THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

NOTICE OF COMPLETION
FINAL ENVIRONMENTAL IMPACT STATEMENT
for the
CORNELL NYC TECH PROJECT

Lead Agency:	Office of the Deputy Mayor for Economic Development 100 Gold Street, 2nd Floor New York, NY 10038
CEQR Number:	12DME004M
SEQR Classification:	Type I
Date Issued:	March 8, 2013
Location:	Block 1372, Lot 1 (partial) Block 1373, Lot 20 Community District 8 Roosevelt Island Borough of Manhattan

Pursuant to City Environmental Quality Review, Mayoral Executive Order 91 of 1977, as amended, and the City Environmental Quality Review Rules of Procedure found at Title 62, Chapter 5 of the Rules of the City of New York (CEQR), and the State Environmental Quality Review Act, Article 8 of the State Environmental Conservation Law and its implementing regulations found in Part 617 of 6 NYCRR (SEQRA), a Final Environmental Impact Statement (FEIS) has been prepared for the actions described below and is available for public inspection at the offices listed on the last page of this notice. A Positive Declaration and draft Scope of Work for the Environmental Impact Statement (EIS) were issued and distributed on April 18, 2012 to begin the formal public review process for the project and a public scoping meeting was held on May 22, 2012. The scoping meeting was held at the Manhattan Park Community Center at 8 River Road, Roosevelt Island, New York to accept oral comments, and written comments were accepted until June 8, 2012. The Final Scope of Work was issued on October 5, 2012 and reflects analyses determined to be appropriate for inclusion in the EIS.

A public hearing on the Draft Environmental Impact Statement (DEIS) was held on February 6, 2013 at Spector Hall at the New York City Department of City Planning located at 22 Reade Street, New York, NY 10007. The hearing was in conjunction with the City Planning Commission's public hearing on the project's land use applications pursuant to the Uniform Land Use Review Procedure (ULURP). The public comment period on the DEIS remained open until 5:00 PM on Tuesday, February 19, 2013.

1. PROJECT DESCRIPTION

INTRODUCTION

Cornell University, together with the New York City Economic Development Corporation (NYCEDC) and the New York City Department of Citywide Administrative Services, is seeking a number of discretionary approvals (the "proposed actions") to support and allow for the development of an applied science and engineering campus on Roosevelt Island (the Cornell NYC Tech project or "proposed project").

The project site is located on the southern portion of Roosevelt Island, south of the Ed Koch Queensboro Bridge. A majority of the project site (Block 1373, Lot 20) is owned by the City of New York and is occupied by the Coler-Goldwater Specialty Hospital and Nursing Facility's Goldwater Memorial Hospital (Goldwater Hospital), which is operated by the New York City Health and Hospitals Corporation (NYCHHC). The remainder of the project site (Block 1372, part of Lot 1) is vacant and owned by the City of New York and leased to the Roosevelt Island Operating Corporation (RIOC). Independently of, and prior to, the proposed project, NYCHHC will vacate the Goldwater Hospital and relocate patients and services elsewhere.[1] Outside of the hospital site, the Island is controlled by RIOC, under a long-term lease with the city.[2]

Under the terms of an agreement between the City of New York and NYCEDC Cornell is required to build a total of 300,000 gsf of building space in Phase 1, of which a minimum of 200,000 gsf must be for academic use. [3] Phase 2 requirements include a cumulative total of 1.8 million gsf of building space, of which 620,000 gsf must be for academic use.

Construction of the project is expected to begin in 2014 with the first phase of the Cornell NYC Tech project expected to begin operations on Roosevelt Island in Summer 2017; 2018 will be the first full year of operation.[4] Phase 1 is anticipated to consist of up to 790,000 gross square feet (gsf) of development consisting of approximately 200,000 gsf of academic space, 100,000 gsf of corporate co-location space, approximately 300,000 gsf of residential space (442 units), and 170,000 gsf for an Executive Education Center with hotel and conference facilities. Up to another 20,000 gsf could be developed as a central utility plant, and up to 250 parking spaces could be provided. Phase 2, expected to be completed by 2038, is anticipated to add a maximum of 1.34 million gsf consisting of approximately 420,000 gsf of academic space, 400,000 gsf of corporate co-location space, 500,000 gsf of residential space (652 units), and possibly

[1] NYCHHC issued a Negative Declaration on December 6, 2011 for the closure and relocation of operations currently housed at the Goldwater Hospital (CEQR No. 12HHC001M).

[2] Roosevelt Island is owned by the City of New York, and the entire Island except for the Goldwater Hospital campus and the Coler Memorial Hospital campus is leased to the State of New York. RIOC was established by New York State in 1984 to manage the operation, maintenance, and development of the Island. The State's lease on the Island expires in 2068, when control will revert to New York City.

[3] Academic use is defined as classrooms, offices for academic personnel, technology transfer offices, laboratories, teaming areas, lecture halls, incubators and accelerators, seminar and meeting rooms (for academic purposes), other uses primarily for teaching, learning and/or academic research, and other ancillary facilities for the use and convenience of academic personnel such as lounges, dining areas and similar facilities. Permitted non-academic uses include community uses, residential buildings for academic personnel (including student lounges located therein), ancillary recreational uses, visitor lodging, eating and drinking establishments, corporate co-location space for technology-related businesses, and other uses ancillary to the academic uses.

[4] Cornell opened a portion of its Cornell NYC Tech academic program in leased space in New York City in 2012. Leasing such space did not require any governmental approvals.

another 20,000 gsf central utility plant. In total, the maximum potential Cornell NYC Tech project program is assumed to comprise up to 2.13 million gsf of development consisting of 620,000 gsf of academic space, 500,000 gsf of corporate co-location space, 800,000 gsf of residential space (1,094 units), 170,000 gsf for the Executive Education Center, and 40,000 gsf for the central utility plants. Up to approximately 25,000 gsf of campus-oriented retail could be provided within this program, and at full build, up to 500 parking spaces could also be provided.

This environmental impact statement (EIS) has been prepared in conformance with the State Environmental Quality Review Act (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 City Environmental Quality Review (CEQR), found at Title 62, Chapter 5 of the Rules of the City of New York. The EIS follows the guidance of the June 2012 *CEQR Technical Manual*. The Office of the Deputy Mayor for Economic Development (ODMED) is the CEQR lead agency for this proposal.

APPLIED SCIENCES NYC INITIATIVE AND PURPOSE AND NEED FOR THE CORNELL NYC TECH PROJECT

The City of New York launched its Applied Sciences[5] NYC initiative in 2010 after working with a range of New York City's business leaders, academics, community groups, and entrepreneurs to identify ambitious, achievable initiatives that the city could undertake to attain local economic growth. From that process, an unmet demand within New York City for top-flight engineers and applied scientists was identified.

The purpose of the Applied Sciences competition in New York City was to provide one or more opportunities for leading academic institutions to build a world-class applied sciences and engineering campus or campuses in New York City. The overarching goal is to maintain and increase New York City's global competitiveness, diversify the city's economy, drive economic growth, and create jobs for New Yorkers.

In December 2010, the city issued a Request for Expressions of Interest to gauge universities' interest in developing and operating a new applied science and engineering research campus in New York City. In connection with the new campus, the city indicated its willingness to provide city-owned land in addition to a significant capital contribution in site infrastructure. In 2011, the city issued a Request for Proposals (RFP) seeking a university, institution or consortium to develop and operate a new (or expanded) campus in the city. The city selected Cornell University, in conjunction with its academic partner the Technion - Israel Institute of Technology, to develop the Applied Sciences NYC project at the Goldwater Hospital site on Roosevelt Island—the Cornell NYC Tech project.

The Cornell NYC Tech project intends to focus on research in the applied sciences and fields of study related to the technology sector and will offer graduate degrees only. A defining aspect of the new campus's graduate-level academic programs is the close tie to business and entrepreneurship that will be woven throughout the curriculum. Research will be focused on technology in application areas that have commercial potential in New York City markets. Specifically, New York City's technology sector and information-driven economy serves as the impetus for the development of many consumer-oriented companies focused specifically on technology to meet end users' needs, including some of NYC's core industries: media, advertising, finance, healthcare, real estate, construction, and design.

SITE CONDITIONS

The project site, which consists of Manhattan Block 1373, Lot 20 and a portion of Lot 1, is located on the southern portion of Roosevelt Island and totals approximately 12.5 acres.

Goldwater Hospital opened on the Island in 1939 as a chronic care and nursing facility. It consists of the original six-building complex (Buildings A through F) and a circa 1971 addition (Building J). Goldwater

[5] Applied sciences is the discipline of applying scientific knowledge from one or more fields to practical problems.

Hospital has been determined by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to be eligible for listing on the State and National Registers of Historic Places (S/NR-eligible); the complex contains mural paintings commissioned for the hospital as part of the Federal Art Project of the Works Progress Administration (WPA). In 1996, Goldwater Hospital and Coler Memorial Hospital (which is located on the northern portion of the Island) merged to become Coler-Goldwater Specialty Hospital and Nursing Facility. As part of a major modernization planning effort that has been ongoing since approximately 2007 and that includes the relocation of Goldwater Hospital patients and services, NYCHHC will move current Goldwater Hospital activities to other facilities and vacate the Goldwater Hospital site. Cornell would receive the site after it has been vacated; demolition of the existing and vacant hospital buildings would occur as part of the proposed Cornell NYC Tech project.

A sanitary pump station, owned and maintained by the New York City Department of Environmental Protection (NYCDEP) is located in a fenced area on the southeast corner of the project site. A one-way loop road encircles the project site with traffic flow in a clockwise direction (i.e., southbound on the roadway east of the site, westbound on the roadway south of the site, and northbound to the west of the site). To the north of the site, the street is westbound. A promenade that is not part of the project site extends along the east and west sides of Roosevelt Island along the entirety of its waterfront north of South Point Park, providing a walkway for pedestrians; a concrete seawall forms the barrier along the East River. The project site, like all of Roosevelt Island, is zoned R7-2, a medium-density residential designation.

CORNELL NYC TECH PROJECT PLANNING

Cornell has a long history and a strong presence within New York City. Founded in Ithaca, New York in 1865, Cornell University first established a presence in New York City in 1898, with the founding of what is now known as the Weill Cornell Medical College (WCMC). WCMC began an affiliation with New York Hospital in 1913 and subsequently with what is now New York-Presbyterian Hospital (1998). The Graduate School of Medical Sciences was founded in 1952 (convergence of two institutions—Sloan-Kettering Institute and Weill Cornell Medical College). Cornell's Joan and Sanford I. Weill Medical College and Weill Cornell Graduate School of Medical Sciences are located on the Upper East Side of Manhattan between 65th and 72nd Streets.

In addition to medical studies, Cornell has a number of other active academic programs in Manhattan, including programs in financial engineering, labor relations, architecture and planning, and cooperative extension. Continuing its long connection with New York City, and consistent with Cornell's plan to expand its engineering and technology programs, in 2011, Cornell responded to the city's RFP to build a world-class applied sciences and engineering campus in New York City. Following selection by New York City, Cornell has undertaken various planning activities for the Cornell NYC Tech project, including campus framework planning. Cornell's Campus Framework will guide development of the proposed project. The framework will include a discussion of principles that will guide design and implementation of the campus; strategies for campus operations (e.g., vehicular and pedestrian circulation, service access and loading, and parking); principles for site design, including sustainability goals and strategies to meet these goals; and design guidelines that would apply to the campus as a whole and to individual parcels and the site's open spaces. The framework is intended to guide development while allowing Cornell flexibility in implementing the plan over the project's long build out period.

PROPOSED ACTIONS

The proposed actions required to facilitate the Cornell NYC Tech project are as follows:

- Disposition of City-owned property (by lease with a purchase option) from the City of New York to the New York City Land Development Corporation (NYCLDC), which will assign the lease to Cornell.
- Approval of the lease and sale terms of the disposition parcels pursuant to Section 384(b)(4) of the New York City Charter.

- RIOC's actions as an involved agency may include amendment of the 1969 Master Lease originally between New York City and the New York State Urban Development Corporation (RIOC's predecessor in interest) and related actions.
- Amendment of the NYCHHC operating agreement with the city by the Corporation Board in order to surrender a portion of the project site (Block 1373, Lot 20).
- Zoning Map amendment to change the project site and surrounding area zoning from R7-2 to C4-5, and to map the Special Southern Roosevelt Island District over the same area (the "rezoning area"). The proposed C4-5/Special Southern Roosevelt Island District zoning designation would allow for the commercial uses anticipated with the project up to a maximum FAR of 3.4. Residential uses in the C4-5/Special Southern Roosevelt Island District would be permitted to a maximum FAR of 3.44, and community facility uses would be allowed to a maximum FAR of 6.5. Use Group 17B research labs would also be allowed under the C4-5/Special Southern Roosevelt Island District, to a maximum FAR of 3.4.
- Zoning Text amendment to create the Special Southern Roosevelt Island District and to establish special use, bulk, and public access controls for the rezoning area. The Special District is intended to create a uniform, flexible framework for the ongoing development of the Cornell NYC Tech campus. The Special District goals include the following specific purposes:
  - To provide opportunities for the development of an academic and research and development campus in a manner that benefits the surrounding community;
  - To allow for a mix of residential, retail, and other commercial uses to support the academic and research and development facilities and complement the urban fabric of Roosevelt Island;
  - To establish a network of publicly-accessible open areas that take advantage of the unique location of Roosevelt Island and that integrate the academic campus into the network of open spaces on Roosevelt Island and provide a community amenity;
  - To strengthen visual and physical connections between the eastern and western shores of Roosevelt Island by establishing publicly-accessible connections through the Special District and above grade view corridors;
  - To encourage alternative forms of transportation by eliminating required parking and placing a maximum cap on permitted parking;
  - To provide flexibility of architectural design within limits established to assure adequate access of light and air to the street and surrounding waterfront open areas, and thus to encourage more attractive and innovative building forms; and
  - To promote the most desirable use of land in this area and thus conserve the value of land and buildings, and thereby protect the city's tax revenues.
  - Properties within the proposed Special Southern Roosevelt Island District would be subject to special use, bulk, and public access provisions that would supplement or supersede the underlying zoning district.
- City Map Amendment to map the one-way loop road surrounding the project site and its connection to Main Street as a city street.

It is also possible that an approval from the U.S. Environmental Protection Agency (USEPA) would be required with respect to a geothermal well system that may be part of the project.

REASONABLE WORST-CASE DEVELOPMENT SCENARIO

INTRODUCTION

Pursuant to the actions discussed above and beginning in 2014, over a period of approximately 24 years, Cornell anticipates building up to the following on the project site, which represents the maximum likely

development program, or reasonable worst-case development scenario (RWCDS) for purposes of analysis in this EIS:

- Two Cornell buildings for academic purposes.
- One residential building to house campus leadership and faculty, postdoctoral fellows, Ph.D. candidates, and master's students.
- An Executive Education Center with hotel and conference facilities.
- Three corporate co-location buildings that would include space for private companies that wish to take advantage of the proximity to Cornell's academic activities and to Cornell's faculty, researchers, and students. These buildings may also house academic space.
- A mixed-use building that comprises academic space at the base with a residential tower rising above the base.
- A mixed-use building that contains corporate co-location uses at the base with a residential tower rising above the base for Cornell faculty, postdoctoral fellows, Ph.D. candidates, master's students, and leadership.
- A modest amount of campus-oriented retail uses. Retail space would include uses such as a restaurant, cafés, newsstands, or a University bookstore and would serve the Cornell NYC Tech residents and workers.
- One or two central utility buildings to serve the campus; and
- Publicly-accessible open space. Under the proposed zoning text, at least 20 percent of the project site—or 2.5 acres—must be publicly-accessible open space. While it is Cornell's intention to create more than this minimum requirement, for purposes of a conservative analysis, the EIS assumes the minimum amount of publicly-accessible open space.

In addition to these uses, it is anticipated that up to 500 parking spaces could be provided at the project site, with 250 spaces in Phase 1 and another 250 spaces provided in Phase 2.

In support of the Cornell NYC Tech project, Con Edison would upgrade an existing gas line to Roosevelt Island. The upgrade would require the replacement of some piping and the change-out of pressure regulators within the Con Edison system.

Table S-1 summarizes the proposed development by use and by phase. Overall, by 2038, the proposed actions are anticipated to result in the development of up to approximately 2.13 million gross square feet of new uses.

The total square footage of the buildings represents the reasonable worst-case development scenario for purposes of the environmental review. Individual program elements can be considered "illustrative"; variations in the allocation of the specific space types, especially in construction after Phase 1, may occur. However, the maximum total square footage is expected to remain substantially the same.

The following sections describe the proposed reasonable worst-case development site plan for Phase 1 and at full build out of the project (i.e., once Phases 1 and 2 are complete).

Table S-1
Reasonable Worst-Case Development Program for CEQR (1)

Use	Phase 1: 2018		Phase 2: 2038		Full Build (Phases 1 and 2)	
	Gross Square Footage	Units/ Rooms/ Spaces	Gross Square Footage	Units/ Rooms/ Spaces	Gross Square Footage	Units/ Rooms/ Spaces
Academic	200,000	N/A	420,000	N/A	620,000	N/A
Residential Housing (Total) (2)						
Faculty Housing		104		142		246
Student Housing		338		510		848
Residential Total	300,000	442	500,000	652	800,000	1,094
Corporate Co-location	100,000	N/A	400,000	N/A	500,000	N/A
Executive Education Center (3)	170,000	225	0	N/A	170,000	225
Utility Plant	20,000		20,000	N/A	40,000	
Parking		250		250		500
Total (4)	**790,000**		**1,340,000**		**2,130,000**	

Notes:
(1) Under the agreement between the City of New York and NYCEDC, Cornell is obligated to build no less than 300,000 sf of buildings, of which at least 200,000 sf shall be academic space by June 30, 2017; by 2037, Cornell is obligated to build a minimum of 1,800,000 sf of total building space of which a minimum of 620,000 sf must be academic use. RWCDS conservatively accounts for likely maximum program and population by phase.
(2) Residential units would be the same size but could be occupied differently (e.g., a faculty family may occupy a multi-bedroom unit while such units may also be rented by unrelated students without families as two or three shares).
(3) The conference facilities would occupy approximately 25,000 gsf of the 170,000 gsf Executive Education Center.
(4) It is anticipated that for analysis purposes up to approximately 25,000 gsf of campus-oriented retail could be included on the site (e.g., café, a restaurant, newsstand, bookstore, etc.).

PHASE 1

The Phase 1 buildings, which would include academic, corporate co-location, residential, and Executive Education Center buildings, would be developed in the northern portion of the project site. The Phase 1 central utility plant would be located toward the northern edge of the site. Open space would also be included as part of Phase 1. Specifically, Phase 1 would include:

- A Cornell building for academic purposes. This building is anticipated to be approximately 150,000 gsf in size and could be up to 8 stories in height. At this time, designs for this building reflect an academic building that has a 32,000 sf footprint and is four stories tall (approximately 60 feet, 69 feet including the building canopy).
- A corporate co-location building. This building is anticipated to be approximately 150,000 sf in size and could be up to 8 stories in height. This building would house approximately 100,000 sf of corporate co-location use and 50,000 sf of academic space. At this time, designs for this building reflect a corporate co-location building that has a 30,000 sf footprint and is five stories tall (approximately 74 feet).
- A residential building of approximately 300,000 sf for campus faculty and students. This building is anticipated to be up to approximately 31 stories in height (approximately 320 feet) with current designs showing a 10,800 sf footprint.
- An Executive Education Center. This building would be approximately 170,000 sf in size with up to 225 hotel rooms. The conference facility would occupy approximately 25,000 gsf of the building. The building could be up to 17 stories; current plans for this building reflect a building with a 21,000 sf footprint and a height of 13 stories (161 feet).

Approximately 10,000 gsf of campus-oriented retail would be included on the site and could include uses such as a restaurant, cafés, newsstand, or bookstore.

The central utility plant would house in-coming utility services and provide space for centralized electric production or co-generation facilities. As discussed above, Cornell has set a goal to achieve net-zero energy

consumption for its Phase 1 academic building. To meet this goal, an array of photovoltaic (PV) panels may be constructed above the roof of the academic building; it may also extend over a portion of the central spine (creating a canopy), and possibly continue over the roof of the corporate co-location building.

The open space to be developed as part of Phase 1 would total 1.3 acres. Portions of the southern portion of the project site are anticipated to be developed with several interim uses, potentially including a nursery and other vegetated surfaces (such as a planted meadow). As part of Phase 1, the roadway circling the project site would be widened with temporary construction to provide a functional 32-foot-wide travelway around the project site. The portion of the roadway adjacent to the Phase 1 development would be built to final conditions as the Phase 1 buildings are completed.

FULL BUILD (PHASES 1 AND 2)

At full build, the project site would be developed with academic, corporate co-location, residential, and Executive Education Center buildings. At full build, the project site would include the Phase 1 buildings described above and the following additional buildings:

- One additional Cornell building for academic purposes. This building is assumed to be approximately 154,000 gsf in size, rising to a height of up to 12 stories, although current plans show the building at 7 stories.
- Two additional corporate co-location buildings. The second and third buildings are assumed to be approximately 185,000 and 140,000 gsf in size, respectively, and up to approximately 10 stories in height, although current plans show the building's at 7 and 6 stories, respectively.
- A mixed-use building containing academic and residential uses. The base, which would be for academic use, would rise to a height of approximately 101 feet (7 stories) with 266,000 sf. The residential tower would rise to a height of 235 feet and is assumed to contain 211,900 sf.
- A mixed use building that comprises corporate co-location space at its base with a residential tower rising above for Cornell leadership, faculty, postdoctoral fellows, Ph.D. candidates, and master's students. The base would rise to a height of approximately 74 feet with 75,000 sf of space for the corporate co-location use; the tower would rise to a height of 280 feet and contain another 288,100 sf of residential space.

The new residential area would provide another 527 units for campus faculty and students. Altogether, at full build, approximately 1,094 units would be provided. Another approximately 15,000 gsf of campus-oriented retail would be included on the project site (for a total of 25,000).

A potential second central utility building would provide additional space for distributed electrical or co-generation facilities to serve the additional campus buildings, similar to the plans for the Phase 1 utility plant.

In addition to the open spaces developed as part of Phase 1, at full build, there would be another 1.2 acres of open space for a total of a minimum of 2.5 acres of open space. It is anticipated that the site's open spaces would be landscaped with a mix of evergreen and flowering trees and other plantings.

At full build, the loop roadway circling the project site would be built out to its mapped right-of-way width, which is 50 feet with two exceptions: the southeast portion of the roadway, which would have a width of 45 feet so as not to encroach upon the south pump station (access to the pump station would be maintained), and north loop road, which would have a width of 56 feet. The typical section (50-foot width) of the loop roadway would be configured to have (beginning on the campus side) a 15-foot-wide sidewalk, an 8-foot-wide parking lane, an 11-foot-wide travel lane, a 3-foot-wide striped buffer, a 10-foot-wide two-way Class II bicycle path, with a 3-foot buffer on the outboard side. As in the existing condition, the road would be one-way clockwise with southbound traffic on the east side of the project site and northbound traffic on the west side. The loop road would provide access to the campus's loading areas, which would be located primarily on the east side of the campus. Drop off and pick up areas may be provided in front of the Executive Education Center and potentially at central locations serving the academic buildings. Final design of the roadway and pedestrian crosswalks and

controls would be coordinated with RIOC and the New York City Department of Transportation; the lead agency will work with Cornell to ensure the appropriate commitments are stated in transactional documents (e.g., the ground lease between Cornell University and the City of New York).

To the north of the loop roadway, additional roadway segments would be mapped to the connection with Main Street. These additional segments would be mapped at a width of 50 feet except for the segment of West Main Street just west of the connection with Main Street, which would be mapped with a width of 60 feet.

SUSTAINABILITY MEASURES

As part of the sustainable design energy measures, to the extent feasible, the proposed project may include the following:

- On-site utility buildings that could total approximately 40,000 gsf. The utility plants would provide space for in-coming utility services and may also include equipment to supply power, chilled water, and heat to portions of the campus.
- PV panels. As described above, an array of PV panels may be constructed above the roof of the academic building. PV panels may also be integrated into the landscape to form pavilions, covered rest areas, and similar ground-mounted structures as needed to achieve the renewable electricity goals of the campus.
- A system of up to 400 geothermal wells. The wells would be closed-loop wells and are anticipated to reach approximately 500 feet deep. The well systems would be entirely subsurface and would be located beneath the central open space.
- Strict energy targets for campus buildings. Supporting the academic program using as little energy as necessary is critical for long-term sustainability of the campus.

In addition to energy measures, the proposed project would be planned and designed to achieve other sustainability targets, including effective stormwater management and filtration, pedestrian and bike transportation options, low-impact building materials, reduction of heat islands, and other measures that are typical of the LEED® green building program. Design measures to accommodate recycling, such as separate receptacles for recyclables, recycling chutes, and/or storage areas would also be included.

PROPOSED PROGRAMMING AND POPULATION

Cornell intends for its academic program to be flexible and inter-disciplinary with initial areas of focus around connective media, health, and the built environment. The academic program would offer degrees at the master's and doctorate levels; undergraduate degrees would not be offered. Academic and corporate co-location buildings would be oriented towards the non-biological applied sciences and engineering.

The academic program would be complemented by an Executive Education Center as well as the corporate co-location use, which would be commercial space expected to be occupied by related industries.

The anticipated RWCDS project population by phase is shown below in **Table S-2**. Table S-2 represents the number of faculty, staff, students, and others who would be generated due to the new academic programs as well as the number of workers that would be introduced by the corporate co-location programs, the Executive Education Center, and the other uses at the campus. **Table S-3** shows the anticipated population that would be housed on the project site and also includes an estimate of the on-site population's dependents and families. As housing at the Cornell NYC Tech campus would be open only to Cornell University affiliates and not the general population, the standard demographic assumptions used for Manhattan would not apply to this project. In order to estimate on-campus population at Cornell NYC Tech, Cornell has based its projections on housing patterns at Weill Cornell Medical College in Manhattan and the College of Engineering and applied sciences departments at its Ithaca campus.

Table S-2
Cornell NYC Tech Population (1)

Use		Phase 1	Full Build (Phases 1 and 2)
Academic	Leadership and Staff	74	133
	Faculty (Tenure Track and Research)	93	286
	Visitors/Adjuncts	18	33
	Funded Researchers	45	125
	PostDocs	37	125
	Ph.D. Candidates	260	750
	Master's Students	300	1,750
Total (Cornell NYC Academic Population)		*827*	*3,203*
Worker Population			
Corporate Co-Location(2)	Workers	400	2,000
Executive Education Center (3)	Conference Facility	13	13
	Hotel	84	84
Utility Plant	Workers	3	6
Residential (4)	Workers	20	50
Retail (5)	Workers	30	75
Total (Worker Population)		*550*	*2,228*
Total (Academic and Worker Population)		*1,377*	*5,431*

Notes:
(1) Under the terms of the agreement between the City of New York and the New York City Economic Development Corporation, Cornell is obligated to have no fewer than 75 faculty and 390 students (Ph.D. candidates and master's students) by 2018, and no fewer than 286 faculty and 1,800 students when the campus is fully operational. RWCDS conservatively accounts for likely maximum program and population by phase.
(2) Corporate co-location worker population assumes 4 employees per 1,000 gsf.
(3) Conference facility assumes 1 employee per 2,000 gsf; hotel assumes 1 worker per 2.67 rooms.
(4) Residential worker population assumes 1 employee per 22 dwelling units.
(5) Retail worker population assumes 3 employees per 1,000 gsf, with 10,000 gsf of retail in Phase 1 and 25,000 gsf of retail in the Full Build condition.

Table S-3
Cornell NYC Tech On-Campus Residential Population

Population Type (1)	Total Academic Population	Off-Campus Academic Population	Total On-Campus Population			
			Academic Population	Partners	Children	Total
Phase 1						
Leadership and Staff	74	72	2	2	2	
Faculty (Tenure Track and Research)	93	18	**75**	56	15	
Visitors/Adjuncts	18	16	**2**	1	0	
Funded Researchers	45	45	**0**	0	0	
Postdoctoral Fellows	37	7	**30**	15	3	
Ph.D. Candidates	260	52	**208**	104	21	
Master's Students	300	45	**255**	51	0	
Total	*827*	*255*	*572*	*229*	*41*	*842*
Full Build (Phases 1 and 2)						
Leadership and Staff	133	131	3	2	1	
Faculty (Tenure Track and Research)	286	114	**172**	129	34	
Visitors/Adjuncts	33	25	**8**	4	1	
Funded Researchers	125	125	**0**	0	0	
Postdoctoral Fellows	125	49	**76**	38	8	
Ph.D. Candidates	750	300	**450**	225	45	
Master's Students	1,750	808	**942**	188	0	
Total	*3,203*	*1,552*	*1,651*	*586*	*89*	*2,326*

Note: (1) No Staff or Researchers would be accommodated in on-campus housing

2. ANALYTICAL FRAMEWORK FOR ENVIRONMENTAL REVIEW

Each chapter of the EIS assesses whether development resulting from the proposed actions could result in significant adverse environmental impacts.

In disclosing impacts, the EIS considers a proposed project's potential adverse impacts on the environmental setting. Because the proposed project would be operational in future years,[6] its environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives first assess current conditions and then forecast these conditions to 2018 and 2038, corresponding to the completion of Phases 1 and 2, respectively, for the purposes of determining potential impacts. The EIS provides a description of "Existing Conditions" for the year 2012 and assessments of future conditions without the proposed project in both 2018 and 2038 (the "Future without the Proposed Project" or "No-Action" condition) and the future with the proposed project (or "With Action" condition). To forecast the No-Action condition, information on known land-use proposals and, as appropriate, changes in anticipated overall growth, is incorporated. The differences between the Future Without and With the Proposed Project are assessed for whether such differences are adverse and/or significant; any significant adverse environmental impacts are disclosed. The EIS also identifies and analyzes appropriate mitigation for any identified significant adverse environmental impacts.

While the buildings at Goldwater Hospital would most likely be demolished and replaced with another appropriate use if the Cornell NYC Tech project did not proceed, for purposes of conservatively assessing impacts, the EIS accounts for a No-Action condition in which Goldwater Hospital would remain vacant, but the buildings would remain in place. The EIS accounts for the hospital's demolition and redevelopment of the project site as part of the proposed project.

As discussed above, the proposed project is the RWCDS for environmental review purposes.

3. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would not result in any significant adverse impacts to land use, zoning, or public policy.

The proposed project would add new academic, residential, commercial, utility, parking, and publicly accessible open space uses on the project site. While the density of development on the project site would increase as a result of the proposed project, the proposed project would improve land use conditions by creating a vibrant mixed-use academic-oriented development on a site that would otherwise be occupied by a vacant hospital complex and vacant land. The mix of uses within the proposed Cornell NYC Tech campus would be complementary to each other and would be supportive of the goals and objectives of the proposed project. The proposed development would be compatible with land uses in the broader study area, as the proposed uses would be complementary to surrounding open space, transportation, retail, and residential uses. Therefore, the proposed project would not be expected to result in any significant adverse land use impacts.

The proposed project would result in two zoning changes: the project site would be rezoned from an R7-2 designation to a C4-5 designation; and the Special Southern Roosevelt Island District would be created and mapped over the rezoning area. The zoning changes are necessary to facilitate the development of a mixed-use campus, and would include controls on lot area, the bulk and height of the development, and the provision of publicly accessible open space.

The proposed project would support and further the objectives of applicable public policies, including the city's applied sciences initiative, PlaNYC 2030, the Waterfront Revitalization Program, and RIOC's General Development Plan. The proposed project would not conflict with applicable public policies, and would therefore not result in any significant adverse public policy impacts.

[6] As discussed above, Cornell is obligated to complete construction of Phase 1 by 2017 and Phase 2 by 2037. The Draft EIS uses 2018 and 2038 as the analysis years, as those represent the first full years of operation for Phase 1 and Phase 2, respectively.

SOCIOECONOMIC CONDITIONS

The proposed project would not result in any significant adverse impacts as measured by the five socioeconomic areas of concern prescribed in the *CEQR Technical Manual*. The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed project would not directly displace any residents from the project site. Therefore a preliminary screening assessment was sufficient to conclude that the proposed project would not result in significant adverse impacts due to direct residential displacement.

DIRECT BUSINESS DISPLACEMENT

Goldwater Hospital—located on the project site—will vacate its current site in the future with or without the proposed project. As the proposed project would develop a vacant site, it would not directly displace any businesses or institutions. Therefore a preliminary screening assessment was sufficient to conclude that the proposed project would not result in significant adverse impacts due to direct business displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

The preliminary assessment concluded that the residential population introduced by the proposed project would not be expected to result in adverse indirect residential displacement impacts in the study area.

The proposed project's 1,094 residential units would introduce 2,326 residents to the study area, consisting of University leadership, faculty, postdoctoral fellows, Ph.D. candidates, and master's students, as well as their residential partners and children. These residential units would be on-campus and only available to this academic population and would therefore have no potential to generate indirect effects in the study area. It is possible that the remaining off-campus academic population of 1,552 students, faculty, and staff, as well as the estimated 2,228 non-academic employees could seek new housing opportunities in the study area or within a reasonable commuting distance of the campus. These households, whether new to the market or representing households already in New York City, would participate in the private residential marketplace and would be dispersed over a larger area than just the local study area. Moreover, since the income profile of the academic and worker population is not expected to exceed that of the average household income of the study area, it is not expected that potential new demand would change the market profile such that it would result in indirect residential displacement. For these reasons, the population introduced by the proposed project would not be expected to result in significant adverse indirect residential displacement impacts.

INDIRECT BUSINESS DISPLACEMENT

The preliminary assessment concluded that the proposed project would not result in any significant adverse impacts due to indirect business displacement. While the proposed project would introduce a substantial amount of new economic activity to the study area, it is expected that the Cornell NYC Tech campus would add economic variety and vitality to complement the growing residential population on the island.

The additional expenditure potential generated by the estimated new residential population of 2,326 and a daily academic and total worker population of approximately 3,781 could provide new sales to the existing retail base on the island. Roosevelt Island has historically struggled to create a vibrant retail sector given a trade area that is basically limited to existing residents and workers. At the same time, the new retail component associated with the campus is expected to add about 25,000 sf of retail primarily oriented to the student and worker population which would not be expected to change the overall supply and demand for retail in the core Main Street and Southtown areas. As a result, the proposed project would not be expected to result in indirect business displacement within the study area.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The preliminary assessment found that the proposed project would not result in significant adverse impacts on specific industries. The proposed project would not directly displace any businesses, nor would it have substantial adverse effects on business conditions in any industry or any category of business within or outside the study area.

COMMUNITY FACILITIES

The proposed project would not result in any significant adverse impacts with respect to community facilities. Based on a preliminary screening, detailed analyses were warranted of the proposed project potential impacts on: public elementary and intermediate schools for the 2038 analysis year; and public libraries for the 2038 analysis year. The detailed analyses found that the proposed project would not result in any significant adverse impacts on community facilities.

INDIRECT EFFECTS ON PUBLIC SCHOOLS

The analysis of indirect effects on public schools concluded that the proposed project would not result in any significant adverse impacts on public elementary or intermediate schools.

The project site is located within Sub-district 5 of Community School District (CSD) 2. Based on information provided by Cornell University, the proposed project would generate approximately 49 elementary school students and 16 intermediate school students, by 2038.

Elementary Schools

Although elementary schools within Sub-district 5 of CSD 2 would operate with a shortage of seats in 2038, the proposed project would introduce a small number of students relative to the overall enrollment of the study area. As a result, they would not substantially increase the elementary school utilization rate; the increase would be approximately 1 percent, which is below the *CEQR Technical Manual* threshold of 5 percent or more for a significant adverse impact. Because the proposed project would increase the elementary school utilization rate by less than five percentage points, the proposed project would not result in a significant adverse impact on elementary schools in Sub-district 5 of CSD 2. Therefore, the proposed project would not result in a significant adverse impact on elementary schools.

Intermediate Schools

Intermediate schools within Sub-district 5 of CSD 2 would operate with a surplus of seats in 2038, and the proposed project would introduce a small number of students relative to the overall enrollment of the study area. The sub-district would operate with a surplus of 91 seats, and the proposed project would increase the intermediate school utilization rate by approximately 1 percent. Because intermediate schools in the study area would not operate at 100 percent utilization or greater, and the proposed project would increase the intermediate school utilization rate by less than five percentage points, the proposed project would not result in a significant adverse impact on intermediate schools in Sub-district 5 of CSD 2. Therefore, the proposed project would not result in a significant adverse impact on intermediate schools.

Alternative Schools Analysis

Using a more conservative alternative methodology, the full build out of the proposed project would generate 75 elementary school students, 25 intermediate school students, and 36 high school students (although Cornell University does not anticipate that this many children would be introduced by the proposed project).

With these additional 75 elementary school students, elementary school utilization would increase to 129 percent Sub-district 5 of CSD 2; with the additional 25 intermediate school students, intermediate school utilization would increase to 96 percent in Sub-district 5 of CSD 2. The increase in utilization for elementary schools in the sub-district would be 1 percent, which is below the 5 percent threshold for a significant adverse impact. The increase in utilization for intermediate schools in the sub-district would be 1 percent, and intermediate schools would operate with surplus capacity. Therefore, although the alternative

methodology would introduce a greater number of students to the study area, the proposed project would not result in any significant adverse schools impacts under the alternative schools analysis.

INDIRECT EFFECTS ON LIBRARIES

The proposed project would introduce approximately 2,326 residents to the project site by 2038. With this additional population, the Roosevelt Island branch would serve 15,170 residents, an increase of approximately 18.1 percent. Independent of the proposed project, the Roosevelt Island branch will relocate to 504 Main Street before the analysis year, doubling its space. The holdings-per-resident ratio is anticipated to be 2.41.

With the proposed project, the Roosevelt Island branch catchment area population would increase approximately 18.1 percent. However, the holdings per resident ratio of the study area in the With Action condition (2.41) would continue to be higher than the overall ratio in Manhattan (1.20), indicating that the study area would continue to be well-served by the Roosevelt Island branch. Residents of the study area would have access to the entire NYPL system through the inter-library loan system and could have volumes delivered directly to the Roosevelt Island branch. Residents who work off-Island (such as the partners of Cornell NYC Tech faculty, staff, and students) would also have access to libraries near their place of work. Moreover, the Cornell NYC Tech community would have access to the resources of the Cornell University Libraries (CUL) system, one of the world's largest research libraries, with approximately 7.8 million print volumes and over 80,000 electronic serial titles, which would be expected to reduce the incremental demand on the NYPL system to some extent. Therefore, while the percentage increase in catchment area population exceeds the *CEQR Technical Manual* guideline of five percent, the population introduced by the proposed project would not impair the delivery of library services in the study area, and the proposed project would not result in any significant adverse impacts on public libraries.

OPEN SPACE

The proposed project would not result in any significant adverse impacts with regard to open space.

By 2018, the ratio of passive open space per 1,000 non-residents in the ¼-mile (commercial) study area would be 14.20 acres, which represents a decrease of 83.8 percent from the No-Action condition (see **Table 4**). By 2038 this ratio would be 3.66, which represents a decrease of 95.8 percent from the No-Action condition. However the large decreases in the ratio are due to the fact that the No-Action worker population in the commercial study area is very small (142 workers), resulting in a very high No-Action ratio of passive open space to workers. The With-Action passive open space ratios would remain greatly above the DCP planning goal of 0.15 acres per 1,000 non-residents. Therefore, while the decrease in the passive open space ratio would be greater than the *CEQR Technical Manual* guideline of 5 percent, the proposed project would not result in any significant adverse impacts to open space resources in the commercial study area by 2018 and 2038, as the commercial study area would remain well-served.

Table 4
With Action Condition: Open Space Ratios Summary

Ratio	DCP Planning Goal	Open Space Ratios (acres per 1,000 people)			Percent Change No-Action to With Action Condition (2018/ 2038)
		Existing Conditions	No-Action Condition (2018 and 2038)	With Action Condition (2018/ 2038)	
Non-Residential (¼-Mile) Study Area					
Passive/Workers	0.15	53.43	87.68	14.20/ 3.66	-83.8%/ -95.8%
Residential (½-Mile) Study Area					
Total/Residents	2.5	3.04	2.71	2.63/ 2.43	-3.1%/ -10.6%
Active/Residents	2.0	1.42	1.26	1.20/ 1.09	-5.1%/ -14.0%
Passive/Residents	0.5	1.63	1.45	1.43/ 1.34	-1.3%/ -7.6%

By 2018, the ratio of total, active, and passive open space per 1,000 residents in the ½-mile (residential) study area would be 2.63, 1.20, and 1.43, respectively. The total open space ratio would continue to exceed the city's median community district open space ratio of 1.5 acres per 1,000 residents. The total and passive

ratios would exceed the DCP planning goals of 2.5, and 0.5, respectively, and the active ratio would be below the DCP planning goal of 2.0. Compared to the No-Action condition, the total ratio would decrease by 3.1 percent, the active ratio would decrease by 5.1 percent, and the passive ratio would decrease by 1.3 percent. As the small decreases in the total and passive open space ratios would be less than 5 percent, and these ratios would continue to exceed DCP planning goals, the changes in these ratios would not result in a significant adverse impact. Although the active ratio would decline, and would continue to be below the DCP planning goal, the study area would continue to be well-served by open space overall, and the proposed project would require less active open space than a typical residential development project, due to the relatively high daytime population and low proportion of school-aged children that would be introduced. Therefore, Phase 1 of the proposed project would not result in any significant open space impacts in the residential study area.

By 2038, the ratio of total, active, and passive open space per 1,000 residents in the residential study area would be 2.43, 1.09, and 1.34, respectively. The total ratio would exceed the city's median community district open space ratio of 1.5, and would be slightly below the DCP planning goal of 2.5. The passive ratio would exceed the DCP planning goal of 0.5, and the active ratio would be below the DCP planning goal of 2.0. Compared to the No-Action condition, the total ratio would decrease by 10.6 percent, the active ratio would decrease by 14.0 percent, and the passive ratio would decrease by 7.6 percent. Although these decreases in the open space ratios exceed the *CEQR Technical Manual* guideline of 5 percent, the total open space ratio of 2.43 would remain well above the city's median community district open space ratio of 1.5 acres per 1,000 residents. As the proposed project would not result in a 5 percent decrease in an open space ratio in an area currently below the city's median community district open space ratio of 1.5, the changes in these ratios would not result in a significant adverse impact. Although the active ratio would decline, and would continue to be below the DCP planning goal, the study area would continue to be well-served by open space overall, and the proposed project would require less active open space than a typical residential development project, due to the relatively high daytime population and the low proportion of school-aged children that would be introduced. Therefore, the full build out of the proposed project would not result in any significant open space impacts in the residential study area.

SHADOWS

The proposed project would not result in any significant adverse shadows impacts. The following summarizes the analyses, organized by resource of concern, leading to this conclusion.

PROMENADE—WEST SIDE

Phase 1

A portion of the northern section of the promenade would receive approximately three hours of new shadows in the morning and mid-day in the spring, summer and fall, and three and three quarters hours in the winter. The incremental shadows would move over the course of this period, affecting different areas at different times. At least one area would receive about three hours of new shadows; some other areas would receive between one and two-and-a-half hours. With no structures to the west, the promenade would consequently be in full sun from mid-day to the end of the analysis period. All individual trees would remain in direct sun for a minimum of approximately four hours on March 21/September 21, and for six hours or more in May through August. Therefore, the health of the vegetation would not likely be significantly impacted by the proposed project's shadows at any time during the growing season.

In terms of the impacts of shadows on users of the promenade, the linear nature of the space and the proximity of other seating areas in direct sun elsewhere along the western or eastern promenade, and in South Point Park, provide many alternatives to users who would seek out a seating or walking area in the sun, in any season. Therefore, users of the promenade would not be significantly impacted by the project generated shadow.

Phase 2

Shadows from the Phase 2 development would affect the southern part of the promenade in a similar way to that of Phase 1 shadows on the northern section, at least in terms of vegetation. Despite long durations of incremental shadows, each tree would continue to receive a minimum five hours of direct sun in March 21/September 21 (most trees would receive more) and seven or more hours from May to August. Therefore, the health of the vegetation would not likely be significantly impacted by the proposed project's shadows at any time during the growing season.

In Phase 2, from the perspective of the user, a larger proportion of the western promenade would be in incremental shadow in the mornings throughout the year. However, the linear nature of the space would continue to provide sunlit seating areas in some locations, and there would be larger sunlit seating areas in the adjacent spaces of South Point Park and the eastern promenade. Even in the winter, these adjacent waterfront spaces would be mostly in sun throughout the morning when the western promenade would be mostly in shadow. Users of the promenade would therefore not be significantly impacted by the project generated shadow.

PROMENADE—EAST SIDE

Phase 1

Incremental shadow durations would range from one hour 40 minutes in March and September to three hours 50 minutes on the summer solstice, occurring in the middle to late afternoon. These new shadows would fall in the northern part of the promenade. The vegetation in this area would receive more than six hours of direct sunlight throughout the morning and early afternoon through the growing season (March 21/September 21, May 6/August 6, and June 21 analysis days), due to the lack of any nearby structures to the east and southeast, and would not be significantly impacted by the project. As noted for the western side of the promenade above, users would be able to use adjacent sunlit sections of the promenade or South Point Park during the late afternoons when portions of the eastern promenade are in incremental shadow, and therefore significant shadow impacts would not occur to the users of this space with the proposed project.

Phase 2

In 2038 with the proposed project, incremental shadow durations on the eastern promenade would range from two hours in March and September to four hours on June 21, occurring in the middle to late afternoon. However, as in Phase 1, individual trees and other plants would continue to receive more than six hours of sunlight throughout the morning and early afternoon through the growing season (March 21/September 21, May 6/August 6, and June 21 analysis days), which would be sufficient to maintain their health; therefore, they would not be significantly impacted by the project. For park users, even in the late afternoons of the May 6/August 6 and June 21 analysis days when fairly large sections of the eastern promenade are shaded by the proposed development, the linear nature of the space would continue to provide sunlit seating areas in some limited locations, and there would be larger sunlit seating areas in the adjacent spaces of South Point Park and the western promenade. Therefore, no significant shadow impacts would result from the proposed development.

SPORTS PARK OUTDOOR BASKETBALL COURT

Phase 1

The Phase 1 development, particularly the residential building, would cast shadows on the court between two and a half hours, in early spring and fall, to five hours on the summer solstice. In March and September, incremental shadow from the Phase 1 residential building would last from 2:00 PM to 4:29 PM, but would not eliminate all remaining sunlight until the final 29 minutes of the analysis day. In May through August, the extent and duration of the new shadow would be greater, and would eliminate remaining sunlight for 30 minutes around 3:00 PM. On June 21 incremental shadow would fall on large portions of the court for about an hour and a half in the middle of the afternoon, and would remove remaining sunlight from 4:50 PM to 6:01 PM, although nearly the entire court would be in existing shadow at that time. However, the court is

mostly or completely in sun throughout the morning and early afternoon in these seasons, and, particularly in the heat of these late spring and summer months, this limited extent and duration of new shadow on a basketball court would likely not significantly impact the users. In December only three minutes of incremental shadow would occur in Phase 1.

Phase 2

In Phase 2, there would be 10 additional minutes of incremental shadow on the basketball court, occurring on the December 21 analysis day, which would not alter the conclusions from Phase 1.

SOUTH POINT PARK

No project-generated shadow would reach South Point Park in Phase 1. With Phase 2 development, new shadows would fall on the northern or northwestern portion of this park early in the late spring and summer mornings, ranging from about an hour and a half on May 6/August 6 to two hours on the summer solstice. Given that this area of the park would be in full sun for the remainder of the analysis day in these seasons (i.e. nine to ten hours), no significant shadow impacts would occur.

FIREFIGHTER FIELD

Incremental shadow would fall on a small portion of this field for about an hour and ten minutes on the December 21 analysis day only. Given the limited size and duration of the incremental shadow, the active-use nature of the resource, and the fact that parts of the field would remain in sun during the affected period, significant shadow impacts would not occur.

SUTTON PLACE PARK

Four minutes of new shadow on the December 21 analysis day only would not result in shadow impacts.

EAST RIVER

The proposed project would cast new shadows on portions of the west channel of the East River in the mornings and portions of the east channel in the afternoons in all seasons, primarily affecting areas adjacent to the shoreline. While the total duration of new shadow would be generally between four and a half and five hours on the west channel and between a few minutes and up to nearly four hours on the east channel, depending on the season, most affected areas in both channels would receive shorter durations as the shadows move west to east and clockwise over the course of the day. The areas that would receive the longest durations of new shadows would continue to receive more than six hours of sunlight over the course of each analysis day, because there are no other nearby structures casting shadows besides the ones on the proposed project site.

The current flows swiftly in the East River and would move phytoplankton and other natural elements quickly through the shaded areas. Therefore, given their limited duration and extent over the course of each analysis day, incremental shadows generated by the proposed project would not have significant adverse impacts on primary productivity within the East River.

HISTORIC AND CULTURAL RESOURCES

The proposed project would not result in any significant adverse impacts related to archaeological resources, but would result in a significant adverse impact with regard to architectural resources. The following summarizes the analyses leading to this conclusion.

ARCHAEOLOGICAL RESOURCES

The Phase 1A Archaeological Documentary Study prepared for the project site and rezoning area determined that the project site has no sensitivity for precontact archaeological resources and low sensitivity for archaeological resources dating to the historic period. In a comment letter dated March 26, 2012, the New York City Landmarks Preservation Commission (LPC) concurred with the conclusions and recommendations of the Phase 1A study, and the New York State Office of Parks, Recreation, and Historic

Preservation (OPRHP) determined in its June 19, 2012 findings letter that it also has no archaeological concerns for the project site. Therefore, the proposed project would not result in any significant adverse archaeological impacts.

ARCHITECTURAL RESOURCES

The demolition of the Goldwater Hospital complex would result in a significant adverse impact on this architectural resource. Pursuant to Section 14.09 of the New York State Historic Preservation Act of 1980 (SHPA), a study was prepared in consultation with OPRHP to evaluate the feasibility of retaining elements of the Goldwater Hospital complex to avoid a significant adverse impact to this architectural resource. The Alternatives Analysis found that only the alternative that maintains the Goldwater Hospital complex in its entirety would avoid a significant adverse impact to this architectural resource. However, this alternative would not fulfill the city's requirement for developing an applied sciences and engineering campus containing 620,000 gsf of academic space, nor would it allow for the overall development of the city's minimum requirement of 1.8 million gsf of space for an applied sciences and engineering campus. In addition, the hospital's existing 647,900 gsf is contained in buildings that, in general, do not meet the requirements for academic and corporate co-location buildings. Similarly, the expansion alternative would meet certain square footage and programming needs, however, the type of space that could be developed would not provide the spatial configuration needed for dynamic interdisciplinary application hubs for academic or corporate co-location uses, which are central to the project's purpose and need. In consideration of Cornell's purpose and need for the proposed project, it is not possible to retain and reuse the Goldwater Hospital complex as part of the proposed project. Therefore, there is no prudent and feasible alternative to avoid a significant adverse impact to the Goldwater Hospital complex. Measures to partially mitigate the significant adverse impact on this architectural resource would be implemented by Cornell in consultation with OPRHP and LPC as set forth in a Letter of Resolution (LOR) among Cornell, OPRHP, LPC, and RIOC.

Overall, the addition of new shorter and taller buildings and landscaping elements on the project site would alter the settings of the three architectural resources in the study area—the Strecker Memorial Laboratory, the Steam Plant, and the Queensboro Bridge. However, the Strecker Memorial Laboratory and the Steam Plant would continue to be located in the context of taller buildings and views to these architectural resources would not be obstructed by the proposed project. While the setting and views to the Queensboro Bridge would change with the full build out of the project site, in no cases would views of the bridge be fully obstructed. Further, many prominent views to the bridge would remain available. These changes to the settings and views of the study area's architectural resources would not adversely affect the characteristics for which the historic properties meet or may meet S/NR and New York City Landmarks (NYCL) criteria.

URBAN DESIGN AND VISUAL RESOURCES

Overall, while the proposed project would result in substantial changes to the urban design of the project site and views to visual resources, it would not have any significant adverse impacts related to urban design and visual resources.

PROJECT SITE

With the development of the proposed buildings, the height and bulk of structures on the project site would change substantially. The increased scale, both in terms of bulk and height, of the new buildings on the project site would be a prominent change from the appearance and character of the project site in the No-Action condition. The project site would go from hosting several vacant hospital buildings to being occupied by tall, bulky structures, creating a distinctive and recognizable campus. While considerable, this change is not anticipated to be significantly adverse. The total FAR that could be developed on site would not change from the No-Action condition, and the proposed development would comply with the bulk, height, lot coverage, and setback regulations of the proposed special district. Compared to the No-Action condition, in the future with the proposed project the visual appearance and thus the pedestrian experience of the project site would change considerably; however, this change would not meet the *CEQR Technical Manual*

threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the project site or rezoning area such that the alteration would negatively affect a pedestrian's experience of the area. The proposed project would improve the pedestrian experience on the project site, and maintain pedestrian access to the waterfront. New open spaces would provide places to rest and play and would visually enhance the experience of walking around the project site. Greater levels of pedestrian activity generated by the proposed uses on the sites would be self-reinforcing, making the project area more inviting and appealing to visit. Views of the East River, Manhattan, and Queens would still be available from numerous vantage points within the project site and rezoning area. Furthermore, the special district would require that a visual corridor of at least 50 feet be established through the project site that could provide views to both the Manhattan and Queens waterfronts. As in the No-Action condition, however, the expansiveness of views from the project site and rezoning area would be somewhat limited by the substantial tree coverage that surrounds the project site, which is anticipated to be expanded on the site through the extensive tree planting program.

STUDY AREA

Urban Design

The development associated with the proposed project would not result in any changes to the street pattern, block shapes, buildings, or streetscape of the study area. In the future with the proposed project the visual appearance of the project site—and thus the pedestrian's experience of the study area—would change considerably. The portion of the Island south of the Queensboro Bridge would be filled with new, active development. The majority of the buildings to be developed would be consistent with the taller buildings on the north side of the Island. At approximately 320 feet in height, the proposed Phase 1 residential building would be taller than any of the buildings that would exist on the Island in the No-Action condition; however, it would be slightly lower than the height of the two Queensboro Bridge towers on the Island, which are approximately 350 feet tall. The proposed open spaces would visually enhance the experience of walking around the study area, and would help to integrate the new campus with the rest of the Island. The proposed mapping action would make the mapped street pattern consistent with the pedestrian's current experience of the loop road, and the addition of the bicycle path and sidewalk to the loop road would improve access and circulation to the southern portion of the study area.

Visual Resources

In the future with the proposed project, pedestrian-level views in the on- and off-Island portions of the study area would include the more dense development anticipated on the project site. While the context of on-Island views from north and south of the project site would change considerably with the new development, these views are anticipated to be an improvement over the views in the No-Action condition, which would include vacant buildings on the project site. Existing view corridors and views to visual resources along the limited on-Island streets would not be obstructed, except for some views of the Queensboro Bridge towers; however, the bridge would remain highly visible throughout the rest of the on-Island study area. The waterfront promenade would continue to provide the most expansive views to on- and off-Island resources. The context of the limited views to the visual resources on the north side of the Island is not anticipated to change considerably.

From the more distant off-Island views, it is anticipated that the campus would appear more consistent with the development on the north side of the Island, which will include the completion of the Southtown development and which will include buildings of 21, 25, and 29 stories, and adjacent portions of Manhattan. Some views to towers in the Queens skyline could be obstructed from Manhattan by the fully-developed campus; however, these buildings would still be visible from other viewpoints. Views of the Queensboro Bridge would now include a tall residential building in close proximity, and the proposed tallest buildings could obstruct some views to certain elements of the bridge; however, the proposed buildings would be shorter than the bridge anchorages, and the bridge would continue to be seen from many locations. Furthermore, due to the scale and breadth of the bridge, including the spans that continue east and west beyond Roosevelt Island, the bridge's visual prominence in the study area would not be significantly

adversely affected by the full build-out of the project site. Overall, the changes in views with the proposed project—while considerable—would not constitute a significant adverse effect on visual resources.

NATURAL RESOURCES

The proposed project would not result in significant adverse impacts to natural resources, including: water quality, aquatic biota, tidal wetlands, essential fish habitat, or threatened or endangered aquatic species. The implementation of green infrastructure, and other measures implemented as part of the stormwater pollution prevention plan (SWPPP), would improve the quality of the stormwater discharged to the East River and NYSDEC littoral zone tidal wetlands from the project site. Grass cover of the project site would increase from the existing and No Action area of 3.1 acres (25 percent) to 3.46 acres (28 percent) at full build.

No areas of the 100-year floodplain occur within the project site. Because the floodplain within and adjacent to the study area is affected by coastal flooding, it would not be affected by construction or regrading/filling of the 500-year floodplain that would occur as part of the project. Therefore, the proposed project would not increase the potential for public and private losses due to flood damage, or increase the exposure of public utilities to flood hazards. The design of the buildings within the project site would be consistent with the New York City Building Code requirements for construction within the 100-year floodplain and any subsequent revisions to these requirements (e.g., adoption of the FEMA Advisory Base Flood Elevation [ABFE]). The project proposes to set the minimum elevation of the main entrance level to 17.4 feet Belmont Island Datum, which would be about 4 feet above the current 100-year flood elevation and at least 1 foot above the Advisory 1% Base Flood Elevation. Therefore, the project would have resilience for at least a one foot increase in the 100-year flood elevation (using the Advisory 1% Base Flood Elevation) due to sea level rise, which is within the likely range of sea level rise projected by the NPCC by end of century. The main entrance level for each building would be consistent with the New York City Building Code. The below-grade area for all on-site structures would be waterproofed and designed to withstand the hydrostatic pressure exerted by groundwater during a 100-year flood event, consistent with the *New York City Building Code*. Therefore, the design for the structures at full build would minimize the potential for public and private losses due to flood damage under current and projected flood conditions, and no significant adverse impacts are expected.

Phase 1 and full build of the proposed project would not result in significant adverse impacts to terrestrial ecological communities and vegetation. Tree replacement would be consistent with city tree replacement requirements using tree species approved by the New York City Department of Parks and Recreation. Additionally, the proposed project would result in the development of landscaped open space within the project site which would be expected to provide suitable habitat for the urban tolerant species currently present within the study area and would have the potential to enhance the quality of habitat through the introduction of increased diversity and use of native plant species. Bird-safe building features would be considered in final building and landscaping designs to reduce the potential for daytime bird collisions with lower-story reflective glass, thus reducing potential loss of resident and migratory bird species.

HAZARDOUS MATERIALS

The proposed project is not anticipated to result in any significant adverse impacts related to hazardous materials, with the measures described below.

A Phase I Environmental Site Assessment (ESA) identified potential on-site sources of contamination, including historical fill materials of unknown origin; historical laboratories, a photography room and an incinerator room associated with the hospital; underground electrical transformer vaults potentially utilizing polychlorinated biphenyl (PCB)-containing transformer oil; and four diesel petroleum storage tanks (one 5,000-gallon underground storage tank [UST] and three aboveground storage tanks [ASTs] ranging from 110 to 330 gallons) used for emergency generators.

Based on these potential concerns, a Phase II Environmental Site Investigation was performed that included the collection and laboratory analysis of soil and groundwater samples. The analysis indicated that levels of certain semi-volatile organic compounds (SVOCs) and metals in the soil samples were somewhat elevated,

but most likely attributable to the historical fill materials rather than a spill or release. Soil concentrations of volatile organic compounds (VOCs), pesticides and PCBs met the most stringent state guidelines. Results for the groundwater samples met state drinking water standards[7] with the exception of levels of certain metals, some of which were likely related to the urban fill materials, whereas others were likely natural.

To reduce the potential for human or environmental exposure to known or unexpectedly encountered contamination during and following construction of the proposed project, a Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) have been prepared and approved by NYCDEP. The RAP and CHASP would be implemented during project construction. The RAP addresses requirements for items such as soil stockpiling, soil disposal and transportation; dust control; dewatering procedures; quality assurance; procedures for the closure and removal of the known petroleum storage tanks; and contingency measures, should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP identifies potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring including community air monitoring, and emergency response procedures).

Lead-based paint, asbestos-containing materials (ACM), and PCB-containing electrical equipment and fluorescent lighting fixtures may be present within the existing structures or elsewhere on the project site. During and following construction of the proposed project, regulatory requirements pertaining to ACM, lead-based paint, PCBs and chemical use and storage would be followed.

WATER AND SEWER INFRASTRUCTURE

Phase 1 and full build sanitary sewage generation would increase compared to the No Action condition. The increases would be minimal and would continue to be conveyed via gravity sanitary sewers in East and West Roads. New sanitary sewer connections to the East and West Road sanitary sewers from the new buildings would be built. The sanitary pump stations and force mains located on the Island would remain in operation and would continue to convey sanitary flow to the interceptor in Vernon Boulevard in Queens. The south pump station has adequate capacity to handle the flows from Phase 1. When design begins for the final phase of the project, NYCDEP will be consulted to determine if upgrades are needed at the south pump station; the lead agency will work with Cornell to ensure the appropriate commitments are stated in transactional documents (e.g., the ground lease between Cornell University and the City of New York.

The proposed project would not significantly impact the existing WWTP infrastructure. Phase 1 and full build stormwater runoff volumes would decrease or remain the same as compared to the No Action condition. Stormwater runoff would continue to discharge into the East River. In addition, a SWPPP would be implemented for both phases of the project. The SWPPP would meet NYSDEC standard requirements and design guidelines for temporary erosion and sediment control and for post-construction stormwater management and would improve the quality of the stormwater prior to its discharge to the East River via the existing outfalls.

Overall, the proposed project would not result in any significant adverse impacts on the city's wastewater and stormwater conveyance or wastewater treatment infrastructure.

SOLID WASTE

No significant adverse impacts on solid waste and sanitation services are anticipated as a result of the proposed project. The project site is served by an existing system of solid waste collection and disposal services provided by the New York City Department of Sanitation (DSNY) and by commercial carters. The net increment of solid waste under the proposed project would be a minimal addition to the city's solid waste stream, and the proposed project would include sustainability measures that would reduce waste generation. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services and would be consistent with the city's Solid Waste Management Plan.

[7] Groundwater on Roosevelt Island is not used as a source of potable water and would not be used as such in the future.

ENERGY

The proposed project would not result in a significant adverse impact with respect to the transmission and generation of energy. The proposed project would comply with the New York City Energy Conservation Code and Energy Conservation Construction Code of New York State, incorporating all measures relating to energy efficiency and thermal transmittance.

By 2038, full development of the proposed project is projected to result in a combined 173,684 million British thermal units (Btu) of energy demand annually. The proposed project's total combined energy intensity for full build is 81,542 Btu per square foot. This is substantially lower than the average intensities in New York City. The proposed project would incorporate a number of measures intended to reduce energy consumption. Cornell has committed to achieve a minimum of LEED® Silver certification for all project buildings.

Cornell has set a goal to achieve net-zero energy consumption for its Phase 1 academic building. The building would use on-campus generated solar power and be heated and cooled using on-site geothermal energy.

TRANSPORTATION

Significant adverse transportation impacts were identified in the areas of traffic, transit, and pedestrians.

TRAFFIC

Of the 14 study area intersections analyzed (10 signalized and 4 unsignalized intersections), Phase 1 of the proposed project would result in significant adverse traffic impacts at five intersections in the weekday AM peak hour, three in the weekday midday peak hour, and four in the weekday PM peak hour. Full build of the project would result in significant adverse traffic impacts at nine intersections in the weekday AM peak hour, seven in the weekday midday peak hour, and 11 in the weekday PM peak hour.

To a large extent, many of the significant adverse traffic impacts can be attributed to background traffic growth plus a substantial volume of No Action development generated traffic, especially over the extended period between existing conditions and analysis year 2038.

TRANSIT

The transit analyses examined the project's potential to affect the subway (station elements at the Roosevelt Island subway station [F line] and the F line subway cars [i.e., line-haul analysis]); the Roosevelt Island tramway; and the bus system (i.e., the Q102 bus and the Roosevelt Island red bus).

The screening assessment concluded that a detailed examination of subway line-haul analysis is not warranted. However, bus and tramway line-haul analyses, and a detailed analysis of station elements at the Roosevelt Island subway station (F line) were prepared.

Under Phase 1, the proposed project would not result in an impact on the Q102 bus route in the eastbound direction during the PM peak period.

Under full build condition, the proposed project would result in significant adverse impacts on bus line-haul levels on the eastbound and westbound Q102 route during the AM and PM peak periods as well as on the Red Bus route in the southbound and northbound direction during the AM and PM peak periods, respectively.

The project would not result in impacts to the subway station or tramway.

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key sidewalk elements at five intersections. Under Phase 1, there would be no significant adverse pedestrian impacts. In the full build condition, significant adverse impacts are anticipated for two pedestrian elements:

- West Road: The east sidewalk between West Main Street and the subway station during the AM, midday and PM peak periods; and
- West Main Street: The east sidewalk between the Tram Station West bus stop and the Queensboro Bridge during the AM, midday and PM peak periods.

VEHICULAR AND PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the 3-year time period between July 1, 2008 and June 30, 2011. A total of 30 reportable and non-reportable accidents, no fatalities, 17 injuries, and 1 pedestrian/bicyclist-related accident occurred at the study area intersections. A rolling total of accident data has not identified any study area locations as high pedestrian accident locations in the 2008 to 2011 period.

PARKING

Up to 500 spaces could be built on-site under the proposed actions, with 250 spaces assumed under Phase 1 and 500 spaces under full build. Under Phase 1, 250 spaces would accommodate the projected daytime peak demand of approximately 220 spaces and overnight parking demand of about 155 spaces. Under full build, the 500 space supply would not accommodate the projected peak daytime demand of approximately 615 spaces but would accommodate overnight demand of about 290 spaces. There is expected to be sufficient parking elsewhere on Roosevelt Island within the Motorgate garage to accommodate the projected daytime on-site parking shortfall under the full build condition.

With the proposed actions, parking is not required to be provided at the site. If no parking were provided on-site in Phase 1, both daytime and overnight parking needs would be met by available Motorgate garage spaces. If no parking were provided on-site under the full build condition, daytime parking needs would be met by the available Motorgate garage spaces. However, there would be an overnight parking shortfall of about 45 spaces, which would need to be accommodated beyond ¼-mile from the site and the Motorgate garage. There would also potentially be additional on-street overnight parking available pending the design of the campus roadways to accommodate the projected parking shortfall if no parking was provided on-site under the full build condition (although no credit for this potential additional parking resource has been taken).

AIR QUALITY

The proposed project would not result in any significant adverse air quality impacts. The following summarizes the analyses leading to this conclusion.

MOBILE SOURCES

The maximum predicted pollutant concentrations and concentration increments from mobile sources in Phase 1 and the full build of the proposed project would be below the applicable air quality impact criteria. Concentrations of carbon monoxide (CO) and fine particulate matter less than 10 microns in diameter (PM_{10}) due to project-generated traffic at intersections in the study area would not result in any violations of National Ambient Air Quality Standards (NAAQS). It was also determined that CO impacts from mobile sources associated with the proposed project would not exceed CEQR *de minimis* criteria, while incremental increases in fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) would not exceed the city's current interim guidance criteria. Emissions due to the proposed project's parking garage were found to result in no significant adverse air quality impacts.

STATIONARY SOURCES

Based on detailed stationary source analyses, no potential for significant adverse air quality impacts are anticipated from the potential combined heat and power (CHP) plants associated with the Phase 1 and full build development (i.e., the central utility plants). To ensure that there are no significant adverse impacts on nearby campus buildings, the project would have to meet certain measures on the placement of fossil fuel-fired exhaust stacks. For potential fossil fuel fired boiler systems, specific measures are proposed to ensure

that boiler systems would not have significant adverse impacts. With these restrictions in place, no significant adverse air quality impacts are predicted from the proposed project's stationary sources. Prior to final design of Phase 1 buildings and during design of Phase 2, Cornell will consult with NYCDEP to determine the correct placement and height of stacks for buildings that may have undergone design or other changes; the lead agency will work with Cornell to ensure the appropriate commitments are stated in transactional documents (e.g., the ground lease between Cornell University and the City of New York).

GREENHOUSE GAS EMISSIONS

The proposed project would not result in any significant adverse impacts with regard to greenhouse gas (GHG) emissions. The building energy use and vehicle use associated with the proposed project would result in up to approximately 8 thousand metric tons of CO_2e emissions per year in Phase 1 and up to approximately 20 thousand metric tons of CO_2e in full build. The GHG emissions intensity of 9 to 10 kg CO_2e per gsf, would be substantially lower than the emissions intensity for similar uses. The proposed project would result in the development of a high-technology sustainable campus that is energy efficient and uses low-carbon and renewable power sources, which would further reduce the emissions from the proposed project, quoted above. The proposed site would be walkable and supportive of transit and non-motorized commuting and would strive to minimize GHG emissions from construction activity and emissions associated with the production and transport of construction materials. The proposed project's design includes many features aimed at reducing energy consumption and GHG emissions, and would be consistent with the city's citywide GHG reduction goal.

By designing the FFE to be at least one to five feet above the ABFE 100-year flood elevation, the project would be resilient to sea level rise within the likely range of rise projected by the NPCC by end of century.

NOISE

The proposed project would not result in any significant adverse noise impacts. Traffic generated by the proposed project would not be expected to result in any significant increases in noise levels in either analysis year at any nearby sensitive receptors. To meet CEQR interior noise level requirements, the analysis recommends up to 28 dBA of building attenuation for certain project buildings (the Phase 1 academic building, the Phase 1 residential building, and the Executive Education Center [hotel]). Noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$ recommended by CEQR criteria, but would be comparable to other parks on Roosevelt Island and elsewhere in New York City. Mechanical equipment associated with project buildings would be designed to meet all applicable noise regulations, and would therefore not have the potential to result in a significant noise impact.

PUBLIC HEALTH

The proposed project would not result in significant unmitigated adverse impacts in any of the technical areas related to public health; it would, however, at times result in temporary unmitigated significant adverse noise impacts during construction. Therefore, the potential effects of construction-period noise impacts on public health were examined.

According to the *CEQR Technical Manual*, a significant noise impact occurs when there is an increase in the one-hour equivalent noise level ($L_{eq(1)}$) of between 3 and 5 decibels A-weighted (dBA), depending upon the noise level without the proposed project. The CEQR noise thresholds are based on quality of life considerations and not on public health considerations. In terms of public health, significance is not determined based upon the incremental change in noise level, but is based principally upon the magnitude of the noise level and duration of exposure.

Cornell would implement a noise mitigation plan as required under the New York City Noise Code: this plan would outline measures that would include a variety of source and path controls. Even with these measures, the construction analysis identified the potential for significant adverse noise impacts on open spaces.

For the open spaces that would experience exceedances (i.e., open space areas along Main Street during Phase 1 and the promenade and South Point Park adjacent to the project site during Phase 2), there are no feasible mitigation measures that could be implemented to eliminate the significant noise impacts at these

locations. Because people would be able to use a variety of other open spaces on Roosevelt Island during the periods of construction during which there would be noise exceedances, these exceedances are not expected to result in a public health impact. Overall, noise exceedances during the construction period would not result in significant adverse health impacts.

NEIGHBORHOOD CHARACTER

The proposed project would not result in any significant adverse impacts related to neighborhood character. The proposed project would result in a positive effect on the neighborhood character in the primary and secondary study areas with the completion of Phase 1 and full build out of the proposed project. Instead of a vacant hospital complex, the primary and secondary study areas would benefit from a new active, mixed-use academic oriented development, with a minimum of 2.5 acres of new publicly accessible open space by 2038. This development would be in keeping with the defining characteristics of the neighborhood character of the primary and secondary study areas. By contrast, in the No Action condition, the vacant hospital complex could detract from the natural setting and open space resources of the study areas, which are defining neighborhood character features. Changes associated with Phase 1 and the full build out of the proposed project with regard to land use, zoning, and public policy; shadows; socioeconomic conditions; open space; urban design and visual resources; and noise are not expected to adversely affect neighborhood character.

With regard to historic and cultural resources, although the demolition of the hospital campus would result in a significant adverse impact to historic resources, it would not be considered a significant adverse neighborhood character impact. Absent the proposed project, the hospital complex would be vacant, would detract from the physical setting of the project site, and would not contribute positively to neighborhood character in either analysis year. The demolition of the hospital and its replacement with Phase 1 and the full build out of the Cornell NYC Tech campus would have beneficial land use effects on the primary study area. Therefore, demolition of the hospital complex would not be considered a significant adverse neighborhood character impact.

With regard to transportation, the proposed project would increase levels of vehicular and pedestrian activity on Roosevelt Island. While some significant adverse impacts (traffic, bus, and sidewalk) would require mitigation, the increased activity from the proposed project would not have a significant adverse effect on neighborhood character on Roosevelt Island in either the 2018 or 2038 analysis year.

The combined effect of changes to the defining elements would not create a significant adverse impact on neighborhood character in either the 2018 or 2038 analysis year. The major physical changes from the proposed project would occur only on the project site, which is physically separated from the secondary study area by the Queensboro Bridge. Within the primary study area, the neighborhood character would benefit from the 2.5 acres of new publicly accessible open space that would be provided on the project site by 2038, which would support a defining characteristic of the area. While the development on the project site by 2018 and 2038 would noticeably change the character of the area, these changes would not be considered adverse. Instead, Phase 1 and the full build out of the proposed project would add new activity, vibrancy, and vitality that would be compatible with the defining characteristics of the primary and secondary study areas' neighborhood character.

CONSTRUCTION IMPACTS

The proposed project would result in significant adverse construction impacts related to transportation and noise (i.e., noise impacts on open space).

TRANSPORTATION

During Phase 1 construction of the proposed project, significant adverse impacts are expected to result for traffic and transit conditions. During Phase 2 construction, significant adverse impacts are expected to result for traffic, transit, and pedestrian conditions. Phase 2 construction is expected to occur in two separate

development segments, Phase 2A, which would commence in mid-2024 and continue through 2028, and Phase 2B, which would occur between 2034 and 2037. These findings are summarized below.

Traffic

The maximum Phase 1 construction activities would result in 397 passenger car equivalents (PCEs) between 6 and 7 AM and 345 PCEs between 3 and 4 PM on weekdays in the fourth quarter of 2015. Therefore, a detailed analysis of the construction peak hours of 6 to 7 AM and 3 to 4 PM was conducted at seven key study locations to identify potential traffic impacts during Phase 1 construction. According to these analyses, significant adverse traffic impacts are projected to occur during Phase 1 construction at four of the seven study locations analyzed. Three of these impacted locations could be mitigated using standard mitigation measures typically implemented by NYCDOT while impacts at the one location would be partially mitigated. The mitigation measures would be similar to those proposed to mitigate the intersection impacts associated with the project's build-out and occupancy.

For Phase 2 construction, the cumulative operational and construction traffic would be of lower magnitudes than what the overall project would generate when completed in 2038. Therefore, the potential traffic impacts during peak Phase 2 construction would be within the envelope of significant adverse traffic impacts identified for the 2038 analysis year in "Transportation," and mitigatable and unmitigatable impacts would apply to Phase 2 construction conditions as well. The required mitigation measures for those locations that could be mitigated are expected to be part of those presented for the 2038 full build out of the proposed project. These mitigation measures could be implemented at the discretion of RIOC and/or NYCDOT during construction of Phase 2.

Parking

With approximately 100 parking spaces expected to be allocated on-site and assuming the use of the available parking at the Motorgate garage, the projected construction worker parking demand during both Phase 1 and Phase 2 construction is expected to be fully accommodated at one of these parking locations. Cornell has committed to fund the costs of snow removal on the upper deck of the Motorgate garage in the event that construction worker parking requires that the upper deck of the garage be opened during winter months.

Transit

Transit trips generated by construction workers are not expected to result in significant adverse subway and Q102 bus line-haul impacts during Phase 1 construction. However, because most construction workers parking at the Motorgate garage would rely on the Red Bus for travel to/from the project site, during off-peak hours when the Red Bus operates at lower frequencies, there is a potential for a significant adverse line-haul impact on the Red Bus that would warrant an increase in its service during off-peak hours (three additional buses during the 6 to 7 AM and 3 to 4 PM construction peak hours).

After the completion of the Phase 1 and Phase 2A components of the proposed project, the Roosevelt Island subway station and bus routes would experience increases in passengers generated by the completed uses. However, during the commuter peak periods, the combination of the Phase 2 construction worker trips with those generated by the completion of Phase 1 and/or Phase 2A would be less than the total projected for the operational Phase 2 full build-out condition. As a result, Phase 2 construction efforts would not result in any significant adverse subway impacts. And although Phase 2 construction workers parking at the Motorgate garage would also generate additional demand for Red Bus service, the existing Red Bus service is expected to be adequate in fully accommodating construction worker travel between the Motorgate garage and the project site. However, because the Q102 bus route would be significantly impacted by the projected increase in demand from the completed Phase 1 buildings, this impact would also occur during Phase 2 construction.

Pedestrians

Pedestrian trips generated by construction workers are not expected to result in significant adverse pedestrian impacts during Phase 1 construction. After the completion of the Phase 1 and Phase 2A components of the proposed project, the combination of the Phase 2 construction worker pedestrian trips

with those generated by the completed Phase 1 and Phase 2A buildings during the commuter peak hours may result in similar significant adverse pedestrian impacts as those discussed above, "Transportation," and may warrant the earlier implementation of the recommended sidewalk widening.

AIR QUALITY

No significant adverse air quality impacts would be expected at any sensitive receptor locations due to the on-site construction activities of the proposed project. To ensure that the construction of the proposed project would result in the lowest practicable diesel particulate matter (DPM) emissions, the project would implement an emissions reduction program for all construction activities, including: diesel equipment reduction; clean fuel; best available tailpipe reduction technologies; utilization of newer equipment; source location; dust control; and idle restriction.

The project site is generally located at some distance away from sensitive uses, with the nearest existing residential building located more than 600 feet north of the project site. The nearest sensitive locations are South Point Park, located to the south of the project site, and the waterfront promenades along the east river, located to the east and west of the project site. In addition, construction activities during construction of Phase 2 may occur near the completed Phase 1 project buildings and the associated open spaces. Given the size of the project site and space available, most of the heavy diesel engines, deliveries, and intense activities such as concrete pumping would take place away from South Point Park, the waterfront promenades, and the Phase 1 completed buildings and the associated open space locations to the extent practicable.

A detailed analysis of the off-site emissions determined that the CO, $PM_{10,}$ and $PM_{2.5}$ concentrations would be below their corresponding NAAQS and interim guidance criteria. Therefore, no significant adverse air quality impacts are expected from off-site construction sources.

NOISE AND VIBRATION

Noise

The proposed project would result in significant adverse impacts with respect to construction noise on open space.

Construction on the proposed development sites would include noise control measures as required by the New York City Noise Control Code, including both path and source controls. Even with these measures, the results of detailed construction analyses indicate that the proposed project would result in significant adverse impacts with respect to construction noise, as follows:

- During construction of Phase 1, the open space areas along Main Street would experience exceedances due to trucks and workers travelling on Main Street to and from the project site during the AM construction traffic peak hour (6 to 7 AM);
- During construction of Phase 2, South Point Park and the waterfront promenades on the east and west sides of the Island adjacent to the project site would experience noise levels in the mid to high 70s of dBA for over 24 months. These exceedances would be due to the operation of on-site construction equipment.

Vibration

Development pursuant to the proposed actions is not expected to result in significant adverse construction impacts with respect to vibration. Use of construction equipment that would have the most potential to exceed the 65 VdB criterion within a distance of 600 feet of sensitive receptor locations (e.g., equipment used during pile driving) would be perceptible and annoying. Therefore, for limited time periods, perceptible vibration levels may be experienced by occupants and visitors to all of the buildings and locations on and immediately adjacent to the construction sites. However, the operations which would result in these perceptible vibration levels would only occur for finite periods of time at any particular location and,

therefore, the resulting vibration levels, while perceptible, would not result in any significant adverse impacts.

OTHER TECHNICAL AREAS

Historic and Cultural Resources

The proposed project would demolish the Goldwater Hospital complex, which would constitute a significant adverse impact on this architectural resource. Cornell has consulted with OPRHP and LPC regarding appropriate measures to partially mitigate the significant adverse impact on this architectural resource. These measures would be implemented by Cornell in consultation with OPRHP and LPC, as set forth in an LOR among Cornell, OPRHP, LPC, and RIOC.

Hazardous Materials

Studies of the project site indicate that existing buildings may contain hazardous materials such as ACM and lead-based paint. Soil that would be disturbed by the proposed project includes urban fill materials with elevated concentrations of certain metals and SVOCs. Demolition and excavation activities could disturb these hazardous materials and potentially increase pathways for human or environmental exposure. To reduce the potential for human or environmental exposure to known or unexpectedly encountered contamination during the construction of the proposed project, a RAP and an associated CHASP were prepared and submitted to NYCDEP and approved by NYCDEP in a letter dated November 8, 2012. The RAP and CHASP would be implemented during project construction. The RAP addresses requirements for items such as soil stockpiling, soil disposal and transportation; dust control; dewatering procedures; quality assurance; procedures for the closure and removal of the known petroleum storage tanks; and contingency measures, should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP identifies potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring including community air monitoring, and emergency response procedures). In addition, during construction of the proposed project, regulatory requirements pertaining to ACM, lead-based paint, PCBs and chemical use and storage would be followed. With these measures in place, no significant adverse impacts related to hazardous materials would occur as a result of the proposed project.

Natural Resources

Natural resources within and around the project site are highly limited, and construction of Phase 1 and Phase 2 are not considered to have the potential to cause significant adverse impacts to those resources. Groundwater within the project site is not potable and soil levels of some compounds are elevated; construction of the proposed project would not be expected to have adverse impacts to groundwater quality or result in human or environmental exposure to contaminants. Re-grading and filling of the small area of 500-year floodplain within the project site during Phase 1 and the Phase 2 would not increase local flood risk. No in-water construction activities would occur during Phase 1 or Phase 2, and soil disturbing activities associated with Phase 1 activities would be conducted in accordance with the NYSDEC State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity. As such, no direct or indirect impacts to water quality, littoral zone tidal wetland, aquatic biota, or other aquatic resources of the East River (including state or federally protected species and Essential Fish Habitat) would occur as a result of Phase 1 or Phase 2 construction. Construction would require the disturbance of ecological communities present on site and the removal of certain trees that are of locally common and abundant species. Wildlife occurring in the area is composed of urban-adapted, disturbance-tolerant generalists that would not be affected by construction noise. Some wildlife would be temporarily displaced from the site during project construction, but would be expected to easily locate temporary alternative habitat nearby and return to the project site upon completion. Threatened or endangered species have low potential to occur within the project site or offshore, and would not be significantly impacted by the minimal and temporary land disturbance that would occur during Phase 1 and Phase 2 construction.

Open Space

Construction of the proposed project would occur in close proximity to South Point Park, an open space resource located immediately south of the Goldwater Hospital site and immediately north of the future Four Freedoms Park site, and the waterfront promenade, a walkway for pedestrians that extends along the east and west sides of Roosevelt Island north of South Point Park. Both open spaces are expected to remain open during the entire construction period, and access to these open spaces would be maintained.

Construction activities would be conducted with the care mandated by the close proximity of several open spaces to the proposed project. Dust control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with the New York City Air Pollution Control Code, which regulates construction-related dust emissions. At limited times over the course of the entire construction period, construction activities such as structural demolition, excavation, and foundations may generate noise that could impair the enjoyment of nearby open space users. Although construction fences around the project site may shield the open spaces from construction activities, as described above in noise, elevated noise levels are predicted to occur for two or more consecutive years at open space receptors immediately adjacent to the project site during Phase 2 construction. In addition, impacts are projected to occur on open spaces along Main Street during Phase 1 construction. Therefore, construction of the proposed project would result in significant adverse noise impacts on open spaces.

Socioeconomic Conditions

Construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions. Construction of the proposed project would not block or restrict access to any facilities in the area or affect the operations of any nearby businesses, including Sportspark, which is located north of the project site. Lane closures are not expected to occur in front of entrances to any existing or planned retail businesses, and construction activities would not obstruct major thoroughfares used by customers or businesses. Utility service would be maintained to all businesses. Overall, construction of the proposed project is not expected to result in any significant adverse impacts on surrounding businesses.

Community Facilities

No community facilities are located near the construction site. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care facilities. Construction of the proposed project would not block or restrict access to any facilities in the area, including Sportspark, which is located north of the project site, and would not materially affect emergency response times. New York Police Department (NYPD) and FDNY emergency services and response times would not be materially affected due to the geographic distribution of the police and fire facilities and their respective coverage areas.

Land Use and Neighborhood Character

Construction activities would affect land use on the project site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the site. There would also be noise, sometimes intrusive, from construction work as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would have minimal effects on land uses within the study area, particularly as most construction activities would take place within the project site, which is located south of the Queensboro Bridge and not within a Central Business District or along a major thoroughfare, and generally located at some distance away from sensitive uses. Nevertheless, throughout the construction period, measures would be implemented to control noise, vibration, and dust on construction sites, including the erection of construction fencing and in some areas fencing incorporating sound-reducing measures. Construction activity associated with the proposed project would be localized and would not alter the character of the larger neighborhoods surrounding the project site.

BARGING ALTERNATIVE TO TRUCK MATERIAL DELIVERIES

The EIS analysis of construction-period effects represents a reasonable worst-case construction scenario in which all materials are delivered to and removed from the Cornell NYC Tech project site by truck. However, Cornell is considering alternatives to this truck-based approach and is exploring the feasibility of employing barges during the Phase 1 construction period.[8] Two barging techniques are under consideration—a Harbor Barge and a Roll-On/Roll-Off Barge. The Harbor Barge could be used for the removal of bulk materials from the project site, such as gravel, soil, and demolition materials, and for the delivery of bulk materials. The Roll-On/Roll-Off Barge could be used for the delivery of materials typically loaded on trucks, such as structural steel; cladding materials; materials for interior work (partition systems; mechanical, electric and plumbing materials; finishes; furniture, fixtures, and equipment [FF&E]); and sitework materials (e.g., planters, pavers, trees, sod, solar panels, among other materials).

Additional actions/approvals would be required for use of either barging technique and would include actions from USACE, the U.S. Coast Guard, NYSDEC, OPRHP, LPC, and RIOC. In addition, use of barges would have to be consistent with the Coastal Zone Management Act, through the New York State Department of State's Coastal Management Program and approved Local Waterfront Revitalization Plans (i.e., the City's Waterfront Revitalization Program).

Use of barging (either technique) would require some closure of a segment of the Roosevelt Island promenade to the east of the site. Cornell is committed to maintaining access—both pedestrian and vehicular—to South Point Park and the Four Freedoms Park at all times during construction of the proposed project.

Use of the Harbor Barge technique would result in an estimated reduction of between 20 and 25 percent of overall trucks trips over the Phase 1 construction period. Use of the Roll-On/Roll-Off Barge technique could result in an estimated reduction of between 25 and 35 percent of overall trucks trips. Therefore, use of either technique would result in a reduction of the average daily truck number and would result in a reduction of the peak number as well. While use of barging would result in a reduction of construction truck traffic on Main Street, it is not expected to materially change the conclusions of the detailed construction traffic or air quality analyses.

Use of either barging technique would result in some localized increases in noise levels from barge operations that could potentially exceed CEQR noise impact criteria at open space locations near the barge activities (i.e., along the Roosevelt Island promenade to the east of the site). For the Harbor Barge, these localized noise increases would not be expected to result in significant adverse impacts on the Roosevelt Island promenade since this barge technique would be used predominantly in the first year of Phase 1 construction and would not be in use continuously during this time. For the Roll-On/Roll-Off Barge, localized increases in noise levels could potentially exceed CEQR noise impact criteria at open space locations near the barge activities for approximately three years. These localized noise increases may result in significant noise impacts during Phase 1 construction on the Roosevelt Island promenade to the east of the project site.

Neither barging option would be expected to result in significant adverse impacts on natural resources. Neither barging option would result in conclusions different than the truck-based approach in the areas of socioeconomic conditions, community facilities, and land use and neighborhood character.

4. ALTERNATIVES

As mandated by both CEQR and SEQRA, the FEIS examines a No Action Alternative, which describes the conditions that would exist if the proposed actions were not implemented. The second alternative is the No Unmitigated Significant Adverse Impact Alternative, which examines alternatives that would avoid

[8] The feasibility of employing barges during the Phase 2 construction period would be explored when details on the Phase 2 construction components become more defined.

unmitigated significant adverse impacts in the areas of historic and cultural resources, traffic, and construction.

NO ACTION ALTERNATIVE

Consideration of the No Action Alternative is intended to provide the lead and involved agencies with an assessment of the expected environmental impacts of no action on their part. The No Action Alternative assumes that the proposed project would not be implemented (i.e., none of the discretionary approvals proposed as part of the proposed project would be adopted), and that the Goldwater Hospital complex would be vacant.

The significant adverse impacts anticipated for the proposed project—in the areas of historic resources, transportation, and construction-period traffic, transit, pedestrians, and noise on open space—would not occur with the No Action Alternative.

The No Action Alternative would be inconsistent with the City of New York's Applied Sciences NYC initiative since it would not realize the benefits of bringing a leading academic institution to build a world-class applied sciences and engineering campus in New York City. The No Action Alternative would not achieve the Applied Sciences NYC initiative's overarching goal of maintaining and increasing New York City's global competitiveness, diversifying the city's economy, driving economic growth, and creating jobs for New Yorkers. This alternative would not provide a new campus for Cornell that will encourage close collaboration between graduate-level academic programs and business and entrepreneurship.

NO UNMITIGATED SIGNIFICANT ADVERSE IMPACT ALTERNATIVE

HISTORIC AND CULTURAL RESOURCES

Preservation of the hospital complex and its reuse for the Cornell NYC Tech project was explored, but was found not to be feasible. Consequently, there is no feasible alternative that would successfully meet the goals and objectives of Cornell University and the City of the New York, while still preserving the existing hospital complex as a way of avoiding the significant impact on this historic architectural resource.

TRANSPORTATION

To avoid the operational period traffic impacts, development at the site would need to be significantly reduced and would need to be limited to just Phase 1 development. Such limited development would not meet the long-term goals and objectives of the proposed project of building a world-class applied sciences and engineering campus in New York City with flexible and dynamic interdisciplinary application hubs that would accelerate existing sectors of NYC's economy.

CONSTRUCTION

For the traffic impacts, there would be one partially mitigated impact in the construction PM peak hour. For noise, no feasible alternative has been identified to avoid the Phase 1 construction noise level exceedances at open spaces along Main Street or to avoid the construction noise level increases at the promenade and South Point Park. Even accounting for the types of measures incorporated into the proposed project to reduce construction noise, any development comparable in scale to the proposed project (i.e., that would involve demolition of the Goldwater Hospital campus, multi-year construction at any one location, and the construction of multi-story buildings) would have the potential to result in unmitigated significant adverse construction noise impacts at these open spaces.

5. MITIGATION MEASURES

The preceding sections discuss the potential for significant adverse environmental impacts resulting from the proposed Cornell NYC Tech project. Such potential impacts were identified in the areas of historic and cultural resources, transportation, and construction. Measures have been examined to minimize or eliminate these anticipated impacts. These mitigation measures are discussed below.

HISTORIC AND CULTURAL RESOURCES

The proposed project would demolish the Goldwater Hospital complex, which would constitute a significant adverse impact on this architectural resource. Measures to partially mitigate significant adverse impacts to the Goldwater Hospital complex would be implemented by Cornell in consultation with OPRHP and LPC as set forth in a LOR among Cornell, OPRHP, LPC, and RIOC.

Mitigation measures include the following:

1. Preparation of Historic American Buildings Survey (HABS) Level II documentation of the Goldwater Hospital complex, which would include photographic documentation, historic plans, and an accompanying historical narrative.
2. Cornell has investigated the locations and conditions of the murals that were commissioned for Goldwater Hospital as part of the Federal Art Project (FAP) of the WPA. To date, Cornell has confirmed that four "abstraction" murals (works by Bolotowsky, Swinden, Rugolo, and Chanase) were installed in Goldwater Hospital, but that three of these have been painted over. Only Ilya Bolotowsky's "Abstraction" has been conserved and is currently visible.

   Cornell has also investigated four additional murals (works by Goldman, Haupt, and two by Browne) and determined that they are not present in Goldwater Hospital. These murals were identified by the New York City Public Design Commission as having been commissioned, but there is no record of their installation. The investigations, conducted by EverGreene Architectural Arts and meeting the American Institute for Conservation of Historic and Artistic Works (AIC) standards, did not confirm the presence of these four murals at Goldwater Hospital.

   a. Cornell would prepare a report on the findings of the investigations. A copy of the report shall be provided to OPRHP and LPC for review and comment.

   b. Cornell would, in consultation with OPRHP and LPC, develop and implement appropriate measures to remove and restore the four extant WPA murals to the extent practicable. Cornell would then promptly deliver all removed and restored WPA artwork to appropriate repositories, as identified in consultation with OPRHP and LPC.

   c. In consultation with OPRHP and LPC, Cornell would develop a digital media display about the murals, including information obtained through Cornell's investigations of the murals. The digital media display shall be submitted to OPRHP and LPC at the preliminary and pre-final stages for OPRHP and LPC comment. The location and management of the digital exhibit would be established through ongoing consultation with OPRHP and LPC.

Cornell would develop and install one or more plaques or historic markers on the new academic campus that would provide information and a photograph describing and illustrating the history of the site, the Goldwater Hospital, and the WPA murals. Design for the interpretive materials shall be submitted to OPRHP and LPC at the preliminary and pre-final stages of development for OPRHP and LPC comment.

TRANSPORTATION

TRAFFIC

The overall finding of the traffic mitigation analysis is that all six intersections under the 2018 analysis year and eight of the 11 intersections under the 2038 analysis year that would experience impacts could be fully mitigated with readily implementable traffic improvement measures, including signal timing and phasing changes, new traffic signals, parking regulation changes to gain or widen a travel lane at key intersections, and lane restriping. One additional intersection under the 2038 With Action condition could be partially mitigated by adjusting the traffic signal timing. These measures represent some of the standard traffic capacity improvements that are typically implemented by NYCDOT.

Phase 1

- Impacts at the following locations would be mitigated with the measures outlined:
  - — Roosevelt Island Bridge/36th Avenue and Vernon Boulevard: Impacts would occur during the weekday AM and PM peak hours and could be mitigated by modifying the signal timing.
  - — 36th Avenue and 21st Street: Impacts would occur during the AM and midday peak hours and could be mitigated by modifying the signal timing.
  - — Broadway and 21st Street: Impacts would occur during the AM, midday, and PM peak hours and could be mitigated by modifying the signal timing.
  - — 41st Avenue and Vernon Boulevard: Impacts would occur during the AM and PM peak hours and could be mitigated by modifying the signal timing.
  - — Astoria Boulevard/27th Avenue/Newtown Avenue and 21st Street: Impacts would occur during the AM, midday, and PM peak hours. These conditions could be mitigated by modifying the signal timing.
  - — Hoyt Avenue South and 21st Street: Impacts would occur during the AM peak hour and could be mitigated by modifying the signal timing and allowing through movements and left turns from the 11-foot wide exclusive left-turn lane on the eastbound approach of Hoyt Avenue South.

Full Build

- Impacts at the following two locations on Roosevelt Island could be mitigated with the measures described here.
  - —West Road and Main Street: Impacts would occur during the PM peak hour and could be mitigated by installing a traffic signal. Because installing a single traffic signal would not control all the traffic movements at this triangle-shaped intersection, and it is desirable to eliminate the observed, illegal northbound movements occurring against southbound traffic on the north leg of the triangle, it is recommended to "normalize" this intersection to eliminate superfluous vehicular turning conflicts and pedestrian conflicts so that the south leg no longer carries vehicular traffic and is "pedestrianized." This improvement would allow vehicular and pedestrian movements to occur at the intersection of West Road and Main Street and be under the control of a single new traffic signal. This would also provide unrestricted pedestrian access to the existing triangle from west of Main Street and east of West Road. It should be noted that this would divert existing trips (mainly passenger vehicles) that use the traffic triangle as a U-turn to one block south to the traffic circle at East Road; about 80 vehicles per hour in the AM peak hour and about 40 vehicles per hour in the midday and PM peak hours would be diverted in the 2038 full build condition.
  - — Roosevelt Island Bridge Ramp and Main Street: Impacts would occur during the AM and the PM peak hour. Both conditions could be mitigated by installing a traffic signal.
- Impacts at the following location in Queens would be partially mitigated.
  - — Roosevelt Island Bridge/36th Avenue and Vernon Boulevard: Impacts would occur during all peak hours. These impacts could be fully mitigated for the midday peak hour and partially mitigated for the AM and PM peak hours by modifying the traffic signal cycle.
- Impacts at the following locations in Queens would be unmitigatable.
  - — Broadway and Vernon Boulevard/11th Street: Impacts would occur during all peak hours.
  - — Hoyt Avenue North and 21st Street: Impacts would occur during all peak hours.
- Impacts at the following locations in Queens would be mitigated with the measures identified.
  - — 36th Avenue and 21st Street: Impacts were identified at during all peak hours and could be mitigated by modifying the signal timing and making other modifications (these modifications would include shifts to the centerline and restriping certain approaches).

— Broadway and 21st Street: Impacts were identified during all peak hours and could be mitigated by prohibiting parking along certain approaches, shifts to the centerline and restriping certain approaches, and modification to signal timing.

— 36th Avenue and 31st Street: Impacts would occur during the midday and PM peak hours and could be mitigated by modifying the signal timing.

— 41st Avenue and Vernon Boulevard: Impacts would occur during the AM and PM peak hour and could be mitigated by modifying the signal timing.

— Astoria Boulevard/27th Avenue/Newtown Avenue and 21st Street: Impacts would occur during all peak hours. Overall, the intersection could be mitigated by prohibiting parking, restriping, and shifting the centerline of certain approaches and modifying the signal timing.

— Hoyt Avenue South and 21st Street: Impacts would occur during the AM and PM peak hours. Both conditions could be mitigated by modifying the signal timing and allowing through movements and left turns from the 11-foot-wide exclusive left-turn lane on the eastbound approach of Hoyt Avenue South.

Transit

The proposed project would not result in any significant adverse subway station or tramway impacts in either the 2018 or 2038 analysis year. However, it would result in significant adverse impacts to bus line-haul levels for the Q102 bus and the Red Bus as described above. **Table S-5** provides comparisons of existing service and the number of buses required to fully mitigate the identified significant adverse line-haul. Mitigation for the full build condition accounts for all buses needed to accommodate the full build projected passenger volumes independent of the Phase 1 mitigation. NYCT and RIOC routinely monitor changes in bus ridership and make the necessary service adjustments where warranted.

Table S-5
Mitigated Future With Action Condition (Capacity Improvement): Bus Line Haul Levels

Analysis Year	Route	Peak Period	Eastbound/Northbound Buses per Hour		Westbound/Southbound Buses per Hour	
			Existing	Mitigation	Existing	Mitigation
2018	Q102	AM	4	n/a	3	n/a
		PM	2	3	2	n/a
2038	Q102	AM	4	6	3	5
		PM	2	7	2	6
2038	Red Bus	AM	8	n/a	8	10
		PM	8	9	8	n/a

Notes: The Q102 bus route operates standard buses with a guideline capacity of 54 passengers per bus and the Red Bus route operates with a guideline capacity of 55 passengers per bus.

Pedestrians

For 2018, the proposed project would not result in any significant adverse impacts on pedestrian operations.

Under the full build condition, the proposed project would result in significant adverse pedestrian impacts at the following locations on West Road and West Main Street:

- West Road: The east sidewalk between West Main Street and the subway station. The significant adverse impacts at this sidewalk would be fully mitigated by widening its existing width of 6.4 feet to 8.9 feet, thereby increasing its effective width from 2.7 feet to 5.2 feet.
- West Main Street: The east sidewalk between the Tram Station West bus stop and the Queensboro Bridge. The significant adverse impacts at this sidewalk would be fully mitigated by widening its existing width of 6.4 feet to 8.0 feet, thereby increasing its effective width from 3.6 feet to 5.2 feet.

These mitigation measures have been determined to be feasible.

Mitigation Implementation

Subject to approvals of the relevant agencies, including NYCDOT, RIOC, and NYCT, the recommended mitigation measures would be implemented to mitigate the projected significant adverse transportation impacts at the completion of the project's Phase 1-2018 and Full Build-2038 conditions. Between Phase 1-2018 and Full Build-2038 conditions, Cornell will coordinate the implementation schedule for traffic mitigation measures shown above for 2038 conditions with RIOC and NYCDOT.

CONSTRUCTION

The proposed project would result in significant adverse construction impacts related to transportation and noise (i.e., construction noise impacts on open space).

TRAFFIC

Four intersections (of the seven analyzed) would experience significant adverse traffic impacts during Phase 1 construction. Impacts at three of the four intersections could be mitigated using standard mitigation measures typically implemented by NYCDOT. Significant impacts at one location could only be partially mitigated. These measures would also be consistent with those proposed to mitigate the intersection impacts associated with the project's build-out and occupancy.

For Phase 2 construction, the cumulative operational and construction traffic would be of lower magnitudes than what the overall project would generate when completed in 2038. Therefore, potential traffic impacts during peak Phase 2 construction would be within the envelope of significant adverse traffic impacts identified for the full build condition in "Transportation," and mitigatable and unmitigatable impacts identified above would apply to Phase 2 construction conditions as well. The required mitigation measures for those locations that could be mitigated are expected to be part of those presented for the full build-out of the proposed project. These mitigation measures could be implemented at the discretion of NYCDOT during construction of Phase 2.

TRANSIT

During construction of Phase 1, because most construction workers parking at the Motorgate garage would rely on the Red Bus for travel to/from the project site, during off-peak hours when the Red Bus operates at comparatively lower frequencies, there is a potential for a line-haul impact on the Red Bus that would warrant an increase in its service during off-peak hours (i.e., three additional buses during the 6 to 7 AM and 3 to 4 PM construction peak hours). Cornell has committed to fund the operating costs associated with providing additional Red Bus service if project activity adversely impacts the Red Bus service during the construction period.

A significant adverse impact has been identified for the Q102 bus route due to the projected increase in demand from the completed buildings, and this impact would continue during the Phase 2 construction period. Mitigation measures identified above for the operational impact would be proposed to mitigate the construction-period impact.

PEDESTRIANS

Pedestrian trips generated by construction workers are not expected to result in significant adverse pedestrian impacts during Phase 1 construction. After the completion of the Phase 1 and Phase 2A components of the proposed project, the combination of the Phase 2 construction worker pedestrian trips with those generated by the completed Phase 1 and Phase 2A buildings during the commuter peak hours may result in similar significant adverse pedestrian impacts as those discussed above, and may warrant the earlier implementation of the recommended sidewalk widening described above.

NOISE IMPACTS ON OPEN SPACE

No practical and feasible mitigation measures have been identified that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the impacted open space areas (i.e., the open spaces

along Main Street, the waterfront promenade, or South Point Park), and this impact is considered unavoidable.

6. UNAVOIDABLE ADVERSE IMPACTS

As described above, a number of the potential impacts identified for the proposed actions could be mitigated. However, in some cases, impacts from the proposed actions would not be fully mitigated.

HISTORIC AND CULTURAL RESOURCES

The demolition of the Goldwater Hospital complex would constitute a significant adverse impact on this architectural resource.

An alternatives analysis prepared in consideration of the potential to retain and reuse all or portions of the Goldwater Hospital complex as part of the Cornell NYC Tech project concluded that it is not possible to meet the goals and objectives of the project, Cornell University, and the City of the New York while avoiding adverse impacts to the Goldwater Hospital complex. Consequently, there is no feasible alternative that would avoid a significant adverse impact on this architectural resource. In a letter dated September 19, 2012 commenting on the alternatives analysis, OPRHP concluded that "there are no prudent and feasible alternatives at this time to demolition of these historic buildings." LPC concurred with OPRHP's comments in a letter dated September 25, 2012. Therefore, because it is not possible to meet the goals and objectives of the project while avoiding adverse impacts to the Goldwater Hospital complex, measures to partially mitigate the significant adverse impact to the Goldwater Hospital complex would be implemented by Cornell in consultation with OPRHP and LPC as set forth in an LOR among Cornell, OPRHP, LPC, and RIOC.

TRANSPORTATION

TRAFFIC

The proposed project would result in significant adverse traffic impacts at locations within the traffic study area. All of the locations that would be significantly impacted under the Phase 1 – 2018 With Action condition and most of the locations that would be significantly impacted under the Full Build – 2038 With Action condition could be mitigated using standard traffic improvements, such as signal timing and phasing changes, installation of new traffic signals, parking regulation changes to gain or widen a travel lane at key intersections, and lane restriping.

In the 2038 analysis year, two of the 14 study locations would experience unmitigatable impacts. The intersections of Broadway and Vernon Boulevard/11th Street and Hoyt Avenue North and 21st Street would experience unmitigatable impacts during the AM, midday and PM peak hours. In addition, the intersection of 36th Avenue/Roosevelt Island Bridge and Vernon Boulevard would only be partially mitigatable during the AM and PM peak hours.

CONSTRUCTION

TRANSPORTATION

During construction, one of the seven study locations would experience partially mitigatable impacts in the PM peak hour. During the PM construction peak hour, 36th Avenue/Roosevelt Island Bridge and Vernon Boulevard would experience partially mitigatable impacts.

NOISE IMPACTS ON OPEN SPACE

There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within any of the open space areas (i.e., the open spaces along Main Street, the waterfront promenade, or South Point Park). Noise levels in these spaces would exceed the 55 dBA $L_{10(1)}$ noise level recommended for outdoor areas requiring serenity and quiet by the June 2012 *City Environmental Quality Review (CEQR) Technical Manual* noise exposure guidelines. However, while the

55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet, due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) this relatively low noise level is often not achieved. For example, existing noise levels at the waterfront promenade and South Point Park are already above the 55 dBA $L_{10(1)}$ guideline due to noise from vehicular traffic on the Queensboro Bridge and on the FDR Drive. To achieve noise levels that would meet the 55 dBA $L_{10(1)}$ guideline, measures would need to be implemented to control noise from the Queensboro Bridge; the implementation of barriers on the bridge would not be possible because of the bridge's landmarked status.

7. GROWTH-INDUCING ASPECTS OF THE PROPOSED ACTIONS

The proposed project would be limited to the project site, which would be developed with a new applied science and engineering campus on Roosevelt Island; the new campus would include academic space, corporate co-location space, an Executive Education Center, and residential uses. A small amount of campus-oriented retail space would also be included, and new open space on the site would also be provided. These new uses would replace the vacant Goldwater Hospital complex, and are expected to contribute to growth in the city and state economies consistent with the overarching goal for the Applied Sciences NYC initiative, which is to maintain and increase New York City's global competitiveness, diversify the city's economy, drive economic growth, and create jobs for New Yorkers. The new uses are not expected to induce substantial additional growth within any specific neighborhood outside of the project site, although the proposed project would introduce residents that would be expected to support existing local retail uses on Roosevelt Island. In addition, the proposed project would not include the introduction or expansion of infrastructure capacity that would result in indirect development; all proposed infrastructure improvements would be made to support development of the project site itself. The upgraded gas line to Roosevelt Island, which would be undertaken by Con Edison in support of the Cornell NYC Tech project, would also not result in indirect development; instead, it would allow existing development on Roosevelt Island to change from electric heat to gas heat. Therefore, the proposed project is not expected to induce significant new growth in the surrounding area.

8. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Resources would be expended in the construction and operation of the proposed project. These resources include the materials used in construction; energy in the form of fuel and electricity consumed during construction and operation of the Cornell NYC Tech project; and the human effort required to develop, construct, and operate various components of the project. The resources are considered irretrievably committed because their reuse for some purpose other than the proposed project would be highly unlikely. The proposed project constitutes an irreversible and irretrievable commitment of the project site as a land resource, thereby rendering land use for other purposes infeasible, at least in the near term.

These commitments of land resources and materials are weighed against the benefits of the proposed project. The proposed project is a key component of the city's Applied Sciences NYC initiative, the overarching goal of which is to maintain and increase New York City's global competitiveness, diversify the city's economy, drive economic growth, and create jobs for New Yorkers. To achieve this goal, the proposed project would transform the project site into a new engineering and applied sciences campus that would contain new academic space, corporate co-location space, an Executive Education Center, and residential uses. A small amount of campus-oriented retail space would also be included, and new open space on the site would be provided.

9. NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

This Notice of Completion for the Final Environmental Impact Statement for the Cornell NYC Tech Project has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law.

10. CONTACT OFFICE

Requests for copies of this FEIS should be forwarded to the contact office, Mayor's Office of Environmental Coordination, 100 Gold Street – 2nd Floor, New York, NY 10038, or by email to rkulikowski@cityhall.nyc.gov.

The FEIS is also available on the New York City Mayor's Office of Environmental Coordination website:

http://www.nyc.gov/oec

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Assistant to the Mayor

March 8, 2013
Date