerized dispersion modeling techniques) the effects of traffic both with and without the proposed project on carbon monoxide (CO) levels at selected intersection locations within the study area. Where significant impacts are predicted to occur, feasible traffic measures to alleviate those impacts will be developed. The analysis methodology involves selection of appropriate receptor sites, calculation of vehicular emissions, calculation of pollutant levels using dispersion models that have been approved by the applicable regulatory agencies (i.e., EPA, DEC, and DEP), and the determination of impacts. EPA's screening model, CAL3QHC, will be used to estimate CO concentrations. At locations where exceedances are predicted to occur, EPA's refined mobile source simulation model, CAL3QHCR, will be used.

The stationary source air quality impact analysis will determine the effects of emissions from any proposed heating, ventilating, and air conditioning (HVAC) systems on pollutant levels (i.e., sulfur dioxide, CO, particulate, and/or nitrogen dioxide concentrations). In addition, the proposed project is in an area adjacent or near to existing industrial/manufacturing uses. Therefore, an analysis to examine the potential for impacts on residents of the proposed buildings from industrial emissions will have to be performed.

MOBILE SOURCE ANALYSES

A. Gather existing air quality data. Collect and summarize existing ambient air quality data for the study area.

B. Determine receptor locations for microscale analysis. Select critical intersection locations in the study area, based on data obtained from the project's traffic analysis. These intersections, based on potential traffic impacts, will potentially include Main Street and 41st Avenue, Union Street and 37th Avenue, and Main Street and 39th Avenue. At each intersection, analyze multiple receptor sites in accordance with CEQR guidelines.

C. Select dispersion model. EPA's CAL3QHC screening model will be used. EPA's CAL3QHCR refined intersection CO model will be used in the event a significant impact is predicted using the CAL3QHC model. Five years (2000-2004) of meteorological data from La Guardia Airport and concurrent upper air data from Brookhaven, N.Y., will be used for the simulation program.

D. Select emission calculation methodology and worst-case meteorological conditions. Vehicular cruise and idle CO emissions for the dispersion modeling will be computed using EPA's MOBILE6.2 model. For the worst-case analysis (at screening locations), conservative meteorological conditions to be assumed in the dispersion modeling are a 1 meter per second wind speed, Class D stability, 43°F temperature, and a 0.70 persistence factor.

E. At each mobile source microscale receptor site, calculate maximum 1- and 8-hour CO concentrations for existing conditions, the future conditions without the proposed project

and the future conditions with the proposed project. Concentrations will be determined for two peak periods. No field monitoring will be included as part of these analyses.

F. Assess the potential impacts associated with the proposed parking facility. Information on the design of the parking garage will be employed to determine potential off-site impacts from these vented emissions. A temperature of 43°F will be assumed in the analysis, and a point source screening analysis will be used. Cumulative impacts from on-street sources and emissions from the parking facilities will be calculated where appropriate. Compare future CO pollutant levels with standards and applicable *de minimis* criteria to determine potential significant adverse project impacts.

G. If analysis with the screening-level CAL3QHC model results in *de minimis* impacts or exceedances of the CO standard, use the refined CAL3HCR model.

H. Examine mitigation measures. Analyses will be performed to examine and quantify ameliorative measures to minimize any significant adverse impacts of the proposed project.

I. Determine the consistency of the proposed project with the strategies contained in the State Implementation Plan (SIP) for the area.

J. If the net estimated number of equivalent heavy duty trucks from the proposed project is greater than the City's screening threshold for determining whether a $PM_{2.5}$ analysis is warranted, an analysis of $PM_{2.5}$ will be conducted using the CAL3QHCR model. Mobile source $PM_{2.5}$ impacts will be evaluated against currently available NYCDEP and NYSDEC guidance criteria and, where necessary, combined with stationary source $PM_{2.5}$ impacts to determine whether the criteria are exceeded.

STATIONARY SOURCE ANALYSES

K. Assess the potential impacts associated with the emissions from the proposed project's buildings. The *CEQR Technical Manual* screening methodology will be used to determine the potential for significant impacts based on a comparison to ambient air quality standards and the City's $PM_{2.5}$ interim guidance criteria.

L. If potential impacts are identified, perform detailed stationary source analysis using EPA's AERMOD dispersion model. Five years of meteorological data with surface data from La Guardia Airport and upper air data from and Brookhaven, New York, will be used for the simulation modeling. Concentrations of nitrogen dioxide, sulfur dioxide, CO, and particulate matter (PM_{10} and $PM_{2.5}$) will be determined. In the event that violations of standards or significance thresholds are predicted, examine design measures to reduce pollutant levels to within these levels.

Industrial Source Analyses

M. A field survey will be performed to determine if there are any manufacturing or processing facilities within 400 feet of the proposed project. The DEP's Bureau of Environmental Compliance (BEC) files will be examined to determine if there are permits for any industrial facilities that are identified.

N. If necessary, based upon information on emissions from manufacturing or processing facilities within 400 feet of the proposed project, a screening analysis of potential impacts from permitted industrial sources on the proposed actions will be performed. The DEP-BEC files will be examined to determine if there are permits for any industrial

facilities that are identified. A review of federal and state permits will also be conducted. The ISC3 dispersion model screening database will be used to estimate the short-term and annual concentrations of critical pollutants at the potential receptor sites. Predicted worst-case impacts on the project will be compared with the short-term guideline concentrations (SGC) and annual guideline concentrations (AGC) reported in the DEC's *DAR-1 AGC/SGC Tables* (December 2003) to determine the potential for significant impacts. In the event that violations of standards are predicted, measures to reduce pollutant levels to within standards will be examined.

TASK 17: NOISE

For the proposed project, the two major areas of concern regarding noise are the effect of the proposed project on noise levels in the adjacent community and the noise levels in the proposed project buildings. Existing noise levels in the area immediately adjacent to the project site are relatively high and reflect the level of activity (particularly vehicular activity) in the area. Autos, taxis, and trucks along with noise generated by aircraft flyovers, mechanical equipment, and people going about their normal business all contribute to the total ambient noise levels. For this reason, the DEIS will examine the potential for mobile source noise impacts due to increases in vehicular traffic in the study area.

Noise is typically measured in units called decibels (dB), which are 10 times the logarithm of the ratio of the sound pressure squared to a standard reference presence squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network, known as "A"-weighting, in the measurement system, to simulate the response of the human ear. For most noise assessments, the A-weighted sound pressure level in units of dBA is used in view of its widespread recognition and its close correlation with perception. Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise loudness. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over more extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors, such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are sometimes used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively. Discrete event peak levels are given as L_{01} levels.

In conformance with the *CEQR Technical Manual* requirements, existing and future noise levels, both with and without the proposed project, will be examined to determine conformance with impact criteria. Aircraft noise will be separated from vehicular and other noise sources to determine project impacts and attenuation requirements in building design. In addition, the *CEQR Technical Manual* requires the use of the L_{eq} and L_{10} noise descriptors for vehicular noise analyses. Our measurement program and analyses will satisfy these requirements. In terms of the

effects of the proposed project on community noise levels, the CEQR noise criteria considers a 3-5 dBA increase in noise a significant impact. To achieve a 3 dBA increase in noise level from traffic, there would have to be approximately a doubling of traffic (and/or a significant increase in the number of trucks). In the unlikely event that the project has a significant community noise impact, mitigation measures will have to be examined. These would include methods of spreading project-generated traffic over more roadways (i.e., additional approach/departure paths to the project site) and methods of reducing interior noise levels at any nearby sensitive receptor sites.

In terms of noise levels in the proposed building, the CEQR criteria requires that any new or reconditioned buildings have sufficient acoustical treatment to provide interior noise levels that do not exceed 45 dBA. Generally, this can be accomplished using standard building construction with double-glazed windows and air conditioning.

The tasks involved in the noise analysis are as follows:

A. Select appropriate noise descriptors. Appropriate noise descriptors to describe the noise environment and the impact of the proposed project will be selected. The L_{10} and $L_{eq(1)}$ levels will be examined.

B. Select noise monitoring and receptor locations for detailed analysis. These sites will include sensitive locations (including nearby residences, parks, and schools) or representative locations in the study area. Based on likely traffic arrival and departure patterns and nearby sensitive receptors, it is assumed that six receptor sites will be selected. Receptor sites will be selected on each of the streets adjacent to the project site, at nearby sensitive receptor locations, and along major feeder streets to and from the project site.

C. Determine existing noise levels. Existing noise levels will be determined primarily by field measurements. Measurements will be made during three time periods—the weekday morning peak, evening peak, and a Saturday peak period. Based on the proposed traffic study and the mix of retail and residential uses, a weekday midday peak period will not be analyzed. Measurements will be made using a Type I noise analyzer and would include measurements of L_{eq}, L_1, L_5, L_{10}, L_{50}, and L_{90} noise levels. Where necessary, measurements will be supplemented by mathematical model results to determine an appropriate base of existing noise levels.

D. Determine future noise levels without the proposed project for the future analysis year. At each receptor location identified above, noise levels without the proposed project will be determined using existing noise levels and proportional modeling techniques or other approved analysis methodologies[1]. The methodology used will allow for variations in vehicle/truck mix.

E. Determine future noise levels with the proposed project for the future analysis year. At each receptor location identified above, predicted noise levels with the proposed project for the analysis years will be determined using existing noise levels (i.e., ambient noise

[1] Proportional modeling will be used as a screening methodology for determining the potential for significant adverse impacts. If proportional modeling indicates the potential for significant impacts, a detailed analysis will be performed using the traffic noise model (TNM).

levels) and proportional modeling techniques or other approved analysis methodologies. The methodology used will allow for variations in vehicle/truck mix.

F. Compare noise levels with standards, guidelines, and other criteria, and impact evaluation. Existing noise levels and future noise levels with and without the proposed project will be compared with various noise standards, guidelines, and other noise criteria, including CEQR noise impact criteria.

G. Describe window/wall construction and ventilation schemes for future buildings to show whether interior noise levels will meet City standards.

H. Examine mitigation measures. Recommendations of measures to attain acceptable interior noise levels and to reduce noise impacts to within acceptable levels will be made, if needed. The most common mitigation measure is to provide adequate window/wall attenuation at the affected receptor. An alternate means of ventilation would allow for a closed window condition, ensuring the acceptable interior nose levels. Standard double-glazed or laminated windows are also available that would provide adequate noise attenuation. If necessary, appropriate mitigation measures would be set forth in noise (E)-Designations associated with the proposed zoning map change.

TASK 18: CONSTRUCTION IMPACTS

The *CEQR Technical Manual* indicates that a project may result in potential construction impacts if a project site is located near a sensitive natural resource, as construction impacts may result from the disruption of such areas. Because soils are disturbed during construction, any action proposed for a site that has been found to have the potential to contain hazardous materials should also consider the possible construction impacts that could result from that contamination.

The proposed project, because of its size and displacement of public parking spaces, could have the potential for substantial effects during construction. The likely construction schedule for development at the project site will be described. This analysis will focus on the technical areas of historic and archeological resources, traffic and parking, air quality, noise, transit and pedestrians, and hazardous materials. The analysis will include the following technical areas:

A. *Historic and Archaeological Resources*. Any potential construction-period impacts on historic resources will be considered. Construction impacts may occur on historic resources if in-ground disturbances or vibrations associated with construction undermines the foundation or structural integrity of nearby historic resources.

B. *Transportation Systems*. This assessment will consider losses in lanes, sidewalks, and other transportation services during the various phases of construction and identify the increase in vehicle trips from construction workers and equipment. In consultation with the project's construction manager, review the construction plan and prepare a qualitative discussion for inclusion in the EIS.

C. *Air Quality*. The construction air quality impact section will contain a qualitative discussion of both mobile air source emissions from construction equipment and worker and delivery vehicles, and fugitive dust emissions. It will discuss measures to reduce impacts.

D. *Noise*. The construction noise impact section will contain a qualitative discussion of noise from each phase of construction activity.

E. *Hazardous Materials.* Summarize actions to be taken during project construction to limit exposure of construction workers to potential contaminants.

F. *Other Technical Areas*. As appropriate, discuss the other areas of environmental assessment for potential construction-related impacts.

TASK 19: PUBLIC HEALTH

According to the guidelines of the *CEQR Technical Manual*, public health concerns for which a public health assessment may be warranted include increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts; increased exposure to heavy metals and other contaminants in soil/dust resulting in significant adverse hazardous materials or air quality impacts; the presence of contamination from historic spills or releases of substances that might have affected or affect groundwater to be used as a source of drinking water; solid waste management practices that could attract vermin and result in an increase in pest populations; potentially significant adverse impacts to sensitive receptors from noise and odors; and actions for which the potential impact(s) result in an exceedance of accepted federal, state, or local standards. No major public health impacts are expected with the proposed project (i.e., the project does not include any facilities of a community health concern). This task will therefore examine the proposed project using a screening level of assessment in conformance with the *CEQR Technical Manual*. A detailed public health assessment will be undertaken if traffic and air quality analyses indicate it is necessary.

TASK 20: MITIGATION

Where significant impacts have been identified in the analyses discussed above, measures will be described to mitigate those impacts. This task summarizes the findings of the relevant analyses and discusses potential mitigation measures. Where impacts cannot be mitigated, they will be described as unavoidable adverse impacts.

TASK 21: ALTERNATIVES

The purpose of an alternatives analysis is to examine reasonable and practicable options that avoid or reduce project-related significant adverse impacts and achieve the stated goals and objectives of the proposed project. The specific alternatives to be analyzed are typically finalized with the lead agency as project impacts become clarified. However, they will at least include the No Build Alternative (no disposition and rezoning or related actions), which assumes that the proposed project is not implemented and the project site maintains its current uses, and an alternative that reduces any significant adverse unmitigated impacts. Other potential alternatives may include a development scenario projected under the existing zoning district and a reconfiguration of project components.

TASK 22: SUMMARY CHAPTERS

Several summary chapters will be prepared, focusing on various aspects of the EIS, as set forth in the regulations and the *CEQR Technical Manual*. They are as follows:

1. *Executive Summary*. Once the EIS technical sections have been prepared, a concise executive summary will be drafted. The executive summary will use relevant material from the body of the EIS to describe the proposed project, its environmental impacts, measures to mitigate those impacts, and alternatives to the proposed project.

2. *Unavoidable Adverse Impacts*. Those impacts, if any, which could not be avoided and could not be practicably mitigated, will be listed in this chapter.
3. *Growth-Inducing Aspects of the Proposed Project*. This chapter will focus on whether the proposed project has the potential to induce new development within the surrounding area.
4. *Irreversible and Irretrievable Commitments of Resources*. This chapter focuses on those resources, such as energy and construction materials, that would be irretrievably committed if the project is built.
5. *Short-Term Use of the Environment vs. Long-Term Productivity*. This chapter permits an examination of the adverse and beneficial impacts of the proposed project in the short-term (e.g., during construction) and over the long term. ✷