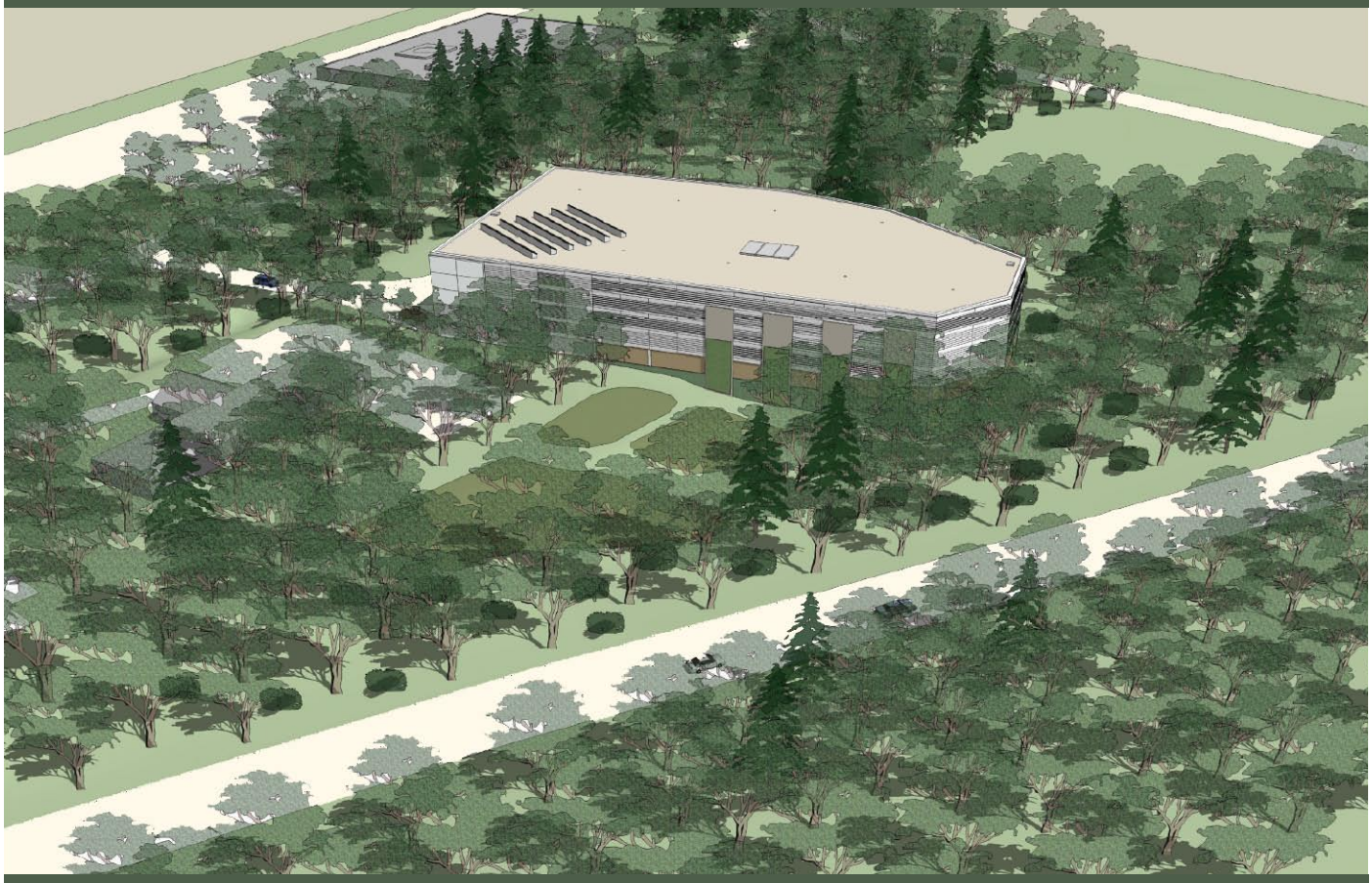
PARK PLACE AT WESTCHESTER AIRPORT

11 New King Street
Town of North Castle, New York



Draft Environmental Impact Statement

Prepared by:

AKRF

Project Sponsor:
11 New King Street, LLC

Lead Agency:
Town of North Castle Planning Board
17 Bedford Road
Armonk, NY 10504

MARCH 28, 2011

PARK PLACE AT WESTCHESTER AIRPORT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

March 28, 2011

Lead Agency: Town of North Castle Planning Board, North Castle, New York

Applicant: 11 New King Street, LLC
11 New King Street
White Plains, New York 10604

Prepared by: AKRF, Inc.
34 South Broadway Suite 401
White Plains, New York 10601

PARK PLACE AT WESTCHESTER AIRPORT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Project Name:	Park Place
Project Location:	11 New King Street, Town of North Castle, NY 10604 Section 3, Block 4, Lot 14B Section 3, Block 4, Lot 13A (partial)
Lead Agency:	Town of North Castle Planning Board Town of North Castle 17 Bedford Road Armonk, NY 10504 Contact: Adam R. Kaufman, AICP, Director of Planning Contact Phone Number: (914) 273-3542
Applicant/Sponsor:	11 New King Street, LLC 11 New King Street White Plains, NY 10604 Contact: Bill Null Contact Phone Number: (914) 761-1300
DEIS Acceptance Date:	March 28, 2011

A public hearing is scheduled for Monday, May 2, 2011, 7:00 PM at H.C. Crittenden Middle School, located at 10 MacDonald Avenue in Armonk, NY. Written comments on the DEIS will be accepted by the Lead Agency through May 17, 2011.

This document is the Draft Environmental Impact Statement (DEIS) for the above-referenced project. Copies are available for review at the office of the Lead Agency, the North Castle Public Library, and the North White Plains Public Library. A copy of this document has also been made available on the Internet at the following address: http://www.northcastleny.com/hall_department_planning.php.

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Structural Engineer:	Nachman Engineering 610 Quaker Road Chappaqua, NY 10514
Systems Engineer:	O'Dea, Lynch & Abbattista 50 Broadway Hawthorne, NY 10532
Geotechnical Engineer:	Melick-Tully and Associates, PC 117 Canal Road South Bound Brook, NJ 08880
Groundwater Engineer:	Leggette, Brashears & Graham Inc. 4 Research Drive, Suite 301 Shelton, CT 06484
Survey:	Control Point Associations, Inc. 35 Technology Drive Warren, NJ 07059
Legal Counsel:	Cuddy & Feder, LLP 445 Hamilton Avenue, 14th Floor White Plains, NY 10601

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A. PROJECT DESCRIPTION

11 New King Street, LLC (the "applicant") proposes to construct a multi-level automated parking structure (the "proposed project") at 11 New King Street (the "project site") in the Town of North Castle, Westchester County to alleviate an existing parking shortage at Westchester County Airport. The proposed parking facility would be called Park Place at Westchester Airport ("Park Place"). In conjunction with the site plan application, the applicant has submitted a zoning petition to amend the Town of North Castle zoning code to allow parking structures in the Industrial AA (IND-AA) zoning district with a special permit. This draft environmental impact statement (DEIS) assesses potential impacts to the environment and community from the proposed project and has been prepared in accordance with 6 NYCRR Part 617: Preparation and content of environmental impact statements of the Environmental Conservation Law of New York State. For purposes of review under the State Environmental Quality Review Act (SEQRA), the Town of North Castle Planning Board is the lead agency. SEQRA documentation related to the proposed project is provided in Appendix A.

The proposed parking structure is intended to accommodate existing parking demand at Westchester County Airport and has been designed with careful consideration to the environment to avoid significant adverse impacts. The proposed project would require site disturbance, but would incorporate a number of green and sustainable building initiatives that, in the applicant's opinion, would have beneficial environmental impacts. Further, the proposed project, in the applicant's opinion, would be an economic stimulus for the Town of North Castle and Westchester County.

The project site comprises two tax map parcels that are located in the southern portion of the Town of North Castle adjacent to Westchester County Airport near the Connecticut state line (see Chapter 2, "Project Description," Figures 2-1 and 2-2, Regional and Site Location Maps). The proposed project would involve construction of an approximately 267,000-square-foot five-level enclosed automated parking structure with a building footprint of approximately 51,000 square feet. The parking facility would provide space to accommodate 1,450 vehicles.

B. INVOLVED AGENCIES AND REQUIRED APPROVALS/PERMITS

Table 1-1
Required Approvals and Involved Agencies

Approval/Permit/Review	Involved Agency
Town of North Castle	
Site Plan Approval	Planning Board
Wetland Permit	Planning Board
Tree Removal Permit	Planning Board
Zoning Text Amendment	Town Board
Sanitary Sewer Connection	Building Department
Westchester County	
Sanitary Sewer Connection	Department of Health (WCDOH)
Water Supply Well	WCDOH
Roadway/Signal Improvements	Department of Public Works (WCDPW)
New York City	
SWPPP	Department of Environmental Protection (NYCDEP)
Sanitary Sewer Connection	NYCDEP
Limiting Distance Disturbance	NYCDEP
New York State	
Roadway/Signal Improvements (NYS Route 120)	Department of Transportation (NYSDOT)
SPDES Permit (GP-0-10-001)	Department of Environmental Conservation (NYSDEC)
Well Decommissioning	Department of Health (NYSDOH)
OPRHP Approval	Office of Parks, Recreation, and Historic Preservation (OPRHP)
Federal	
Height Limitation	Federal Aviation Administration (FAA)
Notice of Proposed Construction or Alteration	FAA
Nationwide Permit, if applicable*	Army Corps of Engineers (USACE)
NOTE: *If the preliminary Town-delineated wetland boundary (discussed further below) is adopted by the USACE as the boundary for a federally regulated wetland, a Nationwide Permit may be required.	

C. IMPACTS AND MITIGATION

LAND USE AND ZONING

The DEIS evaluates potential impacts of the proposed project on land use, zoning, and public policy. A description of existing conditions on the project site and study area is provided, as well as an assessment of future conditions with and without the proposed project. The study area is defined as the area within a ½-mile radius of the project site. The DEIS evaluates the compatibility and consistency of the proposed project with surrounding land uses, zoning regulations, and local and regional development plans.

The proposed project, in the applicant's opinion, would be compatible with surrounding land uses. The immediate surrounding area is characterized by office and transportation uses. The proposed project, in the applicant's opinion, would not adversely affect residential or other sensitive land uses. A zoning amendment would be required to allow a proposed parking

structure on the project site, but it would be thoughtfully crafted so as to not have widespread effects within the zoning district or within the Town. The proposed project would incorporate a number of elements from existing local and regional public policy documents. Therefore, no adverse impacts related to land use, zoning, or public policy are anticipated with the proposed project and mitigation is not proposed.

VISUAL RESOURCES

This DEIS considers the appearance of the proposed automated multi-level parking facility and evaluates the potential for significant adverse visual impacts. The DEIS identifies local scenic or visual resources and locally significant open space, and historic resources within a ¼-mile study area. To determine visual effects, photographs were taken from typical viewsheds under existing conditions, and were used to describe the extent to which the proposed facility would be visible from roadways adjacent to the project site. Locations of viewpoints for these photographs were selected to demonstrate potential visibility of the proposed parking facility from representative viewpoints. The analysis of visual impacts is based upon evaluation of these viewpoints and application of the New York State Department of Environmental Conservation (NYSDEC) Visual Impact Assessment Methodology, "Assessing and Mitigating Visual Impacts," (DEP-00-2).

While the proposed parking facility would be taller than other buildings within its immediate environs, in the applicant's opinion, it would not result in a significant adverse visual impact. The parking facility would be visible from several locations in the study area but, in the applicant's opinion, it would have a character that is similar to existing buildings, which already includes several office buildings and airport related uses. The use of evergreen screening would reduce the potential for visual impacts. As such, the proposed parking facility, in the applicant's opinion, would not alter the office/industrial character of the study area. There are no visual resources in the study area that were identified per DEP-00-2. Any public viewpoints of the proposed parking facility are from roadways that do not exhibit extraordinary scenic qualities. Therefore, visibility of the proposed parking facility would, in the applicant's opinion, not adversely affect the overall visual character of those roadways and mitigation is not proposed.

CULTURAL RESOURCES

The DEIS considers the potential of the proposed project to affect cultural resources. Cultural resources include both architectural and archaeological resources.

There are no known or potential architectural resources within the project site or study area. Therefore, no adverse impacts on architectural resources would be anticipated as a result of the proposed project. In a letter dated April 22, 2010, the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) concurred that there are "no concerns regarding historic buildings/structures/districts" for the proposed project.

A Phase I archaeological survey was prepared for this project by AKRF in September 2010. As part of the Phase I, an archaeological field testing program was conducted, which determined that archaeological resources are not present within the project site. Therefore, no adverse impacts on archaeological resources are expected to result from the proposed project. Confirmation is pending review of the Phase 1 by OPRHP.

NATURAL RESOURCES

Ecological site assessments were conducted on the project site on May 30, 2008, June 11 and 12, 2008, October 15 and 29, 2008, and May 20, 2010 for the purpose of performing vegetation and wildlife inventories, a wetland delineation and a habitat assessment. Onsite flora and fauna were examined across the entirety of the project site by trained ecologists following published methods. Opportunistic observations were made of wildlife based on site or sign and a targeted effort was undertaken to determine use of the site by reptiles/amphibians on May 20, 2010 by walking transects across the project site and examining beneath cover objects (logs, stones, leaf litter). Published information on existing ecological resources was also consulted, including U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, NYSDEC freshwater wetland maps, the NYSDEC Natural Heritage Program (NHP) database, and the United States Fish and Wildlife Service County list of threatened and endangered species.

Over fifty percent of the proposed project would be located in areas of previous development and existing lawn. In addition, habitat fragmentation would be avoided and, in the applicant's opinion, impacts to onsite flora and fauna would be minimal. Furthermore, aside from the portion of the upland hillside forest that would be removed, other areas of existing trees within the vegetated stream corridor and forested wetland would be avoided by the proposed site plan. However, based on a preliminary Town-delineated wetland boundary, the proposed project would disturb 5,699 square feet (0.13 acres) of onsite wetland habitat, as discussed further in Chapter 8, "Water Resources," This direct wetland disturbance must be confirmed during the growing season of 2011 when the regulatory wetland boundary will be verified.

Approximately 44 percent of the total habitat area to be disturbed during construction of the proposed project would be temporary disturbance and would be revegetated. The planting plan calls for native species to be used in all areas proposed for revegetation. Adverse impacts to wildlife would not be expected to result from the proposed project including the stormwater management features. On the contrary, it is anticipated that these features would provide more varied habitat on the project site. Mitigation is therefore not proposed.

GEOLOGY, SOILS, TOPOGRAPHY AND SLOPES

The DEIS describes the project site's existing geology, soils, topography and slopes, and addresses potential impacts to on-site surface and subsurface resources. Bedrock geology, surface soils, and steep slopes are described based on site-specific topographic survey and from published data from the Natural Resources Conservation Service (NRCS) and the New York State Museum. Potential impacts to these resources are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork.

To prevent the potential negative effects of soil erosion, the proposed project would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form

would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the New York City Department of Environmental Protection (NYCDEP). It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site. Thus, the proposed excavation and grading activities would not cause any significant adverse impact.

With the implementation of the proposed measures, significant impacts to geology, soil, topography and slope are not expected. The proposed project would be limited to one construction phase. The use of blasting is not proposed. As such, no other mitigation measures are required.

WATER RESOURCES

GROUNDWATER RESOURCES

The DEIS assesses the potential for impacts to on-site and neighboring groundwater resources during and after the proposed project. Groundwater resources at the project site include an overburden aquifer within the glacial till sediments above the bedrock surface, and a bedrock aquifer within the fracture network of the bedrock formation. The bedrock aquifer is currently utilized as a source for potable water supply at the project site. The development plan includes installation and testing of a new bedrock supply well to meet the anticipated water demands. The current supply well would be decommissioned in accordance with applicable New York State Department of Health (NYSDOH) requirements. Design and use of aquifer resources for potable water supply are regulated by the NYSDOH and the Westchester County Department of Health (WCDOH).

Direct impacts to groundwater resources on and adjacent to the project site resulting from the proposed development plan are not expected to be significant. As discussed in Chapter 11, "Infrastructure and Utilities," the proposed project would not result in significant water demand. A pumping test program, which will include a water budget analysis and testing of the proposed water supply well, will be completed to determine the quantity of available water, the ability for the aquifer to satisfy the proposed water demand, the safe yield requirements for the proposed potable well, and the potential for impacts to adjacent groundwater resources. Installation, testing, and usage of the new well would be completed in accordance with all applicable NYSDOH and WCDOH requirements. Engineering design measures implemented during construction and after project completion would preserve groundwater quality and promote a sustainable groundwater resource system.

With the implementation of the proposed measures, significant impacts to groundwater resources are not expected. As such, no other mitigation measures are required.

SURFACE WATER AND WETLANDS

Surface water resources, including wetlands, are subject to a number of federal, state, and local laws. Disturbance to regulated wetlands and waters, or their adjacent areas (buffers), requires permitting from the regulating agencies. As documented in Chapter 6, "Natural Resources," the project site contains forested wetland habitat, a stream and a drainage way. These resources and the regulatory framework governing the protection of the onsite wetlands and streams are described below. The boundaries of all streams and wetlands were field-delineated in accordance with federal and local methodology in the spring and fall of 2008. The Town of North Castle

inspected the wetland boundary in December 2010 and subsequently made preliminary modifications to the boundary. The wetland boundary is expected to be confirmed in the growing season (i.e., spring 2011). However, potential impacts were assessed based on the preliminary Town-delineated wetland boundary.

The proposed project would disturb approximately 5,700 square feet of the preliminary Town-delineated wetland onsite. Approximately 79,680 square feet of the 100-foot Town-regulated wetland buffer and the NYCDEP watercourse limiting distance would be disturbed. Of that area, approximately 40,425 square feet would be temporary disturbance during construction and would be revegetated. Permanent disturbance in the buffer areas would include about 33,500 square feet of impervious surfaces and 5,800 square feet of pervious pavers. A permit from the Town and a variance from NYCDEP would be required for this disturbance. The proposed disturbance, in the applicant's opinion, would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. However, in compliance with the Town Code, a wetland mitigation plan would be implemented to compensate for wetland and wetland buffer impacts. Total growing space in the stormwater management area would be 12,675 square feet, representing a 2.2:1 wetland mitigation ratio. As described further in Chapter 8, "Water Resources," the proposed wetland mitigation plan would improve floral and faunal diversity onsite and, in the applicant's opinion, would improve upon wetland functions over existing conditions. However, it is acknowledged by the applicant that the Town does not typically accept required stormwater management areas to also serve toward wetland mitigation. Therefore, pending confirmation of the wetland boundary, the applicant will work with the Town to identify suitable off-site wetland mitigation opportunities in compliance with Chapter 209 of the Town Code.

Since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that would be part of the proposed project would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

STORMWATER MANAGEMENT

The DEIS describes the potential environmental impacts of the proposed project on stormwater runoff. An analysis of the pre- and post-development conditions was performed to fully evaluate the effects of the project on stormwater runoff. A hydrologic modeling program was used to determine pre-development runoff volumes and peak flow conditions. This same modeling program was used to develop the post-development stormwater management system to equal the pre-development peak flow rates after construction. In addition to peak flow analysis, runoff reduction volume (RRv), and phosphorous pollutant loading calculations were performed to demonstrate that the proposed stormwater practices and the green infrastructure components would adequately address stormwater runoff, by both minimizing potential impacts to water quality to receiving water bodies and replicate pre-development hydrology patterns.

While the proposed impacts associated with the new impervious surface and change in land use would potentially increase the peak flow, decrease infiltration, and increase the pollutants in stormwater runoff, the proposed stormwater mitigation measures would minimize the potentially adverse environmental impacts. The post-development stormwater flows have been attenuated to the pre-development flow conditions which would help to decrease potential erosion and improve water quality. It should also be noted that portions of the existing impervious surface from the adjoining property (designated as Block 4, Lot 13A), which is currently untreated,

would be collected into the new stormwater system for treatment before being released to the watercourse. The runoff reduction volume has been achieved, through the use of an on-site rain garden and stormwater planters. These practices would help to re-introduce infiltration, provide filtering, and evapotranspiration.

COMMUNITY FACILITIES AND SERVICES

The DEIS addresses potential impacts to community facilities and services, such as schools, open space and recreation facilities, police protection, fire protection, emergency medical services (EMS), and public works. Existing conditions of current service providers, future conditions expected without the proposed project, and potential impacts of the proposed project are addressed. The analysis of community facilities ties in closely with the economics analysis presented in Chapter 12, "Economic Conditions," as potential impacts often relate to tax revenues and financial considerations.

The proposed project would have minimal demand on community facilities and services. Therefore, incurred costs to emergency service providers and public works services would be negligible. However, the proposed project would significantly appreciate the value of the project site, resulting in a substantial increase in tax revenue. The proposed project would contribute approximately $250,160 annually in property taxes, as compared to $46,373 under existing conditions – an approximately 440 percent increase over current tax revenues.

INFRASTRUCTURE AND UTILITIES

The DEIS analyzes the potential impacts of the proposed project related to utility services and infrastructure including water supply, sanitary waste, solid waste, energy, and telecommunications (including telephone and cable services). The proposed project would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. As such, no mitigation measures are required. However, as discussed above, the proposed project would incorporate a number of sustainable and green features to reduce water usage, sanitary flow, and energy consumption.

WATER SUPPLY

Water demand for the proposed facility would be approximately 1,345 gpd. Daily water demand would be primarily limited to the proposed car wash service and two single-use toilet facilities located in the office and waiting area. Water conservation measures, including low-flow plumbing fixtures to conserve water, would be incorporated to reduce daily water flow. There would be minimal water requirements for HVAC equipment as the storage areas, comprising the majority of the proposed structure, would not be climate-controlled. Additional water supply would only be required for emergency fire protection systems.

Water for the proposed project would be supplied by a new well. The existing well would be abandoned and removed, as it is within the footprint of the proposed facility.

The proposed project would have minimal daily water demands, which would have negligible effects on groundwater resources. Surrounding groundwater and surface water features, including Kensico Reservoir and its tributaries, would not be adversely affected. Fire suppression systems would be engaged only during emergency situations, and would not have an adverse impact on water supply.

SANITARY WASTE

The project site is located within the Town of North Castle Sewer District #3, maintained by the Town's Sewer and Water Department. Wastewater is conveyed through a 3" main on the project site to an 8" sewer main in New King Street. Sewage is pumped to Westchester County's Blind Brook Sewer System where it is treated and then discharged.

Daily sanitary flow from the proposed project would be generated by two single-use toilet facilities in the office and waiting area and the proposed car wash. Sanitary waste from the two toilet rooms would be conveyed to the existing sewer main in New King Street.

The proposed car wash system would utilize a specialized treatment and filtering system to allow water to be recycled and reused for subsequent washes. The proposed system includes an oil/water separator. The oil would be disposed of in accordance with federal, state and local requirements. Once the oil is removed, any unrecyclable wastewater would drain into the sewage ejector pit on the facility's lower level and be conveyed to the Town sewer service.

The total wastewater flow from the proposed project would be similar to existing conditions. Sanitary flow is expected to be approximately 1,345 gpd. Changes in wastewater flow over existing conditions would be negligible. The existing municipal sewer infrastructure would be able to adequately accommodate the proposed project. No system upgrades or modifications would be required. In addition, groundwater resources would not be affected or contaminated from sewage generated by the proposed project. Sewage would be conveyed in a sealed system through the Town and the County sewer districts and be treated before being discharged. As such, Kensico Reservoir and its tributary watercourses would not be affected.

SOLID WASTE

The proposed project would not be expected to significantly increase solid waste generation at the project site. Parking structures are not typically significant refuse generators, as they require minimal staff and garbage from customers is minimal. Refuse from the proposed facility would be stored in a dumpster. The dumpster would be screened by a fence to reduce impacts from appearance and odors. The project site would continue to be served by a private carting service. Solid waste would continue to be transported to transfer facilities in Rockland County and Peekskill. Because no significant changes in generation of solid waste would be expected from the proposed project, there would be no significant adverse impacts on hauling services or refuse processing facilities.

ENERGY AND TELECOMMUNICATIONS

The existing project site receives electric, telephone, and cable services from private service providers. There is no natural gas available on the project site.

Electricity

Electricity is supplied by Consolidated Edison, Inc. (Con Edison). The proposed project would increase annual electricity consumption on the project site by approximately 1.67 million kWh. The existing transformer on the project site would be upgraded to a larger transformer to accommodate this increased load. Primary electric service provided by Con Edison along New King Street would be adequate to accommodate the proposed project and would not require modification. Energy saving measures are proposed to minimize any potential impacts and improve the sustainability of the project.

Telephone and Cable

Telephone service to the project site is currently provided by Verizon. Cablevision is the cable service provider in the study area. Existing underground telephone and cable wires are within the footprint of the proposed structure and would need to be removed. New underground telephone and cable conduits would be installed with the proposed project and would connect to existing services along New King Street. All electrical, telephone, and cable conduits would be located in the one trench, thereby minimizing site disturbance and excavation. A new utility pole would be installed on the project site to route underground telephone and cable conduits via overhead wires to existing services on the opposite side of New King Street. Telephone and cable service would be expected to be provided by existing service providers.

ECONOMIC CONDITIONS

The DEIS analyzes the potential effects of the proposed project on economic conditions in the local economy. The DEIS describes existing economic conditions on the project site, including a description of existing property tax revenues and employment at the existing office building. The economic and fiscal benefits generated during the construction period, as well as those generated during annual operations, are presented. The availability of office space comparable to the existing onsite office building is also evaluated.

The proposed project would result in the relocation of three businesses in the existing office building. However, there is available office space at comparable rents in North Castle and in Valhalla for businesses wishing to relocate. The relocation of three businesses is not considered a significant adverse impact to economic conditions.

The proposed project would result in significant economic benefits during construction and during annual operations. In particular, it is estimated that the proposed project's property taxes would be more than five times higher than the existing property taxes, which would be a substantial benefit to the Town of North Castle, Westchester County, and the Byram Hills Central School District. Therefore, the proposed project would not result in significant adverse impacts on economic conditions, and no mitigation is required.

TRAFFIC AND TRANSPORTATION

The DEIS includes a Traffic Impact Study (TIS), which evaluates the Existing Conditions, No Build Conditions, and Build Conditions of the proposed project. The TIS considers trip generation, project generated distribution patterns, parking, and site circulation characteristics associated with the construction of a proposed 1,450 space park-and-fly parking structure on New King Street, adjacent to Westchester County Airport, in Westchester County, New York.

Traffic counts were conducted at the airport during the 2008 and 2009 Thanksgiving Holidays (peak travel periods). The parking demand at the airport during peak travel periods currently exceeds its parking capacity.

The TIS found that the construction of the Park Place garage would provide relief to the existing high demand for airport parking by providing an additional 1,450 parking spaces. The greater availability of parking would encourage many travelers who currently take taxis, limousines, or are dropped off/picked up at the airport to drive themselves to the airport, thus reducing the number of trips to the airport. Drivers would also spend less time traveling between the various airport parking facilities looking for parking spaces. Usage of the Park Place garage would also reduce the number of vehicle trips actually entering the airport terminal area as a limited number

of shuttle buses would transport passengers from the Park Place garage to the airport terminal. As demonstrated by the trip generation calculations included in Chapter 13, "Traffic and Transportation," these factors would result in an overall reduction in the number of vehicle trips across the traffic network. There are no adverse traffic impacts that would require mitigation.

The Town's traffic consultants, Frederick P. Clark Associates, Inc. (FP Clark), conducted a supplemental traffic analysis to confirm the results of the TIS. The supplemental analysis considered a worst-case scenario whereby the proposed project would attract new travelers to Westchester County Airport, potentially increasing traffic in the study area. The FP Clark study concluded that even with this conservative analysis (i.e., a net increase in traffic), the proposed project would not result in significant adverse traffic impacts (see Appendix J for the TIS and supplemental analysis).

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The DEIS evaluates the potential for air quality impacts from the proposed project. Included in the air quality analysis is an assessment of potential greenhouse gas (GHG) emissions. Currently, available parking facilities at the airport are at capacity. As documented in Chapter 13, "Traffic and Transportation," the proposed project would reduce the overall number of vehicle trips to and from the airport by reducing the need for drop-off, taxi, and limo trips. Therefore, the proposed project would reduce air pollutant emissions from mobile sources on a regional scale and would therefore not have an adverse effect on the State Implementation Plan (SIP). To assess the potential for significant air quality impacts from the proposed project on a local level, the intersections included in the traffic study were analyzed using New York State Department of Transportation (NYSDOT) guidance. The analysis shows that there would be no potential for significant adverse impacts on local air quality from the proposed project. Further, by reducing the number of vehicle trips in the study area, there would be an overall reduction in pollutant emissions, such as emissions of particulate matter, carbon monoxide, nitrogen dioxide, and volatile organic compounds, such that the proposed project would actually reduce GHG emissions. Therefore, the projected annual benefit of the proposed project with respect to tailpipe GHG emissions avoided by reducing vehicle travel would be equivalent to taking almost 500 cars off the road for a year.

The proposed project would not include any significant stationary sources of emissions. The parking facility would be fully automated. Vehicles would have their engines turned off within the facility. Unlike conventional parking garages, the proposed project would not result in vehicle emissions within the facility or significant vehicle idling on the subject site. Therefore, an analysis of mobile sources associated with the parking structure (inherent traffic flow or idling vehicles) was not required. The waiting area/office would be electrically heated and cooled; therefore no significant sources of emissions associated with this space are proposed and no air quality analysis is needed.

Construction activity would be short-term (lasting approximately 14 months) and would be of limited intensity. Most components of the proposed structure would be prefabricated and delivery of dust generating materials to the project site would be limited. It is expected that the number of peak hour truck and worker trips would be below thresholds requiring analysis. Therefore, there would be no significant adverse impact from the construction of the proposed project on air quality.

NOISE

The proposed project is expected to result in traffic volumes in the general vicinity of the project site that are less than existing volumes. Since traffic on adjacent roadways and aircraft noise are the main sources of noise in the area, the proposed project would not result in any significant change in noise level.

Construction of the proposed project is also not expected to result in significant noise impacts due to its short duration and large distance from sensitive receptors.

HAZARDOUS MATERIALS

The DEIS addresses the potential for the presence of hazardous materials at the project site resulting from previous and existing uses at the site and adjacent properties. It also assesses potential risks from the proposed project with respect to any such hazardous materials.

The proposed project would entail the demolition of the existing one-story building and the redevelopment of the site for a parking garage. The redevelopment of the site would include excavation and subsurface disturbance during the construction phase.

A Phase I Environmental Site Assessment (ESA) was prepared for the project site by The Chazen Companies of Poughkeepsie, New York, in 2002. A subsurface investigation consisting of drilling soil borings and excavating test pits was performed in October 2008 by Melick-Tully and Associates, P.C. (MTA). In addition, AKRF performed a confirmatory site inspection on September 8, 2010.

No significant adverse impacts would occur in relation to the demolition and excavation for the proposed project. All excavated material associated with the proposed project and materials associated with demolition of the existing office building would be monitored for potential contamination. Any identified hazardous materials would be handled and disposed of in accordance with all local, state, and federal regulations. The proposed project would not result in the storage of any hazardous materials onsite. Therefore, once the proposed parking garage is constructed, there would be no further potential for adverse impacts.

CONSTRUCTION

The DEIS documents the potential for adverse impacts that may occur as a result of the construction of the proposed parking facility. During any construction project, there is the potential for environmental impacts, such as those associated with soil erosion, traffic, noise, vibrations, and dust. The DEIS addresses the various activities that would be involved in constructing the proposed project.

Construction of the proposed project would not result in any significant adverse impacts onsite or in the surrounding area with regard to traffic, noise, air quality, water resources, or utilities; therefore no mitigation measures are proposed. The practices described in Chapter 17, "Construction," which includes the implementation of an Erosion and Sediment Control Plan, Best Practices, and construction management techniques would reduce any potential temporary conditions related to erosion and sedimentation. Since a landscape plan would be implemented, all temporary site disturbances would ultimately be restored and landscaped.

ALTERNATIVES

The State Environmental Quality Review Act (SEQRA) and its implementing regulations require the consideration of project alternatives, which are formulated in response to potential impacts of the proposed project. The adopted Scope for the Park Place DEIS required consideration of seven alternatives for reasonable comparison to the proposed project. These included: (1) Reduced Size Parking Facility – 500 cars; (2) Reduced Size Parking Facility – 1,000 cars; (3) Reduced Height Parking Facility; (4) Reduced Wetland Impact Alternative; (5) No Wetland Impact Alternative; (6) Alternative Use; and (7) the No Action Alternative.

Potential environmental impacts from each of these alternatives were analyzed to a level of detail sufficient to allow reasonable comparison with the proposed project. All of the subject areas analyzed in this DEIS were analyzed for each of these alternatives. Using conclusions from the preceding chapters, the potential impacts of each alternative were compared to the potential impacts of the proposed project. The results of this comparison are summarized in **Table 1-2** below (also provided as Table 18-1 in Chapter 18, "Alternatives"). As demonstrated by this table, the proposed project remains the preferred alternative, as the other alternatives would result in similar potential impacts to the proposed project, but would not reach the same economic benefits.

ADVERSE IMPACTS THAT CANNOT BE AVOIDED IF THE PROPOSED ACTION IS IMPLEMENTED

The technical analyses presented in the DEIS examined the potential for significant adverse impacts resulting from the proposed project. Through the analyses, no unavoidable, significant adverse impacts were identified. As discussed in each of the technical chapters in this DEIS, the proposed project would create a number of physical changes to the project site. Several environmental impacts would result that cannot be avoided, however, none of these impacts, in the applicant's opinion, are considered significant. Potential impacts, as discussed further in Chapter 19, "Adverse Impacts That Cannot Be Avoided if the Proposed Action is Implemented," include:

- Zoning — The proposed project would require an amendment to the Town Zoning Code to allow structured parking with a special use permit in the IND-AA zoning district. The proposed maximum permitted building height (60 feet) and minimum permitted building setbacks (front: 50 feet; side: 10 feet; rear: 50 feet) may result in an adverse visual impact as viewed from surrounding streets.
- Visual Resources (change in physical appearance of the project site, height of the proposed structure, and proposed screening) — The proposed building height (56 feet) may result in an adverse visual impact as the facility is viewed from surrounding streets. Due to the existing character of the study area, which is dominated by office buildings and transportation uses (i.e., I-684 and Westchester County Airport), it is the applicant's opinion that potential visual impacts would not be significant. In addition, an extensive landscape plan would be implemented and existing mature vegetation would remain along property boundaries to the extent possible to provide screening; however, additional screening may be required by the lead agency.

Table 1-2
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Project Description								
Type of Facility	Automated	Self-Park	Valet	Self-Park	Self-Park	Self-Park	Office	Office
Building Coverage (% of Lot 14B)	50,915 sf (47 %)	32,400 sf (30 %)	41,720 sf (39 %)	51,000 sf (47 %)	24,400 sf (23 %)	14,250 sf (13 %)	16,000 sf (15 %)	9,732 sf (9 %)
Impervious Surface Coverage (% of Lot 14B)	60,215 sf (56 %)	40,000 sf (37 %)	47,000 sf (44 %)	60,300 sf (56 %)	31,400 sf (29 %)	22,750 sf (21 %)	28,500 sf (26 %)	34,065 sf (32 %)
Gross Floor Area	267,000 sf	162,000 sf	250,320 sf	153,000 sf	122,000 sf	71,250 sf	32,000 sf	9,732 sf
Building Height	56 ft	56 ft	65 ft	35	56	56	25	15
Number of Levels/Floors	5.5	5	6	3	5	5	2	1
Number of Parking Spaces and Parking Design (as analyzed in this chapter)	Automated: 1,450	Self-Park: 500	Valet: 1,000	Self-Park: 450	Self-Park: 350	Self-Park: 210	Self-Park: 65	Self-Park: 35
*Other Parking Scenarios (For Comparison Purposes Only)**	*Self-Park: 809* *Valet: 1,214*	*(See Note Below)***	*(See Note Below)***	*Automated: 832* *Valet: 612*	*Automated: 663* *Valet: 488*	*Automated: 387* *Valet: 285*	*N/A*	*N/A*
NOTE: **This chapter evaluates the design scenario (i.e., automated, self-park, or valet) for each alternative that, in the applicant's opinion, would be the most viable scenario for each alternative based on building size, site characteristics, and economic considerations, as discussed further in this chapter. However, parking provisions for other scenarios are provided in this table for comparison purposes only.* ***Pursuant to the adopted Scope, Alternatives A1 and A2 specifically evaluate 500 and 1,000 cars, respectfully. Therefore, the number of parking spaces would not change for each design scenario (i.e., automated, self-park, and valet), but the gross floor area and building footprint would change in order to accommodate the dimensional requirements associated with each type of design. As detailed further in this chapter, space requirements are as follows: self-park – 330 sf/vehicle; valet – 250 sf/vehicle; automated – 184 sf/vehicle.*							
Land Use, Community Character, Zoning, and Public Policy								
Land Use and Community Character	Consistent	Consistent	Consistent, Greater Impact	Consistent	Consistent	Consistent	Consistent	Consistent
Complies with Existing Zoning	No	No	No	No	No	No	Yes	Yes
Complies with Proposed Zoning Amendments	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Public Policy	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent

Table 1-2 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Visual Resources								
Visual Impact	No Significant Adverse Impact	Similar	Greater Impact	Similar	Similar	Similar	Lesser Impact	No Impact
Cultural Resources								
Historic and Architectural Resources	No Adverse Impact	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	No Impact
Archaeological Resources	No Adverse Impact	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact) (smaller APE)	No Impact
Natural Resources								
Limit of Disturbance Area (i.e., Habitat Disturbance)	122,078 sf	80,000 sf	102,200 sf	122,078 sf	72,770 sf	26,900 sf	58,800 sf	0 sf
T/E Species	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Geology, Soils, Topography, and Slopes								
Limit of Disturbance Area	122,078 sf	80,000 sf	102,200 sf	122,078 sf	72,770 sf	26,900 sf	58,800 sf	0 sf
Bedrock Disturbance	None	None	None	None	None	None	None	None
Steep Slopes Disturbance (≥ 25% slopes)	10,223 sf	8,881 sf	9,022 sf	10,223 sf	4,300 sf	960 sf	3,567 sf	0 sf
Total Excavated Material	25,075 CY	Lesser Impact	Lesser Impact	25,075 CY	Lesser Impact	Lesser Impact	Lesser Impact	No Impact
Excess Excavated Material	24,675 CY	Lesser Impact	Lesser Impact	24,675 CY	Lesser Impact	Lesser Impact	Lesser Impact	No Impact
Water Resources								
Wetlands Disturbance	5,699 sf	None	None	5,699 sf	None	None	None	None
Watercourse Disturbance	None	None	None	None	None	None	None	None
Wetland and Watercourse Buffers Disturbance	79,680 sf	32,183 sf	66,172 sf	79,680 sf	41,162 sf	0 sf	26,812 sf	0 sf
Impervious Surface Coverage within Wetland and Watercourse Buffer Areas	33,486 sf	18,111 sf	26,367 sf	34,889 sf	10,255 sf	0 sf	7,450 sf	12,132 sf

Table 1-2 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Water Resources								
Pervious Paver Coverage within Wetland and Watercourse Buffer Areas	5,769 sf	2,718 sf	3,734 sf	6,098 sf	3,667 sf	0 sf	2,742 sf	0 sf
Stormwater Management								
Impervious Surface	60,215 sf	40,000 sf	47,000 sf	60,300 sf	31,400 sf	22,750 sf	28,500 sf	34,065 sf
Lot 13A Treated	Yes	Yes	Yes	Yes	Yes	No (Greater Impact; Stormwater from Lots 14B and 13A would continue to be untreated)	Yes	No (Greater Impact; Stormwater from Lots 14B and 13A would continue to be untreated)
Community Services								
Police, Fire and EMS	No Significant Adverse Impact	Similar (Less Security)	Similar (Less Security, Greater Building Height)	Similar (Less Security, Lower Building Height)	Similar (Less Security)	Similar (Less Security)	Similar (Lower Building Height)	No Impact
Infrastructure and Utilities								
Water and Wastewater	1,345 gpd (No Adverse Impact)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Greater Impact (Potentially Greater Water/ Wastewater Demand)	No Impact
Solid Waste	406-471 lbs/wk (No Adverse Impact)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar	No Impact
Energy	1.77 kWh (No Adverse Impact)	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Impact
Economic Conditions								
Construction Employment (Direct and Indirect Jobs)	162 person-years (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Impact
Annual Property Tax Contribution (Town, County, and Schools)	$248,864 (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	$46,373

Table 1-2 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Economic Conditions (cont'd)								
Economic Activity from Construction	$32.49 Million (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Impact
Traffic and Transportation								
Reduces Traffic in Study Area	Yes (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	No (Greater Impact)	No Impact
Air Quality and Greenhouse Gas Emissions								
Reduced Emissions in Study Area	Yes (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Change
Noise								
Noise Impacts	No Adverse Impacts	Similar Impact	Similar Impact	Similar Impact	Similar Impact	Similar Impact	Similar Impact	No Change
Hazardous Materials								
	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Impact
Construction								
	No Adverse Impacts	Slightly Lesser Impact	Similar Impact	Similar Impact	Slightly Lesser Impact	Slightly Lesser Impact	Slightly Lesser Impact	No Impact

Notes: Terms herein, such as "greater", "slightly greater", "same", "similar", "slightly less" or "less," refer to comparisons with the Proposed Project.
Data shown for alternatives are approximations, for comparison purposes only.

- Natural Resources — The proposed project may result in an adverse impact related to removal of wildlife habitat and vegetation, including "exploitably vulnerable" plants. "Exploitably vulnerable" plants are protected species that are likely to become threatened if causal factors continue unchecked. However, these plant species may be removed with the property owner's consent. The "exploitably vulnerable" plants identified on the project site are primarily located within the existing wetland, which would remain largely undisturbed. Some incidental removal of "exploitably vulnerable" plants may occur during construction of the proposed project, but because the plants identified onsite are common to the area and because the project site does not provide any significant wildlife corridor connectivity due to the existing traffic network, potential impacts to these plants would not, in the applicant's opinion, be considered significant.
- Hazardous Materials (Groundwater Resources) — Fill material was encountered on the project site during subsurface investigations conducted by Mellick-Tully and Associates, P.C. in 2008. Disturbance to and transport of existing fill material onsite, which potentially contains contaminants, could potentially result in adverse impacts to groundwater resources if not handled properly. Any fill material excavated during construction of the proposed project would be tested and, if found to be contaminated, would be handled and disposed of in accordance with all applicable federal, state and local regulations. Therefore, the proposed project would not be expected to have a significant adverse impact on groundwater resources.
- Surface Water Resources — The proposed project may result in an adverse impact to surface water resources due to disturbance to a Town-regulated wetland, a Town-regulated wetland buffer and watercourse buffer, and a NYCDEP-regulated watercourse limiting distance. Existing wetland area on the project site is approximately 28,915 square feet. Existing wetland and watercourse buffer area on the project site is approximately 80,161 square feet. Approximately 5,700 square feet of the existing wetland and 79,680 square feet of the wetland and watercourse buffer areas would be disturbed. Much of this disturbance would be temporary during construction and would be revegetated. Permanent disturbance in the buffer areas would result from approximately 33,500 square feet of impervious surfaces and 5,800 square feet of pervious pavers. As discussed in Chapter 8, "Water Resources," the proposed stormwater management area would include 12,675 square feet of growing space for facultative and hydrophytic vegetation to replicate wetland functions, in compliance with Chapter 209 of the Town Code which requires 2:1 mitigation. Therefore, in the applicant's opinion, potential adverse surface water impacts would not be significant. However, the applicant acknowledges that the Town does not typically accept required stormwater management facilities to also serve as wetland mitigation, and would therefore work with the Town to identify appropriate offsite areas for mitigation.
- Construction — Construction of the proposed project may result in temporary adverse impacts related to traffic, noise, air quality, and soil erosion. The project site's proximity to I-684 and NYS Route 120 would allow construction workers and delivery trucks to travel to the project site via main highways. Construction-related traffic would be directed to avoid local residential streets. Noise resulting from construction traffic and construction equipment onsite may result in temporary disturbance to surrounding areas. However, as discussed in Chapter 15, "Noise," and Chapter 17, "Construction," construction activities would occur during daytime hours and adhere to noise limitations, in compliance with the Town Code. The nearest sensitive receptors (i.e., single-family residences) are over 400 feet from the project site entrance. Due to the project site's flag lot configuration, actual construction

activities would primarily occur further within the site, over 550 feet from the nearest single-family residences. Air quality concerns are typically related to exhaust from construction equipment and dust from construction activities. Air quality impacts would be reduced or avoided by prohibiting unnecessary idling onsite, and by watering dirt and cleaning vehicle tires before they exit the site to reduce instances of fugitive dust. Construction activities may also potentially result in adverse impacts related to soil erosion and sedimentation of water bodies due to removal of vegetation and excavation of earth material. All construction activities would comply with an approved Stormwater Pollution Prevention Plan (SWPPP), including an Erosion and Sediment Control Plan, to minimize potential impacts related to soil erosion. Although several adverse impacts may occur during construction of the proposed project, it is applicant's opinion that with the mitigation measures described above and the temporary nature of construction, these adverse impacts would not be significant.

All adverse impacts would be mitigated by the proposed project. Therefore, in the applicant's opinion, the proposed project would have no unavoidable significant adverse impacts.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The DEIS describes the irreversible and irretrievable commitment of resources that would result from the proposed project. Natural and manmade resources would be expended in the construction and operation of the proposed project. These natural resources include the use of land and energy. Manmade resources include the effort required to develop, construct, and operate the proposed project; building materials; financial funding; and motor vehicle use. Resources are considered irretrievably committed because it is highly unlikely that they would be used for some other purpose. To mitigate any potentially adverse impacts associated with the irreversible and irretrievable commitment of resources, the project sponsors would incorporate a series of sustainable development practices into the construction, operation, and management of Park Place. Since the proposed project would utilize a previously developed project site, as well as sustainable development practices, the commitment of the irreversible and irretrievable resources identified in Chapter 20, "Irreversible and Irretrievable Commitment of Resources," are not anticipated to result in any significant adverse impacts.

IMPACTS ON THE USE AND CONSERVATION OF ENERGY

The DEIS discusses the impacts on energy use from the proposed project and the energy conservation measures that would be implemented with the proposed project. As further described in Chapter 11, "Infrastructure and Utilities," and Chapter 21, "Impacts on Use and Conservation of Energy," the Applicant would implement a number of energy conservation measures as part of the proposed project. Although the proposed project would increase annual energy use on the site from existing conditions, it is anticipated that some of this energy usage would be offset by onsite energy production through the use of photovoltaic cells or other green technologies. Therefore, no significant adverse impacts on the use and conservation of energy are anticipated.

GROWTH INDUCING ASPECTS OF THE PROPOSED PROJECT

The DEIS assesses the potential for the proposed project to induce growth. The proposed project is not anticipated to bring new users to the area or to Westchester County Airport; to introduce a substantial number of new residents or workers to the study area; or to spur offsite development. Therefore, no significant adverse growth inducing aspects are anticipated. ✷

Chapter 2: Project Description

A. INTRODUCTION

11 New King Street, LLC (the "applicant") proposes to construct a multi-level automated parking structure (the "proposed project") at 11 New King Street (the "project site") in the Town of North Castle, Westchester County to alleviate an existing parking shortage at Westchester County Airport. The proposed parking facility would be called Park Place at Westchester Airport ("Park Place"). In conjunction with the site plan application, the applicant has submitted a zoning petition to amend the Town of North Castle zoning code to allow parking structures in the Industrial AA (IND-AA) zoning district with a special permit. This draft environmental impact statement (DEIS) assesses potential impacts to the environment and community from the proposed project and has been prepared in accordance with 6 NYCRR Part 617: Preparation and content of environmental impact statements of the Environmental Conservation Law of New York State. For purposes of review under the State Environmental Quality Review Act (SEQRA), the Town of North Castle Planning Board is the lead agency.

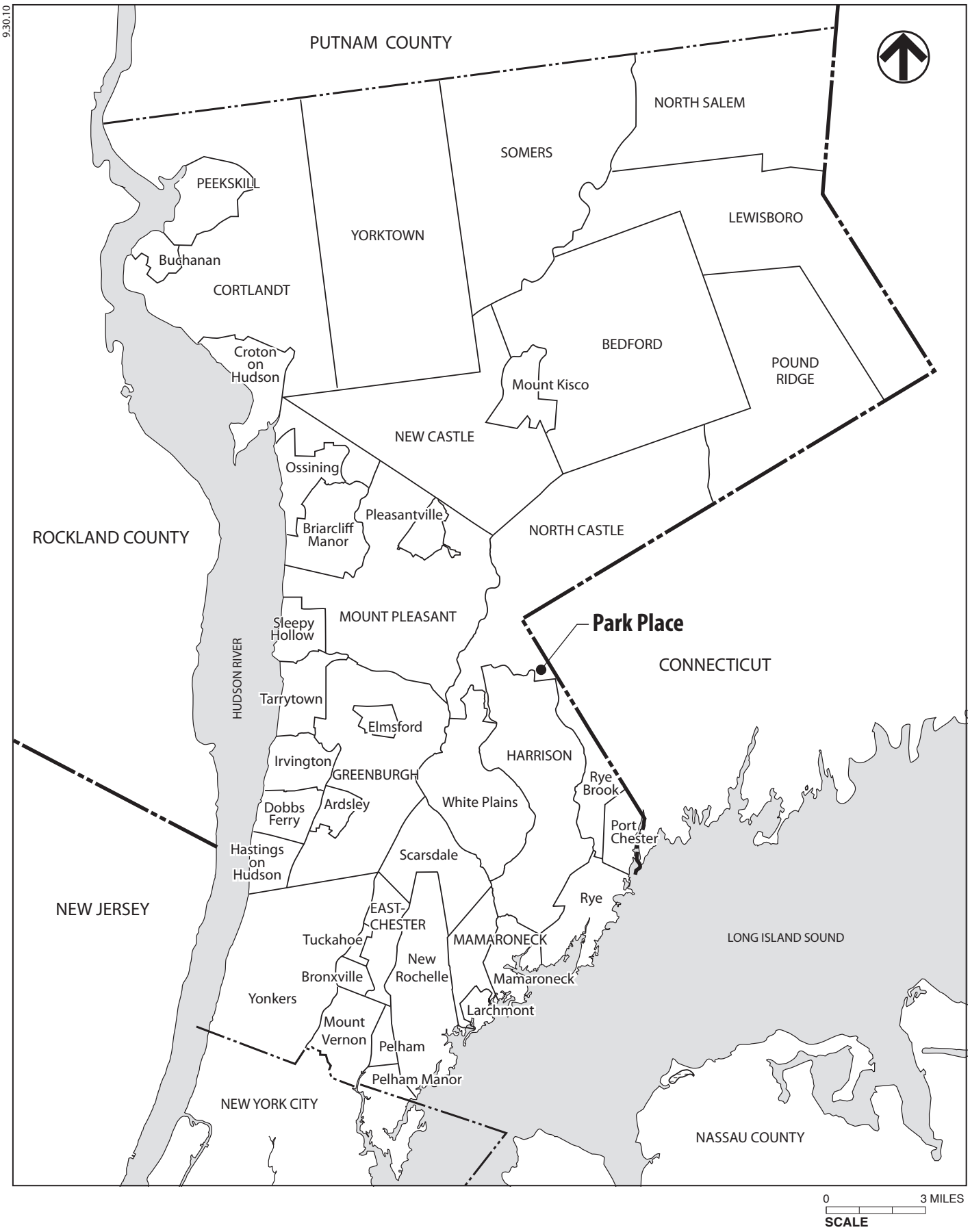
This chapter provides a description of the proposed project and its setting, as well as a discussion of the purpose and need for the proposed project. The proposed parking structure is intended to accommodate existing parking demand at Westchester County Airport and has been designed with careful consideration to the environment to avoid significant adverse impacts. The proposed project would re-develop a site already disturbed with an existing office use and parking area. Although there would be additional site disturbance, the proposed project would incorporate a number of green and sustainable building initiatives that, in the applicant's opinion, would have beneficial environmental impacts. Further, the proposed project, in the applicant's opinion, would be an economic stimulus for the Town of North Castle and Westchester County, and would reduce vehicular trips being made to drop off and pick up passengers using Westchester County Airport.

The project site comprises two tax map parcels (described further below) that are located in the southern portion of the Town of North Castle adjacent to Westchester County Airport near the Connecticut state line (see **Figures 2-1** and **2-2**, Regional and Site Location Maps). The proposed project would involve the construction of an approximately 267,000-square-foot five-level enclosed automated parking structure with a building footprint of approximately 51,000 square feet on a project site totaling approximately 3.34 acres. The parking facility would provide space to accommodate 1,450 vehicles.

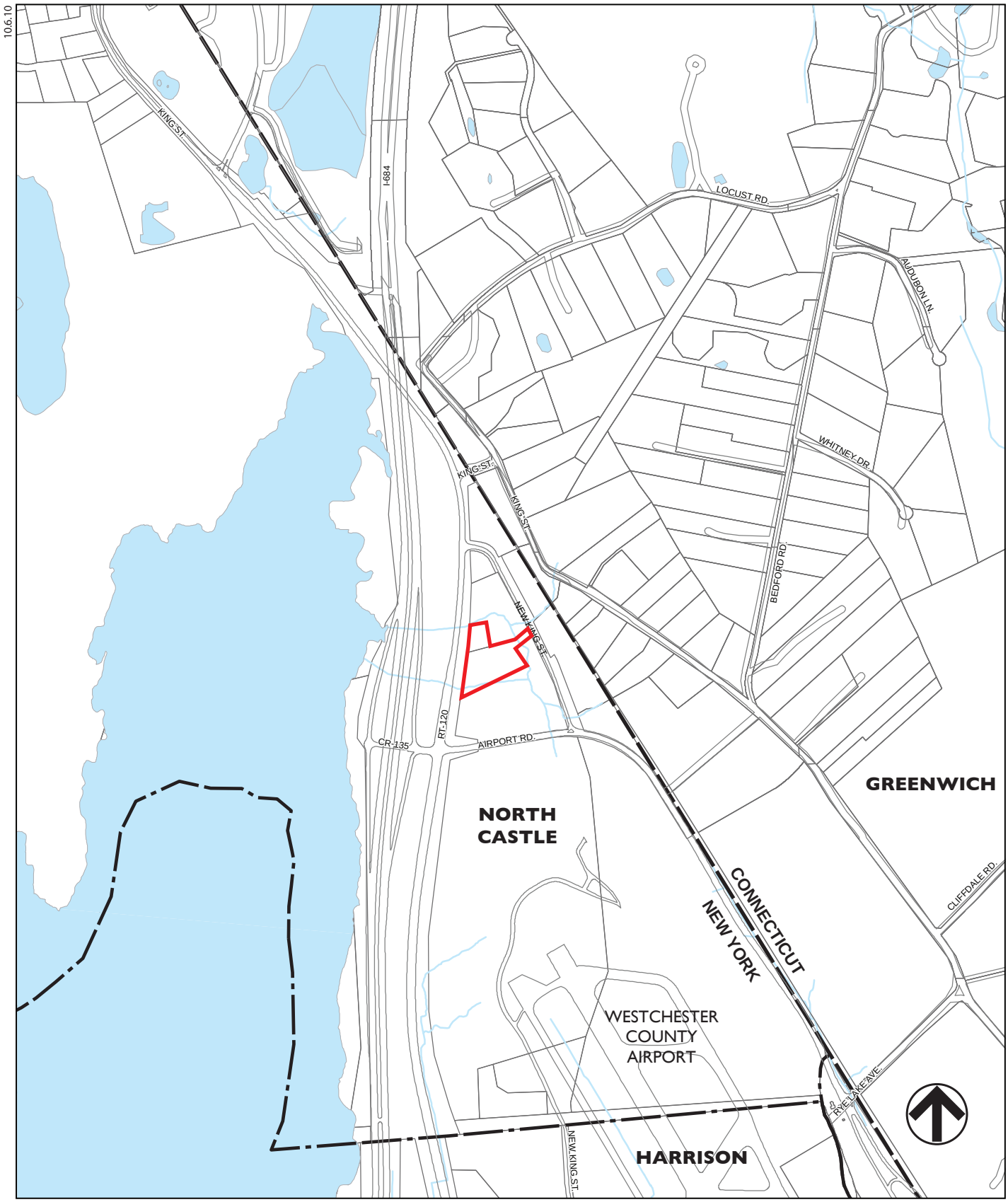
B. PURPOSE, NEED, AND BENEFITS

PURPOSE AND NEED

Insufficient parking has been a consistent problem at Westchester County Airport. Existing parking provisions frequently do not meet existing demand. The airport currently provides a long-term parking garage adjacent to the terminal with approximately 1,100 spaces. Overflow



Regional Location
Figure 2-1



PARK PLACE at Westchester Airport

Site Location

Figure 2-2

parking is provided approximately 0.75 miles from the airport terminal. Both of these parking facilities are routinely at or near capacity, particularly during peak holiday travel periods. A shuttle service transports patrons from the overflow lot to the terminal. Airport customers are assertively requested to use car services or public transportation instead of private automobiles, especially during peak holiday travel periods. For instance, the County issued a news release dated January 28, 2010 that recommends customers find alternative transportation during upcoming holidays (see Appendix C).

The Westchester County Bee-Line Bus System, operated by the Westchester County Department of Transportation (WCDOT), used to provide direct airport service with the Airlink shuttle, but it was discontinued due to low ridership. The Bee-Line Bus system continues to provide non-exclusive service to the airport on Bus Route 12, which connects White Plains and Armonk. As evidenced by low bus ridership, many airport customers that do not use private automobiles opt to use car services, taxis, or be dropped off by friends and family.

This pattern of transportation results in two round trips per customer, literally doubling the traffic to and from the airport, and thereby increasing traffic and environmental consequences.

In addition to environmental consequences, inadequate parking at the airport has a number of social implications. Patrons using Westchester County Airport who are unfamiliar with the current parking situation, or who risk finding a parking space, are likely to be inconvenienced if they are unable to find parking. People who use private automobiles and who are unable to find parking are often found to have parked illegally in unauthorized locations in order to catch their flight. During peak travel periods, illegally parked vehicles have been observed along travel lanes within the existing airport garage, which has the potential for impeding emergency response vehicles or posing a safety risk for pedestrians and motorists by reducing visibility.

BENEFITS

Lack of parking has long been cited as one of Westchester County Airport's greatest deficiencies (see articles in Appendix C). Inadequate parking can result in inconveniences and added stress to airport customers who are committed to scheduled flights. The proposed project would alleviate an existing parking shortage and accommodate an existing need. The additional parking provisions would support existing demand and would not encourage growth of the airport. The airport and the County have ordinances in place that limit expansion and changes in flight traffic are under the purview of the Federal Aviation Administration (FAA).

The proposed project would have a number of environmental benefits. As discussed further in Chapter 13, "Traffic and Transportation," and Chapter 14, "Air Quality and Greenhouse Gas Emissions," the proposed project would result in a reduction of traffic and emissions in the study area. The current extensive use of car and limousine services results in two round trips per customer, whereas the proposed parking facility would allow patrons to use personal automobiles, resulting in one round trip per customer. Additionally, the automated nature of the proposed parking structure would result in minimal vehicle exhaust emissions on the project site, described in more detail below.

The proposed parking facility would be located on a site that is currently developed, thereby minimizing new ground disturbance. The project site is currently occupied by an approximately 9,700-square-foot one-story office building. Total existing impervious surface coverage on the project site is approximately 32,000 square feet. The proposed project would require additional site disturbance, but permanent disturbance to sensitive environmental features would be

avoided. No disturbance to the onsite Town-regulated wetland and watercourse and New York City Department of Environmental Protection (NYCDEP) watercourse would be required during or post construction. The Town regulated buffer and City regulated limiting distance surrounding these surface water resources would be disturbed by the development of the proposed plan, but, in the applicant's opinion, without any adverse environmental consequences.

Although the proposed project would result in an increase of impervious surface coverage on the project site, it would incorporate stormwater detention practices to treat stormwater runoff on the project site, as well as an adjacent parcel. Neither parcel is currently served by any stormwater treatment practices, resulting in direct discharge of untreated stormwater runoff into surrounding surface water bodies. The proposed project would have a net benefit to the Kensico Reservoir with respect to stormwater runoff and water quality.

The proposed project would have a significant economic benefit to the Town of North Castle, as well as Westchester County. Redevelopment of the project site would significantly increase its assessed property values, thereby providing a substantial increase in tax revenue to the Town while having limited impact to municipal services, as discussed further in Chapter 10, "Community Facilities and Services," and Chapter 12, "Economic Conditions." The proposed project would provide a needed service in the Town and County and would be a stimulus to the local economy.

Another substantial benefit of the proposed project is its high level of safety. The proposed parking facility would be an enclosed structure. There would be no public access to vehicle storage areas. Customers would retain their car keys until they return to pick up their vehicle. Therefore, the threat for criminal acts and auto theft would be greatly reduced. Further, vehicles would be stored and transported on pallets, which would be designed to ensure vehicles would not come into contact with one another. This design feature eliminates the risk of vehicle damage within the proposed facility.

GREEN DESIGN FEATURES

A number of green and sustainable design features would be implemented as part of the proposed project. The automated nature of the parking facility allows for compact design in which a greater number of vehicles can be accommodated in a smaller amount of space than a conventional (self-park or valet) parking garage. An automated parking structure requires lower floor-to-ceiling clearance than a conventional garage, and requires fewer and smaller transit aisles to transport vehicles. Each level of the proposed facility would have one double-loaded transit aisle with four-space deep stacking on either side minimizing the building height and footprint. For example, a conventional parking structure would require 300 to 350 square feet per vehicle, depending on its configuration, to account for travel lanes and other design considerations. A conventional garage with the same number of spaces as the proposed project (i.e., 1,450 spaces) would require between 435,000 to 507,500 square feet of floor area, as opposed to 267,000 square feet with the proposed project. The reduced footprint of the proposed project would reduce disturbance and minimize potential impacts to environmental resources.

The proposed automated parking facility would incorporate state of the art and innovative technology that allows for conservation of energy and high levels of efficiency. Customers would park their vehicles on pallets in a vehicle loading bay. A battery-powered automated vehicle moving system would relocate vehicles to the storage area. These robotic transporters would use long-life battery packs and would return to charging stations when not in use. Charging stations would be powered by electricity, minimizing emissions.

As previously noted, the project site is in proximity to Kensico Reservoir, a component of the New York City water supply system. A New York State Department of Environmental Conservation (NYSDEC) Class A designated watercourse runs through and adjacent to the project site and empties into Kensico Reservoir. The proposed project would include stormwater management practices to treat stormwater runoff from the project site as well as an adjacent parcel. Stormwater runoff from these parcels is currently untreated. Untreated stormwater has the potential to carry pollutants from impervious surfaces, such as parking areas and buildings, to surface water and groundwater resources. Further, the project site and surrounding properties rely on wells for potable water. Therefore, the addition of a stormwater treatment system on the project site would have a net protective benefit to these important water resources and improve water quality.

The proposed parking facility would include an automated car wash, discussed below. The car wash would employ a water recycling system to reuse gray water and reduce water usage. As described further in Chapter 11, "Infrastructure and Utilities," water from each wash cycle would drain into a holding tank and a recycling tank where certain sediments and pollutants would be filtered. Recycled water would comprise approximately 70 percent of the water used for each wash cycle.

The existing office building on the project site would be demolished as part of the proposed project. The existing building would be carefully deconstructed so that materials could be recycled and reused for construction of the proposed facility. The majority of materials from the demolition would consist of glass, steel, and concrete, which can be recycled. Concrete would be crushed on-site and reused as structural fill. The proposed parking facility would be primarily constructed with cast-in-place and precast concrete. Concrete is a recycled material which is cast in assembly facilities within 500 miles of the project site, thereby reducing fuel consumption related to material transport. Locally sourced building materials would be used whenever possible to reduce transportation costs and air quality impacts. This would be included on the project specifications and would be reviewed during the construction administration phase on a regular basis with the team of contractors. The project specifications would also restrict usage of recycled building materials that contain volatile organic compounds (VOCs).

In addition to the environmentally conscious construction and operation practices associated with the proposed project, a number of green appliances and design characteristics would be incorporated into the proposed parking facility, including the following:

- Interior Lighting: Much of the proposed facility would be designated as vehicle storage areas. Because the facility would be fully operated by automated machinery, minimal lighting would be required in the vehicle storage areas. Efficient low-level artificial lighting would be provided for emergency and maintenance technicians, although it would be used on an infrequent basis. Lighting for the office, waiting area, and other enclosed building service spaces would be provided by highly efficient fluorescent fixtures connected to occupancy sensors. Energy would be conserved by ensuring lights are not left on when space is not in use.
- Exterior Lighting: The proposed project would require minimal site lighting, limited primarily to the entrance drive. Full-cut-off fixtures would be used to minimize off-site glare.
- Plumbing Fixtures: The proposed parking facility would have minimal plumbing requirements. Low-flow plumbing fixtures that would reduce water usage by up to 30 percent would be installed in the two single-use toilet facilities.

- Mechanical Systems: Within the proposed parking facility, mechanical systems would be limited to make-up air and exhaust air units in the storage areas. Because emissions in the storage spaces would be minimal, two units are proposed with multiple fan speeds and a carbon monoxide detector to allow the system to run on the minimum amount of mechanically processed air necessary to keep the building properly ventilated.
- Green Screening: A wall-mounted trellis system with ivy would be included along portions of the exterior of the proposed facility to reduce visual impacts (see Chapter 4, "Visual Resources," for further details).
- Reflective Roof: A white heat reflective roofing surface would be included on the proposed parking facility to reduce to the heat island effect characteristic of darker roofs.
- Maintenance Plan: Maintenance of the proposed facility would incorporate biodegradable cleaning products.
- Fuel Spillage Plan: Vehicle pallets would be designed to catch any leaking fuel or other automobile fluids. Floor drains are not provided in the storage area so that any spills would remain on the sealed floor until they can be cleaned and disposed of properly.
- Solar Thermal Systems and Photovoltaic Cells: The applicant is considering installation of solar thermal systems or photovoltaic cells that use energy from the sun to generate electricity. The applicant is currently investigating these options.
- Landscaping: A landscaping plan would be implemented to improve the aesthetic quality of the project site and the stormwater management area. The plan calls for native species tolerant of the local climactic conditions thereby minimizing the need for irrigation.
- Shuttle Service: An airport shuttle service would be provided for customers. Shuttle buses would be powered by propane, a fuel which creates lower emissions than diesel or gasoline.

C. PROJECT SITE DESCRIPTION AND SETTING

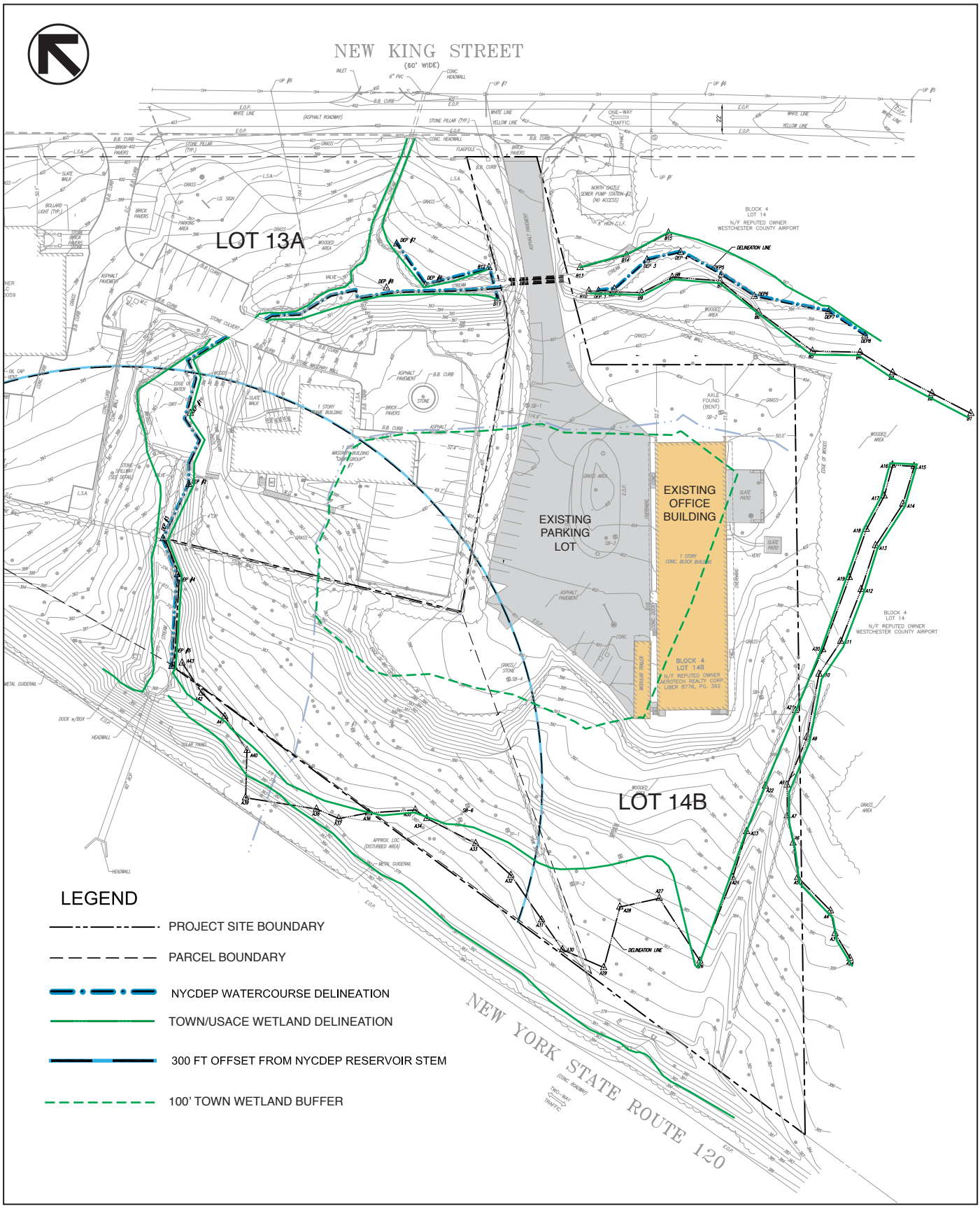
The project site comprises two contiguous tax map parcels, located at 11 New King Street and 7 New King Street in the Town of North Castle, adjacent to and to the north of Westchester County Airport. All of the 2.47-acre 11 New King Street parcel and approximately 0.87 acres of the 4.20-acre parcel at 7 New King Street is included within the project site. Each parcel would accommodate a different component of the proposed project, as described below:

- **Lot 14B** (11 New King Street): The proposed parking structure would be located on a 2.47-acre parcel designated on the North Castle tax map as Section 3, Block 4, Lot 14B (referred herein and throughout the DEIS as Lot 14B).
- **Lot 13A (portion)** (7 New King Street): Stormwater management practices would be located on an approximately 0.87-acre portion of an approximately 4.20-acre parcel designated as Section 3, Block 4, Lot 13A (referred herein and throughout the DEIS as Lot 13A).

An additional 0.09-acre area of Lot 13A outside of the project site boundary would be temporarily disturbed during construction for grading associated with the installation of the stormwater management feature maintenance route.

Existing conditions on Lots 14B and 13A are shown on **Figure 2-3**. Lot 14B is a flag lot where its street frontage is limited to a two-way access driveway off New King Street. Lot 14B is owned by the applicant (i.e., 11 New King Street, LLC) and currently houses an approximately 9,700-square-foot one-story office building and accessory 35-space parking area. Office space is

1.10.11



PARK PLACE at Westchester Airport

Existing Conditions

Figure 2-3

currently occupied by administrative offices of the owner's fiber optic equipment manufacturing company, as well as several tenants including an accounting firm and a charity organization. In total, these businesses comprise approximately 21 employees.

Other than existing zoning regulations, the majority of Lot 14B is not subject to any easements, restrictions, or other conditions that affect future development or use of the site. As shown in the full title report (included in Appendix D), the only easement affecting the site is from the Town of North Castle, which permits the property owner to maintain its driveway access through the portion that travels through the New King Street right-of-way. A small portion of Lot 14B is within the 300-foot offset from a reservoir stem, in which development of impervious surfaces is prohibited. Pervious surfaces may be permitted. In addition, a portion of Lot 14B is within wetland and watercourse buffer areas (discussed below) that require permits before site disturbance can occur.

Undeveloped portions of Lot 14B primarily consist of wooded areas and maintained lawn areas. In addition, Lot 14B includes portions of a Town-regulated wetland and watercourse, a State-regulated watercourse, and a small area of steep slopes (i.e., greater than 25 percent). These environmental features and other general site characteristics are discussed in further detail in subsequent chapters of the DEIS.

Lot 13A is owned by JAM Airport, LLC. A drainage easement would be required for the 0.87-acre portion of Lot 13A that would accommodate the stormwater management system. This area is undeveloped and is primarily wooded. The portion of Lot 13A that is not within the project site comprises a small two-story office building and associated parking. Additional restrictions and other conditions that may affect the proposed project have not been identified. A full title report will be submitted to all appropriate entities.

The project site is located within the Industrial AA (IND-AA) zoning district. Permitted principal uses in the IND-AA district include business and professional offices, light industrial uses, motels, airport uses at Westchester County Airport, and non-residential uses permitted in the R-1A district (such as government uses, religious facilities, and educational institutions). **Table 2-1** describes existing bulk and dimensional regulations in the IND-AA district.

Table 2-1
IND-AA Zoning District Regulations

Zoning Regulation	Requirement
Minimum Lot Size	2 acres
Maximum Building Coverage	30%
Maximum Floor Area Ratio (FAR)	0.30
Maximum Height	2 stories / 30 feet
Minimum Setbacks:	
Front	50 feet
Side	50 feet
Rear	50 feet
Sources: Town of North Castle Town Code, Chapter 213, "Zoning."	

The Zoning Code does not currently permit parking structures IND-AA district as a principal use. However, the applicant has submitted an application to amend the Town Zoning Code to allow parking structures in the IND-AA district with a special permit. Proposed bulk and dimensional standards for the proposed special permit use are shown in **Table 2-2**.

Table 2-2
Proposed IND-AA Zoning District Special Permit Regulations

Zoning Regulation	Proposed Special Use Requirement	Provided by Proposed Project
Minimum Lot Size	2 acres	2.47 acres*
Maximum Lot Coverage	60 percent	57%
Maximum Height	60 feet	56 feet
Minimum Setbacks:		
Front	50 feet	50 feet
Side	10 feet	10 feet
Rear	50 feet	59 feet
Notes: * Also included as part of the project is an additional 0.87-acre stormwater easement.		

Proposed zoning amendments are discussed further in Chapter 3, "Land Use, Zoning, and Public Policy."

DESCRIPTION OF SURROUNDING USES AND FACILITIES

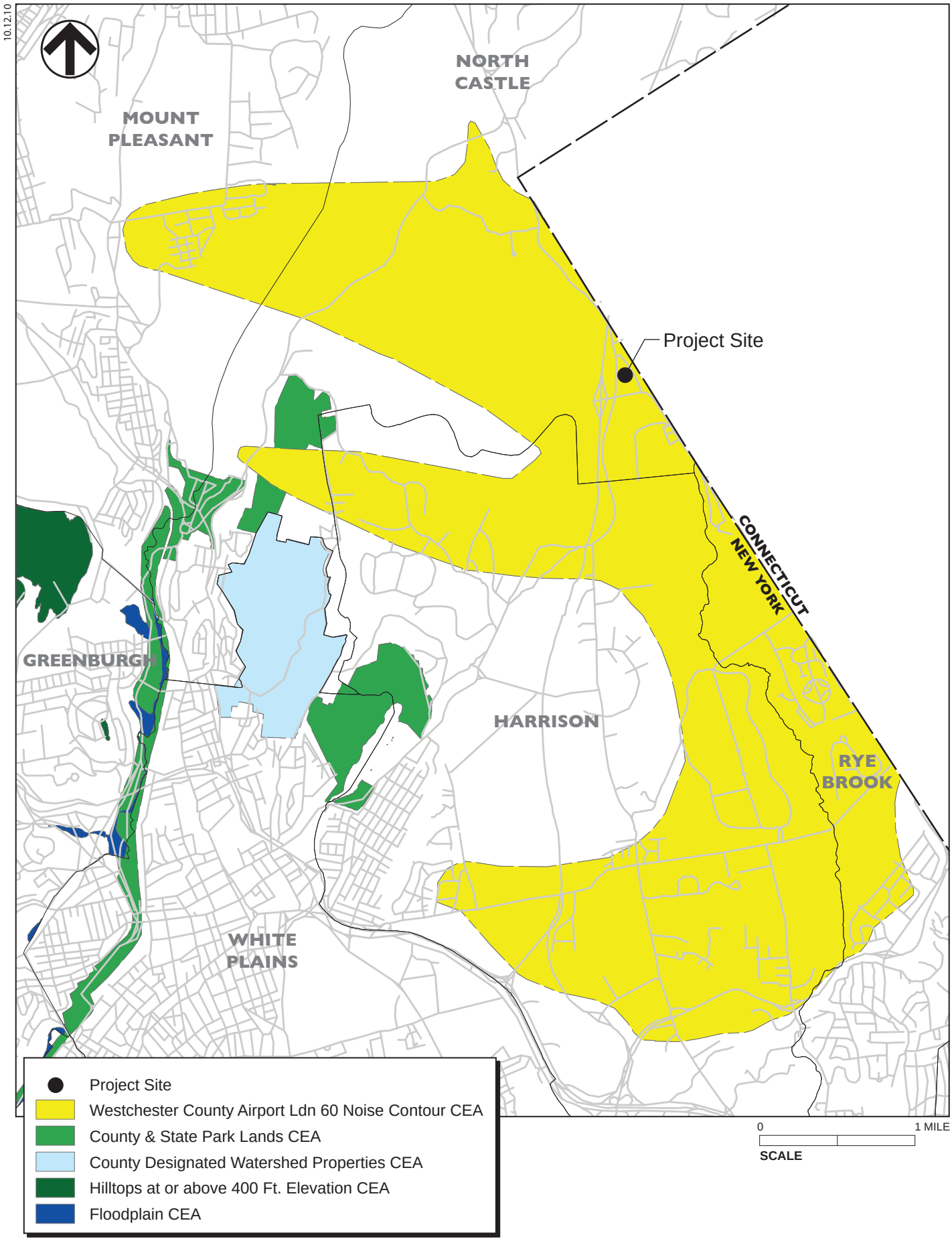
Although the project site is within an industrial zoning district, the area surrounding the project site is largely dominated by office and transportation uses. New King Street is characterized primarily by small-scale office buildings. Nearby transportation uses include: Westchester County Airport, located adjacent and to the south of the project site; NYS Route 120, also adjacent to the project site; and Interstate 684 (I-684), a heavily traveled highway that provides three travel lanes in each direction and parallels NYS Route 120. For a depiction of the regional and local roadway network, refer to **Figure 2-2**.

There are no known industrial areas in immediate proximity to the project site that have restrictions or conditions in place that would affect development of the project site. The nearest residences are located in Greenwich, CT along King Street, over 400 feet from the project site. There are no known restrictions or conditions on these residential properties that would affect development of the project site. In addition to zoning regulations, the most significant development restrictions in the study area are those related to Westchester County Airport and Kensico Reservoir, discussed further below.

Noise is often a primary consideration when assessing compatible development near an airport. As such, the Westchester County Airport Ldn 60 Noise Contour critical environmental area (CEA) was established around the airport based on noise contours to ensure compatibility of proposed land uses and aircraft noise. The typical measurement used to assess noise contours is the yearly day-night noise average sound level (L_{dn}), measured in decibels. The project site falls directly on the 70 dBA L_{dn} contour line for 2005 as shown in Westchester County's Airport Aircraft Noise Study of 2002. This CEA is discussed further in Chapter 15, "Noise." The Federal Aviation Administration (FAA) established a table of land uses that are compatible with specific noise levels. Parking is considered a compatible land use with an L_{dn} up to 85 decibels.

Additional CEAs are located within southeastern Westchester County, but none are in close proximity to the project site, as shown on **Figure 2-4**. These CEAs are located approximately two miles or greater from the project site and would not be affected by the proposed project.

Other than those restrictions imposed by the FAA on areas surrounding an airport, no restrictions or conditions encumbering the surrounding land uses are known to the applicant.



Critical Environmental Areas

Figure 2-4

Another significant feature within the study area is Kensico Reservoir, a component of the New York City water supply system maintained by the New York City Department of Environmental Protection (NYCDEP). The reservoir is located on the opposite side of I-684 from the project site. A portion of the project site is within a 300-foot regulated setback from an NYCDEP reservoir stem, or tributary watercourse.

WESTCHESTER COUNTY AIRPORT

As discussed in more detail in Chapter 3, "Land Use, Zoning, and Public Policy," Westchester County Airport has been in operation since the 1940s. It was initially used for military purposes during World War II but was opened to the public in 1945. The airport currently operates as a small-scale regional airport serving domestic flights. Approximately 1.8 million commercial passengers use Westchester County Airport annually. In addition to commercial flights, a large component of daily airport traffic is private and charter flights.

Westchester County Airport is owned by Westchester County and managed by AvPORTS, a division of Aviation Facilities Company, Inc. Air traffic, flights, and airport operations are regulated by the Federal Aviation Administration (FAA). FAA Regulations, Part 150, establishes guidelines for land use compatibility in proximity to airports in relation to aircraft noise. These guidelines were used to establish the Westchester County Airport Ldn 60 Noise Contour CEA (described above) which further enforces compatible development within proximity to the airport.

It should be noted that in 1985, Westchester County entered into a Stipulation Agreement with the Federal Aviation Administration (FAA) and the U.S. Attorney which contained a plan to limit the operating capacity of the airport to 240 passengers per half hour (assuming an even division between arriving (deplaning) and departing (enplaning) passengers) and established a mechanism for airlines seeking to operate at the Airport. This Stipulation Agreement remains in effect to date and would not be affected in any way by this proposed project.

KENSICO RESERVOIR

The project site is located within the New York City watershed, regulated by the New York City Department of Environmental Protection (NYCDEP). New York City receives its water supply from surface water resources in the Catskill Mountains and Westchester County. Water is delivered to New York City, as well as municipalities in the Hudson Valley, via the Catskill, Delaware, and Croton Aqueducts.

Proximate to the project site (approximately 600 to 700 feet west at its closest) is Kensico Reservoir, a component of the New York City water supply system. It is separated from the project site by NYS Route 120 and I-684. The reservoir was created in 1885 with construction of a dam impounding waters from the Bronx and Byram Rivers. In the early 1900s, increasing water demand required expansion of the water supply system to the Catskill Mountains. A larger dam (the existing Kensico Dam) was completed in 1917 to support a reservoir that now additionally impounds water from the Catskill and Delaware aqueducts.

NYCDEP does not prohibit development within the New York City watershed, but enforces Watershed Rules and Regulations (WRR) that ensure proper treatment of stormwater runoff to protect water resources that supply nine million people within New York City and the Hudson Valley. The proposed project would incorporate stormwater management practices that comply with NYCDEP standards. Further, the proposed stormwater management system would treat runoff from an adjacent property that is not currently treated. The proposed stormwater

management system is discussed in further detail in Chapter 9, "Stormwater Management." As stated above, a portion of the project site is within a 300-foot setback from a NYCDEP reservoir stem associated with Kensico Reservoir. Development of impervious surfaces is prohibited within this setback, but pervious surfaces may be permitted.

As a result of its location, it is the applicant's opinion that the proposed project would not adversely affect residential or other sensitive land uses.

D. DESCRIPTION OF PROPOSED PROJECT

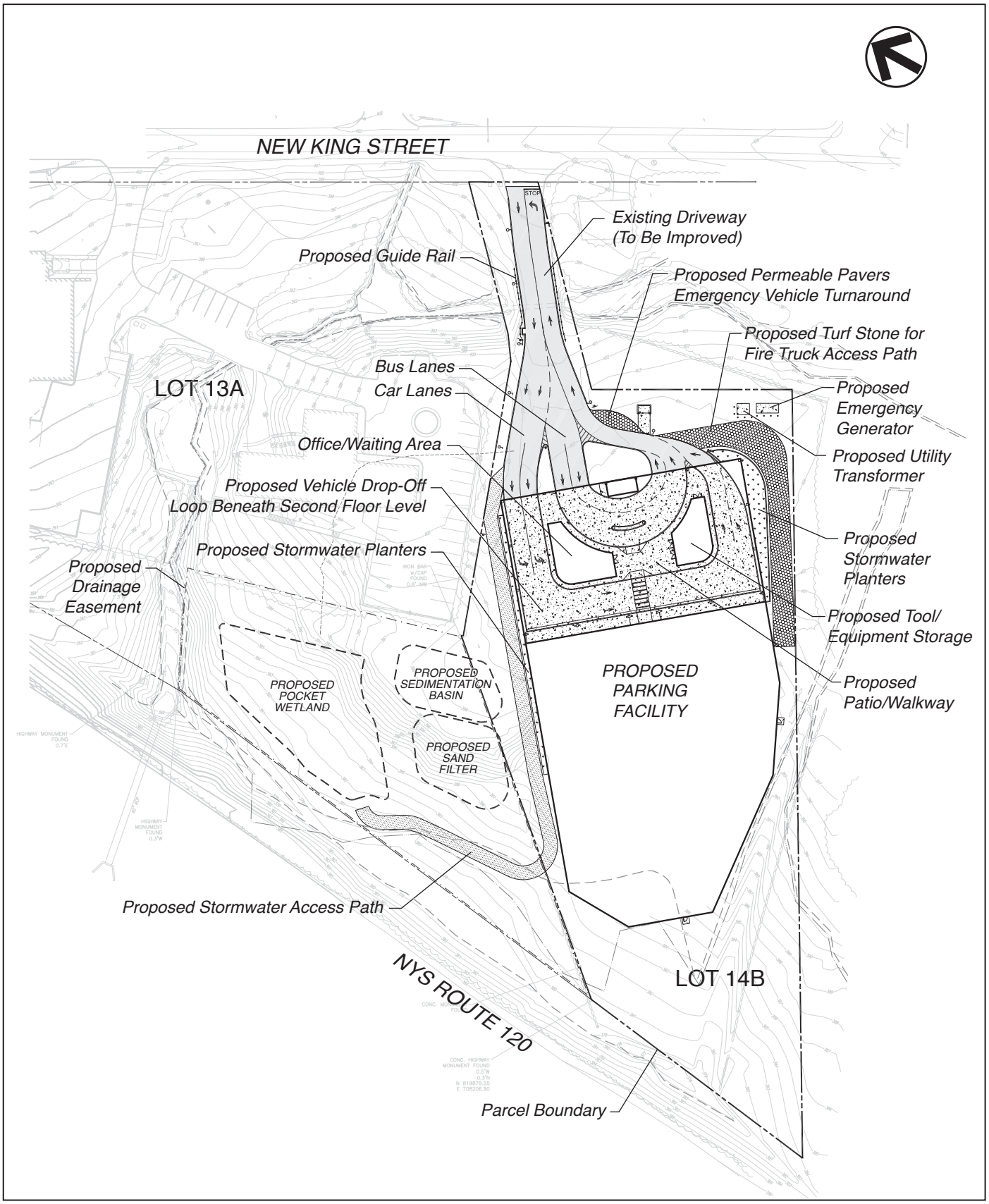
PROPOSED PARKING FACILITY

As described above, the proposed project would involve the construction of an approximately 267,000-square-foot automated parking structure on five-and-a-half levels on an approximately 3.34 acre project site. Five levels would be completely above grade while a partial lower level would extend under approximately half of the proposed structure and be above grade in the rear of the facility. Height of the facility would be approximately 56 feet above average grade. The proposed parking structure would have a building footprint of approximately 51,000 square feet and total impervious surface coverage of the proposed project would be approximately 60,200 square feet (1.38 acres) or approximately 41 percent of the project site (see **Figure 2-5**, "Proposed Site Plan"). The proposed project would provide 1,450 parking spaces to alleviate an existing parking shortage at Westchester County Airport. A total of approximately 122,100 square feet, or 2.80 acres, of land (about 84 percent of the overall project site) would be disturbed during the construction of the proposed parking facility. Off-site improvements would not be required and are not proposed.

Upper levels and the partial lower level of the parking facility would be primarily designated for vehicle storage. The ground level (i.e., the main level) would comprise vehicle storage areas as well as an office and waiting area and a tool and equipment storage area. The main level would contain a row of vehicle loading bays, where customers would drop off their automobiles and engage the automated parking system. One of the bays would be designated as a car wash bay, available to Park Place customers.

The structural and exterior façade of the proposed parking structure would consist of a precast concrete structural frame on cast-in-place concrete foundations and a combination of horizontal precast concrete spandrel panels and translucent composite panels. The precast panels would include texture and color variation and would combine horizontal and vertical elements to provide a variegated and appealing appearance. Vegetation, such as ivy, would be planted to cover the base level as well as vertical panels on the north side of the proposed structure (i.e., the side viewed from NYS Route 120). Building and site lighting would be limited to a lit translucent wall designed on the front (entrance) side of the structure and pole lights along the entrance drive. Lighting fixtures would be designed to minimize light spillage on adjacent properties and would comply with requirements of the Town Code. See Chapter 4, "Visual Resources," for further discussion on the appearance of the proposed facility. Also, see large-scale drawing C-8 for the proposed Photometric Plan.

The proposed parking facility would provide security to parked vehicles by virtue of its structural design as an enclosed concrete building. There would be no exterior access points, and the public would not have access to the interior of the facility. Further, customer activity would be limited to the front portion of the site at the vehicle loading bays and office/waiting area, described further



Proposed Site Plan

Figure 2-5

below. Additional security measures would include surveillance cameras with DVR capability, and other features described in Chapter 10, "Community Facilities and Services."

Site access would be achieved via the existing two-way driveway off New King Street, which would be improved from 20 feet to 24 feet. The new access drive would be resurfaced and restriped. As shown on **Figure 2-5**, a single ingress lane would divide into two car lanes and two bus lanes. The car lanes would direct customers to one of 12 vehicle loading bays lined along the front of the main level underneath the overhang of the upper levels. Two bus lanes would direct shuttle buses to a pick-up/drop-off area for customers to be transported to and from the airport terminal. Approximately 14 shuttle bus trips would serve the site each hour during peak times. Bus and car lanes would merge into a single egress lane that exits onto New King Street. A turf stone emergency access lane would be provided along the southern side of the proposed facility to accommodate fire apparatus. Car and bus circulation would be designed in a loop layout to foster efficient traffic flow and minimize congestion. A gate to control access to the parking facility is not proposed.

Signage would be provided on the project site to facilitate safe and efficient traffic circulation. The proposed signage schedule is shown on large-scale drawing C-4, "Site Plan," that accompanies this DEIS. Signs would be provided as vehicles enter the site to direct passenger vehicles to the loading bays and shuttle buses to the pick-up/drop-off area. As passenger vehicles exit the loading area, a sign would be provided to caution motorists to merge with and yield to shuttle buses that are exiting the pick-up/drop-off area. A stop sign would be provided at the site's exit, as vehicles on New King Street would have the right-of-way. The proposed project would incorporate additional signage to prohibit vehicles from parking in emergency access ways, and to restrict use of the path along the northern side of the proposed facility to stormwater maintenance access.

The proposed parking facility would be efficient and user-friendly. Customers would park on pallets within vehicle loading bays, exit their vehicles, remove their luggage, and depart the loading bay. Customers would retain their car keys. The vehicle storage area would be closed off from the loading bay as to prevent unauthorized access. A service kiosk would be provided outside the vehicle loading bay where customers would conduct the parking transaction and complete a checklist that includes confirmation that all passengers have exited the bay. A sophisticated system of heat and motion sensors would be in place to further ensure the loading bay is vacant. After the bay is vacated, the loading bay would close and a battery-powered robotic transporter would enter from the secured side. The robotic transporter would transport the pallet with the vehicle to the storage area by traveling along an electronic grid system within the floor. Vehicle pallets would be designed to eliminate risk for vehicle collisions. Customer and employee activity would be concentrated in the vehicle loading area, shuttle bus pick-up/drop off area, and office/waiting area. Employee activity in the secured storage area would be limited to routine maintenance and emergency situations.

STORMWATER MANAGEMENT

As discussed above, the proposed project would include stormwater management practices to treat stormwater runoff from Lot 14B and Lot 13A. This area would be accessible via a permeable stormwater maintenance path along the northern side of the proposed parking facility. Currently, stormwater is untreated on these parcels and discharges directly into surrounding water bodies. The proposed project would treat stormwater prior to being discharged, thereby improving water quality. In addition, stormwater runoff on the project site would be reduced

through use of a rain garden, stormwater planters, and an infiltration practice, which together provide filtering and evapotranspiration.

WETLAND MITIGATION

In addition to treating stormwater runoff, the stormwater management system would also serve to provide mitigation for impacts to an onsite wetland and associated buffer areas. The wetland was delineated and flagged pursuant to Federal and Town regulations in June and October 2008. In December 2010, upon field inspection, the Town made preliminary modifications to the wetland boundary, to be confirmed during the growing season when vegetation and soil characteristics are more evident. Based on the Town's preliminary modified wetland boundary, the proposed project would disturb approximately 5,700 square feet (0.13 acres) of the wetland. Approximately 79,680 square feet (1.83 acres) of the Town-regulated 100-foot wetland buffer area would be disturbed. Of that area, approximately 40,425 square feet (0.93 acres) would be temporarily disturbed during construction and would be revegetated. Permanent disturbance would include about 33,500 square feet (0.77 acres) of impervious surfaces and 5,800 square feet (0.13 acres) of pervious pavers.

To compensate for wetland and wetland buffer impacts, the stormwater management system would be designed to replicate wetland functions. The stormwater management system would include a pocket wetland and would be planted with facultative and hydrophytic vegetation. Total growing space in the stormwater management area would be about 12,700 square feet, representing a wetland mitigation ratio of 2.2:1. As a result, floral and faunal diversity would be improved on the project site, as well as stormwater runoff quality. Further, the proposed wetland mitigation plan would improve quality of groundwater recharge. The proposed wetland mitigation plan is described in greater detail in Chapter 8, "Water Resources."

LANDSCAPING

The proposed project would implement a landscaping plan to improve its aesthetic quality and nurture plant and wildlife species on the project site. Landscaping would be limited to native plant species. The landscape plan is shown on a large-scale drawing set attached to this DEIS. Evergreen and deciduous canopy trees would be provided wherever possible to screen views from adjacent properties and roads. Native vines, supported by a wire trellising system, would be planted along the northern side of the proposed structure (i.e., the side as viewed from NYS Route 120).

As discussed above, in the area of the stormwater management practices, permanent pool vegetation was selected to enhance the stormwater treatment function, as well as the wetland habitat. The proposed pocket wetland would be vegetated with shallow water tolerant species, including such wetland plants as *swamp milkweed* (*Asclepias incarnata*) and *marsh marigold* (*Caltha palustris*). Additional native plant species would be located within a shoreline fringe and facultative pond buffer upslope from the permanent pool. This planting would introduce a habitat type not currently present on the project site.

To prevent the proliferation of invasive plants during construction, a number of measures would be taken including minimization of soil disturbance, best management practices in sediment and erosion control, and immediate mulching and re-seeding of disturbed areas with an annual cover crop such as winter rye. Care would be taken to assure that all mulch used on the project site would be either straw or wood fiber and free of invasive plant parts or seeds.

SUSTAINABLE DESIGN

The proposed project would implement innovative and sustainable technology that is energy-efficient, sensitive to the environment, and user-friendly. These green design features would limit the proposed project's impact on important environmental features and improve air quality and water quality.

AIR QUALITY

Vehicle emissions would be significantly reduced as a result of the proposed project, as detailed in Chapter 14, "Air Quality and Greenhouse Gas Emissions." Overall traffic would be expected to be reduced in the study area by reducing the dependency of Westchester County Airport travelers on pick-up/drop-off services that result in two round trips per customer. Additional parking provisions for airport customers would encourage more people to drive in private automobiles, therefore creating one round trip per customer and overall less vehicle emissions. Customers would ride propane-fueled shuttle buses to and from the airport, which produce fewer emissions than traditional diesel or gasoline engines. Further, the automated function of the proposed facility would require less idling and driving onsite as compared to a conventional parking garage. Automated robotic equipment would be battery-powered and recharge at charging stations within the facility, minimizing onsite emissions.

WATER QUALITY

As discussed above, Lots 14B and 13A do not have any stormwater management practices to treat existing stormwater runoff. Consequently, stormwater runoff discharges directly into wetlands and watercourses, potentially carrying pollutants picked up from impervious surfaces such as driveways, parking areas, and roofs. The proposed project would create stormwater management practices through a drainage easement on Lot 13A that would treat stormwater runoff on both lots. Therefore, stormwater runoff would be treated before discharging into important water resources. In the applicant's opinion, this would uphold the high water quality standards maintained in the nearby Kensico Reservoir and its tributaries, which provide potable water supply to residents throughout Westchester County and New York City.

In addition, the proposed project would include an automated car wash service for customers. The car wash would use approximately 50 gallons of water for each wash cycle with up to 70 percent of that total coming from recycled water, thereby reducing demand on groundwater resources. Water from the car wash would drain via floor drains into a holding and recycling tank where it would be filtered and treated. These tanks would be periodically cleaned and waste would be disposed of in accordance with applicable regulations. It would be anticipated that the car wash service would be used for approximately 35 washes per day, seven days per week.

REDUCED FOOTPRINT

The automated nature of the proposed parking facility allows compact vehicle storage, thereby reducing overall building volume and building footprint. A greater number of vehicles can be accommodated in a smaller amount of space than a conventional parking garage. This efficiency is achieved through interior design elements, which require minimal space for circulation purposes and for storing vehicles. Dimensional requirements for vehicle storage spaces are minimal since vehicles are vacated and unloaded in the vehicle loading bays prior to being stored.

ENERGY EFFICIENCY

The proposed parking facility would incorporate a state-of-the-art energy-efficient robotics system. Robotic transporters that transport vehicles on palettes from loading bays to storage spaces would be powered by long-life battery packs that would be recharged at charging stations when not in use. The mechanical system of the proposed project would result in minimal emissions and a high level of energy efficiency.

Because the storage facility would be primarily dedicated to vehicle storage, lighting requirements would be minimal. Lighting in the storage area would only be required for occasional maintenance operations or emergency situations. Lighting in the waiting room, office, and other service areas would be provided by highly efficient fluorescent light fixtures connected to occupancy sensors.

The applicant is investigating the incorporation of photovoltaic cells and solar thermal systems in the proposed parking facility to use energy from the sun to create electrical energy. Using solar energy would decrease demands on local electric providers and be a potential life-cycle energy savings option.

E. CONSTRUCTION

The construction period for the proposed project would be approximately 14 months. Construction would be completed in one phase. Prior to the start of any construction activities, the contractor, project engineer, and applicable authorities would meet to discuss appropriate erosion and sediment control measures and measures that would be taken to ensure protection of surrounding wetlands and other water features. Site preparation would also take place, which would include installation of a security fence and measures to prevent or minimize tracking of sediment offsite. Demolition and grading would then commence to prepare the site for construction of the proposed parking facility. Further details are provided in Chapter 17, "Construction." A more formalized construction plan would be developed as the proposed project progresses.

Construction activities would be conducted in compliance with all applicable regulations, including the North Castle Town Code, which restricts construction activities to the hours of 7:30 AM to 7:30 PM, Monday through Friday, and 8:00 AM to 5:00 PM on Saturday. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared to minimize erosion and sedimentation during and after construction. A Paving, Grading, and Drainage Plan; an Erosion and Sediment Control Plan; and a Demolition Plan have been prepared to ensure appropriate measures are taken during construction and after the proposed facility would be in operation to limit effects on water resources and natural habitat on or near the project. These plans, which cover all requirements set forth in the adopted scope, are detailed in subsequent chapters of the DEIS. The SWPPP is provided in Appendix H and large-scale drawings are included with this DEIS.

F. APPROVALS

The proposed project requires a number of approvals from Town, State, federal, and regional agencies. Required permits and approvals, as well as the responsible agencies (i.e., the involved agencies) that are responsible for reviewing applications and granting permits and approvals, are shown in **Table 2-3**.

Other agencies may have interest in the proposed project due to its relationship with Westchester County Airport and its proximity to neighboring municipalities, such as Greenwich, CT, or they may have a general interest in the local environment. Interested agencies are shown in **Table 2-4** below.

Table 2-3
Required Approvals and Involved Agencies

Approval/Permit/Review	Involved Agency
Town of North Castle	
Site Plan Approval	Planning Board
Wetland Permit	Planning Board
Tree Removal Permit	Planning Board
Zoning Text Amendment	Town Board
Sanitary Sewer Connection	Building Department
Westchester County	
Sanitary Sewer Connection	Department of Health (WCDOH)
Water Supply Well	WCDOH
Roadway/Signal Improvements	Department of Public Works (WCDPW)
New York City	
SWPPP	Department of Environmental Protection (NYCDEP)
Sanitary Sewer Connection	NYCDEP
Limiting Distance Disturbance	NYCDEP
New York State	
Roadway/Signal Improvements (NYS Route 120)	Department of Transportation (NYSDOT)
SPDES Permit (GP-0-10-001)	Department of Environmental Conservation (NYSDEC)
Well Decommissioning	Department of Health (NYSDOH)
OPRHP Approval	Office of Parks, Recreation, and Historic Preservation (OPRHP)
Federal	
Height Limitation	Federal Aviation Administration (FAA)
Notice of Proposed Construction or Alteration	FAA
Nationwide Permit, if applicable*	Army Corps of Engineers (USACE)
NOTE: *If the preliminary Town-delineated wetland boundary (discussed further below) is adopted by the USACE as the boundary for a federally regulated wetland, a Nationwide Permit may be required.	

Table 2-4
Interested Agencies/Parties

Town of North Castle
Town Engineer
Town Counsel
Conservation Board
Architectural Review Board
Town Airport Committee
Highway Department
Department of Sewer and Water
Fire Commissioners, Fire District No. 2
North Castle Public Library
North White Plains Public Library
Westchester County
Planning Board
Board of Legislators
New York State
OPRHP
Office of the Attorney General
Other
Village of Rye Brook
Town of Rye
Town of Greenwich, CT
Town/Village of Harrison
Riverkeeper
Natural Resource Defense Council
New York Public Interest Research Group (NYPIRG)
WESPAC Foundation

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Chapter 3: Land Use, Zoning, and Public Policy

A. INTRODUCTION

This chapter evaluates potential impacts of the proposed project on land use, zoning, and public policy. A description of existing conditions on the project site and study area is provided, as well as an assessment of future conditions with and without the proposed project. The study area is defined as the area within a ½-mile radius of the project site. This chapter evaluates the compatibility and consistency of the proposed project with surrounding land uses, zoning regulations, and local and regional development plans.

B. EXISTING CONDITIONS

LAND USE

REGIONAL CONTEXT

The project site is located in the Town of North Castle in east-central Westchester County near the Connecticut border (see Figure 2-1 in Chapter 2, "Project Description"). North Castle is located within the outer suburbs of New York City and is largely characterized by low- to medium-density single-family residential development and large expanses of undeveloped land. Commercial and higher-density residential development is concentrated in the Town's hamlet centers, the largest of which is Armonk. The Town's Government offices are also located in Armonk. Despite the area's suburban and semi-rural character, North Castle also exhibits characteristics of the larger metropolitan area in which it is located with heavily traveled highways and public transit services, including rail, bus, and air.

Interstate 684 (I-684) is the primary north-south regional limited access highway serving the Town of North Castle and eastern Westchester County. I-684 connects Putnam County and Connecticut to New York City and areas of southern Westchester County. The Westchester County Department of Transportation (WCDOT) operates the Bee-Line Bus system throughout Westchester County. Bus Route 12 links White Plains with Westchester County Airport and Armonk, as well as other areas within North Castle. Westchester County Airport is located just south of the project site and serves commercial and private air carriers with domestic flights.

SURROUNDING LAND USES

The area immediately surrounding the project site is dominated by transportation, business, and commercial land uses. The project site is located on New King Street, a one-way roadway connecting Airport Road and NYS Route 120 that is characterized by low-rise office buildings. NYS Route 120 forms the western boundary of the project site and parallels I-684, a heavily traveled highway with three travel lanes in each direction. Westchester County Airport is located just south of the project site (described further below).

The western portion of the study area comprises the Kensico Reservoir, a component of the New York City water supply system maintained by the New York City Department of Environmental Protection (NYCDEP) (described further below). The reservoir and other NYCDEP lands are separated from the project site by I-684 and NYS Route 120.

The northern and eastern periphery of the study area (i.e., the portion largely within Greenwich, CT) is predominantly characterized by rural and suburban land uses. The majority of this area comprises low- to medium-density single-family residential development. Other land uses include small agricultural uses such as nurseries and farm stands; a church; and undeveloped wooded areas. These land uses are located along King Street near the intersection of Bedford Road.

Land uses in the study area are shown on **Figure 3-1**.

Westchester County Airport

Westchester County Airport comprises a significant portion of the study area. Although the proposed project is a private venture and not associated with the airport, it would be related to the airport as it would primarily serve airport customers. Further, the project site is adjacent to airport land, making it subject to development restrictions.

Westchester County Airport is a small-scale airport owned by Westchester County and managed by AvPORTS, a division of Aviation Facilities Company, Inc. The airport opened to public use in 1945 with the end of World War II. During the War, Westchester County Airport served as an aircraft base for the U.S. Army to defend potential threats to New York City. In 1952, the U.S. Air National Guard established a base at the airport for training and transportation objectives, but relocated to Stewart Airport in Newburgh, NY in 1983.

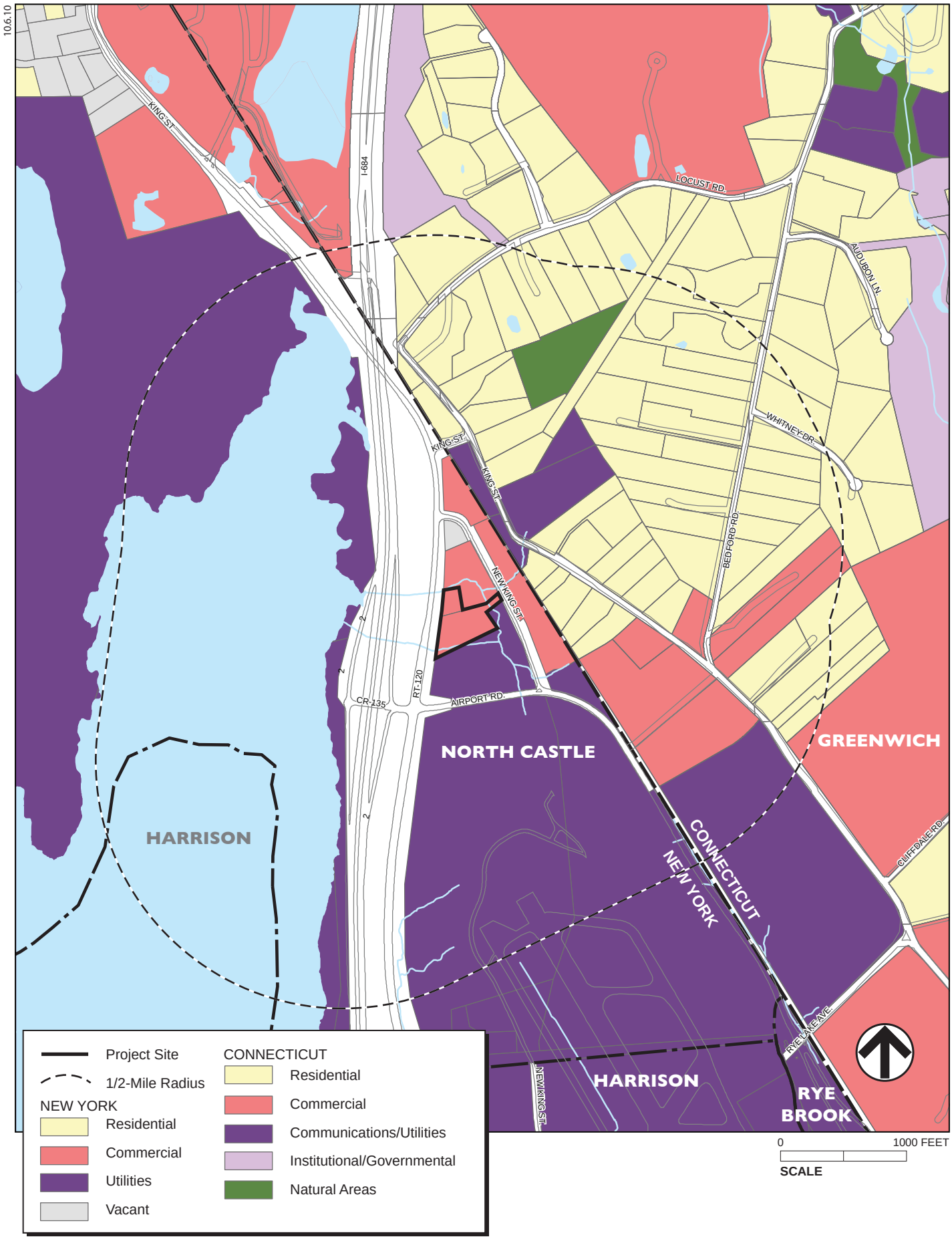
Westchester County Airport serves domestic flights that connect to many airline hubs and business and recreation destinations across the U.S. Eight scheduled commercial passenger airlines serve the airport. Westchester County Airport also serves a number of private and charter flights. Discount airlines began operating out of the airport in 2005, which resulted in an increase of commercial passenger arrivals and departures even though the actual number of flights decreased. Approximately 1.8 million commercial airline passengers use Westchester County Airport each year. Approximately 55 flights land or take-off from the airport each day.

A large segment of flight activities at Westchester County Airport comprise non-commercial business and private charter operations. In 2009, flight operations comprised 40 percent business aircraft operations, 35 percent light general aircraft operations, and 25 percent commercial aircraft operations.

It should be noted that in 1985, Westchester County entered into a Stipulation Agreement with the Federal Aviation Administration (FAA) and the U.S. Attorney which contained a plan to limit the operating capacity of the airport to 240 passengers per half hour (assuming an even division between arriving (deplaning) and departing (enplaning) passengers) and established a mechanism for airlines seeking to operate at the Airport. This stipulation remains in effect to date and would not be affected in any way by this proposed project.

Kensico Reservoir

As indicated above, the project site is located within the New York City watershed and is within proximity to Kensico Reservoir. Therefore, development is subject to NYCDEP's "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York



PARK PLACE at Westchester Airport

Existing Land Use

Figure 3-1

City Water Supply and its Sources." These regulations are intended to enforce sound stormwater management practices and development patterns to maintain a high quality of water supply to residents in the New York City water supply system. NYCDEP restricts development of impervious surfaces within a 300-foot buffer area around its reservoirs, which extends along any tributaries (i.e., stems) for a distance of approximately 500 feet. As shown on Figure 2-3 in Chapter 2, "Project Description," a portion of the project site is within a 300-foot reservoir stem setback.

The current Kensico Dam was completed in 1917. A smaller dam had been in place since 1885, but a larger dam was needed as water demand increased and the New York City water supply system expanded into the Catskill Mountains.[1] Kensico Reservoir impounds the Bronx River, but receives most of its water from the Catskill and Delaware Aqueducts. Water is held in the reservoir to meet daily water supply demand, and is then transported to Hillview Reservoir where it gets distributed throughout New York City.[2]

ADJACENT LAND USES

Land uses that are immediately adjacent to the project site primarily comprise office and transportation uses. The project site is bounded to the east by New King Street; to the north by a single-story office building; to the west by NYS Route 120; and to the south by a vacant, undeveloped lot, which is County-owned land associated with Westchester County Airport. This undeveloped lot comprises a combination of open fields and wooded areas.

PROJECT SITE

As described above, the project site is located at 11 New King Street. The project site comprises two contiguous parcels. The proposed parking structure would be located on a 2.47-acre parcel identified as Section 3, Block 4, Lot 14B (referred herein as Lot 14B) on the Town of North Castle tax map. A drainage easement to construct stormwater detention facilities would be located on a 0.87-acre portion of a 4.20-acre lot identified as Section 3, Block 4, Lot 13A (referred herein as Lot 13A).

Lot 14B currently houses an approximately 9,700-square-foot one-story office building with an accessory 35-space parking area. The unimproved section of Lot 14B comprises a maintained lawn, wooded areas, and a portion of a Town-regulated wetland. Lot 14B is a flag lot with no direct street frontage but with driveway access off New King Street. The site's access driveway crosses over a NYSDEC-designated class A watercourse.

As stated above, the project site includes a 0.87-acre portion Lot 13A to be used for stormwater management practices. The portion of Lot 13A that would be used for the stormwater management system is undeveloped and primarily wooded. The portion of Lot 13A outside of the project site houses a single-story office building.

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[1] http://home2.nyc.gov/html/dep/html/watershed_protection/kensico_history.shtml. Accessed August 31 2010.

[2] http://home2.nyc.gov/html/dep/html/watershed_protection/kensico.shtml. Accessed August 31, 2010.

ZONING

The project site is located in the Industrial AA (IND-AA) zoning district, as shown on **Figure 3-2**. Permitted principal uses in the IND-AA district include business and professional offices, light industrial uses, motels, airport uses at Westchester County Airport, and non-residential uses permitted in the R-1A district (such as government uses, religious facilities, and educational institutions). Bulk and dimensional standards for the IND-AA district are shown in **Table 3-1**.

Table 3-1
IND-AA Zoning District Regulations

Zoning Regulation	Requirement
Minimum Lot Size	2 acres
Maximum Building Coverage	30%
Maximum Floor Area Ratio (FAR)	0.30
Maximum Height	2 stories / 30 feet
Minimum Setbacks:	
Front	50 feet
Side	50 feet
Rear	50 feet
Sources: Town of North Castle Town Code, Chapter 213, "Zoning."	

PUBLIC POLICY

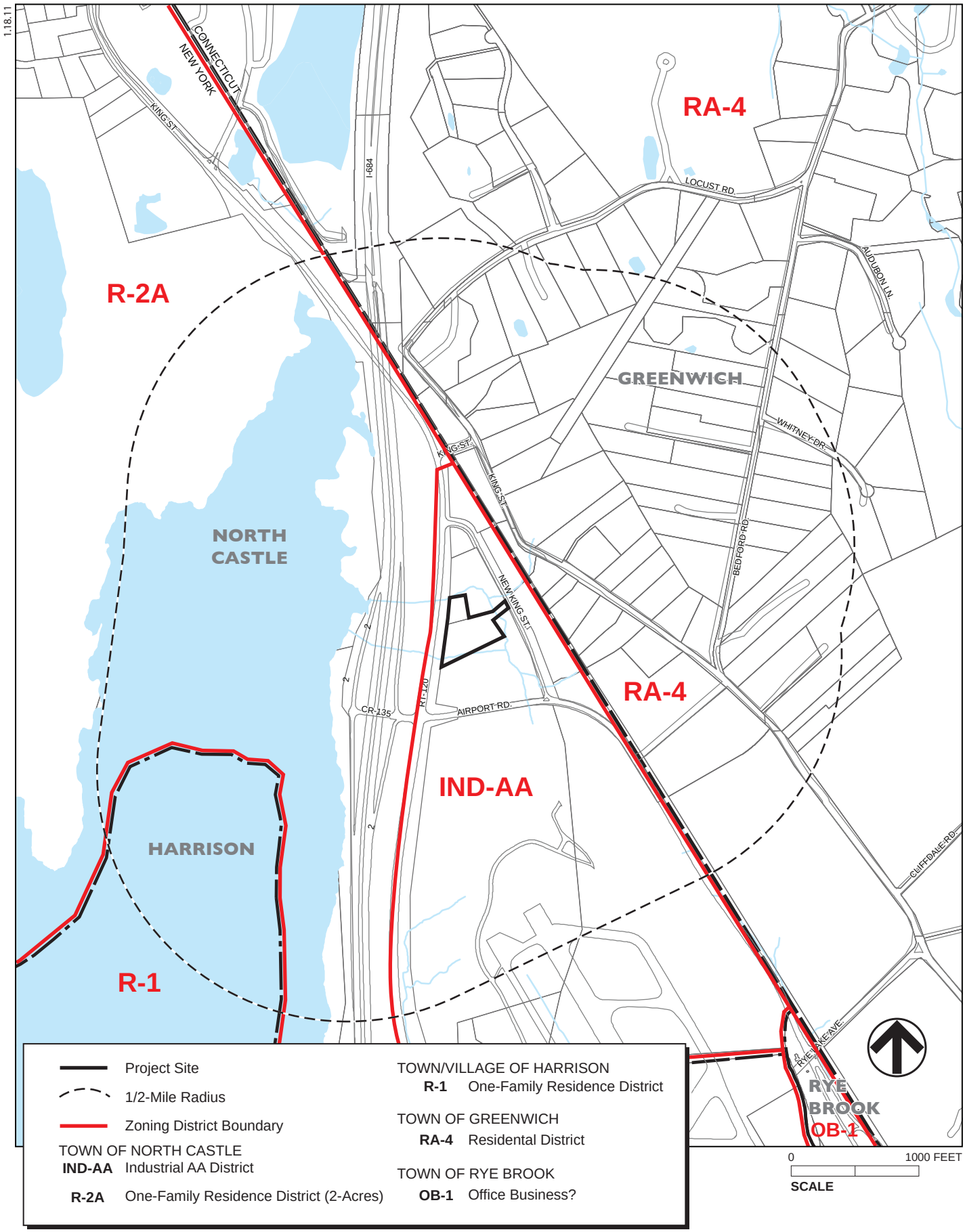
Several local and regional public policy documents guide growth and development in the Town of North Castle. The Town adopted a Comprehensive Plan Update in 1996. Westchester County also adopted a land use guide in 1996 called "Patterns for Westchester." Currently underway by Westchester County is the preparation of an update of *Patterns* called *Westchester 2025/plan together*. Further, the Town of North Castle is a participating community in the Greenway Compact, an initiative sponsored under the Hudson River Valley Greenway Act of 1991. Each plan is discussed below as it relates to the proposed project.

TOWN COMPREHENSIVE PLAN UPDATE OF 1996

Overall goals of the Town, as expressed in the "Town Comprehensive Plan Update of 1996" (the Plan), are to encourage growth and development that is compatible with the existing character of the Town and its hamlet centers and to preserve important environmental features. Additionally, the Town stresses the importance of reducing traffic congestion and improving traffic safety. Several goals outlined in the Plan include:

> "To remain an attractive residential community;"
> "To maintain the existing office and industrial tax base."
> "To maintain the delivery of high-quality municipal services."
> "To respect and preserve the environment while striving to achieve the goals listed above."

As stated in the Plan, the accessibility of major highways, railways, and an airport makes the Town of North Castle an attractive area for business and industrial development. One of the challenges faced by the Town of North Castle is accommodating this growth (which helps expand the Town's tax base) while minimizing impacts related to traffic and environmental resources. To direct growth in appropriate areas, the Plan establishes the following policy:



Existing Zoning
Figure 3-2

> "Locate office and industrial facilities so as not to disturb the residential character of the Town and to take best advantage of North Castle's access to major highways and the Westchester County Airport."

The Plan further discusses principles specifically related to the IND-AA district, as described below:

> "No changes in the location or extent of the existing light industry/office category are recommended for North Castle at this time. However, because of the recent extension of Sewer District 3 to serve this area, it may be feasible in the future to consider allowing a somewhat more intensive development of the IND-AA District."

The Plan distinguishes specific goals for each of the Town's three hamlet centers (i.e., North White Plains, Armonk, and Banksville). Some of these specific goals include encouraging "in-fill" development; protecting water resources; controlling erosion and flooding; and protecting residents from impacts of flights from Westchester County Airport.

As stated in the Plan, North Castle opposes any expansion of the airport. Although the Town of North Castle and surrounding municipalities are proximate to New York City, the Town desires to protect the qualities of a rural community or 'quiet suburb', characterized largely by low- to medium-density single-family residential neighborhoods.

PATTERNS FOR WESTCHESTER

"Patterns for Westchester" (*Patterns*) serves as a master plan for Westchester County. *Patterns* is a tool intended to assist the Westchester County Planning Board as it advises on planning issues throughout the County and to be used by municipalities to promote sound growth and consistent planning policies. Many economic and environmental issues have intermunicipal implications, creating the need for regional-based planning guidance. The primary objective of *Patterns* is to "strengthen centers, improve the function of corridors and protect the county's open space character." Several objectives outlined in *Patterns* include:

- Channel development whenever possible to centers where infrastructure can support growth, where public transportation can be provided efficiently and where redevelopment can enhance economic vitality.
- Enhance the appropriate functions of the county's corridors by adapting already developed sections into efficient and attractive multi-use places, by protecting the quality of scenic routes and by making road and transit improvements that will reduce congestion and ease movement on travel routes.
- Preserve and protect the county's natural resources and environment, including its ground water resources, water bodies, wetlands, coastal zones and significant land resources which include unique natural areas, steep slopes and ridgelines and prime agricultural land.
- Support transportation alternatives that serve the needs of workers, consumers and residents and that improve air quality by enhancing the efficiency and effectiveness of public transportation and reducing solo-driving.

Patterns discusses many factors that have contributed to the development and vitality of Westchester County, including its proximity to New York City, and its accessibility to an extensive transportation network, including rail lines, arterial highways, and airport facilities.

Patterns outlines strategies for realizing its goals through "The *Patterns* Program." To foster economic development, *Patterns* recommends identifying potential redevelopment sites or underutilized sites that would be best suited for commercial or industrial development. In addition, municipalities can guide growth by updating comprehensive plans and allowing flexible zoning in areas where reuse or redevelopment of underutilized sites would enhance the local economy. Preserving critical natural resources—such as water and air quality—is also an important objective of the County. *Patterns* encourages well-designed stormwater management systems and best management practices for erosion and sediment control to maintain water quality. The document also encourages initiatives to reduce car trips since mobile sources are the most significant source of air pollution in the County.

Westchester County is currently working to develop an updated master plan called *Westchester 2025, Plan Together*. This document has not yet been adopted but reports supporting its development, such as "Land Use in Westchester," are available. The updated land use report provides an evaluation of existing land use conditions in the County and historic development trends to help municipalities implement sustainable future development practices. The Town of North Castle is described in this document as one of Westchester County's more rural communities having large areas of open space and having large areas of land being somewhat protected from development by the presence of large water supply reservoirs. Approximately 24 percent of the Town is classified as open space and recreation (which includes agricultural uses, private recreation, cemeteries, common land homeowners associations, public parks and parkway lands, and water supply lands). Another eight percent of the Town is made up of interior water bodies. Residential uses comprise the largest component of the Town at approximately 42 percent.[1]

GREENWAY COMPACT

The Hudson River Valley Greenway Act was adopted in 1991 and gives municipalities in the Hudson Valley an opportunity to work collectively toward preserving scenic and cultural resources that define the region. All counties within the Hudson Valley are eligible to participate in the Greenway program, which would potentially qualify them to receive funding and planning guidance. To promote regional planning cooperation on the county level, the Greenway Compact program was established. Westchester County became a Compact County with its compact plan called "The Greenprint for a Sustainable Future…the Westchester Way," ("The Greenprint") adopted by the Hudson River Valley Greenway in June 2004. The Town of North Castle has adopted the policies set forth in the Westchester County Greenway Compact Plan through recognition in its Town Code, thereby making it a Greenway Compact Community. Being a Greenway *Compact* Community affords additional benefits over being a Greenway Community.

Principles of "The Greenprint" align with principles in other policy documents governing Westchester County. A primary objective of this compact plan, and the Greenway in general, is to strengthen the economic base of municipalities while preserving environmental and historic resources that characterize many Hudson Valley communities. Greenway initiatives promote development that takes advantage of the natural and scenic resources of the region or is concentrated in centers and areas best able to support development to minimize sprawl.

[1] http://planning.westchestergov.com/index.php?option=com_content&task=view&id=856&Itemid=1491. Accessed May 26, 2010.

FEDERAL AVIATION ADMINISTRATION

Development within proximity to airports is of interest to the FAA to ensure navigable air space does not become obstructed and that adjacent land uses are compatible with operations of an airport. The Code of Federal Regulations, Title 14, Part 150 (14 CFR 15) provides guidelines to assist local and regional policy makers with determining appropriate land uses adjacent to or near airports. These guidelines were used as a basis for establishing the Westchester County Airport Ldn 60 Noise Contour critical environmental area (CEA), as land use compatibility in the vicinity of an airport is usually associated with noise. This CEA is discussed further in Chapter 2, "Project Description" and Chapter 15, "Noise." The FAA monitors obstructions to navigable airspace through 14 CFR 77, which requires notification of any proposed structures greater than 200 feet tall within three nautical miles of an airport.

C. FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

Without the proposed project, land use is not expected to change on the project site or in the study area. The existing office building on the project site would continue to operate under existing conditions. As indicated by the Towns of North Castle and surrounding communities, no significant development projects are proposed in the vicinity of the project site that would alter existing land use.

ZONING

Without the proposed project, no changes to the North Castle Zoning Code are expected. The project site would continue to be subject to existing standards established for the IND-AA zoning district.

PUBLIC POLICY

There are currently no known plans to update the Town's comprehensive plan or the County's Greenway compact plan. However, as stated above, the County is currently working to prepare an updated long range land use policy plan called *Westchester 2025*. This plan aims to build upon the principles of *Patterns*. It will strengthen the Westchester County Planning Board's ability to advise communities and County officials on issues such as sustainable development practices, protection of important environmental resources, infrastructure development, and economic development. "Westchester 2025" would not have a direct impact on the project site, but would provide a tool for the Town of North Castle to guide future growth and development.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

The proposed project would result in a change in land use on the project site, but, in the applicant's opinion, would remain in context with the commercial character of New King Street. The project site would be located in an area dominated by office buildings and intensive transportation uses, such as I-684 and Westchester County Airport. In the applicant's opinion, the proposed project would not disrupt residential or any other sensitive land uses due to its location in a currently developed commercial area. The proposed project would redevelop an

already developed site, thus, in the applicant's opinion, minimizing impacts to land use in the study area. Redevelopment of the project site would support principles of infill development, which minimize sprawl and maintains existing land use patterns.

The proposed parking structure would be taller than surrounding structures, but, in the applicant's opinion, would not be incompatible or out of scale with the character of the study area. As described earlier, the project site is located on New King Street, which is characterized by office buildings, several of which are multi-story. In the applicant's opinion, potential visual impacts would be minimal (see Chapter 4, "Visual Resources," for further discussion on potential visual impacts).

ZONING

The proposed project would require an amendment to the existing Town of North Castle zoning code. The project site is located within the IND-AA zoning district, which does not currently permit parking structures. The proposed zoning amendment would allow structured parking as a special permit use.

For the zoning amendment to become effective, the North Castle Town Board would have to adopt a local law modifying the zoning code. The applicant has submitted a petition to amend the zoning code in conjunction with the proposed project. As the project has developed, the proposed zoning amendment has been revised slightly to clarify the proposed standards for parking structures in the IND-AA district and is included as Appendix E. Before a resolution can be adopted, the zoning amendment would require evaluation in accordance with SEQRA. The environmental review for this project is being done in conjunction with all of the proposed actions, permits and approvals necessary for the proposed project, and this DEIS is being prepared to satisfy the SEQRA requirements for the proposed zoning amendments.

The modifications to the IND-AA zoning regulations would only affect parking structures allowed by special permit. Other uses permitted in the IND-AA zoning district would continue to be subject to existing standards. No changes are being proposed that would affect existing permitted uses. Stringent requirements would be put in place to prevent proliferation of parking garages throughout the IND-AA zoning district and the Town.

Proposed development standards and proposed bulk and dimensional requirements for parking structures in the IND-AA with a special use permit are shown in **Tables 3-2** and **3-3**. Existing IND-AA bulk and dimensional regulations are included in **Table 3-3** for comparison.

In the applicant's opinion, the proposed location requirements described above in **Table 3-2** would ensure that parking structures do not disturb residential areas and other sensitive land uses. In the applicant's opinion, the proposed law would limit the construction of a parking structure to be an appropriate distance from major highways and in areas with compatible land uses, and would limit a parking structure to areas most suitable for their development while, in the applicant's opinion, having minimal or no impact on the quality and character of the Town (see Appendix E for a full description of the proposed zoning amendments). However, the lead agency will need to evaluate whether the proposed maximum height of the parking structure and the proposed setbacks are appropriate for the IND-AA district.

The intention of the proposed zoning amendments would be to allow parking structures to be constructed adjacent to Westchester County Airport where they would alleviate existing parking shortages, reduce airport-related traffic, while providing the Town with an opportunity to substantially increase its tax base (see Chapter 13, "Traffic and Transportation," for further discussion of traffic analyses, and Chapter 12, "Economic Conditions" for further discussion on

beneficial impacts to the Town's tax base). Therefore, in the applicant's opinion, the proposed project and proposed zoning amendments would provide beneficial economic stimulus to the Town and would not have any significant adverse environmental impacts.

Table 3-2
Proposed IND-AA Zoning District Special Permit Use Regulations

Zoning Regulation	Proposed Special Use Requirement	Provided by Proposed Project
Use	Must be privately operated and accessible to Westchester County Airport users.	Proposed project would be privately operated and limited to Westchester County Airport customers.
Permitted Use Variations	Automated and/or valet facilities.	Proposed project would be an automated facility.
Location	Frontage and access must be on state or county highway, or nonresidential collector road. Must be >50 feet from residential zoning districts. Must be <1,500 feet from intersection with state or county highway.	Proposed project would have ingress and egress off New King Street, a collector Road that connects a County and State highway. Proposed project is >50 feet from the R-2A district and the Greenwich R-4A district. Proposed project is <1,500 feet from Airport Road (County Route 35) and NYS Route 120

Table 3-3
Proposed IND-AA Zoning District Special Permit Bulk and Dimensional Regulations

Zoning Regulation	Existing Requirement	Proposed Special Use Requirement	Provided by Proposed Project
Minimum Lot Size	2 acres	2 acres	2.47 acres
Maximum Lot Coverage	N/A	60%	56%
Maximum Building Coverage	30%	N/A	N/A
Maximum Height	2 stories / 30 feet	60 feet	56 feet
Minimum Setbacks:			
Front	50 feet	50 feet	50 feet
Side	50 feet	10 feet	10 feet
Rear	50 feet	50 feet	59 feet

Proposed stormwater management practices on Lot 13A would not require any zoning amendments. The stormwater management practices would comprise a sedimentation basin, a sand filter, and a pocket wetland, but no permanent structures. Stormwater treatment systems are required by NYSDEC, NYCDEP, and the Town for the proposed project. Therefore, development of stormwater management practices on Lot 13A would not conflict with or adversely affect any zoning regulations.

PUBLIC POLICY

TOWN COMPREHENSIVE PLAN UPDATE OF 1996

The proposed project would be in line with the goals and objectives of the Town Comprehensive Plan Update of 1996. The proposed project would be located in an area dominated by office and transportation uses and would therefore be a compatible land use. It would be separated from residential areas, thereby having minimal adverse impact on the residential character of the Town. The proposed project would also be proximate to Westchester County Airport and major

highways, such as I-684 and NYS Route 120, further supporting goals of the Plan. Development would be located within the IND-AA zoning district and Sewer District #3, an area identified by the Plan with potential to accommodate more intensive development. The proposed project would result in new development on a site that is currently developed, thereby minimizing disturbance to preserved natural areas. Disturbance to important environmental features would be avoided during construction and operation of the proposed facility.

As discussed in Chapter 2, "Project Description," and other areas of the DEIS, the proposed project incorporates numerous green design features that further reduce impacts to the environment. The automated nature of the proposed facility would minimize vehicle exhaust emissions, which are a large contributor to air pollutants in the County.

The *Comprehensive Plan Update* encourages office and industrial growth to support its tax base. The proposed project would increase the Town's economic base and provide substantial tax revenue to the Town while having minimal impact on municipal services. Restricted public access to vehicle storage areas and adequate fire suppression systems throughout the facility would virtually eliminate the burden on emergency service providers. Further, the proposed project would contribute significant tax revenue to the Byram Hills Central School District without generating schoolchildren.

As indicated by the Town C*omprehensive Plan Update*, many residents in North Castle are concerned about expansion of Westchester County Airport or increased flights at the airport. By virtue of the Stipulation agreement between Westchester County and the FAA and the U.S. Attorney, the proposed project would have no impact on the operations at Westchester County Airport. The proposed project would serve existing parking demand and would not induce expansion of the airport. Flight schedules would continue to be regulated by the FAA and would be outside the purview of the applicant.

PATTERNS FOR WESTCHESTER

The proposed project would support many of the objectives of *Patterns*. The proposed project would be located in an area served by existing municipal infrastructure, such as sanitary sewer services. The project site is located in an area dominated by office and transportation uses, which are compatible with the proposed project. As stated above, the proposed project would be located on a site that is already developed and previously disturbed, thereby reducing additional disturbance to natural features.

Air quality and water quality are two important features discussed in *Patterns*. As detailed further in Chapter 13, "Traffic and Transportation," and Chapter 14, "Air Quality," the proposed project is expected to reduce traffic and emissions in the study area by reducing the use of drop-off services which result in two round-trips per customer. The proposed shuttle bus service to transport customers from the proposed parking facility to the airport terminal would run on propane, which has fewer emissions than traditional diesel and gasoline engines.

Both Lots 14B and 13A do not currently have any stormwater treatment facilities. Therefore, stormwater runoff discharges directly into surface water resources. The proposed project would include stormwater management practices that treat stormwater for both Lots 14B and 13A, thereby improving water quality. With Kensico Reservoir in close proximity to the project site, and a State-regulated watercourse adjacent to the project site, these stormwater management practices would ensure continued protection and high quality of these water resources, which

serve Town of New Castle residents, as well as other residents in Westchester County and New York City.

GREENWAY COMPACT

As discussed above, the Greenway Program aims to strengthen the economic base of communities throughout the Hudson Valley while preserving the natural and scenic resources that define this region. By developing an already developed site, the proposed project would add a much needed service to the community while, in the applicant's opinion, enhancing its economic base and having minimal impacts to environmental features.

FEDERAL AVIATION ADMINISTRATION

As discussed above, the FAA regulates and monitors development within proximity to airports to ensure flight paths do not become impeded or obscured. Guidelines for compatible land use development are provided in 14 CFR 150, largely based on airport-generated noise levels. Parking facilities are considered compatible land uses in areas with ambient noise levels up to 85 decibels. As discussed in Chapter 15, "Noise," the project site is located on the 70 dBA L_{dn} contour and would therefore be a compatible land use adjacent to an airport.

The FAA also monitors building heights to prevent obstructions to air space. Buildings greater than 200 feet within three nautical miles of an airport would be considered potential obstructions to flight paths. Since the proposed project would be approximately 56 feet above average grade, it would not be expected to obstruct any navigable airspace.

E. MITIGATION MEASURES

The proposed parking facility would be designed to assimilate into the existing character of the surrounding area. As discussed above, land uses along New King Street comprise small-scale office buildings and much of the area is dominated by Westchester County Airport, I-684, and NYS Route 120. The proposed project would result in construction of an enclosed parking facility that would, in the applicant's opinion, be compatible with and fit within the context of existing land uses. In addition, as discussed further in Chapter 4, "Visual Resources," the proposed facility would incorporate earth-tone materials and other design elements to minimize any visual impacts. A landscape plan would be developed to enhance the attractiveness of the site and conform to the landscaped character of surrounding office facilities.

Nearby municipalities—including North Castle, Rye Brook, and Greenwich, CT—were contacted to determine whether any other development projects were planned in the vicinity of the project site that would result in cumulative impacts with the proposed project. Information provided by North Castle and Greenwich, CT indicated that no development projects are planned that would affect the proposed project. Response from Rye Brook is pending.

Although the proposed project would require changes to the existing Town of North Castle Zoning Code, restrictive standards would be in place to limit development of additional parking structures to appropriate areas. Standards for existing permitted uses in the IND-AA zoning district would not change.

The proposed project has been designed to carefully consider important environmental resources and limit negative impacts to these resources to the extent practicable. Further, the proposed project would result in beneficial impacts to some environmental features, particularly water

resources as the proposed stormwater treatment facilities would improve the quality of existing stormwater runoff. This would support public policy initiatives of preserving and improving environmental resources.

F. POTENTIAL IMPACTS OF A VACANT STRUCTURE

Pursuant to the adopted Scope, this section evaluates potential impacts related to a vacant structure if the proposed parking facility should fail. This is an unlikely scenario due to existing demand for parking and the seriously limited supply at Westchester County Airport. Nevertheless, in the event that the parking facility is not successful, the structure would be vacated and an alternate use incorporated within the structure of the building. Potential alternate uses would be limited because the building is being designed for a singular use – an automated parking garage. Nonetheless, the structural shell would potentially allow for adaptive reuse for other functions, such as back office storage or containerized storage. The facility would need to be enclosed and either level floors created, or a comparable robotic system installed for alternate storage containers. Whether the proposed parking structure is vacant or utilized, it would continue to be a taxable entity that provides revenue to the Town and County. A vacant structure would not generate income or have the economic stimulus that a fully functioning facility would have, but would continue to contribute property tax revenue.

A vacant structure on the project site is not an ideal scenario. As with an occupied structure, continual upkeep would be required to prevent the site from becoming an eyesore. But as discussed above, the applicant has carefully planned the proposed project to meet existing demand and provide a much needed service to the community. Therefore, in the opinion of the applicant, the potential for a vacant structure to result on the project site has a low likelihood of occurring. ✷

A. INTRODUCTION

This chapter considers the appearance of the proposed automated multi-level parking facility and evaluates the potential for significant adverse visual impacts. The chapter identifies local scenic or visual resources and locally significant open space, and historic resources within a ¼-mile study area. To determine visual effects, the chapter provides photographs taken from typical viewsheds under existing conditions and describes the extent to which visibility of the proposed facility would be possible from roadways adjacent to the project site. Locations of viewpoints for these photographs were selected to demonstrate potential visibility of the proposed parking facility from representative viewpoints. The analysis of visual impacts is based upon evaluation of these viewpoints and application of the New York State Department of Environmental Conservation (NYSDEC) Visual Impact Assessment Methodology, "Assessing and Mitigating Visual Impacts," (DEP-00-2).

B. METHODOLOGY

To determine the visual effects of the parking facility on the study area from the identified sensitive receptors and from typical viewsheds, photographs were taken to demonstrate existing views in the surrounding area. Some photographs provided are intended to demonstrate that certain locations will have no view of the proposed parking facility. In other instances, the photographs show the surrounding landscape and the environmental conditions that may allow for visibility of the proposed parking facility.

Locations were selected to depict representative views of the proposed parking facility. The representative views selected do not provide an exhaustive collection of photographs from every location where the parking facility would be visible. Rather, these views are intended to demonstrate proposed conditions from a variety of typical locations found throughout the study area. It should also be noted that views into the project site would vary as a function of vegetation and the season, specifically whether or not trees have their leaves. As such photos are provided to demonstrate both summer and winter views. Photos are provided in **Figures 4-1** through **4-5**.

NYSDEC GUIDANCE

NYSDEC developed a methodology for assessing and mitigating visual impacts (DEP-00-2). While this policy was developed for NYSDEC review of actions, the methodology and impact assessment criteria established by the policy are comprehensive and are being used by other local agencies to assess potential impacts.

Winter view looking east toward project site from NYS Route 120 (Purchase Street) 1

Summer view looking southeast toward project site from NYS Route 120 (Purchase Street) 2

Visual Resources Photographs

Figure 4-1

Winter view looking north toward project site from I-684 south of Exit 2 3

Winter view looking north toward project site from I-684 at Exit 2 4

Winter view looking north toward project site from Airport Road 5

Summer view looking toward project site from Airport Road 6

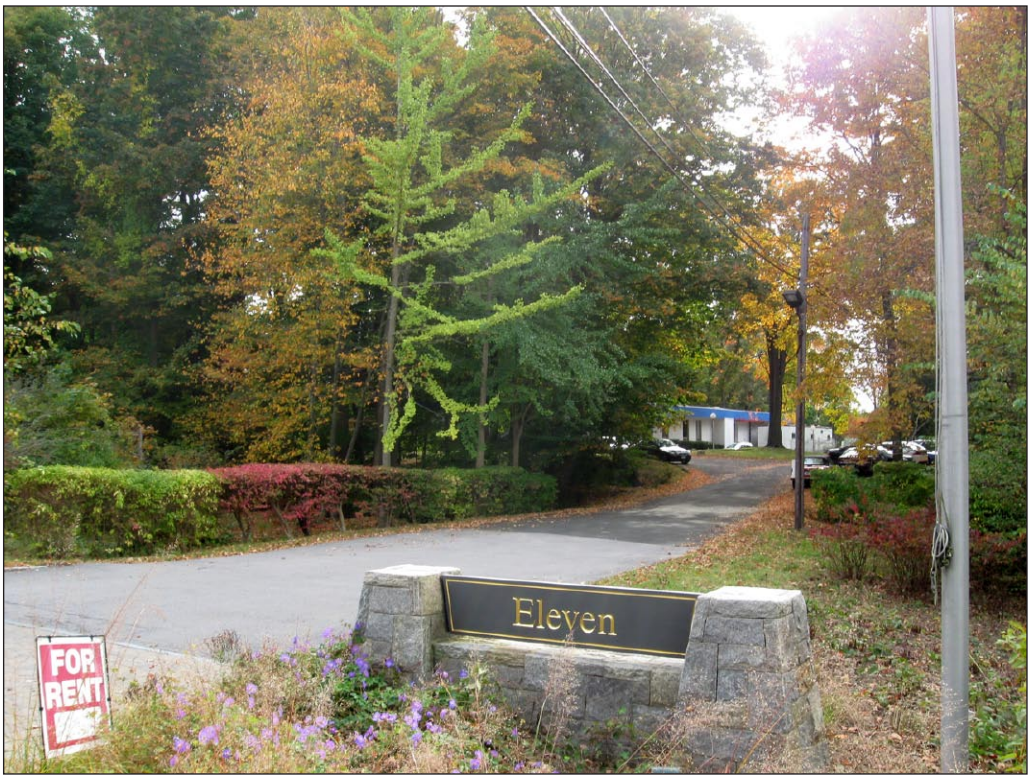
Winter view looking north along New King Street near office buildings adjacent to project site 7

Winter view looking north toward project site from Airport Road adjacent to airport related uses 8

Visual Resources Photographs

Figure 4-4

Winter view looking west toward project site from New King Street 9



Summer view looking west toward project site from New King Street 10

According to DEP-00-2, a "visual impact" occurs when "the mitigating[1] effects of perspective do not reduce the visibility of an object to insignificant levels. Beauty plays no role in this concept (DEP-00-2, p. 10). DEP-00-2 also provides guidance with respect to the definition of an "aesthetic impact":

> Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead a project, by virtue of its visibility, must clearly interfere with or reduce the public's enjoyment and/or appreciation of the appearance of an inventoried resource. (DEP-00-2, p. 9)

Thus, while the proposed parking facility may be visible within a viewshed, mere visibility is not a threshold of significance. The significance of the visibility is dependent on several factors: presence of any designated historic or scenic resources within the viewshed of the project, distance, general characteristics of the surrounding landscape, and the extent to which the visibility of the project interferes with the public's enjoyment or appreciation of the resource. A significant adverse visual impact would only occur when the effects of design, distance, and intervening topography and vegetation do not minimize the visibility of an object and the visibility significantly detracts from the public's enjoyment of a resource.

The parking facility has been designed to minimize visibility and potential impacts through use of building materials and colors that are consistent with those of nearby buildings and that blend with nearby vegetation and the environment. The intent is to design a building that does not draw attention to itself as a result of bright colors or other eye catching features. The proposed parking facility will primarily be constructed using gray or sand colored precast concrete panels. In addition, the proposed parking facility would have four vegetative trellises covered with ivy on the north elevation with heights of approximately 30 feet. These trellises would provide some additional screening from the office buildings to the north. Since the parking facility would be located within the context of existing buildings and structures, distant views, where possible would not be considered an impact as those views would likely include other buildings and features of the built environment.

C. EXISTING CONDITIONS

STUDY AREA

The study area for visual resources generally considered the roadways surrounding the project site. Based on observations, the views of the project site and proposed parking facility would be limited from areas located beyond the roadways that surround the project site. This determination considered the fact that the proposed parking facility is located in a built up area with several existing office buildings and airport related uses with an industrial appearance. There are also some nearby residential uses, but these uses are typically found interspersed among dense vegetation that would screen views of the parking facility. Thus, the most apparent visibility of the parking facility, or changes in visual character would be expected to result in

[1] DEP-00-2 uses the term "mitigating" or "mitigation" to refer to design parameters that avoid or reduce potential visibility of a project. This should not be confused with the use of the term "mitigation" with respect to mitigation of significant adverse environmental impacts as required by the State Environmental Quality Review Act (SEQRA).

locations within the immediate environs of the project site. As such, the analysis below focuses on the surrounding roadways and areas on either side of those roadways.

There are several distinct land uses located on the roadways surrounding the project site that give each location a unique visual character. Based on the fact that the project site is located on a triangular block of parcels, the existing visual conditions are described relative to the three roadways that surround the site.

PURCHASE STREET (NEW YORK STATE ROUTE 120)

The project site is bordered to west by Purchase Street (NYS Route 120). At this location, there are no land uses that front along NYS Route 120, but the rear of several parcels do sit adjacent to the roadway. Interstate 684 (I-684) runs parallel to NYS Route 120 with an approximately 250 foot strip of land between the two roadways. Given the fact that there is no stark visibility of any buildings from NYS Route 120 or I-684 near the project site, the character of these roadways is defined by the trees and vegetation that line the roadways.

The Kensico Reservoir sits beyond I-684 and extends for approximately three miles. Given these surroundings, any potential views of the project site from the west would be limited to locations from I-684 and NYS Route 120 where vegetation may be limited. While views of the project site might be possible from the Kensico Reservoir, this is not an area accessible to the general public. Therefore, for the general public, views of the parking facility from the west would be limited to the certain locations along NYS Route 120 and I-684.

Figure 4-1 provides photographs toward the project site from NYS Route 120. As shown in the photographs, the existing building on the project site is visible from certain locations with relatively thin vegetation during winter months when trees do not have their leaves. However, during summer months, views into the project site are much more limited. **Figure 4-2** shows views toward the project site from the northbound lanes of I-684. As shown in the photographs, existing buildings are not easily distinguishable due to distance and the presence of vegetation.

AIRPORT ROAD

The southern boundary of the project site lies adjacent to a vacant parcel owned by Westchester County. In general, that parcel is an open field with some vegetation at the northern end, adjacent to the project site and along NYS Route 120 and New King Street. Views of the Westchester County owned parcel and project site from Airport Road are shown in **Figure 4-3**. At this location, Airport Road is a one-way road with large swaths of vacant land on either side. However, east of New King Street, the road veers to the south and is lined by several airport related uses that have an industrial character as shown in Photograph 8 on **Figure 4-4**.

NEW KING STREET

Along New King Street there are five office buildings to the north and east of the project site. Photograph 7 on **Figure 4-4** shows photographs of these buildings and of the general character of the area. Photographs 9 and 10 on **Figure 4-5** show views of the project site from New King Street. As shown in these photographs, the existing building on the project site and other adjacent buildings are visible from New King Street. The existing office buildings range in height from one to three stories. The three story office building also has rooftop mechanical equipment that gives the building a taller appearance.

Beyond the office buildings to the east, there are several single family homes on King Street past the New York/Connecticut state line. These homes are generally surrounded by dense vegetation and allow for few if any views of the project site and existing buildings.

INVENTORY OF RESOURCES

An inventory of sensitive aesthetic and visual resources was prepared following the guidance in NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (DEP-00-2, July 31, 2000), including locations or resources identified by local jurisdictions as having scenic or aesthetic quality. The inventory and analysis focused on resources located within approximately ¼-mile of the project site as this radius captures potential viewpoints from all of the surrounding roadways. Any additional notable resources within close proximity to the study area were also identified to provide a conservative analysis.

STATE/NATIONAL REGISTER OF HISTORIC PLACES

There are no resources on the State and/or National Register of Historic Places (S/NR) (16 USC §470a et seq., Parks, Recreation and Historic Preservation Law §14.07) within ¼ mile of the project site.

NEW YORK STATE PARKS

No State Parks as defined by Parks, Recreation and Historic Preservation Law §3.09 were identified within the study area.[1]

HERITAGE AREAS

No Heritage Areas as defined by Article 35, Parks, Recreation and Historic Preservation Law are located within the study area.[2] The Heritage Area System was formerly known as the Urban Cultural Park System.

NEW YORK STATE FOREST PRESERVE

All lands within the State Forest Preserve (New York State Constitution Article XIV) are located within the boundaries of the Adirondack and Catskill Parks. Thus, there are no State Forest Preserve lands within the study area. [3]

NATIONAL WILDLIFE REFUGES

There are no National Wildlife Refuges (NWR), as defined by the National Wildlife Refuge System Administration Act 16 U.S.C. 668dd-668ee and amended by P.L. 105-57, located in the in the study area. [4]

[1] Source: http://nysparks.state.ny.us/regions/long_island.asp; posted as of 09/03/2010.

[2] Source: http://nysparks.state.ny.us/historic-preservation/heritage-areas.aspx; posted as of 09/03/2010.

[3] Source: http://www.dec.ny.gov/lands/4960.html; posted as of 09/25/2007.

[4] Source: http://www.fws.gov/refuges/pdfs/refugeMap0930_2006.pdf; posted as of 09/25/2007.

STATE GAME REFUGES AND STATE WILDLIFE MANAGEMENT AREAS

State Game Refuges and State Wildlife Management Areas (WMA) are defined by Environmental Conservation Law (ECL) 11-2105. There are no State Game Refuges or WMAs within study area.[1]

NATIONAL NATURAL LANDMARKS

No National Natural Landmarks (defined by 36 CFR Part 62) are located within the study area.[2]

NATIONAL PARK SYSTEM RECREATION AREAS, SEASHORES, FORESTS

No National Parks (as defined by 16 USC 1c) are located within the study area.[3]

RIVERS DESIGNATED AS NATIONAL OR STATE WILD, SCENIC, OR RECREATIONAL

There are no National Wild, Scenic, or Recreational (16 USC Chapter 28) rivers within the study area.[4] Rivers designated by New York State as Wild, Scenic, or Recreational are listed in §§15-2713 through 15-2715 of Environmental Conservation Law. There are no State-designated Wild, Scenic, or Recreational rivers within the study area.[5]

SITES, AREAS, LAKES, RESERVOIRS, OR HIGHWAYS DESIGNATED OR ELIGIBLE FOR DESIGNATION AS SCENIC

Resources identified in Article 49 of the ECL include Scenic Byways (under the purview of New York State Department of Transportation [NYSDOT]), parkways (designated by the Office of Parks, Recreation, and Historic Preservation [NYSOPRHP]), and other areas designated by NYSDEC. There are no Scenic Byways or parkways located within the study area.[6]

SCENIC AREAS OF STATEWIDE SIGNIFICANCE

In July 1993, the New York State Department of State designated six Scenic Areas of Statewide Significance in the Hudson River Valley as part of its implementation of the State's Coastal Management Program. The Department of State has not identified any other Scenic Areas of Statewide Significance.[7]

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[1] Source: http://www.dec.ny.gov/outdoor/8297.html; posted as of 09/25/2007.

[2] Source: http://www.nature.nps.gov/nnl/pdf/RevisedRegistryJune2009.pdf; posted as of 09/03/2010.

[3] Source: http://www.nps.gov/state/NY/; posted as of 09/03/2010.

[4] Sources: http://www.rivers.gov/wildriverslist.html; posted as of 09/03/2010.

[5] Source: http://www.dec.ny.gov/lands/32739.html; posted as of 09/03/2010.

[6] Source: https://www.nysdot.gov/display/programs/scenic-byways/lists; posted as of 09/03/2010.

[7] Source: New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, "Scenic Areas of Statewide Significance," July 1993.

STATE OR FEDERALLY DESIGNATED TRAILS

There are no federally designated trails (as defined by 16 USC Chapter 27) located within the study area.[1]

STATE NATURE AND HISTORIC PRESERVATION AREAS

There are no State Nature or Historic Preservation Areas (as designated by Section 4 of Article XIV of the New York State Constitution) located within the study area.[2]

PALISADES PARK

Palisades Park is not located within the study area.

BOND ACT PROPERTIES PURCHASED UNDER EXCEPTIONAL SCENIC BEAUTY OR OPEN SPACE CATEGORY

There are no known Bond Act Properties located within the study area.

SUMMARY OF INVENTORY OF RESOURCES

Based on an evaluation of resources per DEP-00-2, there are no significant resources within the study area. Therefore the analysis of potential impacts for the proposed parking facility will focus on the roadways that surround the project site.

D. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, there would not by any visual changes to the project site. The proposed parking facility would not be constructed and tree clearing would not occur. The existing office building would continue to operate under existing conditions and no site alterations or modifications are planned without the proposed project. Existing views of the project site would not change.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

VISUAL IMPACT ANALYSIS

The proposed project would result in construction of a new parking facility that would be 56 feet tall on a site that is already developed with a single story building that is estimated to be 12 feet tall. The new parking facility would occupy a larger footprint and would result in some tree and brush removal, primarily on the south and western portions of the project site. While there would be physical changes to the project site, the development would occur within the context of several adjacent office buildings and airport uses.

The proposed parking facility would be a 5-1/2 level building that would be fully enclosed. The building height would be significantly lower than a similar capacity self park garage. Based on

[1] Sources: http://www.nps.gov/carto/PDF/TRAILSmap1.pdf and http://tutsan.forest.net/trails/default.htm; posted as of 09/03/2010.

[2] Source: http://www.dec.ny.gov/outdoor/7804.html; posted as of 09/03/2010.

standard vehicle spacing, comparable parking space counts, and a similar overall building footprint, three additional levels would be required to accommodate a self-park facility.

The structural and exterior facade would consist of a precast concrete structural frame on cast in place concrete foundations and a combination of horizontal precast concrete spandrel panels and translucent composite panels. The precast panels would include texture and color variation as well as combine horizontal and vertical elements to 'break up' the elevations. The concrete panels would be grey or sand colored to give the building earth tones that blend with the surrounding environment. Vegetation such as ivy would be incorporated to cover the base level as well as the north elevation. Building and site lighting would be limited to a lit translucent wall which would be designed into the front (entrance) elevation facing New King Street and pole lights along the entrance drive. **Figure 4-6** provides elevations of the project site. **Figure 4-7** provides perspective views of the project site.

Landscaping would include formal planting along the entrance drive, wetlands planting within the storm water detention areas, and evergreen screening along the west and northwest elevations.

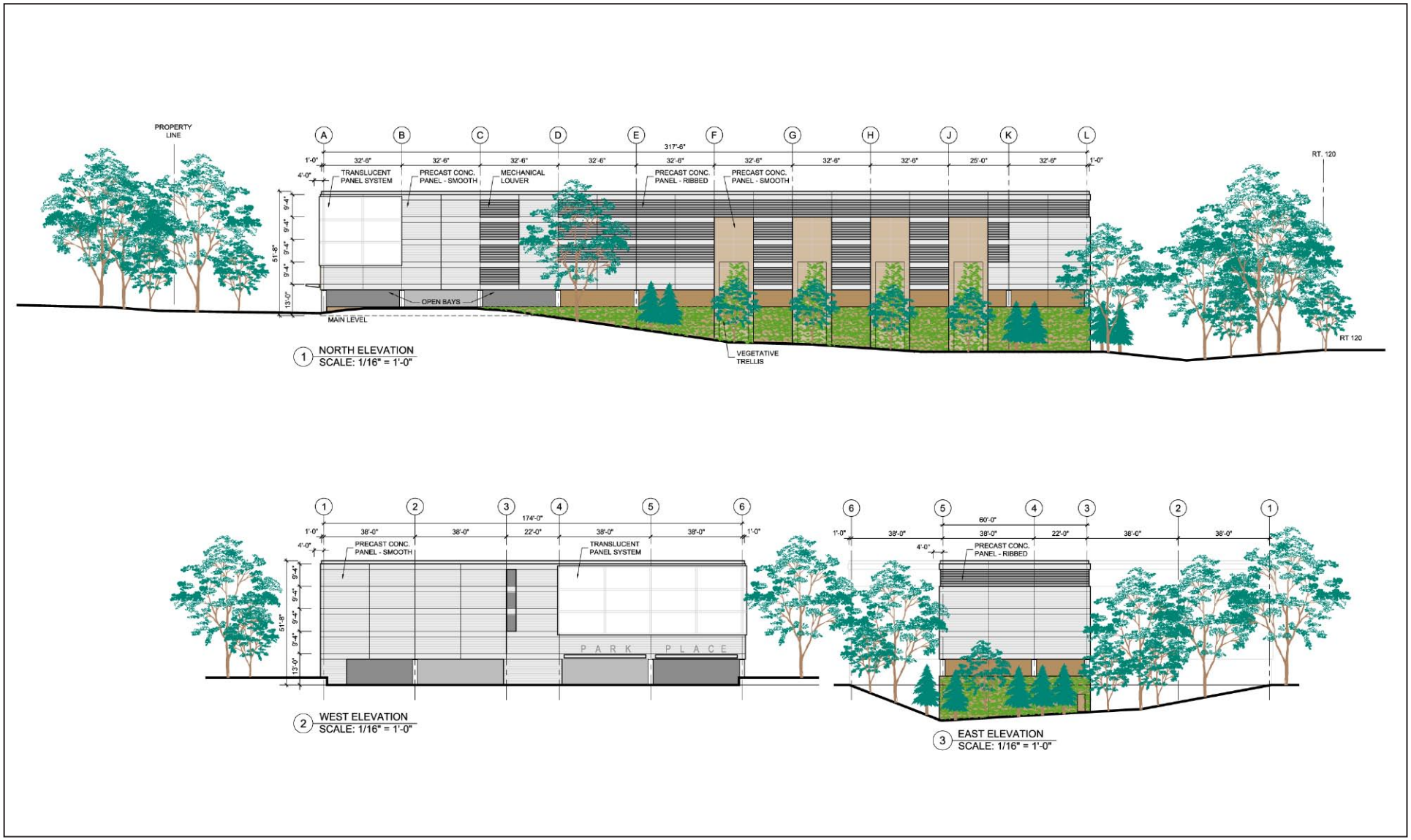
NYS ROUTE 120 (PURCHASE STREET)

As described above, the west side of the project site is lined by relatively thick vegetation along NYS Route 120. While some trees at the project site would be cleared to accommodate the proposed parking facility, some areas of trees and brush surrounding the structure would be preserved. Based on a survey of the project site, a total of 122 trees would be removed to accommodate the proposed parking facility and associated stormwater and wetland features.

Views from NYS Route 120 would be partially screened by a 60- to 90-foot strip of vegetation between the edge of pavement and the proposed parking facility. The NYS Route 120 right-of-way includes approximately 50 feet of vegetation between the edge of pavement and the project site property line. An additional 10- to 40-foot strip of vegetation would be preserved on the project site. The majority of the buffer area seen in Photographs 1 and 2 on **Figure 4-1** consists of vegetation within the NYS Route 120 right-of-way. The trees in this buffer area have heights that are estimated to range between 35 and 55 feet. Depending on the exact point of observation, trees would provide screening of the bottom half of the facility, or potentially the entire facility where the tallest trees exist. In addition, due to the effect the trees would have on line of sight toward the top of the parking facility, the tree canopy would also screen the top of the parking facility in certain locations closer to the project site. Visibility of the proposed parking facility would be most apparent in winter months when the deciduous trees do not have their leaves. Evergreen trees would also be planted to provide screening from the west and northwest. Photosimulations showing views of the proposed facility from NYS Route 120 in the summer and winter months are shown on **Figures 4-8A** and **4-8B**, respectively.

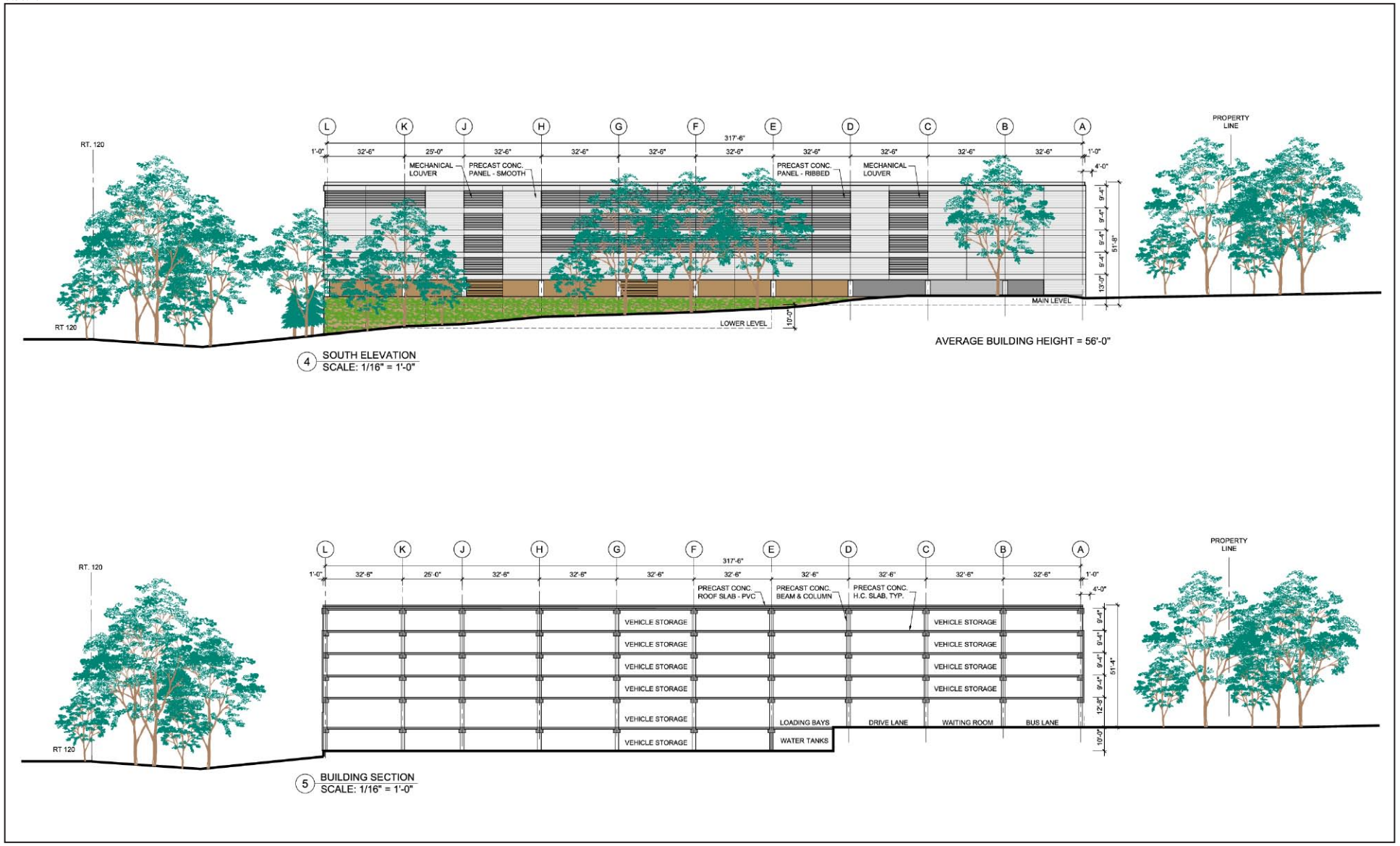
AIRPORT ROAD

The proposed parking facility would be visible from some portions of Airport Road but much of the existing vegetation south of the project site is located off-site on County owned property and is expected to remain and continue to provide screening. There are no known plans for the County to remove any of the existing vegetation. As shown in **Figure 4-8C**, existing trees would largely screen views of the entire structure as viewed from Airport Road, particularly during the summer months. The proposed structure would be more visible during the leafless season. From some locations the proposed parking facility would introduce views of a structure where no



SOURCE: KG&D Architects

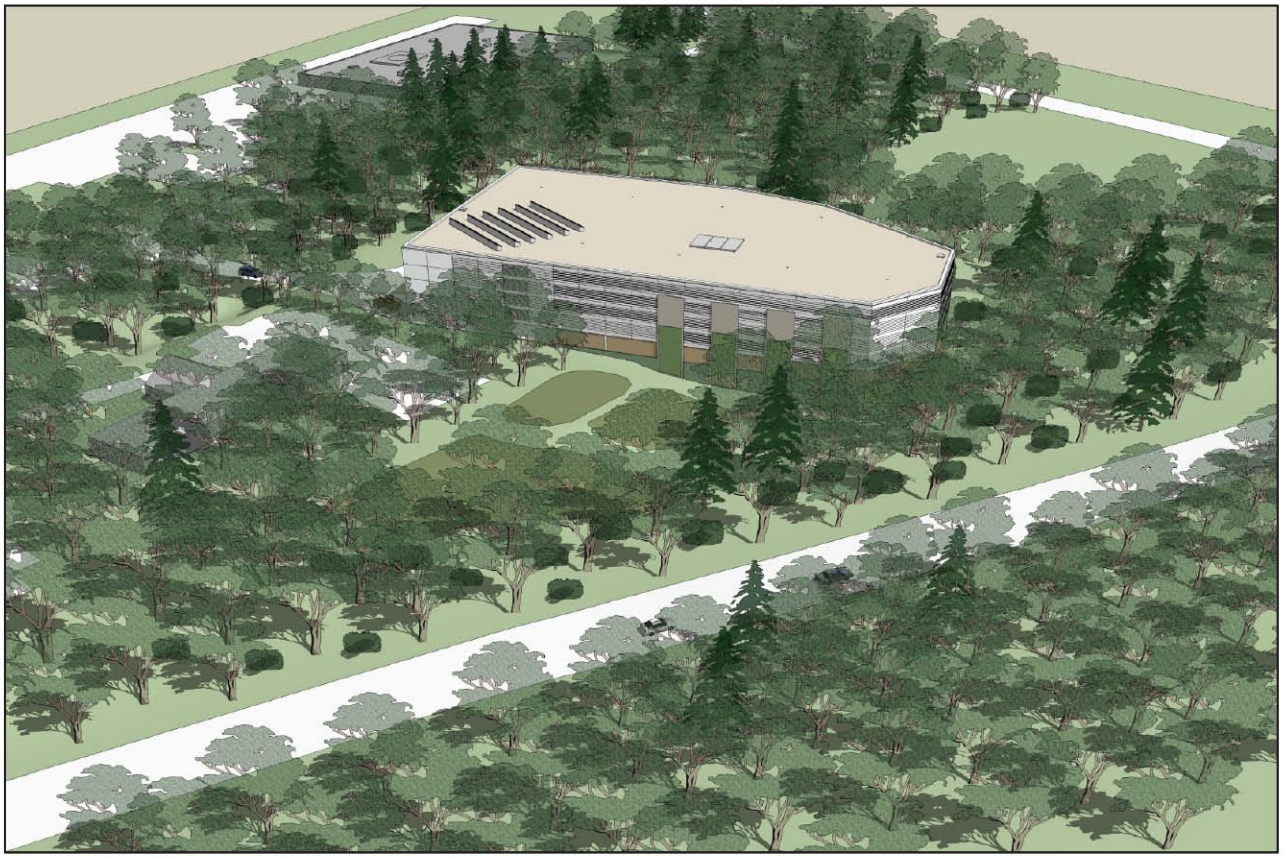
Elevations
Figure 4-6A

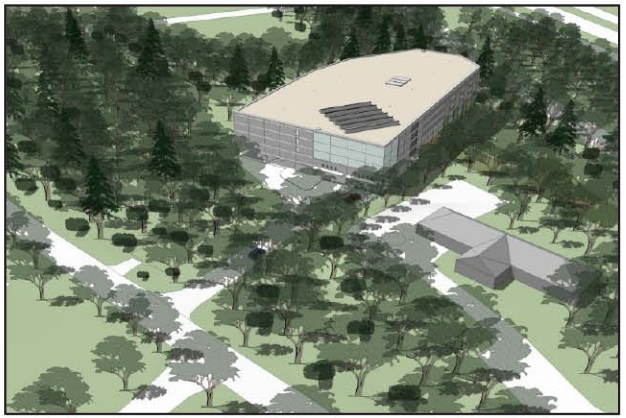


SOURCE: KG&D Architects

Elevations
Figure 4-6B

9.30.10





SOURCE: KG&D Architects

PARK PLACE at Westchester Airport

Perspective Views
Figure 4-7

1.18.11

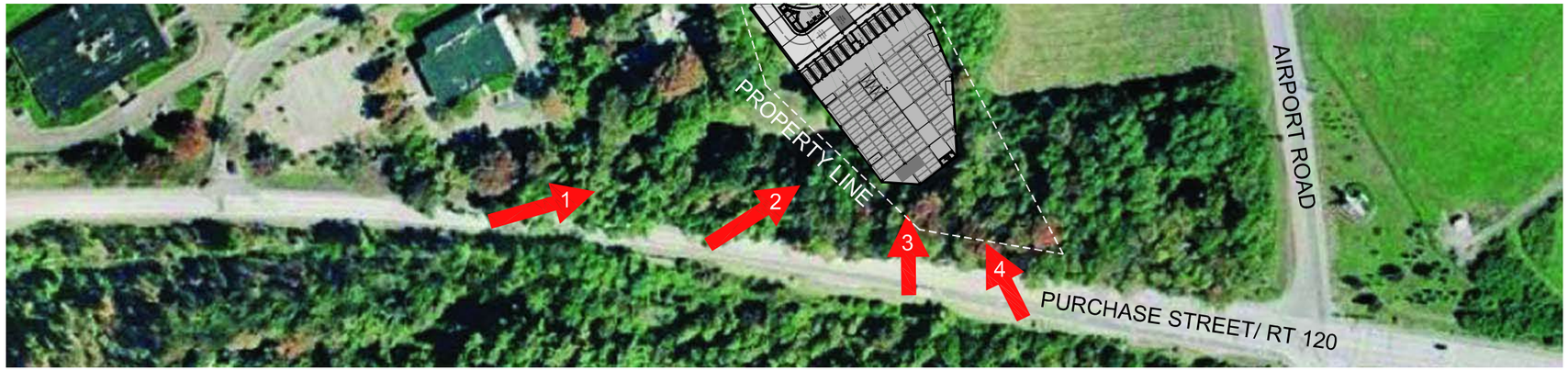


PHOTO SITE KEY PLAN

RT 120 (PURCHASE ST) EXISTING SUMMER VIEWS

VIEW 1

VIEW 2

VIEW 3

VIEW 4

PROPOSED SUMMER VIEWS

VIEW 1

VIEW 2

VIEW 3

VIEW 4

SOURCE: KG&D Architects, P.C.

Existing and Proposed Summer Views from NYS Route120 (Purchase Street)
Figure 4-8A

1.18.11

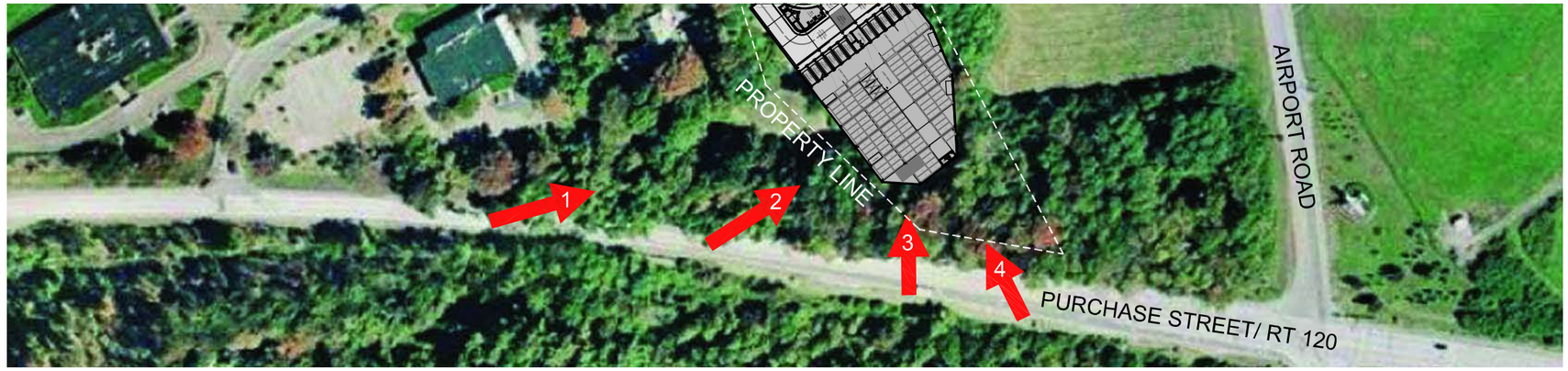
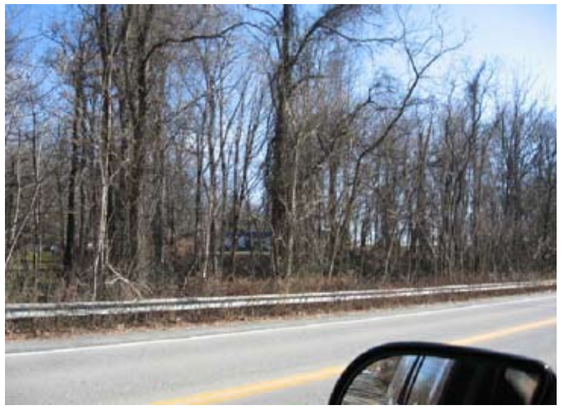


PHOTO SITE KEY PLAN

RT 120 (PURCHASE ST) EXISTING WINTER VIEWS

VIEW 1

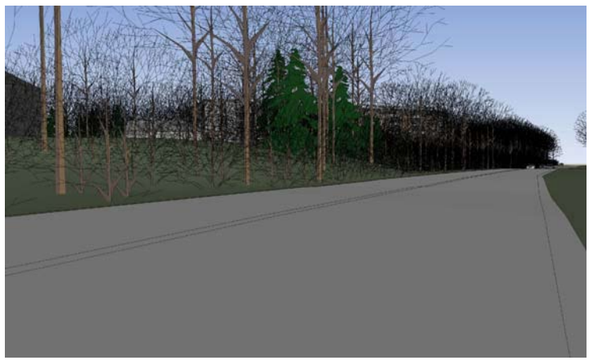


VIEW 2

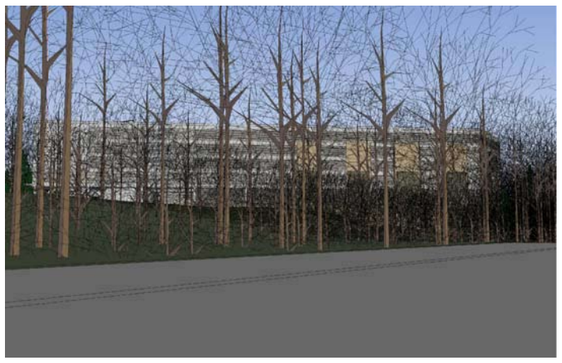
VIEW 3

VIEW 4

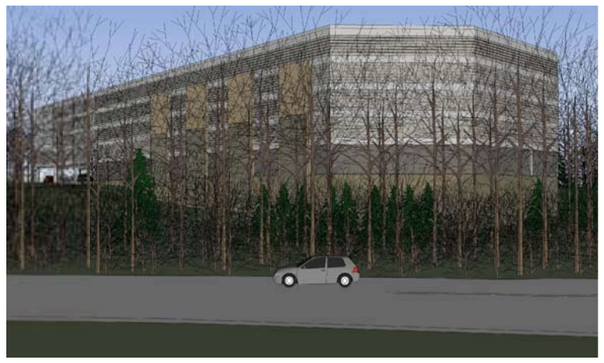
PROPOSED WINTER VIEWS



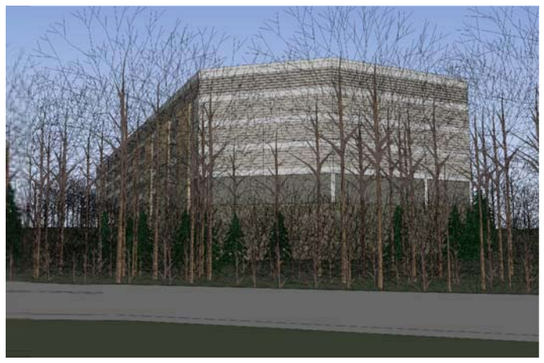
VIEW 1



VIEW 2



VIEW 3



VIEW 4

SOURCE: KG&D Architects, P.C.

Existing and Proposed Winter Views from NYS Route 120 (Purchase Street)
Figure 4-8B

1.18.11

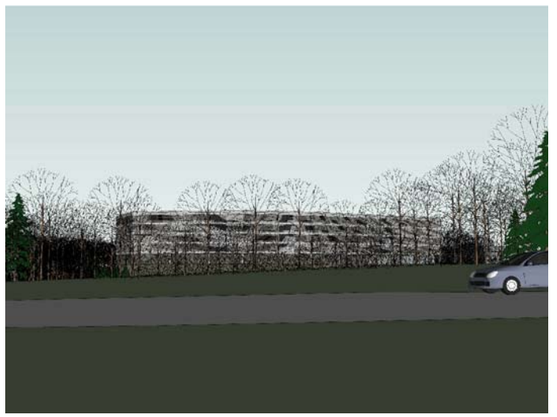
AIRPORT ROAD SUMMER VIEWS

EXISTING VIEW

PROPOSED VIEW

AIRPORT ROAD WINTER VIEWS

EXISTING VIEW



PROPOSED VIEW

ENTRY DRIVE SUMMER VIEWS

EXISTING VIEW

PROPOSED VIEW

ENTRY DRIVE WINTER VIEWS

EXISTING VIEW

PROPOSED VIEW

SOURCE: KG&D Architects, P.C.

Existing and Proposed Views (Summer and Winter) from Airport Road and New King Street (Entry Drive)
Figure 4-8C

existing buildings are visible. However, since the overall character of the roadway is defined by airport uses and nearby office buildings, the new parking facility would not be out of character or inconsistent with the existing development pattern.

NEW KING STREET

The proposed parking facility would not significantly alter the existing views and character along New King Street. Since New King Street is a one-way road, all vehicular traffic would be headed north along the project site. Due to the shape of the parcel, only the driveway to the proposed parking facility would be located along New King Street. The project site has an approximately 240-foot long driveway leading to New King Street. Land on both sides of the driveway is under separate ownership and would not be part of the project site. For motorists traveling north along New King Street, the majority of views would be of the improved driveway which would be widened from 20 feet to 24 feet. The existing vegetation on either side of the driveway would not be affected and would continue to provide screening of the main portion of the project site where the proposed parking facility would be located.

When traveling north along New King Street, existing vegetation would continue to screen most views of the proposed parking facility, especially since the bearing of the roadway is different from the bearing of prevalent views toward the parking facility. The existing office buildings would continue to be the focal points of motorists traveling north along New King Street. From some locations along New King Street the proposed parking facility would be visible, but it would not have a significant impact on the overall character of the area. Views of the proposed parking facility would be negligible from residences along King Street in Connecticut due to existing dense vegetation. Photosimulations showing expected views of the proposed facility from New King Street during the summer and winter months are provided in **Figure 4-8C**.

LIGHTING IMPACT ANALYSIS

The proposed parking facility would have minimal lighting and would have minimal lighting impacts. Only the front (driveway) portion of the project site facing New King Street would be lit to illuminate the entrance to the parking facility and the front façade of the structure. Any lighting would be designed to minimize light spillover onto adjacent properties and would be in full compliance with the Town's lighting code. Therefore the proposed project would not result in significant lighting impacts.

F. MITIGATION MEASURES

The proposed project would result in a change from that currently viewed by those travelling along Purchase Street (NYS Route 120) and Airport Road. During those months when the trees are in leaf, the building would be partially visible and partially screened by existing trees to be preserved as well as new proposed trees and shrubs that would be strategically located to visually buffer those portions of the vertical and horizontal mass of the building that are within sight-lines from the roadway. The change in scenery along Purchase Street (NYS Route 120) and Airport Road would be most notable during the winter months when the leaves are off the trees, but the proposed landscaping mitigation would screen portions of the building throughout all four seasons.

The landscaping mitigation plan would include: (a) evergreen and deciduous canopy trees to screen views from adjacent properties and roads; and (b) native vines, supported by a wire

trellising system, which would be planted along the northern side of the proposed structure (i.e., the side as viewed from NYS Route 120). This landscaping variety would nurture wildlife species on the project site as well. A large-scale drawing of the landscaping mitigation plan is attached to this DEIS (see drawing C-8).

In the opinion of the applicant, the proposed landscaping mitigation plan would improve the aesthetic quality of the site by using a variety of native plant species visible to motorists traveling along NYS Route 120 (Purchase Street). However, upon review of the proposed site plan and landscaping plan, the lead agency may require additional screening or other mitigation measures to reduce visual impacts. ✷

A. INTRODUCTION

This chapter considers the potential of the proposed project to affect cultural resources. Cultural resources include both architectural and archaeological resources.

As described in Chapter 1, "Project Description," the applicant proposes to construct a multi-level automated parking structure at 11 New King Street in the Town of North Castle (see **Figure 5-1**). The project site includes two adjacent parcels referred herein as Lots 14B and 13A. The proposed parking structure would be constructed on Lot 14B, which has a surface area of 2.47 acres. A drainage easement to construct and maintain stormwater management practices would be obtained on a 0.87-acre section of Lot 13A, which has a total area of 4.20 acres.

The proposed parking structure would have a footprint of approximately 51,000 square feet and a height of approximately 56 feet at average finished grade. The parking structure would be an automated parking facility designed to accommodate up to 1,450 automobiles with a shuttle pick-up/drop-off area provided onsite for a shuttle service to the airport. The proposed project would incorporate a number of green building design techniques, including shielded site lighting, indigenous plants and low water-use landscaping, and alternative energy systems.

The zoning classification of the project site is Industrial AA (IND-AA) per the Town of North Castle zoning code. As part of the proposed project, the applicant has submitted a petition to amend the Town's zoning ordinance to permit structured parking as a special permit use in the IND-AA district.

ARCHITECTURAL RESOURCES

There are no known or potential architectural resources within the project site or study area. Therefore, no adverse impacts on architectural resources would be anticipated as a result of the proposed project. In a letter dated April 22, 2010 (included in Appendix B), the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) concurred that there are "no concerns regarding historic buildings/structures/districts" for the proposed project.

ARCHAEOLOGICAL RESOURCES

A Phase I archaeological survey was prepared for this project by AKRF in September 2010. As part of the Phase I, an archaeological field testing program was conducted, which determined that archaeological resources are not present within the project site. The Phase I was submitted to OPRHP and in a letter dated March 1, 2011 (included in Appendix B), OPRHP concurred that there are no further archaeological concerns for the project site. Therefore, no adverse impacts on archaeological resources would result from the proposed project.

10.1.10

Archaeological APE Boundary

Project Site
Figure 5-1

B. METHODOLOGY

To assess the potential impacts of the proposed project on historic resources, study areas for the project components were identified. Potential impacts to architectural resources can include both direct physical impacts (e.g., demolition, alteration, or damage from construction on nearby sites) and indirect contextual impacts, such as the isolation of a property from its surrounding environment, or the introduction of visual, audible, or atmospheric elements that are out of character with a property or that alter its setting. The study area for archaeological resources (also known as the archaeological area of potential effect [APE]) is generally limited to locations that could be physically affected by the proposed project.

A study area for architectural resources, extending approximately one-half mile from the project site was evaluated to account for potential construction-related impacts and indirect contextual impacts, such as visual impacts (see **Figure 5-1**). The APE for archaeological resources was delineated to include all areas that could be directly affected by the proposed project (see **Figures 5-1** and **5-2**).

Once the study areas were determined, an inventory of officially recognized historic resources within the study areas was compiled based on files from OPRHP. This inventory includes properties or districts listed on the National Register of Historic Places (NR) and/or the New York State Register (SR), or determined eligible for such listing; National Historic Landmarks (NHL); and archaeological sites on file at the OPRHP and New York State Museum (NYSM). Local landmarks and potential architectural resources (properties that may be eligible for listing on the State or National Registers [S/NR]) were also considered. A field survey was conducted by an architectural historian to identify any potential architectural resources within the architectural study area, including structures, stone walls, and laneways.

As noted above, a Phase I archaeological study was completed by AKRF in September 2010 to evaluate the potential for the study area to contain archaeological resources that would be affected by the proposed project. As part of the Phase I study, documentary research, including a review of previous archaeological investigations in the study area and vicinity, was conducted to identify areas where prehistoric or historic period activities may have occurred and resulted in archaeological resources. Recent ground disturbance in the study area that might have damaged or destroyed any archaeological resources that may have been present, was also assessed. Also as part of the Phase I study, Phase IB field testing was undertaken on the project site in order to determine the presence or absence of buried archaeological resources. The field testing was undertaken in accordance with OPRHP's 2005 guidelines for archaeological work.

Once the cultural resources in the study areas were identified, the potential of the proposed project to affect those resources was assessed.

10.1.10

APE Boundary

Photo Location and Direction

0 200 400 FEET

SCALE

APE and Photo Locations

Figure 5-2

C. EXISTING CONDITIONS

ARCHITECTURAL RESOURCES

PROJECT SITE

Previously Identified Architectural Resources

The project site is not located in an S/NR Historic District, nor does it contain structures that have been listed on or determined eligible for listing on the S/NR. No local landmarks are located within the project site.

Potential Architectural Resources

No potential architectural resources have been identified on the project site. An existing office building is located on the project site. This building is less than 50 years old and does not meet the S/NR eligibility criteria (see **Figure 5-2** and **Figure 5-3**, **Photo 1**).

Stone Walls and Laneways

Several stone walls were noted on the project site (see **Figure 5-2**, **Figure 5-3**, **Photo 2**, and **Figure 5-4**, **Photo 3**). A roughly east-west oriented wall runs along the northern edge of Lot 14B within the APE. A roughly north-south oriented wall runs along the eastern boundary of Lot 14B. Another runs along the eastern edge of Lot 13A. The remnants of a pair of parallel stone walls follow the course of a small stream, skirting the northern edge and portions of the eastern edge of the APE. A portion of an east-west oriented pair of parallel stone walls passes through the southwestern portion of the APE. These were most likely built to border the seasonal wetland and/or drainage channel that currently occupies the area. The date at which the stone walls were constructed is not known. The walls are not listed on or eligible for the S/NR. No former or existing laneways appear to be located within the project site.

STUDY AREA

Previously Identified Architectural Resources

No previously identified architectural resources are located within the proposed project's architectural resources study area.

Potential Architectural Resources

A field survey conducted by a qualified architectural historian in January 2009 resulted in the identification of no potential architectural resources within the study area. On the parcel immediately north of the project site is a single-story building clad in brick and vinyl siding, currently used as an office building. The structure was likely built in stages, beginning in the mid-20th century. Other buildings located on parcels adjacent to or across New King Street from the project site consist of late 20th century office complexes. No other buildings over 50 years old were observed in the architectural resources study area.

Photographs of buildings in the study area were keyed to a map of the project site and submitted to OPRHP. In a letter dated April 22, 2010 (included in Appendix B), OPRHP stated that they had "no concerns regarding historic buildings/structures/districts" within the study area.

From the driveway of 11 New King Street looking southwest towards the building and parking lot on the project site **1**

From the south edge of the project site, looking southwest, showing the remnants of two parallel stone walls which pass through the southern portion of project site **2**

Project Site Photographs

Figure 5-3

From the wooded western section of the project site, looking southeast towards the project site building. A stone wall is visible in the foreground **3**

Looking southeast from the southeastern edge of the project site, showing the small creek that passes through the northern and eastern portions of the project site. The enclosure with chain-link fence visible in the background is the North Castle Sewer Pump Station # 3 **4**

Project Site Photographs

Figure 5-4

ARCHAEOLOGICAL RESOURCES

To assess the potential for the proposed project to affect archaeological resources, AKRF completed a Phase I archaeological study in 2010 (included as Appendix F).

As part of this study, documentary research was conducted to evaluate the archaeological sensitivity of the APE using documentary sources and archaeological site files as well as information on soils, topography, hydrology, and visible ground disturbance. Based on this research, it was determined that the APE possessed low sensitivity for historic period archaeological resources but moderate to high sensitivity for precontact period resources, except in areas of visible or documented disturbance or steep slopes. An archaeological field survey was conducted in August and September 2010 to determine the presence or absence of precontact period resources. Thirty-eight shovel test pits (STPs) were excavated at approximately 50-foot intervals throughout potentially sensitive portions of the APE. No potentially significant archaeological artifacts or features were identified. The Phase I was submitted to OPRHP and in a letter dated March 1, 2011 (included in Appendix B), OPRHP concurred that there are no archaeological resources on the project site and no further archaeological investigation is required.

D. FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, land use and zoning designations in the vicinity of the project site would remain unchanged. No development applications are proposed in the immediate vicinity of the project site that would significantly alter the character of the study area or affect architectural or archaeological resources.

Although there are no architectural resources within the study area, properties that are listed on the National Register or that have been found eligible for listing are given a measure of protection from the effects of federally sponsored or assisted projects under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and construction process. Properties listed on the State Register are similarly protected against impacts resulting from state-sponsored or state-assisted projects under the State Historic Preservation Act. Private property owners using private funds can, however, alter or demolish their properties without such a review process.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

As described above, the proposed project would result in the construction of a multi-level parking structure with a footprint of approximately 51,000 square feet and a height of approximately 56 feet above average finished grade. The parking structure would be designed to accommodate up to 1,450 automobiles. The proposed project's potential to affect architectural and archaeological resources is described below.

ARCHITECTURAL RESOURCES

PROJECT SITE

As described above, there are no known or potential architectural resources on the project site. In a letter dated April 22, 2010, the OPRHP stated that they have no architectural resources

concerns for the proposed project. Therefore, the proposed project would have no adverse impacts on architectural resources on the project site.

Portions of some of the stone walls currently located on the project site would be removed as part of the proposed project. These stone walls are not listed on or eligible for the S/NR. The majority of stone walls currently located on or immediately adjacent to the project site would remain in place.

STUDY AREA

No architectural resources are located in the study area. Therefore, no adverse impacts on architectural resources are anticipated as a result of the proposed project. In a letter dated March 1, 2011 (included in Appendix B), OPRHP concurred that no historic resources would be affected by the proposed project.

ARCHAEOLOGICAL RESOURCES

The Phase I archaeological study for this project concluded that archaeological resources are not present within the archaeological APE. The Phase I was submitted to OPRHP and in a letter dated March 1, 2011 (included in Appendix B), OPRHP concurred that there are no archaeological resources on the project site and no further archaeological investigation is required. Therefore, no adverse impacts to archaeological resources would result from the proposed project.

F. MITIGATION MEASURES

The proposed project would have no adverse impacts on architectural or archaeological resources. Therefore, no mitigation measures are required. ✷

A. INTRODUCTION AND METHODOLOGY

Ecological site assessments were conducted on the project site on May 30, 2008, June 11 and 12, 2008, October 15 and 29, 2009, and May 20, 2010 for the purpose of performing vegetation and wildlife inventories, a wetland delineation and a habitat assessment. Onsite flora and fauna were examined across the entirety of the project site by trained ecologists following published methods. Opportunistic observations were made of wildlife based on site or sign and a targeted effort was undertaken to determine use of the site by reptiles/amphibians on May 20, 2010 by walking transects across the project site and examining beneath cover objects (logs, stones, leaf litter). Published information on existing ecological resources was also consulted, including U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, NYSDEC freshwater wetland maps, the NYSDEC Natural Heritage Program (NHP) database, and the United States Fish and Wildlife Service County list of threatened and endangered species.

B. EXISTING CONDITIONS

VEGETATION

The project site comprises approximately 3.34 acres of two contiguous tax lots, located at 11 New King Street (Lot 14B) and 7 New King Street (Lot 13A) in the Town of North Castle, north of Westchester County Airport. Only a portion of the lot at 7 New King Street, approximately 0.87 acres, would be included as part of the project site. A majority of the main, southern lot (Lot 14B) is currently developed with an existing commercial building, parking area, and maintained lawn. The northwestern portion of the overall project site (Lot 13A portion), which would support the stormwater management facilities, is undeveloped and contains upland and wetland forest habitat. Adjacent properties contain a mix of undeveloped land and office/mixed use development. The project site is bordered by an undeveloped open field to the south; New York State Route 120 and the forested watershed lands surrounding the Kensico Reservoir (Rye Lake) to the west; and office buildings to the north and east, the later being located on the opposite side of New King Street.

Descriptions of the onsite habitat types are provided below. The spatial arrangement of habitats onsite is shown in **Figure 6-1**. A complete list of all plant species identified on the project site is provided below in **Table 6-1**.

All trees regulated under Chapter 192 of the Town Code (trees larger than eight inches dbh) on the project site were surveyed and are depicted on Sheet C-2, Existing Conditions Plan included in the plan set attached to this document. Data collected during the survey included tree location, species, size and whether or not the tree was living or dead. In total, 169 trees equal to or greater than eight inches are located on the 3.34-acre project site. Of these, 33 trees surveyed on the project site meet the definition of a Significant Tree (one that is twenty-four inches or greater DBH at 4 1/2 feet) set forth in the Town Code. Unique trees unregulated by the Town were not identified on the project site.

PARK PLACE at Westchester Airport

Existing On-Site Habitats

Figure 6-1

Table 6-1
Vegetation Identified Onsite

Common Name	Scientific Name	Stratum/Indicator Status
Japanese maple	*Acer palmatum*	Understory (NL)
Norway Maple	*Acer platanoides*	Overstory (NL)
red maple	*Acer rubrum*	Overstory/Subcanopy (FAC)
sugar maple	*Acer saccharum*	Overstory (FACU-)
agrimony	*Agrimonia gryposepala*	Groundcover (FACU)
Ailanthus/tree-of-heaven	*Ailanthus altissima*	Overstory (NL)
garlic mustard	*Alliaria officinalis*	Groundcover (FACU-)
wild garlic	*Allium canadense*	Groundcover (FACU)
porcelain berry	*Ampelopsis brevipedunculata*	Understory Vine (NL)
Hercules club	*Aralia spinosa*	Understory (FAC)
jack in the pulpit	*Arisaema triphyllum*	Groundcover (FACW-)
white wood aster	*Aster divaricatus*	Groundcover (NL)
panicled aster	*Aster simplex*	Groundcover (FACW)
lady fern	*Athyrium filix-femina*[1]	Groundcover (FAC)
Japanese barberry	*Berberis thunbergii*	Understory (FACU)
black birch	*Betula lenta*	Overstory (FACU)
Swan's sedge	*Carex swanii*	Groundcover (FACU)
shagbark hickory	*Carya ovata*	Overstory (FACU-)
oriental bittersweet	*Celastrus orbiculatus*	Understory Vine (NL)
broadleaf enchanter's nightshade	*Circaea lutetiana*	Groundcover (NL)
silky dogwood	*Cornus amomum*	Understory (FACW)
flowering dogwood	*Cornus florida*[1]	Understory (FACU-)
red-osier dogwood	*Cornus sericea*	Understory (FACW+)
spinulose woodfern	*Dryopteris carthusiana*[1]	Groundcover (FAC+)
northern willow herb	*Epilobium ciliatum*	Groundcover (FAC-)
scouring rush	*Equisetum hyemale*	Groundcover (FACW)
Robin's plantain	*Erigeron pulchellus*	Groundcover (FACU)
winged burning bush	*Euonymus alatus*	Understory (NL)
white snakeroot	*Eupatorium rugosum*	Groundcover (FACU-)
forsythia	*Forsythia intermedia*	Understory (NL)
wild strawberry	*Fragaria virginiana*	Groundcover (FACU-)
green ash	*Fraxinus pennsylvanica*	Overstory/Groundcover (FACW)
witch hazel	*Hamamelis virginiana*	Understory (FAC-)
field hawkweed	*Hieracium pratense*	Groundcover (NL)
hydrangea	*hydrangea sp.*	Understory
winterberry	*Ilex verticillata*[1]	Understory (FACW+)
jewelweed	*Impatiens capensis*	Groundcover (FACW)
black walnut	*Juglans nigra*	Overstory (FACU)
soft rush	*Juncus effusus*	Groundcover (FACW+)
privet	*Ligustrum vulgare*	Understory (FACU)
spicebush	*Lindera benzoin*	Understory/Subcanopy (FACW-)
great lobelia	*Lobelia siphilitica*	Groundcover (FACW+)
Japanese honeysuckle	*Lonicera japonica*	Groundcover/Vine (FAC-)
field woodrush	*Luzula campestris*	Groundcover (NL)
Canada mayflower	*Maianthemum canadense*	Groundcover (FAC-)
panicum grass	*Panicum sp.*	Groundcover
Virginia creeper	*Parthenocissus quinquefolia*	Understory/Vine (FACU)
scentless mock orange	*Philadelphus inodorus*	Understory (NL)
common reed	*Phragmites australis*	Understory (FACW)
pokeweed	*Phytolacca americana*	Understory (FACU+)

Table 6-1 (cont'd)
Vegetation Identified Onsite

Common Name	Scientific Name	Stratum/Indicator Status
white pine	*Pinus strobus*	Overstory (FACU)
Kentucky bluegrass	*Poa pratensis*	Groundcover (FACU)
smooth Soloman's seal	*Polygonatum biflorum*	Groundcover (FACU)
lady's thumb	*Polygonum cespitosum*	Groundcover (FACU-)
Japanese knotweed	*Polygonum cuspidatum*	Understory (FACU-)
Pennsylvania smartweed	*Polygonum pensylvanicum*	Groundcover (FACW)
spotted lady's thumb	*Polygonum persicaria*	Groundcover (FACW)
jumpseed	*Polygonum virginianum*	Groundcover (FAC)
Christmas fern	*Polystichum acrostichoides*[1]	Groundcover (FACU-)
moss	*Polytrichum sp.*	Groundcover
black cherry	*Prunus serotina*	Overstory/Understory (FACU)
swamp oak	*Quercus bicolor*	Overstory (FACW+)
pin oak	*Quercus palustris*	Overstory (FACW)
blisterwort	*Ranunculus recurvatus*	Groundcover (FAC+
poison ivy	*Rhus radicans*	Understory (FAC)
staghorn sumac	*Rhus typhina*	Understory (NL)
black locust	*Robinia pseudoacacia*	Overstory (FACU-)
multiflora rose	*Rosa multiflora*	Understory (FACU)
blackberry	*Rubus allegheniensis*	Understory (FACU-)
black raspberry	*Rubus occidentalis*	Understory (NL)
wine raspberry	*Rubus phoenicolasius*	Understory (NL)
elderberry	*Sambucus canadensis*	Understory (FACW-)
zigzag goldenrod	*Solidago flexicaulis*	Groundcover (FACU)
wrinkle-leaf goldenrod	*Solidago rugosa*	Groundcover (FAC)
skunk cabbage	*Symplocarpus foetidus*	Groundcover (OBL)
purple trillium	*Trillium erectum*[1]	Groundcover (FACU-)
American elm	*Ulmus americana*	Overstory/Subanopy (FACW-)
smooth blackhaw	*Viburnum prunifolium*	Understory (FACU)
grape	*Vitis sp.*	Understory/Vine

Notes: 1. NYS-listed "exploitably vulnerable" plant
Sources: Field inspection dates: 5/30/08, 6/11/08, 6/12/08, 10/15/08, 10/29/08 and 5/20/10.

Regulatory boundaries of onsite wetlands were delineated in accordance with Federal and Town regulations and are discussed further in Chapter 8, "Water Resources."

1. MOWED LAWN WITH TREES:

The current office building and parking area is bordered by areas of maintained lawn with mature trees between 20 to 30 inches in diameter. The most common/dominant tree species throughout the lawn area is sugar maple (*Acer saccharum*). Pin oak (*Quercus palustris*) is also common with flowering dogwood (*Cornus florida*), witch hazel (*Hamamelis virginiana*), and forsythia (*Forsythia intermedia*) scattered in the understory. Less common tree species in this habitat type include green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), swamp oak (*Quercus bicolor*), Norway spruce (*Picea abies*), shagbark hickory (*Carya ovata*), tulip tree (*Liriodendron tulipifera*), black birch (*Betula lenta*), and Norway maple (*Acer platanoides*). These tree species are also typically 20-30 inches in diameter. The rear yard, south of the existing building, exhibits all of these overstory species and is predominantly maintained lawn in the understory mixed with herbaceous species including smooth Soloman's seal (*Polygonatum biflorum*), field woodrush (*Luzula campestris*), sedges (*Carex swanii*), Robin's

plantain (*Erigeron pulchellus*), field hawkweed (*Hieracium pratense*), Kentucky bluegrass (*Poa pratensis*), Panicum sp., and haircap moss (*Polytrichum sp*.).

This community type is described by Edinger et. al. [1] in the 2002 Draft of the Ecological Communities of New York State.

2. FORESTED UPLAND HILLSIDE

The project site slopes downward from the more level areas currently developed to the forested habitat to the west. Upland forest transitions to forested wetland habitat occupying the lower elevations adjacent to the berm that rises to NYS Route 120. Overstory trees occurring in the forested hillside are typically 18 to 24 inches in diameter and include a mix of native and non-native species. The predominant tree species onsite include sugar maple (*Acer saccharu*m), shagbark hickory (*Carya ovata*), pin oak (*Quercus palustris*), ailanthus (*Ailanthus altissima*), black cherry (*Prunus serotina*), black locust (*Robinia pseudoacacia*), black birch (*Betula lenta*), and black walnut (*Juglans nigra*). The forest canopy is sparse in much of this habitat with large areas occupied by tall shrubs forming a subcanopy, most notably spicebush (*Lindera benzoin*) but also multiflora rose (*Rosa multiflora*), blackberry (*Rubus allegheniensis*), wine raspberry (*Rubus phoenicolasius*), and burning bush (*Euonymus alatus*) and a dense covering of vines in places including porcelainberry (*Ampelopsis brevipedunculata*), Virginia creeper (*Parthenocissus quinquefolia*), and oriental bittersweet (*Celastrus orbiculatus*). Forest understory species include white wood aster (*Aster divaricatus*), garlic mustard (*Alliaria officinalis*), zigzag goldenrod (*Solidago flexicaulis*), jumpseed (*Polygonum virginianum*), and purple trillium (*Trillium erectum*). Evidence of past fill/excavation is evident in portions of the upland forest habitat accounting for the prevalence of non-native species.

The forested hillside habitat onsite resembles the species assemblages of the "*rich mesophytic forest*" and "*successional southern hardwoods*" community types as described by Edinger et. al.[2]

3. FORESTED WETLAND

At lower elevations, the onsite forest transitions to a forested wetland habitat. This area comprises the site's most botanically diverse habitat but is confined between areas of highly developed land and so contains a moderate-to-high density of non-native/invasive plant species. Wetland hydrology sustains saturated soil conditions in this forested wetland but little or no perennial standing water was observed despite numerous site visits made at different times during the growing season. As such, vegetation onsite is made up of commonly found facultative wetland species adapted to fluctuating moisture regimes. Dominant overstory trees within the forested wetland include green ash (*Fraxinus pennsylvanica*), which are the largest diameter trees in this region reaching 30 inches. Green ash trees onsite appear to be in poor condition. American elm (*Ulmus americana*), red maple (*Acer rubrum*), and pin oak (*Quercus palustris*) are co-dominant trees with multiple age classes ranging in diameter from 10 to 24 inches. The

[1] Edinger, G.J., et al. (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's *Ecological Communities of New York State*. (Draft for review). New York Natural Heritage Program, NYSDEC, Albany, NY.

[2] Edinger, G.J., et al. (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's *Ecological Communities of New York State*. (Draft for review). New York Natural Heritage Program, NYSDEC, Albany, NY.

shrub stratum in the forested wetland is more diverse than upland portions of the project site, with a mix of native and non-native species, including winterberry (*Ilex verticillata*), spicebush (*Lindera benzoin*), smooth blackhaw (*Viburnum prunifolium*), poison ivy (*Rhus radicans*), red-osier dogwood (*Cornus sericea*), multiflora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*), Japanese barberry (*Berberis thunbergii*) and others. Woody understory species are typically three inches or less in diameter. Groundcover species include wrinkleleaf goldenrod (*Solidago rugosa*), panicled aster (*Aster simplex*), lady fern (*Athyrium filix-femina*), northern willow herb (*Epilobium ciliatum*), great lobelia (*Lobelia siphilitica*), Japanese honeysuckle (*Lonicera japonica*), broadleaf enchanter's nightshade (*Circaea lutetiana*), jumpseed (*Polygonum virginianum*), spinulose woodfern (*Dryopteris carthusiana*), and jack in the pulpit (*Arisaema triphyllum*).

The wetland habitat onsite resembles the species assemblages of the "*red maple-hardwood swamp*" community type as described by Edinger et. al.

4. STREAM CORRIDORS

One primary, perennial stream crosses the eastern boundary of the project site through a culvert under the existing paved entrance drive then flows northward offsite. This stream then turns west toward NYS Route 120 through the area of the stormwater management easement on Lot 13A, flows through a culvert beneath NYS Route 120 and ultimately discharges to Rye Lake (Kensico Reservoir) approximately 600 feet west of the project site. Prior to entering the project site, upstream to the south, this perennial stream contains a meandering floodplain wetland, delineated as wetland "B" (See Chapter 8, "Water Resources," for a complete discussion of wetlands and surface waters).

A secondary ephemeral drainage way borders the project site to the south conveying surface runoff during/after rain events down slope to the onsite wetlands. It is confined by stone walls on both sides and has been delineated as part of wetland "A" onsite.

Vegetation bordering the ephemeral stream/drainage way corridors includes, spicebush, winterberry, elderberry (*Sambucus canadensis*), silky dogwood (*Cornus amomum*), smooth blackhaw, Hercules club (*Aralia spinosa*), red maple, skunk cabbage, jewelweed, Christmas fern, Japanese knotweed (*Polygonum cuspidatum*), and scouring rush (*Equisetum hyemale*). Woody species within this habitat type are typically 2-6" in diameter.

The stream, ephemeral drainage way and wetland on the project site are discussed further in Chapter 8, "Water Resources."

RARE PLANTS

Of the plants identified onsite, several are listed as "exploitably vulnerable" in New York State pursuant to section 9-1503 of the Environmental Conservation Law. These include spinulose woodfern (*Dryopteris carthusiana*), Christmas fern (*Polystichum acrostichoides*), lady fern (*Athyrium filix-femina*), winterberry (*Ilex verticillata*), purple trillium (*Trillium erectum*), and flowering dogwood (*Cornus florida*). "Exploitably vulnerable" plants are protected species likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked. In New York, it is a violation for any person, to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant.

No unique trees were observed on the project site.

CONDITION OF OVERSTORY TREES

The majority of overstory trees onsite are in good condition, exhibiting no dead limbs, no foliar disease, and lacking cavities from wind/animal damage. This applies to trees on all habitat cover types – lawn, forested upland and wetland. As discussed above, most overstory trees are native, mature trees 20 to 30 inches in diameter at breast height with relatively straight/vertical form. As such, it is likely that many were initiated in forested conditions but were retained with development of the lot. None of the trees onsite was observed to be over-mature trees suspected of interior decay of heartwood or sapwood.

One exception to the overall good health of onsite trees are several green ash (*Fraxinus pennsylvanica*) located in the wooded wetland in the western portion of the project site. Three to five green ash are standing dead trees or specimens that have only a limited number of branches producing new growth as of May, 2010. Reasons for this may include wind damage, disease or changes in site hydrology since the time of stand initiation. Due to their location in the more forested portion of the project site, none of the trees in poor condition are in danger of damaging existing buildings or property.

HABITAT FUNCTIONS

The ecological functions of onsite habitats include modification of stormwater runoff and water quality, and wildlife functions as discussed in greater detail below. By filtering runoff through forested lands, the undeveloped portions of the site allow replenishment of groundwater and minimize the potential for erosion of topsoil. This benefits local water quality by removing sediment, nutrients, and other pollutants from runoff prior to discharge to surface waters.

The site's vegetation composition contains a mix of native and non-native plant species, none of them threatened or endangered. The plant species assemblage is typical of undeveloped lands in southern and central Westchester County which have been affected by disturbance (clearing/fill/encroachment) and a moderate amount of invasive species colonization. Native plants found onsite such as red maple, pin oak, spicebush, winterberry, red osier dogwood, and others provide a source of food for wildlife. In addition, wildlife denning, nesting, and foraging habitat is greatest in the undeveloped, unmaintained forested portions of the site and along borders adjacent to open lands, such as that which occurs to the south of the site. Lawn areas onsite are intermediary in habitat value between forested/unmaintained portions of the site and the more developed areas (buildings/pavement) which have no habitat value.

From a regional perspective, the site is currently constrained by surrounding development which has reduced many of its wildlife functions through habitat fragmentation over time. For example, species with large home ranges or those terrestrial species that may have difficulty migrating across human-dominated landscapes (such as reptiles and amphibians), would not benefit appreciably from the project site due to its small size and existing disturbance onsite and in the vicinity. The site is small in size and therefore offers lower potential to contain a diverse plant and animal assemblage as compared to similarly sized parcels that are part of larger open spaces. However, habitat for avifauna (birds) and urban-tolerant wildlife exists onsite and is the site's primary wildlife value.

WILDLIFE

This section describes the wildlife species expected to inhabit the project site based on available habitat. Opportunistic observations were made of wildlife based on site or sign and a targeted

effort was undertaken to determine use of the site by reptiles/amphibians. This involved walking transects across the project site and examining beneath cover objects (logs, stones, leaf litter).

Overall the project site supports a wildlife population typical of mixed deciduous forest within a landscape context of developed and undeveloped lands. The onsite stream and drainage way and diversity of habitat, including upland and wetland forest and open field contiguous to the project site, add wildlife habitat value to the project site. Standing and fallen dead wood also add habitat value for cavity nesting animals. Detracting from wildlife habitat value is the site's relatively small size and location confined by nearby roadways and active office/business uses. As such, abundant wildlife species are those "generalist" species adapted to living in proximity to human development. Existing development, most notably the local road network, separates the project site from other nearby habitats significantly limiting its ability to provide local wildlife with travel lanes and corridors for unobstructed passage.

BIRDS

During onsite inspections, several avian species were observed on or adjacent to the project site. These species include the Carolina wren (*Thrythorus ludovicianus*), white throated sparrow (*Zonotrichia albicollis*), northern cardinal (*Cardinalis cardinalis*), cedar waxwing (*Bombycilla cedrorum*), and red-bellied woodpecker (*Melanerpes carolinus*). These are birds common to suburban landscapes with a mix of developed and undeveloped areas. Species observed during the spring 2010 site visit include: song sparrow (*Melospiza melodia*), yellow warbler (*Dendroica petechi*a), American robin (*Turdus migratorius*), scarlet tanager (*Piranga olivacea*), American crow (Corvus brachyrhynchos), blue jay (*Cyanocitta cristata*), and Baltimore oriole (*Icterus galbula*). All species identified during the 2008, 2009 and 2010 site investigations are identified in **Table 6-2** by an asterisk.

The use or suitability of habitat as a breeding location for specific bird species is one measure of habitat value. The New York State Breeding Bird Atlas Project maintains lists of bird species identified within designated "census blocks" throughout New York State. The Breeding Bird Atlas (BBA) is a comprehensive, statewide survey undertaken to reveal the current geographic distribution of breeding birds in New York. **Table 6-2** lists those species sighted during the latest BBA survey effort, known as Atlas 2000, within census block 6054A which encompasses the project site. This table is not meant to be a comprehensive list of birds breeding on the project site. Some birds listed may not occur on site, while additional species not listed by Atlas 2000 may occur. However, because the project site contains some of the primary habitat types found within this census block (forested uplands and wetland), it can be expected that some of the species listed in **Table 6-2** are active breeders on the project site. Of the species listed in the vicinity of the project site by the BBA, several are forest-interior breeding bird species that are in decline due to loss of forested habitat in the northeastern United States. These species prefer large tracts of undeveloped forest and are sensitive to habitat fragmentation caused by forest clearing or development which may break up large forested parcels into smaller fragments which are unsuitable for breeding. Of those forest-interior birds identified by the BBA within the census block encompassing the project site, the following are those that exhibit sensitivity to forest fragmentation and are also NYSDEC-designated Species of Greatest Conservation Need (SGCN):

Table 6-2

Breeding Bird Atlas and Birds Observed and Expected to Utilize the Project Site

Common Name	Scientific Name	Habitat Requirements
Acadian Flycatcher	*Empidonax virescens*	Mature deciduous forest
American Crow *	*Corvus brachyrhynchos*	Open country, suburbia
American Goldfinch *	*Spinus tristis*	Open weedy fields, farmland, marches
American Kestrel	*Falco sparverius*	Open country, farmland, forest edge
American Redstart	*Setophaga ruticilla*	Early successional deciduous
American Robin *	*Turdus migratorius*	Ubiquitous-mixed woodlands, edges
American Woodcock	*Scolopax minor*	Young forest, fields with moist soil
Baltimore Oriole *	*Icterus galbula*	Open areas, tall trees, urban tolerant
Bank Swallow	*Riparia riparia*	Near water, over fields, nests in sand banks
Barn Swallow *	*Hirundo rustica*	Farmland, suburban
Belted Kingfisher	*Megaceryle alcyon*	Small water bodies, nests in sandy bank
Black-and-white Warbler	*Mniotilta varia*	Deciduous and mixed forests
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Low dense shrubby vegetation
Black-capped Chickadee *	*Poecile atricapillus*	Mixed woodlands, thickets, parks
Black-crowned Night-Heron	*Nycticorax nycticorax*	Marshes, shores, in trees along shores
Black-hooded Parakeet	*Nandayus nenday*	Open areas, suburbia
Black-throated blue warbler **	*Dendroica caerulescens*	Undergrowth of deciduous/mixed forests
Blue Jay *	*Cyanocitta cristata*	Mixed woodlands, suburbia
Blue-gray Gnatcatcher	*Polioptila caerulea*	Open, moist woodlands, insect gleaner
Blue-headed Vireo	*Vireo solitarius*	Mixed conifer-deciduous woods
Blue-winged Warbler	*Vermivora pinus*	Old field w/ scattered shrubs
Broad-winged Hawk	*Buteo platypterus*	A variety of heavily forested areas
Brown Thrasher	*Toxostoma rufum*	Dry thickets in wooded areas
Brown-headed Cowbird	*Molothrus ater*	Open fields, mowed areas
Canada Goose	*Branta canadensis*	Marshes, lake shores, grassy areas
Carolina Wren *	*Thryothorus ludovicianus*	Brushy vegetation, common
Cedar Waxwing *	*Bombycilla cedrorum*	Berry-producing field and edge vegetation
Chestnut-sided Warbler *	*Dendroica pensylvanica*	Edges and second growth woods
Chimney Swift	*Chaetura pelagica*	Nests in chimneys, hollow trees
Chipping Sparrow *	*Spizella passerina*	Open or forested, human tolerant
Cliff Swallow	*Petrochelidon pyrrhonota*	Open/semi-open land. Nests in barns/cliffs
Common Grackle	*Quiscalus quiscula*	Open areas near forest, urban tolerant
Common Yellowthroat *	*Geothlypis trichas*	Moist brushy habitat w/ small trees
Downy Woodpecker	*Picoides pubescens*	Mixed and urban forests
Eastern Bluebird	*Sialia sialis*	Fields orchards clearings, nest cavities
Eastern Kingbird	*Tyrannus tyrannus*	Open habitats w/ perches
Eastern Meadowlark	*Sturnella magna*	Fields, meadows
Eastern Phoebe	*Sayornis phoebe*	Woodland, edges, agricultural
Eastern Screech-Owl	*Megascops asio*	Woodlands, farms fields
Eastern Towhee	*Pipilo erythrophthalmus*	Dense brushy fields and edges, pine/oak
Eastern Wood-Pewee	*Contopus virens*	Deciduous woods open understory
European Starling *	*Sturnus vulgaris*	Farms, cities, hayfields
Field Sparrow	*Spizella pusilla*	Grassy fields, low shrubs
Grasshopper Sparrow [1]	*Ammodramus savannarum*	Grasslands, hayfields
Gray Catbird *	*Dumetella carolinensis*	Low shrubby vegetation, borders
Great Blue Heron	*Ardea herodias*	Marshes, lake margins, forested wetlands w/ tall trees for nesting
Great Crested Flycatcher	*Myiarchus crinitus*	Woodland edge, tree cavity nesting
Great Horned Owl	*Bubo virginianus*	Forests, stream sides, thickets, open areas
Green Heron	*Butorides virescens*	Shrub or forested wetlands, ponds

Table 6-2 (cont'd)
Breeding Bird Atlas and Birds Observed and Expected to Utilize the Project Site

Common Name	Scientific Name	Habitat Requirements
Green-winged Teal	*Anas crecca*	Marshes, rivers, bays
Hairy Woodpecker *	*Picoides villosus*	Extensive forest, many types
Hermit Thrush	*Catharus guttatus*	Conifers and mixed woods, thickets, parks
Hooded Warbler	*Wilsonia citrina*	Woodland undergrowth, wooded swamps
House Finch	*Carpodacus mexicanus*	Developed areas with open ground
House Sparrow	*Passer domesticus*	Villages, farms, cavity nester
House Wren	*Troglodytes aedon*	Thickets, suburbia, cavity nester
Indigo Bunting	*Passerina cyanea*	Wood edges, brushy fields, tall trees
Killdeer	*Charadrius vociferus*	Open fields, waste areas
Least Flycatcher	*Empidonax minimus*	Forests and clearings
Louisiana Waterthrush	*Seiurus motacilla*	Woodlands w/ flowing water
Mallard	*Anas platyrhynchos*	Shallow water, ponds streams
Mourning Dove *	*Zenaida macroura*	Farms, open woods, suburbia, grasslands
Mute Swan	*Cygnus olor*	Shallow waters, marshes, ponds
Northern Cardinal *	*Cardinalis cardinalis*	Thick underbrush, shrubs
Northern Flicker *	*Colaptes auratus*	Large trees in forests, edges
Northern Mockingbird	*Mimus polyglottos*	Variety of open habitats
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	Open country near water, nests in rocky embankments
Orchard Oriole	*Icterus spurius*	Orchards, forest edges
Ovenbird	*Seiurus aurocapilla*	Large contiguous mature forests
Pileated Woodpecker	*Dryocopus pileatus*	Mature forest, large old trees
Pine Warbler	*Dendroica pinus*	Open pine forests, tall trees
Prairie Warbler	*Dendroica discolor*	Dry areas w/ low trees and shrubs
Red-bellied Woodpecker *	*Melanerpes carolinus*	Mature woodlands, dead trees
Red-eyed Vireo	*Vireo olivaceus*	Open deciduous forest, variable
Red-tailed Hawk	*Buteo jamaicensis*	Open habits w/ large trees
Red-winged Blackbird *	*Agelaius phoeniceus*	Emergent vegetation in open areas
Ring-necked Pheasant	*Phasianus colchicus*	Farms, fields marsh edge
Rock Pigeon	*Columba livia*	Open country, cities
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Edge of mature deciduous forest
Ruffed Grouse	*Bonasa umbellus*	Deciduous and mixed forests
Savannah Sparrow	*Passerculus sandwichensis*	Open fields, salt marshes, meadows
Scarlet Tanager *	*Piranga olivacea*	Prefers mature forest
Song Sparrow *	*Melospiza melodia*	Moist areas w/ brushy vegetation
Spotted Sandpiper	*Actitis macularius*	Margins of fresh water bodies
Swamp Sparrow	*Melospiza georgiana*	Variety of open wetland types
Tree Swallow	*Tachycineta bicolor*	Open areas near water, tree cavity nester
Tufted Titmouse *	*Baeolophus bicolor*	Deciduous, mixed woods, parks
Turkey Vulture	*Cathartes aura*	Mixed farmland and forest, variable
Veery	*Catharus fuscescens*	Moist woods w/ thick understory
Virginia Rail	*Rallus limicola*	Fresh and brackish marshes
Warbling Vireo	*Vireo gilvus*	Riparian forest, bottomland
White-breasted Nuthatch	*Sitta carolinensis*	Mature forests, edges by open areas
White-eyed Vireo	*Vireo griseus*	Second growth w/ shrubs
White-throated sparrow **	*Zonotrichiaalbicollis*	Thickets, brush undergrowth in forests
Wild Turkey	*Meleagris gallopavo*	Mast-producing forests, variable
Willow Flycatcher	*Empidonax traillii*	Open areas w/ shrubs
Wood Duck	*Aix sponsa*	Woodlands near shallow inland waters
Wood Thrush	*Hylocichla mustelina*	Mature, moist forests

Table 6-2 (cont'd)
Breeding Bird Atlas and Birds Observed and Expected to Utilize the Project Site

Common Name	Scientific Name	Habitat Requirements
Worm-eating Warbler	*Helmitheros vermivorum*	Wooded ravines w/ dense understory
Yellow Warbler *	*Dendroica petechia*	Wooded borders, prefers water sites
Yellow-billed Cuckoo	*Coccyzus americanus*	Low dense shrubby vegetation
Yellow-breasted Chat [1]	*Icteria virens*	Dense thickets and brush often with briars
Yellow-throated Vireo	*Vireo flavifrons*	Extensive mature moist forest

Notes:
[1] NYS: Special Concern
(*) Indicates species identified on, flying by or in close proximity to the site.
(**) Indicates species not included in the BBA but observed on, flying by or in close proximity to the site.
Source: New York State Breeding Bird Atlas Project (1980 to 1985 and 2000 to 2005 Survey Periods for Census Block containing project site);

- wood thrush (*Hylocichla mustelina*)
- worm-eating warbler (*Helmitheros vermivorum*)
- Louisiana waterthrush (*Seiurus motacilla*)
- scarlet tanager (*Piranga olivacea*)

Of these four species, the Louisiana waterthrush and worm-eating warbler typically require larger blocks of forest to nest in than is provided by the project site.[1] Therefore, they are unlikely to breed onsite. From the perspective of offering prime nesting habitat for forest interior bird species, the project site itself has been compromised by past development. Onsite and adjacent land development, including the presence of buildings and roadways, and the generally small size of the project site at 3.34 acres (2.47 acres on Lot 14B and 0.87 acres on Lot 13A), decrease the likelihood that the project site serves as nesting habitat for the more sensitive neo-tropical migrant birds, including many of the wood warblers and vireos. However, the project site is a forested fragment located in a matrix of protected or undeveloped forest in the vicinity – most notably the NYCDEP watershed lands west of the site. As such, the approximately seven to eight acres of forest onsite and contiguous to the project site may be suitable habitat for such species as the scarlet tanager (*Piranga olivacea*), ovenbird (*Seiurus aurocapila*), great crested flycatcher (*Myiarchus crinitus*), eastern wood peewee (*Contopus virens*), and others which, though sensitive to forest fragmentation, can utilize forest patches of smaller size.

The project site could also be used by spring and fall neo-tropical migrant species on their journey to and from breeding habitat.

The New York State Listed Species of Species Concern yellow-breasted chat and grasshopper sparrow would not be expected to use the site as preferred habitat is not available.

MAMMALS

The project site and the surrounding areas provide breeding and foraging habitat for a range of mammalian species adapted to urbanized conditions. White-tailed deer (*Odocoileus virginianus*), gray squirrels (*Sciurus carolinensis*), and eastern chipmunks (*Tamias striatus*) were documented

[1] Robbins, C.W. et al. 1989. Habitat Area Requirements of Breeding Forest Birds of the Middle Atlantic States. *Seiurus motacilla* and *Helmitheros vermivorum* were found to nest in forest blocks 50 acres or greater.

on the project site during 2008/2009 site visits. Woodchuck (*Marmota monax*) burrows, other small mammal burrows, and raccoon (*Procyon lotor*) scat were also observed, indicating the presence of these mammals onsite. Species observed during the spring 2010 site visit include were the same as those documented during previous site visits.

Other mammals that may utilize the project site based on their habitat needs include small rodents such as the woodland jumping mouse (*Napaeozapus insignis*), southern red-backed vole (*Clethrionomys gapperi*), and southern flying squirrels (*Glaucomys volans*). Mammals that frequent riparian (stream) or wetland habitats such as the water shrew (*Sorex palustris*) and white footed mouse (*Peromyscus leucopus*) may also occur onsite. Species that thrive in the vicinity of residential dwellings such as striped skunks (*Mephitis mephitis*) and opossums (*Didelphis virginiana*), may frequent the site as well.

Several species of bats have been documented in Westchester County. Little brown bats (*Myotis lucifugus*), big brown bats (*Eptesicus fuscus*), and Eastern red bats (*Lasiurus borealis*) may either roost in trees and/or forage for insects on or in close proximity to the project site. Larger mammals such as red fox (*Vulpes vulpes*) or coyote (*Canis latrans*), while less likely, may be expected to occur on the project site or surrounding areas.

REPTILES AND AMPHIBIANS

A focus of the May, 2010 site visit was the location and identification of reptiles and amphibians. Both color morphs of the eastern redback/leadback salamander (*Plethodon cinereus*) were found under logs/debris in the wooded wetland portion of the project site during this site inspection.

Eastern red-backed salamanders are a terrestrial salamander living/breeding entirely in upland woods. Unlike other salamanders, it is not dependant on aquatic habitats to reproduce. Plethodon cinereus is likely the most abundant salamander in New York State forests where it lives among leaf litter, logs, and stones on the forest floor and feeds on arthropods, earthworms and other invertebrates. Eastern red-backed salamanders will occupy forests of various types as long as a closed canopy is present. They are sensitive to reduced soil moisture and acidification. Two morphs of this species occur in New York – the striped morph, "redbacks", and the unstriped morph, "leadbacks". Plethodon cinereus is not listed as threatened or endangered in New York State. (The amphibians and reptiles of New York State; Identification, Natural History, and Conservation. Gibbs, James P. et al. Oxford U. Press. 2007.)

On the Westchester Airport property, immediately to the south and upstream of the project site, a green frog (*Rana clamitans*) was seen at the headwaters of the stream that flows across the project site.

In turning over cover objects in search of herpetiles, AKRF noted the abundance of cave/camel crickets of various species in the family Rhaphidophoridae.

Herp Atlas Project

Similar to the NYS Breeding Bird Atlas, the NYS Amphibian and Reptile Atlas project has compiled information on the current geographic distribution of species based upon field data collected from 1990 through 1998. As compared to the Breeding Bird Surveys, the Amphibian and Reptile Atlas survey blocks are significantly larger, each encompassing an entire USGS 7.5 minute quadrangle. Therefore, the documented presence of a species within the USGS 7.5 Minute "Glenville" Quadrangle, which includes the project site, is not definitive evidence that the species is likely to occur onsite. Species found by the NYS Amphibian and Reptile Atlas

Project in the project site's census block are listed in **Table 6-3**. This table also indicates the potential for each species to occur on the project parcel.

Table 6-3
New York State Amphibian and Reptile Atlas Project

Common Name	Scientific Name	Protective Status (Federal/NYS)	Potential for Occurrence Onsite
Salamander Species			
Spotted Salamander	*Ambystoma maculatum*	Not Listed	Unlikely
Marbled Salamander	*Ambystoma opacum*	Special Concern	Unlikely
Northern Redback Salamander	*Plethodon c. cinereus*	Not Listed	Yes (Confirmed Onsite)
Northern Slimy Salamander	*Plethodon glutinosus*	Not Listed	Yes
Northern Two-lined Salamander	*Eurycea bislineata*	Not Listed	Yes
Toad Species			
Fowler's Toad	*Anaxyrus fowleri*	Not Listed	Yes
Frog Species			
Spring Peeper	*Pseudacris crucifer*	Not Listed	Yes
American Bullfrog	*Lithobates catesbeiana*	Not Listed	No
Green Frog	*Lithobates clamitans*	Not Listed	Yes (Confirmed immediately offsite)
Pickerel Frog	*Lithobates palustris*	Not Listed	Yes
Gray Tree frog	*Hyla versicolor*	Not Listed	Unlikely
Wood Frog	*Rana sylvatica*	Not Listed	Unlikely
Snake Species			
Common Garter snake	*Thamnophis sirtalis*	Not Listed	Yes
Northern Black Racer	*Coluber c. constrictor*	Not Listed	Yes
Northern Water Snake	*Nerodia s. sipedon*	Not Listed	Yes
Turtle Species			
Snapping Turtle	*Chelydra serpentina*	Not Listed	Unlikely
Spotted Turtle	*Clemmys guttata*	Species of Special Concern	No
Painted Turtle	*Chrysemys picta*	Not Listed	No

Of the several species documented within the atlas block, only a few are likely to be present on the project site based on habitat preference. The majority of the project site is comprised of forested upland and saturated wetland habitat and species such as the eastern American toad, northern brown snake, and common garter snake would be expected to occur onsite. Though not listed by the Herp Atlas project, the eastern box turtle (*Terrapene carolina*) is an entirely terrestrial species that may utilize the project site based on its habitat requirements. The mixture of forested upland and wetland habitat may provide habitat for species dependent on temporarily wet areas for breeding, such as spring peepers and pickerel frogs, or those that live in stream environments, such as green frog and northern two-lined salamander. However, based on site inspection, onsite wetlands are not conducive to those amphibians that require prolonged flooded conditions for breeding as occurs in ponds or vernal pools. Therefore, such species as wood frog, spotted salamander, and gray tree frog are unlikely to utilize the project site.

THREATENED AND ENDANGERED SPECIES

None of the species of plants or animals identified or expected to occur onsite based on available habitat are listed by New York State or the U.S. Fish and Wildlife Service as "threatened", "endangered", or "special concern".

The New York Natural Heritage Program (NYNHP), in a letter dated April 30, 2010 did not identify any records of known occurrences for rare or state-listed plant or animal species or significant natural communities and habitats on or adjacent to the project site. A search of the USFWS's Environmental Conservation Online System for Westchester County's federally-listed species was conducted on September 2, 2010. Four species were identified within Westchester County: arctic peregrine falcon (*Falco peregrines tundrius*), Indiana bat (*Myotis sodalis*), New England cottontail (*Sylvilagus transitionalis*) and the bog turtle (*Clemmys muhlenbergii*).

The arctic peregrine falcon, known to occur statewide in New York, was federally delisted in 1994 based on a successful recovery; however, the peregrine falcon (*Falco peregrines*) is a state-endangered bird of prey in New York. The peregrine falcon was not listed in the project site's census block of the NYSDEC Breeding Bird Atlas and is not expected to inhabit the project site.

The Indiana bat is a federally-endangered bat species and is known to overwinter in caves and mines. The Indiana bat's summer nursery colonies are located in trees with exfoliating bark and/or crevices near streams and lakes. Although some trees with exfoliated bark occur onsite, notably dead green ash and several shagbark hickory, they make up a small minority of the trees on the site and are primarily located in the area of forested wetland to be preserved. In addition, the location of the nearest known hibernacula is not sufficiently close to the project site for the NYSDEC NHP to have listed the species in the project's database search request, as indicated in correspondence dated 4/30/2010 (see Appendix B). As such, the Indiana bat is not expected to occur on the project site. Communication with NYSDEC Region 3 on this matter confirms that the likelihood of occurrence is low due to the long distance from known hibernacula and the lack of a positive response from the NHP database search. To minimize the potential for an incidental take of summer roosting habitat, trees that are potential summer roost sites for Indiana Bats can be cut in winter months (November 1st to March 31st) when the bats are absent.[1]

The New England cottontail is a candidate for federal listing and a state-listed species of special concern; however, this species is not expected to occur on the project site. New England cottontails are habitat specialists, occupying early-successional habitats. This species prefers native shrubland associated with sandy soils or wetlands and regenerating forests associated with small scale disturbances. These habitats are not present on or close proximity to the project parcel.[2]

The bog turtle is a federally-threatened and state-endangered species which inhabits wet meadows or open calcareous bogs. The bog turtle prefers shallow, slow moving water, deep soft muck soils, and tussock-forming herbaceous vegetation. The bog turtle's range in New York

[1] U.S. Fish and Wildlife Service (USFWS). 1007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp. Personal communication with Lisa Masi, T&E Wildlife Biologist with NYSDEC, 12/16/10.

[2] Information on the New England Cottontail obtained from the U.S. Fish and Wildlife Service at: http://www.fws.gov/northeast/indepth/rabbit/index.html

State is extremely limited and it is not expected to occur on the project site as supporting habitat is not present.[1]

C. FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, the existing office building on the project site would continue to operate under existing conditions. No site developments or alterations are planned without the proposed project. Business operations and the existing number of staff on the project site are expected to remain similar to existing conditions. There would be no substantial changes on the site that would affect natural resources. In addition, as indicated by the Town of North Castle and surrounding municipalities, there are no significant development projects currently planned that would affect natural resources on or near the project site.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

VEGETATION

As shown in **Figure 6-1**, roughly half of the proposed development footprint would encompass land that is currently cleared and occupied by the existing building, access drive, parking and mowed lawn with trees area surrounding the building. The existing building, access drive and parking was constructed in 1966. The lawn areas are maintained (mowed/cleared) and have been so since the completion of the original site development.

The remainder of the proposed disturbance, which includes the western portion of the parking facility and all the stormwater management features, would be located in the area of the site that currently supports the Upland Hillside Forest vegetative community. The portions of this habitat within the proposed limit of disturbance would be changed to impervious surface, regraded after construction and planted with native vegetation or replaced with habitat associated with the stormwater management features. None of the area within the limit of disturbance line or anywhere on or in the immediate vicinity of the project site is unique habitat rare in the region.

During the grading stage of the project, 2.80 acres of ground surface would be disturbed. As shown in **Figures 6-1** and **6-2**, all vegetation within the limit-of-disturbance line would be removed. All vegetation occurring outside of the limit-of-disturbance line would remain, and would be protected during construction by clearly marked construction fencing. Site development would require the removal of a total of 122 trees equal to or greater than 8 inches in diameter, of which 25 trees are equal to or greater than 24 inches in diameter, and therefore meet the Town definition of Significant Tree. Existing trees and their diameters are shown on Drawing C-2, "Existing Conditions Plan," which accompanies this DEIS. Trees to be removed (and their diameters) are shown on Drawing C-3, "Demolition Plan." Construction access to the site would be via the existing site driveway. No additional trees, other than those shown on Drawing C-3, would be removed for the purposes of construction access.

Unlike a residential or commercial project which typically contains a sizeable area of open land, the proposed project is a parking garage designed to minimize unnecessary disturbances beyond the project footprint. As such, the building, driveways, and stormwater facilities comprise the

[1] U.S. Fish and Wildlife Service. 2001. Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan. Hadley, Massachusetts. 103 pp.

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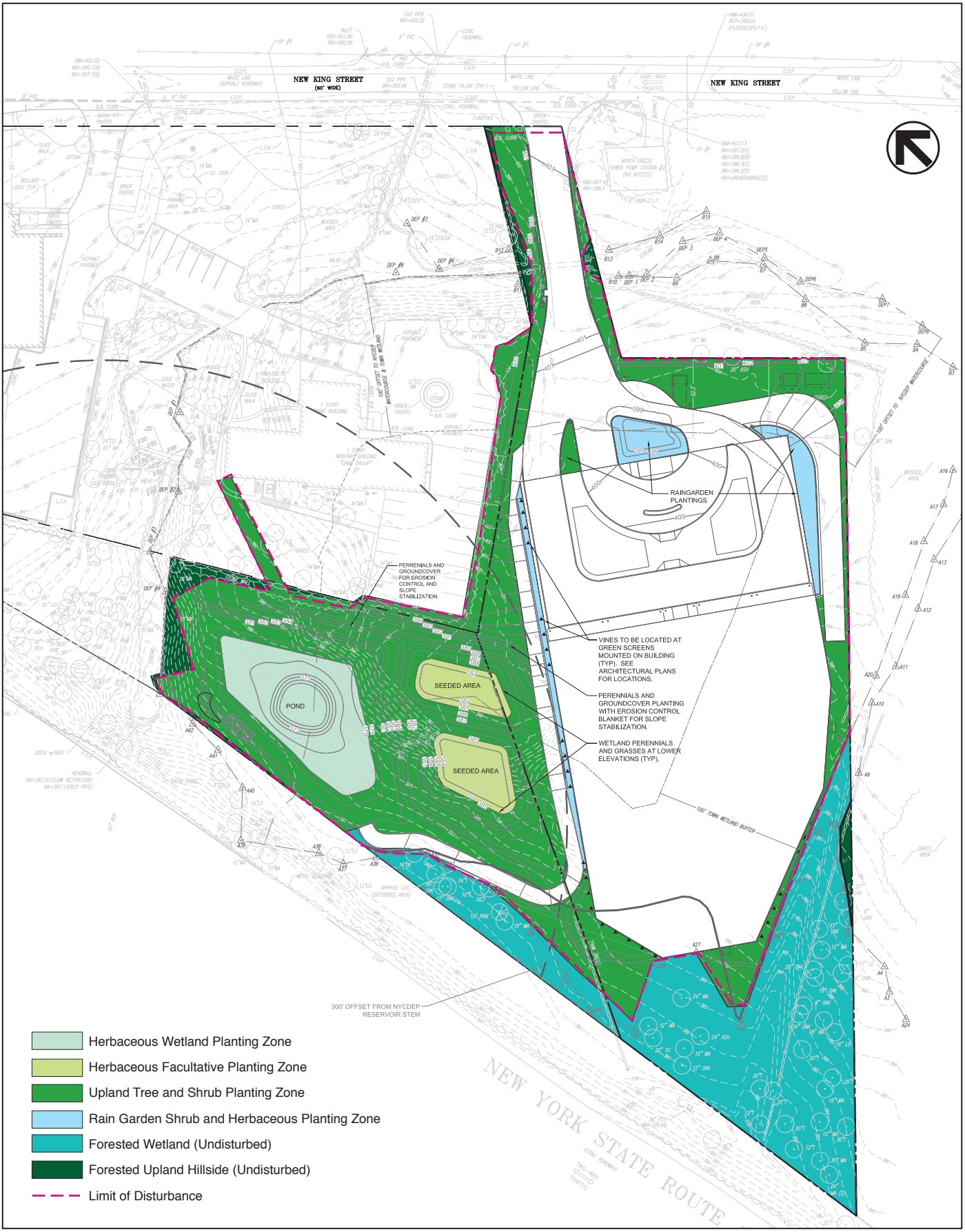

0 60 FEET

SCALE

PARK PLACE at Westchester Airport

Post-Construction Habitats

Figure 6-2

only project components and have maximized efficient use of the space. No space is available interior to the limit-of-disturbance line to accommodate tree preservation. Instead, the project has been designed specifically to preserve onsite wetland forested habitat outside of the limit-of-disturbance area.

The proposed stormwater management features would introduce a new habitat type to the project site. The sedimentation basin and sand filter would be planted with the appropriate herbaceous vegetation including plants capable of living in wet and dry conditions. A pocket wetland is also proposed in the northeast corner of the development area just south of the stream. This would hold water for much of the year providing potential habitat for invertebrates and amphibians that may be in the area. For additional information on the stormwater management features, refer to Chapter 9, "Stormwater Management," herein.

With the exception of a small portion of wetland "A", the on-site wetland, watercourse and the secondary ephemeral drainage way all are located outside of the proposed limit of disturbance and, as such, would not be directly affected by the development of the project. The vegetation associated with these habitat types would remain post-development. Changes to the wetland vegetation would not be expected to result from the development of the proposed plan. Regarding stream and wetland buffer disturbance, the primary areas of buffer disturbance would be on the western portion of the project site in the area of the stormwater management basins. These features would retain all buffer functions currently being served, namely stormwater quantity and quality management and habitat functions. It is the goal of the stormwater management plan to improve upon existing conditions – at present the building and paved surfaces have no stormwater detention or treatment system. As discussed in Chapter 9, "Stormwater Management," by providing a contemporary stormwater management plan incorporating a pocket wetland, post-construction flows and pollutant estimates are lower in the post-construction condition. Furthermore, by replanting the areas of buffer disturbance with native plant species, no loss in buffer functions are expected with the proposed project. Impacts to the project site's wetlands and watercourses are discussed in Chapter 8, "Water Resources."

At present, surface water runoff flows by sheet-flow to the onsite wetland running along the eastern embankment of NYS Route 120 before entering the onsite perennial stream where it flows through a culvert beneath NYS Route 120, eventually discharging to Rye Lake (Kensico Reservoir). Under existing conditions, detention time in the onsite forested wetland area prior to discharge to the stream is negligible because the wetland serves as a swale conveying flow overland rapidly to the stream. The wetland's small size and lack of ponding/depressional areas limit its function for improving stormwater quality. In the proposed condition, the series of stormwater ponds, incorporate three cells to work in series to improve water quality. An initial stormwater basin would remove sediment, a second basin incorporates a sand filter to improve water quality through groundwater infiltration and to reduce the volume of total runoff by recharging groundwater, and a third basin would function for extended detention to reduce peak flows and would achieve final water quality improvement via a pocket wetland with permanent pool. All basins and embankments would be vegetated with native species to improve the site's floral diversity. In addition, as described in Chapter 9, "Stormwater Management," additional green infrastructure components have been incorporated in the proposed plan to reduce runoff generated during storms—including planted rain garden depressions on the west and south sides of the parking garage to handle runoff from the roof gutters and paved surfaces; and grass pavers and permeable pavers for low-frequency driveways to allow infiltration. The sum total of the stormwater management and landscaping plan is expected to be an improvement in runoff conditions to the onsite stream and its receiving waters.

Of the approximately 2.80 acres within the limit of disturbance for the proposed project, **Table 6-4** indicates the approximate amount of acreage in each of the habitat categories identified on-site. Of this acreage of habitat displacement, 1.58 acres would consist of built surfaces (buildings, roads, and pavers[1]) resulting in permanent loss of vegetative cover. The remaining 1.22 acres would be revegetated with a mix of maintained lawn and native landscape plantings including herbaceous perennials, grass, shrubs trees and vines for screening the building or relegated to stormwater management.

Table 6-4
Disturbance by Habitat Cover Type

Habitat Cover Type	Existing Acreage	Acreage of Disturbance
Mowed Lawn with Trees	0.67 acres	0.66 acres
Upland Hillside Forest	1.29 acres	1.20 acres
Forested Wetland	0.66 acres	0.13 acres
Stream Corridor/Piped Stream	0.01 acres	0.01 acres
Buildings and Impervious Surfaces	0.80 acres	0.80 acres
Total	**3.43 acres***	**2.80 acres**

Note: *The total habitat coverage area is slightly greater than the project site acreage (3.34 acres) due to the limit-of-disturbance extending off the project site in some areas.

As discussed in more detail in Chapter 8, "Water Resources," the proposed project would require fill/disturbance to onsite wetland habitat totaling 5,699 square feet (0.13 acres). This direct wetland disturbance must be confirmed during the growing season of 2011 when the regulatory wetland boundary will be verified. The net increase in impervious surface within the Town-regulated 100-foot wetland and watercourse buffer area would be 21,354 square feet. Temporary disturbance within the wetland and watercourse buffer that would be replanted with native vegetation totals 40,425 square feet.

Upon completion of the proposed project, the vegetation to remain would be in the Upland Hillside Forest and Forested Wetland on the western side and in the southwestern corner of the project site along NYS Route 120, in the Stream Corridors on the southwest side of the project site, along New King Street to the east of the project site and along the north edge of the stormwater management features as well as in the mowed lawn with trees on the east side of the existing building which is off of the project site. On account of the development program, all vegetation, including all trees, would be removed within the identified limit of disturbance. The planting plan calls for the installation of trees of similar species to those removed for the development of the proposed project along with other native species that would increase diversity.

Vegetation along the northern property line, both on Lots 13A and 14B, between the proposed building and the parking lot existing on Lot 13A, would be removed. The strip of land between the proposed fire access and the existing parking lot on Lot 13A would be replanted with a mix of shrubs and saplings after construction is complete. The mowed lawn with trees community along the south east property line would be replaced with building and an emergency grass paver access path. All other areas disturbed as part of the construction effort, would be replanted

[1] The 1.58-acre "built surfaces" includes 0.19 acres of pervious pavers, which would allow stormwater infiltration.

including the area to the west of the building. For a list of plant species to be used for revegetation of the project site refer to Sheet No. C-8, Landscape Plan, of the attached plan set.

As no endangered, threatened, or rare vegetation was identified on the project site, none would be disturbed in conjunction with the development of the project. Several "exploitably vulnerable" plants were identified onsite. All native ferns in New York State, with the exception of a few species are listed as exploitably vulnerable. In addition, winterberry, flowering dogwood, and purple trillium were identified onsite. With the exception of Christmas fern, flowering dogwood, and purple trillium, most of the exploitably vulnerable species occur within the project site's wetland areas and would be largely undisturbed by the proposed project. Some incidental loss of lady fern and spinulose wood fern may occur but again, these are primarily limited to wetland areas which would remain largely undisturbed. Flowering dogwood occurs in upland areas and was identified within the lawn area adjacent to the existing building. This area would be disturbed. Christmas fern was most evident adjacent to the perennial stream north of the project site along rocky banks – an area that would not be disturbed. Purple trillium was found near wetland "A" and may be disturbed by the project. The term "exploitably vulnerable" is applied to NYS listed species likely to become threatened in the near future if causal factors continue unchecked. The exploitably vulnerable category contains plants that are likely to be picked for commercial and personal purposes and affords a landowner extra protection ability against unwanted plant removal. The New York State Environmental Conservation Law section 9-1503 part (f) reads as follows: "It is a violation for any person, anywhere in the state to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant." Because any removal activity of exploitably vulnerable plants would be carried out with the express consent of the property owner, this activity would be permitted under New York State law. Because all exploitably vulnerable plants identified onsite are common in the region, and because they would continue to occur onsite in undisturbed areas—primarily the onsite wetland—no significant adverse impacts are expected to NYS-listed plants.

Increased erosion during construction after removal of the existing vegetation would be managed by an approved erosion and sediment control plan. Site inspections would be done during the construction phase of the project to ensure that eroded sediments do not leave the project site. Upon completion of construction, all disturbed land would be revegetated to prevent future soil erosion. Replanting the disturbed areas would be expected to return the soil's water retention capabilities to pre-development levels once the new vegetation as established itself; no adverse environmental impacts would be anticipated.

Impacts on street trees related to construction traffic would be no more than under the existing conditions. On account of the existing uses in the area, large trucks currently utilize the same the local roads that construction vehicles would travel to access the site. These roads include Airport Road (no trees between NYS Route 120 and New King Street), New King Street, NYS Route 120, County Route 35 and Interstate 684. Impacts to street trees would be avoided by keeping all disturbance and construction vehicles within the limits-of-disturbance demarcated on site plans. Where trees immediately beyond these limits could be damaged, they would be protected by tree protection specifications provided in the New York State Standards and Specifications for Erosion Control (August 2005). Under no circumstances would construction traffic extend beyond the limits-of-disturbance on the project site which would be clearly marked with orange construction fencing prior to site disturbance and subject to inspection by the Town. No parking of construction vehicles in public right-of-way areas would be allowed that may disturb/damage street trees.

As documented during the natural resource surveys of the project site, invasive and non-native plant species have already invaded or been planted on the property. A few examples include Norway maple and tree-of-heaven (overstory), Japanese barberry and Japanese knotweed (understory), garlic mustard and Kentucky bluegrass (groundcover) along with oriental bittersweet and Japanese honeysuckle (vines). While there always exists the potential for invasive and non-native species to spread, the opportunity to do so on this site would be limited.

WILDLIFE

The project as proposed and the resultant replacement of habitat with either development or other types of habitat would not be expected to result in significant adverse impacts to wildlife. The existing conditions on the project site do not offer unique, critical or significantly valuable nesting or foraging opportunities for terrestrial animals. At present, wildlife use of the project site is largely limited to relatively common species adept at using human-altered environments. The existing site and surrounding land uses currently act as a deterrent to use by species intolerant of humans. Adverse environmental impacts to this type of wildlife would not result from the proposed development.

As documented in **Table 6-4**, the Upland Hillside Forest would be reduced by approximately 1.20 acres as a result of the project. As this habitat is relatively small in size and severed from other similar forested habitat by the existing land use, its value and function as forest habitat are inherently limited. The loss/alteration of this habitat resulting from the construction of the proposed building and stormwater management features would not have a significant adverse environmental impact on the wildlife populations in the area.

The project site as a whole is a component of a relatively small habitat matrix, which includes the on-site vegetative communities and the adjacent mowed field and stream corridor to the south. Changes resulting from development of the proposed project would not eliminate any of the existing habitats. As such, it is expected that the species currently using the project site would continue to do so; no significant change in species composition would be anticipated.

With the proposed planting plan of herbaceous and woody vegetation in the stormwater basin and buffer areas (see Impacts section below), foraging habitat for perching birds would be improved by the proposed project by diversifying the type of plants and habitat available onsite. In addition, new habitat for aquatic and terrestrial invertebrates would be provided in the created pocket wetland basin (part of the stormwater management plan) which would in turn increase foraging opportunities for flying predators, such as the eastern flycatcher and little brown bat. Loss of forest with the proposed project would diminish the acreage of habitat known to be used by the redback salamander (*Plethodon cinereus*) a small amount. However, this species was found in greater abundance in the lower, wetland areas of the site and immediately offsite to the south. These areas would remain undisturbed. As such, redback salamanders would be expected to continue to occupy undeveloped portions of the project site. The potential for several forest-interior bird species to breed onsite, including the scarlet tanager and woodthrush, may be reduced a small amount. However, these species are not NYS-listed as threatened or endangered nor does the site offer optimum habitat for such species because it is small in size.

Regarding indirect, long-term impacts to habitat functions of the remaining Forested Upland Hillside, Forested Wetland, Stream Corridors, and Mowed Lawn with Trees habitats onsite after construction, habitat functions would be protected by a properly designed stormwater management plan and landscaping plan. With the exception of a small portion of wetland "A", wetland and watercourse habitats would not be directly disturbed by the proposed project.

However, such habitats may be negatively affected by adjacent development where no stormwater management is provided or where invasive species or dumping occurs. To minimize the potential for long-term indirect impacts to the forested wetland and stream corridors onsite, the project has designed a series of stormwater management measures, including a pocket wetland, to capture and treat runoff in accordance with the latest NYSDEC Stormwater Management Design manual. This system would be planted with native plants to aid in nutrient uptake and to improve upon the existing floral diversity onsite. The stormwater management measures are situated between the developed areas (building/paved surfaces) and the existing forested wetland and stream corridor habitats which would remain undisturbed. In this way, the stormwater measures provide a vegetated buffer and stormwater polishing mechanism that is intended to prevent water quality impacts and prevent the spread of invasive species that could diminish wetland functions over time.

No pool-breeding amphibian or reptiles were identified onsite during site inspection, nor suspected to occur due to lack of habitat. Therefore, the placement of the stormwater detention structures would not be expected to have an impact upon resident amphibians by diverting them from existing breeding pools. In addition, the stormwater management structures would not be an impediment to amphibian/reptile movements because they would be surrounded by "soft" planted habitat areas, not hard surfaces or areas of asphalt. The one permanent pool feature proposed is shallow and small in size therefore posing no danger to terrestrial mammals, reptiles or amphibians. To prevent the entrapment of terrestrial reptiles/amphibians in the stormwater conveyance network, the applicant may consider the placement of "Cape Cod Curbing" (low roadway curbs that small animals can traverse).

Because the Stream Corridor and Forested Wetland habitats would be largely undisturbed by the proposed project, impacts to wildlife using these habitats would not be significant.

During the site surveys, no aquatic species were observed in the stream. The drainage feature to the south of the existing building is ephemeral (intermittent) and therefore would not support an aquatic community. Regardless of the aquatic species composition that may occur in the watercourse, significant impacts related to reduced water quality from the project would not be expected. The implementation of the Stormwater Pollution Prevention Plan, presented in Chapter 9, "Stormwater Management," and appended to this document, would be cause for the water quality and quantity to remain at levels consistent with or better than under the existing conditions. Adverse impacts to the aquatic community would therefore not be expected to be significant.

Fertilizers, pesticides, herbicides, fungicides and other lawn care or landscaping products would be handled, stored, and applied in strict conformance with the manufacturer's guidelines and New York State Department of Environmental Conservation (NYSDEC) as well as all applicable Best Management Practices (BMP's) and the requirements set forth in the New York City Department of Environmental Protection's *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources* as amended. Only reputable professionals licensed and certified by NYSDEC for the storage and application of pesticides and fertilizers, shall be used for landscaping services. Conformance to these guidelines would minimize to the maximum extent practicable impacts on wildlife associated with chemical use on the project site. Modern pesticides, such as carbamates and organophosphates used by landscaping businesses today, are not persistent in the environment and do not bioaccumulate as previously common pesticides containing chlorinated hydrocarbons and heavy metals did in the past. As such, modern pesticides are generally safer. Nevertheless,

pesticides and herbicides are intended to be toxic to targeted plants and animals and knowledge of their toxicity to non-target plants and animals is sometimes incomplete. Therefore, such approaches as Integrated Pest Management (IPM) have been developed to prevent their overuse and their prophylactic application. At the present time, it is not known if pesticides/herbicides would be used on the project site. However, it can be said that the site does not have large expanses of lawn or open areas intended for recreation which might call for their routine application. Therefore, the use of pesticides would be limited on the project site if used at all. Because the landscape plantings proposed are for purposes of protecting water quality and restoring habitat functions, the applicant is willing to prohibit pesticide/herbicide use on the property unless specifically requested by the Town for removal of plant/animal pests. This can be included as a restriction on the project plans. Please note also that the Town of North Castle Code prohibits the deposition or introduction of "…harmful organic or inorganic chemicals" to wetlands, streams or adjacent areas. The project would conform to this requirement, both during and after construction.

On account of the project site's location, in a developed area surrounded by a significant road network and immediately north of the airport, the existing habitat is fragmented and the presences of terrestrial wildlife corridors for all but the species with the smallest home ranges are non-existent. As the current plan does not call for the installation of fences, with the exception of around the refuse containers, the planned development would not introduce new or significant barriers to the movement of terrestrial wildlife through the project area. By choosing a previously developed area for a good portion of the development, the proposed plan would not induce further habitat fragmentation, a phenomenon shown to be detrimental to regional biological diversity.

Movement of terrestrial wildlife across and through the site is minimal because the property is constrained to the east and west by roadways and offers no "wildlife corridors" to the north and south due to pre-existing development. As such, impacts to wildlife corridors would not occur with the proposed project. As is evident on project graphics, the perennial stream that traverses the site may be termed a corridor for urban-tolerant species and would remain unaffected by the proposed project disturbance. Although not a corridor for terrestrial animals, the forested habitat onsite provides a contiguous forested buffer along NYS Route 120 that is used by avifauna and would continue to function as such with the proposed project.

The type of wildlife that could cause concern and/or problems for owners/users of neighboring properties would include mice, skunks, raccoon's opossum, and deer. Due to the limited area that these species have as habitat on the existing site, and on account of the size of their ranges, none of these species would use the project site exclusively. In other words, to the extent that individuals of these species are in the area, they already use multiple neighboring properties; the wildlife that currently uses the project site also uses other sites in the area. Alteration or loss of habitat on the project site would not force more individuals from the project onto neighboring parcels as all of these parcels and likely more are already used by local individuals.

THREATENED AND ENDANGERED SPECIES

No threatened, endangered, or rare species of plants or animals were identified within the areas proposed to be disturbed for the proposed project nor are any expected to use the project site as critical habitat. Therefore, the loss of a portion of the existing habitats is not significant or adverse with regard to species "listed" by the State or Federal governments.

In summary, by locating the approximately half of the proposed project in areas of previous development and existing lawn, further habitat fragmentation would be avoided and impacts to on-site flora and fauna would be minimized. Furthermore, aside from the portion of the Upland Hillside Forest, which would be removed, other areas of existing trees the vegetated Stream Corridor and Forested Wetland are avoided by the proposed site plan.

E. MITIGATION MEASURES

While significant impacts to vegetation and wildlife are not expected to result from the development of the proposed project, in the applicant's opinion, measures to minimize effects to on-site natural resources were considered and incorporated into the plans to the maximum extent practicable.

One strategy set forth to manage erosion includes stabilization of disturbed soils with fast growing ground cover. These areas not covered with impervious surfaces would then be planted with native perennials, shrubs and trees thereby minimizing the spread of invasive and non-native species. It is fully expected that some of the existing invasive and non-native species would remain on the project site after development.

VEGETATION

The area cleared for the development of the existing use would be fully incorporated into the footprint of the proposed parking facility, access road and related infrastructure. By doing so, impacts to the existing habitats are minimized. To further protect the on-site habitats, clearing and grading limits would be clearly marked in the field in advance of site work.

As with all development on previously undeveloped lands, the vegetation within the limit of disturbance would be removed. While, in the applicant's opinion this would not result in a significant impact to the habitats present in the area, the vegetation and associated on-site habitat would be lost. A planting plan to offset some of the vegetation and habitat disturbed during construction has been created.

Sheet No. C-8 of the plans accompanying this DEIS illustrates the proposed Landscape Plan for the project site. The overall design intent is to enhance onsite floristic diversity and habitat complexity while providing an attractive setting for the parking facility customers and employees. The planting character of the site would be of a naturalistic setting, a woodland edge with meadows. This character will be fully realized within three to five years of project completion.

The principal goal of the plant selection for this project is to reestablish the dominance of native species on the project site. In support of this goal, only plant species native to region, and specifically to the watershed, have been selected. The selection of plant species also takes into consideration wetland and wildlife habitat value.

The design of the Landscape Plan addresses the specific site conditions and seeks to achieve a variety of site planning goals. Of primary concern would be to provide maximum visual buffering of the new structure from the adjacent properties, nearby roadways and other off-site locations. Evergreen and deciduous canopy trees are located to provide effective screening wherever possible and appropriate. In addition native vines, located adjacent to the proposed structure, will be supported by a wire trellising system incorporated into the façade. A variety of appropriate vegetation types are located in areas of steep slopes. The intent would be to create a

network of root systems which, along with a biodegradable erosion control blanket, would provide immediate slope stability and long-term erosion control.

In the area of the stormwater treatment sediment basins and the permanent pool vegetation was selected to enhance the stormwater treatment function as well as the wetland habitat. The proposed pocket wetland would be vegetated with shallow water tolerant species, including such wetland plants as swamp milkweed (*Asclepias incarnata*) and marsh marigold (*Caltha palustris*). Additional native plant species are located within a shoreline fringe and facultative pond buffer upslope from the permanent pool. This planting will introduce a habitat type not currently present on the project site.

EXPLOITABLY VULNERABLE PLANTS

Several plants listed as "exploitably vulnerable" by New York State were found onsite. Although some, notably Christmas fern and flowering dogwood would be removed in the area of proposed construction, the majority of exploitably vulnerable plants are expected to continue to occupy undisturbed portions of the project site after construction, primary the project site's wetland "A". Prior to construction, the limit-of-disturbance boundary can be established with fencing onsite and any NYS-listed plant can be transferred to a protected area of the site. In addition, the proposed planting plan (Drawing C-8) includes winterberry, flowering dogwood and Christmas fern (three of the exploitably vulnerable plants found onsite) and can be readily supplemented with additional rare or valuable plants if desired.

INVASIVE SPECIES MANAGMENT

To prevent the proliferation of invasive plants during construction a number of measures would be taken including minimization of soil disturbance, best management practices in sediment and erosion control, and immediate mulching and re-seeding of disturbed areas with an annual cover crop such as winter rye. Care would be taken to assure that all mulch used on the project site would be either straw or wood fiber and free of invasive plant parts or seeds. Proper establishment of vegetative cover after final grading, topsoil application and soil amendments, is the primary means of avoiding the spread of invasive species.

The proposed landscaping plan specifies only native plants. Any seed mixes used in the stormwater basins would be native wetland seed mixes. By re-establishing plants onsite at an appropriate density after construction, growing space that might be colonized by wind-disseminated non-native plants (mugwort, phragmites) would be minimized. A maintenance plan for invasive species removal and replanting would be included in the stormwater pollution prevention plan (SWPPP) documents to be reviewed and approved by the Town and NYSDEC as part of the stormwater general permit. Regarding the potential for changes to vegetation composition within areas of forested wetland that would not be disturbed by the proposed project, the stormwater management basins and landscaping plan would buffer the remaining habitat from incidental disturbances (dumping/clearing) that could potentially occur closer to the active-use portion of the site. The species assemblage proposed to revegetate disturbed areas is a complex of native plants that would not be detrimental to the adjacent forested wetland areas if they spread beyond their planting area—indeed, such species as multiflora rose, oriental bittersweet, Japanese barberry, Japanese honeysuckle and other invasives are common in the footprint of the stormwater basins and would be removed with construction. This would benefit existing onsite wetland habitats by improving floral species richness and allowing the proliferation of plants more beneficial to native wildlife. All vegetation removed as part of the

construction of the proposed project would be disposed of offsite to limit the spread of invasive species.

Five-Year Monitoring and Maintenance Plan

All areas of replanting – both upland and wetland – would be subject to an invasive species monitoring plan. Under this plan, a trained ecologist would inspect the site once a year for five (5) years beginning on the date of final planting installation. All areas of invasive species establishment would be removed manually (or mechanically if necessary) on an annual basis and all areas of plant mortality re-established with new plants as necessary 1x/year for five years. This applies to seeding areas and to individual planted trees/shrubs. Though time consuming, this method is the most appropriate to reduce the potential for invasive species establishment. One small area of phragmites that occurs within the project site's existing wetland, but outside the limit-of-disturbance boundary, would be removed manually at a time when the plant is not in seed. This would reduce the potential for phragmites to propagate on areas of exposed soil within the cleared/regraded portions of the project site.

The applicant is also willing to expand the scope of the invasive species monitoring and maintenance plan to areas of the project site that are not proposed to be directly disturbed. This would involve the manual removal of such species as multiflora rose, porcelainberry, oriental bittersweet, wine raspberry, Japanese knotweed, and others annually during the 5-year monitoring period. Clippings would be disposed offsite under the supervision of a trained landscape ecologist working with a licensed local landscaping firm.

WILDLIFE

The proposed project incorporates into the development plan the entire area previously developed thereby reducing, to maximum extent practicable the area of wildlife habitat to be disturbed. Through careful planning and engineering of the project, disturbance within the onsite wetlands is avoided.

Since the project site does not, and because of its separation from other habitats by development and in particular the local road network, cannot provide wildlife corridors. As such their preservation of the creation of such is not considered.

As noted previously, fertilizers, pesticides, herbicides, fungicides and other lawn care or landscaping products would be handled, stored, and applied in strict conformance with the manufacturer's guidelines and New York State Department of Environmental Conservation (NYSDEC) as well as all applicable Best Management Practices (BMP's) and the requirements set forth in the New York City Department of Environmental Protection's *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources* as amended.

Significant impacts to wildlife would not be expected to result from the proposed stormwater management features. On the contrary, it is anticipated that these features would provide more varied habitat on the project site. As such, mitigation is not proposed.

The planting plan includes vegetation chosen to provide habitat and food sources for wildlife. Small trees and shrubs, such as Crategus phenopyram, Amelanchier Canadensis, Vaccunium corymbosum and Myrica pensylvanica provide food, cover and nesting habitat for birds and other wildlife. Perennials specified for the site include Asarum canadense which is a larva host for Pipeline swallowtail butterfly, Asclepias incarnate which is a food source for the monarch

caterpillar and Penstemon digitalis which attracts Hummingbirds and bumblebees. In addition, ferns and groundcover such as Onoclea sensibilis provide shelter for salamanders and frogs.

Canada geese are not expected to use the project site on account of its layout which includes a five story building with little open space and no significant lawn. During numerous site inspections at various times of the growing and non-growing season, no Canada geese were seen onsite. At present, and in the future condition, access to the site by geese would be limited due to forested buffers and lack of sufficient open space to allow landing. The stormwater ponds would be mowed infrequently and therefore would not be attractive to Canada geese. No other mitigation measures are proposed relating to wildlife. ✷

A. INTRODUCTION

This chapter describes the project site's existing geology, soils, topography and slopes, and addresses potential impacts to on-site surface and subsurface resources. Bedrock geology, surface soils, and steep slopes are described based on site-specific topographic surveys and from published data from the Natural Resources Conservation Service (NRCS) and the New York State Museum. Potential impacts to these resources are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork.

B. EXISTING CONDITIONS

TOPOGRAPHY AND SLOPES

The project site ranges in elevation from 370 feet to 404 feet above sea level. As shown in **Figure 7-1** (Existing Conditions - Topography and Slopes), the site slopes downward from east to west, with the highest elevations located in the southeast corner of the site and the lowest in the northwest corner, adjacent to the perennial stream flowing through and in the vicinity of the site. The eastern portion of the site is comprised of flat to gently sloping terrain where historical filling was completed prior to development of the asphalt drive and existing building. Steeps slopes (>25 percent) are evident on the western side of the developed area as the terrain slopes down to native elevations. **Table 7-1** includes a summary of the slope categories, the total square feet of each category, and the ratio of each slope category relative to the overall project site.

Table 7-1
Slope Categories on the Project Site

Slope Category	Total Area (Square Feet)	Ratio of Area to Overall Project Site
0 - 25%	135,752	93.7%
25 – 35%	5,043	3.5%
>35%	4,111	2.8%

Site topography is consistent with regional topography, which slopes downward from east to west to NYS Route 120, Interstate 684, and Kensico Reservoir.

GEOLOGY

The geology of Westchester County largely consists of metamorphic bedrock overlain by more recent unconsolidated glacial deposits (sand, silt, clay, till) upon which the soil (solum) has formed in the uppermost few feet through the action of weathering and biologic deposition over time.

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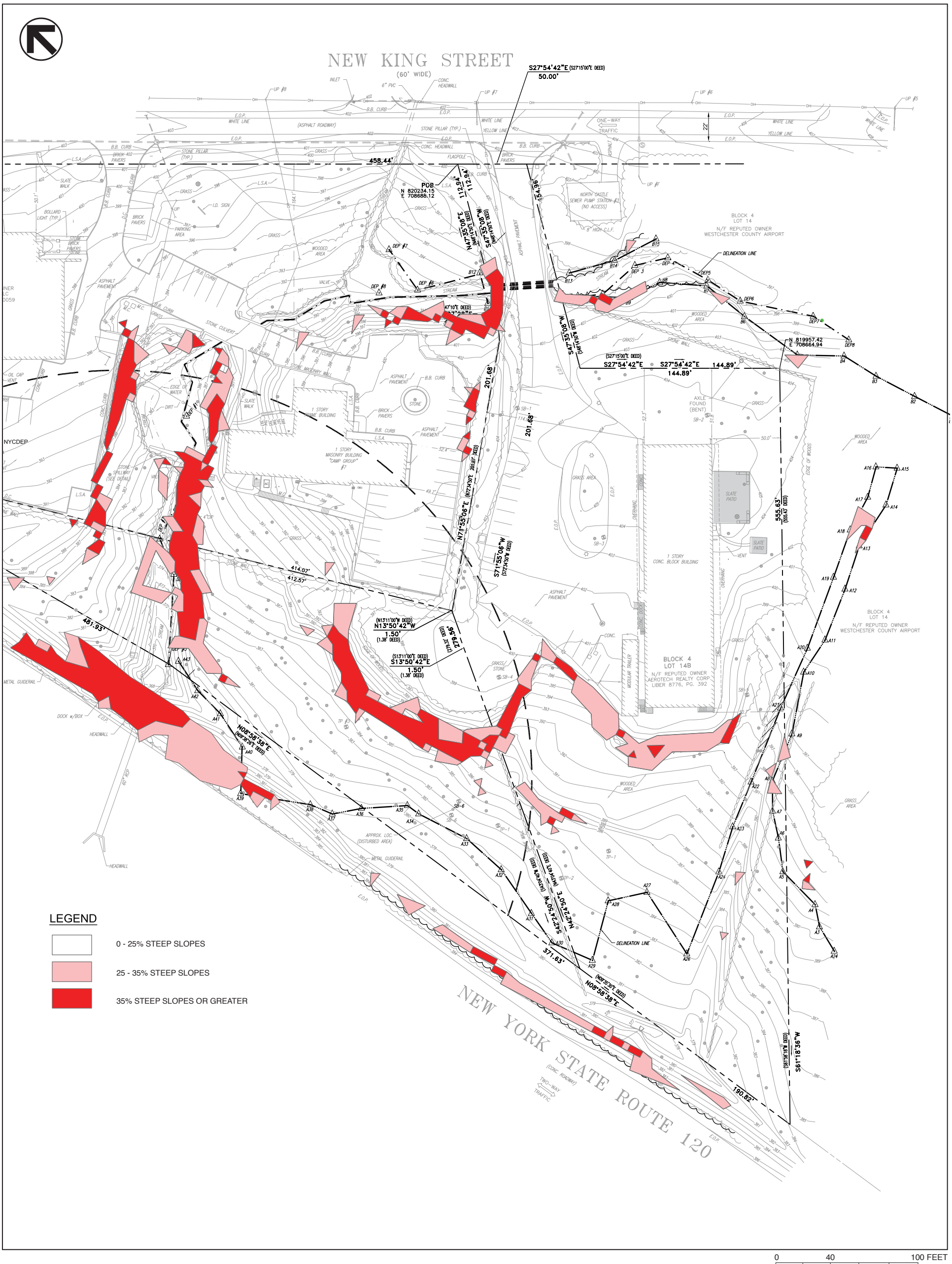

PARK PLACE at Westchester Airport

Existing Slopes and Topography

Figure 7-1

Published geologic maps indicate that the project site is underlain by bedrock of the Manhattan formation, which is comprised of metamorphic rock including schistose gneiss with local interlayers of amphibolite and marble. A second bedrock type, the Inwood marble, borders the project site to the west following a narrow north-south footprint within the Wampus/Byram River valley that runs roughly parallel to I-684. This formation contains dolomite marble, calc-schist, granulite, and quartzite, overlain by calcite marble.[1] Mapping of bedrock faults for the region shows no major or minor lineaments or fracture traces underlying the project site.[2] There are no unique geologic features, such as bedrock outcrops, associated with the site.

Maps of unconsolidated deposits indicate that the project site is underlain by till, with the following characteristics, "variable texture, usually poorly sorted diamict, deposition beneath glacial ice, relatively impermeable (loamy matrix), variable clast content."[3] Where glacial outwash forms well-sorted deposits of sand and gravel, useful groundwater supplies may occur. Therefore, areas of known or suspected high yield groundwater supplies have been mapped across the County. The project site is not mapped as an area of known unconsolidated deposits or fractured bedrock favorable for groundwater development. The closest area of potentially high-yielding unconsolidated deposits is located approximately 1.0 mile north of the project site extending along the north-south trending valley carrying drainage from Byram Lake southwards along the I-684 corridor to Rye Lake/Kensico Reservoir.[4]

The New York State Department of Health (NYSDOH) has designated certain important source of groundwater as "Primary Aquifers", defined as "highly productive aquifers presently utilized as sources of water supply by major municipal water supply systems." The project site is not underlain by a Federal or State-designated Primary, Principal or Sole Source Aquifer. The closest NYS-designated Primary Aquifer is that which supplies the Village of Croton-on-Hudson, located roughly 20 miles northeast of the project site. Known/mapped groundwater resources in the project site vicinity consist of individual, domestic bedrock wells only. There are three bedrock wells mapped in proximity to the project site as of 1955, ranging in depth from 101 to 420 feet and yields of 5 to 6 gallons per minute.[5] A FOIL request was submitted to the Westchester County Department of Health (WCDOH) for adjacent properties, and no additional well records were provided. A bedrock well exists on the project site and is located within a slate patio adjacent to the southern end of the existing site building. According to the well drillers log contained in WCDOH records, the well was completed in 1966, bedrock was encountered at approximately 20 feet below grade, the well was drilled to a depth of 225 feet below grade, and a 3-hour preliminary pumping test was completed at a yield of 20 gallons per minute.

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[1] Fisher et. al. 1970. Geologic Map of New York, Lower Hudson Sheet. N.Y.S. Museum.

[2] Bedrock Geology and Fracture Systems. County of Westchester, NY, 208 Areawide Waste Management Plan (Geraghty & Miller, Inc. 1977).

[3] Cadwell et al. 1986. Surficial Geologic Map of New York, Lower Hudson Sheet. N.Y.S. Geologic Survey.

[4] Bugliosi, E. and Trudell, A. 1988. Potential Yield of Wells in Unconsolidated Aquifers in Upstate New York – Lower Hudson Sheet. U.S. Geological Survey.

Potential Sources of Ground Water Pollution, Groundwater Supply Systems, Ground Water Monitoring Systems. County of Westchester, NY, 208 Areawide Waste Management Plan (Geraghty & Miller, Inc. 1977).

[5] Asselstine, E.S. and Grossman, I.G. 1955. The Groundwater Resources of Westchester County, NY, Part I, Records of Wells and Test Holes. U.S. Geological Survey.

ON-SITE SUBSURFACE BORINGS AND TEST PITS

To characterize the subsurface conditions underlying the location of the proposed project's buildings and improvements, a subsurface investigation consisting of drilling soil borings and excavating test pits was performed in October 2008 by Melick-Tully and Associates, P.C. (MTA). Six test borings and four text pit excavations were undertaken. Samples were examined in the laboratory for grain size analysis and moisture content. Soil boring and test pit locations are shown on **Figure 7-2**. The results of this investigation are shown in **Tables 7-2** and **7-3**, and are contained in full in Appendix G, "Preliminary Soils and Foundation Investigation" MTA (November 6, 2008).

Table 7-2
Project Site Deep Test Results

Deep Test Hole Number	Description
1	10' Total Depth, 6' Groundwater Seepage
2	8' Total Depth, 6' Groundwater Seepage, 3'-6" Mottling Observed
3	11' Total Depth, 7' Groundwater Seepage
4	9' Total Depth, 8' Groundwater Seepage

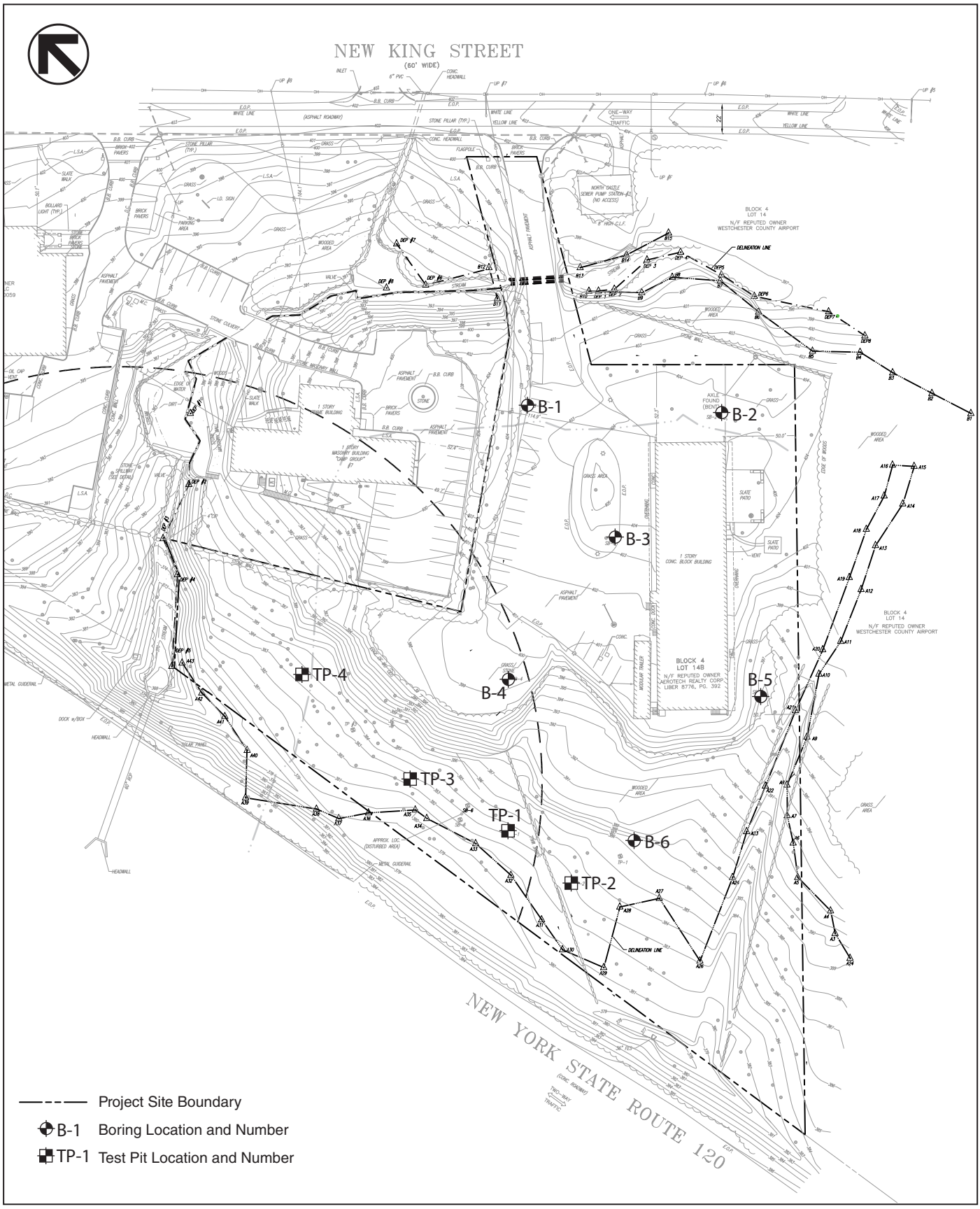
Table 7-3
Project Site Boring Results

Boring Number	Description
1	44' Total Depth, 25'-6" Groundwater Seepage
2	51' Total Depth, 10.5' Groundwater Seepage
3	36' Total Depth, 16' Groundwater Seepage
4	45'-2" Total Depth, 26'-6" Groundwater Seepage
5	30'-4" Total Depth, Water level not recorded
6	31' Total Depth, 18' Groundwater Seepage

MTA encountered topsoil underlain by glacial till consisting of silty sands. Fill was encountered above the glacial till in three borings drilled on the eastern side of the site in the area of current development. Groundwater was encountered in the borings at depths ranging from approximately 6 to 26.5 feet below grade.

Subsurface conditions are summarized below:

- **Topsoil**—The surficial material encountered in all of the soil borings consisted of a layer of topsoil. The topsoil was generally found to range from approximately 4 to 8 inches in thickness. However, the topsoil in one soil boring was observed to 18 inches below grade.
- **Fill**—Fill material generally composed of silty sands was encountered in three test borings (B-3, B-4 and B-5) drilled on the central portions of the site. The fill varies in thickness across the project site from 6.5 to 9.0 feet. As described further in Chapter 16, "Hazardous Materials," fill material may contain semi-volatile organic compounds (SVOCs), heavy metals, and other contaminants. The approximate extent of the fill on the project site based on the preliminary boring study (included in Appendix G) is shown on **Figure 7-3**. Based on field observations, the fill may extend beyond the area shown.
- **Sand**—The surficial topsoil and fill materials were underlain by glacial till consisting of silty sands with varying amounts of gravel and cobbles. The sandy materials were generally found to be dense to very dense in relative density, and extended to the completion depths in all of the test pits and soil borings (8 to 51 feet below grade).



Boring and Test Pit Locations

Figure 7-2

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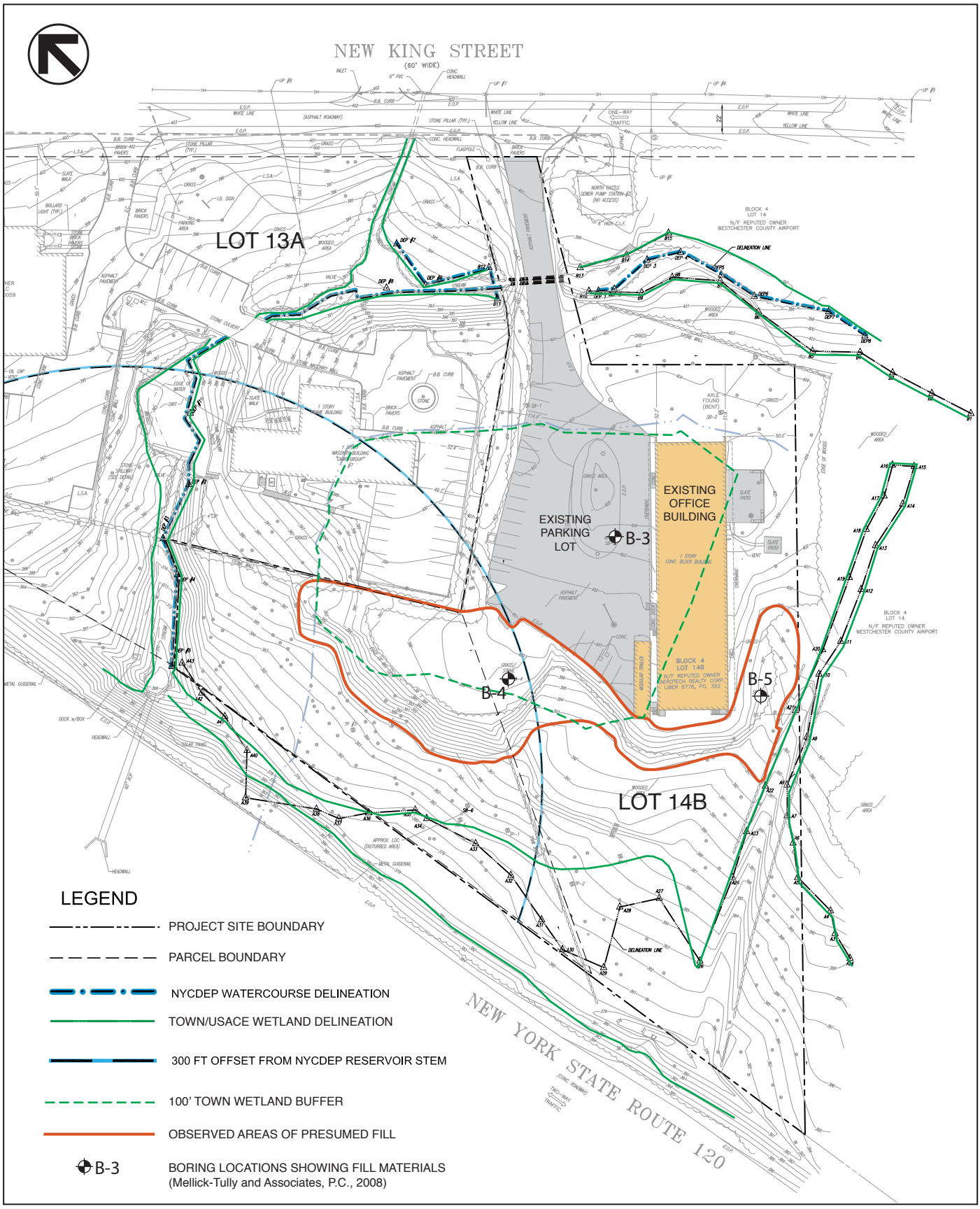


Approximate Existing Fill Onsite

Figure 7-3

The results of the subsurface exploration program indicate that the natural soil materials (dense to very dense silty sands) expected to be encountered at the proposed garage building subgrade levels would provide adequate support for the proposed garage using conventional spread footings. Groundwater elevations were encountered at variable drilling depths ranging from 6 to 26.5 feet below grade and mottling at the western-most test pit (Test Pit No. 2) at 3.5 feet below grade. Consequently, dewatering is anticipated to be required to maintain the water level below the proposed excavation depth and garage basement floor elevation. Alternatively, the lowest level floor slab may be constructed with sufficient weight to resist hydrostatic uplift pressures. Analysis of onsite soil samples indicate that they can be reused as controlled compacted backfill adjacent to footings, utilities or below grade walls.

Refer to Appendix G for the complete results of the Preliminary Soils and Foundation Investigation (Melick-Tully Associates, P.C.).

SOILS

The U.S. Department of Agriculture (USDA) identifies major classifications of soils that have similar characteristics (such as texture and drainage) into a series. Within each series, soils differ in slope and other characteristics that affect their use. On the basis of these differences, soil series are further divided into phases (soil mapping units). Different soil phases exhibit variable water storage, erosion potential, and other characteristics significant from a development perspective.

Table 7-4 contains a complete list of the soil mapping units located on the project site and lists their primary characteristics. The spatial arrangement of these soil types on the project site, as mapped by the USDA Natural Resource Conservation Service (NRCS) Soil Survey of Putnam and Westchester Counties (1994), is shown in **Figure 7-4**, Soils Map. On-site soil testing confirmed the following soil boundaries and descriptions.

The project site contains three soil types as mapped by the Natural Resources Conservation Service (NRCS).

WdB: WOODBRIDGE LOAM, 3 TO 8 PERCENT SLOPES

This soil is gently sloping, very deep, and moderately well drained. It formed in compact glacial till derived from schist, gneiss, and granite and is located on the lower parts of hillsides in the uplands. The water table of this soil mapping unit is between 1.5 to 2.5 feet below the surface from November to May. The taxonomy of this soil is a “coarse-loamy, mixed, mesic Aquic Dystrochrepts”. Included with this soil in mapping are small areas of the poorly drained and very poorly drained Sun soils, areas of well drained Paxton soils, the somewhat poorly drained Ridgebury soils, bouldery or very stony areas, and areas of soils with a friable substratum. The clay content is typically 2-10 percent.

The main limitation of this soil on sites for structures with basements is wetness. Installing drains around footings and foundations can lower the water table and diverting runoff away from structures can remove surface water to overcome such limitations. Similarly, this soil type can have limitations for septic tank absorption fields due to the seasonal wetness and the slow permeability of the dense substratum. However, municipal sewer services are available in the vicinity of the project site, eliminating the need for septic systems.

12.29.10

Soils Map
Figure 7-4

Table 7-4
Soils on the Project Site

Symbol	Soil Series Name	Depth to Bedrock	Depth to Water Table	Characteristics
WdB	Woodbridge loam, 3 to 8 percent slopes	More than 60 inches	1.5 to 2.5 feet below the surface from November through May	Moderately well drained. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. Main limitation for sites with dwellings with basements is wetness. High potential for frost action is a main limitation on sites with roads and streets. Erosion hazard is moderate, surface runoff medium, and water capacity moderate. "K" Factor: 0.24 to 0.32. Not listed as a "hydric" soil. Hydrologic Group is C. Land Capability Class is IIe.
Ub	Udorthents smoothed	More than 60 inches	Variable	Excessively drained to moderately well drained. Due to variability, soil properties are not provided by the NRCS for this soil type. It is commonly more than 20 inches deep over original soil. "K" Factor: Unlisted. Not listed as a "hydric" soil.
RdB	Ridgebury loam, 3 to 8 percent slopes	More than 60 inches	Within a depth of 1.5 feet from November through May	Poorly drained and somewhat poorly drained. Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. Main limitation for sites with dwellings with basements is wetness. High potential for frost action is a main limitation on sites with roads and streets. Erosion hazard is slight, surface runoff medium, and water capacity moderate. "K" Factor: 0.24 to 0.32. Not listed as a "hydric" soil. Hydrologic Group is C. Land Capability Class is IIIw.

Note: * Indicates soil unit is within the proposed footprint of disturbance. "K" Factor given indicates the erosion potential of each soil type. This indicates the susceptibility of a soil to sheet and rill erosion by water. Values of "K" range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to erosion.
Source: Soil Survey of Putnam and Westchester Counties, New York, USDA Soil Conservation Service.

WdB is listed as "Prime Farmland" soil indicating that it is among the best soils for growing crops, as defined by the USDA.

RdB: RIDGEBURY LOAM, 3 TO 8 PERCENT SLOPES

This soil is gently sloping, very deep, and poorly drained and somewhat poorly drained. It formed from glacial till and is found on the lower parts of hillsides in the uplands and along small drainageways. The water table of this soil is within 1.5 feet from November to May. The taxonomy of this soil is a "coarse-loamy, mixed, nonacid, mesic Aeric Haplaquepts". Included

with this soil in mapping are small areas of the poorly drained and very poorly drained Sun soils, areas of well drained Paxton soils, the moderately well drained Woodbridge soils, bouldery or very stony areas, and areas of soils with a friable substratum. The clay content is typically 3-12 percent.

The main limitation for RdB soil areas on sites for structures with basements is wetness. Seasonal wetness and slow permeability in the dense substratum can also be a limitation for sites needing septic tank absorption fields. However, as discussed above, municipal sewer services are available to the project site and septic systems are not required. As discussed above for the Woodbridge soils, the limitations associated with wetness may be overcome by installing drains around foundations and diverting runoff with a drainage system to intercept water from higher areas. The Ridgebury soils mapped on the project site are located at lower elevations to the west and have somewhat greater wetness and limitations as compared to the Woodbridge soil located further upslope. Soil wetness in this region of the site was confirmed in the field during onsite wetland inspection.

Soil parameters related to hydric status were examined in the field as part of the wetland delineation completed for the project site. Hydric soil indicators are discussed in Chapter 8, "Water Resources." As expected, areas mapped as RdB exhibited hydric soil characteristics at lower elevations. These soils were mapped as part of the onsite wetlands.

Ub: UDORTHENTS SMOOTHED

This soil mapping unit consists of very deep, excessively drained to moderately well drained soils that have been altered by cutting and filling. It is mainly in and adjacent to urban areas, highways, and borrow areas. It is made up of soil material in alternating layers ranging from sand to silt loam. Slopes are mainly 3 to 15 percent, but may range from 0 to 25 percent with steeper slopes at the edges of mapped areas. Fill material is commonly more than 20 inches deep over the original soil. Included in this mapping unit are small areas of Udorthents that have a wet substratum, in areas that have been filled but that were formerly somewhat poorly drained to very poorly drained.

The properties and characteristics of the Udorthents are so variable that additional onsite investigation may be necessary during the preparation of construction documents to ensure that the project is designed to address the limitations of the soils for proposed uses.

The Preliminary Soil and Foundation Investigation (Appendix G) indicates that the proposed depth of excavation for the project extends below any fill materials encountered in the borings. Fill was encountered in borings 3, 4 and 5, in the vicinity of the existing building and overflow parking area in areas mapped as Ub. It generally consisted of silty sands extending to depths of 6.5 to 9 feet below grade.

C. FUTURE WITHOUT THE PROPOSED PROJECT

No changes in site soils, fill materials, glacial geology, or bedrock geology are anticipated in the future without the proposed project. The steep slopes created by deposited fill material would continue to exist without the appropriate measures to minimize environmental impacts due to erosion.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would require the excavation of approximately 25,075 cubic yards of soil material. Of the excavated material, approximately 400 cubic yards would be used as fill in the regrading of the construction area. The net excess material to be exported to an off-site location is estimated at 24,675 cubic yards. A Paving, Grading and Drainage Plan identifying the area of disturbance and anticipated cut and fill is included in the plan set attached to this DEIS (see drawing C-5). Proposed cut and fill depths are shown on **Figure 7-5**. Disturbance to slopes greater than 25 percent would total approximately 7,981 square feet and comprise approximately eight percent of the overall area of site disturbance. If not properly managed, the temporary exposure of steep slopes and bare soil would accelerate the potential for erosion. This acceleration in soil erosion could potentially lead to siltation of the on- and off-site wetlands, ponds, and streams, located on and adjacent to the project site. This may cause a reduction in surface water quality. Measures to avoid impacts from the proposed project are discussed below.

DISPOSITION OF EXCESS EARTH MATERIAL

The majority of the soil material excavated during construction of the proposed project would be exported off-site. A layer of fill material, ranging from approximately 6.5 to 9.0 feet in thickness, is present on the eastern portion of the site where previous development activities occurred. The fill material constitutes a regulated waste with specific transportation and disposal requirements if it is exported off-site. As described further in Chapter 16, "Hazardous Materials," all fill materials would be sampled, handled, and transported to an appropriate disposal facility in accordance with all applicable federal, state, and local requirements. The remaining earth material was identified as a glacial till that is native to the project site. New York State Law, specifically 6 NYCRR 360-1.15(b)(7), stipulates that uncontaminated soil that has been excavated as part of a construction project, and which is being transported off-site to be used as a fill material, in place of soil native to the site of disposition, is not considered a solid waste. This provision would apply to the native fill material at the site, provided that none of the overlying fill material or potential petroleum contaminated soil is commingled with this material. Details regarding the soil handling requirements are described in Chapter 16, "Hazardous Materials."

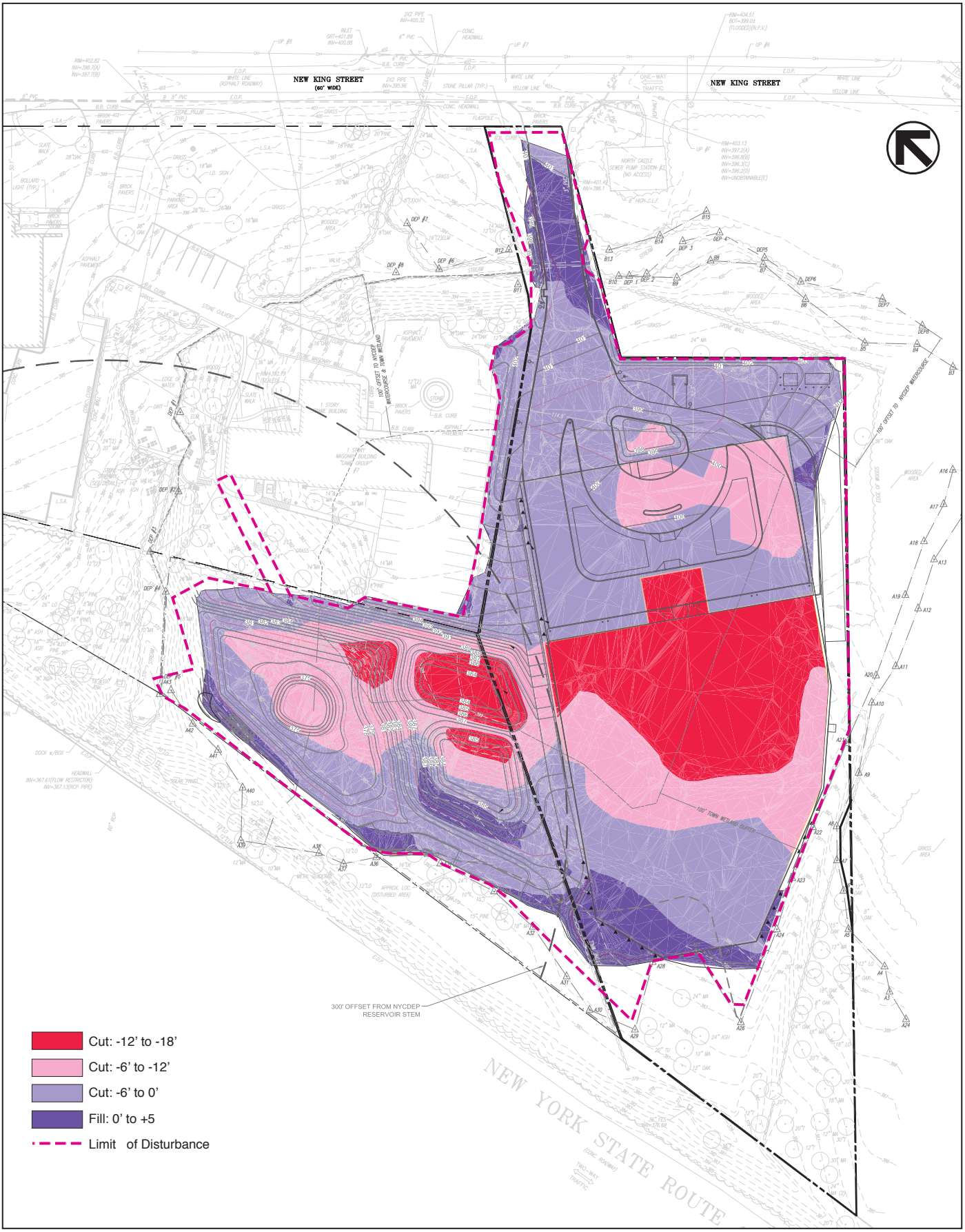
TOPOGRAPHY AND SLOPES

The area of disturbance for the proposed project is 122,078 square feet of the 144,906 square feet for the overall project site. As shown in **Table 7-5**, the proposed project would disturb approximately 7,981 square feet of steep slopes (>25 percent) on the western and northern sides of the project site, which is approximately seven percent of the total area of disturbance.

Table 7-5
Area of Slopes Disturbance

Slope Category	Total Existing Area (Square Feet)	Area of Disturbance (Square Feet)
0 - 25%	135,752	112,865
25 – 35%	5,043	4,566
>35%	4,111	3.415

1.10.11



0 60 FEET

SCALE

PARK PLACE at Westchester Airport

Proposed Cut and Fill Depths

Figure 7-5

A majority of the existing steep slopes were created by soil filling during previous site development and do not include appropriate measures to minimize erosion and environmental impacts. The proposed development plan includes removal of the fill material comprising the steep slopes, and engineering measures to construct a new slope network that would minimize project-related and future environmental impacts. Features documented on the Paving, Grading, and Drainage Plan (see drawing C-5) include a sedimentation basin, sand filter basin, and pocket wetland. Areas of site disturbance on existing slopes within the overall footprint of disturbance are shown in **Figure 7-6**. **Table 7-6** indicates the final proposed conditions for the project site by slope category.

Table 7-6
Proposed Conditions

Slope Category	Total Area (Square Feet)	Ratio of Area to Overall Project Site
0 - 25%	134,583	93%
25 – 35%	6,463	4.4%
>35%	3,860	2.6%

Section 213-17 (Hilltops, ridgelines and steep slopes) of the Town of North Castle Code requires that a building permit be attained prior to disturbing a slope category (25 percent or greater). The appropriate plans and permits would be submitted to the Town of North Castle for approval prior to initiating site development. The current engineering design plans include measures to minimize erosion and sedimentation, protect against possible slope failure and landslides, minimize stormwater runoff and flooding, and meet or exceed all applicable regulations for slope disturbance. The Erosion and Sediment Control Plan is shown on large-scale drawing C-7. A description of the site development program is included below.

GEOLOGY

As special geologic features are not present on the project site, impacts to these resources would not occur. The proposed project would not intercept the bedrock interface; therefore, blasting would not be utilized during development. As a result, impacts to geologic features would not occur.

SOILS

The potential impacts documented for the current soils at the project site include erosion hazards and drainage limitations that could result in wet basements and interfere with septic systems. However, municipal sewer services are available to the project site and onsite septic systems are not required. The erosion hazard for soil types found onsite is moderate and therefore construction activities would be a potential impact. However, these potential impacts can be mitigated with standard erosion and sediment control practices, discussed further below. As documented in the subsurface investigation completed by MTA, topsoil was observed to be four to eight inches thick across the site, with topsoil on one boring observed to be 18 inches thick. Drainage features related to the building foundation and/or related structures would be located below the topsoil layer and, therefore, would not be impacted by site soils. The site plan includes a pump chamber to be connected to the sanitary sewer.

1.13.11

Areas of Steep Slope Disturbance
Figure 7-6

E. MITIGATION MEASURES

SEDIMENT AND EROSION CONTROL PLAN

To prevent the potential negative effects of soil erosion, the proposed project would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the New York City Department of Environmental Protection (NYCDEP). It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site. Thus, the proposed excavation and grading activities would not cause any significant adverse impact.

Further details on the SWPPP are provided in Chapter 9, "Stormwater Management," and in the complete SWPPP found in Appendix H. The location of stormwater management and erosion control measures are shown in the separate, large-scale stormwater management plans and erosion and sediment control plans prepared for the SWPPP and included as part of this DEIS (see drawing C-7).

METHODS OF EROSION AND SEDIMENT CONTROL

Protection from erosion and sedimentation would be provided through the use of a variety of measures:

- The construction entrance/exit would have a stabilized aggregate pad underlain with filter cloth to prevent construction vehicles from tracking sediment off-site. Stabilized construction entrances would be located at specific transition areas between concrete/asphalt to exposed earth.
- Silt fencing would be installed on the down gradient edge of disturbed areas parallel to existing or proposed contours or along the property line as perimeter control. Silt fences are to be used where stakes can be properly driven into the ground as per the Silt Fence detail in the New York State Standards and Specifications for Erosion and Sediment Control and as shown on the Drawings (see large scale drawings).
- Silt fence controls sediment runoff where the soil has been disturbed by slowing the flow of water and encouraging the deposition of sediment before the water passes through the straw bale or silt fence. Built-up sediment would be removed from silt fences when it has reached one-third the height of the bale/fence and properly disposed.
- Storm drain inlet protection would be installed at all inlets where the surrounding area has been disturbed. The inlet protection would be constructed in accordance with NYSDEC Standards and Specifications for Erosion and Sediment Control. Typically they would be

constructed to pass stormwater through, but prevent silt and sediment from entering the drainage system.

- Stockpiled soil would need to be protected, stabilized, and sited in accordance with the Soil Stockpile Detail, as shown on the detail sheets. Soil stockpiles and exposed soil would be stabilized by seed, mulch, or other appropriate measures, when activities temporarily cease during construction for 7 days or more in accordance with NYSDEC requirements.
- During the demolition and construction process, debris and any disturbed earth would need to be wetted down with water, if necessary to control dust. After demolition and construction activities, all disturbed areas would need to be covered and/or vegetated to provide for dust control on the site.
- In areas where demolition and construction activities, clearing, and grubbing have ceased, temporary seeding or permanent landscaping would need to be performed to control sediment laden runoff and provide stabilization to control erosion during storm events. This temporary seeding/stabilization or permanent landscaping would need to be in place no later than 14 days after demolition and construction activity has ceased.
- A temporary pit is constructed to trap and filter water for pumping to a suitable discharge area. The purpose would be to remove excessive water from excavations. Sump pits would be constructed when water collects during the excavation phase of construction.
- Due to the depth of excavation for the building foundation and proximity to on-site watercourses and wetland areas, there may be areas of construction where the groundwater table would need to be intercepted and dewatering activities will take place. Site-specific practices and appropriate filtering devices would need to be employed by the contractor so as to avoid discharging turbid water to the surface waters of the State of New York.
- A sediment tank may be used in conjunction with other practices that would settle and filter the sediment from the stormwater runoff. The sediment tank is a compartmented tank container to which sediment laden water is pumped to trap and retain the sediment. The purpose of the tank is to trap and retain sediment prior to pumping the water to drainage ways, adjoining properties, and rights-of-way below the sediment tank site. In conjunction with the portable sediment tank, the mechanical filtering devices may be necessary to filter out the finer particulates. A permit may be required for such activities. However, typically dewatering activities are covered under the NYSDEC GP-0-10-001. Therefore, the contractor would need to coordinate with the resident engineer.
- A perimeter dike/swale would be utilized to prevent off-site storm runoff from entering a disturbed area and to prevent sediment laden storm runoff from leaving the construction site or disturbed area. It would be used to convey stormwater runoff from the work area to a proposed sediment basin.
- A temporary sediment basin would be constructed to intercept sediment-laden runoff and filter the sediment laden stormwater runoff leaving the disturbed area in order to protect drainage ways, properties, and rights-of-way below the sediment basin. The basin would be installed down gradient of construction operations which expose critical areas to soil erosion. The basin would need to be maintained until the disturbed area is protected against erosion by permanent stabilization.
- The Contractor would need to store construction and waste materials as far as practical from any environmentally sensitive areas. Where possible, materials would be stored in a covered area to minimize any potential runoff. The Contractor would need to incorporate storage

practices to minimize exposure of the materials to stormwater, and spill prevention and response where practicable. Prior to commencing any construction activities the contractor would need to obtain all necessary building permits for temporary structures (if necessary) and verify that all permits have been obtained.

By employing the above-mentioned measures, significant impacts related to building foundation construction would be avoided. The limit of disturbance area was minimized on the project site and the adjacent property to the extent possible. Retaining walls were investigated as a potential additional mitigation measure to reduce soil disturbance but were found to have minimal benefit in reducing the limit of disturbance area and would not be cost-effective. The SWPPP and ESCP provide for protection based on a 100- year storm event, and include engineering measures to address vegetative cover, installation and removal related to the construction schedule, and an operation and maintenance program to assure proper operation through the duration of the project.

The temporary conveyance system would be sized to adequately convey the runoff from a 100-year storm event to the first and second temporary sediment basin. Two temporary sediment basins, each designed to capture the required treatment volume, addresses the stormwater runoff during a 100-year storm event by providing twice the required volume as contingency. Each basin would be sized to convey the runoff from the 100-year event. The overall sequence of construction is shown on the drawings and is outlined in the Appendix H – Preliminary SWPPP.

Erosion and sediment control practices would be removed after more than 80 percent of the site has been permanently vegetated.

The soil erosion hazard is slight to moderate, therefore the ESCP and sequence of construction have been carefully planned to adequately address the potential soil erosion hazard.

The erosion and sedimentation protection measures meet the requirements of Section 213-17 (Hilltops, ridgelines and steep slopes) of the North Castle Town Code.

BLASTING

Subsurface investigations indicated that bedrock would not be encountered for construction of the proposed project. Therefore, blasting is not proposed and a Blasting Mitigation Plan is not required. Excavation of bedrock is not anticipated therefore rock hammering or chipping would not be necessary.

CONSTRUCTION PHASING

Only one phase of construction is anticipated to complete the proposed project. Details on the anticipated sequence of construction activities for the proposed project—including site preparation, demolition, grading, construction of the building, erosion and sediment control, and inspection and maintenance—are provided in Chapter 17, "Construction," Chapter 9, "Stormwater Management," and the Preliminary SWPPP (Appendix H). Inspections of erosion control measures would take place during construction, in conformance with the schedule and standards outlined in the SWPPP, to ensure that all erosion management practices are effective and in good working order.

OTHER

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soils, topography and slopes are not expected. As such, no other mitigation measures are required. ✷

A. GROUNDWATER RESOURCES

INTRODUCTION

This chapter assesses the potential for impacts to on-site and neighboring groundwater resources during and after development of the proposed project. Groundwater resources at the project site include an overburden aquifer within the glacial till sediments above the bedrock surface, and a bedrock aquifer within the fracture network of the bedrock formation. The bedrock aquifer is currently utilized as a source for potable water supply at the project site. The development plan includes installation and testing of a new bedrock supply well to meet the anticipated water demands. The current supply well would be decommissioned in accordance with applicable New York State Department of Health (NYSDOH) requirements. Design and use of aquifer resources for potable water supply are regulated by the NYSDOH and the Westchester County Department of Health (WCDOH).

EXISTING CONDITIONS

Chapter 7, "Geology, Soils, Topography, and Slopes," provides a summary of the geology at the project site, which includes a glacial till consisting of silty sands underlain by metamorphic schist and marble bedrock. The overburden aquifer is the result of precipitation infiltrating through and settling within the pore space of the glacial till sediments above the bedrock surface. Overburden groundwater is not utilized as a water supply resource at the project site. A subsurface investigation performed in October 2008 by Melick-Tully and Associates, P.C. (MTA) indicated that the overburden groundwater interface was encountered at depths ranging from approximately 6.0 to 26.5 feet below grade. The results of this investigation are contained in full in Appendix G. The variation in depth is likely due to the historical filling and the varying terrain on the property.

The bedrock aquifer is the result of the overburden groundwater infiltrating and migrating through fractures and fissures in the bedrock. The bedrock aquifer is currently utilized as a water supply resource for the existing commercial building. The building is served by a bedrock well located within a slate patio adjacent to the southern end of the site building. According to the well driller's log, the well was completed in 1966, bedrock was encountered at approximately 20 feet below grade, and the well was drilled to a depth of 225 feet below grade. A 3-hour preliminary pumping test was completed at a yield of 20 gallons per minute (gpm). The pumping test rate projected over 24 hours would result in a yield of approximately 28,800 gallons per day (gpd). The well currently meets the existing water demand, which is estimated to be approximately 970 gpd.

The project site is not mapped as an area of known overburden deposits favorable for groundwater development. The closest area of potentially high-yielding overburden deposits is located approximately one mile north of the project site. NYSDOH has designated certain

important source of groundwater as "Primary Aquifers", defined as "highly productive aquifers presently utilized as sources of water supply by major municipal water supply systems." The project site is not underlain by a Federal or State-designated Primary, Principal or Sole Source Aquifer. The closest NYS-designated Primary Aquifer is that which supplies the Village of Croton-on-Hudson, located roughly 20 miles northeast of the project site.

WATER QUANTITY

Groundwater in both overburden and bedrock aquifers is a renewable resource that is continuously replenished by precipitation, but the amount of recharge and volume of groundwater in storage at a site varies significantly and is dependent on surface features and local geology. The overburden aquifers in the vicinity of the project site are recharged from precipitation which infiltrates directly through the ground surface, from ground-water flow from surrounding hills and, from streams or overlying surface-water bodies. A portion of the precipitation runoff that infiltrates the soil and settles into the overburden aquifer eventually recharges into the bedrock fracture system and is available for capture by bedrock wells. A new supply well is proposed to be drilled on the project site. The proposed drilling and testing of the new supply well would ultimately indicate the availability of ground water from the aquifer source and any significant impacts to neighboring groundwater and surface water resources.

Because ground-water supplies are recharged by precipitation, the recharge rate is directly dependent upon the amount of precipitation. During periods of drought, the recharge rate and resulting ground-water availability is diminished. A water budget analysis would be completed during the pumping test investigation, and the pumping test data would be used to determine that the estimated direct recharge to the bedrock aquifer during drought conditions would support the proposed potable water demands.

WATER QUALITY

The existing bedrock well was permitted as a potable water supply source, which indicates the water quality was tested and met the NYSDOH potable well requirements. The proposed pumping test program would include the collection of groundwater samples at the end pumping test to be analyzed for parameters specified in Section 707, Westchester County Private Well Water Testing Law, of Local Law 7. This law sets forth water quality testing requirements and criteria for private drinking water wells.

FUTURE WITHOUT THE PROPOSED PROJECT

No changes to on-site groundwater resources would occur in the future without the proposed project. The current water demand of 970 gallons per day would be maintained by the existing office building. The fill materials deposited on the property during previous site development would continue to have the ability to affect groundwater resources due to storm water runoff, sedimentation, and potential migration of the potential contaminants associated with the existing fill material.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed water demand, including that required for the office (lavatory and potable) and car wash, is approximately 1,345 gpd. Due to the planting of native vegetation, the need for irrigation would be expected to be very limited; it is therefore not included in the total demand.

The estimated demand is similar to the current usage of an estimated 970 gpd and would be fulfilled by drilling and installing a new potable water supply well.

Groundwater withdrawal from the proposed well has the potential to impact neighboring wells that utilize the same bedrock aquifer for water supply. The pump test would assess the potential connectivity between the new onsite well and existing wells in the area. Any interconnected surface water body or wetland on or adjacent to the project site could, likewise, be affected by the proposed well. It is not expected that an interconnection between surface water resources and the proposed well would exist, as the well would be advanced into the bedrock aquifer more than a couple hundred feet below the ground surface.

Construction activities and the proposed use of fertilizers, pesticides, herbicides, fungicides and/or other chemicals have the potential, all be it limited, to impact the groundwater resources. This potential would be minimized to the maximum extent practicable through handling, storage and application fertilizers, pesticides, herbicides, fungicides and other lawn care or landscaping products in strict conformance with the manufacturer's guidelines and New York State Department of Environmental Conservation (NYSDEC) as well as all applicable Best Management Practices (BMP's) and the requirements set forth in the New York City Department of Environmental Protection's *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources* as amended. Only reputable professionals licensed and certified by NYSDEC for the storage and application of pesticides and fertilizers, shall be used for landscaping services. Conformance to these guidelines would minimize to the maximum extent practicable impacts on groundwater resources associated with chemical use on the project site.

No other projects within the immediate vicinity of the project site have been identified by the Town; therefore no cumulative impacts on groundwater resources are anticipated.

Potential impacts of changes in groundwater quality and quantity on the Kensico Reservoir and its tributary watercourse would not be expected for the reasons note above.

MITIGATION MEASURES

The project includes implementation of a pumping test program to determine available water quantity, quality, and the ability of the proposed bedrock well to support the anticipated water demand. The pumping test program will include a water budget and recharge analysis and a yield test to determine the safe yield of the proposed well and if water withdrawal would have any impacts to neighboring users or adjacent groundwater resources. Exiting well usage indicates that the bedrock formation is suitable for the anticipated water demand and there are no impacts to neighboring users or resources. Groundwater samples will be collected at the end of the proposed test to confirm any treatment requirements and that the water quality meets the NYSDOH and WCDOH standards.

Construction activities would include engineering measures to limit storm water run-off and preserve groundwater quality. Site features to promote collection and recharge of precipitation are described in Chapter 9, "Stormwater Management," and in the complete Stormwater Pollution Prevention Plan found in Appendix H.

Previous investigations have indentified a layer of fill material, ranging from approximately 6.5 to 9.0 feet in thickness, on the eastern portion of the site where previous development activities occurred. Uncontrolled fill material often has elevated levels of semi-volatile organic compounds (SVOCs) and heavy metals. Petroleum odors were observed in soil samples

collected from two soil borings indicating contaminants may be present at locations within the imported fill layer. The construction program would remove a majority of the fill material from the site and limit the potential for future contamination impacts to groundwater resources. Fill material would be handled, transported, and disposed in accordance with all applicable federal, state, and local regulations (see Chapter 16, "Hazardous Materials," for further details).

With the implementation of the proposed measures, significant impacts to groundwater resources are note expected. As such, no other mitigation measures are required.

B. SURFACE WATERS AND WETLANDS

INTRODUCTION

Surface water resources, including wetlands, are subject to a number of federal, state, and local laws. Disturbance to regulated wetlands and waters, or their adjacent areas (buffers), requires permitting from the regulating agencies.

As documented in Chapter 6, "Natural Resources," the project site contains forested wetland habitat, a stream and a drainage way. These resources and the regulatory framework governing the protection of the onsite wetlands and streams are described below. The boundaries of all streams and wetlands were field-delineated in accordance with federal and local methodology in the spring and fall of 2008 (see the wetland delineation report in Appendix B).

EXISTING CONDITIONS

WETLANDS

Wetlands are defined at the Federal level as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include "swamps, marshes, bogs, and similar areas" (Federal Register, 1982). Wetlands are regulated at the Federal level by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act and its implementing regulations. Wetlands are also regulated at the local level by the Town of North Castle per Section §209 of the Town Code. The Town also regulates disturbance activities within a 100-foot buffer surrounding wetlands to protect their function and values. While the New York State Department of Environmental Conservation (NYSDEC) also maintains regulatory authority over certain wetlands, the wetland resources on the project site do not meet the minimum requirements for regulation by the State.

The purpose of wetlands regulation by federal, state, and local government is to protect the unique functions and values served by wetlands. Wetlands absorb stormwater runoff and improve water quality, thereby mitigating downstream flooding and preventing degradation of water quality in streams and other surface waters. From an ecological perspective, wetlands typically provide higher primary productivity (grams of biomass per area per year) than upland habitat. Many species of plants and animals are endemic to wetlands, and many additional animals rely on wetlands as a source of food, shelter, or breeding habitat. Lastly, roughly half of New York State's threatened and endangered plants and animals are wetland dependent.

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) has mapped riparian wetlands (watercourses) on the project site, as shown in **Figure 8-1**. Federally regulated wetlands within a quarter mile of the project site are also included on this figure.

Onsite Mapped Wetlands:

Wetlands onsite have been mapped and classified by NWI as "palustrine forested, broad-leaved deciduous, temporarily flooded" (PFO1A). The NWI has mapped these as linear wetlands without a size/area. As discussed below under the Onsite Wetlands and Surface Waters Delineation, these linear wetlands were confirmed on the project site and additional forested wetland areas contiguous/coterminous with the NWI-mapped wetlands were identified and delineated. The area of wetland on the overall 3.34 acre project site is approximately 0.66 acres.

Upstream Mapped Wetlands - Offsite:

Wetlands upstream of the project site include palustrine forested and scrub-shrub wetlands to the northeast whose discharge flows downslope entering the onsite perennial stream immediately offsite on the adjacent property. In addition, an upstream palustrine forested wetland located on the Westchester County Airport property serves as the headwaters of the perennial stream that eventually enters the project site. This offsite wetland was examined in the field and found to contain open water and phragmites dominated portions and an evident green frog (*Rana clamitans*) population. The specific NWI classification and size of the three wetland areas upstream of the project site, and shown in **Figure 8-1**, are as follows:

- PSS1C: Palustrine forested, broad-leaved deciduous, seasonally flooded. Size: 0.25 acres. (Location: Westchester County Airport, Town of North Castle, NY)
- PF01C: Palustrine forested, broad-leaved deciduous, seasonally flooded. Size: 1.26 acres. (Location: Town of Greenwich, CT)
- PSS1C: Palustrine scrub-shrub, broad-leaved decidous, seasonally flooded. Size: 1.38 acres. (Location: Town of Greenwich, CT)

Downstream Mapped Wetlands – Offsite:

All wetlands and streams onsite are tributary to Rye Lake (Kensico Reservoir), located approximately 600 feet west of the project site. Rye Lake is part of the NYC watershed. It has been mapped and classified as "lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded" (L1UBHh). The contiguous area of this wetland polygon mapped by NWI is 2,170 acres. No other intervening wetland areas or wetland types occur downstream of the project site. Surface water is conveyed by culvert from the project site's wetlands to Rye Lake.

STREAMS

Two streams occur on the project site – a perennial stream and an ephemeral drainage channel that is infrequently flooded. As discussed in more detail below, the perennial stream is regulated by the U.S. Army Corps of Engineers, New York State, New York City, and the Town of North Castle. The ephemeral stream is regulated only by the Town of North Castle and the U.S. Army Corps of Engineers subject to an onsite confirmation (jurisdictional determination).

In New York State, the Department of Environmental Conservation (NYSDEC) oversees the "Protection of Waters Program" (6 NYCRR Part 608), which regulates activities that may

PARK PLACE at Westchester Airport

NWI Mapped Wetlands

Figure 8-1

disturb the bed or banks of a regulated waterbody—a stream or lake. **Figure 8-2**, shows the streams on the project site and in the vicinity as mapped by NYSDEC and Westchester County.

All state waters are assigned a class and standard designation based on existing or expected best usage. Streams that are designated as C(t) or higher (i.e., C(ts), B, or A) are collectively referred to as "protected streams" and are subject to the stream protection provisions of the Protection of Waters regulations.

The primary stream that traverses the project site at the entrance drive which flows year-round is listed as "Class A" by NYSDEC and is therefore subject to the provisions of the Protection of Waters Program. The classification AA or A is assigned to waters used as a source of drinking water. The onsite stream's proximity to the Kensico Reservoir, which is part of the New York City water supply system, accounts for it being assigned this designation. NYSDEC regulates disturbances within a distance of 50 feet from the banks of a regulated stream. Although not mapped by NYSDEC along its full extent, it is presumed that the NYS Protection of Waters Program regulations would apply to the full extent of this perennial stream up to its headwaters on the Westchester County Airport property, as shown in **Figure 8-2**. The Town of North Castle maintains jurisdiction over this stream under Chapter 206 of the Town Code, Watercourse Protection Law of the Town of North Castle, and Chapter 209 of the Town Code, Freshwater Wetlands and Drainage Law of the Town of North Castle, which regulates "watercourses" and disturbance activities within 100 feet of watercourses. Finally, at the federal level, the USACE regulates this stream under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

The secondary drainage feature onsite does not demonstrate perennial or intermittent flow and is more accurately termed an "ephemeral drainage way," conveying surface runoff during or immediately following a rain event only. It is not mapped by NYSDEC and is therefore not regulated at the state level pursuant to the Protection of Waters Program.

The Town of North Castle, in Chapter 209 of the Town Code, includes the following text: "A drainage ditch, swale, or surface feature that contains water only during and/or immediately after (usually up to 48 hours) a rainstorm or snowmelt shall not be considered a watercourse." As such, the drainage feature on the project site is likely not regulated by the Town. However, since the Town regulated surface water features have not been confirmed by the Town's representative, for the purposes of this DEIS, the drainage way and a 100 foot buffer are conservatively considered regulated under Chapter 209.

While the USACE has not confirmed the boundaries of these regulated resources on the project site, this would need to be done prior to obtaining site plan approval from the Town.

NEW YORK CITY WATERSHED

Another layer of regulatory protection that applies to streams and wetlands on the project site is that enforced by the New York City Department of Environmental Protection (NYCDEP) pursuant to its Watershed Rules and Regulations (Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources, Chapter 18).

The project site is located within the Croton watershed, part of the larger New York City watershed system, which supplies drinking water to New York City and other municipalities. Construction activities within the City's watershed are subject to certain restrictions—specifically, the construction of an impervious surface within 100 feet of a watercourse or

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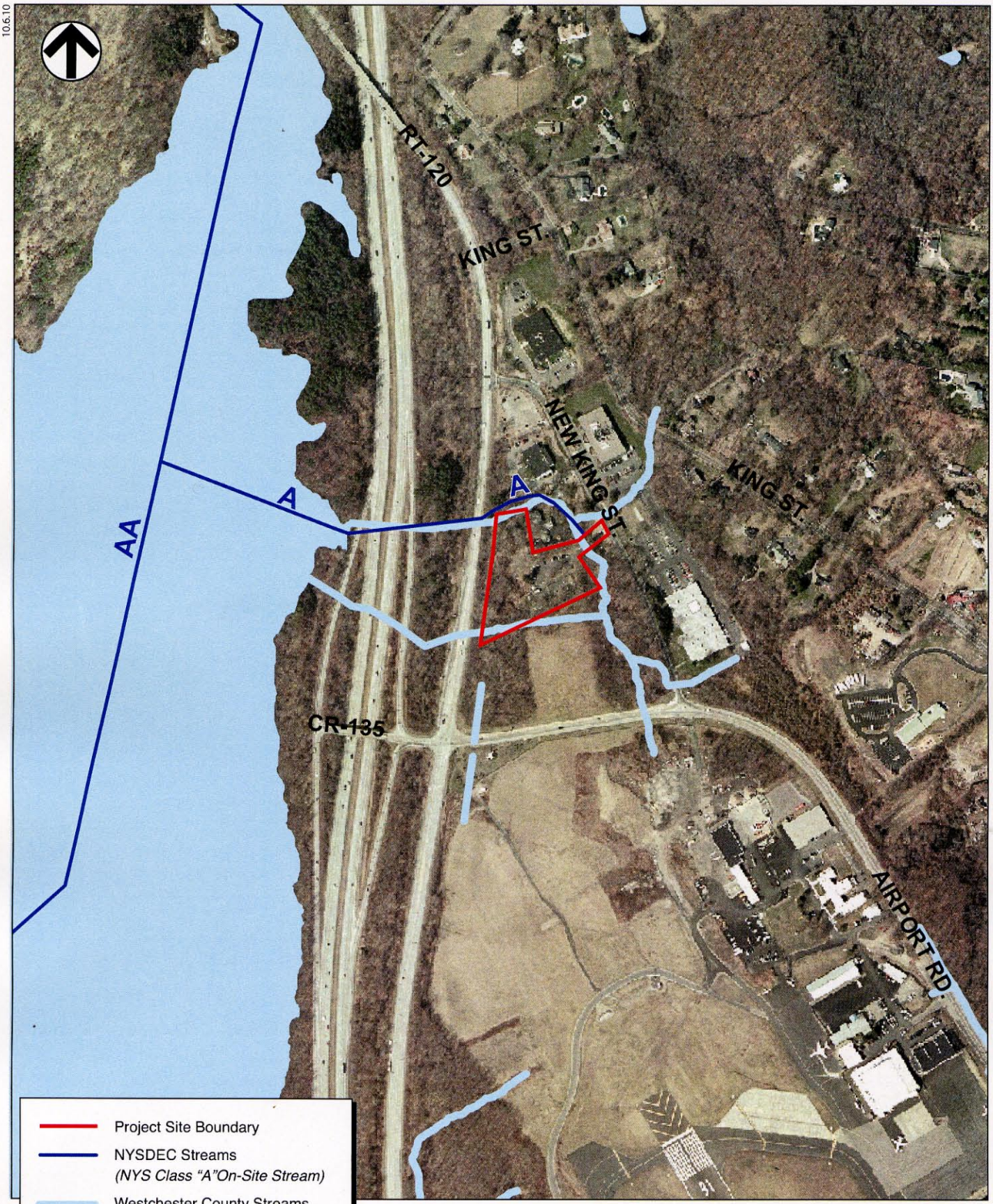

Mapped Streams and Water Bodies

Figure 8-2

wetland is prohibited without a permit or variance. In addition, land disturbance activities within the watershed must be mitigated with the design and implementation of a Stormwater Pollution Prevention Plan (SWPPP). Stormwater pollution prevention components of the proposed project are addressed in Chapter 9, "Stormwater Management."

In October 2008, NYCDEP conducted a watercourse delineation and placed flags on the project site. The purpose of this visit was to confirm the regulatory status of waterbodies and watercourses on-site with respect to the New York City Watershed Rules and Regulations. The NYCDEP-approved surface water resources are depicted in the large-scale drawings that accompany this DEIS (see Sheet No. C-2, Existing Conditions Plan).

This watercourse is considered a "reservoir stem" by NYCDEP. Such a designation results in a 300-foot buffer from the point 500 feet upstream from where the stream enters the reservoir (see **Figure 8-3**.)

The City regulates the development of storage tanks, wastewater treatment facility discharges and impervious surfaces within set limiting distances from a reservoir stem. No regulated activity within the reservoir stem limiting distances is proposed under the project plan.

ONSITE WETLANDS AND SURFACE WATERS DELINEATION

Wetlands and surface waters subject to Federal and Town regulation were field delineated on the project site in June and October, 2008.[1] Forested wetlands, a perennial stream, and an additional drainage feature were found to constitute regulated surface water resources at the Town and Federal level. The boundaries of these wetlands and waters were flagged in the field and survey-located. The wetland delineation report can be found in Appendix B. Subsequent to field delineation by the applicant, the Town inspected the wetland line on December 23, 2010 and made preliminary modifications to the wetland boundary delineated by the applicant. All information on wetland size and calculations of the preliminary Town wetland and buffer impacts have been revised to reflect the preliminary Town wetland boundary. The Town intends to re-inspect the wetland to make a final determination of the wetland boundary during the growing season of 2011. The boundaries of the regulated wetlands and surface waters are shown in **Figure 8-3**.

The project site slopes from a higher elevation in the east to a lower elevation closest to NYS Route 120 to the west. The lower elevations of the westernmost portion of the project site contain a forested wetland which extends offsite to the toe of the slope for NYS Route 120. This wetland area was flagged wetland "A" in the field. This wetland is hydrologically connected to the stream that runs under the access road and across the northern limit of the stormwater easement at a point just to the east of the culvert which conveys its flow under NYS Route 120. A second wetland area was flagged immediately offsite as wetland "B". This is the riparian wetland adjacent to the perennial water course that traverses the site by its entrance at New King Street. Both wetland areas and are labeled on **Figure 8-3**.

In total, the area of wetland on the project site is approximately 0.66 acres (approximately 0.53 acres on Lot 14B and approximately 0.13 acres on Lot 13A). This wetland covers approximately 20 percent of the 3.34 acre project site.

[1] Wetlands were delineated onsite by AKRF, Inc. pursuant to the Corps of Engineers Wetlands Delineation Manual (YR Y-87-1); the Draft Interim Regional Supplement Northcentral and Northeast Region (USACE 7/2008); and Town of North Castle Code Chapter 209: Wetlands and Drainage.

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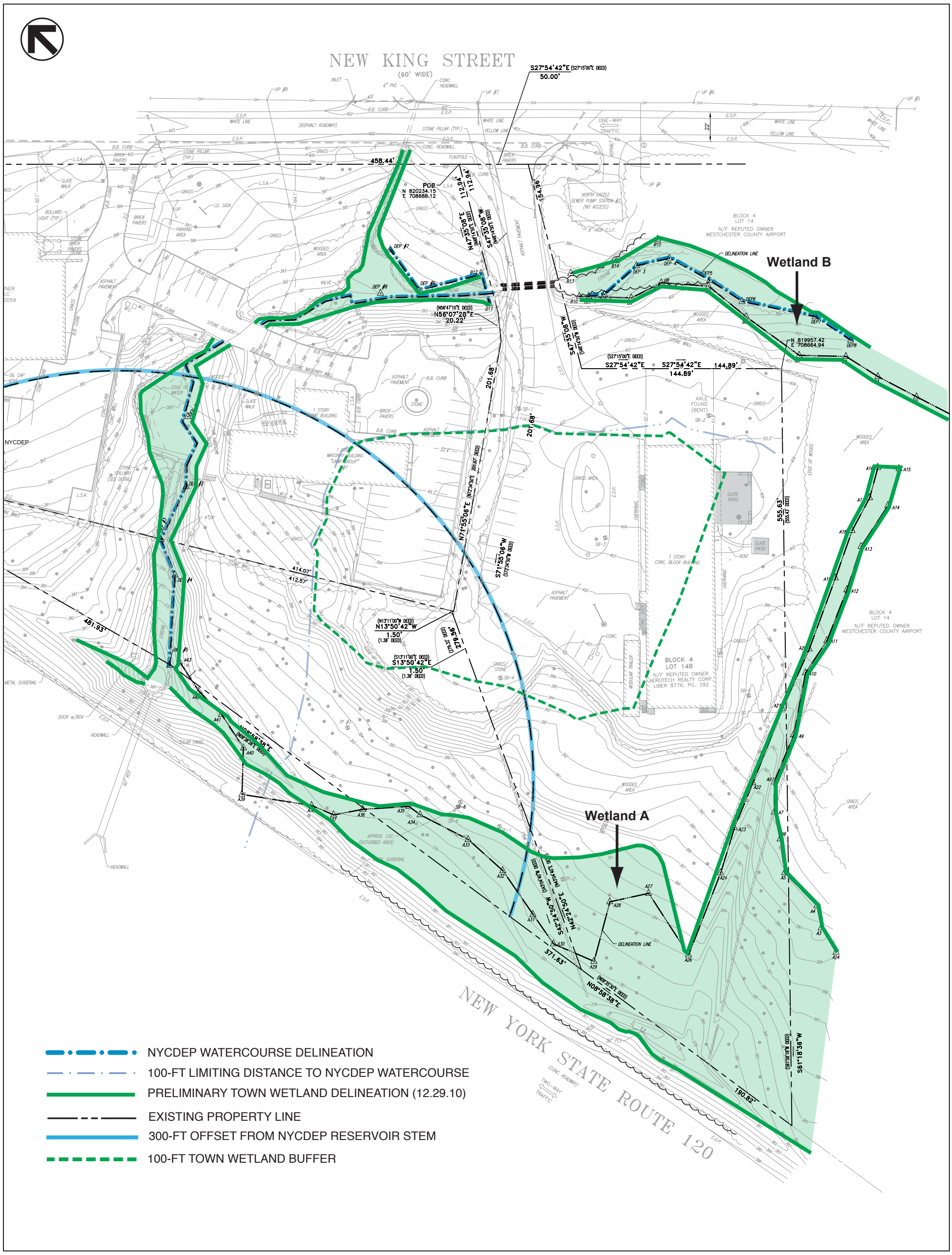

Delineated Surface Water Resources: Existing Conditions

Figure 8-3

Hydrology supporting the onsite wetland (wetland "A") is likely a combination of surface water flow and ground water expression. As noted in Chapter 6, "Natural Resources," of this DEIS, the wetland comprises the site's most botanically diverse habitat but is confined between areas of highly developed land and so it contains a moderate-to-high density of non-native/invasive plant species. Wetland hydrology sustains saturated soil conditions in this forested wetland but little or no perennial standing water was observed despite numerous site visits made at different times during the growing season. Soil in the wetland is mapped as Ridgebury loam, 3 to 8 percent slopes. This is a poorly drained and somewhat poorly drained soil, located on the lower parts of hillsides and along small drainage ways with a water table within 1.5 feet of the ground surface from November to May. An investigation in the flagged wetland yielded soils with a low chroma matrix and high chroma mottles within six to-ten inches of the ground surface. The soil meets the USACE "F3 – Depleted Matrix" designation for Field Indicator of Hydric Soils.

Vegetation onsite is made up of commonly found facultative wetland species adapted to fluctuating moisture regimes. Dominant overstory trees within the forested wetland include green ash (*Fraxinus pennsylvanica*), which are the largest diameter trees in this region reaching 30 inches. Green ash trees onsite appear to be in poor condition. American elm (*Ulmus americana*), red maple (*Acer rubrum*), and pin oak (*Quercus palustris*) are co-dominant trees with multiple age classes ranging in diameter from 10 to 24 inches. The shrub stratum in the forested wetland is more diverse than upland portions of the project site, with a mix of native and non-native species, including winterberry (*Ilex verticillata*), spicebush (*Lindera benzoin*), smooth blackhaw (*Viburnum prunifolium*), poison ivy (*Rhus radicans*), red-osier dogwood (*Cornus sericea*), multiflora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*), Japanese barberry (*Berberis thunbergii*) and others. Groundcover species include wrinkleleaf goldenrod (*Solidago rugosa*), panicled aster (*Aster simplex*), lady fern (*Athyrium filix-femina*), northern willow herb (*Epilobium ciliatum*), great lobelia (*Lobelia siphilitica*), Japanese honeysuckle (*Lonicera japonica*), broadleaf enchanter's nightshade (*Circaea lutetiana*), jumpseed (*Polygonum virginianum*), spinulose woodfern (*Dryopteris carthusiana*), and jack in the pulpit (*Arisaema triphyllum*).

The wetland habitat onsite resembles the species assemblages of the "*red maple-hardwood swamp*" community type as described by Edinger et al.

Surface water flows through the site within a roughly 38-foot long culvert located under the existing access drive. As discussed above, this stream and its adjacent riparian wetlands were flagged as wetland "B". Prior to entering the project site, this stream channel is located within a meandering floodplain of red maple, silky dogwood, and skunk cabbage. This stream flows across the adjacent property north of the site within a stone-lined channel before trending westwards and eventually running beneath NYS Route 120 via a culvert. Within approximately 600 to 700 feet of flowing by the northwestern corner of the project site, this watercourse discharges into the Kensico Reservoir. The first 500 feet of this watercourse, measured from this discharge point upstream toward the project site, meet the NYCDEP definition of a reservoir stem. On the project site, it has been flagged as a New York City-regulated stream.

A secondary "drainage feature" is located south of the existing onsite building where surface runoff during storm events flows downslope into the larger onsite forested wetland area. This drainage way is confined by two parallel fieldstone walls and is vegetated by such species as spicebush, elderberry, and smooth blackhaw. It has also accumulated yard clippings and debris.

All surface water flowing from the project site leaves by way of the culvert under NYS Route 120.

All of these delineated wetlands and waters described above are subject to the Federal Clean Water Act Section 404 and to the Town of North Castle wetlands ordinance. Generally speaking, the USACE requires a permit for direct wetland disturbance. At the Town level, North Castle has jurisdiction over a 100-foot buffer around regulated wetlands and watercourses. A permit would be required for disturbance (clearing/grading) within this zone. The area of Town-regulated buffer (wetland and watercourse) on the project site totals 1.84 acres. Portions of the existing onsite building and parking surfaces are within the Town-regulated 100-foot wetland and watercourse buffer.

Because the onsite wetlands are not mapped by NYSDEC, these wetlands are not subject to the New York State Freshwater Wetlands ordinance (ECL Article 24).

WETLAND FUNCTIONS

Wetland A Functions:

Groundwater Recharge/Discharge:

Under hydrogeomorphic wetland classification, wetland "A" can be characterized as both a "Depressional Wetland" and "Slope Wetland". Wetland "A" is underlain by RdB and WdB soils, both of which formed in glacial till, with low permeability, dense substratum. As such, the hydrology of wetland "A" is precipitation/surface water driven. Due to its landscape position and underlying surficial geology, wetland "A" is likely to be primarily an area of seasonal groundwater recharge. Wetlands associated with low permeability glacial till deposits may also be groundwater discharge wetlands for a period during the spring. During this period snow melt and rainfall recharge the uplands and flow as shallow groundwater (interflow – perched above the regional water table) downslope to depressional wetlands that intersect the seasonal high water table.

Stormwater Storage/Water Quality:

Depressional wetlands generally provide beneficial surface water storage and water quality treatment functions if they have a basin shape and lack an outlet. This allows them to maximize retention time. However, the onsite wetland "A" has a linear shape that functions as an area of sustained detention to a degree but primarily functions as a swale conveying surface water from the hillside northwards to the perennial stream. Because it contains two outlets (the culvert beneath NYS Route 120 and the surface connection to the perennial stream), its stormwater and water quality benefits are limited.

Diversity and Abundance of Flora and Fauna:

The presence of site wetness for a period throughout each year is sufficient to maintain the plants that provide food and cover for wetland animals. This is correlated with depressions with high water residence times. However, the onsite wetland exhibits periodic wetness, no areas of permanent water, and has a plant community adaptable to relatively wide soil moisture conditions. It exhibits no areas of emergent, graminoid species (sedges/rushes) and is generally shrub dominated, including a sizable coverage of non-native shrubs/vines of low forage value to wildlife. As such, the wetland's contribution to the abundance and diversity of flora and fauna are relatively low.

Wetland B Functions:

Groundwater Recharge/Discharge:

Wetland "B" is a forested riverine wetland, conveying a low gradient first order stream which becomes a high gradient second order stream immediately offsite to the north. Wetland "B" consists of the narrow fringe of wetland habitat adjacent to the perennial stream. Offsite, to the north where it flows through the adjacent rock-lined channel, this wetland exhibits little or no vegetation and is more accurately termed a watercourse traversing upland habitat. The water budget of riverine wetlands is dominated by overbank flooding and the wetlands occur on the stream's floodplain. Riverine wetlands are predominantly groundwater discharge areas in the glaciated northeast. Therefore, wetland "B" serves a groundwater discharge function and conveys surface water runoff from New King Street, the adjacent uplands, and a portion of the Westchester Airport property where a common reed dominated wetland serves as the headwaters of this stream.

Stormwater Storage/Water Quality:

Overbank flooding areas for the perennial onsite stream are confined by topography and by the adjacent roadway (New King Street). Therefore, stormwater storage is not a primary function of Wetland "B". Some micro-relief occurs along the narrow floodplain in the form of flat floodplain morphology, adjacent wetland plants, and fallen wood/debris. This adds somewhat to storage time as water is conveyed by the wetland during storm events. However, the onsite and offsite portions of the riparian wetland "B" are generally narrow offering little storage and treatment. Therefore, modification of storm flows and water quality improvement functions are not a primary benefit of this wetland.

Diversity and Abundance of Flora and Fauna:

The upstream portion of wetland "B" immediately south of the project site entryway is vegetated along its banks with native plants, including shagbark hickory, red maple, sugar maple, silky dogwood, and skunk cabbage. Once the stream has passed beneath the entry drive it flows through a narrow rock-lined channel within a mowed lawn landscape. Here the stream contains a monoculture of the invasive Japanese knotweed. Therefore, wetland functions of wetland "B" related to diversity and abundance of flora ranges from moderate to low. Nevertheless, the more level, upstream reach of wetland "B" contains areas of flooding/drying adjacent to the stream banks which creates a diversity of vegetation zones useful for animal forage and cover. Riparian habitats are among the more valuable for wildlife use, diversifying the landscapes through which they pass and acting as corridors for plant/animal movements.

WETLAND BUFFER FUNCTIONS

The Town of North Castle regulates land use activities within a 100-foot wetland and watercourse buffer. The primary wetland/watercourse buffers to be disturbed are the buffer of wetland "A", and a portion of the perennial stream buffer on the north side of the project site. These disturbances are primarily for the proposed construction of the stormwater management basins. Therefore, this discussion focuses on the buffer of wetland "A" and the perennial stream course. Proposed changes to the wetland buffer adjacent to wetland "B" in the vicinity of the project site entrance from New King Street are negligible – at present the forested portions of this wetland buffer are located offsite and would not be disturbed. Onsite buffer to wetland "B" is entirely lawn offering few buffer functions aside from a moderate amount of stormwater infiltration during rain events. In the future condition, that portion of the buffer to wetland "B" would be replanted with native trees, shrubs and forbs.

At present, under existing conditions, the overall wetland and watercourse buffer area on the project site contains 12,132 square feet of impervious surface (existing building and driveway surfaces) and 23,137 square feet of additional disturbance in the form of mowed lawn and fill used to create the overflow parking area. Thus, approximately 35,269 square feet of buffer is currently developed with impervious surface and lawn.

The forested portion of the existing 100-foot wetland buffer located between the developed portion of the site (building/parking) and wetland "A" provides two primary functions – plant/animal habitat and filtering of stormwater runoff. However, due to past disturbance and the presence of non-native plant species, the ability of the buffer to provide these functions is limited.

Current Condition of Forested Wetland and Watercourse Buffer:

The forested portion of the 100-foot wetland and watercourse buffer contains a sparse canopy of sugar maple, shagbark hickory, and black locust and an understory dominated primarily by native and non-native shrub species, principally multiflora rose, spicebush, wine raspberry, Japanese barberry, and blackberry. Portions of the shrub stratum are topped by vines including oriental bittersweet, Japanese honeysuckle, and porcelain berry. The herbaceous stratum is very sparse in the buffer, in part due to the poor light penetration where shrubs/vines are dominant. Bare soil is prevalent throughout much of the buffer due to the sparse herbaceous stratum. Evidence of past soil disturbance and regrading (pit/mound topography) is evident within the buffer. Lastly, a sizable portion of the 100-foot wetland buffer is already heavily disturbed offering little or no buffer functions – specifically, a majority of the 100-foot buffer is currently occupied by the existing building, its driveway and parking areas, an extensive area of fill material used to expand the existing parking area, and maintained lawn. Roughly 50 percent of the 100-foot wetland/watercourse buffer on the project site is currently disturbed.

Forested portions of the 100-foot buffer do provide opportunities for wildlife foraging and nesting and some capacity to trap sediment and lessen the detrimental effects of stormwater runoff to the site's wetlands. However, due to the lack of a robust herbaceous stratum and the predominance of a few non-native invasive shrub and vine species, the stormwater runoff treatment via sediment trapping and nutrient uptake functions are sub-optimal. The buffer is similar to many disturbed wooded parcels directly adjacent to roadways/highways in that it has a poorly developed and insufficiently diverse understory as compared to less disturbed forested habitat. For plant/animal habitat, the existing buffer provides some cover for denning and foraging opportunities, but could be improved with increased plant species diversity, removal of invasive species, and creation of a greater diversity of vegetative strata – including: low herbaceous groundcovers; cespitose graminoids; low shrubs; tall shrubs; tree strata of various age classes. Such improvements would measurably improve the buffer's ability to filter stormwater runoff and would expand the range of resident and migratory species capable of utilizing the habitat, principally avian species due to the site's relatively isolated location.

OFFSITE WETLANDS

The wetland delineated on the project site extends offsite onto the New York State Department of Transportation (NYSDOT) Right-of-Way (ROW) for NYS Route 120. The wetland area in the ROW is approximately 0.21 acres. Additionally, a federally mapped palustrine forested wetland located roughly 550 feet south of the project site on the airport property at the intersection of Airport Road and New King Street covers approximately 0.2 acres.

The Kensico reservoir is located approximately 600 to 700 feet downstream of the project site. The watershed of the reservoir measures approximately 12.5 square miles (7,948 acres). The watershed in which the project site lies is approximately 4.4 acres or 0.06 percent of the reservoir's total watershed area. This subwatershed area and the sites configuration were used in identifying the existing and developing the proposed discharge and design points (see Chapter 9, "Stormwater Management," for additional information.) The nearest floodplains are associated with the reservoir on the opposite side of Interstate 684 from the project site. The project site and surrounding area right up to the reservoir floodplain are mapped by FEMA as "Zone X – Areas determined to be outside of the 0.2 percent chance of annual flooding." This means the project site is outside of any FEMA designated 100-year or 500-year floodplain. The potential for flooding to occur on the property or on lands between the property and the reservoir is therefore expected to be very low.

INTERCONNECTIVITY OF ONSITE AND OFFSITE WATERS AND WETLANDS

Surface water that flows from the project site is conveyed by the, NYSDEC-mapped perennial watercourse which runs under NYS Route 120 at the northwest corner of the property. This watercourse flows directly into the Kensico Reservoir thereby meeting the definition of a reservoir stem.

The onsite wetlands and ephemeral drainage way also convey surface water runoff downslope to the west and discharge to the NYSDEC-mapped perennial watercourse. This is best illustrated by **Figure 8-2**: Mapped Streams and Waterbodies. All surface flow from the site is tributary to the Kensico Reservoir located west of NYS Route 120.

Site inspection confirms the presence of onsite streams. The primary stream begins on Westchester County Airport property, flows through the project site, then into the Kensico Reservoir. Regarding the ephemeral stream (flagged as wetland onsite), although not seen in the field due to debris and growth of dense shrub/vine cover, a small culvert is shown on project plans at the southwest corner of the site adjacent to NYS Route 120. We speculate that this culvert has been blocked/unmaintained over time preventing the effective drainage of these flows from the NWI-mapped linear wetland. Instead, runoff from the wooded hillside west of the existing building onsite is diverted northwards along the NYS Route 120 highway berm and causing saturated conditions here. Over time, this has created wetland conditions sufficient to support hydrophytic vegetation. As such, this wetland is likely of recent origin. It contains a mix of facultative wetland species common to the area and relatively high degree of invasive species cover in the shrub stratum typical of disturbed lands that have re-grown over a 40-year period.

FUTURE WITHOUT THE PROPOSED PROJECT

No changes to on-site surface waters or wetlands would occur in the future without the proposed project. Regulated buffers within the existing development were modified as part of the initial construction of the facility in the 1960s. No further clearing, grading, filling, or excavating within the water resources and or their buffers would occur, with the exception of ongoing site maintenance; a portion of the existing lawn is located in the Town buffer.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would result in disturbance to a small portion of an existing wetland on the project site, discussed further below. The project would also result in disturbance to the Town regulated 100-foot buffer for the onsite surface water resources and the NYCDEP 100-foot

limiting distance for the regulated watercourse. **Figure 8-4** shows the areas to be disturbed within the Town-regulated and NYCDEP-regulated wetland and watercourse buffers/limiting distances. Due to careful site design and placement of the parking facility and related improvements in upland portions of the project site, no impacts to the on-site stream or drainage way would occur as a result of the proposed project. No direct impacts to the onsite watercourse would occur.

Much of the disturbance associated with the development of the parking facility would take place in previously disturbed buffer areas. New disturbance within these regulated areas would be limited, for the most part, to the west end of the proposed building and the required stormwater management facilities. In total, 1.83 acres of land within the on-site stream and wetland buffers would be disturbed. Approximately 0.93 acres would be temporary disturbance during construction. A small area of disturbance would occur outside of the project site related to grading for installation of the stormwater management feature maintenance access route at the northeast corner of the building (approximately 0.09 acres). All areas of temporary disturbance would be revegetated upon project completion. The area of disturbance within the NYCDEP limiting distance would be approximately 0.40 acres, which includes the roughly 0.09 acres of temporary disturbance outside the project site boundary.

The on-site watercourse and the secondary ephemeral drainageway all are located outside of the proposed limits of disturbance and would not be directly affected by the development of the project. Approximately 0.13 acres of the on-site wetland would be within the limit of disturbance. Indirect impacts to the vegetation, hydrology and function of the site's surface waters and wetlands are not expected to be significant, in the applicant's opinion. The vegetation associated with these protected habitat types would remain post-development. Changes to the composition of the wetland vegetation would not be expected to result from the development of the proposed plan. In the applicant's opinion, impacts on the hydrology of the wetland and therefore the wetland's hydroperiod are not anticipated to be significant. Alteration of overland flow would be minor. All water flowing across the project site upon completion of the project would continue to discharge into the main watercourse prior to it flowing under NYS Route 120. As the project site is within the Kensico Reservoir watershed, surface water flows toward and discharges into the Kensico Reservoir. The project site is not within the Blind Brook watershed. As such, surface water features in proximity to the project site do not drain into Blind Brook and would therefore have no affect on flooding or water quality in Blind Brook. Impacts to the drainage way, which carries water directly to the wetland, would not occur and ground water input, to the extent that it exists, would remain unaltered. The existing functions of the wetland, including improvement to water quality, water storage, as well as provision of limited habitat would remain post development.

As noted previously, there are no floodplains in close proximity to the project site; therefore, impacts to any floodplains would not result from the development of the proposed project.

Since an irrigation pond is not a proposed component of the project, impacts associated with such a feature would not exist. Irrigation would be performed by the landscape contractor. Native species have been selected for the planting plan with a focus on those that can tolerate periods of dry weather and survive the seasons.

Permits and variances required for the proposed incursion in to the buffer and limiting distance would be sought from the Town of North Castle and the NYCDEP respectively. The applicant would assemble and submit a permit application in accordance with Chapter 209 of the Town Code for 1.83 acres of permanent and temporary disturbance proposed within the Town

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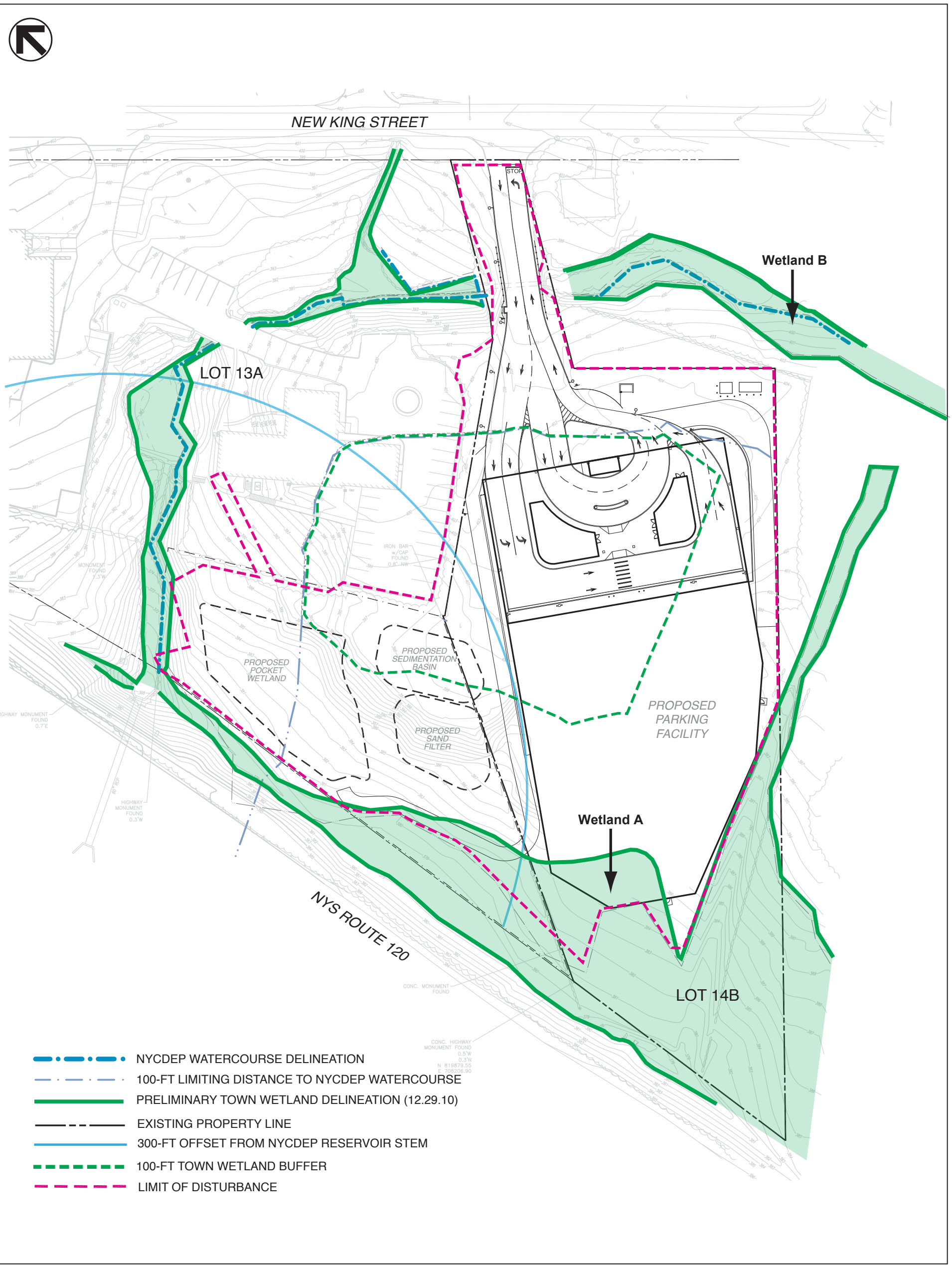

Delineated Surface Water Resources: Proposed Conditions

Figure 8-4

regulated wetland/watercourse buffer, as well as 0.13 acres of disturbance to the wetland proper. As noted, some of the buffer area was disturbed during the original development of the existing use and impervious surfaces associated with that use remain in the buffer area. A variance from Section 28-39(a)(4)(iii) of the NYCDEP Watershed Rules and Regulations would be sought for the introduction of impervious surfaces within the 100-foot limiting distance of a City regulated stream. Additional information pertaining to this variance is included in Chapter 9, "Stormwater Management." A permit from the USACE is not required as no impacts within the federally regulated resources are proposed. The USACE does not regulate a buffer around surface water features that fall under their jurisdiction. Additional disturbance to the bed and banks of the NYSDEC regulated watercourse beyond the existing culvert under the access drive would not result from the alterations proposed for the drive. As such, an Article 15, Protection of Waters permit from the state would not be required.

Fertilizers, pesticides, herbicides, fungicides and other lawn care or landscaping products would be handled, stored, and applied in strict conformance with the manufacturer's guidelines and NYSDEC as well as all applicable Best Management Practices (BMP's) and the requirements set forth in NYCDEP's *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources* as amended. Only reputable professionals licensed and certified by NYSDEC for the storage and application of pesticides and fertilizers, shall be used for landscaping services. Conformance to these guidelines would minimize to the maximum extent practicable impacts on wetlands associated with chemical use on the project site.

Cumulative impacts are not expected as other projects in the immediate area of the project site are not planned or proposed.

WETLAND AND WATERCOURSE IMPACTS:

Temporary and permanent impacts to wetland and Town-regulated and NYCDEP-regulated buffers would occur as a result of the proposed project. Potential wetland and wetland buffer disturbance is based on the preliminary Town-delineated wetland boundary discussed above, expected to be confirmed in the 2011 growing season. A permit application to allow disturbance within the Town regulated buffer would be submitted for the proposed project. In addition, a request for a variance to develop impervious surfaces within the limiting distance of a regulated watercourse would be filed with the City.

Based on the preliminary Town-delineated wetland boundary, direct wetland impacts (fill) are required for the western corner of the proposed parking structure and some grading necessary for the stormwater management facilities. As shown in **Table 8-1**, direct wetland impacts total 5,699 square feet.

Disturbance within the onsite 100-foot Town wetland/watercourse buffer is also proposed. In total, 33,486 square feet of impervious surface would be constructed in the buffer. This represents an increase in impervious surface within the wetland buffer of 21,354 square feet above existing conditions, or 17 percent of the overall buffer on the project site. However, this would occur primarily in areas currently developed with buildings, pavement or maintained lawn which offer few wetland buffer functions. At the present time, the existing impervious surface and lawn in the wetland buffer is 35,269 square feet (12,132 square feet impervious + 23,137 square feet of lawn). This is similar to the impervious surface and porous pavers proposed in the wetland buffer which is 39,255 square feet. Therefore, despite the increase in building size in the

buffer, the quantifiable buffer impacts are not extreme due to amount of existing lawn and pavement onsite.

Table 8-1
Wetland and 100-foot Buffer Disturbance

Existing Conditions on 3.34 Acre Project Site:	
Existing Wetland Area on Project Site	28,915 sq. ft.
Existing Wetland Buffer Area on Project Site	80,161 sq. ft.
Existing Impervious Surface within 100-foot Buffer (Building and Pavement)	12,132 sq. ft.
Existing Pervious "Developed Areas" within 100-foot Buffer (Mowed Lawn and Mowed Fill Area for Overflow Parking)	23,137 sq. ft.
TOTAL EXISTING BUFFER DISTURBANCE	**35,269 sq. ft.**
Proposed Conditions on 3.34 Acre Project Site:	
Proposed Direct Wetland Disturbance (New Impervious Surface and Fill)	5,699 sq. ft.
Net Increase in Impervious Surface within 100-foot Buffer Compared to Existing Conditions	21,354 sq. ft.
Temporary Disturbance within 100-foot Buffer (Areas to be Replanted with Native Vegetation – Stormwater Basins, Berms, Rain Gardens)	40,425 sq. ft.
Proposed Impervious Surface within 100-foot Buffer (New Pavement/Building)	33,486 sq. ft.
Proposed Pervious "Developed Areas" within 100-foot Buffer (New Grass Pavers and Permeable Pavers)	5,769 sq. ft.
TOTAL PROPOSED PERMANENT BUFFER DISTURBANCE	**39,255 sq. ft.**
NOTE: Calculations are based on the preliminary Town-delineated wetland boundary, expected to be confirmed in the 2011 growing season.	

All of the additional proposed disturbance in the buffer, amounting to 40,425 square feet, would be revegetated with native shrubs/trees/grasses and maintained in an unmowed condition matching or improving upon all buffer functions. It is expected that this would realize a net improvement in buffer function by trapping sediment, improving water quality, and increasing floral diversity – all functions poorly served by the existing wetland buffer onsite.

IMPACTS TO ONSITE WETLAND FUNCTIONS:

Groundwater Recharge/Discharge:

Wetland "A" receives runoff from the project site and from areas offsite, principally from wooded lands to the south. Aside from the ephemeral drainage channel located along the south side of the project site, no obvious area of surface water runoff is evident as a source of hydrology to this wetland. As such, it is expected that the regrading and fill required to implement the stormwater management basins adjacent to wetland "A" would not affect sub-surface groundwater levels and would not affect the primary surface water source of hydrology to this wetland – namely the ephemeral drainage channel. Furthermore, the three stormwater "cells" that would comprise the stormwater management system would retain water and allow infiltration for a longer period than the swift runoff that occurs under current conditions. Thus, the basins are expected to sustain surface water and subsurface saturation within the wetland buffer and adjacent wetland "A". Downstream wetlands would benefit from the stormwater

management system through increased detention and improved water quality as compared to the current condition. See Chapter 9, "Stormwater Management," for a detailed discussion of the project's stormwater management plan.

Stormwater Storage/Water Quality:

As discussed below, potential impacts to the onsite wetlands from erosion and sedimentation would be avoided by the implementation of a carefully monitored sediment and erosion control plan during construction. Silt fencing, temporary sedimentation basins, temporary reseeding, and construction phasing would be used to prevent the transport of sediment in stormwater runoff to the maximum extent practicable. Stormwater management measures are described in more detail in Chapter 9 and in the SWPPP found in Appendix H.

Diversity and Abundance of Flora and Fauna:

Essential for avoiding both sedimentation and the spread of invasive plant species is the implementation of the landscaping plan. An intensive re-vegetating of the site in native plant species will be undertaken in all areas beyond the footprint of impervious surfaces or porous pavement. By taking up the growing space quickly with new plantings, and as part of a 5-year vegetation monitoring and maintenance program, land areas adjacent to the project site's wetland would not serve as a source of invasive species.

Loss of habitat in lands adjacent to onsite wetlands – primarily the wetland buffer – could result in indirect impacts to the wetland over time via loss of stormwater treatment or loss in adjacent upland habitat necessary for wetland-dependant fauna. Both potential impacts would be avoided by the implementation of the stormwater management plan and landscaping plan. The proposed stormwater management plan would provide treatment of runoff prior to discharge to downstream waters and wetlands. Aside from the 22,000 square feet of additional permanent buffer loss with the new building and paved areas, the remaining 51,000 square feet of buffer disturbance would be revegetated with a diverse assemblage of native trees, shrubs, and forbs. This is expected to improve upon floral diversity and habitat values as compared to the areas of existing buffer to be disturbed. While there would be some reduction in total habitat with the proposed project, the planting plan is intended to improve upon habitat quality.

IMPACTS TO OFFSITE WETLANDS

No impacts to offsite wetlands would occur as a result of the proposed project. Due to space constraints, impacts to the buffer of wetland "A" on the project site are necessary primarily to provide a stormwater management system intended to improve flood storage and water quality treatment. Impacts to downstream waters are the only potential indirect impacts of the proposed project and have been avoided by the stormwater management system. No impacts to wetland "B" and to the perennial (NYCDEP/NYSDEC) stream are proposed by the project and any impacts to the buffer to these wetlands would be avoided by the proposed planting plan. Therefore, potential impacts to upstream wetlands (through stream flow constriction or riparian zone clearing) are avoided.

MITIGATION MEASURES

WETLAND MITIGATION PLAN

To mitigate for the proposed 5,699 square feet of direct wetland impacts, onsite wetland creation areas are proposed. The three stormwater management cells would be planted with facultative wetland vegetation. The planting area below the WQv storm elevation within each basin would be flooded during and following all rain events and would support hydrophytic vegetation – primarily grasses and sedges. The total growing space within the three stormwater basins below the WQv storm elevation would be 12,675 square feet. This represents a wetland mitigation ratio of 2.2:1, which is in line with the 2:1 mitigation requirements of Chapter 209 of the Town Code.

A mix of wetland forbs and grasses would be applied sufficient to fully occupy the growing space within the bottom of these basins. This would include cespitose perennials (bunch-forming sedges and grasses) and additional wetland herbaceous plants, including such species as swamp milkweed (*Asclepias incarnata*), marsh marigold (*Caltha palustris*), and others. The final stormwater basin has been designed as a pocket wetland (NYS Stormwater Management Design Manual W-4) and would have a permanent pool capable of supporting emergent aerenchymatous vegetation such as softstem bulrush (*Scirpus validus*), three square (*Scirpus americanus*), cattail (*Typha angustifolia/latifolia*) and others. The planting of the stormwater basins with hydrophytic forbs and graminoids would introduce a habitat type not currently present on the project site. The pocket wetland pond would hold water for much of the year providing potential habitat for invertebrates, thereby improving animal species diversity and foraging opportunities.

In addition to the wetland planting areas within the lower portions of the stormwater basins, many native facultative wetland plants have been specified to revegetate the basin berms and areas that would flood temporarily during storm events. Such species as highbush blueberry, winterberry, spicebush, red osier dogwood, silky dogwood, marsh marigold, sensitive fern and others have been specified in the preliminary Landscaping Plan (Drawing C-8). Many of these are plant species currently found onsite and they would be established at a higher density than at the present time, thereby increasing native plant presence and resultant benefits to wildlife.

Figure 6-2, found in Chapter 6, "Natural Resources," illustrates the post-construction habitat map, showing planting areas within the basins.

It is expected that a final wetland mitigation plan would be fully developed in close cooperation with the Town. This would include a final planting plan, final grading and soil amendment plan, and details on monitoring and maintenance to ensure that hydrophytic vegetation and saturated soil conditions are sustained sufficient to create a diverse and functional wetland habitat onsite. A stand-alone wetland and upland mitigation planting plan document would be prepared and subject to approval by the Town. This document would specify the monitoring and maintenance requirements during a 5-year grow-in period. During this period, such factors as plant mortality, sediment accumulation, soil saturation and confirmation of reducing soil conditions would be monitored, and reports provided to the Town.

It is expected that all wetland functions can be replicated or improved upon onsite by planting the lower portions of the stormwater basins and by incorporation of NYSSWDM Design W4: Pocket Wetland in the proposed plan. However, it is acknowledged by the applicant that the Town does not typically accept required stormwater management areas to serve toward wetland mitigation. Should the Town require, an area of offsite wetland creation/enhancement in compliance with Chapter 209 of the Town Code would be considered. If necessary, the applicant

is fully committed to working with the Town to identify and develop an offsite wetland mitigation plan within an area of wetland or upland located in the same watershed or in a nearby portion of the Town that would benefit from wetland creation or enhancement.

Proposed Mitigation Wetland Functions:

Groundwater Recharge/Discharge:
The proposed pocket wetland and areas of capable of supporting hydrophytic vegetation within the other components of the basins would retain surface water for a longer duration than under current conditions. By doing so, the potential to recharge groundwater through infiltration is improved overall. The loss of 5,699 square feet of forested wetland in a region that has poor surface water retention would have a de minimis impact on existing groundwater recharge functions that would be fully compensated by the proposed stormwater management system. As discussed above, the forested portion of onsite wetland "A" that would be disturbed by the project does not serve a groundwater discharge function. Therefore, this function is not affected.

Stormwater Storage/Water Quality:
Similarly, the proposed stormwater management plan would substantially improve stormwater storage, settling of suspended sediment, and uptake of nutrient pollutants. Existing wetland "A" does not retain surface water appreciably, except in a small phragmites-dominated pocket observed to retain several inches of runoff after rain events. This existing area of surface ponding would not be disturbed by the proposed project. Overall, stormwater storage and water quality functions are served poorly under existing conditions and would improve with the project.

Diversity and Abundance of Flora and Fauna:
Wetland functions that sustain or enhance habitat for flora and fauna are not "high value" in wetland "A". Though native plants occur in the wetland, invasive plant species colonization in the wetland is substantial. Additionally, the wetland has formed due to the creation of the NYS Route 120 berm and a poorly functioning culvert beneath the roadway. The wetland appears to be of comparatively recent origin and offers few wildlife benefits due to obvious disturbance from the adjacent roadway. No pool-breeding amphibians were found onsite nor are suspected to occur. As such, the proposed mitigation wetland planting areas are expected to improve floral diversity and opportunities for wildlife foraging. Seed from perennial grasses and native trees/shrubs proposed in the planting plan would sustain all bird species expected to frequent the site. The permanent pool of the pocket-wetland is expected to introduce new foraging opportunities for insect-feeding predators, such as flycatches, swallows, and bats. With a proper monitoring and maintenance plan, the planted wetland portions of the stormwater basins would exceed the acreage of wetland "A" filled by the proposed project at a ration of 2.2:1. Thus, overall wetland habitat would increase.

WETLAND AND WATERCOURSE BUFFER MITIGATION:

Clearing of a portion of the project site's forested buffer habitat would be required primarily for installation of the proposed stormwater management basins. A diverse mix of native trees, shrubs, and ground cover species are specified to replant all areas of buffer disturbance, as shown in the landscape plan (Drawing C-8). These would include such species as swamp white oak, river birch, serviceberry, red chokeberry, sweet pepperbush, winterberry and others. Herbaceous species, including bunch-forming grasses and sedges, would be planted within the stormwater basins to increase stormwater nutrient uptake and sediment trapping. By creating a variety of planting zones with varying amounts of soil moisture (within basins and within upland

zones) habitat heterogeneity would be increased by the proposed project. This would provide new habitat for invertebrates such as dragonflies and damselflies (order Odonata), animals that prey on this food source (flycatchers, little brown bat, warblers, etc.) and would add summer/fall/winter food sources in the form of seeds of native plants, especially grass species, important for ground feeding songbirds.

The net increase in impervious surface within the 100-foot Town wetland/watercourse buffer is 21,354 square feet. Mitigation for this loss of buffer would be the 40,425 square feet of mitigation plantings within the buffer, primarily for the revegetation of the areas to be regraded and planted in native vegetation for the stormwater management system. The diversity and structure of the native plants proposed is intended to realize a net improvement in buffer functions and habitat value. The replanting area would constitute a wetland buffer mitigation ratio of 1.9:1. Please note – the North Castle Town Code (Chapter 209) requires mitigation for wetland and buffer impacts but specifies only that direct wetland impacts (not buffer) be mitigated at a ratio of 2:1. In the applicant's opinion, the proposed mitigation plan would fully compensate for disturbance to onsite wetland and buffer. **Table 8-2** provides a summary of direct wetland and buffer impacts and proposed mitigation.

Table 8-2
Summary of Wetland and Buffer Mitigation

Impact/Mitigation	Amount
Direct Wetland Impacts	5,699 sf
Proposed Mitigation	12,675 sf
Mitigation Ratio	**2.2:1**
Permanent Buffer Impacts (Increase in Imp. Surface)	21,354 sf
Proposed Mitigation	40,425 sf
Mitigation Ratio	**1.9:1**
Notes: Based on Preliminary Town Delineated Wetland Line (12.23.10)	

One unavoidable impact related to buffer disturbance would be direct impacts (loss of individuals) and reduction in the overall upland forest habitat available for the red-backed salamander, a species identified onsite during site inspection. This species should recover the majority of habitat lost after replanting and grow-in of the disturbed areas revegetated as part of the landscape plan – principally areas in shrub/trees outside of the stormwater basins. Adjacent forested habitat offsite to the south would remain undisturbed – red-backed salamanders were found beneath rocks/debris in this area and would continue to survive here. This offsite salamander population would also serve to recolonize the onsite, replanted habitats over time. Lastly, the red-backed salamander is a common, unlisted species secure throughout New York State that should continue to occupy the project site.

In summation, wetland and watercourse buffer impacts would not be significantly adverse.

However, as directed by the Town, it is acknowledged that the proposed project would result in a significant amount of Town-regulated wetland buffer disturbance. The Lead Agency may require additional measures aimed at reducing Town-regulated wetland buffer impacts, such as prohibiting the application of fertilizer, herbicide, fungicide and pesticide, the elimination of Town-regulated buffer impacts, and a reduction in the proposed amount of Town-regulated wetland buffer disturbance. In addition, the applicant would need to prepare a final wetland mitigation plan as required by the Town Code. Furthermore, the Planning Board would need to

determine whether it would be appropriate to issue a wetlands permit pursuant to Chapter 209 of the Town Code.

As noted previously, fertilizers, pesticides, herbicides, fungicides and other lawn care or landscaping products would be handled, stored, and applied in strict conformance with the manufacturer's guidelines and NYSDEC as well as all applicable Best Management Practices (BMP's) and the requirements set forth in NYCDEP's *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources* as amended. The applicant is considering the use of organic chemicals as opposed to standard chemicals in the management of the landscaping.

Measures proposed to minimize impacts on water resources during the construction phase of the development are documented in the erosion and sediment control plan appended to this DEIS. Site inspections would be done during the construction phase of the project to ensure that eroded sediments do not leave the project site. Management and upkeep of the proposed erosion and sediment control structures is documented in Chapter 9, "Stormwater Management," of this DEIS as well as in the specific Stormwater Pollution Prevention Plan developed for this project (refer to Appendix H).

Upon completion of construction, all disturbed land would be revegetated to prevent future soil erosion. Measures to be implemented that would further minimize the impacts on water resources during the operation phase of the development include roof drains, which would be directed toward stormwater planters and the incorporation of rain gardens into the landscaping.

As noted previously, flooding of the project site and areas downstream are not anticipated; mitigation is therefore not proposed.

Other mitigation measures are not proposed. ✷

A. INTRODUCTION

This chapter describes the potential environmental impacts of the proposed project on stormwater runoff. An analysis of the pre- and post-development conditions was performed to fully evaluate the effects of the project on stormwater runoff. A hydrologic modeling program was used to determine pre-development runoff volumes and peak flow conditions. This same modeling program was used to develop the post-development stormwater management system to equal the pre-development peak flow rates after construction. In addition to peak flow analysis, runoff reduction volume (RRv), and phosphorous pollutant loading calculations were performed to demonstrate that the proposed stormwater practices and the green infrastructure components would adequately address stormwater runoff, by both minimizing potential impacts to water quality to receiving water bodies and replicate pre-development hydrology patterns.

B. REGULATORY CONTEXT

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

The project is located within the New York City East of Hudson watershed; therefore, conformance with the requirements of the New York State Stormwater Management Design Manual (NYSSMDM) Chapter 10 – Enhanced Phosphorous Removal Standards would be required. A Notice of Intent form must be completed and filed with NYSDEC Division of Water in Albany to obtain coverage under the SPDES General Permit 0-10-001. The MS4 Acceptance Form must be completed by Town representative and filed at the same time as the NOI form. A letter of acknowledgement from NYSDEC would be required prior to commencement of demolition and construction activities.

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

The proposed project would disturb more than 2 acres within 100 feet of a watercourse and would involve the proposed construction of an approximately 51,000 square foot building foot print, therefore the review and approval of a SWPPP would be required in accordance with Section 18-39 of the "Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources" (WRR).

The project site is located within Kensico Reservoir watershed, a part of the East of the Hudson watershed where phosphorous has been identified as a pollutant of concern. The watershed is part of the New York City watershed system, which supplies drinking water to 9 million people within New York City and other municipalities. The phosphorous load from the Kensico Reservoir contributing drainage basin results in exceedances of the phosphorous water quality values established by the NYSDEC and set forth in its Technical and Operational Guidance Series (TOGS) as determined by the New York City Department of Environmental Protection (NYCDEP) based on its annual review.

The provisions within §18-39—Stormwater Pollution Prevention Plans and Impervious Surface—of the WRR were developed to help protect the surface water quality by preventing potential contamination to and degradation of surface water quality. The intent is to minimize pollutant discharges from both point and non-point sources, limit phosphorous discharges, and reduce potential impacts from construction activities. This was achieved through the prohibition of certain activities within proximity of the reservoir, reservoir stem, wetlands and watercourses.

The following sections of the WRR apply to the proposed project:

- §18-39(a)(1) prohibits impervious surfaces within 100 feet of a NYCDEP defined watercourse.
- §18-39(a)(4)(iii) prohibits the expansion of more than 25 percent of the existing impervious surface within the limiting distance of 100 feet of a watercourse or wetland at an existing commercial, institutional, municipal, industrial, or multi-family residential facility.
- §18-39(b)(3)(iii) requires NYCDEP's review and approval of a Stormwater Pollution Prevention Plan (SWPPP) for construction of a new commercial project resulting in the creation of impervious surfacing totaling over 50,000 square feet in size.
- §18-39(c)(6) states that an activity requiring a stormwater pollution prevention plan resulting in impervious surfaces covering twenty percent (20 percent) or more of the drainage area for which a stormwater management practice is designed, the drainage area is to be treated by two different types of stormwater management practices in series.

The project site contains NYCDEP defined watercourse buffers for a watercourse which traverses the site to the east and flows through the adjoining property before releasing into Rye Lake through a 60-in. diameter culvert. Rye Lake is the eastern portion of Kensico Reservoir. The watercourse is a tributary to Kensico Reservoir; therefore the first 500-foot segment from the edge of the reservoir upstream is defined as a reservoir stem in accordance with the WRR. NYCDEP staff members have visited the project site to delineate the watercourse. The location and watercourse setbacks are shown on the larger scale drawings that accompany this DEIS.

TOWN OF NORTH CASTLE

Conformance with the Stormwater, Soil Erosion and Sediment Control Management Code (Town Code Chapter 173) would be required. Typically, this can be achieved through conformance with the NYSDEC General Permit 0-10-001. The Town of North Castle as a regulated, traditional land use MS4 would be responsible for the review of a SWPPP and completing the MS4 acceptance form prior to the applicant filing the Notice of Intent with the NYSDEC.

The project site contains wetlands located along the east, west, and south property lines. These two wetland areas were delineated in accordance with the Town of North Castle code and survey located. The wetland area to the east of the property follows the delineation of the NYCDEP defined watercourse and stretches through the adjacent property to the north until it reaches an existing 60-in. diameter culvert located to the northwest of the site. This culvert conveys water beneath New York State Route 120 and towards Rye Lake. The Town delineated wetland area located along the south and west property lines and conveys water to an existing 36-in. diameter culvert located off-site. This culvert conveys water beneath New York State Route 120 and towards Rye Lake. A map showing the wetland delineation can be found in the large scale drawings that accompany this DEIS.

C. METHODOLOGY

HYDROLOGY MODEL

To analyze the peak flow in existing and proposed conditions, HydroCAD® was used to model the hydrology. Hydrocad is a computer aided design tool used to evaluate and analyze the stormwater runoff from the site. The program models the surface flow through proposed stormwater practices calculating the plug-flow and center-of-mass detention time within the basins. A simultaneous routing process is used to evaluate the impacts associated with stormwater practices in series. The program is based on USDA, Natural Resources Conservation Service (NRCS) Technical Releases TR20 and TR55. TR20 and TR55 are tools that were developed to calculate the volume and peak discharge rates of stormwater runoff for rainfall events over a 24-hour period. Runoff volumes and rates are calculated by determining the curve numbers (CN) and calculating the time of concentration (T_c) for each subcatchment area depending on the given rainfall value. The CN values are based on the TR55 table and the hydrologic soil group, cover type, hydrologic condition, and antecedent runoff condition. The T_c represents the time it takes for surface water to travel to the hydraulically most distant point within the subcatchment area.

The following rainfall values for Westchester County, shown in **Table 9-1**, were used in the analysis. For the purposes of the hydrologic analysis, the runoff was based on Type III rainfall distribution for the northeast region. The following rainfall values are based on the 24-hour storm event. These values represent the rainfall distribution for various storm frequencies.

Table 9-1
Rainfall Values

Storm Event (Year)	Rainfall Value (inches)
1	3.20
2	3.60
10	5.00
25	6.50
50	7.50
100	9.00
Source: Northeast Regional Climate Center	

D. EXISTING CONDITIONS

The project development comprises two tax map parcels. The existing flag lot, designated as Block 4, Lot 14B, is approximately 2.47 acres and is currently developed with a one-story office building, associated parking area, and a two-way driveway which provides access from New King Street. The existing lot contains minimal slopes stretching from New King Street to the edge of the existing development but has moderate to steep slopes (15 percent or greater) beyond and extending to the western property line. A NYCDEP delineated watercourse traverses the eastern portion of the site through an existing 36-in. diameter culvert. This culvert is located beneath the existing driveway which connects the parking area to New King Street. A wetland, delineated by AKRF staff and to be confirmed by Town staff, also traverses the site along the southern and western boundary lines.

The proposed project would also involve the use of a portion of the adjoining property, designated as Block 4, Lot 13A, located to the northwest of Lot 14B. The portion of this property which is planned for drainage use is currently undeveloped and consists of trees and

low-lying brush located within moderate to steep slopes. This area is bound by Town regulated wetland to the west and a parking area to the east.

ON-SITE SOIL INFORMATION

The project site consists of three different soil types located throughout the property. Ridgebury loam (RdB) soils are located along the east and west property boundaries, while the Woodbridge loam (WdB) and Udorthents (Ub) are located in the middle portions of the site. These soil boundaries have been mapped by the United States Department of Agriculture "Soil Survey of Putnam and Westchester Counties, New York". Further information regarding on-site soil information can be found in Chapter 7, "Geology, Soils, Topography and Slopes."

GEOTECHNICAL RESULTS

Test pits and soil borings were performed throughout the proposed development areas to help determine the feasibility of certain types of stormwater treatment practices and those that would offer the best performance, see **Table 9-2** and **9-3**. Test pit locations were survey located and can be found on the Pre-Development Drainage Map (See the Preliminary SWPPP in Appendix H for more information). NYCDEP staff was present to witness the soil testing.

Table 9-2
Project Site Deep Test Results

Deep Test Hole Number	Description
1	10' Total Depth, 6' Groundwater Seepage
2	8' Total Depth, 6' Groundwater Seepage, 3'-6" Mottling Observed
3	11' Total Depth, 7' Groundwater Seepage
4	9' Total Depth, 8' Groundwater Seepage

Table 9-3
Project Site Boring Results

Boring Number	Description
1	44' Total Depth, 25'-6" Groundwater Seepage
2	51' Total Depth, 10.5' Groundwater Seepage
3	36' Total Depth, 16' Groundwater Seepage
4	45'-2" Total Depth, 26'-6" Groundwater Seepage
5	30'-4" Total Depth, Water level not recorded
6	31' Total Depth, 18' Groundwater Seepage

Deep test holes were performed in the northwest area of the project and generally indicated seasonal high groundwater varying from 3.5 to 8.0 feet below grade as is summarized in **Table 9-2**. Therefore percolation testing was not performed in these areas. Borings were performed throughout to provide information for the building foundation and pavement design. However, the information was also used to evaluate the potential for green infrastructure design.

EXISTING SURFACE WATER RESOURCES

Located within the project site are a Town designated wetland and a Class A watercourse, as designated by NYSDEC. The Town designated wetland was delineated by a field survey conducted by AKRF. The wetland was found to be present within the undeveloped southern portion of the project site and outside the western borders of the property along NYS Route 120.

A wetland is mapped along the unnamed stream outside the eastern project boundary near New King Street. These wetlands areas are protected by Town-defined wetland setbacks.

A reservoir stem is located at the outlet of the existing 60-in. diameter culvert on the west side of NYS Route 120. This NYCDEP also requires a 300 foot boundary line set from a reservoir stem. A more detailed description of the existing surface water resources can be found in Chapter 8, "Water Resources."

The Kensico Reservoir is located approximately 600 feet west of the project site. The Kensico Reservoir is considered a terminal reservoir because it provides the last impoundment of Catskill/Delaware water before it enters the City's distribution system. The reservoir is expected to continue serving this function in the foreseeable future. As the population of the New York City metropolitan area changes, NYCDEP will have to continue monitoring water supply needs NYCDEP has various watershed protection and remediation programs to ensure water protection initiatives targeting stormwater and wastewater pollution.

The Kensico Water Quality Control Program Annual Report indicated that the fecal coliform and turbidity levels in the aqueducts were well below federal limits for 2007. However, total coliform has exceeded the DEP guideline therefore NYCDEP has implemented a Waterfowl Management Program as the most cost-effective means for fecal coliform reductions. Turbidity is also an issue for the Catskill system; however the turbidity curtain at the Kensico Reservoir is reportedly functioning well. The 45 best management practices that were installed as part of the Kensico BMP program, have reportedly been effective in reducing fecal coliform and turbidity loading.

EXISTING STORMWATER

There are no existing stormwater management systems on-site. Therefore the majority of stormwater runoff is conveyed via overland flow from paved surfaces. Stormwater flows from rooftops, over paved areas and bare soil, and through sloped lawns, collecting and transporting soil, animal waste, salt, pesticides, fertilizers, oil and grease, debris and other potential pollutants.

POTENTIAL SOURCES OF WATER POLLUTION

The existing subsurface sewage treatment system is no longer functional and has been abandoned for several years and therefore is not a contributing source of pollution runoff. Roof leaders convey stormwater runoff from the office buildings to the lawn areas, where flow is spread out. Potential pollution sources within the watersheds include sand and salt from roadway and parking lot runoff, pesticides and fertilizers, and grass clippings.

Sand and salt is typically used for de-icing on the project site and adjacent paved surfaces. Since there is no existing stormwater management system, accumulated sediment could potentially be transported to the adjacent waterbodies.

Streams, lakes and reservoirs within the NYC watershed can be affected from intensifying land use. In addition to increased levels of phosphorous, chloride concentrations due to de-icing operations are increasingly found at higher levels in surface waters. Not only is chloride conveyed via surface water runoff, but it also infiltrates through the soil and intercepts the groundwater table, which is the contributing base flow of streams. According to the NYCDEP Annual Report "most of the [Croton Watershed] reservoirs have displayed steady increases in

conductivity since the early 1990s, most likely associated with development pressure in the watershed (e.g., increased use of road salt)."

Potential short-term and long-term impacts of runoff carrying fertilizers, pesticides, and other chemicals from lawns, roadways and other impervious surfaces and sedimentation is that it can be toxic to plants and animals.

Therefore stormwater runoff flows over impervious surfaces directly discharging into the down gradient wetland and watercourse without treatment. The pre-development subcathment areas are shown on **Figure 9-1** (See SWPPP Appendix C in Appendix H for larger scale drawings).

DESIGN POINT 1

Design Point 1 is located along NYS Route 120 at the inlet of an existing 36-in. diameter culvert which is located within an existing stormwater wetland just beyond the southwest site property line. This existing 36-in. diameter culvert conveys stormwater from a portion of the project site and the adjoining Westchester Airport property (located to the south) beneath NYS Route 120 towards Rye Lake which is part of the Kensico Reservoir. Flow across the south end of the property and a portion of the roof of the existing office building (Pre-1), drains to the Town designated wetland located along the western property line. From here stormwater runoff is conveyed off-site to an existing 36-in. diameter culvert which directs stormwater under NYS Route 120.

The contributing drainage area consists of land use types varying from wooded areas, landscaped areas, and impervious surfaces from the existing buildings and surface drive and walkway areas. Currently stormwater runoff is conveyed via overland flow to this design point and at no point is runoff collected into on-site existing stormwater structures.

DESIGN POINT 2

Design Point 2 is located along NYS Route 120 at the inlet of an existing 60-inch (in.). diameter culvert which is located within an existing town designated wetland and NYCDEP designated watercourse. This existing 60-in. diameter culvert is located northwest of the property line just west of Lot 13A.

The existing watercourse which flows south to north at the existing driveway entrance for 11 New King Street is conveyed under the drive via a 38 linear foot long 36-in. diameter culvert. It traverses the adjoining property, crossing beneath the existing driveway through a stone culvert and over a concrete spillway, before eventually flowing to a 60-in. diameter culvert downstream. This existing 60-in. diameter culvert conveys stormwater, from a portion of the existing project site and the adjoining properties to the north, beneath NYS Route 120 towards Rye Lake, a portion of the Kensico Reservoir

The contributing drainage area consists of land use types varying from wooded areas, landscaped areas, and impervious surfaces from the existing buildings and surface drive and walkway areas. The stormwater, which flows from the associated parking area and a portion of the existing building (Pre-2), is directed northwest, overland towards the delineated wetland located to the west of Lot 13A along NYS Route 120. From this area stormwater runoff is conveyed to the north and discharges into the watercourse in the area of the existing 60-in. diameter culvert.

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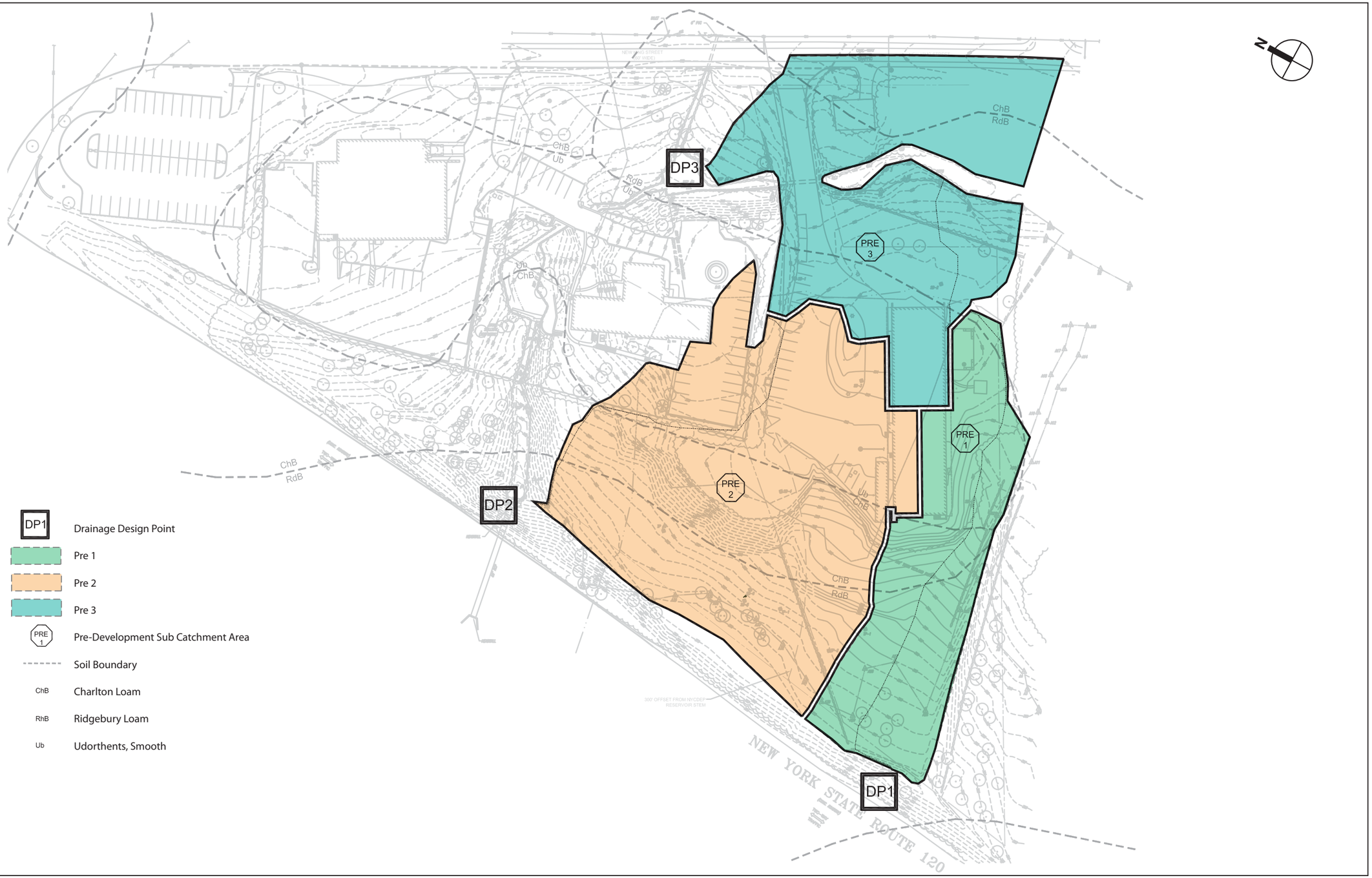


0 40 80 FEET
SCALE

Pre-Development Stormwater Map
Figure 9-1

The existing watercourse appears to be in stable condition with minimal erosion issues, as a majority of the stream banks are rock-lined. In many cases the degree of stream movement is limited by these rock-lined banks allowing little opportunity for the water to meander. These attributes are suggestive of a stream system with relatively low sensitivity to hydrologic changes.

DESIGN POINT 3

Design Point 3 is located in the eastern portion of the site adjacent to the watercourse. In the pre-development condition, this drainage area consists of a portion of the existing one-story building, a portion of the associated parking area and driveway, and wooded and landscaped areas.

Stormwater runoff from the eastern portion of the project site, including the eastern portion of the associated parking and driveway leading towards New King Street (Pre-3), is conveyed via overland flow to the NYCDEP watercourse located off-site. Runoff then flows in the watercourse through the existing 36-in. diameter culvert, beneath the existing driveway, and eventually to the existing 60-in. diameter culvert which conveys water under NYS Route 120. In the pre-development condition, stormwater runoff from the impervious surfaces is not collected or treated within a stormwater facility.

E. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, no improvements to on-site stormwater runoff would occur and no stormwater improvement to the adjacent property would occur. As was previously mentioned, the existing impervious surfaces located on Lot 14B and adjacent Lot 13A were constructed prior to the promulgation of federal and state stormwater regulations. Therefore, pollutants from atmospheric deposition and vehicle use are conveyed via surface water runoff directly to downstream surface water resources and ultimately discharged into the Kensico Reservoir. Stormwater would continue to discharge directly to these surface water resources from the project site and from the adjacent site without any control with respect to the volume or velocity, and without any water quality treatment. Stormwater runoff from the roof and paved surfaces would continue to flow overland towards the watercourse, causing erosive conditions in some areas of the lawn. This would include runoff from the existing 9,000 square foot building on the project site, and the 5,370 square feet of impervious surfaces (existing office building roof and associated parking area) on Lot 13A.

Under the existing condition, no new clearing, grading, filling, or excavating within the onsite surface water resources and their buffers would occur, with the exception of ongoing site maintenance.

The proposed project would result in more impervious cover but in turn would provide an overall improvement in stormwater runoff quantity and quality. The project, as proposed, includes the implementation of a stormwater treatment train that integrates green practices, such as stormwater planters and rain gardens, a surface sand filter and wet pond, to manage both existing and proposed stormwater runoff from the project site and the adjoining parcel to the north.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would involve the construction of a multi-level parking structure with a building footprint of approximately 51,000 square feet. This project would also involve the construction of associated paved areas for on-site drive lanes and site access from New King Street.

Potential impacts to surface water quality and quantity associated with construction activities are often mitigated with various stormwater treatment practices. Impacts to the stormwater runoff are often due to changes in land use, installation of impervious surfaces, and change in grading. As vegetation is removed and the amount of impervious surfaces increases, the quality of stormwater runoff decreases, impacting receiving water bodies. Because of changes in land use and increase in impervious surfaces, a smaller volume of stormwater infiltrates into the soil, increasing volume and peak flow of stormwater runoff.

To mitigate the impacts of stormwater runoff from new development and redevelopment, alternative approaches to design and construction have emerged. The Better Site Design (BSD) Manual developed by NYSDEC, offers guidance for the design of new and redevelopment projects with the focus on conserving natural areas, reducing impervious cover and better integrating stormwater treatment. Many of the design practices listed within the BSD manual have been incorporated into the proposed site work at the Park Place parking facility. Green infrastructure practices are now a required element of the treatment system for stormwater from a new development, such that the post-developed condition will closely replicate pre-development conditions. The runoff reduction volume (RRv) calculation is designed to reduce the total WQv by application of green infrastructure techniques, involving infiltration and groundwater recharge among others, in order to replicate pre-development hydrology conditions. Post-construction practices are designed to reduce the peak flows to the design point, and where feasible, they are designed to allow for groundwater recharge.

In addition to the increase in stormwater runoff flow, water quality of the receiving water bodies may also be impacted due to the increase in nutrient and particulate loading. Pollutants are deposited and collected on the impervious surfaces, which are conveyed during rain events and transferred to the receiving water bodies, potentially impacting natural resources.

There is an increased potential for sediment deposition during construction activities when soil is exposed and land grading activities are implemented. An erosion and sediment control plan that includes practices and a sequence of construction would help to reduce the potential for sediment transport in stormwater runoff. There are various sources of pollutants depending on land use activities, such as leachate from garbage trips, agricultural uses, pesticide applications, fertilizers, detergents, etc. Therefore, a SWPPP should address potential pollutants in the design of structural and non-structural post-construction stormwater treatment practices. Post-construction stormwater practices are designed based on contributing drainage area, soil type, existing slopes, and target volume. However, through good site planning and implementation of sound inspection and maintenance procedures the potential for transport of pollutants can be greatly reduced.

The implementation of a stormwater management system is integral in the mitigation of the potential impacts associated with the Park Place parking facility. The following explains the design of the proposed stormwater management system for the project.

G. MITIGATION MEASURES

The development of the stormwater management system for the proposed project site involves the use of green infrastructure practices where feasible. The project is less than 2.8 acres with approximately 32,489 SF (0.75 acre) of existing impervious surface. The proposed automated parking garage design was a major factor in reducing the building footprint from the typical multi-level self-park system. The proposed project includes 67,072 (1.54 acres) of impervious surface, or 0.78 acres of new impervious surface. The proposed stormwater plan would also include approximately 5,370 SF (0.12 acre) impervious surfaces from the existing office building roof runoff and associated parking area of adjacent Lot 13A.

The parking, drop-off, traffic queuing areas are all proposed to be located internal to the building. Therefore runoff from the parking areas would not be tied to the stormwater system, decreasing the likelihood for oil and grease type pollutants to enter the storm system. The following site planning practices were used to help determine the site plan and stormwater management system design.

PLANNING PRACTICE 1: PRESERVATION OF UNDISTURBED AREAS

The first approach to the overall design at Park Place is the preservation of undisturbed site area to maintain natural features and native vegetative areas. This technique coincides with Better Site Design (BSD) practice #1: preservation of undisturbed and BSD practice #3: reduction of clearing and grading. Both practices ensure that unnecessary earthwork is not performed and instead limit overall site disturbance by developing in areas where disturbance has already occurred. Where possible the project has been designed to re-use existing impervious areas (i.e., driveway entrance, driveway) and has eliminated any disturbance of the presently wetland and drainage way along the west and south property lines.

PLANNING PRACTICE 2: PRESERVATION OF BUFFERS

The project site is situated in an area where Town delineated wetlands and NYCDEP designated watercourses greatly minimize the developable area. Currently, stormwater runoff from impervious surfaces located within wetland and watercourse buffers discharge directly to the waterbodies without treatment. The project has been designed such that all runoff from impervious surfaces would be treated by a series of water quality treatment methods.

PLANNING PRACTICE 3: REDUCTION OF CLEARING AND GRADING

The proposed building and associated impervious surfaces have been situated on the project site such that there would be no disturbance to existing wetland areas and hence no clearing or grading is expected within these areas. The building has also been designed as a tiered structure which would work most efficiently with the existing site topography and thus minimize clearing and grading areas to the greatest extent possible.

PLANNING PRACTICE 4: LOCATING SITES IN LESS SENSITIVE AREAS

By constructing the new development in an area already disturbed, the project has helped to maintain the site's natural character and existing habitat. Also, while the proposed project would increase impervious surface, the project would provide stormwater quality and quantity controls where there are presently none. By treating runoff through a series of stormwater treatment

facilities the stormwater quality would be improved and would improve the existing watercourse and wetland.

PLANNING PRACTICE 6: SOIL RESTORATION

Prior to final site stabilization the on-site soils would be modified or restored to reintroduce oxygen into compacted soils and improve the water storage within the soil which would subsequently help reduce runoff through infiltration and evapotranspiration.

PLANNING PRACTICE 8: ROADWAY REDUCTION

The driveway travel lanes at the Park Place development have been designed to provide adequate safety and conveyance throughout the site. Originally four car exit lanes were designed to leave the building, however after evaluating the travel patterns the two lane exit was reduced to only one lane. Also, the fire access lane and maintenance path have both been designed to consist of permeable pavers to increase site infiltration.

GREEN INFRASTRUCTURE TECHNIQUES

Along with treating the water quality and quantity for the major storm events on the proposed project site, the NYSSMDM requires the applicant to achieve a runoff reduction volume. This volume is achieved through infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100 percent of the post-development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow. This requirement can be accomplished by application of on-site green infrastructure techniques, standard stormwater management practices with runoff reduction capacity, and good operation and maintenance.

INFRASTRUCTURE TECHNIQUE 7: RAIN GARDENS

Water running off of the paved entrance areas located near the building would be directed to a central rain garden located within an unpaved landscaped island. This area would be designed to capture and treat surface runoff before discharging into the proposed stormwater conveyance system. The contributing drainage area is approximately 0.355 ac, resulting in a rain garden surface area of 485 sf. Stormwater quantity reduction within this rain garden would be achieved via the infiltration capacity of the soil utilized.

INFRASTRUCTURE TECHNIQUE 9: STORMWATER PLANTERS

The proposed development would be designed to have stormwater planter systems along the south and north side of the parking structure. These stormwater planters would be designed to treat the stormwater runoff from the roof of the proposed structure. The roof leaders would be routed to one of these two areas for water quality treatment and nutrient intake before releasing into the proposed stormwater conveyance system. The roof leader system would be broken up so that the contributing drainage area to each planter would not be greater than 15,000 sf. An underdrain system is proposed to collect the stormwater after it filtrates through the planting soil.

INFRASTRUCTURE TECHNIQUE 11: POROUS PAVEMENT

As discussed earlier, in the areas where high traffic volumes are not expected (i.e. fire access lane, maintenance path), permeable pavers would be installed in place of conventional paving.

This would help to reduce stormwater runoff from these areas and improve water quality and quantity downstream. The use of pervious pavers would reduce the amount of stormwater runoff through infiltration. The gravel and block pavers would trap sediments and other pollutants also reducing the amount in the runoff.

RUNOFF REDUCTION VOLUME COMPARISON

To achieve the requirements for the Runoff Reduction Volume (RRv), the proposed project site would incorporate green infrastructure techniques and practices to meet the required water quality volume (WQv) as determined in the NYSSMDM. The water quality volume required to be achieved for the Park Place development is 4,144 cubic feet (CF). By providing rain garden and stormwater planter areas the project would be able to treat 4,073.5 CF. Under the proposed plan, stormwater runoff volumes from the developed site would be close to those under the existing condition.. Since the project would not meet the required standard for RRv, the NYSSMDM allows for projects to reduce the required water quality volume where additional efforts are not feasible. This reduction is based on a Hydrologic Soil Group(s) (HSG) of the site and is defined as the Specific Reduction Factor (S). The project site is located in Hydrologic Soil Group (HSG) C soils, therefore the percent reduction factor is 0.30. The reduction factor for this site decreases the required RRv water quality volume to 1,743 CF. According to the revised reduction factor the provided green infrastructure measures implemented on the site are sufficient to meet the revised RRv water quality volume. The comparison calculations for RRv and WQv can be found in SWPPP Appendix E in Appendix H of this DEIS.

DESIGN ANALYSIS

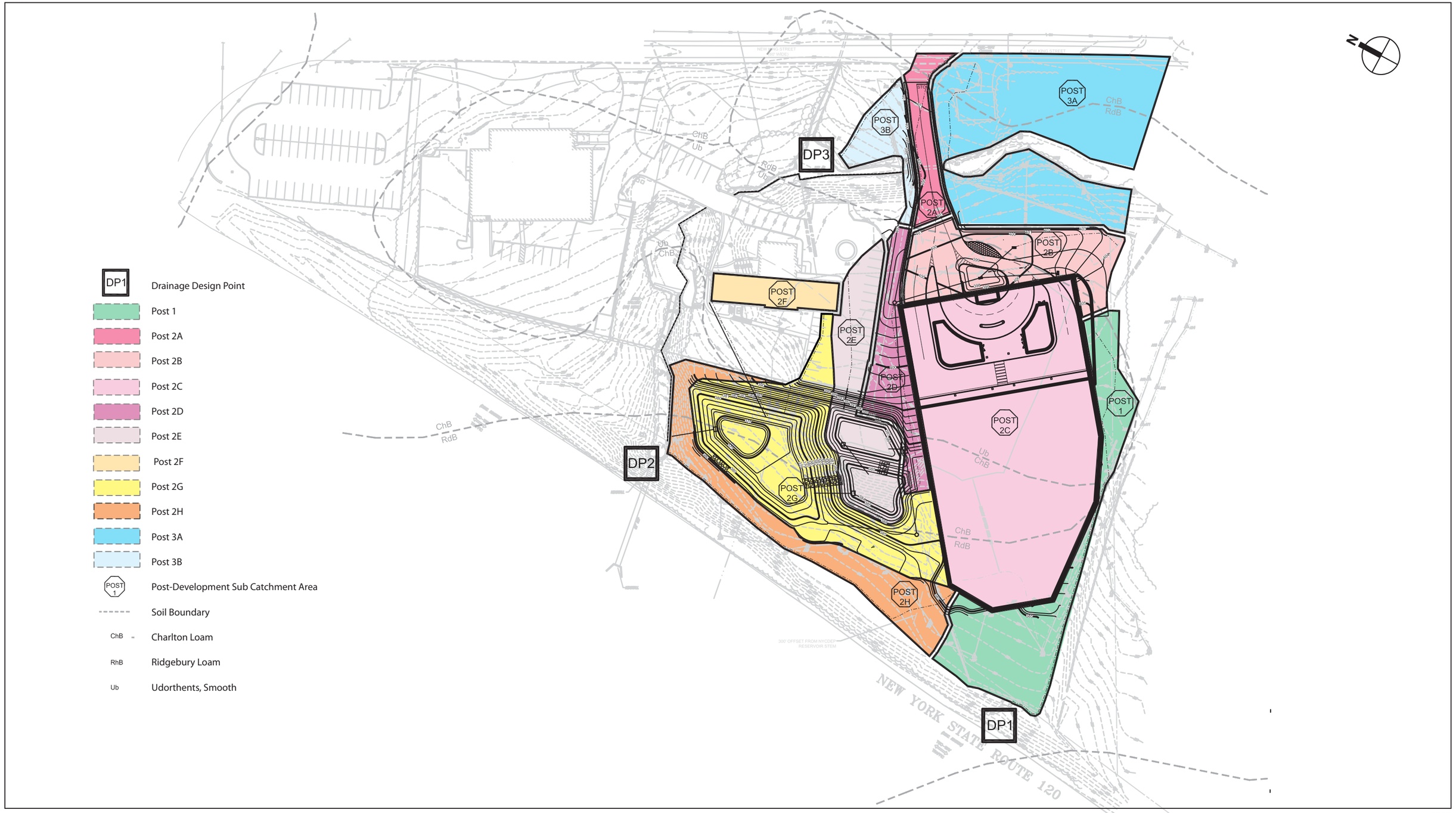
To evaluate the pre- and post-development drainage conditions, the site has been divided into three (3) discharge analysis points based on pre-development hydrology; Design Points 1, 2, & 3. These points were analyzed to evaluate the effects of the proposed development on stormwater runoff. The design points and their pre- and post-development contributing subcatchment areas are shown on Pre- and Post-Development Stormwater Maps, see **Figure 9-2** or Sheet Nos. D-1 and D-2 found in SWPPP Appendix B.

DESIGN POINT 1

Design Point 1 would include the following surface types: pervious pavers, such as Turfstone™ on the fire access lane; two concrete pads at the building emergency access doors, landscaped areas, and wooded areas.

The existing and proposed drainage areas differ in size because of the location of the proposed building and required treatment. The roof leaders for the proposed structure would collect and convey stormwater runoff to the north side of the building and discharge ultimately to Design Point 2. For this reason, the proposed impervious surface within this drainage area is decreased in proposed conditions and stormwater flows to Design Point 1 would be reduced from existing conditions.

Therefore, a stormwater treatment practice is not proposed for this drainage area. The results of the pre- and post-development flows demonstrate that the impact of the proposed permeable pavers is minimal. The proposed condition would improve the stormwater quality and quantity at Design Point 1.



Post-Development Stormwater Map
Figure 9-2

DESIGN POINT 2

The proposed development would include the following surfaces: the proposed building, the driveway and associated drive lanes, the stormwater management practice maintenance access path, the fire access lane, multiple concrete pads for utilities, new landscaped areas, and the existing building on the adjoining property to the north. The location of the new building is such that there would be an increase in impervious surface coverage, total drainage area, and post stormwater flows conveyed to Design Point 2.

Increases in impervious surfaces associated with the proposed project would also indirectly reduce groundwater recharge. This reduction in groundwater recharge may, in turn, result in lower rates of base flow, that portion of a stream's flow not directly associated with storm events, upstream of the proposed outfall location.

The contributing drainage area to the proposed stormwater facilities (approx. 2.7 acres), along with the high seasonal groundwater table makes the stormwater pocket wetland (W-4) the most suitable method for stormwater treatment. In accordance with Section 18-39(c)(6) of the WRR, if the proposed impervious surface coverage is twenty percent (20 percent) or more of the drainage area for which a stormwater management practice is designed, the stormwater pollution prevention plan would provide for stormwater runoff from that drainage area to be treated by two different types of stormwater management practices in series. Therefore, to address the stormwater runoff from the proposed development, two stormwater facilities are proposed; a stormwater surface sand filter to treat the water quality volume and a stormwater wetland (W-4) which would treat water quality volume conveyed from the surface sand filter and attenuate the flows from the larger storm events. These stormwater facilities are designed in series to capture and treat the stormwater runoff from the 1-year, 24-hour storm event in accordance with NYSDEC and NYCDEP requirements for treatment of phosphorous pollutants. These stormwater ponds would also provide attenuation of peak flows from the larger storm events.

Due to site elevations, the existing topography and the driveway and building layouts, two ponds could not be placed on the project site; therefore the stormwater facilities were located on the adjoining property to the north. The proposed ponds are referred to as Ponds W-4, and F-1 in the HydroCAD® analysis.

The stormwater ponds have been designed to capture and treat the stormwater runoff associated with the 1-year, 24-hour storm event and to meet the required elements of the NYSSMDM design criteria for stormwater ponds, specifically for surface sand filter design (F-1) and pocket wetland (W-4). The volume of the permanent pool for each pond is sized to capture 100 percent of the water quality volume (WQv), the runoff from the 1-year, 24-hour storm event.

The stormwater runoff from post-development contributing drainage areas 2A, 2B, and 2C, a total of 1.6 acres, would collect and convey stormwater through a conventional stormwater collection system (i.e., pipes, manholes, catch basins) to a flow diversion structure (Structure #6). The stormwater volume of a 1-year storm event would be diverted into a surface sand filter for treatment of the stormwater runoff from the 1-year storm event. Per the requirements of the NYSSMDM, the flow diversion structure is designed as an off-line device which would direct the water quality volume into the surface sand filter system.

The proposed project would disturb a portion of the steep slopes (slopes greater than 25 percent) on the western and northern sides of the project site. A majority of the existing steep slopes were created by soil filling during previous site development and do not include appropriate measures to minimize erosion and environmental impacts. The proposed development plan includes

removal of the fill material comprising the steep slopes, and engineering measures to construct a new slope network that will minimize project-related and future environmental impacts.

Proposed Surface Sand Filter (F-1 per the NYSSMDM)

The following parameters were used in designing and sizing the surface sand filter system:

- Off-Line System – Stormwater runoff would be conveyed via a storm pipe network, therefore the Sand Filter has been designed off-line. A flow-splitter diversion structure has been designed to divert the runoff from the 1-year, 24-hour storm.
- Overflow – An overflow structure would be provided to convey stormwater to Pond W-4. A stabilized rip-rap spillway would also be provided to convey stormwater from the larger storm events.
- Underdrain – A 6-inch diameter perforated pipe placed in a gravel layer, is proposed to collect stormwater that has filtered through the sand layer. Geotextile filter fabric would be placed between the gravel layer and sand layer.
- Groundwater Table – A 2-ft. separation between the filter bottom and the seasonal high groundwater table would be provided.
- Pretreatment (Sedimentation Basin) – A sedimentation basin would provide pretreatment at the inlet point. This will provide primary settling for the larger particulates. The sedimentation basin would be sized to contain 25 percent of the WQv. The depth of the sedimentation basin would be four feet. The outfall from the inlet pipe would be stabilized with rip rap to minimize erosion of the ponds' sideslopes. A fixed depth marker would be installed to assist in the long term inspection and maintenance plan. This would help determine the depth of sediment accumulation and when maintenance is required.
- Treatment Basin Sizing – The complete system, including sedimentation basin, would be designed to hold and treat at least 75 percent of the water quality volume and would consist of a surface sand filter which would have a coefficient of permeability of 3.5 ft/day.
- Side-Slopes – The side slopes for the sedimentation basin and the surface sand filter would be 3:1(H:1).
- Filter Media – The proposed filter media would consist of a medium sand meeting ASTM C-33 concrete sand standard.
- Vegetation – Landscape plans would include various grass species for the sideslopes and bottom of the surface sand filter. The plant variety would provide treatment through filtering and nutrient uptake (See Landscape Plan, drawing C-8).
- Geometry – Both pretreatment and the surface sand filter have been designed with a length to width ratio of 1.5:1 as required by NYSSMDM.
- Energy Dissipater – A rip rap velocity dissipater would be installed at the outlet that discharges into the sedimentation basin.
- Outlet control structure – The pre-cast concrete structure would be designed with a low flow orifice that would detain the 1-year, 24-hour storm event.
- Maintenance – As specified in the Operation and Maintenance section of the Preliminary SWPPP a legally binding and enforceable maintenance agreement shall be executed with the Town and the applicant/operator.

The stormwater flows leaving the surface sand filter would then get discharged to the larger pocket wetland located slightly down gradient. Stormwater runoff volumes larger than the 1-year storm would by-pass the sedimentation basin and discharge directly into the pocket wetland. The post-development contributing drainage areas 2D and 2E, a total of 0.5 acres, would provide additional overland flows to the sedimentation basin and surface sand filter during all rain events. Also, post-development contributing drainage areas 2F and 2G, a total of 0.6 acres would provide additional stormwater runoff directly to the pocket wetland via piped roof leaders (from drainage area 2F) and overland flow (from drainage area 2G). The pocket wetland would serve as the second level of water quality and water quantity control before stormwater would be discharged off-site and into the existing watercourse to the north.

Proposed Pocket Wetland (W-4 per the NYSSMDM)

The following parameters were used in designing and sizing the pocket wetland (W-4):

- Water Quality Volume – The WQv is equivalent to the runoff from the 1-year, 24-hour storm event. A detention time of 33 hours would be provided.
- Wetland – The proposed pocket wetland would not be located within NYSDEC jurisdictional waters, including wetlands.
- Pond Embankment – The proposed pocket wetland would not consist of a dam as it would be an excavated system below the existing grading.
- Forebay – A forebay would not be provided as the proposed pocket wetland would be the second in series. The contributing drainage area from the proposed roof leader extension from the existing office building on Lot 13A would be less than 10 percent of the total design storm flow to the pond.
- Side-Slopes – The side slopes for the pocket wetland would be 4:1(H:1), therefore a pond safety bench and aquatic bench are not required. However, an aquatic bench has been provided to help establish wetland vegetation.
- Micropool – A micropool would be provided at the outlet in order to protect the low flow pipe from clogging and prevent sediment resuspension. This area would range from four to six feet in depth and would be able to store a minimum of 10 percent of the WQv.
- Water Quality Volume – At a minimum 25 percent of the water quality volume would be in deepwater zones with a depth greater than four feet.
- Vegetation – Landscape plans would include various grass species for the sideslopes and emergent wetland species. The plant variety would provide treatment through nutrient uptake. Minimum elements of a plan would include: delineation of pondscaping zones, selection of corresponding plant species, planting plan, sequence for preparing wetland bed and sources of plant material.
- Landscaping – Native plants that promote phosphorous and nitrogen uptake would be specified in the final landscaping plans.
- Permanent pool – 50 percent of the water quality volume would be provided in the permanent pool, as required for stormwater wetlands designed for extended detention. The seasonal groundwater table would be intercepted to provide a permanent pool.
- Geometry – The pocket wetland has been designed with a length to width ratio of 2:1 as required by NYSSMDM. A minimum Surface Area: Drainage Area of 1:100 has been provided.

- Pond Buffer – A pond buffer of at least 25 feet would be provided around the pond's maximum water surface elevation.
- Energy Dissipater – A rip rap velocity dissipater would be installed at the inlet and outlet of the lower pond. The lower pond discharges to the existing NYCDEP delineated watercourse where the banks are in stable condition. This would minimize the potential for erosion of the stream bed.
- Freeboard – one foot of freeboard would be provided.
- Emergency overflow – Safe conveyance of the 100-year storm flow would be provided through a rip rap lined overflow spillway. The elevation would be determined by the 100-yr flood elevation and located such that stormwater flows would not adversely impact surrounding properties.
- Maintenance access – An access path, at least 10 feet wide, would be provided for long term maintenance of the stormwater ponds. The path would be constructed of grasspavers in order to decrease impervious surface and increase infiltration.
- Outlet control structure – The pre-cast concrete structure would be designed with a low flow orifice that would detain the 1-year, 24-hour storm event for a minimum of 24 hours, meeting the NYSDEC and NYCDEP requirements. The larger storm events would also be conveyed through an opening at the top of the outlet control structure designed to attenuate the larger storm events. The outlet control structure would be located within the embankment, providing safe egress for maintenance.
- Freeboard – 1-foot of freeboard above the 100-year storm elevation would be provided.
- Pond Drain – A drain pipe would be part of the outlet control structure so that the pond could be completely drained for maintenance.
- Maintenance Agreement – An Operation and Maintenance Plan as outlined in the Preliminary SWPPP would be developed into a legally binding and enforceable agreement with the Town as a condition of the site plan approval.

DESIGN POINT 3

The proposed design would result in a reduction of the drainage area as well as eliminate the impervious surface runoff to this design point. The proposed condition would redirect the stormwater flows from the impervious surfaces into a conventional collection system and treat the runoff in the series of ponds discussed in Design Point 2. Therefore, a stormwater treatment practice is not proposed for this drainage area. The results of the pre- and post-development flows demonstrate that the impact of the proposed condition would improve the stormwater quality and quantity at Design Point 3.

PRE- AND POST-CONSTRUCTION FLOW RATES AND ROUTING

Table 9-4, 9-5 and **9-6** compares the pre- and post-development peak flows at each design analysis point. The post-development flows represent the flow at the design point after routing through the proposed ponds. The pre- and post-development runoff volumes were analyzed at each design point and are presented in the following tables.

Table 9-7 below shows the peak water surface elevation during each of the storm events. The starting water surface elevation, or permanent pool, for the pond would be equal to 25 percent of the runoff volume of the contributing area from a 1-year, 24 –hour storm event.

Table 9-4
Design Point 1
Comparison of Pre- and Post-Development Conditions

		Pre-Development DP-1	Post-Development DP-1
1 – Year Storm	Flow (cfs)	0.99	0.42
	Volume (CF)	3,659	1,695
2 – Year Storm	Flow (cfs)	1.25	0.53
	Volume (CF)	4,574	2,128
10 – Year Storm	Flow (cfs)	2.22	0.96
	Volume (CF)	8,015	3,796
25 – Year Storm	Flow (cfs)	3.31	1.46
	Volume (CF)	12,066	5,753
50 – Year Storm	Flow (cfs)	4.08	1.80
	Volume (CF)	14,853	7,118
100 – Year Storm	Flow (cfs)	5.22	2.32
	Volume (CF)	19,167	9,225

Table 9-5
Design Point 2
Comparison of Pre- and Post-Development Conditions

		Pre-Development DP-2	Post-Development DP-2
1 – Year Storm	Flow (cfs)	3.12	0.37
	Volume (CF)	10,585	22,756
2 – Year Storm	Flow (cfs)	3.78	0.46
	Volume (CF)	12,850	26,683
10 – Year Storm	Flow (cfs)	6.15	1.70
	Volume (CF)	21,126	40,920
25 – Year Storm	Flow (cfs)	8.74	5.66
	Volume (CF)	30,448	56,693
50 – Year Storm	Flow (cfs)	10.47	8.45
	Volume (CF)	36,808	67,393
100 – Year Storm	Flow (cfs)	13.06	11.51
	Volume (CF)	46,522	83,624

Table 9-6
Design Point 3
Comparison of Pre- and Post-Development Flow

		Pre-Development DP-3	Post-Development DP-3
1 – Year Storm	Flow (cfs)	2.27	0.98
	Volume (CF)	7,362	4,029
2 – Year Storm	Flow (cfs)	2.76	1.22
	Volume (CF)	8,930	4,989
10 – Year Storm	Flow (cfs)	4.58	2.14
	Volume (CF)	14,853	8,631
25 – Year Storm	Flow (cfs)	6.56	3.17
	Volume (CF)	21,562	12,841
50 – Year Storm	Flow (cfs)	7.89	3.87
	Volume (CF)	26,136	15,753
100 – Year Storm	Flow (cfs)	9.87	4.93
	Volume (CF)	33,149	20,255

Table 9-7
Pond W-4 Maximum Volume and Pond Water Surface Elevations

Pond	1-Year Storm Event	2-Year Storm Event	10-Year Storm Event	25-Year Storm Event	50-Year Storm Event	100-Year Storm Event
Volume (cf)	20,150	20,147	21,548	23,289	24,216	26,793
Water Surface Elevation (ft)	379.97	379.01	379.16	379.38	379.50	379.81

POLLUTANT LOADING ANALYSIS

A phosphorous loading analysis was performed to evaluate the quality of the stormwater runoff through the proposed stormwater treatment system. The pollutant coefficient method as outlined in 'Reducing the Impacts from Urban Runoff' was used to evaluate the effects of the change in land use due to the project on the surface water conditions. Various sources of the pollutant coefficient values were used to best evaluate the pre- and post-development conditions. The following table (**Table 9-8**) represents the coefficient that was used in the analysis.

Table 9-8
Pollutant Loading Coefficient

Land Use Type	Coefficient (lbs/acre/year) TP
Forested/Wooded	0.1
Commercial (60% impervious)	1.2
Sources: 'Reducing the Impacts of Stormwater Runoff from New Development', produced by NYSDEC, April 1992.	

A pollutant loading analysis was performed at each of the design points. The detailed calculations can be found in the Preliminary SWPPP Appendix G. Pollutant removal rates presented within **Table 9-9** represent a range from low to high. By providing catch basins with deep sumps, the higher end of the range was used to demonstrate the post-development pollutant loading. In addition to deep sump catch basins, several no-mow zones would be identified to increase the buffer around the streams.

Table 9-9
Total Phosphorous (TP)

Design Analysis Point	Pre-Development Pollutant Loading (lbs/year)	Post-Development Pollutant Loading (lbs/year)	Post-Development Pollutant Loading w/ Treatment (lbs/year)
1	0.5	0.2	NA
2	1.4	3.3	1.86/0.38
3	1.2	0.5	NA

DE-ICING MATERIALS

With the proposed project, there would be a reduction of paved asphalt area from existing conditions therefore there would be a decrease in potential pollutant loading due to the reduced

application area. The following guidance, based on guidance from the NYS Office of the Attorney General, would be observed with the primary duty to protect human life and safety:

1. Total Phosphorus Guidance:

   Winter Road Maintenance Deicers:

   - Endorsed - Deicer products that contain 50 parts per million total phosphorus (ppm) or less.
   - Discouraged - Deicer products that contain more than 100 ppm total phosphorus.
   - Avoid - Any deicer that contains greater than 250 ppm total phosphorus should not be used or applied.

2. Reducing the use of sand as a treatment material should be a primary goal of environmentally responsible road maintenance because sand usage is responsible for much of the phosphorus introduced into the reservoirs from winter road maintenance. The use of sand also degrades aquatic habitat in streams, wetlands and rivers.

Fertilizer and pesticide application would be performed in accordance with NYSDEC application rates and be applied by a certified company. Fertilizer would be applied so that the vegetation can be quickly established; however, repeat use is not anticipated once vegetation has been sufficiently established. A more detailed plan for fertilization and pesticide application would be presented with the final landscaping plan. Fungicide and herbicide use are not anticipated. Manual weeding would be performed to avoid the use of chemicals that can potentially be harmful to water quality.

The proposed stormwater management system and non-structural practices would provide adequate mitigation of potential impacts including potential secondary impacts to the Kensico Reservoir and the reservoir stem.

VARIANCE

A variance from Section 28-39(a)(4)(iii) of the WRR is required for this project. The existing paved driveway would be approximately 20 feet wide in the area of the existing 36 inch diameter culvert. However, to comply with the Town Code, the minimum width of an access driveway to a site with more than 21 parking spaces should be 24 feet.

Article IX §213-44G of the Town Code states that access drives for ingress and egress to and from the parking areas for sites located in commercial districts should be designed in conformance with the width standards, as well as the grade and surface standards provided in § 213-47. The driveway width requirement for a parking area with more than 21 parking spaces should be 24 feet. The driveway surface should be improved and suitably maintained to the extent deemed necessary by the Town Engineer to avoid nuisances of dust, erosion or excessive water flow across public ways or adjacent lands.

Therefore the applicant would request a variance from the NYCDEP so that the driveway would meet the Town Code and provide safe travel conditions for vehicular traffic. Shuttle buses would be used to transport passengers to and from Westchester County Airport. Various driveway alternatives were reviewed, including maintaining the existing driveway width of 20.7 feet. A 24 foot wide (two 12-foot travel lanes) driveway that would comply with the Town Code and provide a safe buffer width for passing vehicles was chosen. The 3.3-foot additional impervious surface would be the minimum necessary to afford relief from the Town Code.

The following is a breakdown of the proposed surfaces within 100 feet of the watercourse.

- 1,737 sf (0.04 acre) of new impervious surface.
- 2,255 sf (0.05 acre) of full depth asphalt replacement of existing asphalt surface.
- 3,115 sf (0.07 acre) mill and repave existing asphalt surface.

Stormwater runoff currently flows across the asphalt driveway and directly discharges to the watercourse and wetland. With the proposed driveway widening, stormwater runoff would be directed to catch basins with deep sumps, rain garden, surface sand filter and a pocket wetland. These practices were designed to treat 100 percent of the water quality volume from the entire existing and proposed asphalt pavement within the contributing drainage area. However, only 25 percent of the WQv from the existing impervious surfaces would be required. In addition to treating the larger WQv, the stormwater management system has been designed to capture existing impervious surfaces from the adjacent Lot 13A. Stormwater runoff from the building roof and paved surfaces on Lot 13A currently flow overland towards the watercourse, causing erosive conditions in some areas of the lawn. As stormwater treatment practices do not exist at the site, the treatment of stormwater runoff under the proposed plan would be a significant improvement over existing conditions and would go beyond the design requirements.

EROSION AND SEDIMENT CONTROL

The potential impacts associated with construction activities include sediment deposition, rilling and erosion, and the potential for causing turbidity within receiving water bodies. To address these potential impacts, erosion and sediment control plans have been developed. (See large scale drawings and associated details in SWPPP Appendix C in Appendix H.)

The following practices would be used throughout the construction activities to minimize the potential impacts associated with the disturbance:

- Stabilized construction entrance/exit
- Straw bales and/or silt fence
- Storm drain inlet protection
- Material stockpile protection
- Dust control
- Temporary stabilization (rolled erosion control blankets, seeding and mulching and soil stabilizers)
- Sump pit
- Dewatering
- Perimeter dike/swale
- Temporary sediment basin
- Materials handling

PROJECT PHASING

The protection of the natural resources, specifically the on-site watercourse, was also carefully factored in the development of the construction sequence. As explained in more detail in Chapter

17, "Construction" and in the SWPPP that accompanies this DEIS in Appendix H, a sequence of construction activities was prepared for the proposed construction.

INSPECTION AND MAINTENANCE

Inspection and maintenance of the proposed stormwater management features would be important to ensure that the erosion and sediment control practices that are part of the SWPPP continue to be effective in preventing sediment and other pollutants from entering the stormwater system. It would be the responsibility of the owner to ensure that inspections are completed in accordance with SPDES GP-0-10-001.

As a part of the SWPPP inspection and maintenance activities during construction, the Erosion and Sediment Control Inspection Report would need to be updated and kept on-site. A sample Erosion and Sediment Control Inspection Report is provided in Appendix H of the Preliminary SWPPP.

Inspections would need to be conducted by the qualified inspector periodically according to the schedule required by the SPDES GP 0-10-001. During each inspection, the qualified inspector would record the areas of disturbance, deficiencies in erosion and sediment control practices, required maintenance, and areas of temporary or permanent stabilization. The need for modifications to the Erosion and Sediment Control Plan would be identified and implemented immediately.

The Erosion and Sediment Control Inspection Report would be completed by a qualified inspector to fully document each inspection. A qualified inspector is a person knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other NYSDEC endorsed individual(s). It also means someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided the person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing the site inspection has received four hours of training, which has been endorsed by the NYSDEC, from a Soil and Water Conservation District, CPESC, Inc., or other NYSDEC endorsed entity, in proper erosion and sediment control principles no later than two years from the date SPDES GP-0-10-001 is issued. After receiving the initial training, an individual working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect shall receive four hours of training every three years.

INSPECTIONS

Inspections would need to be conducted by the qualified inspector periodically according to the following schedule:

1. When construction activities are ongoing, the qualified inspector would conduct a site inspection at least once every seven calendar days.
2. When construction activities are ongoing and the owner or operator has received authorization in accordance with Part II.C.3 of GP-0-10-001 to disturb greater than five acres of soil at any one time, the qualified inspector would conduct at least two site inspections every seven calendar days. When performing two inspections every seven calendar days, the inspections would be separated by a minimum of two full calendar days.

3. If soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector would conduct a site inspection at least once every thirty (30) calendar days. The owner or operator would notify the Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.
4. If soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The owner or operator would notify the Regional Office stormwater contact person in writing prior to the shutdown. If soil disturbance activities have not resumed within two years from the date of shutdown, the owner or operator would have the qualified inspector(s) perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed, and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT). The owner or operator would then submit the completed NOT form in accordance with NYSDEC regulations.

During each inspection, the qualified inspector would fill out the Erosion and Sediment Control Inspection Report as directed below:

On the Erosion and Sediment Control Inspection Report site map show the following:

- Disturbed site areas and drainage pathways.
- Site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period.
- Site areas that have undergone temporary or permanent stabilization.
- In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures would be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected would need to be in conformance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control.
- Photographs, including date stamp, of any deficiencies and recommendations.
- As deficiencies are fixed by the contractor, a photograph, include date stamp, should be included in the report.
- Photograph of each outfall during a rain event.

The qualified inspector would give a brief explanation for all locations where he/she has noted that the structural practice was either not in conformance with specifications or in need of repair. This should be noted in the Erosion and Sediment Control Inspection Report. The qualified inspector would then give a brief recommendation for soil erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced.

EROSION AND SEDIMENT CONTROL MAINTENANCE MEASURES

All maintenance would need to be completed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. Any material removed from erosion and sediment control measure would need to be properly disposed.

All measures would need to be maintained in good working order; if repairs are found to be necessary, the qualified inspector would need to notify the owner or operator and appropriate contractor (and subcontractor) of any corrective actions needed within one business day. The contractor (or subcontractor) would need to begin implementing the corrective actions within one business day of this notification and need to complete the corrective actions in a reasonable time frame.

Disturbed areas and materials storage areas would be inspected for evidence of potential pollutants entering stormwater systems. Within one business day of the completion of the inspection, the qualified inspector would need to notify the owner or operator and the appropriate contractor (or subcontractor) of any corrective actions that need to be taken. The contractor (or subcontractor) would need to begin implementing the corrective actions within one business day of this notification and would need to complete the corrective actions in a reasonable time frame.

POST-CONSTRUCTION OPERATION AND MAINTENANCE

Following completion of construction, a long term inspection and maintenance program would be implemented to ensure the proper function of the stormwater management system. The program would be carried out by the facilities manager. A detailed checklist of pond inspection and maintenance is included in Appendix I of the Preliminary SWPPP. The maintenance program would include the following:

1. The side slopes of the pond would be mowed at a minimum twice a year. If necessary, invasive woody vegetation around and in the pond would be removed to prevent it from becoming established within the pond.
2. Litter and debris would be removed from catch basins, vegetated swales, ponds, and the outlet control structures.
3. The stormwater management system would need to be inspected after each major storm event (greater than 2-year, 24-hour storm) to ensure the small orifices and inlets remain open.
4. Silt would need to be cleaned from catch basins and other drainage structures when the depth exceeds half of the depth of the sump.
5. Sediment would need to be removed from detention ponds as needed, but at a minimum of every five years. A backhoe or excavator would need to be used to remove sediment accumulation from the bottom of the detention pond. However, vehicles would need to be prevented from traversing the sideslopes to the extent possible to avoid damaging established vegetation. Repairs to the embankment would need to be done with hand tools to the extent practical.
6. Use of road salt for maintenance of driveway areas would be minimized.
7. Eroded areas and gullies would be restored and re-seeded as soon as possible.

In addition to inspection and maintenance of the stormwater management system, inspection of the overall site for areas of potential contamination would also be noted. Maintenance of existing landscaped areas would need to be performed consistently throughout the year. Pest control would follow an Integrated Pest Management program in conjunction with guidance from the Cornell Cooperative Extension Agency, applicable regulations, and best practices. All potential pollutants, such as petroleum products, chemicals, etc, would need to be properly stored in designated areas that would minimize contact with precipitation.

WEST NILE VIRUS

Recent field observations concluded that constructed wetlands and stormwater management ponds actually pose a low risk in spreading the West Nile virus since the mosquito species that are found in wetlands and stormwater management ponds tend not to be the variety that are known to carry the West Nile virus. Within a healthy aquatic ecosystem, other aquatic invertebrates (dragonfly larvae and other species) prey on mosquito larvae, thereby reducing mosquito populations. The SWPPP would be approved by the NYSDEC and NYCDEP and would include a regular maintenance schedule to be implemented at the completion of construction. This may include the stocking of the basins with species to feed on potential mosquito larvae, and possible aeration systems to be exercised during periods of minimal flow through the ponds. ✷

A. INTRODUCTION

This chapter addresses potential impacts to community facilities and services, such as schools, open space and recreation facilities, police protection services, fire protection services, emergency medical services (EMS), and public works. Existing conditions of current service providers, future conditions expected without the proposed project, and potential impacts of the proposed project are addressed. Locations of community facilities are shown on **Figure 10-1**. The analysis of community facilities ties in closely with the economics analysis presented in Chapter 12, "Economic Conditions," as potential impacts often relate to tax revenues and financial considerations.

B. EXISTING CONDITIONS

SCHOOLS

The project site is located within the Byram Hills Central School District (BHCSD).[1] The BHCSD had a projected population for the 2009-2010 school year of 2,794 students.[2] The BHCSD is served by the following four schools:

- Coman Hill Elementary School (grades K-2) – Located at 558 Bedford Road, approximately six miles from the project site.
- Wampus Elementary School (grades 3-5) – Located at 41 Wampus Avenue, approximately five miles from the project site.
- H.C. Crittenden Middle School (grades 6-8) – Located at 10 MacDonald Avenue, approximately four miles from the project site.
- Byram Hills High School (grades 9-12) – Located at 12 Tripp Lane, approximately five miles from the project site.

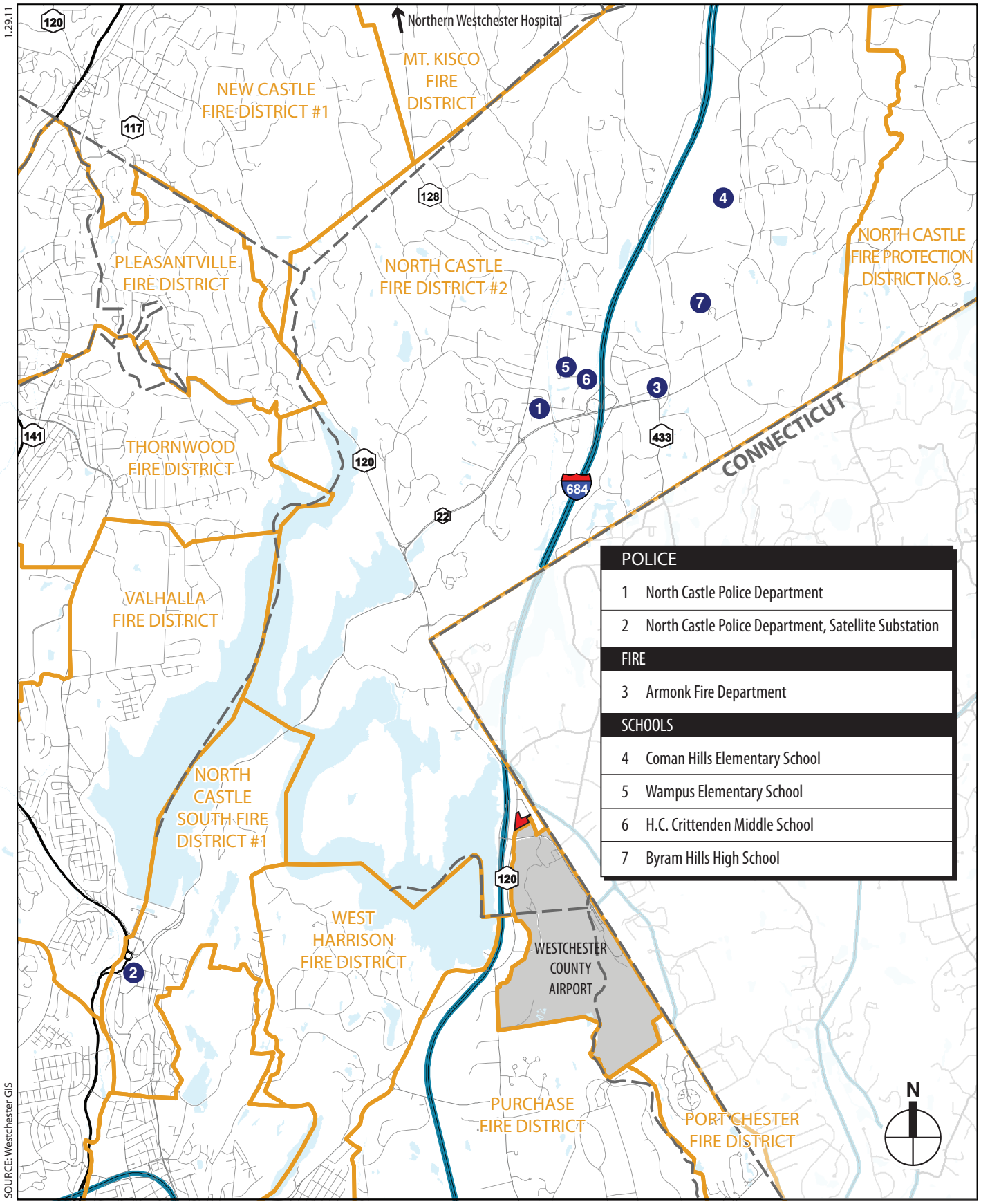
The project site does not comprise any residential uses or generate any schoolchildren. However, the project site's current tax contribution to the BHCSD is approximately $27,682, based on the 2009-2010 school tax bill.

OPEN SPACE AND RECREATION

The project site is currently developed with an approximately 9,700-square-foot office building and 35-space parking area. The site is not used for recreational purposes and is not an open space resource in the Town of North Castle. As discussed in Chapter 3, "Land Use, Zoning, and

[1] http://giswww.westchestergov.com/. Accessed June 9, 2010.

[2] http://www.byramhills.org/district.cfm. Accessed June 9, 2010.



PARK PLACE at Westchester Airport

Community Facilites

Figure 10-1

Public Policy," the project site is located in an area dominated by office and transportation uses. It is largely isolated from natural or preserved areas by NYS Route 120, Interstate 684 (I-684), development along New King Street, and Westchester County Airport, and does not provide any trails or linkages to recreational areas.

The Town of North Castle has established an Open Space Committee (OSC) to work toward preserving open space in the Town. The OSC has not identified any parcels within immediate proximity to the project site for preservation. NYCDEP has worked with the OSC in recent years to identify parcels for potential acquisition in the Kensico Watershed within the Town of New Castle[1]; however, no parcels were identified within the immediate vicinity of the project site.[2]

POLICE PROTECTION SERVICES

Police protection services are provided in the Town of North Castle, including the project site, by the North Castle Police Department (NCPD) headquartered in Town Hall at 15 Bedford Road in Armonk. The NCPD also operates an unmanned satellite substation at 10 Clove Road in North White Plains. The department comprises 35 officers, consisting of one chief, three lieutenants, six patrol sergeants, one detective sergeant, three detectives, and 21 patrolmen. Recent budget cuts forced the department to downsize from 40 to 35 officers. According to the 2000 US Census, the population of North Castle was 10,849, equating to a police/citizen service ratio of approximately 1:310. Population in the Town of North Castle was estimated to be 12,148, equating to a police/citizen ratio of approximately 1:347.

Average response time to the project site is five to eight minutes, depending on the location of patrol cars. The project site is in a more remote part of the department's jurisdiction, but New King Street is patrolled regularly. Emergency call volume has remained steady for the NCPD over recent years. In 2008 and 2009, call volumes were 13,142 and 13,500, respectively.[3]

FIRE PROTECTION SERVICES AND EMERGENCY MEDICAL SERVICES

The project site is located within the North Castle Fire District #2, which is served by the Armonk Fire Department (AFD) and has a coverage area of approximately 16 square miles and includes portions of I-684 as well as Westchester County Airport. In addition to providing fire protection services in North Castle Fire District #2, the AFD also provides emergency medical services (EMS) to both North Castle Fire District #2 and North Castle Fire Protection District No. 3, which is served by the Banksville Independent Fire Department. When additional resources are needed elsewhere in Westchester County, the AFD provides mutual aid to these communities, and vice versa. Emergency response is coordinated by the Westchester County Emergency Communications Center (also referred to as 60 Control).

The AFD is 100 percent volunteer-staffed and currently has approximately 60 active members, including 22 emergency medical technicians (EMTs). The department is administered by a board of fire commissioners. Key department staff includes a chief, a first and a second assistant chief,

[1] http://www.northcastleny.com/hall_committees_openspace_update.php. Accessed September 10, 2010.

[2] Personal communication with Howard Arden, Open Space Committee Chair, June 6, 2010 and June 23, 2010.

[3] Personal communication with Lieutenant Peter Simonsen, North Castle Police Department, May 25, 2010.

a captain, a first and a second lieutenant, a captain of patrol, and an EMS captain. When a medical emergency requires advanced life support, 60 Control dispatches paramedics from Northern Westchester Hospital in Mt. Kisco. Northern Westchester Hospital is located approximately ten miles from the project site. In addition, White Plains Hospital Center is approximately 4.2 miles from the project site. Typical annual call volume is upward of approximately 1,000 calls, with half being fire-related and the other half related to medical emergencies. In 2009, the AFD received a total of 809 calls, of which 336 were fire-related and 473 were EMS-related.

The AFD is based at 400 Bedford Road in Armonk. All fire and EMS apparatuses are stationed at this location. Fire and EMS apparatuses include one tanker truck capable of holding 3,000 gallons of water, two pumpers, one pumper with rescue capabilities (i.e. jaws of life), one boat for water rescue, an ice rescue trailer and rescue alive sled, a mass decontamination trailer, one utility vehicle, three ambulances, and vehicles for the chief, first assistant chief, and second assistant chief.

The fire station is just over four miles from the project site. In 2007, average response time reported for the AFD—from initial dispatch by 60 Control to the departure of the first apparatus—was less than five minutes.[1] There is currently no fire hydrant on the project site or within close proximity to the project site. The AFD must rely on its tanker truck for water supply during any fire emergencies at the project site.

PUBLIC WORKS

The project site and existing office building is a private entity and all grounds maintenance is conducted by private contractors. A private contractor is retained for any driveway maintenance and snow plowing. No municipal departments are responsible for these services on the project site. The Town of North Castle Highway Department is responsible for snow and ice removal on Town, County, and State roads within the Town, as well as maintenance of Town roads, including New King Street, which provides access to the project site.

C. FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, the existing office use on the project site would continue to operate under existing conditions. No improvements, site alterations, or any other changes are planned that would affect demand on community services and facilities. The project site would not be used for recreational or open space purposes, nor would it be a candidate for these uses as it is isolated from other areas by heavily traveled highways. The project site does not offer connectivity to any areas of open space or recreational uses.

No immediate changes to community facilities and services would be anticipated without the proposed project. As indicated by the Town, there are no significant development projects currently planned in the Town that would affect demand for municipal services. As stated above, according to estimates presented in the Westchester County Databook, the population of North Castle grew from 10,849 in 2000 to 12,148 in 2008. It is expected that municipal services would be adjusted as needed to accommodate any growth in the community and any increases in demand on their services.

[1] http://www.armonkfd.com. Accessed March 4, 2011.

Without the proposed project, local schools, emergency response providers, and other municipal departments would not benefit from the substantial increased tax revenue that would be generated by the proposed project while having minimal impact on municipal services.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

SCHOOLS

The proposed project is a commercial use and would not generate any school-age children, nor would it induce any significant residential growth in the surrounding area that would generate school-age children. However, the proposed project would have a significant fiscal contribution to the Town's tax reserves. Annual school tax revenue generated by the proposed project would be estimated at approximately $148,207, an increase of approximately $120,525 (or 435 percent) from existing tax revenue. Therefore, the proposed project would have a beneficial impact to the local school system.

OPEN SPACE AND RECREATION

The project site is not an existing open space or recreational resource for the Town of North Castle. The project site is currently developed and is surrounded by office uses and heavily traveled highways, as well as Westchester County Airport. It does not provide for any connectivity to other areas of open space or recreational uses. The project site was not specifically identified by the OSC or NYCDEP as a candidate for preservation, as indicated through consultation with the OSC.[1] Further, the proposed project would not increase demand for recreational and open space resources in the Town. The proposed project would serve airport customers who would park their vehicles and immediately board a shuttle to the airport terminal. Therefore, the proposed project would not have a significant adverse impact on open space or recreational resources.

POLICE PROTECTION SERVICES

The proposed project would change the use of the project site from a 9,700-square-foot, one-story office building to a 267,000-square-foot, five-and-a-half-story parking structure. This change in land use would increase pedestrian and vehicle activity on the project site, and would result in more frequent traffic peaks to and from the project site in conjunction with flight schedules, rather than a typical AM and PM peak period for the existing office building. However, customer and employee activity would be concentrated on a limited portion of the site, primarily at the vehicle loading bays and the shuttle bus stop, and overall traffic flow in the study area would be reduced, as discussed further in Chapter 13, "Traffic and Transportation."

A number of security features would be incorporated into the proposed parking facility to ensure customer and employee safety, as well as to prevent theft of vehicle contents. The structural nature of the proposed facility would provide security to vehicles in the storage area by virtue of its design as an enclosed structure. There would be no exterior openings other than for ventilation. Emergency exit doorways would be located along the perimeter of the facility, but would remain locked when not in use.

[1] Personal communication with Howard Arden, Open Space Committee Chair, June 6, 2010 and June 23, 2010.

There would be no public access to the interior of the facility. Only maintenance and operational staff would have access to the vehicle storage area. All operations would be automated, requiring minimal employee activity in the storage area. Customers would park their vehicles in loading bays, turn off the ignition, and exit the bay. A sophisticated system of heat and motion sensors would be in place to confirm that the loading bay is completely vacated before the automated transport system is engaged. In addition, customers would be required to complete a checklist during the drop-off transaction to confirm all passengers are accounted for. This level of redundancy would guarantee that all persons have exited the bay. The proposed system would prevent anyone from being accidentally trapped in the storage bay or from gaining unauthorized access to the storage area.

Vehicles would be parked on pallets[1] within the loading bays. The automated robotic equipment would relocate the pallet to a storage space. These pallets would be designed to eliminate any potential for vehicle collisions. Therefore, the threat for property damage would be negligible.

A voluntary curfew is in effect for flights into and out of Westchester County Airport. Per previous agreements, flights are prohibited during the voluntary "curfew" period from midnight to 6:30 AM. Consequently, typical flight activity at Westchester County Airport would occur on either side of those hours. Although the proposed parking facility would be staffed 24/7 to accommodate customers at all times, reduced staffing would be provided overnight. Staffing would be primarily needed for security purposes.

For additional security, the proposed facilities would be equipped with a motion activated alarm system that would be able to differentiate between robotic equipment and humans. Surveillance cameras would be installed throughout the proposed parking facility, including the office and waiting area, the vehicle storage area, and the vehicle loading bays. A license recognition system would also be installed in each vehicle loading bay to record customers' license plates. Surveillance videos would be internet-based and have DVR features, allowing both real-time surveillance and replay capabilities. All systems would be viewable and operable remotely. These features are in line with recommendations provided by the NCPD in a letter dated June 9, 2010 (see Appendix B). A 300 kW emergency generator would be located on-site to ensure these security systems remain functional during power outages.

Although the NCPD recommended fencing in its letter dated June 9, 2010 to restrict access to portions of the site, the proposed project does not currently include perimeter fencing because the enclosed nature of the proposed structure would prevent illegal access to the facility.

In the applicant's opinion, the increased activity on the project site would have minimal impact to the local police force; increased demand on and incurred cost for the department would therefore be negligible. The security features outlined above would deter criminal activity and would be consistent with suggestions from the NCPD. There are no other significant development projects in the Town that would result in cumulative impacts to emergency responders.

The proposed project would result in a substantial increase in tax revenue to municipal emergency service providers, including the NCPD. Annual tax contributions to the NCPD are derived from the Town tax revenue, shown on Table 12-5 in Chapter 12, "Economic Conditions." The Town tax revenue from the proposed project would be approximately $36,448,

[1] The pallets would be portable platforms, similar to an open box, that would support the parked vehicles in the loading bays as well as in the storage area.

as compared to $6,808 under the existing condition. The existing 20-foot wide site access driveway would be improved to 24 feet wide, which would be sufficient to accommodate emergency response vehicles. Therefore, the proposed project would not have any significant adverse impacts to police protection services.

FIRE PROTECTION SERVICES AND EMS

The proposed project would change the use of the site from a 9,700-square-foot, one-story office building to a 267,000-square-foot, multi-level parking facility. The height of the proposed structure would be approximately 56 feet. Although the proposed project would increase development on the project site, there would be minimal fire risk. The parking facility would be constructed with inflammable materials, such as concrete, steel, and glass and there would be limited risk for vehicle fires within the vehicle storage area as automobiles would be turned off in the vehicle loading bays prior to being stowed.

The proposed parking facility would be designed in accordance with all applicable fire and building codes and National Fire Protection Association (NFPA) standards. An automatic sprinkler system would be installed throughout the facility, including the office and waiting area, the vehicle loading bays, and all levels of the vehicle storage area. Two 20,000-gallon water storage units would be located on the lower level adjacent to a fire pump station to provide adequate water volume and water pressure in compliance with fire and building codes. Standpipes would be located in both stairwells within the facility and there would be centrally located auxiliary hose connections on each level. A 300 kW emergency generator would be located on-site to ensure continued functionality of the fire protection system in the event of a power failure. Two emergency exits to the exterior of the building, in addition to the regular ingress and egress points, would be provided.

The applicant and its consultants met with the Town of North Castle building inspector throughout the design process to address emergency site access concerns. The proposed site plan incorporates several emergency site access features based on consultation with the building inspector, including an additional fire emergency access lane along the south side of the proposed facility (see Figure 2-5, “Proposed Site Plan”). Because the fire access lane would be limited to emergency vehicle traffic, it would be constructed with permeable pavers to reduce impervious surface coverage and stormwater runoff. The 20-foot wide existing site access driveway would also be improved to 24 feet wide, which is consistent with typical design requirements of local roadways and would be sufficient to accommodate emergency response vehicles on the project site.

In the applicant’s opinion, the proposed project would not be expected to significantly increase demand on the AFD and therefore incurred costs for the department would be negligible. In addition, there are no other significant development projects in the Town that would result in cumulative impacts to the AFD. The height of the proposed building would be greater than the existing office building, but it would be comparable to existing parking facilities in the Town, for which the AFD is expected to have apparatuses and staff capable of accommodating. The applicant has requested confirmation from the AFD, and is waiting for a response with regard to any concerns the department might have (see correspondence in Appendix B). The fire safety features described above would minimize fire risks and suppress any rare occurrence of fire.

In the applicant’s opinion, demand for EMS services from the proposed project is also expected to be minimal and cost-related impacts would be negligible. Traffic circulation on the project site would be low-speed and efficient and clearly delineated to avoid confusion and possible

collisions. Further, although there would be additional people on this specific site, overall traffic flow in the study area would be reduced by the proposed project, as discussed further in Chapter 13, "Traffic and Transportation," further improving safety on the local road network. The parking facility would be completely automated with minimal need for human activity within the storage area limiting the risk for physical injury.

The proposed project would substantially increase tax revenue for the AFD while having minimal demand on fire protection services and EMS. Tax rates are separated by Ambulance District #2 and Fire District #2. Combined future tax contributions from the proposed project for these districts would be approximately $3,282, as compared to $613 under existing conditions. Therefore, in the applicant's opinion, the proposed project would not have a significant adverse impact on the local fire protection service and EMS providers.

PUBLIC WORKS

The proposed parking facility would be privately owned and operated. All site maintenance, including snow removal, would be provided by private contractors. The Town of North Castle would not be responsible for maintaining the project site. In addition, the proposed project would not increase maintenance needs on any local roadways. As discussed in Chapter 13, "Traffic and Transportation," overall traffic flow in the study area would be reduced, although traffic flow would be redistributed. Currently, all vehicles leaving Westchester County Airport toward NYS Route 120 must travel on New King Street due to the one-way orientation of Airport Road. Because the proposed project would reduce traffic on area roadways, including New King Street, maintenance needs on these roadways would be expected to be less or similar to existing conditions. Further, there are no other significant development projects within the Town or surrounding communities that would result in cumulative impacts. Therefore, the proposed project would not have a significant adverse impact on the Town of North Castle Highway Department or any other public works services.

E. MITIGATION MEASURES

As discussed above, in the applicant's opinion, the proposed project would have minimal demand on community facilities and services. Therefore, in the applicant's opinion, incurred costs to emergency service providers and public works services would be negligible. However, the proposed project would significantly appreciate the value of the project site, resulting in a substantial increase in tax revenue. As proposed, the project would contribute approximately $250,160 annually in property taxes, as compared to $46,373 under existing conditions; refer to Chapter 12, "Economic Conditions," for further details. ✷

A. INTRODUCTION

This chapter analyzes potential impacts of the proposed project to utility services and infrastructure related to water supply, wastewater, solid waste, energy, and telecommunications (including telephone and cable services). This chapter describes existing service providers and conditions of existing services, future conditions without the proposed project, and any potential impacts of the proposed project.

WATER SUPPLY

The project site is currently occupied by an approximately 9,700-square-foot, one-story office building. Potable water for the existing office building is supplied by a well located on the southern portion of the project site, within the slate patio, near the adjacent Westchester County Airport property boundary. The existing office building is currently occupied by administrative offices, an accounting firm and a charity organization. According to estimates based on the New York State Department of Environmental Conservation (NYSDEC) Design Standards for Wastewater Treatment Works, typical water usage for an office facility of this scale is estimated at 0.1 gallons per square foot per day. Therefore, with an existing office area of 9,700 square-feet multiplied by 0.1 gallons per square foot per day, daily water usage is estimated to be approximately 970 gallons per day (gpd).

The existing well is a 225-foot deep bedrock well drilled in 1966. According to the well completion report on file with the Westchester County Department of Health (WCDOH), the existing well had a preliminary yield of 20 gallons per minute (gpm), or 28,000 gallons per day (gpd), observed during a 3-hour pumping test (see Appendix I). Soil and rock characteristics encountered during drilling included hardpan near the surface; shale approximately 20 to 35 feet below the surface; Inwood marble approximately 35 to 160 feet below the surface, and gneiss approximately 160 to 225 feet below the surface.

Water quality standards are enforced by the NYSDOH through the WCDOH. Westchester County adopted Section 707, Westchester County Private Well Water Testing Law, part of Local Law 7, in 2007. This law sets forth water quality testing requirements and criteria for private drinking water wells.

Surrounding office properties are also served by wells. The adjacent parcel south of the project site, owned by Westchester County, is undeveloped and has no water supply demands. Because water demand on the project site is much less than the available supply, water usage on the project site has negligible effects on groundwater resources. As such, there have been no reported problems regarding water levels in surrounding wells. Characteristics of well water supply sources are addressed in the Groundwater section of Chapter 8, "Water Resources."

There are no municipal water districts within close proximity to the project site. Water districts serving the Town/Village of Harrison and the Village of Rye Brook, are greater than 0.5 miles

from the project site. Connection to a public water supply is therefore unfeasible and not considered.

Kensico Reservoir is located approximately 0.25 miles from the project site. A tributary of the reservoir travels through a culvert under the project site's existing driveway and through Lot 13A. The primary sources of water for Kensico Reservoir are the Catskill and Delaware aqueducts (which transport water from reservoirs in the Catskill Mountains and Delaware River Watershed for New York City water supply), and the Bronx River. The source for the reservoir is surface water therefore it is not functionally related to potential drawdown of the existing well on the project site.

SANITARY SEWER

The project site is located within the Town of North Castle Sewer District #3, maintained by the Town's Sewer and Water Department. Existing sanitary flow on the project site is approximately 970 gpd. Wastewater leaves the existing building via gravity and collects within the existing sanitary pump chamber located within the existing parking area. Wastewater is then pumped through a three inch diameter force main on the project site to an existing sanitary manhole located along the southern property boundary. This sanitary manhole is connected to an eight inch diameter sewer main located in New King Street, owned and maintained by the Town of North Castle's Sewer and Water Department. Wastewater flows via gravity to an existing sewer pump station located along New King Street, adjacent to the project site's driveway. The pump station ultimately discharges into the Westchester County trunk line located within the Blind Brook Sewer District. The wastewater is treated at the WCDOH owned and operated Blind Brook Sewer Treatment Plant.

SOLID WASTE

Refuse is stored on the project site in a four yard dumpster. Garbage is collected weekly by a private carting firm. The 20 to 25 employees at the existing office building generate approximately two to three cubic yards of solid waste per week or roughly 260 to 325 pounds per week using a rate of 13 pounds per employee per week.[1] Solid waste is taken to either of two facilities: C&A Carbone Transfer Station in Rockland County or the Wheelabrator County Incinerator in Peekskill depending on the truck route for that day. There are currently no capacity issues related to existing waste management services.

ENERGY AND TELECOMMUNICATIONS

The existing project site receives electric, telephone, and cable services from private service providers. There is no natural gas available on the project site.

ELECTRICITY

Electricity is supplied by Consolidated Edison, Inc. (Con Edison). Annual electricity consumption (based on records from September 2009 to September 2010) is approximately 97,000 kilowatt-hours (kWh). The existing office building is currently served by an existing pad-mounted transformer on the project site. A primary feeder originating from a utility pole on New King Street is routed underground to the transformer. Secondary conductors are routed

[1] *City Environmental Quality Review Technical Manual.* May, 2010

underground from the transformer to the building. The existing transformer adequately accommodates needs of the existing office building.

TELEPHONE AND CABLE

The project site is supplied with telephone service that originates at New King Street and is routed underground to the existing building. Telephone service is currently provided by Verizon. An underground cable line also serves the existing office building. Cablevision is the cable service provider in the study area.

B. FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, the existing office building on the project site would continue to operate under existing conditions. No site developments or alterations are planned without the proposed project. Business operations and the existing number of staff on the project site are expected to remain similar to existing conditions. There would be no substantial changes in demand on utilities.

As indicated by the Town of North Castle and surrounding municipalities, there are no significant development projects currently planned that would affect demand on utility services near the project site. There are also no known plans for any significant changes to or expansion of municipal utility services, including water supply and sanitary sewers that would affect the project site without the proposed project.

C. PROBABLE IMPACTS OF THE PROPOSED PROJECT

WATER SUPPLY

Water demand for the proposed facility would be approximately 1,345 gpd, slightly greater than the existing office building. Daily water demand would be primarily limited to the proposed car wash service and two single-use toilet facilities located in the office and waiting area. Water conservation measures would be incorporated to reduce daily water flow. There would be minimal water requirements for HVAC equipment as the storage areas, comprising the majority of the proposed structure, would not be climate-controlled. Additional water supply would only be required for emergency fire protection systems. Water demand for irrigation purposes would be minimal as the planting plan proposes the use of native vegetation that is capable of surviving under the existing climate conditions.

As stated above, daily water demand for the proposed facility would be approximately 1,345 gpd. Approximately 820 gpd would be a result of the two single-use toilet facilities in the office and waiting area and 525 gpd (0.4 gpm) would be from the proposed car wash. To conserve water, lavatories would incorporate low-flow plumbing fixtures and the car wash would recycle water. Projected water demand for the lavatories assumes 200 uses per day. Each water closet would use 1.6 gallons per flush (gpf). In addition, water flow rates in each lavatory sink would be approximately 2.5 gallons per minute. Assuming water usage for about one minute for each use, total water usage from the lavatories at the proposed parking facility would be approximately 820 gpd. Water usage for the car washing service assumes approximately 35 washes per day at 50 gallons of water per wash (i.e., a total of 1,750 gpd). However, as described further below, the car wash would utilize a water recycling system to conserve water. About 70 percent of water used for each wash would be from the recycling system, thereby

requiring only 525 gpd of fresh water for the car wash service. Seasonal variations in the water demand are not anticipated. Impacts on the proposed well due to cyclical drought conditions would not be expected.

Water would be supplied to the project site by a new well. The existing well would be abandoned and removed, as it is within the footprint of the proposed facility. Well decommissioning would be done in compliance with NYSDOH and WCDOH regulations. Prior to installation of the new well, a pump test would be conducted by a qualified engineer and certified driller to ensure the new well would have sufficient capacity for the proposed project and would not adversely affect surrounding wells or groundwater resources. A permit from WCDOH would be required to operate the new well. The permit would ensure that the well would comply with all applicable quality and capacity regulations. A 3-hour preliminary pumping test was completed at a yield of 20 gpm (see Appendix I). The pumping test rate projected over 24 hours would result in a yield of approximately 28,800 gpd. The expected peak demand of the proposed project would be approximately 8.2 gpm; therefore, there would be adequate supply. Based on conditions of the existing well, which has a capacity of approximately 28,800 gpd, the new well would be expected to adequately accommodate the proposed project, which is anticipated to have a daily water demand of approximately 1,345 gpd. Surrounding groundwater and surface water features, including the Kensico Reservoir and its tributaries, would not be adversely affected even considering seasonal variations and cyclical drought conditions. There are no reported problems with the wells in the immediate area and the peak demand and daily demand would be similar to the existing water usage; therefore, the potential to cause a drawdown of the groundwater aquifer is not expected.

The water supply treatment system design requirements would be based on the outcome of the water-quality sampling to be completed during well testing as required by WCDOH. Any required treatment systems would be located inside the parking facility. The water supply would be considered a non-community public water supply. As a public water supply, storage for one day of use would be required by WCDOH. A minimum of 100 feet of well casing would be required to be installed during drilling and a GWUDI (groundwater under the influence of surface water) treatment (UV treatment system) would be required because of the proximity of surface water (i.e., within 200 feet) to the proposed well. A 72-hour pumping (yield) test of the new well demonstrating stabilized yield which meets the projected water demand, and water-quality sampling for all parameters listed in the NYS Sanitary Code Part V, Subpart 5-1 would be completed.

Two 20,000-gallon water storage tanks would be provided on the lower level of the proposed parking facility to supply fire suppression systems. The following National Fire Protection Association standards were used to design the fire suppression system:

- NFPA 13 for sprinkler system, Ordinary Group 1 Hazard.
- NFPA 20 for Standpipe.

The hydraulic requirements for the fire suppression system are governed by the sprinkler system as that has a more demanding hydraulic requirement. NFPA 13 requires a hydraulic area of 1,500 square feet, however, the hydraulic area must be increased by 30 percent for dry systems, and therefore the hydraulic area becomes 1,950 square feet. NFPA requires a density of 0.15 gpm per square foot for a minimum of 292.5 gpm, although a conservative value of 350 gpm was used. Based on design engineer experience, the actual hydraulic requirement can go up by that much. An additional 250 gpm was added to the 350 gpm to allow for the hose allowance.

Therefore, the requirement would be 600 gpm. Storage for 60 minutes is required for Ordinary Group 1 hazard, which equates to 36,000 gallons. As the building system design advances, more detailed hydraulic calculations will be completed, and pressure requirement calculations will be performed as well and provided to the Building Inspector and Town Engineer.

An automatic sprinkler system would be installed throughout the proposed facility. Standpipes would be located in each stairwell with auxiliary hose connections. A fire pump would distribute water to the fire protection systems and ensure adequate volume and pressure is provided in compliance with applicable fire and building codes.

The proposed project would have minimal daily water demands, which would have negligible effects on groundwater resources and therefore negligible effects on the pressure and volume of water in nearby wells. Fire suppression systems would be engaged only during emergency situations, and would not have an adverse impact on water supply.

Impacts to water supply related to the construction of the proposed project are not expected. No other projects within the immediate vicinity of the project site have been identified by the Town; therefore no cumulative impacts on groundwater resources are anticipated.

SANITARY SEWER

Daily sanitary flow from the proposed project would be generated by two single-use toilet facilities in the office and waiting area and the proposed car wash. Wastewater from the rest rooms would be conveyed by gravity to a sewage ejector pit. Sewage would then be pumped via a two inch force main connecting to the existing sanitary manhole at the southeastern property boundary near New King Street. The existing sanitary connection from the sanitary manhole to the eight inch gravity line in New King Street would remain.

As noted previously, the proposed car wash system would require a specialized treatment and filtering system to allow water to be recycled and reused for subsequent washes. Wastewater from the proposed car wash would drain through floor drains into a holding tank before being transferred to a recycling system tank. Within the holding tank is an oil/water separator. Periodic maintenance of the holding tank would be required to remove the accumulated sediment, oils and greases. The accumulated material would then be disposed of in accordance with federal, state and local requirements. The recycling tank would be drained and cleaned once approximately every eight to twelve weeks. This tank would convey wastewater to the sewage ejector pit via a one inch force main and ultimately be conveyed to the Town sewer, as described above. Disruption to wastewater services would not result from the construction of the project.

The daily wastewater flow from the proposed project would be similar to existing conditions. Sanitary flow is expected to be approximately 1,345 gpd, as compared to 970 gpd for the existing office use. Any changes in wastewater flow over existing conditions would be negligible. Approximately 820 gpd of wastewater would be generated from the restroom facilities and approximately 525 gpd of wastewater would be from the proposed car wash. The pump cycles would be designed so that the discharges would not impact the pump cycle at the Town's pump station. The existing municipal sewer infrastructure would be able to adequately accommodate the proposed project. No system upgrades or modifications would be required. Approval would be required from the Town's Water and Sewer Department to ensure existing sewer facilities could accommodate the demands of the proposed project. NYCDEP would be notified of the proposed sewer modifications as the proposed project is within the New York City watershed. The Town, County and City are all involved agencies and will review the proposed project and sewer connection to confirm compliance with all applicable regulations.

Groundwater resources would not be affected by potential contamination from an on-site subsurface sewage treatment system as the proposed system is a closed network of pump chambers and piping ultimately connecting to the Town's sewer system. Sewage would be conveyed in a sealed system through the Town and the County sewer districts and be treated before being discharged to waters of the State of New York. As such, the Kensico Reservoir and its tributary watercourses would not be affected.

SOLID WASTE

The proposed project would not be expected to significantly increase solid waste generation at the project site. Parking structures are not typically significant refuse generators, as they require minimal staff and garbage from customers is minimal. Based on an estimated 25 to 29 employees generating 13 pounds per employee per week, solid waste generated by staff would range from 325 to 377 pounds per week.[1] A conservative estimate for waste generated by patrons of an additional 25 percent brings the total solid waste generated to 406 to 471 pounds per week.

Refuse from the proposed facility would be stored in a dumpster similar to the existing dumpster on-site. The dumpster would be screened by a fence to reduce impacts from appearance and odors. The project site would continue to be served by a private carting service. Solid waste would continue to be transported to transfer facilities in Rockland County and Peekskill.

Because no significant changes in generation of solid waste would be expected from the proposed project, there would be no significant adverse impacts on hauling services or refuse processing facilities.

ENERGY AND TELECOMMUNICATIONS

ELECTRICITY

The proposed project would increase annual electricity consumption on the project site by approximately 1.67 million kWh. The existing transformer on the project site would be upgraded to a larger transformer to accommodate this increased load. Primary electric service provided by Con Edison along New King Street would be adequate to accommodate the proposed project and would not require modification.

The proposed project would require removal of the existing underground primary feeder on the project site and installation of a new underground feeder to the new pad-mounted transformer. The connection point of the primary feeder with the Con Edison utility pole on New King Street would be reused. New secondary feeders would be installed on the project site connecting the transformer to the proposed parking facility. New service equipment and meter equipment would be installed in the proposed structure's main electric room. All electrical work would comply with current Con Edison, National Electric Code, New York State, and National Fire Protection Association (NFPA) requirements.

The proposed project would include a 300 kW emergency diesel generator onsite to ensure uninterrupted electrical service during power outages for a period up to 24 hours. This would allow security systems, fire protection systems, and automated robotic equipment to remain

[1] City Environmental Quality Review Technical Manual. May, 2010

functional until further measures can be taken. The generator would be located outside the proposed structure within a sound attenuated enclosure.

Much of the proposed facility would be designated as vehicle storage areas. Because the facility would be fully operated by automated machinery, minimal lighting would be required in the vehicle storage areas. Efficient low-level artificial lighting would be provided for emergency and maintenance technicians, although it would be used on an infrequent basis. Lighting for the office, waiting area, and other enclosed building service spaces would be provided by highly efficient fluorescent fixtures connected to occupancy sensors. Energy would be conserved by ensuring lights are not left on when space is not in use.

The applicant is considering installation of solar thermal systems or photovoltaic cells that use energy from the sun to generate electricity. The applicant is currently investigating these options.

TELEPHONE AND CABLE

Existing underground telephone and cable wires are within the footprint of the proposed structure and would need to be removed. New underground telephone and cable conduits would be installed with the proposed project and would connect to existing services along New King Street. All electrical, telephone, and cable conduits would be located in the one trench, thereby minimizing site disturbance and excavation. A new utility pole would be installed on the project site to route underground telephone and cable conduits via overhead wires to existing services on the opposite side of New King Street. Telephone and cable service would be expected to be provided by existing service providers.

D. MITIGATION MEASURES

In the applicant's opinion, the proposed project would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. As such, no mitigation measures are proposed. However, as discussed above, the proposed project would incorporate a number of sustainable and green features to reduce water usage, sanitary flow, and energy consumption. ✷

A. INTRODUCTION

This chapter describes the potential effects of the proposed project on economic conditions in the local economy. The chapter first presents existing economic conditions on the project site, including a description of existing property tax revenues and employment at the existing office building. This is followed by a discussion in Section B of the economic and fiscal benefits generated during the construction period. Section C includes a discussion of the economic and fiscal benefits generated during annual operations. Finally, Section D discusses the availability of comparable office space in the surrounding area.

B. EXISTING CONDITIONS

EXISTING PROPERTY TAXES

Based on the Town of North Castle 2010 Town and County Tax Bill and 2009-2010 School Tax Bill, the proposed project site (Lot 14B) generated approximately $18,691 in property tax revenues for the Town of North Castle and Westchester County, and $27,682 in taxes for the Byram Hills Central School District, for a total of $46,373 in property tax revenues (see **Table 12-1**). Approximately 15.7 percent of this total revenue was directed to the County, and 14.7 percent was allocated to the Town. The remainder was for the Sewer District #3, Blind Brook Sewer District, Fire District #2, Light District #3, and Ambulance District #2.

Table 12-1
Existing Property Taxes
Proposed Project Site

Taxing District	Taxable Value	Tax Rate/$1,000	Estimated Total Tax Paid
County Tax	$46,200	157.8552	$7,293
Town Tax	$46,200	147.3552	$6,808
Ambulance District #2	$46,200	1.6688	$77
Blind Brook Sewer District	$46,200	21.7990	$1,007
Fire District #2	$46,200	11.6002	$536
Light District #3	$46,200	1.1570	$53
Sewer District #3 (charged by units)	4.5	648.1321	$2,917
Total County/Town Taxes			**$18,691**
School Tax	$46,200	599.1788	$27,682
Total County/Town and School			**$46,373**

Sources: Town of North Castle 2010 Town and County Tax Bill (fiscal year 1/1/2010-12/31/2010) and 2009-2010 Town of North Castle School Tax Bill (fiscal year: 7/1/2009 – 6/30/2010) provided by the applicant.

EXISTING EMPLOYEES

An approximately 9,700-square-foot, one-story office building and accessory parking area is located on the project site. The existing office building currently has three tenants with a total of

18 full-time employees and 3 part-time employees (see **Table 12-2**). Most of the employment in the building is related to an accounting firm with approximately 15 employees. In addition, there are two full-time employees and one part-time employee with a non-profit organization, and one full-time and two part-time employees working within the administrative offices of an off-site manufacturing firm. There is no direct employment associated with the accessory parking area.

Table 12-2
Employees and Estimated Wages at Existing Office Building

Tenants	Employees[1]	Occupational Employment Statistics (OES) survey[2]	
		Occupation	Median Annual Wage
Accounting Firm	15 employees	Accountants and Auditors	$71,560
		Office and Administrative Support Services	$34,140
Non-Profit Organization	2 full-time and 1 part-time	Community and Social Services Occupations	$45,150
Administrative Office for a Manufacturing Firm	1 full-time and 2 part-time	Office and Administrative Support Services	$34,140

Sources: [1]Employment data for the existing office building provided by the applicant.
[2]New York State Department of Labor, Occupational Employment Statistics for the Hudson Valley Region [Accessed October 5, 2010].

Based on New York State Department of Labor's Occupational Employment Statistics (OES) Q1 2010 data for the Hudson Valley region,[1] the occupations within the existing building have estimated median annual wages of between $34,140 and $71,560 (see **Table 12-2**).

C. CONSTRUCTION PERIOD EFFECTS

Construction of the proposed project would result in activity in the Westchester County economy and in the larger region. Effects during construction would stem from the direct construction employment and spending from the project, as well as the secondary, or indirect, economic activity generated throughout the economy by the direct construction spending (often referred to as the "ripple" effect). This analysis examines the effect of the project in terms of employment, wages and salaries, and tax dollars generated during the construction period.

The principal model used to estimate the effect of constructing the proposed project is the Regional Input-Output Modeling System (RIMS II), developed by the U.S. Department of Commerce, Bureau of Economic Analysis. The model contains data for the region on approximately 400 economic sectors, showing how each sector affects every other sector as a result of a change in the quantity of its product or service. The model for the region includes counties in New York State (Westchester, Dutchess, Orange, Putnam, Rockland, Sullivan, and Ulster) and counties in Connecticut (Fairfield and Litchfield). Using this model and the specific characteristics of the project, the total effect has been projected for the region.

[1] The Hudson Valley Region includes the following seven counties: Westchester, Dutchess, Orange, Putnam, Rockland, Sullivan, and Ulster.

ESTIMATED VALUE OF CONSTRUCTION

Based on preliminary estimates, the construction cost of the proposed project is estimated to equal approximately $17 million. The total estimated amount of $17 million reflects the cost of physical improvements to the site, and therefore excludes other values (such as financing, the value of the land, etc.) not directly a part of the expenditures for construction. The total cost—including financing, the value of the land, real estate payments, management, and similar expenditures—would be substantially more.

EMPLOYMENT

The $17 million represents the direct expenditures during the construction period. As a result of these direct expenditures, the direct employment is estimated at about 92 person-years of employment in Westchester County. (A person-year is the equivalent of one employee working full-time for one year.) In addition to direct employment, total employment resulting from construction expenditures would include jobs in business establishments providing goods and services to the contractors and resulting indirect and generated employment. In the region, the model estimates that the proposed project would generate 70 person-years of indirect employment, bringing the total direct and generated jobs from construction of the proposed project to 162 person-years of employment.

WAGES AND SALARIES

The direct wages and salaries in the Westchester County economy during the construction period are estimated at $5.52 million (see **Table 12-3**). In the region, total direct and generated wages and salaries from construction of the project are estimated at $9.2 million.

TOTAL EFFECT ON THE LOCAL COMMUNITY

Based on the U.S. Bureau of Economic Analysis' RIMS II model for the region, the total economic activity, including indirect expenditures (those generated by the direct expenditures), that would result from construction of the project is estimated at $32.49 million in the region, of which $17 million would occur in Westchester County (see **Table 12-3**).

FISCAL IMPACTS

Construction of the proposed project would generate an estimated $363,600 in sales tax revenues for Westchester County, MTA, and New York State. Westchester County would receive about $147,900 of the tax revenues generated by construction of the project. MTA (which collects a 0.375 percent sales tax and tax surcharges on business and utilities taxes within New York City and the MTA 12-county region) would receive about $18,500. New York State would receive about $197,200 of these tax revenues.

The project would also generate revenue from mortgage recording fees. Assuming a construction period mortgage of 70 percent of total cost, the construction period mortgage recording fee paid by the developer would equal approximately $154,700. This estimate is conservative since it does not take into account the value of land. Since the mortgage is based on the total value including the value of land, the mortgage recording fee would likely be higher than this amount.

In addition, the project would create personal income tax for the state, corporate and business taxes, sales tax from workers expenditure, and numerous miscellaneous taxes on the direct and indirect activity.

Table 12-3
Employment and Economic Benefits from Construction of the Proposed Project

	Westchester County	Region[1]
Employment (Person-years)[2]		
Direct (Construction)	92	92
Indirect		70
Total		162
Wages and Salaries (millions)		
Direct (Construction)	$5.52	$5.52
Indirect		$3.68
Total		$9.20
Total Economic Output or Demand (millions)[3]		
Direct (Construction)	$17.00	$17.00
Indirect		$15.49
Total		$32.49
Fiscal		
Sales Tax on Construction Materials (Constant 2010 dollars)		
Westchester County	$147,900	
MTA	$18,500	
New York State	$197,200	
Total	$363,600	

Notes: [1] Region includes Westchester County, Ulster County, Sullivan County, Rockland County, Putnam County, Orange County, Dutchess County, and the following counties in Connecticut: Fairfield and Litchfield

[2] A person-year is the equivalent of one person working full-time a year.

[3] The economic output or total effect on the local economy derived from the direct construction spending.

Sources: The characteristics and construction cost of the proposed development; the Regional Input-Output Modeling System (RIMS II), U.S. Department of Commerce, Bureau of Economic Analysis; and the tax rates by applicable jurisdiction.

D. BENEFITS DURING ANNUAL OPERATION

Upon completion, the proposed project would provide permanent employment, wages and salaries, and tax revenues for the local economy. Similar to construction benefits, the model used to analyze the overall effect of the annual operation of the project was the RIMS II model. Using the Westchester County model and an estimate of the direct permanent jobs at the completed project, the total annual, recurring economic effects of operations of the proposed project were projected.

EMPLOYMENT

It is estimated that the proposed project would provide approximately 27 full-time equivalent jobs. In addition to direct employment, additional employment would include jobs in business establishments providing goods and services to the proposed project (indirect jobs). Based on the RIMS II model's economic multipliers for Westchester County, the completed development

would generate an additional 8 indirect jobs in the county, bringing the total number of jobs from the annual operation of the proposed project to about 35 jobs (see **Table 12-4**).

Table 12-4
Projected Employment and Economic Benefits from Annual Operation of the Proposed Project

	Westchester County
Employment (Full-Time Equivalent Jobs)[1]	
Direct (On-Site)[1]	27
Indirect	8
Total	35
Wages and Salaries (Millions of 2010 dollars)	
Direct (On-Site)[2]	$814,000
Indirect	$459,700
Total	$1,273,700
Total Economic Output or Demand[3] (Millions of 2010 dollars)	
Direct (On-Site)	$3,685,400,
Indirect	$2,701,000
Total	$6,386,400

Notes: [1]Full and Part-time employment was provided by the applicant. Full-time equivalent (FTE) jobs were estimated based on the conversion factor from Bureau of Economic Analysis (BEA), Table 6.5D. Full-Time Equivalent Employees by Industry and Table 6.4D. Full-Time and Part-Time Employees by Industry.

[2]The estimate for direct wages was based on information provided by the applicant.

[3]Total economic output is defined as the total cost of production, or the total value of the product – including costs to pay employees, costs to produce the product, capital investments, and associated taxes.

Source: The Regional Input-Output Modeling System (RIMS II), U.S. Department of Commerce, Bureau of Economic Analysis; and AKRF, Inc.

WAGES AND SALARIES

According to information provided by the applicant, full-time wages at the proposed project would range from $35,000 to $100,000. This range is consistent with OES data on wages and salaries for these types of anticipated employment. Based on information provided by the applicant, the total direct wages for the proposed parking garage are estimated at $814,000 (in 2010 dollars, see **Table 12-4**). Based on RIMS II multipliers for Westchester County, total direct and indirect wages resulting in Westchester County from the annual operation of the proposed project are estimated at $1.27 million.

TOTAL ANNUAL EFFECT ON THE LOCAL ECONOMY

The direct effect on the local economy from the proposed project, measured as economic output or demand, is estimated at approximately $3.7 million annually. Based on the U.S. Bureau of Economic Analysis' RIMS II model for Westchester County, the total economic activity, including indirect expenditures (those generated by the direct expenditures), that would result from operation of the development is estimated at $6.4 million annually in the county (see **Table 12-4**).

FISCAL EFFECTS

The largest non-property tax would be sales tax on the amounts charged for parking. Westchester County would receive 3 percent, MTA 0.375 percent, and New York State 4 percent, for a total of 7.375 percent. In addition, the project would create personal income tax for the state, corporate and business taxes, sales tax from workers expenditure, and numerous miscellaneous taxes on the direct and indirect activity.

FUTURE PROPERTY TAXES

The proposed project would add value to existing land parcels which would consequently add value to the real estate property tax base, resulting in higher property taxes generated by the proposed project. Future tax revenues would be based on an assessment of the value of these improvements, and the application of current equalization and tax rates, as well as the consideration of any applicable exemptions or abatements. The valuation and assessment of properties for tax levy purposes is ultimately the responsibility of the local assessors. For the purposes of this analysis, an estimation of future tax revenues is presented based on a conservative valuation of the construction value invested. In addition, the estimates are based on current tax rates and the current equalization rate (1.94 percent). The estimates are presented to offer a general magnitude of the property revenue effects of the proposed project. The actual market and assessed valuations will be determined by the Town of North Castle assessors.

The assessed value is the basis for a municipality's tax base, and is calculated by applying the equalization rate of the municipality in which a property is located to the full market value of the property. The estimated full market value ($12.75 million) was based on 75 percent of the anticipated cost of construction ($17 million). The estimated full market value of the project was multiplied by the equalization rate of 1.94 percent to arrive at an estimate of the assessed value. The estimated assessed value of the proposed project is estimated at $247,350, representing a 435 percent increase in the assessed value of the property compared to its existing assessed value of $46,200.

As shown in **Table 12-5**, it is estimated that the proposed project would generate approximately $250,160 in real property tax revenues, more than five times higher than the existing property taxes.

Table 12-5
Future Property Taxes Estimates

Taxing District	Taxable Value	Tax Rate/$1,000	Estimated Total Tax Paid
County Tax	$247,350	157.8552	$39,045
Town Tax	$247,350	147.3552	$36,448
Ambulance District #2	$247,350	1.6688	$413
Blind Brook Sewer District	$247,350	21.7990	$5,392
Fire District #2	$247,350	11.6002	$2,869
Light District #3	$247,350	1.1570	$286
Sewer District #3 (charged by units)	27 units	648.1321	$17,500
Total County/Town Taxes			**$101,954**
School Tax	$247,350	599.1788	$148,207
Total County/Town and School			**$250,160**

Sources: Based on the Town of North Castle 2010 Town and County Tax Bill (fiscal year 1/1/2010-12/31/2010) and 2009-2010 Town of North Castle School Tax Bill (fiscal year: 7/1/2009 – 6/30/2010) provided by the applicant.

Of the total property taxes generated by the project, approximately 59 percent of these taxes (or an estimated $148,200) would be directed to the Byram Hills Central School District. The proposed project would generate an estimated $39,000 in county taxes and $36,400 in town taxes. In addition, the proposed project would generate $26,460 in taxes for Sewer District #3, Blind Brook Sewer District, Fire District #2, Light District #3, and Ambulance District #2.

E. RELOCATION OF EXISTING BUSINESSES

As discussed above, there are three businesses at the existing 9,700-square-foot office building located on the proposed project site, including an accounting firm, a non-profit organization, and an administrative office for a manufacturing firm. These businesses are not locationally-dependent services, and it is expected that the businesses would be able to relocate to comparable office space in the surrounding area. Based on information provided by the applicant, current tenants have rental rates ranging between $1,000 per month and $3,125 per month.

According to Rakow Commercial Realty Group, there is ample available office space in the surrounding area. As shown in **Table 12-6**, there is available office space near the existing site at 4 New King Street and at 10 New King Street. Comparable office space is available in the Town of North Castle and surrounding area. As shown in **Table 12-6**, Class A, B, and C office space is available at rental rates comparable to the existing office building's rental rates of $1,000 to $3,125 per month.

Table 12-6
Available Office Space in the Surrounding Area

Address	Class	Space Available	Rent/SF/Year	Rent per Year	Rent per month
10 New King Street White Plains, NY 10604	Class A Office	2,900	$21.00 + elec	$60,900	$5,075
		3,000	$21.00 + elec	$63,000	$5,250
4 New King Street White Plains, NY 10604	Class B Office	5,724	$21.00 + elec	$120,204	$10,017
Westchester Business Park 99 Business Park Drive Armonk, NY 10504	Class B Office	2,400	$15.00/nnn	$36,000	$3,000
495 Main Street Armonk, NY 10504	Class C Office	1,500	$24.00/fs	$36,000	$3,000
145 Lafayette Avenue North White Plains, NY 10603	Class C Office	2,000	$12.00/n	$24,000	$2,000
901 N. Broadway North White Plains, NY 10603	Class C Office	1,085	$16.00+util	$17,360	$1,447
		1,940	$16.00+util	$31,040	$2,587
		1,942	$16.00+util	$31,072	$2,589
		1,153	$16.00+util	$18,448	$1,537
		700	$18.00/fs	$12,600	$1,050
10 Cedar Street Valhalla, NY 10595	Class C Office	2,052	$10.52/mg	$21,587	$1,799
7-11 Legion Drive Valhalla, NY 10595	Class C Office	950	$16.00/+util	$15,200	$1,267
		1,600	$16.00/+util	$25,600	$2,133
		2,400	$16.00/+util	$38,400	$3,200
115 Stevens Avenue Valhalla, NY 10595	Class B Office	1,154	$23.00/te	$26,542	$2,212
400 Columbus Avenue Valhalla, NY 10595	Class A Office	1,003	$23.50/te	$23,571	$1,964
420 Columbus Avenue Valhalla, NY 10595	Class B Office	1,188	$19.00/+elec	$22,572	$1,881
		2,500	$14.00/+elec	$35,000	$2,917
465 Columbus Avenue Valhalla, NY 10595	Class A Office	1,500	$22.50/mg	$33,750	$2,813

Sources: Listings provided by Rakow Commercial Realty on October 7, 2010

F. MITIGATION MEASURES

The proposed project would result in the relocation of three businesses in the existing office building. As discussed above, there is available office space at comparable rents in North Castle and the surrounding area for businesses wishing to relocate. In the applicant's opinion, the relocation of three businesses is not considered a significant adverse impact to economic conditions.

As mentioned above, the proposed project would result in significant economic benefits during construction and during annual operations. In particular, it is estimated that the proposed project's property taxes would be more than five times higher than the existing property taxes, which would be a substantial benefit to the Town of North Castle, Westchester County, and the Byram Hills Central School District. Therefore, in the applicant's opinion, the proposed project would not result in significant adverse impacts on economic conditions, and no mitigation is proposed. ✷

A. INTRODUCTION

INTRODUCTION

The purpose of this Traffic Impact Study (TIS) is to present the Existing Conditions, No Build Conditions, trip generation, project generated distribution pattern, Build Conditions, parking and site circulation characteristics that would be associated with the construction of a proposed 1,450 space park-and-fly parking structure on New King Street, adjacent to Westchester County Airport (see **Figure 13-1**), in Westchester County, New York.

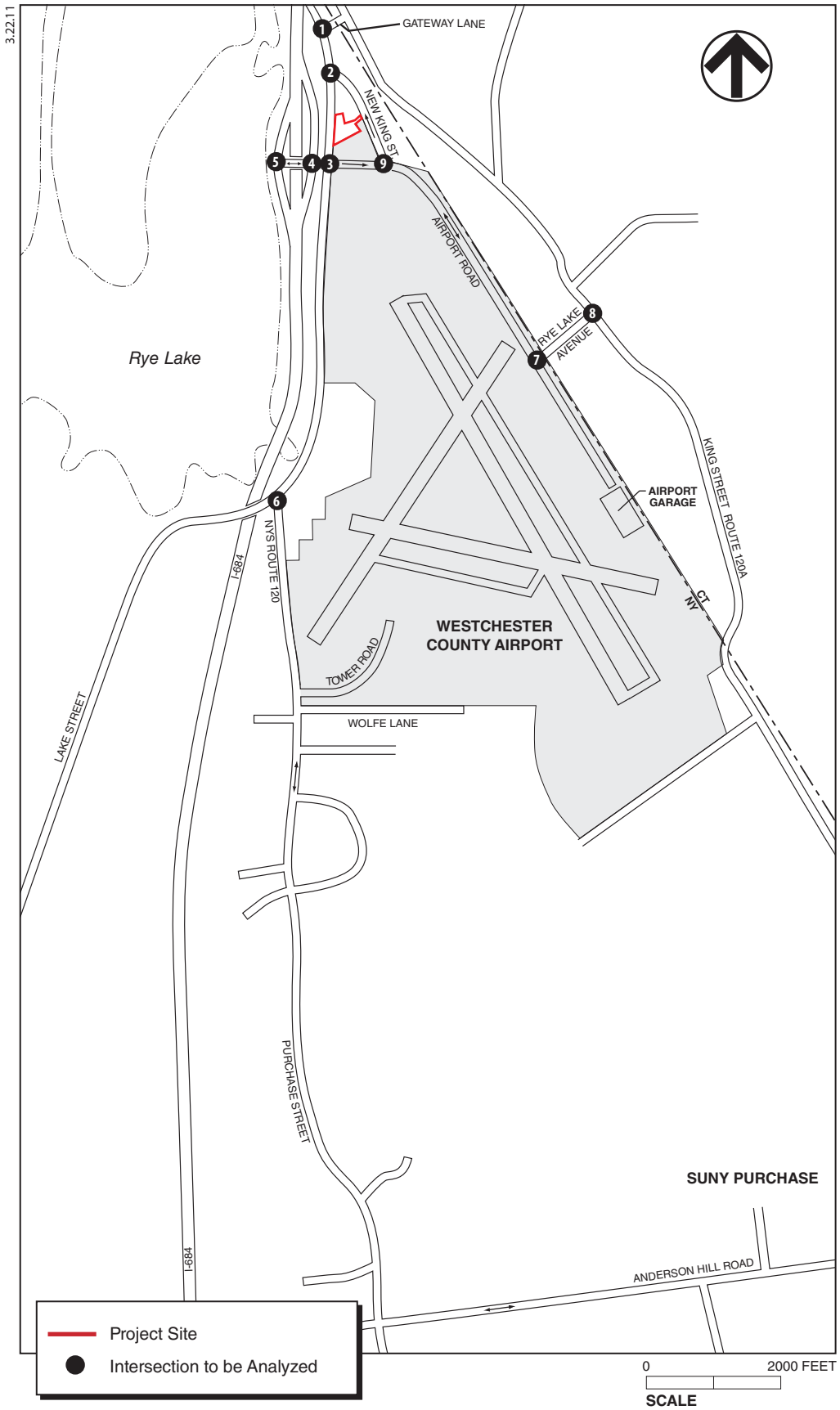
The existing Westchester County Airport parking facility consists of an approximately 1,100 space parking garage adjacent to the airport terminal. In addition to this parking facility, there are overflow parking areas at the airport which provide approximately 400 additional parking spaces. The existing parking garage typically fills to capacity and drivers must seek parking in the overflow parking areas. It was observed during the counts conducted during the 2008 and 2009 Thanksgiving Holidays (peak travel periods), that the garage was at capacity and the overflow parking lot was at or near capacity during certain times of the day. The rental car parking lot also fills up and rental cars and rental car company employees must look for parking in other locations. Due to the general shortage of parking at the airport, signage in various parts of the airport and public campaigns across various media outlets are in place to discourage travelers from driving to the airport during holiday travel periods. In fact, Westchester County issued a press release in January 2010 (see Appendix C) which urged that travelers "don't drive" and "get a ride to the airport", rather than drive, because "…unfortunately there's just not enough parking at the airport to accommodate our passengers".[1] The result is a doubling of many of the trips to the airport.

SUMMARY OF FINDINGS

BACKGROUND GROWTH

A 2.5 percent annual growth factor was used in the TIS (the scope of work required a 2.0 percent growth factor). The additional 0.5 percent was added to the growth factor to be conservative and accounts for nearby municipalities who failed to provide information of planned development projects. This would result in an overall growth rate of 10 percent for the 2012 No Build Year. No development projects were identified in the project site vicinity. Any development projects that may occur in the study area would be accounted for in the growth factor.

[1] Lawrence C. Salley, Westchester County Transportation Commissioner, January 28, 2010.



Traffic Study Area
Figure 13-1

PROJECT TRIP GENERATION

The number of trips generated by the proposed project was determined by considering the following:

- Traffic generation at three airport parking facilities (Columbus, OH, Denver, CO, and Pittsburgh, PA) that are comparable in size to the proposed Park Place garage. Data at these facilities showed a general range of hourly vehicle activity of 20 to 30 (in and out) vehicle trips and maximum peak hour activity of approximately 60 (in and out) vehicle trips.
- Traffic generation to and from the airport garage as recorded by Automatic Traffic Recorder (ATR) counts during the peak Thanksgiving Holiday. The ATR data showed maximum peak hour activity of approximately 127 (in and out) vehicle trips.
- Shuttle bus trips that would be created with the addition of the Park Place garage.
- Flight schedules at the airport were reviewed and during the AM peak hour, flight activity comprises primarily of departures and during the PM peak hour, flight activity is generally balanced between arrivals and departures.

To be conservative, the peak hour project generated activity analyzed in the study was higher than what was recorded at the existing airport garage and at the three comparable facilities, the trips generated by the existing 9,732 square foot office building were not subtracted from the network, and the study overlaid the peak from the proposed garage over the peak of the traffic network. The number of trips generated by the proposed project was calculated as follows:

- The number of vehicle trips that currently arrive for departing and arriving flights at the terminal building and park at existing airport facilities that would now park in the proposed Park Place garage were calculated and subtracted from the traffic network. These trips include Taxi/Limo/Auto Drop-Off trips that currently drop-off passengers at the airport terminal (In and Out trips during the peak hour), Taxi/Limo/Auto Pick-Up Trips that currently pick-up passengers at the airport terminal (In and Out trips during the peak hour), vehicles that currently park in the airport garage (Out trips during the peak hour), and vehicles that currently park in the airport overflow lot that would now park in the Park Place garage (In trips during the AM peak and In and Out trips during the PM peak hour).
- The number of trips reassigned to the Park Place garage from the airport terminal and existing parking facilities were calculated and added to the traffic network. These trips include passengers that used to be dropped-off (Taxi/Limo/Auto Drop-offs) that would now park in the Park Place garage (In trips only), passengers that used to be picked-up (Taxi/Limo/Auto Pick-ups) that would now park in the Park Place garage (Out trips only), and based on field observations passengers that used to park in the airport overflow lot that would now park in the Park Place garage (In trips during the AM peak hour and In and Out trips during the PM peak hour).
- The number of new trips generated by the new Park Place garage were calculated and added to the traffic network. For the purpose of this analysis, 14 trips represents the maximum number of shuttle bus trips expected per hour with approximately 4 to 7 buses (maximum number of shuttle buses to be used) each making approximately 2 round trips during the peak hours.

The proposed project would generate a net number of 4 entering trips, and -66 exiting trips during the AM peak hour and 1 entering trip and -46 exiting trips during the PM peak hour along the traffic network.

PROJECT VEHICLE DISTRIBUTION AND ASSIGNMENT

For the purpose of estimating the likely distribution of project-generated trips to and from the project site, a directional distribution of vehicle trips was created for each peak hour using the existing travel patterns in the network (to and from the airport). The project-generated vehicle assignment is based on the trip distribution discussed above. For the AM peak hour, of the 35 vehicle directional movements that have traffic assigned to them, 28 (approximately 80 percent) have a negative value. For the PM peak hour, of the 36 vehicle directional movements that have traffic assigned to them, 28 (approximately 78 percent) have a negative value.

TRAFFIC CONDITIONS

Under the 2012 Build conditions there would be no notable changes in LOS at any of the signalized or unsignalized study area intersections when compared with the 2012 No Build conditions. Therefore, there would be no adverse impacts requiring mitigation. In fact, the reassignment of traffic from the Taxi/Limo/Auto Drop-offs/Auto Pick-ups (in and out trips each hour) to the new Park Place garage by auto (in or out trips each hour) would reduce traffic at the majority of intersection movements, an overall net benefit to traffic conditions in the study area.

Of the 10 intersections analyzed, 5 and 7 intersections would experience a decrease in overall intersection delay during the AM and PM peak hours, respectively, with the Park Place garage in place.

CONCLUSION

The construction of the Park Place garage would provide relief to the existing high demand for airport parking by providing an additional 1,450 parking spaces. The greater availability of parking would encourage many travelers who currently take taxis, limousines, or are dropped off/picked up at the airport to drive themselves to the airport, thus reducing the number of trips to the airport. Drivers would also spend less time traveling between the various airport parking facilities looking for parking spaces. Usage of the Park Place garage would also reduce the number of vehicle trips actually entering the airport terminal area as a limited number of shuttle buses would transport passengers from the Park Place garage to the airport terminal. As demonstrated by the trip generation calculations, these factors would result in an overall reduction in the number of vehicle trips across the traffic network. In the applicant's opinion, there would be no adverse traffic impacts that would require mitigation.

B. EXISTING CONDITIONS

ROADWAY NETWORK

To assess the potential traffic impacts that are associated with the development of the project, 9 key intersections were identified that would most likely be affected by the project-generated traffic (see **Figure 13-1**). The intersections are:

1. NYS Route 120 and Gateway Lane (Signalized)
2. NYS Route 120 and New King Street (Signalized)
3. NYS Route 120 and Airport Road (Signalized)
4. Airport Road and the Southbound I-684 Ramps (Unsignalized)

5. Airport Road and the Northbound I-684 Ramps (Unsignalized)
6. NYS Route 120 and Lake Street (Unsignalized)
7. Airport Road and Rye Lake Avenue/Westchester County Airport Driveway (Unsignalized Roundabout)
8. King Street and Rye Lake Avenue/Tudor Group Driveway (Signalized)
9. Airport Road and New King Street (Unsignalized)

A tenth intersection, New King Street and the Project Site Driveway would be evaluated for Build conditions when the parking structure is completed and actively operating.

The intersections selected for analysis in the traffic study area were selected based on consultations with the Town of North Castle and the New York State Department of Transportation (NYSDOT) and those intersections that were anticipated to be along principal routes to and from the airport and the proposed garage.

The following is a brief description of the major roadways within the study area:

- *Interstate 684 (I-684).* I-684 is a major north-south interstate highway that generally provides three moving lanes in each direction within the study area. Full access to both directions of traffic is available from Airport Road via 4 ramps to and from I-684. I-684 is under the jurisdiction of the New York State Department of Transportation (NYSDOT).
- *NYS Route 120 (Purchase Street).* NYS Route 120 is a major two-way north-south arterial that ranges in width from approximately 29 to 71 feet within the study area. NYS Route 120 generally provides one to two moving lanes in each direction within the study area. Parking is prohibited along NYS Route 120 within the study area. NYS Route 120 is a New York State owned roadway.
- *King Street (NYS Route 120A).* King Street is a major two-way north-south arterial that ranges in width from approximately 32 to 42 feet within the study area. King Street generally provides one moving lane in each direction within the study area. Parking is prohibited along King Street within the study area. King Street straddles the New York/Connecticut border in portions of the study area and traverses through the Town of Greenwich, Connecticut within the study area. King Street is a New York State owned roadway in New York (designated as NYS Route 120A) and a local roadway in Connecticut.
- *Airport Road.* Airport Road serves as a connector roadway between I-684, NYS Route 120, and Westchester County Airport. Airport Road traverses in an east-west direction in the vicinity of I-684 and NYS Route 120 and in a north-south direction in the vicinity of Westchester County Airport. Airport Road is a two-way roadway between I-684 and NYS Route 120, as well as between New King Street and its terminus at the Westchester County Airport and generally provides one moving lane in each direction. Between NYS Route 120 and New King Street, Airport Road is a one-way eastbound roadway. Within the study area Airport Road ranges in width from approximately 29 to 47 feet. Airport Road is under the jurisdiction of Westchester County.
- *Lake Street.* Lake Street is a local roadway and arterial which connects with NYS Route 120 in the southern portion of the study area. Lake Street serves as a direct route between the Westchester County Airport and the City of White Plains. Lake Street provides one moving lane in each direction and is approximately 29 feet wide in the study area. According to the Westchester County Department of Planning, although Lake Street is under local

jurisdiction, local planning and zoning actions on this road are subject to referral to the Westchester County Planning Board, as would be a County owned roadway.

- *Gateway Lane (NYS Route 120A).* Gateway Lane serves as an east-west connector road between NYS Route 120 and King Street and is approximately 28 feet wide in the study area. Gateway Lane generally provides one moving lane in each direction. The eastern portion of Gateway Lane is in Greenwich, Connecticut, where it is a local roadway; the western portion is in New York, where it is also designated as NYS Route 120A and is under the jurisdiction of NYSDOT.
- *Rye Lake Avenue.* Rye Lake Avenue serves as an east-west connector road between Airport Road and King Street and is approximately 37 feet wide in the study area. Rye Lake Avenue generally provides one moving lane in each direction. Most of Rye Lake Avenue is in Greenwich, Connecticut, where it is a local roadway; a small section of the western portion is in New York, where it is also a local roadway.
- *New King Street.* New King Street is a local one-way street and is approximately 27 feet wide in the study area. New King Street generally provides one moving lane along its length.
- *Westchester County Airport Driveway, Tudor Group Driveway.* These are private driveways, ranging in width from approximately 25 to 35 feet. Each of these driveways provides one moving lane in each direction.

The lane configurations and traffic controls for the study area roadways and intersections are shown in **Figure 13-2**.

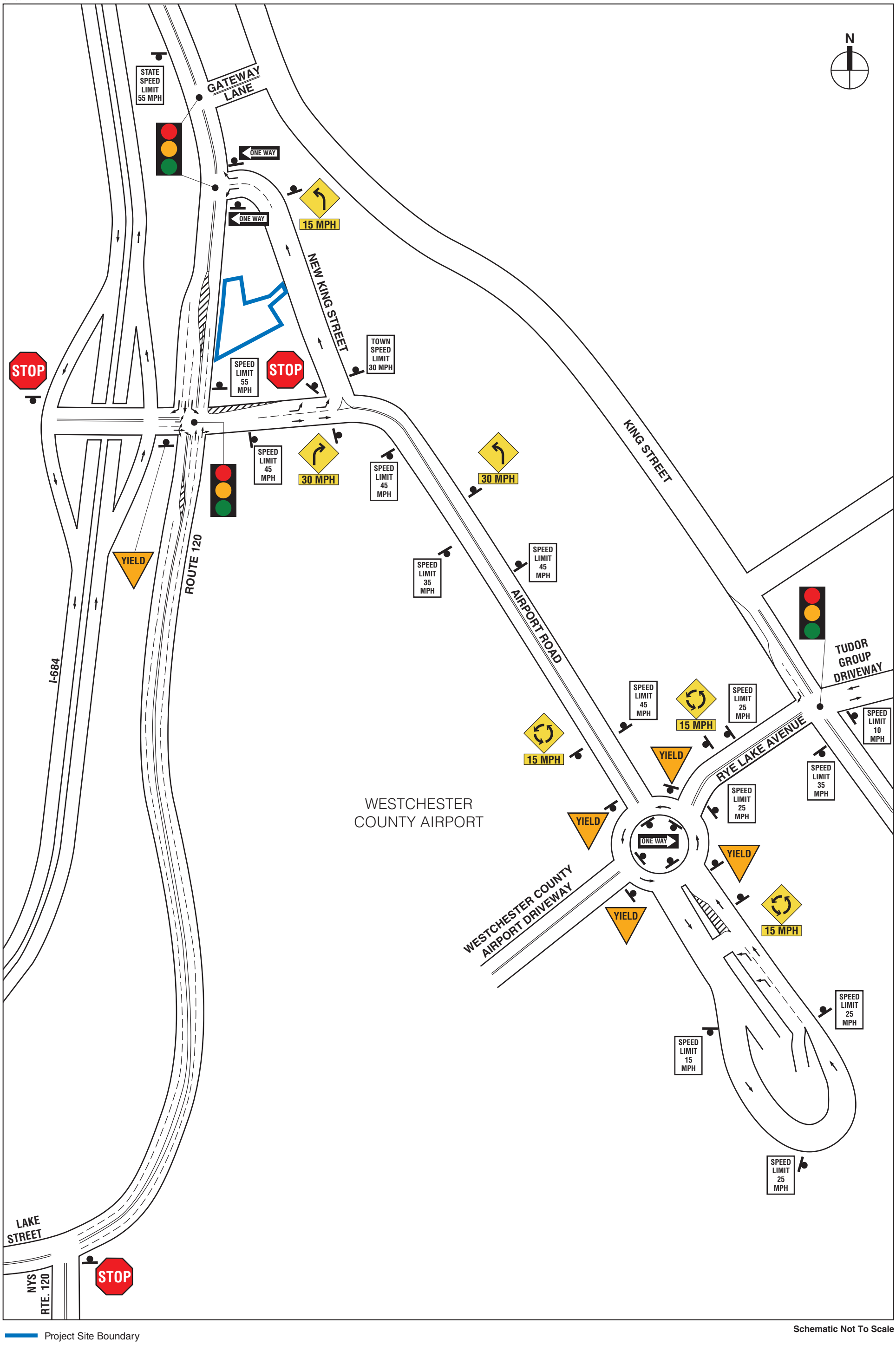
INTERSECTION CAPACITY ANALYSIS METHODOLOGY

It was determined as per the Town scoping document that the Synchro traffic analysis software would be used to perform capacity analyses at the study area intersections. For signalized intersections, Synchro has two analysis methodologies available to the user: (1) the Percentile Delay Methodology, native to Synchro (utilized in this study); and (2) the methodologies presented in the 2000 *Highway Capacity Manual (HCM)* for signalized intersections. For unsignalized intersections, only the HCM methodology is available. These methodologies are described in greater detail below.

SIGNALIZED INTERSECTION CAPACITY ANALYSIS METHODOLOGY

The operation of signalized intersections in the study area was analyzed applying the Percentile Delay Methodology included in the Synchro traffic signal software. This methodology builds on the methodology presented in the 2000 *Highway Capacity Manual (HCM)* for signalized intersections and in addition, accounts for variations in traffic flow which often occur with the presence of actuated signals. This procedure evaluates signalized intersections for average control delay per vehicle and level of service (LOS).

LOS for the signalized intersections is based on the average control delay per vehicle for the various lane group movements within the intersection. Control delay is equal to stopped delay times 1.3. This delay is the basis for a LOS determination for individual lane groups, each approach as a whole, and the overall intersection.



Project Site Boundary

Schematic Not To Scale

Study Area Roadway Configurations and Traffic Controls
Figure 13-2

The control delay criteria for the range of service levels for signalized intersections are shown in **Table 13-1**. The control delay criteria for the Percentile Delay Methodology utilized in Synchro is identical to the control delay criteria used in the *HCM* methodology.

Table 13-1
LOS Criteria for Signalized Intersections

Level-of-Service (LOS)	Control Delay Per Vehicle
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Sources: Transportation Research Board. *Highway Capacity Manual*, 2000.	

Although the *HCM* methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay indicates an optimization of traffic flow—when an approach, or the whole intersection, processes traffic close to its theoretical maximum with a minimum amount of delay. However, very high v/c ratios—especially those greater than 1.0—often correlate with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio, delay, and LOS.

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS METHODOLOGY

The LOS criteria for unsignalized intersections are summarized in **Table 13-2**. For the purposes of this analysis, control delay is defined as the total elapsed time that includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. For unsignalized intersections, the Synchro traffic signal software only utilizes the *HCM* methodology for intersection analysis.

Table 13-2
LOS Criteria for Unsignalized Intersections

Level-of-Service (LOS)	Control Delay Per Vehicle
A	≤ 10.0 seconds
B	>10.0 and ≤ 15.0 seconds
C	>15.0 and ≤ 25.0 seconds
D	>25.0 and ≤ 35.0 seconds
E	>35.0 and ≤ 50.0 seconds
F	>50.0 seconds
Sources: Transportation Research Board. *Highway Capacity Manual*, 2000.	

Note that the LOS criteria for unsignalized intersections are somewhat different from the criteria used in signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. In addition, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than at signalized intersections. For these reasons, it is considered that the average control delay threshold for any given LOS is less for an unsignalized than for a signalized intersection. The LOS for a Two-Way Stop Control intersection is determined by the control delay and is defined for each minor movement.

TRAFFIC CONDITIONS

Existing weekday peak traffic volumes on the study area roadways were established based on traffic counts conducted in November and December 2008, and February and November 2009. The counts consisted of manual and Automatic Traffic Recorder (ATR) counts conducted at various locations throughout the study area. Field inventories of roadway geometry, signal timings/phasings, bus stop presence, and parking regulations/activities were also conducted to provide the appropriate inputs to the operational analyses.

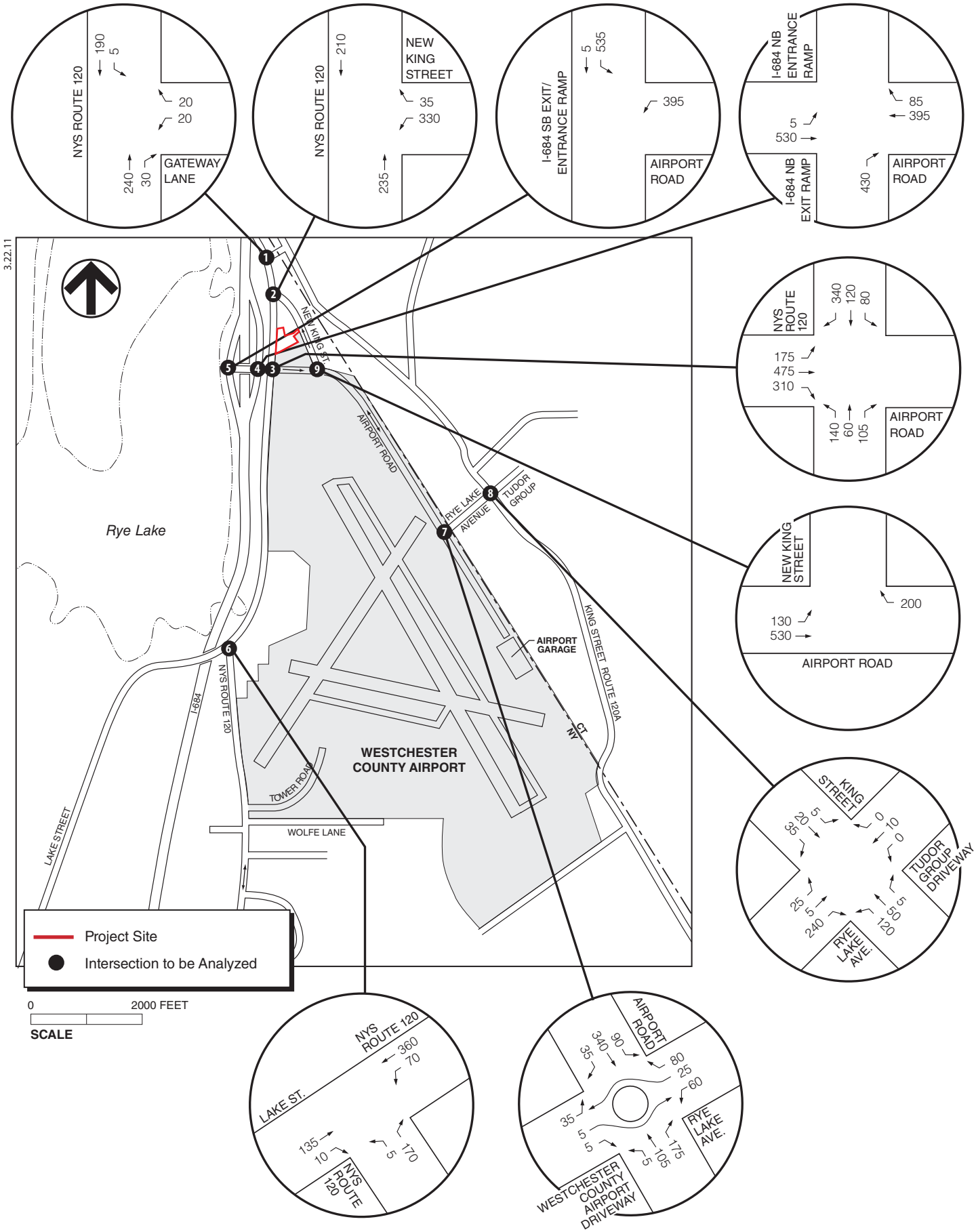
Figures 13-3 and **13-4** show the roadway volumes in the study area for existing conditions for the peak hours analyzed.

The peak hours of the roadway network are as follows:

- AM Peak Hour – 8:00 AM to 9:00 AM
- PM Peak Hour – 4:15 PM to 5:15 PM

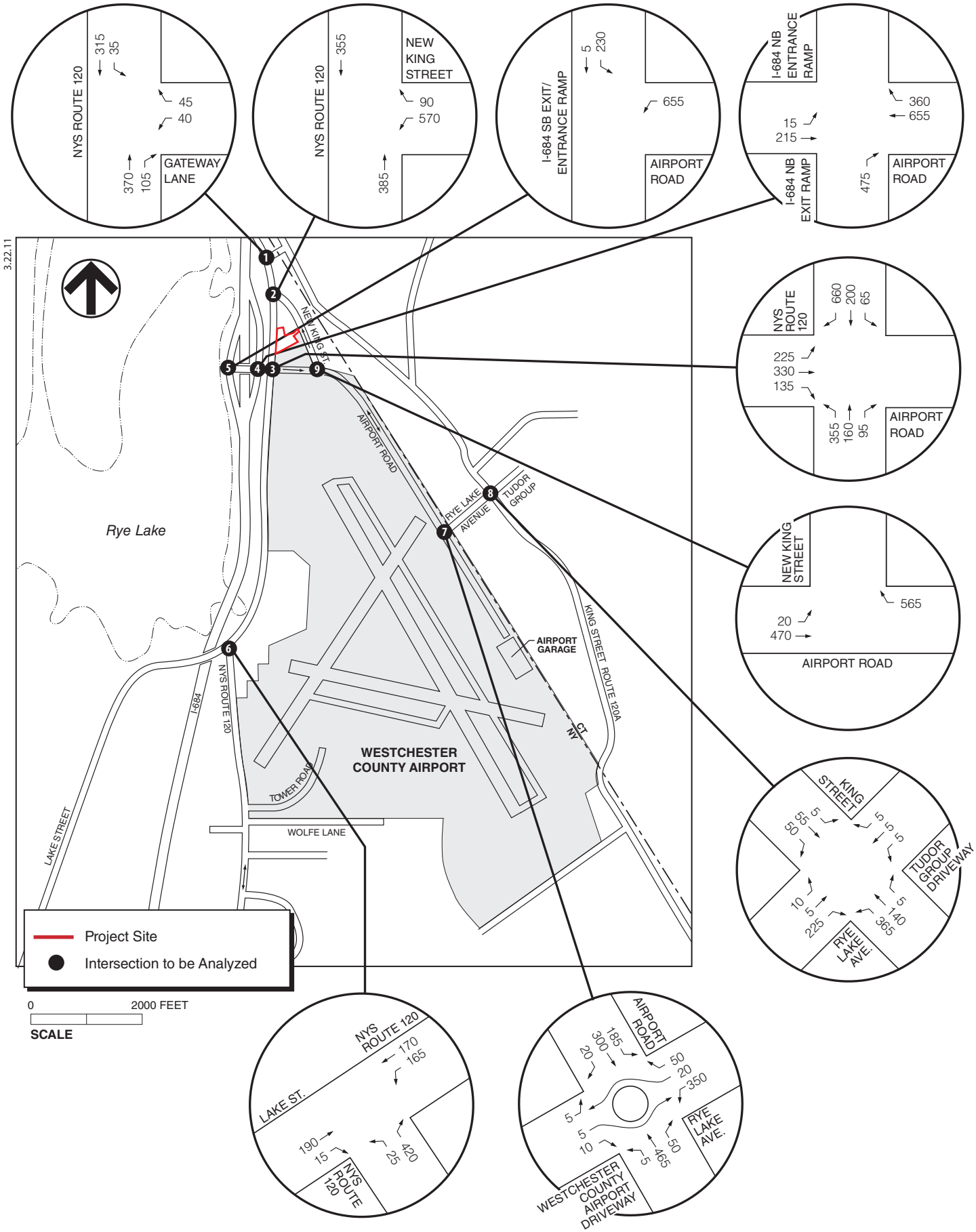
Saturday conditions were not analyzed as the ATR count data indicated that Saturday daily traffic volumes were notably less than the weekday daily traffic volumes. As shown in **Table 13-3**, the daily traffic volumes on the Saturdays at locations where ATR counts were conducted were between approximately 30 to 75 percent less compared to the weekday daily traffic volumes. As the notably lower Saturday volumes would not reveal any additional operational deficiencies in the traffic network when compared with the higher weekday volumes, an analysis of Saturday conditions was concluded to be unnecessary. It is important to note that although the peak hours of the roadway network are generally the hours shown above, the traffic volumes shown in **Figures 13-3** and **13-4** represent the highest volumes recorded within the traffic count period at each study area intersection, some of which may not fall within the peak hours listed above. The utilization of the highest volumes recorded provide for a conservative analysis. The data was then analyzed using the Synchro Percentile Delay methodology for signalized intersections and the *HCM* methodology for unsignalized intersections to compute delays, v/c ratios, and LOS as described above (see Appendix J for the Synchro outputs for the study area intersections).

As shown in **Table 13-4** the lane groups/approaches of the signalized intersections in the study area generally operate acceptably at LOS D or better (for developed areas, LOS D or better



2008 Existing Traffic Volumes
AM Peak Hour (8:00 - 9:00 AM)

Figure 13-3



2008 Existing Traffic Volumes
PM Peak Hour (4:15 - 5:15 PM)

Figure 13-4

generally indicates acceptable operating conditions) under 2008 Existing Conditions during the peak hours analyzed with the following exceptions:

- The eastbound Airport Road left-turn/through/right-turn lane group at NYS Route 120 operates unacceptably at LOS F during the AM peak hour.

Table 13-3
Total Daily ATR Count Volumes

	Wednesday, 11/26/2008				Saturday, 11/29/08					Saturday, 12/6/08				
ATR Location	**NB**	**SB**	**EB**	**Total**	**NB**	**SB**	**EB**	**Total**	**% Change[(1)]**	**NB**	**SB**	**EB**	**Total**	**% Change[(1)]**
Rye Lake Road, north of Airport Road	2,835	3,726		**6,561**	2,054	2,340		**4,394**	**-33%**	1,823	2,409		**4,232**	**-35%**
Eastbound Airport Road (left turn lane), west of New King Street			493	**493**			115	**115**	**-77%**			141	**141**	**-71%**
Northbound Airport Exit	6,033			**6,033**	4,014			**4,014**	**-33%**	2,773			**2,773**	**-54%**
Northbound NYS Route 120, south of Airport Road	3,709			**3,709**	1,818			**1,818**	**-51%**	2,225			**2,225**	**-40%**
Southbound NYS Route 120, south of New King Street		9,704		**9,704**		5,702		**5,702**	**-41%**		5,314		**5,314**	**-45%**
Southbound I-684 Exit Ramp		4,041		**4,041**		2,491		**2,491**	**-38%**		2,577		**2,577**	**-36%**
Eastbound Airport Road, east of NYS Route 120			5,881	**5,881**			3,881	**3,881**	**-34%**			3,562	**3,562**	**-39%**
Northbound I-684 Exit Ramp	5,684			**5,684**	2,805			**2,805**	**-51%**	2,937			**2,937**	**-48%**
Southbound Airport Entrance		8,013		**8,013**		5,479		**5,479**	**-32%**		4,032		**4,032**	**-50%**
Northbound New King Street, north of Airport Road	5,743			**5,743**	3,681			**3,681**	**-36%**	3,265			**3,265**	**-43%**

Notes: (1) "-" value indicates that the 11/26/08 volumes were higher.

Table 13-4
2008 Existing Conditions LOS Summary

No.	Intersection	Approach	Lane Group	8:00 - 9:00 AM V/C Ratio	8:00 - 9:00 AM Delay (SPV)	8:00 - 9:00 AM LOS	4:15 - 5:15 PM V/C Ratio	4:15 - 5:15 PM Delay (SPV)	4:15 - 5:15 PM LOS
Signalized Intersections									
1	NYS Route 120 & Gateway Lane	WB	LR	0.28	25.5	C	0.48	23.8	C
		NB	TR	0.22	2.2	A	0.48	5.3	A
		SB	LT	0.24	2.4	A	0.37	4.1	A
		INT			3.7	A		6.4	A
2	NYS Route 120 & New King Street	WB	L	0.58	13.6	B	0.67	16.3	B
			R	0.07	3.9	A	0.11	3.5	A
		NB	T	0.43	11.8	B	0.70	23.6	C
		SB	T	0.36	11.0	B	0.64	21.9	C
		INT			12.0	B		18.9	B
3	Airport Road & NYS Route 120	EB	L	0.26	25.7	C	0.33	29.3	C
			LTR	1.37	208.9	F	0.81	45.3	D
		NB	L	0.26	19.3	B	0.57	22.2	C
			TR	0.16	10.1	B	0.18	15.3	B
		SB	L	0.19	20.0	C	0.17	19.1	B
			T	0.25	39.1	D	0.43	42.6	D
			R	0.30	1.2	A	0.63	8.3	A
		INT			102.8	F		24.5	C
8	King Street & Rye Lake Avenue/Tudor Group Driveway	EB	LTR	0.53	5.5	A	0.58	8.5	A
		WB	LT	0.07	8.7	A	0.07	13.7	B
		NB	LTR	0.33	7.9	A	0.76	16.4	B
		SB	LT	0.04	5.7	A	0.08	4.7	A
			R	0.07	2.8	A	0.08	1.9	A
		INT			6.3	A		12.2	B
Unsignalized Intersections									
4	Airport Road & Northbound I-684 Ramps	EB	LT	0.01	0.3	A	0.05	2.0	A
		NB	R	0.95	58.3	F	0.66	17.8	C
5	Airport Road & Southbound I-684 Ramps	WB	L	0.28	8.1	A	0.45	9.0	A
		SB	LT	2.91	**	F	3.22	**	F
6	NYS Route 120 & Lake Street	WB	LT	0.06	3.2	A	0.13	6.3	A
		NB	LR	0.29	11.0	B	0.66	19.1	C
7	Airport Road & Rye Lake Avenue/Westchester County	EB	TR	0.14	-	-	0.07	-	-
		WB	TR	0.25	-	-	0.83	-	-
	Airport Driveway(1)	NB	TR	0.32	-	-	0.60	-	-
		SB	TR	0.50	-	-	0.79	-	-
9	Airport Road & New King Street	EB	L	0.19	10.8	B	0.05	13.5	B

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; INT = Intersection.
L = Left-Turn; T = Through; R = Right-Turn.
V/C = Volume to Capacity; SPV = Seconds per Vehicle; LOS = Level of Service.
** indicates a calculated delay greater than 240.0 seconds
(1) Synchro does not calculate delay and LOS for roundabouts, only a range of v/c ratios. The highest v/c ratios are presented.

As shown in **Table 13-4** the lane groups/approaches of the unsignalized intersections in the study area generally operate acceptably at LOS D or better (for developed areas, LOS D or better indicates acceptable operating conditions) under 2008 Existing Conditions during the peak hours analyzed with the following exceptions:

- The northbound I-684 Ramp approach at Airport Road operates unacceptably at LOS F during the AM peak hour.
- The southbound I-684 Ramp approach at Airport Road operates unacceptably at LOS F during both the AM and PM peak hours.

PARKING CONDITIONS

The project site currently has a surface parking lot of approximately 35 spaces. This lot is accessed via a two-lane driveway along New King Street.

The existing Westchester County Airport parking facility consists of an approximately 1,100 space parking garage adjacent to the airport terminal. In addition to this parking facility, there are overflow parking areas at the airport which provide approximately 400 additional parking spaces. Drivers must pay to park at both the parking garage and the overflow parking areas. The airport also provides a cell phone parking area where drivers can wait to receive phone calls from passengers on arriving flights before approaching the terminal to pick up passengers. A rental car parking lot also exists at the airport where employees of the rental car companies and the rental car fleet vehicles park.

The existing parking garage typically fills to capacity and drivers often must seek parking in the overflow parking areas. It was observed during the counts conducted during the Thanksgiving Holiday (peak travel period), that the garage was at capacity and the overflow parking lot was at or near capacity during certain times of the day. The rental car parking lot is also known to fill up and rental cars and rental car company employees must look for parking in other locations. Due to the general shortage of parking at the airport, signage in various parts of the airport and public campaigns across various media outlets are in place to discourage travelers from driving to the airport. Westchester County provided a new release in January 2010 which urged travelers to get a ride to the airport, rather than drive, during holiday travel periods as there would not be enough parking at the airport during those times. Overall, the existing parking facilities at the airport do not meet the existing demand for parking at the airport.

Private parking facilities exist for the other land uses in the study area which include airport hangar buildings, private homes, businesses, office buildings, schools, and houses of worship.

PEDESTRIAN CONDITIONS

Pedestrian traffic is generally light in the study area. Outside of the airport property, there are no pedestrian facilities such as sidewalks and crosswalks provided along the study area roadways.

MASS TRANSIT CONDITIONS

Public bus service is offered in the study area. The Westchester County Bee-Line Bus System operates the following bus route within the study area: Route 12 ("Yorktown-Purchase-White Plains"). Route 12 offers service to central and northern Westchester County and makes 3 stops at Westchester County Airport during the AM peak hour and 2 stops at the airport during the PM peak hour. Route 12 makes stops at the White Plains Transcenter (railroad station and bus

terminal) where connections are available to rail service via Metro North Railroad's Harlem line as well as several local and regional bus routes.

In 2001, the Airlink bus route was created to respond to demand for bus transportation to the airport and to provide direct service from the White Plains Transcenter to Westchester County Airport. The Airlink route was in use for several years and was terminated in February 2010 due to low ridership.

ACCIDENT ANALYSIS

Tables 13-5 and 13-6 present a summary of the most recent three year's traffic accident data for the study area intersections and roadway segments compiled from NYSDOT records for the period of May 1, 2007 through April 30, 2010. A review of this data shows that the intersection of NYS Route 120 and Airport Road experienced the largest number of accidents (7) over the three year period studied with the largest number of accidents (4) occurring in 2009. Intersections not listed in **Tables 13-5 and 13-6** indicate that the NYSDOT records did not show accident data for those intersections.

A majority of the accidents that occurred at the study area intersections and roadway segments were vehicle-to-vehicle accidents. The accidents were caused by a number of factors including failure to yield right of way, speeding, and improper lane usage and turning movements. The nature of the accidents varied along with the time of day, day of the week, and road surface conditions of the accidents. Other accident types that occurred in notably smaller numbers (approximately 1 to 2 accidents of each type over the three year period studied) were collisions with sign posts, bicyclists, and guide rails.

Most accidents resulted in 0 to 2 persons injured. No fatalities were reported in the accident data records.

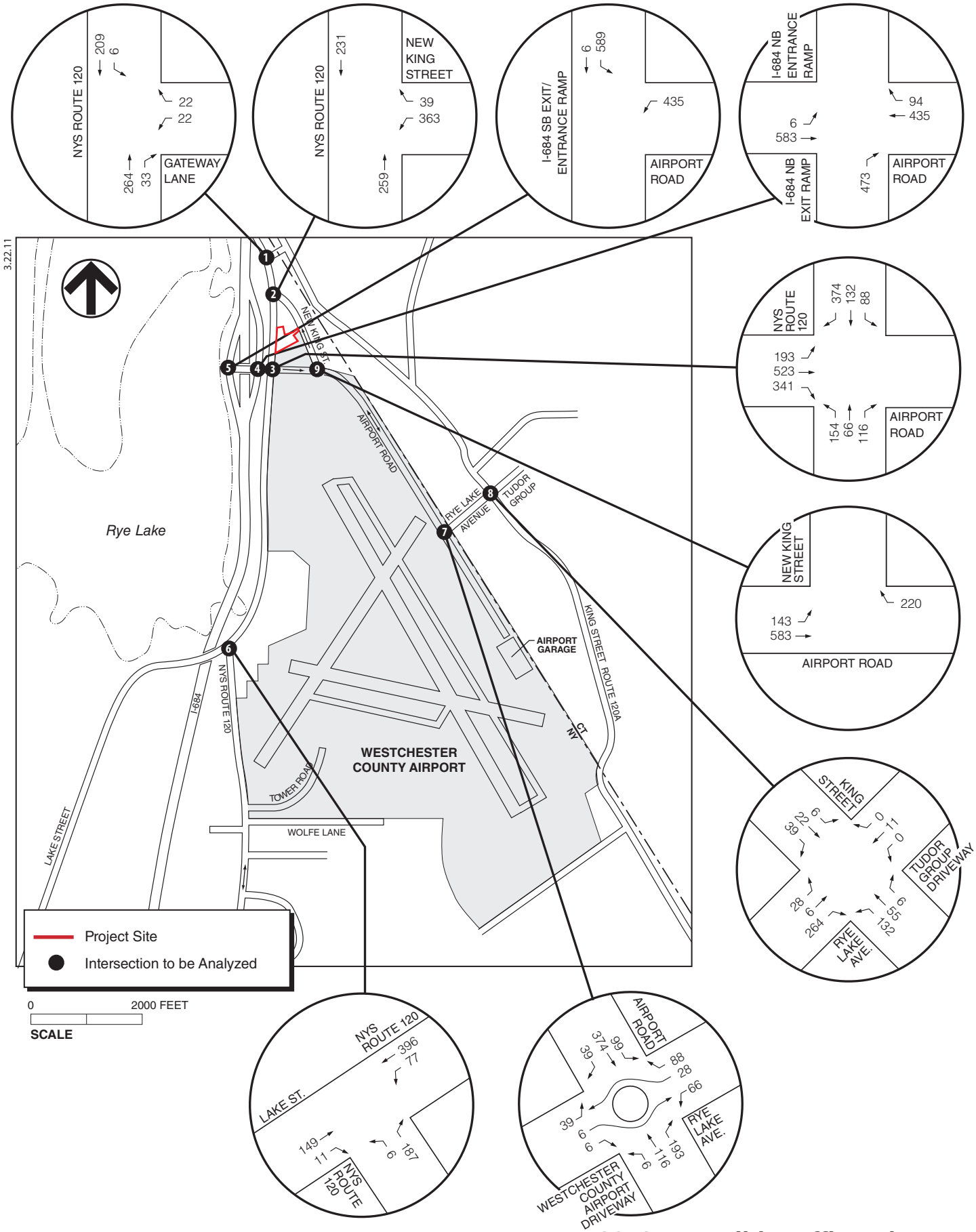
C. FUTURE WITHOUT THE PROPOSED PROJECT

TRAFFIC CONDITIONS

The No Build traffic condition is an interim scenario that establishes a future baseline condition. No Build traffic conditions are ascertained based on a number of factors: (1) improvements in the study area road network that are planned or underway; (2) traffic from general population growth in the local area (i.e., "background growth"); and (3) traffic from identified development projects in the project site vicinity.

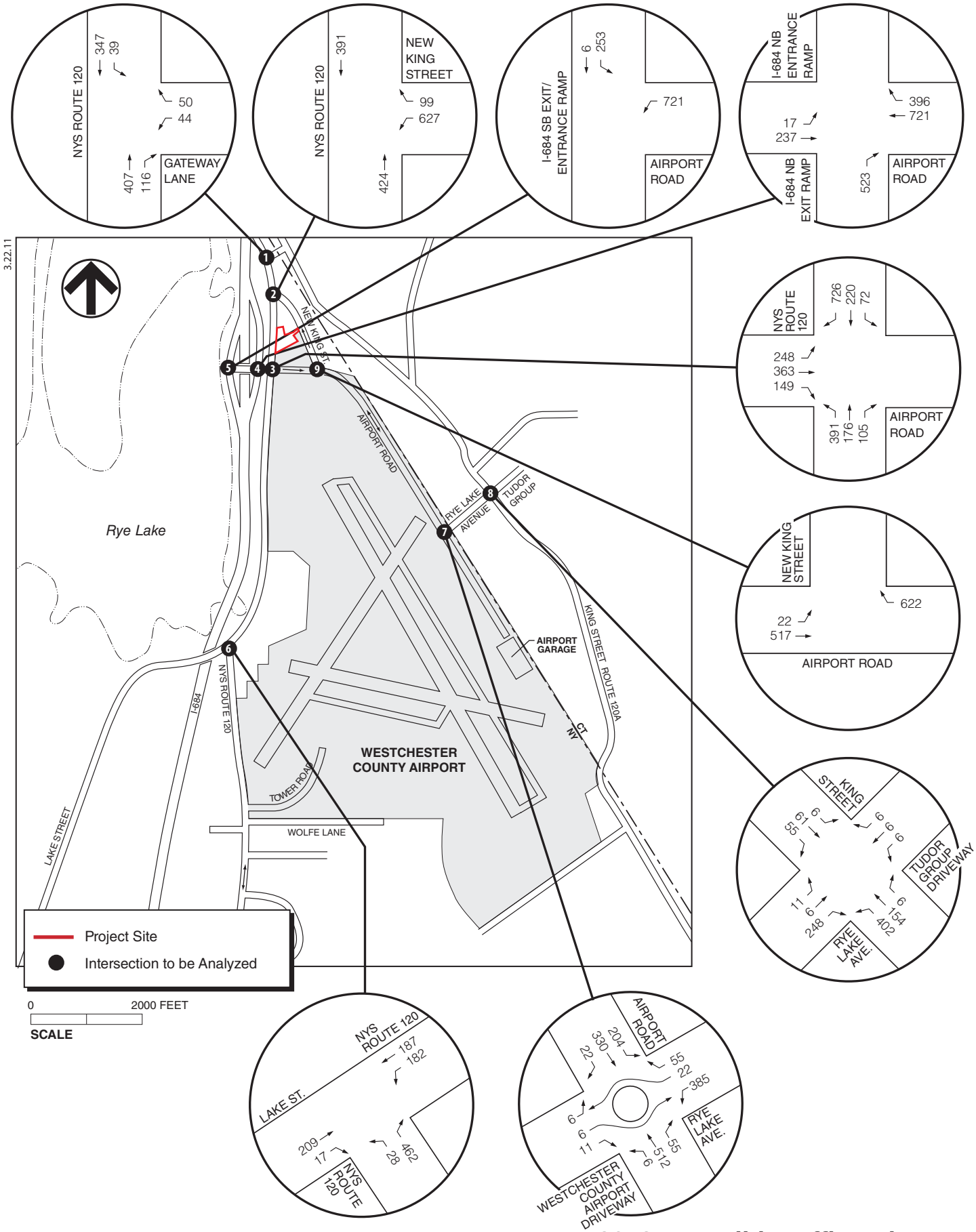
No major roadway improvements in the study area roadway network were identified. A 2.5 percent annual growth factor was used in this traffic study (the use of a 2.5 percent growth factor is conservative, the scope of work required a 2.0 percent growth factor). As some of the nearby municipalities did not provide information of planned development projects, the additional 0.5 percent was added to the growth factor to account for any planned development projects that would occur in those municipalities. This would result in an overall growth rate of 10 percent for the 2012 No Build Year. No development projects were identified in the project site vicinity. Any development projects that may occur in the study area would be accounted for in the growth factor.

Peak hour traffic volumes for the AM and PM peak hours analyzed are shown in **Figures 13-5** and **13-6**, respectively, for the 2012 No Build conditions.



2012 No Build Traffic Volumes
AM Peak Hour (8:00 - 9:00 AM)

Figure 13-5



2012 No Build Traffic Volumes
PM Peak Hour (4:15 - 5:15 PM)

Figure 13-6

Table 13-5
Accident Data Detail (2007-2010)*

Location	Year	Date	Day	Time	Type	# of Injuries	# of Vehicles	Apparent Contributing Factors	Road Surface Conditions
Intersection Locations									
NYS Route 120 @ Gateway Lane	2008	9/26	Friday	1:08 PM	Collision with Motor Vehicle - Left turn (against other car)	1	2	Failure to Yield Right of Way	Dry
	2009	12/8	Tuesday	7:08 AM	Collision with Motor Vehicle - Rear End	0	2	Unsafe Speed, Driver Inattention	Dry
		12/13	Sunday	12:08 PM	Collision with Motor Vehicle - Sideswipe	0	2	Pavement Slippery	Snow/Ice
NYS Route 120 @ New King Street	2007	7/8	Sunday	10:08 AM	Collision with Bicyclist	2	1	Passing or Lane Usage Improperly, Driver Inattention	Dry
	2008	2/21	Thursday	11:08 PM	Collision with Motor Vehicle - Right turn (against other car)	0	2	Unknown	Unknown
		3/21	Friday	10:08 AM	Collision with Motor Vehicle	0	2	Unknown	Dry
		9/25	Thursday	7:08 PM	Collision with Motor Vehicle - Rear End	0	2	Traffic Control Devices Disregarded	Dry
NYS Route 120 @ Airport Road	2008	7/28	Monday	8:08 AM	Collision with Motor Vehicle - Right Angle	2	2	Unknown	Dry
		10/10	Friday	11:08 AM	Collision with Motor Vehicle	0	2	Passing or Lane Usage Improperly	Dry
	2009	7/22	Wednesday	6:08 PM	Collision with Motor Vehicle - Right Angle	2	2	Failure to Yield Right of Way, Brakes Defective	Dry
		8/28	Friday	5:08 PM	Collision with Motor Vehicle - Rear End	1	2	Unknown	Dry
		10/15	Thursday	4:08 PM	Collision with Motor Vehicle	0	2	Turning Improper	Wet
		10/23	Friday	11:08 PM	Collision with Motor Vehicle - Left turn (against other car)	3	2	Turning Improper, Failure to Yield Right of Way	Wet
	2010	2/10	Wednesday	7:08 PM	Collision with Motor Vehicle - Left turn (with other car)	0	2	Lane marking improper or inadequate, pavement slippery	Snow/Ice
Airport Road @ I-684 SB Ramps	2009	3/7	Saturday	2:08 PM	Collision with Motor Vehicle - Left turn (against other car)	0	2	Failure to Yield Right of Way	Dry

Table 13-5 (cont'd)
Accident Data Detail (2007-2010)*

Location	Year	Date	Day	Time	Type	# of Injuries	# of Vehicles	Apparent Contributing Factors	Road Surface Conditions
Intersection Locations (cont'd)									
Airport Road @ Rye Lake Avenue	2008	10/10	Friday	11:08 AM	Collision with Motor Vehicle	0	2	Passing or Lane Usage Improperly	Dry
Airport Road @ New King Street	2007	11/15	Thursday	8:08 AM	Collision with Sign Post	1	1	Pavement Slippery	Wet
		12/4	Tuesday	11:08 AM	Collision with Motor Vehicle	0	2	Turning Improper	Dry
	2008	5/30	Friday	7:08 AM	Collision with Motor Vehicle - Overtaking	0	2	Glare	Dry
Non-Intersection Locations									
Airport Rd. between I-684 SB Ramps and I-684 NB Ramps	2009	5/15	Friday	2:08 AM	Collision with Guide Rail	1	1	Pavement Slippery, Animal's Action	Wet
Airport Rd. between I-684 NB Ramps and NYS Route 120	2010	3/3	Wednesday	8:08 AM	Collision with Motor Vehicle - Rear End	0	2	Following Too Closely, Driver Inattention	Wet
		1/3	Wednesday	9:08 PM	Collision with Motor Vehicle - Right turn (with other car)	1	2	Alcohol Involvement, Turning Improper	Dry
Airport Rd. between NYS Route 120 and New King Street	2007	10/27	Saturday	11:08 PM	Collision with Guide Rail	0	1	Driver Inexperience, Pavement Slippery	Wet
Airport Rd. between New King Street and Rye Lake Avenue	2007	12/19	Wednesday	9:08 AM	Collision with Motor Vehicle	0	2	Backing Unsafely	Dry
NYS Route 120 between Airport Road and New King Street	2009	5/29	Friday	1:08 PM	Collision with Motor Vehicle - Left turn (against other car)	1	2	Unknown	Dry

Notes: *Accident Data for May 1, 2007 through April 30, 2010
Source: New York State Department of Transportation

Table 13-6
Accident Data Summary (2007-2010)*- Number of Accidents

Location	Year				Total # of Accidents
	2007	2008	2009	2010	
Intersection Locations					
NYS Route 120 @ Gateway Lane	0	1	2	0	3
NYS Route 120 @ New King Street	1	3	0	0	4
NYS Route 120 @ Airport Road	0	2	4	1	7
Airport Road @ I-684 SB Ramps	0	0	1	0	1
Airport Road @ Rye Lake Avenue	0	1	0	0	1
Airport Road @ New King Street	2	1	0	0	3
Non-Intersection Locations					
Airport Rd. between I-684 SB Ramps and I-684 NB Ramps	0	0	1	0	1
Airport Rd. between I-684 NB Ramps and NYS Route 120	0	0	0	2	2
Airport Rd. between NYS Route 120 and New King Street	1	0	0	0	0
Airport Rd. between New King Street and Rye Lake Avenue	1	0	0	0	1
NYS Route 120 between Airport Road and New King Street	0	0	1	0	1
Total	**5**	**8**	**9**	**3**	**24**

Notes: *Accident Data for May 1, 2007 through April 30, 2010
Source: New York State Department of Transportation

Table 13-7 presents a comparison of 2008 Existing conditions and 2012 No Build LOS conditions for the study area intersections.

Under the 2012 No Build conditions there would be no notable changes in LOS at any of the lane groups/approaches of the one signalized intersection in the study area.

Under the 2012 No Build conditions there would be no notable changes in LOS at any of the unsignalized study area intersections.

PARKING CONDITIONS

There would be no notable changes in parking conditions on the project site, at the airport, or at other study area land uses under 2012 No Build conditions. Demand for parking at the airport garage and overflow parking areas would continue to be high (over capacity during certain times of the year).

PEDESTRIAN CONDITIONS

No significant changes in pedestrian conditions are expected in the study area under 2012 No Build conditions.

MASS TRANSIT CONDITIONS

No significant changes in mass transit conditions are expected in the study area by the No Build year 2012. It is the policy of the mass transit agencies (Metro-North Commuter Railroad and the Bee-Line Bus System) to adjust their operating schedules to reflect demand as needed.

ACCIDENT ANALYSIS

No significant changes in the accident experience are expected in the study area under 2012 No Build conditions.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT TRIP GENERATION

Based on observations conducted at Westchester County Airport garage during peak holiday conditions and the fact that Westchester County discouraged people from driving to the airport because of insufficient parking, there is insufficient parking capacity to accommodate the existing demand.

The number of trips generated by the proposed project was determined by considering the following:

- Traffic generation at three comparable parking facilities (Columbus, OH, Denver, CO, and Pittsburgh, PA) that are comparable in size to the proposed Park Place garage. Data at these facilities showed a general range of hourly vehicle activity of 20 to 30 (in and out) vehicle trips and maximum peak hour activity of approximately 60 (in and out) vehicle trips.
- Traffic generation to and from the airport garage as recorded by ATR counts during the peak Thanksgiving Holiday. The ATR data showed maximum peak hour activity of approximately 127 (in and out) vehicle trips.
- Shuttle bus trips that would be created with the addition of the Park Place garage.

Table 13-7
2008 Existing and 2012 No Build Conditions LOS Summary

No.	Intersection	Approach	AM Peak Hour (8:00 AM - 9:00 AM)								PM Peak Hour (4:15 PM - 5:15 PM)							
			2008 Existing				2012 No Build				2008 Existing				2012 No Build			
			Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS
Signalized Intersections																		
		WB	LR	0.28	25.5	C	LR	0.30	25.5	C	LR	0.48	23.8	C	LR	0.50	23.8	C
		NB	TR	0.22	2.2	A	TR	0.24	2.3	A	TR	0.48	5.3	A	TR	0.54	6.1	A
	NYS Route 120 &	SB	LT	0.24	2.4	A	LT	0.27	2.5	A	LT	0.37	4.1	A	LT	0.41	4.7	A
1	Gateway Lane	INT			3.7	A			3.8	A			6.4	A			7.0	A
		WB	L	0.58	13.6	B	L	0.62	14.7	B	L	0.67	16.3	B	L	0.73	19.9	B
			R	0.07	3.9	A	R	0.07	3.8	A	R	0.11	3.5	A	R	0.13	4.3	A
		NB	T	0.43	11.8	B	T	0.46	12.7	B	T	0.70	23.6	C	T	0.75	25.8	C
	NYS Route 120 &	SB	T	0.36	11.0	B	T	0.39	11.8	B	T	0.64	21.9	C	T	0.69	23.5	C
2	New King Street	INT			12.0	B			12.9	B			18.9	B			21.5	C
		EB	L	0.26	25.7	C	L	0.28	26.2	C	L	0.33	29.3	C	L	0.35	29.3	C
			LTR	1.37	208.9	F	LTR	1.51	**	F	LTR	0.81	45.3	D	LTR	0.85	48.2	D
		NB	L	0.26	19.3	B	L	0.29	19.7	B	L	0.57	22.2	C	L	0.68	26.3	C
			TR	0.16	10.1	B	TR	0.17	10.0	A	TR	0.18	15.3	B	TR	0.20	16.0	B
		SB	L	0.19	20.0	B	L	0.22	20.3	C	L	0.17	19.1	B	L	0.20	20.1	C
			T	0.25	39.1	D	T	0.28	39.6	D	T	0.43	42.6	D	T	0.49	45.7	D
	Airport Road & NYS		R	0.30	1.2	A	R	0.33	1.2	A	R	0.63	8.3	A	R	0.69	11.2	B
3	Route 120	INT			102.8	F			130.0	F			24.5	C			27.0	C
		EB	LTR	0.53	5.5	A	LTR	0.59	6.4	A	LTR	0.58	8.5	A	LTR	0.64	9.5	A
		WB	LT	0.07	8.7	A	LT	0.08	9.2	A	LT	0.07	13.7	B	LT	0.11	14.2	B
		NB	LTR	0.33	7.9	A	LTR	0.45	9.3	A	LTR	0.76	16.4	B	LTR	0.79	18.1	B
	King Street & Rye	SB	LT	0.04	5.7	A	LT	0.05	5.7	A	LT	0.08	4.7	A	LT	0.08	4.7	A
	Lake Avenue/Tudor		R	0.07	2.8	A	R	0.07	2.8	A	R	0.08	1.9	A	R	0.08	1.9	A
8	Group Driveway	INT			6.3	A			7.3	A			12.2	B			13.5	B

Table 13-7 (cont'd)
2008 Existing and 2012 No Build Conditions LOS Summary

No.	Intersection	Approach	AM Peak Hour (8:00 AM - 9:00 AM)								PM Peak Hour (4:15 PM - 5:15 PM)							
			2008 Existing				2012 No Build				2008 Existing				2012 No Build			
			Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS
Unsignalized Intersections																		
4	Airport Road & Northbound I-684 Ramps	EB	LT	0.01	0.3	A	LT	0.02	0.4	A	LT	0.05	2.0	A	LT	0.07	2.5	A
		NB	R	0.95	58.3	F	R	1.13	112.7	F	R	0.66	17.8	C	R	0.75	22.2	C
5	Airport Road & Southbound I-684 Ramps	WB	L	0.28	8.1	A	L	0.30	8.2	A	L	0.45	9.0	A	L	0.50	9.4	A
		SB	LT	2.91	**	F	LT	3.79	**	F	LT	3.22	**	F	LT	5.64	**	F
6	NYS Route 120 & Lake Street	WB	LT	0.06	3.2	A	LT	0.07	3.2	A	LT	0.13	6.3	A	LT	0.15	6.5	A
		NB	LR	0.29	11.0	B	LR	0.33	11.6	B	LR	0.66	19.1	C	LR	0.76	24.8	C
7	Airport Road& Rye Lake Avenue/Westchester County Airport Driveway[1]	EB	TR	0.14	-	-	TR	0.16	-	-	TR	0.07	-	-	TR	0.09	-	-
		WB	TR	0.25	-	-	TR	0.28	-	-	TR	0.83	-	-	TR	0.96	-	-
		NB	TR	0.32	-	-	TR	0.36	-	-	TR	0.60	-	-	TR	0.68	-	-
		SB	TR	0.50	-	-	TR	0.56	-	-	TR	0.79	-	-	TR	0.91	-	-
9	Airport Road & New King Street	EB	L	0.19	10.8	B	L	0.21	11.1	B	L	0.05	13.5	B	L	0.06	14.3	B

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; INT = Intersection.
L = Left-Turn; T = Through; R = Right-Turn.
V/C = Volume to Capacity; SPV = Seconds per Vehicle; LOS = Level of Service.
** indicates a calculated delay greater than 240.0 seconds
(1) Synchro does not calculate delay and LOS for roundabouts, only a range of v/c ratios. The highest v/c ratios are presented.

- Flight schedules at the airport were reviewed and during the AM peak hour, flight activity comprises primarily arrivals and during the PM peak hour, flight activity is balanced between arrivals and departures.

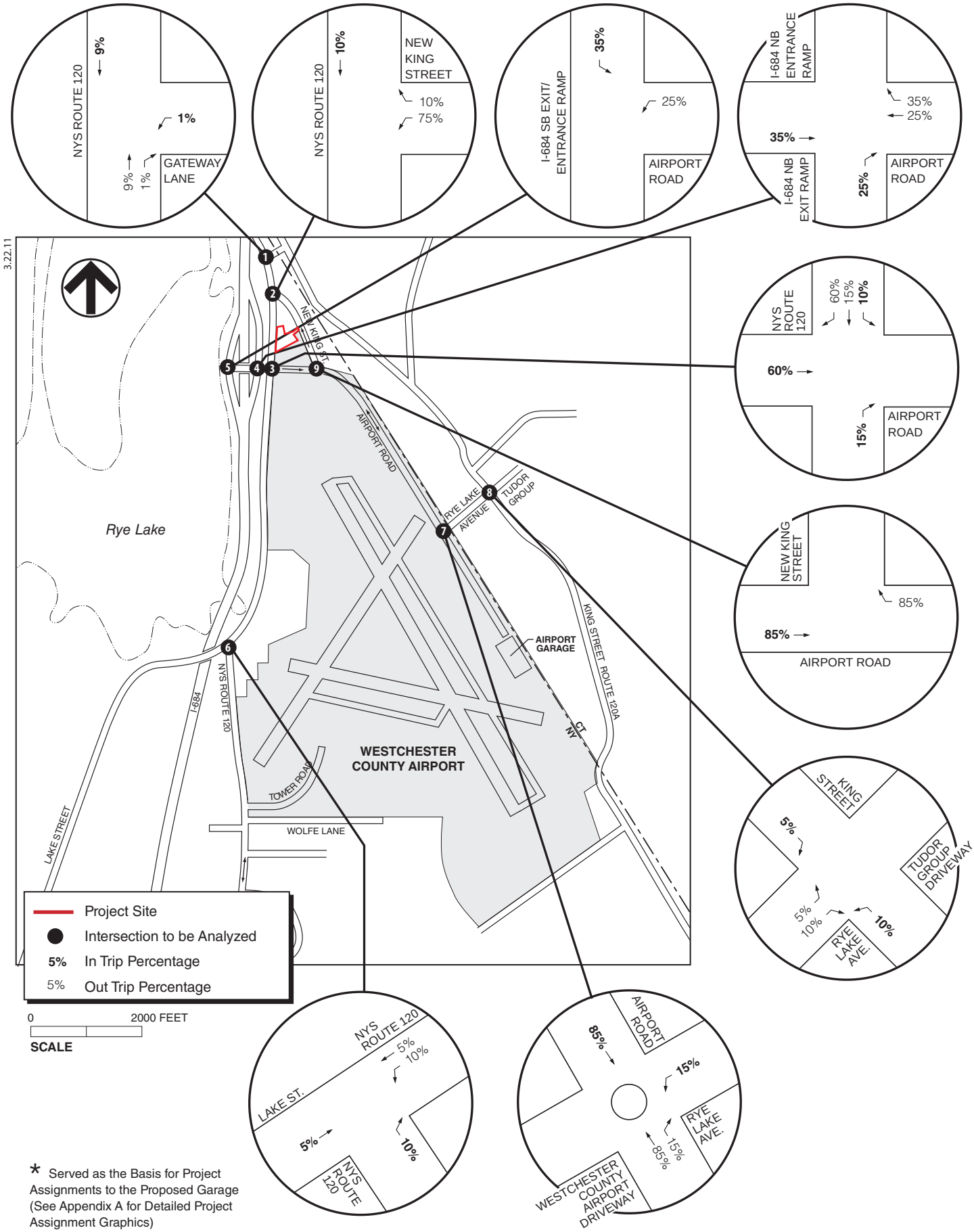
To be conservative, the peak hour project generated activity analyzed in the study was higher than what was recorded at the existing airport garage and at the three comparable facilities (see **Table 13-8**), the trips generated by the existing 9,732 square foot office building were not subtracted from the network, and the study overlayed the peak from the proposed garage over the peak of the traffic network. **Table 13-8** shows the number of trips generated by the proposed project and were calculated as follows:

- The number of vehicle trips that currently arrive for departing and arriving flights at the terminal building and park at existing airport facilities that would now park in the proposed Park Place garage were calculated and subtracted from the traffic network. These trips include Taxi/Limo/Auto Drop-Off trips that currently drop-off passengers at the airport terminal (In and Out trips during the peak hour), Taxi/Limo/Auto Pick-Up Trips that currently pick-up passengers at the airport terminal (In and Out trips during the peak hour), vehicles that currently park in the airport garage (Out trips during the peak hour), and vehicles that currently park in the airport overflow lot that would now park in the Park Place garage (In trips during the AM peak and In and Out trips during the PM peak hour).
- The number of trips reassigned to the Park Place garage from the airport terminal and existing parking facilities were calculated and added to the traffic network. These trips include passengers that used to be dropped-off (Taxi/Limo/Auto Drop-offs) that would now park in the Park Place garage (In trips only), passengers that used to be picked-up (Taxi/Limo/Auto Pick-ups) that would now park in the Park Place garage (Out trips only), and passengers that used to park in the airport overflow lot that would now park in the Park Place garage (In trips during the AM peak hour and In and Out trips during the PM peak hour).
- The number of new trips generated by the new Park Place garage were calculated and added to the traffic network. For the purpose of this analysis, 14 trips represents the maximum number of shuttle bus trips expected per hour with approximately 4 to 7 buses (maximum number of shuttle buses to be used) each making approximately 2 round trips during the peak hours.

As shown in **Table 13-8**, the proposed project would generate a net number of 4 entering trips, and -66 exiting trips during the AM peak hour and 1 entering trip and -46 exiting trips during the PM peak hour along the traffic network. Detailed notes are shown in **Table 13-8** that explain the trip generation.

PROJECT VEHICLE DISTRIBUTION AND ASSIGNMENT

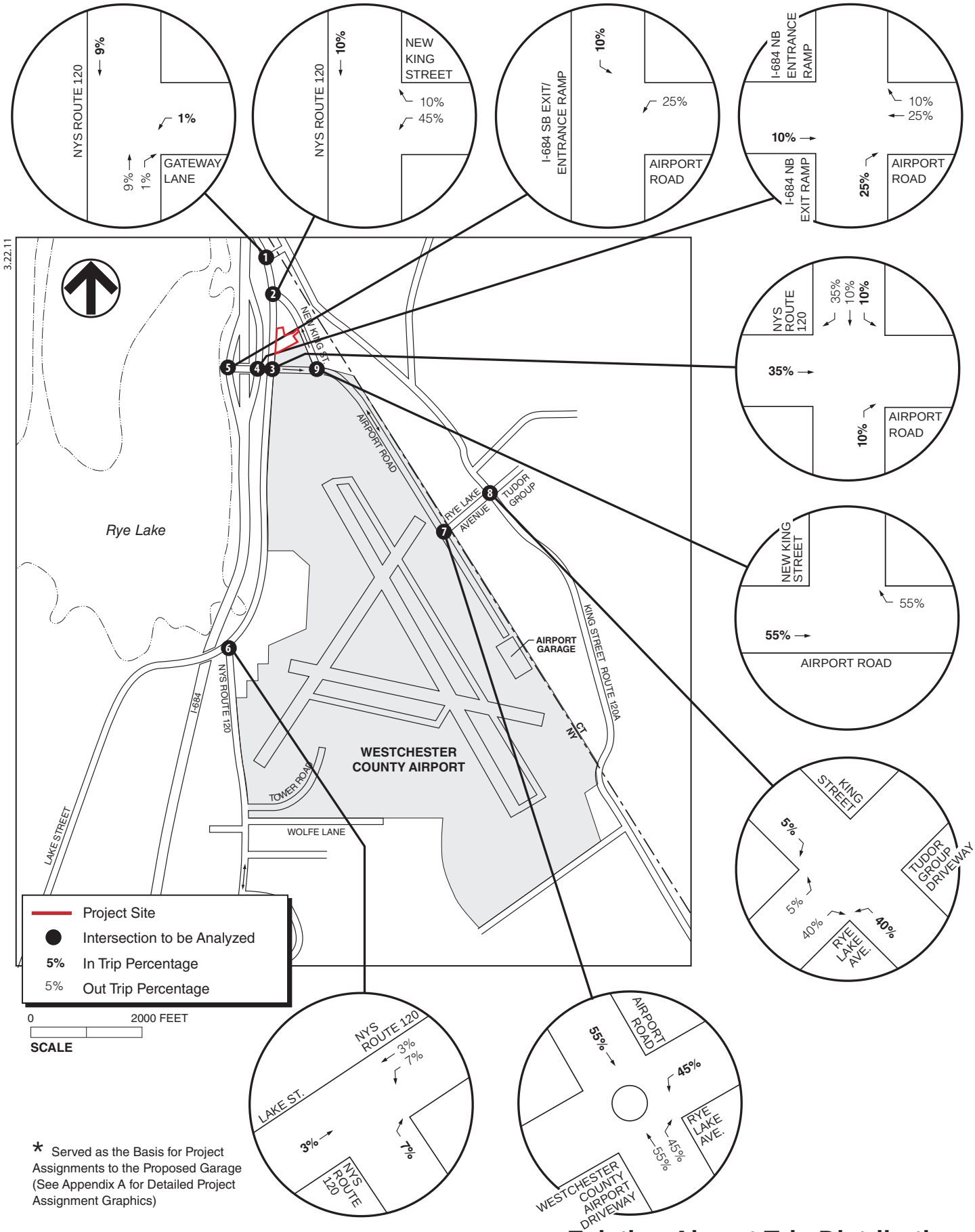
For the purpose of estimating the likely distribution of project-generated trips to and from the project site, a directional distribution of vehicle trips was created for each peak hour using the existing travel patterns in the network (to and from the airport). The project-generated vehicle assignment is based on the trip distribution discussed above. **Figures 13-7** and **13-8** show the basic trip distribution patterns of traffic currently entering and exiting the airport for the AM and PM peak hours, respectively (which is the basis for the assignment to and from the new Park Place garage, see Appendix J). **Figures 13-9** and **13-10** show the net number of project generated vehicle trips for the AM and PM peak hours, respectively. Detailed directional distribution and assignments for the various trip generation components are located in Appendix J.



* Served as the Basis for Project Assignments to the Proposed Garage (See Appendix A for Detailed Project Assignment Graphics)

Existing Airport Trip Distribution
AM Peak Hour (8:00 - 9:00 AM)

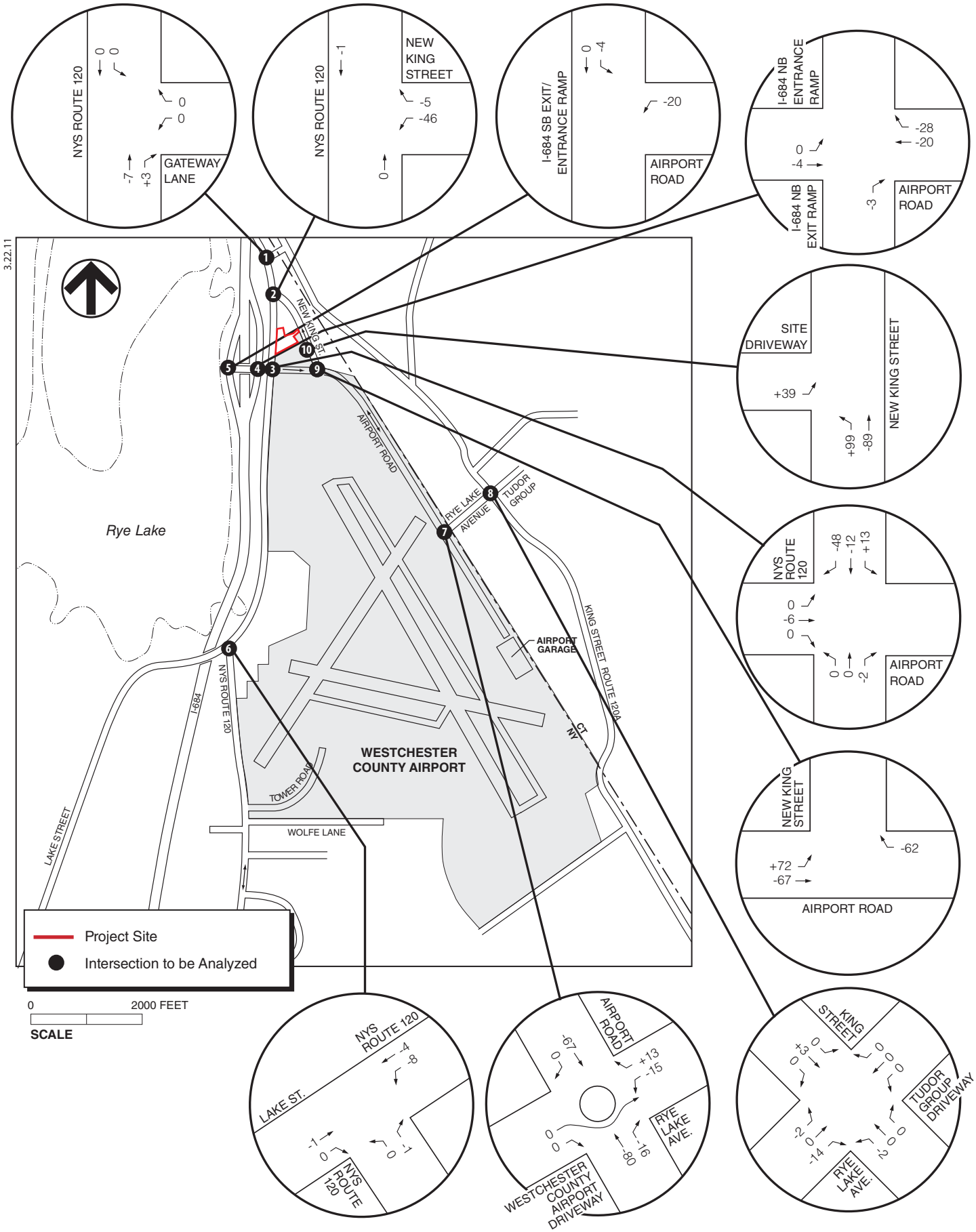
Figure 13-7*



* Served as the Basis for Project Assignments to the Proposed Garage (See Appendix A for Detailed Project Assignment Graphics)

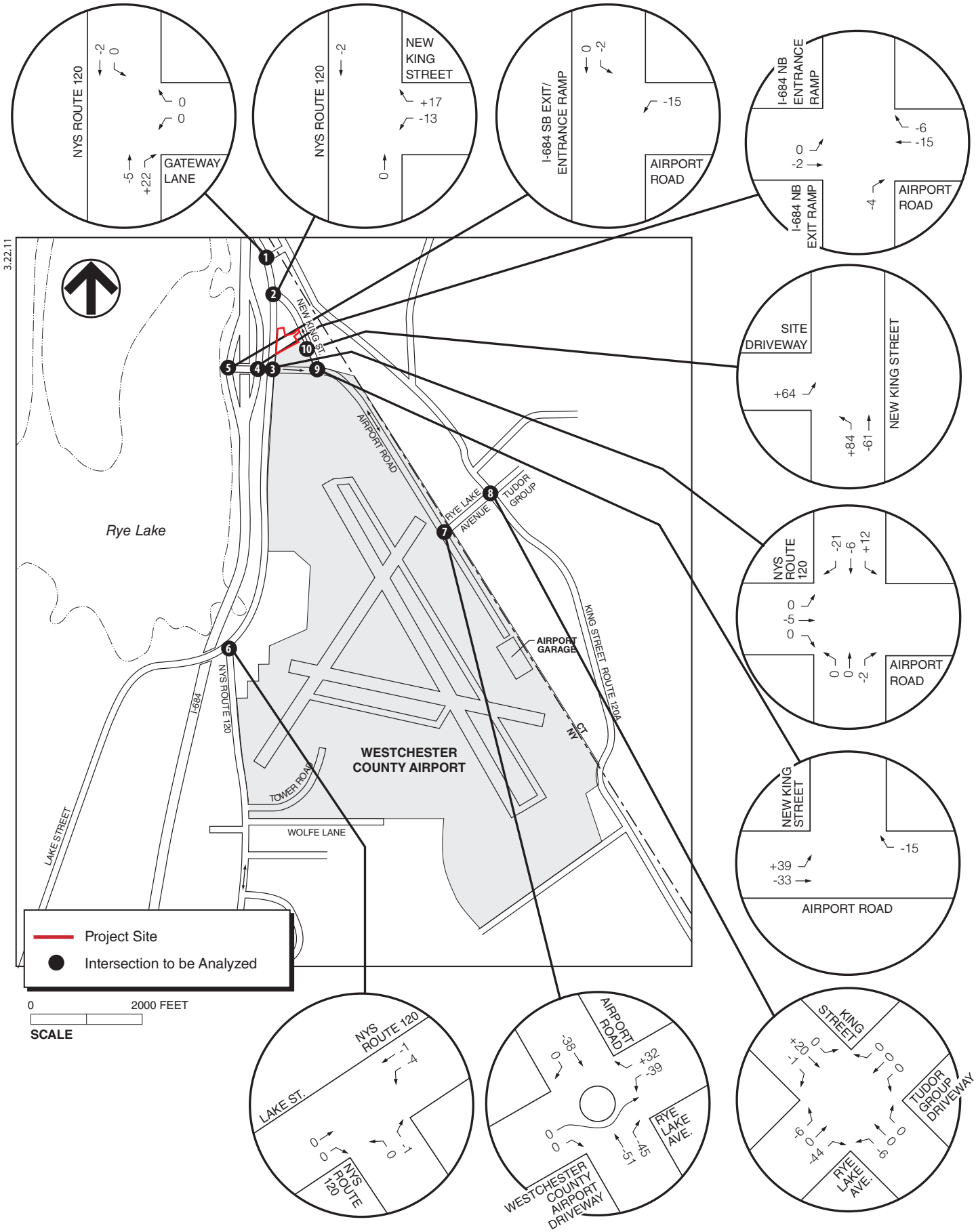
Existing Airport Trip Distribution
PM Peak Hour (4:15 - 5:15 PM)

Figure 13-8*



2012 Net Project Generated Traffic Volumes
AM Peak Hour (8:00 - 9:00 AM)

Figure 13-9



2012 Net Project Generated Traffic Volumes
PM Peak Hour (4:15 - 5:15 PM)

Figure 13-10

Table 13-8
Build Peak Hour Trip Generation

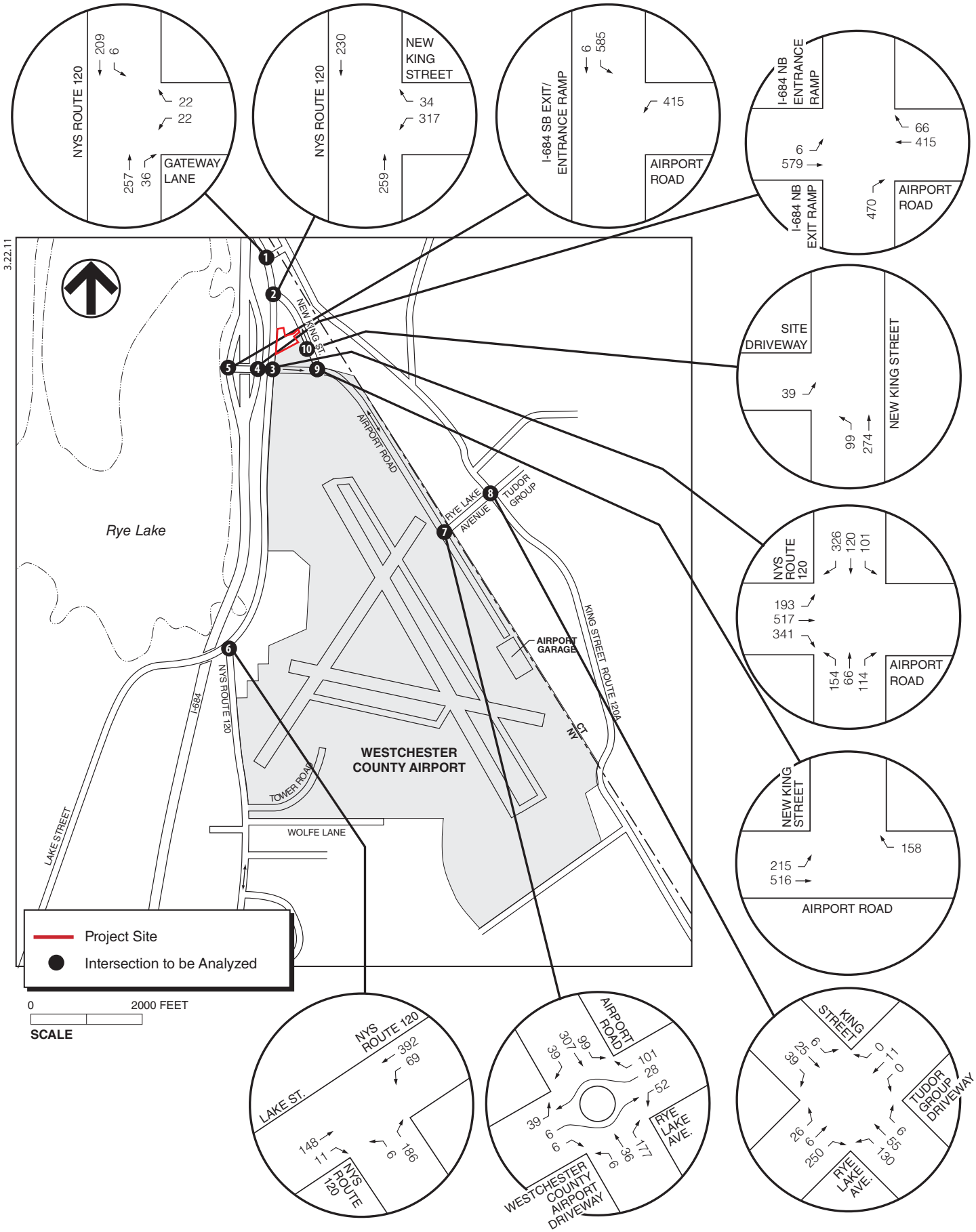
Trip Component	Trip Generation Source	AM Peak Hour		PM Peak Hour	
		In Trips	Out Trips	In Trips	Out Trips
Rerouted Trips (Removed from Traffic Network)	Taxi/Limo/Auto Drop-offs (Departing Flights)[1]	-80	-80	-60	-60
	Taxi/Limo/Auto Pick-ups (Arriving Flights)[2]	-10	-10	-15	-15
	Plane Arrivals (Vehicles Exiting Existing Garage)[3]	0	-15	0	-25
	Overflow Parking Lot[4]	-5	0	-10	-10
TOTAL NUMBER OF TRIPS REROUTED FROM AIRPORT AND EXISTING PARKING FACILITIES		-95	-105	-85	-110
Reassigned Trips to New Park Place Garage(Added to Traffic Network)	Taxi/Limo/Auto Drop-offs (switched to private vehicles)[5]	+80	0	+60	0
	Plane Arrivals (Vehicles Exiting New Garage)[6]	0	+25	0	+40
	Overflow Parking Lot (Shifted to New Garage)[7]	+5	0	+10	+10
Shuttle Bus Trips (Added to Traffic Network)	Shuttle Buses[8]	+14	+14	+14	+14
TOTAL NUMBER OF TRIPS FOR THE PROPOSED PROJECT (Reassigned Trips + Shuttle Buses)		+99	+39	+84	+64
NET TOTAL NUMBER OF TRIPS FOR THE TRAFFIC NETWORK		**+4**	**-66**	**-1**	**-46**

Notes:
(1) These are Taxi/Limo/Auto Drop-Off Trips that currently drop-off passengers at the airport terminal (In and Out trips during the peak hour). These trips would shift from drop-offs and would park in the proposed Park Place garage. Subtracted from the network.
(2) These are Taxi/Limo/Auto Pick-up Trips that currently pick-up passengers at the airport terminal (In and Out trips during the peak hour). These trips would shift from pick-ups and would park in the proposed Park Place garage. Subtracted from the network.
(3) Vehicles that currently park in the airport garage that would now park in the Park Place garage (Out trips during the peak hour). Subtracted from the network.
(4) Vehicles that currently park in the airport overflow lot that would now park in the Park Place garage (In trips during the AM peak and In and Out trips during the PM peak hour). Subtracted from the network.
(5) Passengers that used to be dropped-off (Taxi/Limo/Auto Drop-offs) that now park in the Park Place garage (In trips only). Added to the network.
(6) Passengers that used to be picked-up (Taxi/Limo/Auto Pick-ups) that now park in the Park Place garage (Out trips only). Added to the network.
(7) Passengers that used to park in the airport overflow lot that now park in the Park Place garage (In trips during the AM peak hour and In and Out trips during the PM peak hour). Added to the network.
(8) New Trips generated by the new Park Place garage. Approximately 4 to 7 buses (maximum number of shuttle buses to be used), each making approximately 2 round trips during the peak hours (14 trips represents the maximum expected by hour).

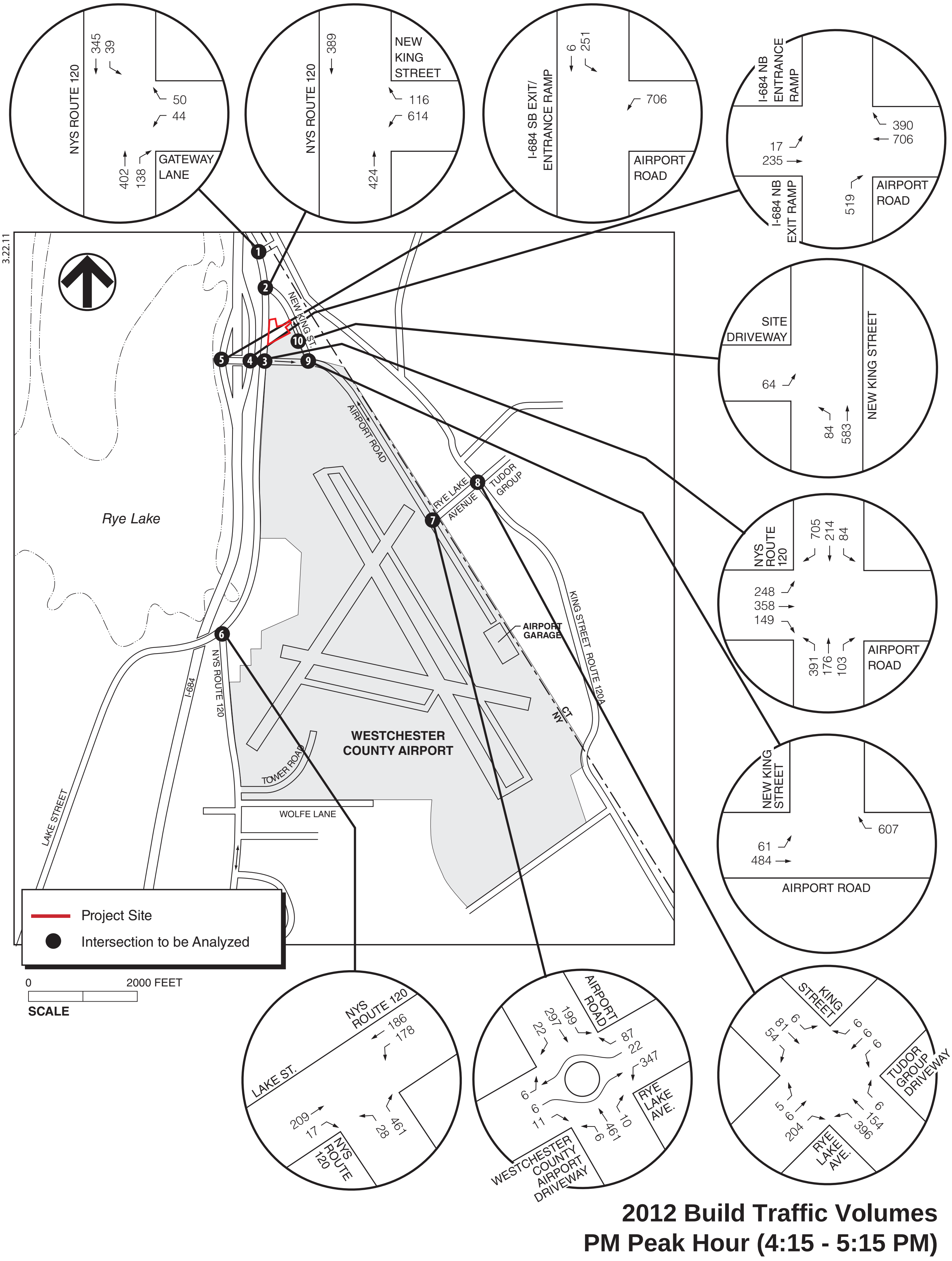
TRAFFIC CONDITIONS

The project-generated traffic volumes described above were added to the No Build traffic volumes to estimate the Build traffic volumes. **Figures 13-11** and **13-12** show the 2012 Build traffic volumes for the AM and PM peak hours, respectively. **Table 13-9** presents a comparison of the 2012 No Build and 2012 Build conditions for the study area intersections.

Under the 2012 Build conditions there would no notable changes in LOS at any of the signalized or unsignalized study area intersections when compared with the 2012 No Build conditions. Therefore, there are no impacts requiring mitigation. In fact, the reassignment of traffic from the Taxi/Limo/Auto Drop-offs/Auto Pick-ups (in and out trips each hour) to drive to the new Park Place garage by auto (in or out trips each hour) would reduce traffic at the majority of



2012 Build Traffic Volumes
AM Peak Hour (8:00 - 9:00 AM)



2012 Build Traffic Volumes
PM Peak Hour (4:15 - 5:15 PM)

Figure 13-12

intersection movements (see **Figures 13-9** and **13-10**), an overall net benefit to traffic conditions in the study area.

SUPPLEMENTAL ANALYSIS

Concurrent with the traffic impact analysis included in this DEIS, the Town initiated an analysis by its own traffic consultant, Frederick P. Clark Associates, Inc. (FP Clark), to conduct a supplemental capacity analysis and storage/queue analysis to assess the validity of the results of the study prepared by AKRF The FP Clark supplemental analysis is included in Appendix J. FP Clark performed a conservative traffic impact study that assumed a worst case scenario (i.e., construction of the proposed project would make Westchester County Airport more attractive to travelers, thus potentially adding an overall increase to traffic in the area). The study prepared by AKRF, described herein, showed an overall net decrease in traffic, as shown in Table 13-8 above. The FP Clark study concluded that the proposed project, even with the conservative trip generation approach (i.e., net increase in traffic), would not result in significant traffic impacts. The FP Clark study noted that turning movements at the intersection of Airport Road and the I-684 interchange ramps would continue to operate at LOS F. This is an existing condition that would need to be addressed by NYSDOT as part of its future plans for the I-684 interchange. Traffic related to the proposed project would not significantly affect traffic flow at this intersection.

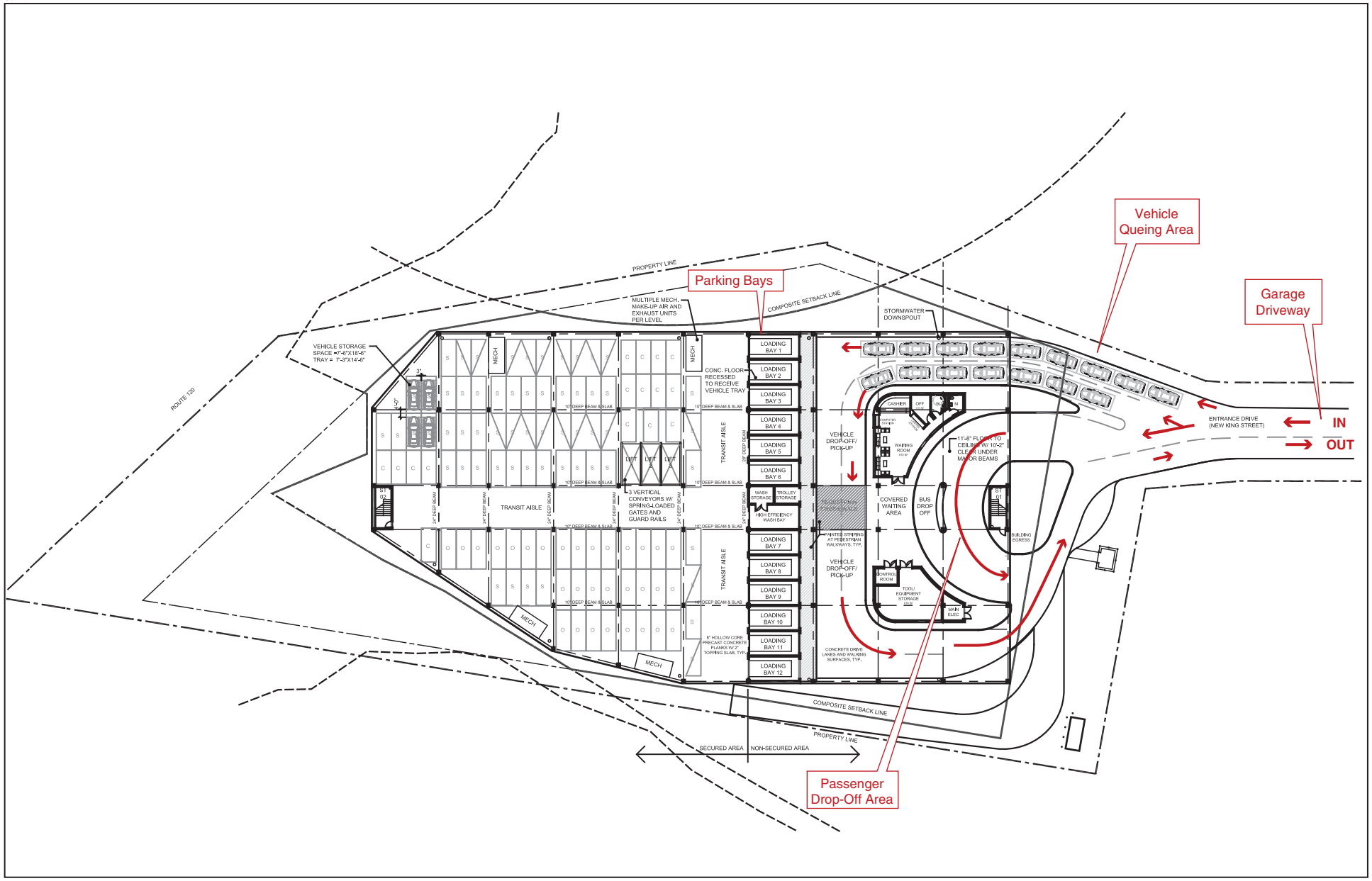
SITE ACCESS AND TRAFFIC CIRCULATION

The entrance and exit to the garage would be located along the west side of New King Street, approximately 700 feet north of the intersection of New King Street and Airport Road (located at the existing driveway to the project site, which currently contains an office building). The entrance driveway would be a two lane roadway (1 lane in, 1 lane out) controlled by a stop sign at its intersection with New King Street. The width of the driveway would be approximately 24 feet and the length would be approximately 300 feet (one lane for approximately 150 feet and opening up to three lanes for approximately 150 feet; two lane lanes for the entering vehicles and one lane that leads to the drop-off circle, see **Figure 13-13**).

After entering the garage driveway, vehicles would stop at a gate at the loading bay. A two-lane queuing area would be provided at the end of the driveway where vehicles would wait to enter one of the parking bays. Drivers would drive their vehicle into one of the parking bays (there would be approximately 13 bays) and provide their travel information (e.g., flight information, return time and date). A kiosk would then dispense a claim ticket and the travelers would then walk to the shuttle bus which would deliver them to airport.

Passengers returning to the airport from arriving flights would be able to catch a shuttle van from the airport terminal back to the garage where they can claim their vehicle and exit the facility via the garage driveway. A passenger drop-off area would be located at the end of the garage driveway to accommodate the shuttle buses as they discharge returning passengers. This circular roadway in front of the passenger drop-off area would allow for vehicles to easily enter and turn around to exit the facility.

The site plan (number of bays and layout, see **Figure 13-13**), the number of shuttle buses (between 4 and 7 depending on traffic conditions with a capacity of 15 to 20 people per shuttle each making 2 round trips per hour) would ensure all queuing would be contained on-site and not on New King Street. The shuttle buses would operate on propane gas.



Proposed Park Place Garage Site Plan
Figure 13-13

Table 13-9
2012 No Build and 2012 Build Conditions LOS Summary

No.	Intersection	Approach	AM Peak Hour (8:00 AM - 9:00 AM)								PM Peak Hour (4:15 PM - 5:15 PM)							
			2012 No Build				2012 Build				2012 No Build				2012 Build			
			Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS
Signalized Intersections																		
1	NYS Route 120 & Gateway Lane	WB	LR	0.30	25.5	C	LR	0.30	25.3	C	LR	0.50	23.8	C	LR	0.50	23.6	C
		NB	TR	0.24	2.3	A	TR	0.24	2.3	A	TR	0.54	6.1	A	TR	0.56	6.4	A
		SB	LT	0.27	2.5	A	LT	0.27	2.5	A	LT	0.41	4.7	A	LT	0.41	4.7	A
		INT			3.8	A			3.8	A			7.0	A			7.2	A
2	NYS Route 120 & New King Street	WB	L	0.62	14.7	B	L	0.57	13.9	B	L	0.73	19.9	B	L	0.72	19.3	B
			R	0.07	3.8	A	R	0.06	4.1	A	R	0.13	4.3	A	R	0.15	4.0	A
		NB	T	0.46	12.7	B	T	0.45	11.8	B	T	0.75	25.8	C	T	0.75	25.8	C
		SB	T	0.39	11.8	B	T	0.38	10.9	B	T	0.69	23.5	C	T	0.68	23.4	C
		INT			12.9	B			12.1	B			21.5	C			21.0	C
3	Airport Road & NYS Route 120	EB	L	0.28	26.2	C	L	0.28	26.2	C	L	0.35	29.3	C	L	0.35	29.4	C
			LTR	1.51	**	F	LTR	1.50	**	F	LTR	0.85	48.2	D	LTR	0.85	48.2	D
		NB	L	0.29	19.7	B	L	0.29	19.6	B	L	0.68	26.3	C	L	0.67	25.8	C
			TR	0.17	10.0	A	TR	0.17	10.1	B	TR	0.20	16.0	B	TR	0.20	16.2	B
		SB	L	0.22	20.3	C	L	0.25	20.7	C	L	0.20	20.1	C	L	0.23	20.3	C
			T	0.28	39.6	D	T	0.25	39.1	D	T	0.49	45.7	D	T	0.48	45.1	D
			R	0.33	1.2	A	R	0.29	1.2	A	R	0.69	11.2	B	R	0.67	10.4	B
		INT			130.0	F			130.5	F			27.0	C			26.7	C
8	King Street & Rye Lake Avenue/Tudor Group Driveway	EB	LTR	0.59	6.4	A	LTR	0.55	5.9	A	LTR	0.64	9.5	A	LTR	0.58	9.2	A
		WB	LT	0.08	9.2	A	LT	0.07	9.1	A	LT	0.11	14.2	B	LT	0.11	14.5	B
		NB	LTR	0.45	9.3	A	LTR	0.46	10.4	B	LTR	0.79	18.1	B	LTR	0.78	17.0	B
		SB	LT	0.05	5.7	A	LT	0.05	6.6	A	LT	0.08	4.7	A	LT	0.10	4.3	A
			R	0.07	2.8	A	R	0.08	3.2	A	R	0.08	1.9	A	R	0.08	1.7	A
		INT			7.3	A			7.4	A			13.5	B			12.7	B

Table 13-9 (cont'd)
2012 No Build and 2012 Build Conditions LOS Summary

No.	Intersection	Approach	AM Peak Hour (8:00 AM - 9:00 AM)								PM Peak Hour (4:15 PM - 5:15 PM)							
			2012 No Build				2012 Build				2012 No Build				2012 Build			
			Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS	Movement	V/C Ratio	Delay (SPV)	LOS
Unsignalized Intersections																		
4	Airport Road & Northbound I-684 Ramps	EB	LT	0.02	0.4	A	LT	0.01	0.4	A	LT	0.07	2.5	A	LT	0.07	2.4	A
		NB	R	1.13	112.7	F	R	1.12	107.8	F	R	0.75	22.2	C	R	0.74	21.7	C
5	Airport Road & Southbound I-684 Ramps	WB	L	0.30	8.2	A	L	0.28	8.1	A	L	0.50	9.4	A	L	0.49	9.0	A
		SB	LT	3.79	**	F	LT	3.46	**	F	LT	5.64	**	F	LT	5.23	**	F
6	NYS Route 120 & Lake Street	WB	LT	0.07	3.2	A	LT	0.06	3.0	A	LT	0.15	6.5	A	LT	0.15	6.4	A
		NB	LR	0.33	11.6	B	LR	0.32	11.5	B	LR	0.76	24.8	C	LR	0.76	24.5	C
7	Airport Road & Rye Lake Avenue/Westchester County Airport Driveway[1]	EB	TR	0.16	-	-	TR	0.15	-	-	TR	0.09	-	-	TR	0.08	-	-
		WB	TR	0.28	-	-	TR	0.26	-	-	TR	0.96	-	-	TR	0.90	-	-
		NB	TR	0.36	-	-	TR	0.25	-	-	TR	0.68	-	-	TR	0.56	-	-
		SB	TR	0.56	-	-	TR	0.47	-	-	TR	0.91	-	-	TR	0.81	-	-
9	Airport Road& New King Street	EB	L	0.21	11.1	B	L	0.29	11.2	B	L	0.06	14.3	B	L	0.16	15.2	C
10	Project Site Driveway& New King Street	EB	Does Not Exist In No Build				L	0.09	13.3	B	Does Not Exist In No Build				L	0.22	19.4	C

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; INT = Intersection.
L = Left-Turn; T = Through; R = Right-Turn.
V/C = Volume to Capacity; SPV = Seconds per Vehicle; LOS = Level of Service.
** indicates a calculated delay greater than 240.0 seconds
(1) Synchro does not calculate delay and LOS for roundabouts, only a range of v/c ratios. The highest v/c ratios are presented.

PARKING CONDITIONS

The proposed garage would accommodate approximate 1,450 vehicles. The facility would be a state of the art mechanized/computerized garage fully automated to ensure efficient and speedy service to move cars quickly in and out of the facility. In addition to the existing parking facilities at the airport, the new garage would help meet the high demand for parking that currently exists at the airport. This would not only provide additional parking for passengers, but for airport employees and airport services such as rental car companies and their fleets.

There would be no notable changes in parking conditions at other study area land uses under 2012 Build conditions.

SIGHT DISTANCE AT SITE DRIVEWAY

Sight distance measurements were performed at the existing driveway (which would be the location of the driveway to the proposed parking facility). The speed limit on New King Street is 30 mph. The pavement on New King Street is in good condition and the grade is flat. Based on the American Association of Highway and Transportation Officials (AASHTO) the Stop Line Sight Distance (SLSD) required is 335 feet, and the Stopping Sight Distance (SSD) is 200 feet. As measured in the field the SLSD is 380 feet and the SSD is 280 feet. Therefore, sight distance requirements as stated in AASHTO are satisfied.

PEDESTRIAN CONDITIONS

No significant changes in pedestrian conditions are expected in the study area under 2012 Build conditions.

MASS TRANSIT CONDITIONS

No significant changes in mass transit conditions in the study area are expected under 2012 Build conditions.

ACCIDENT ANALYSIS

There should be no significant change in the accident experience in the study area under 2012 Build conditions.

CONSTRUCTION TRAFFIC CONDITIONS

Construction of the proposed project would create daily construction-related traffic to and from the project site, including vehicle trips related to workers and delivery of materials and equipment. In addition, there would be some truck traffic associated with removal of construction debris and excavated materials from the project site.

The majority of construction related traffic would utilize I-684 and NYS Route 120 as access routes to the project site. Workers and delivery drivers would be instructed to take Exit 2 off I-684 and travel east on Airport Road to New King Street. When exiting the project site, vehicles would follow the existing traffic patterns and head north on New King Street to Purchase Street (NYS Route 120). From Purchase Street, the majority of vehicles would head south to return to I-684. While the site is just off I-684, it is also possible that some construction workers and materials from the local area would access the site directly from NYS Route 120.

The number and type of vehicles would vary depending on the exact work being done at the site. During land clearing, grading, and excavation, the primary activity would be limited to that specific equipment (which would remain on-site during the land preparation phase) and the workers operating the equipment and generally working on the initial effort.

While the exact sequence and duration of construction activity would vary slightly, it is known that certain equipment including excavators, bulldozers, backhoes, cranes, graders, and dump trucks would be required. **Table 13-10** provides a list of equipment that would be necessary in addition to the duration that equipment would be used on site.

Table 13-10
Construction Vehicle Numbers and Schedule

Equipment	Duration	Construction Period
2 Excavators/Bulldozers	3 months (intermittently)	Site Preparation
2 Backhoes	3 months	Foundations/Utilities
Crawler Crane	4 months	Precast Structure/Skin Erection
Crane and/or Conveyor	1 Week	Hoisting roof equipment and materials
2 Graders/Rollers	1 Week	Pavement Preparation
Dump Trucks	3-4 Months	Site Preparation
Dump Trucks	1 Month	Foundations/Utilities
Dump Trucks	1 Month	Final Site Preparation
140 Concrete Trucks	3 Months	Foundations
200 Concrete Trucks	(2) 2 week periods	Concrete Slabs

During the core building phase, foundation work would primarily involve concrete delivery to the site. The majority of the structure would be constructed using precast concrete panels that would be delivered to the site as needed using extended bed trucks. All parking and staging would be accommodated onsite in the access area (see Figure 17-1, Chapter 17, "Construction"). No queuing of construction related traffic onto the study area roadways would be anticipated. The construction peak would occur outside of the commuter peak hour. With the low volumes of construction traffic to be generated, no significant impacts are anticipated.

CONCLUSION

The construction of the Park Place garage would provide relief to the existing high demand for airport parking by providing an additional 1,450 parking spaces. The greater availability of parking would encourage many travelers who currently take taxis, limousines, or are dropped off/picked up at the airport to drive themselves to the airport. Drivers would also spend less time traveling between the various airport parking facilities looking for parking spaces. Usage of the Park Place garage would also reduce the number of vehicle trips actually entering the airport terminal area as a limited number of shuttle buses would transport passengers from the Park Place garage to the airport terminal. As demonstrated by the trip generation calculations, these factors would result in an overall reduction in the number of vehicle trips across the traffic network. There would be no traffic impacts that would require mitigation. ✷

Chapter 14: Air Quality and Greenhouse Gas Emissions

A. INTRODUCTION

The potential for air quality impacts from the proposed project, an automated multi-level parking facility adjacent to Westchester County Airport, is assessed and discussed in this chapter. Included in the air quality analysis is an assessment of potential greenhouse gases (GHG) emissions. Currently, available parking facilities at the airport are at capacity. As documented in Chapter 13, "Traffic and Transportation," the proposed project would reduce the overall number of vehicle trips to and from the airport by reducing the need for drop-off, taxi, and limo trips. Therefore, the proposed project would reduce air pollutant emissions from mobile sources on a regional scale and would therefore not have an adverse effect on the State Implementation Plan (SIP). To assess the potential for significant air quality impacts from the proposed project on a local level, the intersections included in the traffic study were analyzed using New York State Department of Transportation (NYSDOT) guidance.

The proposed project would not include any significant stationary sources of emissions. The parking facility would be fully automated. Vehicles would have their engines turned off within the facility and would be transported to their storage location by an electronic automated mechanism that would not generate air pollutant emissions on site. Unlike conventional parking garages, the proposed project would not result in vehicle emissions within the facility or significant vehicle idling on the subject site. Therefore, an analysis of mobile sources associated with the parking structure (inherent traffic flow or idling vehicles) was not required. The waiting area/office would be electrically heated and cooled; therefore no significant sources of emissions associated with this space are proposed and no air quality analysis is needed.

Construction activity would be short-term (lasting approximately 14 months) and would be of limited intensity. Most components of the proposed structure would be prefabricated and delivery of dust generating materials to the proposed site would be limited. It is expected that the number of peak hour truck and worker trips would be below thresholds requiring analysis. Therefore, there would be no significant adverse impact from the construction of the proposed project on air quality.

B. EXISTING CONDITIONS

CRITERIA POLLUTANTS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (NO and NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic

compounds and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources and sources utilizing non-road diesel, such as diesel trains, marine engines and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs.

Table 14-1 shows the ambient levels of criteria pollutants, obtained from the most recent reports on levels measured at the New York State Department of Conservation (NYSDEC) monitoring stations that are most representative of the conditions at the project site. Each criteria pollutant of concern is described in the following sections.

Table 14-1
Representative Monitored Ambient Air Quality Data
(2007-2009)

Pollutants	Location	Units	Period	Concentrations		NAAQS
				3-yr Mean [1]	Peak Year [2]	
CO	Botanical Gardens	ppm	8-hour	—	1.9	9
			1-hour	—	2.8	35
SO_2	Mt. Ninham	ppm	Annual	—	0.0015	0.03
			24-hour	—	0.009	0.14
			3-hour	—	0.017	0.5
			1-hour	Not available[3]	—	0.075
PM_{10}	IS 52	$\mu g/m^3$	24-hour	—	48	150
$PM_{2.5}$	White Plains	$\mu g/m^3$	Annual	8.4	9.4	15
			24-hour	24 [4]	27.6 [4]	35
NO_2	Botanical Gardens	ppm	Annual	—	0.024	0.053
			1-hour	0.067 [5]	—	0.100
Lead [7]	Walkill	$\mu g/m^3$	3-month	—	0.086	1.5
O_3	White Plains	ppm	8-hour	0.078 [6]	0.085 [6]	0.075

Notes:
1. 3-yr mean is presented where relevant to NAAQS attainment.
2. Short term concentrations are second highest annual, other than ozone and $PM_{2.5}$, as noted below.
3. NAAQS compliance is based on the 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Effective August 23, 2010.
4. 24-hr $PM_{2.5}$ concentration is the 98th percentile of all annual values.
5. Based on 2006-2008 data. NAAQS compliance is based on the 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
6. Ozone concentration is 4th Highest Daily Maximum 8-Hour Average.
7. The lead NAAQS was lowered to 0.15 $\mu g/m^3$, effective January 12, 2009, however, the higher value shown was in effect at the time the monitoring data was collected.

Source: 2007, 2008, and 2009 Annual New York State Air Quality Reports, NYSDEC 2007-2009.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis. Based on the NYSDOT *Environmental*

Procedures Manual (EPM*)* screening analysis, it was determined that there would be no potential for significant increases in future CO levels, and a detailed mobile source analysis was not required. As detailed in Chapter 13, "Traffic and Transportation," the proposed project would reduce vehicle trips in the region served by the airport, and would therefore be consistent with the maintenance of the CO standard in New York.

NITROGEN OXIDES, VOCS AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow and occur as the pollutants are advected (moved horizontally within an air mass) downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions; the change in regional mobile source emissions of these pollutants would be related to the total vehicle miles traveled added or subtracted on various roadway types throughout the New York metropolitan area, which is designated as a moderate nonattainment area for ozone by the U.S. Environmental Protection Agency (EPA).

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and is not a local concern from mobile sources. However, with the promulgation of the 2010 1-hour average standard for NO_2, local sources, including mobile sources, may become of greater concern for this pollutant.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Effective January 1, 1996, the Clean Air Act (CAA) banned the sale of the small amount of leaded fuel that was still available in some parts of the country for use in on-road vehicles, concluding a 25-year effort to phase out lead in gasoline. Even at locations where traffic volumes are very high, atmospheric lead concentrations are far below the 3-month average national standard of 0.15 micrograms per cubic meter ($\mu g/m^3$).

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria and material from live and decaying plant and animal life; particles eroded from beaches, soil and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption

(accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}, which includes $PM_{2.5}$). $PM_{2.5}$ is extremely persistent in the atmosphere and has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles. $PM_{2.5}$ is mainly derived from combustion material that has been volatilized and then condensed to form primary PM (often soon after the release from a source exhaust) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel powered vehicles.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). Monitored SO_2 concentrations in Westchester County are lower than the national standards. Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant, and therefore an analysis of SO_2 from mobile sources was not warranted.

AIR QUALITY REGULATIONS, STANDARDS AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO_2 (annual), ozone, lead, and PM, and there is no secondary standard for CO and the 1-hour NO_2 standard. The NAAQS are presented in **Table 14-2**.

The NAAQS for CO, annual NO_2, and SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), and ozone which correspond to federal standards that have since been revoked or replaced, and for beryllium, fluoride, and hydrogen sulfide (H_2S).

EPA revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and retaining the level of the annual standard at 15 $\mu g/m^3$. The PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked.

Table 14-2
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	$\mu g/m^3$	ppm	$\mu g/m^3$
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4,5]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean	NA	15	NA	15
24-Hour Average [6,7]	NA	35	NA	35
Sulfur Dioxide (SO_2)				
Annual Arithmetic Mean [8]	0.03	80	NA	NA
Maximum 24-Hour Average [1,8]	0.14	365	NA	NA
1-Hour Average [9]	0.075	196	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:
ppm – parts per million
$\mu g/m^3$ – micrograms per cubic meter
NA – not applicable
All annual periods refer to calendar year.
PM concentrations (including lead) are in $\mu g/m^3$ since ppm is a measure for gas concentrations.
Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in $\mu g/m^3$ are presented.

(1) Not to be exceeded more than once a year.
(2) EPA has lowered the NAAQS down from 1.5 $\mu g/m^3$, effective January 12, 2009.
(3) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
(4) 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
(5) EPA has proposed lowering this standard further to within the range 0.060-0.070 ppm.
(6) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(7) EPA has lowered the NAAQS down from 65 $\mu g/m^3$, effective December 18, 2006.
(8) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
(9) 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Effective August 23, 2010.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

EPA also revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective May 2008. On January 6, 2010, EPA proposed a change in the 2008 ozone NAAQS, lowering the primary NAAQS from the current 0.075 ppm level to within the range of 0.060 to 0.070 ppm. EPA is also proposing a secondary ozone standard, measured as a cumulative concentration within the range of 7 to 15 ppm-hours aimed mainly at protecting sensitive vegetation.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span. The current lead NAAQS will remain in place for one year following the effective date of attainment designations for any new or revised NAAQS before being revoked, except in current nonattainment areas, where the existing NAAQS will not be revoked until the affected area submits, and EPA approves, an attainment demonstration for the revised lead NAAQS.

EPA established a new 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a new 1-hour average SO_2 standard of 0.075 ppm, and revoked the 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines nonattainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as nonattainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA.

In 2002, EPA re-designated the New York portion (including Westchester County) of the New York—Northern New Jersey— Long Island CO nonattainment area as in attainment for CO. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former nonattainment areas.

On December 17, 2004, EPA took final action designating Westchester, Rockland, Orange, Nassau, Suffolk, and the five New York City counties as a $PM_{2.5}$ nonattainment area under the CAA due to exceedance of the annual average standard. New York State submitted a final SIP to EPA, dated October 2009, designed to meet the annual average standard by April 5, 2010.

As described above, EPA has revised the 24-hour average $PM_{2.5}$ standard. In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area EPA designated as nonattainment with the 1997 annual $PM_{2.5}$ NAAQS. By November 2012 New York will be required to submit a SIP demonstrating attainment with the 2006 24-hour standard by November 2014 (EPA may grant attainment date extensions for up to five additional years).

Westchester, Nassau, Rockland, Suffolk, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties had been designated as a severe nonattainment area for

ozone (1-hour average standard). In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. These SIP revisions included additional emission reductions that EPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the latest versions of the mobile source emissions model, MOBILE6.2, and the non-road emissions model, NONROAD,which have been updated to reflect current knowledge of engine emissions and the latest mobile and non-road engine emissions regulations.

On April 15, 2004, EPA designated these same counties as moderate nonattainment for the 8-hour average ozone standard which became effective as of June 15, 2004 (LOCMA was moved to the Poughkeepsie moderate nonattainment area for 8-hour ozone). EPA revoked the 1-hour standard on June 15, 2005; however, the specific control measures for the 1-hour standard included in the SIP are required to stay in place until the 8-hour standard is attained. The discretionary emissions reductions in the SIP would also remain but could be revised or dropped based on modeling. On February 8, 2008, NYSDEC submitted final revisions to a new SIP for ozone to EPA. NYSDEC has determined that achieving attainment for ozone before 2012 is unlikely, and has therefore made a request for a voluntary reclassification of the New York nonattainment area as "serious".

In March 2008 EPA strengthened the 8–hour ozone standards. SIPs will be due three years after the final designations are made. On March 12, 2009, NYSDEC recommended that the counties of Westchester, Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, and Rockland be designated as a nonattainment area for the 2008 ozone NAAQS (the NYMA MSA nonattainment area). It should be noted that the EPA has proposed to determine that the nearby Poughkeepsie nonattainment area (Dutchess, Orange, Ulster, and Putnam counties) has attained the 2008 one-hour and eight-hour NAAQS for ozone, which indicates improving air quality in the region. It is unclear at this time what the attainment status of these areas will be under the newly proposed standard due to the range of concentrations proposed.

Westchester County is in attainment of the annual-average NO_2 standard. EPA has promulgated a new 1-hour standard, but it is unclear at this time what the county's attainment status will be due to the need for additional near road monitoring required for the new standard. The existing monitoring data indicates background concentrations below the standard.

EPA has established a new 1-hour SO_2 standard, replacing the 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in June 2012, based on 2008 to 2010 monitoring data and refined modeling. SIPs for nonattainment areas will be due by June 2014.

C. FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, the existing office building on the project site would continue to operate as is. No expansion or site alterations are currently planned. In addition, the Town of North Castle and surrounding communities have indicated that no significant development projects are currently planned within the vicinity of the project site. Traffic flow in the study area would be expected to remain similar to existing conditions, with slight changes resultant of the estimated annual background growth factor. Therefore, there would be no significant changes to air quality conditions in the study area without the proposed project.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

SEQRA regulations state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), probability of occurrence, duration, irreversibility, geographic scope, magnitude and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table 14-2**) would be deemed to have a potentially significant adverse impact. In addition, to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations would not be significantly increased in nonattainment areas, threshold levels have been defined for certain pollutants. Any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

METHODOLOGY FOR AIR QUALITY SCREENING ANALYSIS

The proposed project would decrease vehicular travel in the region served by the airport. Local intersection peak hour vehicle volumes would also decrease. Therefore, the proposed project would have a beneficial effect on regional and local NO_x and VOC emissions. No significant sources of lead are associated with the proposed project and, therefore, an analysis was not warranted. The proposed project would result in an overall decrease in vehicle trips and PM emissions. Therefore, an analysis of potential impacts from PM was not warranted. Although the vehicle trip reduction would result in a decrease in CO emissions, an assessment of the potential local impacts of CO emissions was performed following the procedures outlined in the NYSDOT EPM. The study area included the ten locations evaluated as part of the analysis for Chapter 13, "Traffic and Transportation." The potential for CO impacts was assessed using traffic data for the 2012 Build year during the AM and PM peak traffic hour. The following multi-step EPM screening procedure was used to determine whether a detailed air quality analysis of CO concentrations is needed for any of the intersections in the study area.

LEVEL OF SERVICE (LOS) SCREENING

In the Build condition, intersections with LOS of A, B, or C, an air quality analysis is not required. For intersections operating at LOS D or worse, the air quality Capture Criteria Screening Analysis is needed.

CAPTURE CRITERIA SCREENING ANALYSIS

In the Build condition, intersections with LOS of D, E, or F, the following Capture Criteria are applied at each intersection or corridor to determine if an air quality analysis may be warranted:

- A 10 percent or more reduction in the distance between source and receptor (e.g., street or highway widening); or
- A 10 percent or more increase in traffic volume on affected roadways for the Build year; or

[1] State Environmental Quality Review Regulations, 6 NYCRR § 617.7

- A 10 percent or more increase in vehicle emissions for the Build year using emission factors provided in the EPM;
- Any increase in the number of queued lanes for the Build year (this applies to intersections, and it is not expected that intersections in the Build Alternative controlled by stop signs would require an air quality analysis); or
- A 20 percent reduction in speed when Build average speeds are below 30 mph.

If the proposed project does not meet any of the above criteria, a microscale analysis is not required. If the proposed project is located within ½ mile of any intersections evaluated in the CO SIP Attainment Demonstration (as identified in the NYSDOT EPM Chapter 1.1, Table 2, by county), more stringent screening criteria would be applied at project-affected intersections. None of the intersections evaluated in the CO SIP Attainment Demonstration are within ½ mile of the project site. Therefore, all the intersections studied are subject to the general capture screening criteria.

VOLUME THRESHOLD SCREENING ANALYSIS

Should any one of the above criteria be met in addition to the LOS screening, then a Volume Threshold Screening is performed, using traffic volume and emission factor data to compare with specific volume thresholds established in the EPM.

Both the Capture Criteria and Volume Threshold Screening were developed by NYSDOT to be conservative air quality estimates based on worst-case assumptions. The EPM states that if the project-related traffic volumes are below the volume threshold criteria, then a microscale air quality analysis is unnecessary even if the other Capture Criteria are met for a location with LOS D or worse, since a violation of the NAAQS would be extremely unlikely.

RESULTS OF THE AIR QUALITY SCREENING ANALYSIS

Based on NYSDOT's EPM criteria, it was determined that none of the locations affected by the project warrant a CO microscale analysis. Three of the ten locations considered in the traffic study included approaches that would operate at LOS D or worse in the Build condition. At each of those three locations, the LOS would be D or worse under the No Build condition as well, and the LOS would not be worsened by the proposed project. The Capture Criteria screening analysis was performed for the three intersections that failed the LOS screening and additionally for the roundabout on Airport Road and Rye Lake Avenue / Westchester County Airport Driveway, for which LOS information was not available, due to the limitation of the Synchro model used in the traffic analysis. All four locations passed the Capture Criteria Screening Analysis, indicating that no further analysis is needed and that there would be no potential for significant adverse impact on air quality from the proposed project. By reducing vehicle trips, the proposed project would reduce emissions, providing an environmental benefit.

GREENHOUSE GAS ANALYSIS

There is consensus in the scientific community that the global climate is changing as a result of increased concentrations of GHG in the atmosphere. GHG emitted from both natural sources and from human activity absorb infrared radiation (heat). This effect causes the general warming of the earth's atmosphere, or the "greenhouse effect." This analysis looks at the potential effects the proposed project would have on GHGs.

Automobiles are a significant contributor to GHG emissions. The primary GHG emission of concern from tailpipe emissions is carbon dioxide (CO_2). As discussed throughout this chapter and Chapter 13, "Traffic and Transportation," the proposed project would reduce overall traffic in the study area. Based on the potential of the proposed facility to reduce vehicle trips and using information from NYSDOT regarding the airport service area, the proposed facility would achieve an equivalent reduction in tailpipe GHG emissions annually as the taking of almost 500 cars off the road.

The technical approach and data sources used to determine the reduction in GHG emissions are described below and detailed results are provided.

TECHNICAL APPROACH

The number of trips that would be reduced annually was projected using peak hour trip generation data from the Traffic Impact Study (TIS) presented in Chapter 13, "Traffic and Transportation," as well as modal split surveys conducted by the applicant in December 2008. It was assumed that the number of trips to and from the airport on an average day would be 20 percent lower than the number of daily trips during the holiday season. Based on a NYSDOT survey identifying the catchment areas (i.e., service areas) for Westchester County Airport and other nearby airports,[1] the average distance driven to or from the airport was assumed to be 35 miles. The amount of fuel saved as a result of the projected decrease in vehicle travel was based on the average light duty vehicle fuel efficiency in the proposed project build year (2012) of 21.4 miles per gallon, as obtained from the Annual Energy Outlook.[2] Because the primary GHG of concern from tailpipe emissions is CO_2, the analysis was focused on quantifying the reduction of CO_2 emissions. The carbon content of gasoline[3] was used to estimate avoided tailpipe emissions of GHG from reduced car trips to and from the airport.

The proposed shuttle buses that would be used to transport customers between Park Place and Westchester County Airport would be propane fueled and their round trip route would be approximately three miles. GHG emissions from the shuttle buses were calculated and deducted from the emissions reduced by decreasing the number of drop-off and car service trips to obtain net emissions reduced. Based on the TIS, it would be expected that during peak travel periods, 14 shuttle buses per hour would arrive at and 14 shuttle buses per hour would depart from the parking facility. To develop an annualized projection of shuttle bus trips, it was conservatively estimated that on average a total of ten buses per hour would complete the three-mile route throughout the year. The shuttle bus CO_2 emission factor was calculated using the GREET model.[4]

In addition to generating emissions directly from the tailpipe, the use of automobiles is associated with emissions generated during production and transport of vehicle fuel. Therefore, a decrease in driving reduces upstream GHG emissions, such as emissions from oil drilling, petroleum refining, and fuel transport to gas stations. To account for upstream emissions from

[1] NYSDOT, FAA Regional Air Service Demand Study, Task B –Forecast of Passengers, Operations and Other Activities for Westchester County Airport, May 2007.

[2] Energy Information Administration, *Annual Energy Outlook, 2010*. Table A7 Transportation Sector Key Indicators and Delivered Energy Consumption.

[3] The Code of Federal Regulations (40 CFR 600.113).

[4] Argonne National Laboratory, The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model, http://www.transportation.anl.gov/modeling_simulation/GREET/

propane use in shuttle buses and avoided upstream emissions from reduced gasoline use, data available from the GREET model was used. Upstream emissions for propane account for approximately 12 percent of lifecycle propane emissions (upstream plus tailpipe), while approximately 17 percent of gasoline lifecycle emissions occur upstream.

GHG EMISSIONS REDUCED

It is projected that more than 230,000 car trips to the airport would be avoided annually as a result of the proposed project, reducing approximately eight million vehicle miles traveled, and more than 380,000 gallons of gasoline. The reduction of car trips to and from the airport would directly avoid the emission of approximately 3,420 metric tons of CO_2 (MT CO_2). The shuttle buses would directly generate more than 350 MT CO_2, resulting in a net CO_2 reduction of almost 3,070 MT CO_2 annually. On a lifecycle basis, the net reductions would be 3,700 MT CO_2. The projected annual benefit of the proposed project with respect to tailpipe GHG emissions avoided by reducing vehicle travel would be equivalent to taking almost 500 cars off the road for a year. Considering the additional reduction in upstream emissions, the projected benefits would be even greater. In addition to reducing GHG emissions, the proposed project would also reduce the vehicle emissions of criteria pollutants, such as particulate matter, carbon monoxide, nitrogen dioxide, and volatile organic compounds.

In conclusion, based on the TIS, the proposed project would reduce a significant number of drop-off and car service trips, which would result in a meaningful net reduction of GHG emissions. The proposed project would, therefore, further New York State GHG emission reduction goals established by Executive Order 24.

E. MITIGATION MEASURES

Since there would be no significant adverse air quality impacts from the proposed project, mitigation is not required. The proposed project would reduce the overall vehicle trips from the region using the airport and thereby reduce regional emissions from mobile sources. This would reduce GHG emissions in the study area and work toward regional air quality goals. There would be no emissions from vehicles within the proposed parking facility. Therefore, the proposed project would have a beneficial impact on local air quality as compared to a conventional garage. Additional aspects of the proposed project, such as rooftop photovoltaic panels that are being considered, would go beyond what is required to decrease emissions of air quality pollutants. ✷

A. INTRODUCTION

This chapter analyzes potential impacts of the proposed project related to noise, both during construction and during operation of the proposed parking facility. This chapter describes existing noise levels on the project site and in the study area, any expected changes in noise levels without the proposed project, and any potential noise impacts related to the proposed project. A discussion of potential impacts on sensitive noise receptors is also provided. A sensitive noise receptor is a location whose land use could be negatively affected by excessive noise, such as residences, schools, or open spaces. The sensitive receptors in proximity to the project site include single-family residences located on King Street in the Town of Greenwich, CT.

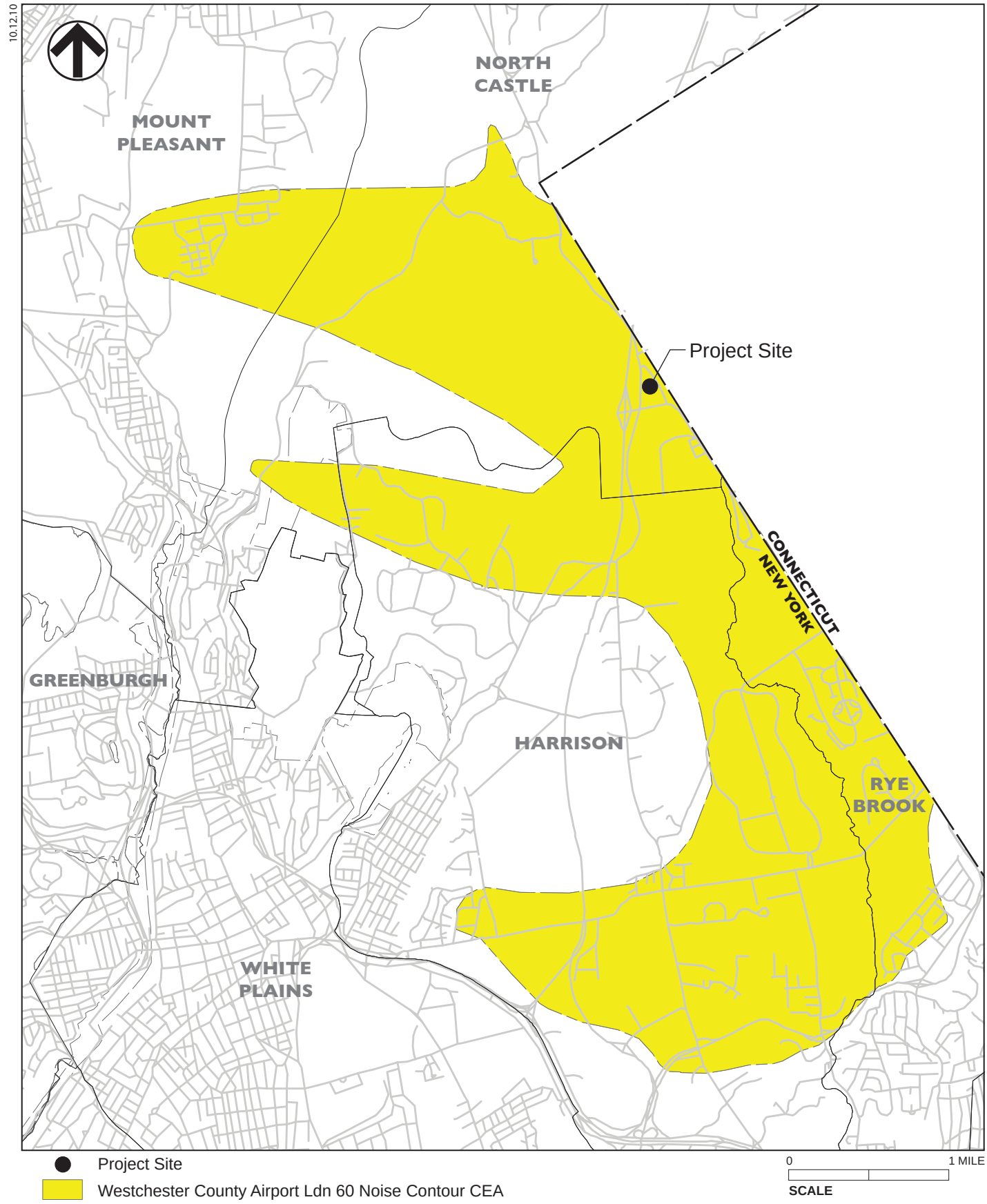
As shown on **Figure 15-1**, the project site is located within the Westchester County Airport L_{dn} Noise Contour Critical Environmental Area (CEA), which was established to ensure compatibility of land uses and aircraft noise. Potential impacts related to this CEA are also described below.

B. NOISE FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-WEIGHTED SOUND LEVEL (DBA)

Noise is typically measured in units called decibels (dB), which are ten times the logarithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time, and is measured in Hertz (Hz), where one Hz equals one cycle per second. Frequency defines sound in terms of pitch components. In the measurement system, one of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network, known as A-weighting, which simulates the response of the human ear. For most noise assessments the A-weighted sound pressure level in units of dBA is used due to its widespread recognition and its close correlation to perception. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in **Table 15-1**.



Critical Environmental Area

Figure 15-1

Table 15-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	90
Busy city street, loud shout	80
Busy traffic intersection	80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas or residential areas close to industry	60
Background noise in an office	50
Suburban areas with medium density transportation	50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Source: Cowan, James P. Handbook of Environmental Acoustics. Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see **Table 15-2**). Generally, changes in noise levels less than three dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 15-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2 to 3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and integrates the fluctuating sound energy over a known period of time, most typically during one hour or 24 hours. Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating this response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations (see **Table 15-3**). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table 15-3
Community Response to Increases in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action

Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).

EFFECTS OF DISTANCE ON SOUND

Sound varies with distance. For example, highway traffic 50 feet away from a receptor (such as a person listening to the noise) typically produces sound levels of approximately 70 dBA. The same highway noise measures 66 dBA at a distance of 100 feet, assuming soft ground conditions. This decrease is known as "drop-off." The outdoor drop-off rate for line sources, such as traffic, is a decrease of approximately 4.5 dBA (for soft ground) for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 3 dBA for line sources). Assuming soft ground, for point sources, such as construction equipment, the outdoor drop-off rate is a decrease of approximately 7.5 dBA for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level unit, dBA, describes a noise level at just one moment, and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., one hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound-energy as the actual time-varying sound. L_{dn} refers to a 24-hour average noise level with a 10 dB penalty applied to the noise levels during the hours between 10 PM and 7 AM, due to increased sensitivity to noise levels during these hours.

For the purposes of this analysis, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation.

C. APPLICABLE NOISE CODES AND IMPACT CRITERIA

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

The New York State Department of Environmental Conservation (NYSDEC) published a guidance document titled *Assessing and Mitigating Noise Impacts* (October 6, 2000). This document states that increases from 0 to 3 dBA should have no appreciable effect on receptors, increases of 3 to 6 dBA may have the potential for adverse impact only in cases where the most sensitive of receptors are present, and increases of more than 6 dBA may require a closer analysis of impact potential depending on existing noise levels and the character of surrounding land use and receptors. It goes on to say that in terms of threshold values, the addition of any noise source, in a non-industrial setting, should not raise the ambient noise level above a

maximum of 65 dBA, and ambient noise levels in industrial or commercial areas may exceed 65 dBA with a high end of approximately 79 dBA. Projects which exceed these guidance levels should explore the feasibility of implementing mitigation.

NORTH CASTLE TOWN NOISE CODE

The Town of North Castle has established an ordinance governing noise within the Town, which specifies thresholds for unacceptable noise at various land uses. The noise ordinance is codified as Chapter 137, "Noise," of the Town Code. This ordinance prohibits the generation of noise levels in residential districts exceeding 65 dBA between the hours of 8 AM and 6 PM or 55 dBA between 6 PM and 8 AM, and noise levels in commercial districts exceeding 65 dBA at any time of day. The ordinance also has a separate specification for construction noise, limiting construction to daytime hours on weekdays and Saturdays, and specifying that construction noise levels shall not exceed 70 dBA in residential districts or 75 dBA in commercial districts, as measured 400 feet from the construction site.

NOISE IMPACT CRITERIA

The NYSDEC criteria of a 6 dBA increase over the existing noise levels will be used as a threshold for impact identification purposes in this analysis.

D. EXISTING CONDITIONS

STUDY AREA

The study area for this analysis consisted of the area around the proposed project bounded by NYS Route 120, New King Street and Airport Road in the Town of North Castle. This area would be most likely to experience changes in noise levels due to potential traffic associated with the proposed project or construction of the proposed project.

EXISTING NOISE LEVELS IN THE STUDY AREA

The proposed project is within the Westchester County Airport L_{dn} Noise Contour CEA, which describes the elevated noise levels that occur within the vicinity of Westchester County Airport. The study area falls directly on the 70 dBA L_{dn} contour line for 2005 as shown in Westchester County's Airport Aircraft Noise Study of 2002. Since the dominant noise sources in this area are aircraft noise and vehicular traffic noise on adjacent roadways, it can be concluded that the existing noise levels are approximately in the low 70s of dBA. This level is moderately to relatively high for a commercial district in the Town of North Castle and roughly what would be expected in the vicinity of an active airport.

E. FUTURE WITHOUT THE PROPOSED PROJECT

As indicated by the Town of North Castle and surrounding communities, currently, there are no significant development projects planned in the vicinity of the project site. In the future without the proposed project, it is expected that there would be minimal growth in the amount of air traffic as well as growth in the vehicular traffic on adjacent roadways. This small amount of growth would result in negligible changes in noise levels.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

As described above, the proposed project is located within the Westchester County Airport L_{dn} Noise Contour CEA. However, the proposed project would not constitute a sensitive noise receptor, and would therefore not be affected by the CEA.

While the operation of the proposed parking garage would result in additional noise at the project site, at locations within the study area outside of the project site, noise levels would continue to be dominated by the significant amount of vehicular traffic on adjacent roadways, notably Interstate 684 and NYS Route 120, and HPN aircraft traffic overhead. As described in Chapter 13, "Traffic and Transportation," the proposed project would result in an overall net reduction in traffic in the study area with only a few intersections experiencing negligible increases due to the redistribution of vehicles travelling within the study area (i.e. instead of going directly to the airport, a portion of the vehicular traffic would go to the project site and take a shuttle to the airport). This increase in 'redistributed' traffic at certain intersections would be less than one percent, which would translate into less than a 0.1 dBA increase in noise levels. Such a noise level increase would be imperceptible, and according to NYSDEC criteria, being less than 3 dBA, would have no appreciable affect on receptors and would not be considered an impact. Further, the proposed parking facility would not be a significant noise generator itself, as it would be an enclosed vehicle storage facility and would have minimal exterior HVAC equipment.

The net reduction in vehicular traffic in the study area would not result in any appreciable change in noise levels. Finally, there would be no changes in air traffic resulting from the proposed project. It can therefore be concluded that the operation of the proposed project would not result in any significant adverse noise impacts.

CONSTRUCTION OF THE PROPOSED PROJECT

Construction of the proposed project would occur over a period of 14 months, although the period of heaviest construction would occur for only three months. During this time, construction activities would include the use of excavators/dozers, backhoes, cranes, graders/rollers, dump trucks, concrete pumps and trucks. **Table 15-4** shows typical noise levels from construction equipment (discussed further in Chapter 17, "Construction"). While construction activities may be loud and noticeable at the project site's property line, the nearest sensitive receptors are residences located at a distance of over 550 feet from where most of the heavy construction equipment would be located. Even though the site entrance is approximately 400 feet from these sensitive receptors, the project site has a flag lot configuration, meaning that the heaviest construction activity would occur within the main portion of the project site parcel over 550 feet from surrounding residences. **Figure 15-2** depicts the nearest single-family residence (i.e., sensitive receptor) to the project site and the expected worst-case sound levels. As indicated on **Figure 15-2**, the actual proposed parking structure would be over 600 feet from the nearest sensitive receptor; however, for a conservative analysis, the calculations described herein are based on a separation distance of 550 feet.

As discussed above, the sound drop-off rate for point sources (e.g., construction equipment) is a decrease of approximately 6 dBA for every doubling of distance over hard ground. For the expected worst case hour of the worst case day of the construction period, during which three concrete mixers, an excavator, a bull dozer, two tractor trailers, and a crane would be operating, the maximum expected 1-hour equivalent sound level ($L_{eq(1)}$) at the nearest sensitive receptor (i.e., the

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Sensitive Noise Receptor Locations

Figure 15-2

Table 15-4
Typical Noise Emission Levels For Construction Equipment

Equipment Item	L_{max} Noise Level at 50 Feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83[1]
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90[2]
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89[3]

Notes:
[1] Wood, E.W., and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.
[2] New York State Department of Environmental Conservation, *Construction Noise Survey, Report No. NC-P2*, Albany, NY, April 1974.
[3] F.B. Foster Company, Foster *Vibro Driver/Extractors, Electric Series Brochure*, W-925-10-75-5M.

Sources: Patterson, W.N., R.A. Ely, And S.M. Swanson, *Regulation of Construction Activity Noise*, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

nearest single-family residence) would be 69.3 dBA. For an average hour of the construction period, during which an excavator, two tractor trailers, and a crane would be operating, the maximum expected 1-hour equivalent sound level ($L_{eq(1)}$) would be 64.8 dBA. Such levels would be comparable to or less than existing noise levels and below the NYSDEC impact criteria, and below the noise level threshold in the North Castle noise ordinance. Additionally, construction activities would occur during daytime hours and would adhere to the time limits specified in the North Castle noise ordinance, which limits construction activities to between 7:30 am and 7:00 pm Monday through Friday and between 8:00 am and 5:00 pm on Saturdays. Consequently, the construction of the proposed project would not result in any significant adverse noise impacts.

G. MITIGATION MEASURES

As discussed above, the proposed project would not be affected by its location within the Westchester County Airport L_{dn} Noise Contour CEA and would not result in any measurable

change in noise levels in the study area. Traffic on area roadways would be expected to be similar to or less than existing conditions and operation of the proposed parking facility would not produce significant noise levels. Air traffic would not be affected by the proposed project. Construction activities would have a relatively short duration and would comply with the Town of North Castle noise ordinance. Based on the analyses above, it is the applicant's opinion that no significant adverse impacts related to noise from construction or operation of the proposed project would result, and therefore no mitigation measures are proposed. ✷

A. INTRODUCTION

This chapter addresses the potential for the presence of hazardous materials at the project site resulting from previous and existing uses at the site and adjacent properties. This chapter also assesses potential risks from the proposed project with respect to any such hazardous materials.

The proposed project would entail the demolition of the existing one-story building and the redevelopment of the site for a parking garage, which would serve patrons of Westchester County Airport. The redevelopment of the site would include excavation and subsurface disturbance during the construction of the multi-story parking garage.

A Phase I Environmental Site Assessment (ESA) was prepared for the project site by The Chazen Companies of Poughkeepsie, New York (Chazen). The results of this investigation are found in Appendix K. This Phase I ESA, dated June 6, 2002, included the following:

- An inspection of the outdoor facilities to assess the current site conditions and identify evidence of potential site contamination;
- A review of New York State Department of Environmental Conservation (NYSDEC) and U.S. Environmental Protection Agency (EPA) records on releases or spills of toxic materials, known hazardous waste disposal sites, facilities that emit hazardous materials to the air or the sewer system, and facilities that store petroleum or other chemicals or generate, treat, or store hazardous wastes;
- A review of historic aerial photographs; and
- A review of existing data on the geology and hydrogeology of the area.

A subsurface investigation consisting of drilling soil borings and excavating test pits was performed in October 2008 by Melick-Tully and Associates, P.C. (MTA). The results of this investigation are contained in full in Appendix G, "Preliminary Soils and Foundation Investigation" MTA (November 6, 2008).

In addition, AKRF performed a confirmatory site inspection on September 8, 2010.

B. EXISTING CONDITIONS

The 2010 AKRF site inspection documented features of the project site, identified sources of hazardous materials and documented any field evidence of contamination. This inspection also included an interview with Mr. Jan Endresen, a representative of 11 New King Street, LLC, and the previous owner of the project site.

The project site consists of an approximately 2.5-acre lot occupied by a one-story office building/warehouse with approximately 35 parking spaces. Standard office supplies (cleaning solutions, maintenance chemicals, etc.) were stored on the site. A 1,000-gallon underground storage tank was reported to be on the project site.

LAND USE HISTORY

A review of the historic aerial photographs included in Chazen's Phase I ESA shows that the site was undeveloped prior to the construction of the existing one-story building in 1966. Adjacent land use at this time was a mixture of residential, agricultural, and undeveloped (wooded) parcels. By 1970, a rectangular building had been constructed on the project site and Interstate-684 and Westchester County Airport were constructed to the west and south, respectively, of the project site. By 1976, the building's warehouse had been constructed on the west side of the existing building. No changes were made to the project site from 1976 to 1986. By 1990, a trailer was attached to the northwestern portion of the existing building. Based on AKRF's 2010 site inspection, no further significant land use changes on the project site have occurred since the 1990 aerial photograph.

Generally, the project site vicinity has been historically occupied by residential and light commercial uses.

TOPOGRAPHY, GEOLOGY, AND GROUNDWATER

The ground elevation at the site varies from approximately 370 to 404 feet above mean sea level, sloping downward from east to west. The highest elevations are located in the southeastern corner of the project site. The lowest elevations are in the northwestern corner, adjacent to the perennial stream flowing though the site.

The *Preliminary Soils and Foundations Investigation Report*, prepared by MTA documented subsurface geologic conditions in this study. The results of the investigation are summarized below:

- **Topsoil** — Topsoil, ranging in depth from four to eighteen inches, was encountered in the surface soils of all of the borings/test pits.
- **Fill** — Fill was encountered in three borings. The fill generally consisted of silty sands ranging in depths from 6.5 to 9.0 feet below grade.
- **Silty Sands —** Silty sands, gravel, and cobble were encountered at approximately eight feet below grade and extended to 51 feet below grade.
- **Groundwater** — Groundwater was observed at depths ranging from six feet to 26.5 feet below grade.
- **Bedrock** — Highly decomposed, schistic bedrock was encountered in two borings at approximately 35 feet below grade.

Based on the site topography, it is expected that groundwater would flow in a westerly or northwesterly direction towards Rye Lake.

POTENTIAL FOR SITE CONTAMINATION

The following sections summarize potential sources of contamination in the project site subsurface and/or on-site building as identified in Chazen's 2002 Phase I ESA, MTA's 2008 subsurface investigation, and AKRF's 2010 site inspection.

PETROLEUM PRODUCTS AND UNDERGROUND STORAGE TANKS

One petroleum underground storage tank (UST) was identified during the 2002 Phase I ESA. The tank and two associated vent pipes were located immediately south of the building. The tank

was reportedly 1,000-gallons in capacity and was installed on the property to replace a 1,500-gallon UST. The former UST was removed from the project site in 1999. The Town of North Castle provided a Certificate of Compliance (COC), dated May 16, 2001. This COC states that the removal of the 1,500-gallon UST and the installation of the 1,000-UST were performed in compliance with all applicable local regulations. The 2010 site inspection confirmed these findings.

FILL MATERIALS

Fill material was encountered during the 2008 Preliminary Soils and Foundation Investigation at depths of 6.5 to 9.0 feet below grade. Uncontrolled fill material often has elevated levels of semi-volatile organic compounds (SVOCs) and heavy metals. Petroleum odors were observed in soil samples collected from two soil borings indicating contaminants may be present at locations within the imported fill layer at the project site.

GROUNDWATER

No petroleum spills or other sources of contamination were identified in the 2002 Phase I ESA that may have adversely affected the project site. Spills (either onsite or offsite) may have occurred since the 2002 Phase I ESA that could have resulted in subsurface contamination; however, no field evidence of such releases was noted during the 2008 *Preliminary Soils and Foundation Investigation*.

LEAD-BASED PAINT

Lead-based paint was generally not used inside residential buildings after 1960 in NYC or after 1977 nationwide. After 1977, its use inside of commercial structures was also restricted and its use elsewhere became much less common, but lead-based paint may still sometimes be used outdoors. Lead-based paint can present a hazard, particularly to children and especially when it is in a deteriorating condition.

Based on the age of the on-site building, lead-based paint may be present on painted surfaces. Areas of peeling paint were not identified by the 2002 Phase I ESA or the 2010 site inspection.

POLYCHLORINATED BIPHENYLS (PCBS)

Until 1979, polychlorinated biphenyls (PCBs), which provided beneficial insulating properties, were manufactured for use in a wide variety of products, primarily in electrical equipment such as transformers, capacitors, fluorescent light fixtures (especially ballasts), and voltage regulators, but also in hydraulic fluids and some other products. The 2002 Phase I identified fluorescent lights throughout the building. The ballasts of these lighting units should be tested for PCBs prior to any demolition activity. If the ballasts contain PCBs, they should be disposed of in accordance with all applicable regulations.

The 2002 Phase I ESA did not identify any transformers, other electrical equipment or hydraulic equipment likely to contain PCBs. The 2010 site inspection identified one transformer located north of the building that was reportedly installed in 1997. Based on the reported installation date, the transformer is not likely to contain PCBs.

RADON

Radon is a colorless, odorless gas most commonly produced by the radioactive decay of certain rocks. According to a New York State Department of Health database the average level of radon found in basements in Westchester County is 2.5 picocuries/liter, below the USEPA recommended action level of 4.0 picocuries/liter. Radon testing would be necessary to determine the actual radon levels within the building.

ASBESTOS-CONTAINING MATERIALS (ACM)

Asbestos is a name applied to a group of natural minerals, with particularly good fire resistant and insulation properties. In addition to insulation/fireproofing products, it is also commonly found in vinyl flooring, plaster, sheetrock, joint compound, ceiling tiles, roofing materials, gaskets, mastics, caulks and a range of other products. Materials containing more than one percent asbestos are considered asbestos-containing materials (ACM). ACM are classified as friable or non-friable: friable ACM (e.g., most spray on fireproofing) more readily release asbestos fibers than non-friable ACM (e.g., vinyl flooring and most roofing materials).

Based on the age of the building, ACM may be present within the 12 inch square floor tiles, 2 foot by 4 foot ceiling tiles, roofing materials, and the linoleum on the kitchen floor. The observations made during the 2002 Phase I ESA and the 2010 site inspection do not constitute and cannot substitute for an asbestos survey which is a comprehensive study with laboratory testing. Prior to implementing an activity which could disturb ACM (e.g., renovation or demolition), a NYS-certified asbestos inspector must inspect the areas and conduct testing, as necessary, to determine whether the activity would disturb ACM. Any such ACM must be removed prior to the activity. There are also requirements that all suspect ACM be maintained in good condition regardless of whether they are to be disturbed by a project in the building.

C. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed action, the site would continue to be utilized as an office building/warehouse and parking lot. The hazardous material concerns described above under "Existing Conditions" would remain and there would be no greater potential for significant adverse impacts related to hazardous materials than exists under the current project site conditions.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

UNDERGROUND STORAGE TANKS

Although there was no evidence of unidentified USTs beneath the project site, it is still possible that they may be encountered during excavation. If any unknown tanks are identified during site redevelopment, they would be removed in accordance with all applicable federal, state, and local requirements. Any associated petroleum contaminated soil would be segregated and properly disposed of in accordance with all requirements.

FILL MATERIALS

Based on the cut and fill calculations, the majority of the fill material excavated during construction of the proposed project would be exported off-site. Fill material constitutes a regulated waste with specific transportation and disposal requirements. In addition, any petroleum contaminated fill material encountered during excavation would be segregated and stockpiled for off-site disposal. Proper waste characterization would be conducted on fill

material and, if necessary, any petroleum contaminated fill material to determine the disposal requirements. All fill materials would be sampled, handled, and transported to an appropriate disposal facility in accordance with all applicable federal, state, and local requirements.

DEWATERING

It is possible that contaminated groundwater may be encountered during excavation activities. Groundwater may be contaminated from sources on the project site or from offsite sources. If contaminated groundwater and dewatering is necessary, treatment and discharge of groundwater would be in accordance with all federal, state, and local requirements.

ASBESTOS

Prior to any demolition activities, a comprehensive asbestos survey would be conducted and any identified asbestos-containing materials (ACMs) would be removed from the existing building by a licensed asbestos abatement contractor in accordance with all applicable federal, state, and local requirements.

LEAD-BASED PAINT

Any activities that involve disturbance of surfaces with lead-based paint would be conducted in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations for worker protection from exposure to lead.

PCB-CONTAINING EQUIPMENT

Any activities that involve the disturbance or removal of ballasts (or any other suspect PCB-containing electrical equipment) would be disposed of in accordance with applicable regulatory requirements.

If the measures described above are implemented, there would be no significant impacts from hazardous materials due to the proposed project.

E. MITIGATION MEASURES

All excavated material associated with the proposed project and materials associated with demolition of the existing office building would be monitored for potential contamination. Any identified hazardous materials would be handled and disposed of in accordance with all local, state, and federal regulations. The proposed project would not result in the storage of any hazardous materials onsite. ✷

A. INTRODUCTION

This chapter discusses the potential for adverse impacts that may occur as a result of the construction of the proposed parking facility. During any construction project, there is the potential for environmental impacts, such as those associated with soil erosion, traffic, noise, vibrations, and dust. This chapter documents the various activities that would be involved in constructing the proposed project. The potential for significant adverse impacts is evaluated, together with the techniques and procedures that would be employed to avoid or minimize such impacts.

B. SUMMARY OF THE CONSTRUCTION PROGRAM

The proposed project involves the construction of an approximately 267,000-square-foot multi-level automated parking facility. The structure would be five-and-a-half levels (including one partial lower level) and would have a height of 56 feet above average grade. The proposed parking structure would have a building footprint of approximately 51,000 square feet that occupies approximately 47 percent of the 2.47-acre project site.

As part of the building construction, other activities such as demolition of existing structures, tree clearing, grading, and wetland construction would take place. The construction of the proposed parking facility would be completed in a single phase estimated to last approximately 14 months. All construction activities would be conducted in full compliance with existing regulations, including local day and hour construction limitations. Consistent with Town Code, construction activity would only take place between the hours of 7:30 am and 7:00 pm Monday through Friday and occasionally between 8:00 am and 5:00 pm on Saturdays. Since all construction would take place during daylight hours, construction lighting would not be used.

The number of workers on site during construction would vary, but an average of 30 workers per day would be expected at the site. During the peak construction period, which would last approximately six months, as many as 50 workers could be at the site.

The initial construction effort would be focused on demolition of the existing building and associated utilities on the project site and any additional tree clearing and grading necessary to accommodate the footprint of the proposed facility and associated improvements. During this time, construction staging areas would be established. Once the site preparation is complete, site infrastructure would be constructed underground (including water, sewer, components of the stormwater management system, electrical, and other utility systems). To avoid and minimize temporary impacts from initial clearing and grading activities, an Erosion and Sediment Control Plan would be implemented.

PRE-CONSTRUCTION/SITE PREPARATION

Prior to the start of any construction activity or site disturbance, a pre-construction meeting would be held with the contractor, representatives of the New York City Department of Environmental Protection (NYCDEP), the Town, and project engineer to discuss construction details and erosion and sediment control plans (see Erosion and Sediment Control Plan, **Figure 17-1**). The Erosion and Sediment Control Plan, described in further detail in Chapter 9, "Stormwater Management," details how the project site and surrounding wetlands, waterways, and water bodies would be protected from erosion and sedimentation during construction activity when soil would be disturbed.

Site preparation would include installation of security fencing at the driveway to the site and a stabilized construction entrance/exit that would prevent tracking of sediment outside of the project site. The construction entrance/exit would be constructed with one to four inch stone (or reclaimed or recycled concrete equivalent) layered over a filter fabric and would be at least six inches thick. The stabilized area would be maintained regularly to prevent sediment from being tracked onto public rights-of-way.

DEMOLITION/GRADING

Demolition would begin by disconnecting all utility connections from the existing building and removing all appurtenances. This includes removal of all existing buildings and structures, light fixtures and conduits, walkways, oil tanks, and sanitary sewage systems as shown in the demolition plan provided in **Figure 17-2**. Once the existing building and utilities are removed, the area for the proposed temporary sediment basins would be cleared and grubbed and top soil would be stock piled on site (see Erosion and Sediment Control Plan, **Figure 17-2**). The temporary sediment basin would then be graded, covered with six inches of top soil, seeded, and stabilized with a rolled erosion control product. Two dikes/swales would also be installed around the perimeter of the site prior to commencing clearing and grubbing for the building footprint. During the grading stage of the project, a total of 122 trees would be removed and 2.80 acres of ground surface would be disturbed.

BUILDING CONSTRUCTION

The major components of the building construction stage would involve installation of utilities and infrastructure, pouring the foundation, and erecting the structure of the building, interior finishing work, and landscaping. This would be the most intensive stage of the construction process where material deliveries would take place regularly and the greatest number of workers would be on site. The foundation would be poured over a period of approximately three months and would require approximately 1,200 cubic yards of concrete. This amount of concrete would require approximately 140 concrete truck deliveries. Once foundations are poured, there would be two separate two week periods for pouring slabs beginning four months after foundations are poured. The concrete slabs would require approximately 2,250 cubic yards of concrete that would be delivered with approximately 200 concrete trucks. The building structure would primarily be constructed using precast concrete panels that would be delivered to the site and installed over a period of approximately four months. This process would involve use of a crawler crane to hoist panels into place and delivery of concrete panels using approximately 350 trucks. Once construction work is completed, all disturbed areas would be restored and the site would be landscaped according to a landscape plan to be approved during site plan review.

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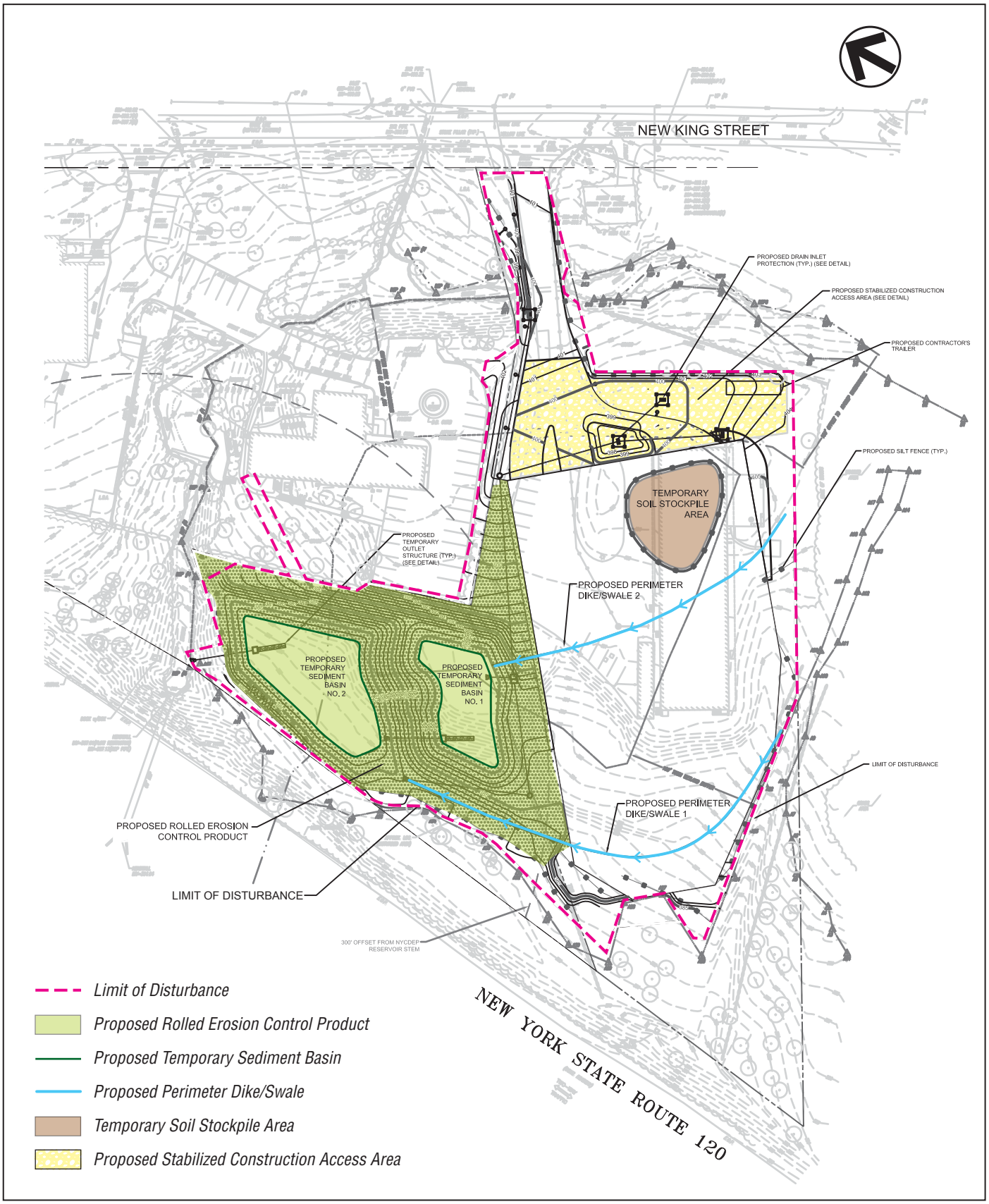
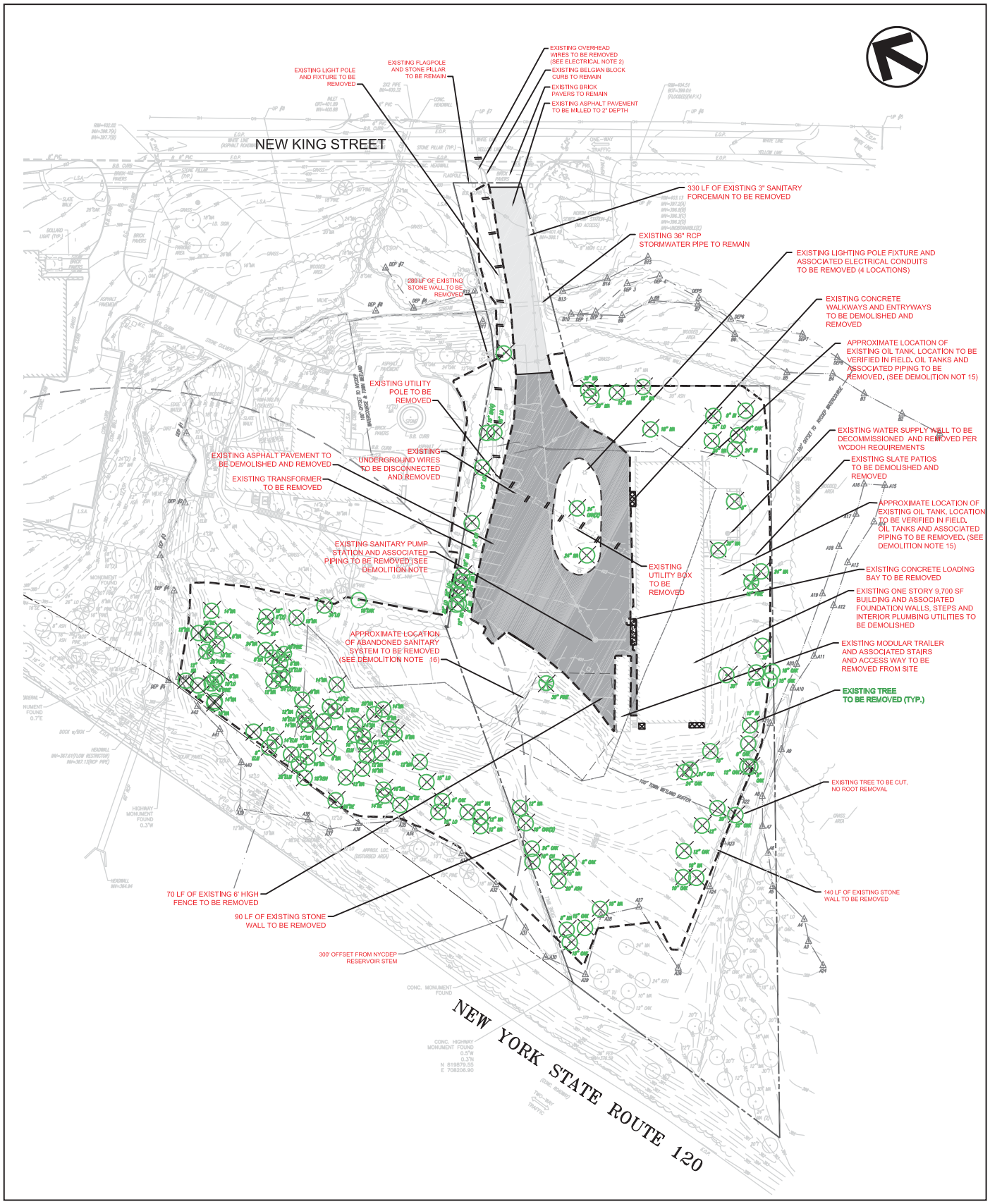


Erosion and Sediment Control Plan

Figure 17-1



Demolition Plan

Figure 17-2

C. POTENTIAL IMPACTS OF CONSTRUCTION

EROSION AND SEDIMENTATION

The potential impacts associated with construction activities include sediment deposition, rilling and erosion, and the potential for causing turbidity within receiving water bodies. To prevent the potential negative effects of soil erosion, the proposed project would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term (see Appendix H).

The following practices would be used throughout the construction activities to minimize the potential erosion and sedimentation impacts associated with the disturbance:

- Stabilized Construction Entrance / Exit (SCE) - The construction entrance/exit would have a stabilized aggregate pad underlain with filter cloth to prevent construction vehicles from tracking sediment off-site. Stabilized construction entrances would be located at specific transition areas between concrete/asphalt to exposed earth.
- Silt Fence - Silt fence would be installed on the down gradient edge of disturbed areas parallel to existing or proposed contours or along the property line as perimeter control. Silt fence would be used where stakes can be properly driven into the ground as per the Silt Fence detail in the New York State Standards and Specifications for Erosion and Sediment Control and as shown on the Drawings attached to this DEIS.

  Silt fence controls sediment runoff where the soil has been disturbed by slowing the flow of water and encouraging the deposition of sediment before the water passes through the straw bale or silt fence. Built-up sediment would be removed from silt fences when it has reached one-third the height of the bale/fence and properly disposed.
- Storm Drain Inlet Protection - Inlet protection would be installed at all inlets where the surrounding area has been disturbed. The inlet protection would be constructed in accordance with NYSDEC Standards and Specifications for Erosion and Sediment Control. Typically they would be constructed to pass stormwater through, but prevent silt and sediment from entering the drainage system.
- Stockpile Detail - Stockpiled soil would be protected, stabilized, and sited in accordance with the Soil Stockpile Detail, as shown on the detail sheets. Soil stockpiles and exposed soil would be stabilized by seed, mulch, or other appropriate measures, when activities temporarily cease during construction for seven days or more in accordance with NYSDEC requirements.
- Dust Control - During the demolition and construction process, debris and any disturbed earth would be wet down with water, if necessary to control dust. After demolition and construction activities, all disturbed areas would be covered and/or vegetated to provide for dust control on the site.
- Temporary Seeding and Stabilization - In areas where demolition and construction activities, clearing, and grubbing have ceased, temporary seeding or permanent landscaping would be performed to control sediment laden runoff and provide stabilization to control erosion

during storm events. This temporary seeding/stabilization or permanent landscaping would be in place no later than 14 days after demolition and construction activity has ceased.

- Sump Pit - A temporary pit would be constructed to trap and filter water for pumping to a suitable discharge area. The purpose would be to remove excessive water from excavations. Sump pits would be constructed when water collects during the excavation phase of construction.
- Dewatering - Due to the depth of excavation for the building foundation and proximity to on-site watercourses and wetland areas, there may be areas of construction where the groundwater table would be intercepted and dewatering activities would take place. Site-specific practices and appropriate filtering devices would be employed by the contractor so as to avoid discharging turbid water to the surface waters of the State of New York.

  A sediment tank may be used in conjunction with other practices that would settle and filter the sediment from the stormwater runoff. The sediment tank is a compartmented tank container to which sediment laden water is pumped to trap and retain the sediment. The purpose of the tank would be to trap and retain sediment prior to pumping the water to drainage ways, adjoining properties, and rights-of-way below the sediment tank site. In conjunction with the portable sediment tank, the mechanical filtering devices may be necessary to filter out the finer particulates. A permit may be required for such activities; therefore the contractor would need to coordinate this with the resident engineer.
- Perimeter Dike/Swale - The purpose of a perimeter dike/swale is to prevent off-site storm runoff from entering a disturbed area and to prevent sediment laden storm runoff from leaving the construction site or disturbed area. It would be used to convey stormwater runoff from the work area to a proposed sediment basin.
- Temporary Sediment Basin - The purpose of a sediment basin is to intercept sediment-laden runoff and filter the sediment laden stormwater runoff leaving the disturbed area in order to protect drainage ways, properties, and rights-of-way below the sediment basin. The basin would be installed down gradient of construction operations which expose critical areas to soil erosion. The basin would be maintained until the disturbed area is protected against erosion by permanent stabilization.
- Materials Handling - The Contractor would store construction and waste materials as far as practical from any environmentally sensitive areas. Where possible, materials would be stored in a covered area to minimize any potential runoff. The Contractor would incorporate storage practices to minimize exposure of the materials to stormwater, and spill prevention and response where practicable. Prior to commencing any construction activities the contractor would obtain all necessary permits or verify that all permits have been obtained.

TRAFFIC AND TRANSPORTATION

Construction of the proposed project would create daily construction-related traffic to and from the project site, including vehicle trips related workers and delivery of materials and equipment. In addition, there would be some truck traffic associated with removal of construction debris and excavated materials from the project site.

The majority of construction related traffic would utilize Interstate 684 (I-684) and NYS Route 120 as access routes to the project site. Workers and delivery drivers would be instructed to take Exit 2 off I-684 and travel east on Airport Road to New King Street. When exiting the project site, vehicles would follow the existing traffic patterns and head north on New King Street to

Purchase Street (NYS Route 120). From Purchase Street, the majority of vehicles would head south to return to I-684. While the site is just off I-684, it is also possible that some construction workers and materials from the local area would access the site directly from NYS Route 120.

The number and type of vehicles would vary depending on the exact work being done at the site. During land clearing, grading, and excavation, the primary activity would be limited to that specific equipment (which would remain on-site during the land preparation phase) and the workers operating the equipment and generally working on the initial effort.

During the core building phase, foundation work would primarily involve concrete delivery to the site. The majority of the structure would be constructed using precast concrete panels that would be delivered to the site as needed using extended bed trucks. All parking and staging would be accommodated on site in the access area shown in **Figure 17-1**. There is not anticipated to be any queuing of construction related traffic on local roadways.

AIR QUALITY

The principal air quality impact associated with construction activities is the generation of fugitive dust, which can vary widely in terms of volume and size of particulate matter generated. Fugitive dust is associated with earth moving, such as site grading, filling, and excavation for foundations. A large proportion of the fugitive dust generated by construction activities would be of relatively large particle size, and would be expected to settle to the ground within a short distance from the construction site and not significantly affect nearby buildings or people.

To minimize these problems, the following erosion and dust control measures would be followed during construction:

- Installing truck mats which would clean the trucks' tires prior to leaving the project site
- Watering of exposed areas during dry periods;
- Using drainage diversion methods (silt fences) to minimize soil erosion during site grading.

As mentioned above, all construction traffic would be expected to use I-684 and NYS Route 120, which are major roadways and truck routes. Since, this area is already experiencing vehicle (including truck) traffic, the construction traffic traveling to and from the project site would not be a significant increase over present conditions. By controlling the amount of dust and vehicle emissions that would result from construction of the proposed project, and ensuring that nearby properties would not be greatly affected by such emissions, no significant adverse air quality impacts would be expected to occur.

Construction vehicles and equipment would generate greenhouse gas emissions, as discussed in Chapter 14, "Air Quality and Greenhouse Gas Emissions." However, the reduction of vehicle trips to and from the airport with the parking facility in operation would reduce emissions in the long term. Overall, the emissions reduced as a result of the proposed project would outweigh the emissions generated during construction. The construction of a conventional parking facility of a similar size would likely require more construction material and result in more GHG emissions than the proposed garage. Therefore, even though GHG emissions would be generated to construct the proposed project, over the project lifetime, GHG emissions associated with the proposed project would be reduced, and there would be a considerable net benefit.

NOISE

Construction of the proposed parking facility would typically generate noise and vibration from construction equipment, construction vehicles, worker traffic, and delivery vehicles traveling to and from the project site. Noise levels caused by construction activities would vary widely, depending on the phase of construction—demolition, excavations, foundation, construction of the structures, etc.—and the specific task being undertaken. All construction activities would be conducted in full compliance with existing regulations, including local day and hour construction limitations. As noted, consistent with the Town Code, construction activity would only take place between the hours of 7:30 am and 7:00 pm Monday through Friday and between 8:00 am and 5:00 pm on Saturdays.

Any construction activity would also comply with code requirements that prohibit noise levels exceeding 75 dB(A) when measured at a distance of 400 feet from the property line between the hours of 8:00 am and 6:00pm and 65dB(A) during all other hours. Note the project site is located in a commercial district and construction noise would, therefore, not have a significant adverse impact on the local residential population.

Local, state, and federal requirements mandate that certain classifications of construction equipment and motor vehicles be used to minimize adverse impacts. Thus, construction equipment would meet specific noise emission standards. Usually, noise levels associated with construction and equipment are identified for a reference distance of 50 feet, as shown in **Table 17-1**.

Significant noise levels typically occur nearest the construction activities, and may reach as high as 90 A-weighted decibels (dBA) under worst-case conditions. The level of noise impacts at local receptors would depend on the noise characteristics of the equipment and activities involved, the hours of operation, and the location of sensitive noise receptors. Noise levels would decrease with distance from the construction site. Increased noise levels due to construction activity can be expected to be most significant during the early construction phases such as clearing and excavation, which would be relatively short in duration (approximately three months) and intermittent based on the equipment in use and the work being done.

While the exact sequence and duration of construction activity would vary slightly, it is known that certain equipment including excavators, bulldozers, backhoes, cranes, graders, and dump trucks would be required. **Table 17-2** provides a list of equipment that would be necessary in addition to the duration that equipment would be used on site.

As mentioned above, all construction traffic would be expected to use I-684 and NYS Route 120, both of which are major roadways and truck routes. In the applicant's opinion, since this area is already experiencing vehicle (including truck) traffic, the noise from construction traffic traveling to and from the project site would not be a significant increase over present conditions.

Construction operations, for some limited time periods, would result in temporary increased noise levels. However, as described in Chapter 15, "Noise," ambient noise levels are already relatively high. Any significant increase in ambient noise levels would be temporary. In the applicant's opinion, since the nearest residence is approximately 450 feet away from the project site on King Street, noises would not be expected to affect any residential neighborhoods. Therefore, in the applicant's opinion, because these noise effects would be temporary in nature and would typically occur during daytime hours, no significant adverse noise impacts would be expected to occur.

Table 17-1
Typical Noise Emission Levels For Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83[1]
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90[2]
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89[3]

Notes:

[1] Wood, E.W., and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.

[2] New York State Department of Environmental Conservation, *Construction Noise Survey, Report No. NC-P2*, Albany, NY, April 1974.

[3] F.B. Foster Company, Foster *Vibro Driver/Extractors, Electric Series Brochure*, W-925-10-75-5M.

Sources: Patterson, W.N., R.A. Ely, And S.M. Swanson, *Regulation of Construction Activity Noise*, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

Table 17-2
Construction Vehicle Numbers and Schedule

Equipment	Duration	Construction Period
2 Excavators/Bulldozers	3 months (intermittently)	Site Preparation
2 Backhoes	3 months	Foundations/Utilities
Crawler Crane	4 months	Precast Structure/Skin Erection
Crane and/or Conveyor	1 Week	Hoisting roof equipment and materials
2 Graders/Rollers	1 Week	Pavement Preparation
Dump Trucks	3-4 Months	Site Preparation
Dump Trucks	1 Month	Foundations/Utilities
Dump Trucks	1 Month	Final Site Preparation
140 Concrete Trucks	3 Months	Foundations
200 Concrete Trucks	(2) 2 week periods	Concrete Slabs

INFRASTRUCTURE

The proposed parking facility would be constructed in a single phase and all infrastructure connections would be made during early stages of the construction process when foundations are poured. Since the proposed project would not require any off-site utility upgrades, disruptions to the surrounding area would be limited. The applicant does not anticipate the need to disrupt any local utility services to surrounding uses, but if disruptions are necessary, they would be brief and last for no more than a few minutes. Therefore, there would not be any significant adverse impacts related to utility connections.

D. MITIGATION MEASURES

In the applicant's opinion, construction of the proposed project would not result in any significant adverse impacts onsite or in the surrounding area with regard to traffic, noise, air quality, water resources, or utilities; therefore no mitigation measures are proposed. The practices discussed above, including implementation of the Erosion and Sediment Control Plan, Best Practices, and construction management techniques would reduce any potential temporary conditions related to erosion and sedimentation. Since a landscape plan will be implemented, all temporary site disturbances would ultimately be restored and landscaped.

Specifically with regard to erosion and sediment control, inspection and maintenance of proposed management features would be important to ensure that the erosion and sediment control practices that are part of the SWPPP continue to be effective in preventing sediment and other pollutants from entering the stormwater system. It is the responsibility of the owner to ensure that inspections are completed in accordance with SPDES GP-0-10-001.

As a part of the SWPPP inspection and maintenance activities during construction, forms would be updated and kept on-site, including:

- Erosion and Sediment Control Inspection Report
- Monthly Summary of Inspection Activities
- Record of Stabilization and Construction Activities (used when five acres or more would be disturbed at any given time).

Inspections would be conducted by the qualified inspector periodically according to the schedule required by the SPDES GP 0-10-001. During each inspection, the qualified inspector would record the areas of disturbance, deficiencies in erosion and sediment control practices, required maintenance, and areas of temporary or permanent stabilization. The need for modifications to the Erosion and Sediment Control Plan would be identified and implemented immediately.

All maintenance would be completed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. Any material removed from the implementation of erosion and sediment control measure would be properly disposed. Disturbed areas and materials storage areas would be inspected for evidence of potential pollutants entering stormwater systems.

All measures would be maintained in good working order; if repairs are found to be necessary, the qualified inspector would notify the owner or operator and appropriate contractor (and subcontractor) of any corrective actions needed within one business day.

The Town of North Castle and the New York City Department of Environmental Protection have the authority to enforce compliance with the approved SWPPP. Should compliance not be

maintained, these entities can place a stop work order on the project development and fine the parties found responsible for violations.

Before commencing construction, the proposed project would have in place full financing and the applicant would seek to recoup construction investments immediately by ensuring a timely completion of construction and full operations as soon as possible. To ensure that construction takes place as efficiently as possible, the applicant would prepare a detailed construction management plan that minimizes any downtime at the construction site. ✷

A. INTRODUCTION

The State Environmental Quality Review Act (SEQRA) and its implementing regulations require the consideration of project alternatives, which are formulated in response to potential impacts of the proposed project. The adopted Scope for the Park Place DEIS requires consideration of seven alternatives for reasonable comparison to the proposed project, as identified below. Potential environmental impacts from each of these alternatives have been analyzed to a level of detail sufficient to allow reasonable comparison with the proposed project. Each of the subject areas analyzed in this DEIS have been analyzed for each of these alternatives. Using conclusions from the preceding chapters, the potential impacts of each alternative are compared to the potential impacts of the proposed project. **Table 18-1** summarizes the comparative analysis of potential impacts of the project alternatives.

ALTERNATIVE A: REDUCED SIZE PARKING FACILITY

ALTERNATIVE A1: 500 CAR CONVENTIONAL PARKING FACILITY

Alternative A1 assumes a conventional (i.e., self-park) parking structure with a capacity of 500 cars. As shown in **Figure 18-1** later in this chapter, this alternative would require a structure with a smaller footprint than the proposed project, but would require greater floor space per vehicle, and would have a greater relative footprint.

ALTERNATIVE A2: 1,000 CAR VALET PARKING FACILITY

Alternative A2 assumes a valet parking facility with a capacity of 1,000 cars. The valet function would allow a structure with a smaller footprint than the proposed project, but would require an increase in its height from 5 ½ stories to 6 stories (see **Figure 18-2** later in this chapter).

ALTERNATIVE B: REDUCED HEIGHT PARKING FACILITY

This alternative would reduce the height of the parking structure, thereby reducing the visibility of the parking facility in comparison to the proposed project. See **Figure 18-3** for the conceptual layout of this alternative.

ALTERNATIVE C: REDUCED WETLAND IMPACT ALTERNATIVE

This alternative would limit development of the project site to areas that are currently developed, thereby eliminating any new disturbance to on-site wetlands and wetland buffers (see **Figure 18-4)**.

ALTERNATIVE D: NO WETLAND IMPACT ALTERNATIVE

This alternative would avoid development within Town-regulated wetlands and wetland buffer areas. In addition, all stormwater facilities would be located on the main subject parcel (i.e, Lot 14B) (see **Figure 18-5**).

ALTERNATIVE E: ALTERNATIVE USE

This alternative assumes the project site would be developed for office use under existing zoning regulations and be constructed to maximum buildout per existing lot and bulk dimensional standards. The conceptual layout of this alternative is shown in **Figure 18-6** later in this chapter.

ALTERNATIVE F: NO ACTION ALTERNATIVE

This alternative assumes the proposed project would not move forward and the existing use and condition of the project site would continue.

Table 18-1
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Project Description								
Type of Facility	Automated	Self-Park	Valet	Self-Park	Self-Park	Self-Park	Office	Office
Building Coverage (% of Lot 14B)	50,915 sf (47 %)	32,400 sf (30 %)	41,720 sf (39 %)	51,000 sf (47 %)	24,400 sf (23 %)	14,250 sf (13 %)	16,000 sf (15 %)	9,732 sf (9 %)
Impervious Surface Coverage (% of Lot 14B)	60,215 sf (56 %)	40,000 sf (37 %)	47,000 sf (44 %)	60,300 sf (56 %)	31,400 sf (29 %)	22,750 sf (21 %)	28,500 sf (26 %)	34,065 sf (32 %)
Gross Floor Area	267,000 sf	162,000 sf	250,320 sf	153,000 sf	122,000 sf	71,250 sf	32,000 sf	9,732 sf
Building Height	56 ft	56 ft	65 ft	35	56	56	25	15
Number of Levels/Floors	5.5	5	6	3	5	5	2	1
Number of Parking Spaces and Parking Design (as analyzed in this chapter)	Automated: 1,450	Self-Park: 500	Valet: 1,000	Self-Park: 450	Self-Park: 350	Self-Park: 210	Self-Park: 65	Self-Park: 35
*Other Parking Scenarios (For Comparison Purposes Only)**	*Self-Park: 809* *Valet: 1,214*	*(See Note Below)***	*(See Note Below)***	*Automated: 832* *Valet: 612*	*Automated: 663* *Valet: 488*	*Automated: 387* *Valet: 285*	*N/A*	*N/A*
NOTE: **This chapter evaluates the design scenario (i.e., automated, self-park, or valet) for each alternative that, in the applicant's opinion, would be the most viable scenario for each alternative based on building size, site characteristics, and economic considerations, as discussed further in this chapter. However, parking provisions for other scenarios are provided in this table for comparison purposes only.* ***Pursuant to the adopted Scope, Alternatives A1 and A2 specifically evaluate 500 and 1,000 cars, respectfully. Therefore, the number of parking spaces would not change for each design scenario (i.e., automated, self-park, and valet), but the gross floor area and building footprint would change in order to accommodate the dimensional requirements associated with each type of design. As detailed further in this chapter, space requirements are as follows: self-park – 330 sf/vehicle; valet – 250 sf/vehicle; automated – 184 sf/vehicle.*							
Land Use, Community Character, Zoning, and Public Policy								
Land Use and Community Character	Consistent	Consistent	Consistent, Greater Impact	Consistent	Consistent	Consistent	Consistent	Consistent
Complies with Existing Zoning	No	No	No	No	No	No	Yes	Yes
Complies with Proposed Zoning Amendments	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Public Policy	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent

Table 18-1 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Visual Resources								
Visual Impact	No Significant Adverse Impact	Similar	Greater Impact	Similar	Similar	Similar	Lesser Impact	No Impact
Cultural Resources								
Historic and Architectural Resources	No Adverse Impact	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact)	No Impact
Archaeological Resources	No Adverse Impact	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact)	Same (No Adverse Impact)	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact) (smaller APE)	Same (No Adverse Impact) (smaller APE)	No Impact
Natural Resources								
Limit of Disturbance Area (i.e., Habitat Disturbance)	122,078 sf	80,000 sf	102,200 sf	122,078 sf	72,770 sf	26,900 sf	58,800 sf	0 sf
T/E Species	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Geology, Soils, Topography, and Slopes								
Limit of Disturbance Area	122,078 sf	80,000 sf	102,200 sf	122,078 sf	72,770 sf	26,900 sf	58,800 sf	0 sf
Bedrock Disturbance	None	None	None	None	None	None	None	None
Steep Slopes Disturbance (≥ 25% slopes)	10,223 sf	8,881 sf	9,022 sf	10,223 sf	4,300 sf	960 sf	3,567 sf	0 sf
Total Excavated Material	25,075 CY	Lesser Impact	Lesser Impact	25,075 CY	Lesser Impact	Lesser Impact	Lesser Impact	No Impact
Excess Excavated Material	24,675 CY	Lesser Impact	Lesser Impact	24,675 CY	Lesser Impact	Lesser Impact	Lesser Impact	No Impact
Water Resources								
Wetlands Disturbance	5,699 sf	None	None	5,699 sf	None	None	None	None
Watercourse Disturbance	None	None	None	None	None	None	None	None
Wetland and Watercourse Buffers Disturbance	79,680 sf	32,183 sf	66,172 sf	79,680 sf	41,162 sf	0 sf	26,812 sf	0 sf

Table 18-1 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Water Resources (cont'd)								
Impervious Surface Coverage within Wetland and Watercourse Buffer Areas	33,486 sf	18,111 sf	26,367 sf	34,889 sf	10,255 sf	0 sf	7,450 sf	12,132 sf
Pervious Paver Coverage within Wetland and Watercourse Buffer Areas	5,769 sf	2,718 sf	3,734 sf	6,098 sf	3,667 sf	0 sf	2,742 sf	0 sf
Stormwater Management								
Impervious Surface	60,215 sf	40,000 sf	47,000 sf	60,300 sf	31,400 sf	22,750 sf	28,500 sf	34,065 sf
Lot 13A Treated	Yes	Yes	Yes	Yes	Yes	No (Greater Impact; Stormwater from Lots 14B and 13A would continue to be untreated)	Yes	No (Greater Impact; Stormwater from Lots 14B and 13A would continue to be untreated)
Community Services								
Police, Fire and EMS	No Significant Adverse Impact	Similar (Less Security)	Similar (Less Security, Greater Building Height)	Similar (Less Security, Lower Building Height)	Similar (Less Security)	Similar (Less Security)	Similar (Lower Building Height)	No Impact
Infrastructure and Utilities								
Water and Wastewater	1,345 gpd (No Adverse Impact)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Similar (Potentially Less Water/ Wastewater Demand)	Greater Impact (Potentially Greater Water/ Wastewater Demand)	No Impact
Solid Waste	406-471 lbs/wk (No Adverse Impact)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar (Potentially Less Solid Waste Generation)	Similar	No Impact
Energy	1.77 kWh (No Adverse Impact)	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Impact

Table 18-1 (cont'd)
Comparison of Alternatives

Potential Impacts	Proposed Project	Alternative A1 (500 Cars)	Alternative A2 (1,000 Cars)	Alternative B (Reduced Height)	Alternative C (Reduced Wetland Impact)	Alternative D (No Wetland Impacts)	Alternative E (Alternative Use)	Alternative F (No Action)
Economic Conditions								
Construction Employment (Direct and Indirect Jobs)	162 person-years (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Impact
Annual Property Tax Contribution (Town, County, and Schools)	$248,864 (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	$46,373
Economic Activity from Construction	$32.49 Million (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Impact
Traffic and Transportation								
Reduces Traffic in Study Area	Yes (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	Yes (Lesser (Beneficial Impact)	No (Greater Impact)	No Impact
Air Quality and Greenhouse Gas Emissions								
Reduced Emissions in Study Area	Yes (Beneficial Impact)	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	Lesser Beneficial Impact	No Change
Noise								
Noise Impacts	No Adverse Impacts	Similar Impact	Similar Impact	Similar Impact	Similar Impact	Similar Impact	Similar Impact	No Change
Hazardous Materials								
	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts	No Impact
Construction								
	No Adverse Impacts	Slightly Lesser Impact	Similar Impact	Similar Impact	Slightly Lesser Impact	Slightly Lesser Impact	Slightly Lesser Impact	No Impact

Notes: Terms herein, such as "greater", "slightly greater", "same", "similar", "slightly less" or "less," refer to comparisons with the Proposed Project.
Data shown for alternatives are approximations, for comparison purposes only.

B. EVALUATION OF ALTERNATIVES

ALTERNATIVE A: REDUCED SIZE PARKING FACILITY

ALTERNATIVE A1: 500 CAR CONVENTIONAL PARKING FACILITY

Note: It is important to note that the space requirements, site disturbance, and operating characteristics for a 500-car parking facility would vary depending on whether the facility is self-park (i.e., 330 square feet of floor area per vehicle); valet (i.e., 250 square feet per vehicle); or automated (184 square feet per vehicle[1]). Although both an automated system and a valet operation would require less space per vehicle, in the applicant's opinion, neither would yield an acceptable return on the investment at 500 cars. As such, a self-park scenario was analyzed.

Alternative A1: 500 Car Conventional Parking Facility (Alternative A1) would be a reduced size parking facility to allow for a smaller building footprint than the proposed project, a smaller area of impervious surface, and therefore a smaller area of overall disturbance. However, this alternative would also require greater space per vehicle and not be as compact as the proposed project. **Figure 18-1** provides a comparison plan of this alternative against the proposed project. This figure depicts a sketch plan of the alternative generated solely for comparison with the proposed project.

As shown in **Figure 18-1**, the layout of the site and its functional aspects would be similar to the proposed project in terms of site ingress and egress. The parking facility would be approached via an existing access drive from New King Street. Similar to the proposed project, a shuttle bus stop would be provided on-site to transport customers to the Westchester County Airport terminal.

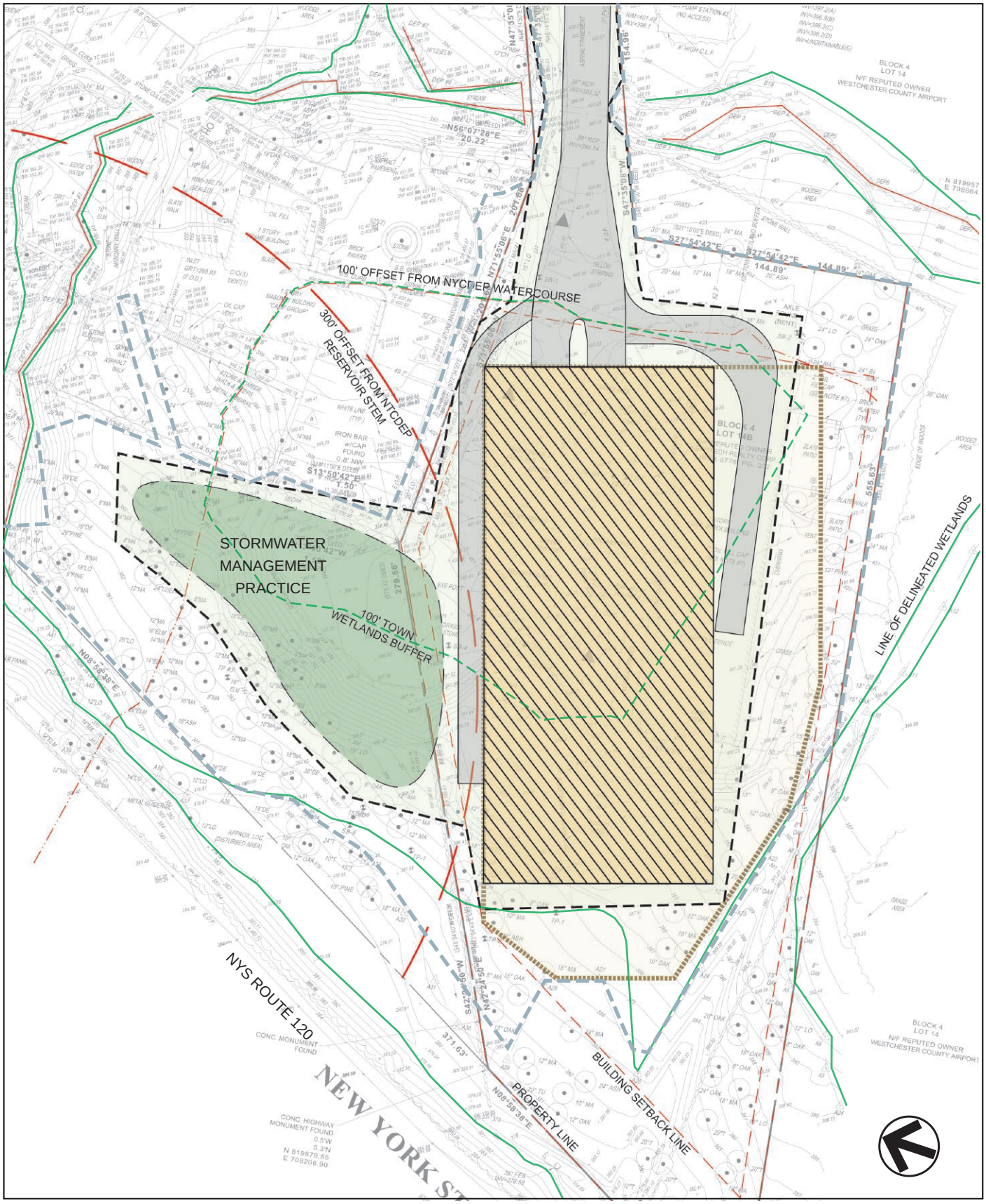
As with the proposed project, the parking structure under this alternative would be intended to alleviate existing parking deficiencies at Westchester County Airport. The reduced size alternative is intended to evaluate the advantages and disadvantages of a parking structure that requires less site disturbance than the proposed project. The 500-car parking facility would operate as a conventional self-park garage, in a structure with a building footprint of approximately 32,400 square feet, and a gross floor area of 162,000 square feet. The size of the structure is based on industry standards for a self-park facility of 330 square feet per car. The per-parking space allowance accounts for the size of each parking space, as well as circulation needs. Similar to the proposed project, the structure would measure approximately 56 feet above average grade. While the size of the building footprint in Alternative A1 would be smaller than the proposed project, it would require a proportionately larger footprint for the number of cars it could accommodate.

Land Use, Zoning, and Public Policy

As with the proposed project, this alternative would result in a change of land use on the project site from a one-story office building to a five-story parking structure. The immediate vicinity is dominated by office buildings and high-volume transportation uses, such as I-684 and Westchester County Airport. In the applicant's opinion, the use of the property as a parking

[1] Based on conditions of the proposed project (i.e., gross floor area of 267,000 square feet to accommodate 1,450 spaces), the floor area required per vehicle for an automated facility used in this and subsequent analyses is 184 square feet per vehicle. This is an approximation for comparison purposes only.

1.14.11



NOT TO SCALE

- Building Footprint of Alternative
- Building Footprint of Proposed Project
- Limit of Disturbance of Alternative
- Limit of Disturbance of Proposed Project

PARK PLACE at Westchester Airport

Alternative A-1: Reduced Size Facility - 500 Cars

Figure 18-1

facility would be appropriate given this context and would not result in a significant adverse impact to land use.

As would be required for the proposed project, Alternative A1 would require a zoning amendment to allow parking structures within the IND-AA zoning district with a special use permit. A set of standards would be established to regulate location and dimensional aspects of parking structures to ensure they are developed in appropriate areas and that they do not diminish the character of the Town. The parking facility under this alternative would conform to setback and other dimensional requirements established by the proposed zoning amendments.

Alternative A1 would develop an already developed site, thereby minimizing environmental impacts. Although Alternative A1 would have a smaller footprint than the proposed project, it would not allow for a compact design, and would therefore require greater floor space per vehicle. This alternative would require greater site disturbance per vehicle accommodated. This alternative would support economic initiatives encouraged by the Town and County by increasing the tax base for the Town of North Castle, although it would have reduced positive fiscal impacts on the community as compared to the proposed project, in the applicant's opinion. Further, in the applicant's opinion, this alternative would not sufficiently respond to existing parking demand at Westchester County Airport and would serve fewer customers. Based on industry standards, an airport of Westchester County Airport's size and level of activity, and within its geographic context, has a parking demand of approximately three spaces per 1,000 annual enplanements. The airport currently experiences approximately one million enplanements per year; therefore, parking demand is estimated at approximately 3,000 spaces.[1] The airport currently has a parking garage with 1,100 spaces and an overflow lot with about 400 spaces.

Visual Resources

This alternative would have a smaller building footprint than the proposed project, but the height of the structure would be similar to that of the proposed project, which is approximately 56 feet above average grade. Due to the scale of the project, the overall perceived massing of the site in this alternative would also be similar to the proposed project.

The ventilation requirements for conventional parking facility would limit the opportunities for aesthetic design techniques aimed at improving the visual quality of the structure. The structure would have the appearance of a partially-open conventional parking facility in contrast to the proposed project which incorporates a fully enclosed structure. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable. The use of evergreen screening would further reduce the potential for visual impacts.

The ¼ -mile study area already includes several office buildings and airport related uses. As such, in the applicant's opinion, the parking facility in Alternative A1 would not alter the office/industrial character of the study area. Although the structure would be taller than most other buildings within its immediate environs, as is the case with the proposed project, it is the applicant's opinion that the structure would not result in a significant adverse visual impact.

[1] Walker Parking Consultants, November 2009.

Cultural Resources

The building footprint under this alternative would be 32,400 square feet, as compared to a building footprint of approximately 51,000 square feet associated with the proposed project. In addition the total area of disturbance for Alternative A1, which includes the driveways and stormwater management features, would be approximately 40,000 square feet smaller than that in the proposed project. This would consequently reduce the area of potential effect (APE).

Some of the portions of the stone walls currently located on the project site which would be removed as part of the proposed project could potentially remain in this alternative due to the reduction in the size of the building footprint and disturbance area. However, these stone walls are not listed on, nor are they eligible for the State or National Register of Historic Places (S/NR).

As detailed in Chapter 5, "Cultural Resources," there are no known or potential architectural resources on the project site or within the study area. In addition, the Phase I archaeological survey determined that archaeological resources are not present within the project site. Therefore, no significant adverse impacts on architectural or archaeological resources would be expected to result from the Reduced Size Parking Facility.

Natural Resources

Since Alternative A1 would reduce the total area of disturbance by approximately 40,000 square feet from the disturbance area of the proposed project, it would minimize potential impacts to natural resources. Alternative A1 would cause disturbance to an area of approximately 32,200 square feet within the 100-foot Town-regulated wetland buffer area and the NYCDEP 100-foot limiting distance. This represents a 60 percent reduction in disturbance to both buffer areas when compared to the proposed project. However, it is noted that approximately 35,200 square feet of the wetland and watercourse buffer areas on the project site are currently disturbed by the existing office building and accessory parking and lawn areas. Approximately, 12,100 square feet of impervious surfaces is currently located within the buffer with an additional 23, 100 square feet of mowed and maintained lawn area within the buffer area. This alternative would not require any disturbance within the delineated wetlands on the site. A small portion of the pervious fire/stormwater maintenance path, and the entirety of the stormwater management area, would be located within the 300-foot buffer of the NYCDEP Reservoir Stem.

The reduction in the total area of disturbance would also reduce the total number of trees to be removed from 122 in the proposed project to about 43 in Alternative A1. It would also reduce the amount of understory vegetation and groundcover removed from the project site. Although fewer disturbances to wildlife habitat would result under this alternative, since no protected wildlife species or significant wildlife habitats have been identified on the project site, impacts to wildlife would be similar to that of the proposed project.

Geology, Soils, Topography, and Slopes

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion or to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. Alternative A1 would require less excavation of soil material than the proposed project, and a similar amount of excavated material would be used as fill in the re-grading of the construction area. Therefore, less net excess material would be exported to an off-site location. Disturbance to slopes greater than 25 percent in this alternative would total approximately 8,900 square feet and comprise approximately 11 percent of the overall area of

site disturbance for this plan, as compared to 10,223 square feet, or roughly eight percent, of the area to be disturbed with the proposed project.

As with the proposed project, to prevent the potential negative effects of soil erosion, Alternative A1 would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the New York City Department of Environmental Protection (NYCDEP). It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Similar to the proposed project, Alternative A1 would be limited to a single construction phase, and blasting would not be anticipated.

Groundwater Resources

Similar to the proposed project, Alternative A1 would require the installation and testing of a new bedrock supply well to meet the anticipated water demands. The existing on-site supply well would be decommissioned in accordance with applicable New York State Department of Health (NYSDOH) requirements. Design and use of aquifer resources for potable water supply are regulated by the NYSDOH and the Westchester County Department of Health (WCDOH). In the applicant's opinion, direct impacts to groundwater resources on and adjacent to the project site resulting from Alternative A1 would not be significant. A pumping test program, which would include a water budget analysis and testing of the proposed water supply well, would be needed to determine the quantity of available water, the ability for the aquifer to satisfy the proposed water demand, the safe yield requirements for the proposed potable well, and the potential for impacts to adjacent groundwater resources. Installation, testing, and usage of the new well would be completed in accordance with all applicable NYSDOH and WCDOH requirements. Engineering design measures implemented during construction and after project completion would preserve groundwater quality and promote a sustainable groundwater resource system. In the applicant's opinion, as with the proposed project, with the implementation of the above measures, significant impacts to groundwater resources are not expected.

Surface Water Resources

Alternative A1 would not result in direct disturbance of the regulated surface water resources on or adjacent to the site. Disturbance within the 100-foot Town regulated wetland and watercourse buffer, and the 100-foot NYCDEP watercourse limiting distance, would result from development of Alternative A1. This alternative would disturb approximately 32,000 square feet of the 100-foot wetland buffer area and NYCDEP 100-foot limiting distance, as compared to approximately 76,700 square feet with the proposed project. Similar to the proposed project, a

permit from the Town and a variance from NYCDEP, for the portion of that area to be disturbed that falls within the 100-foot limiting distance from the City protected stream, would be required. In the applicant's opinion, the Alternative A1 disturbance would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that would be part of Alternative A1 would have a beneficial impact on the quality of water that drains into Kensico Reservoir.

Stormwater

This alternative would result in roughly 40,000 square feet of impervious surface coverage on the project site, as compared to approximately 60,200 square feet with the proposed project. Therefore, stormwater management facilities for this alternative would be sized smaller than for the proposed project. As with the proposed project, adequate stormwater treatment practices would be put in place to detain and treat stormwater runoff from both Lots 14B and 13A to protect ground and surface water resources. Similar to the proposed project, Alternative A1 would treat stormwater runoff for existing impervious surfaces on Lot 13A, which is currently untreated and discharges directly into the downstream wetland and watercourse.

Community Facilities and Services

As with the proposed project, it is not anticipated that this alternative would require any changes to existing community facilities or services. In the applicant's opinion, existing municipal services would be able to accommodate the Alternative A1 parking facility. Similar to the proposed project, an emergency access lane would be provided along the southern portion of the property designed to accommodate fire apparatuses. However, this alternative could potentially pose higher security risks in comparison to the proposed project. The proposed project would include an enclosed structure that would limit access to the interior of the parking facility to employees, but a self-park facility would be freely accessible. Customers and the general public would have access to the interior of the structure where cars would be parked for extended periods of time with lesser security measures and only basic maintenance services.

Infrastructure and Utilities

Water demand and wastewater flow under this alternative would be expected to be less than the proposed project due to a fewer number of employees and customers. Similar to the proposed project, water demand would be minimal and adequately accommodated by existing groundwater resources. The existing municipal sewer system would be able to accommodate any wastewater flow. This alternative would not require electricity to operate any automated robotic equipment but it would result in significantly greater lighting demands as the entire facility would be accessible to customers and require 24-hour illumination, unlike the proposed project. The proposed parking facility under this alternative, as with the proposed project, would not be expected to be a significant solid waste generator and would not have any adverse impacts on carting service providers. Therefore, in the applicant's opinion, as with the proposed project, no significant adverse impacts relating to infrastructure and utilities are anticipated under this alternative.

Economic Conditions

Similar to the proposed project, Alternative A1 would result in the relocation of three businesses in the existing office building. However, there is available office space at comparable rents in

North Castle and in the surrounding area for businesses wishing to relocate. The relocation of three businesses is not considered a significant adverse impact to economic conditions.

Alternative A1 would result in economic benefits during construction and during annual operations; however, these benefits would not be as great as the proposed project's since the capacity of the garage would be smaller. It is anticipated that the property taxes generated by Alternative A1 would be greater than existing property taxes, but due to its smaller scale it would generate less property tax revenue for the Town of North Castle, Westchester County, and the Byram Hills Central School District than the proposed project. It would also generate less income due to fewer customers served, further reducing positive fiscal benefits to the Town.

Traffic and Transportation

As with the proposed project, this alternative would provide greater opportunities for airport customers to drive private automobiles to the airport than under existing conditions, rather than use pick-up/drop-off services, which create two round trips per customer. This alternative would be expected to reduce traffic in the study area but would have a comparatively smaller positive impact than the proposed project due to its reduced parking capacity. In the applicant's opinion, this alternative would not adequately meet existing demand for parking at the airport, as discussed above, and would encourage people to continue using car services. In addition, the existing condition of people traveling between the various parking facilities in search of parking would continue.

Air Quality and Greenhouse Gas Emissions

Under this alternative, the proposed parking garage would be a conventional structure (i.e., self-park). Therefore, vehicles would circulate and idle within the structure. This type of structure would result in greater vehicle emissions than the proposed project. Instead of customers parking in a loading bay at the garage entrance, turning the ignition off and then being transported via battery-operated machines, automobiles would be driven into the structure to look for a parking space. Overall traffic in the study area would be reduced, but as discussed above, this alternative would result in the continued use of car services, creating two round trips per customer and greater vehicle emissions.

Noise

As is the case with the proposed project, this alternative would not result in any significant change in noise level. Land use on the project site would change from an office building to a parking facility, but ambient noise level is dominated by nearby NYS Route 120, I-684 and Westchester County Airport. Similar to the proposed project, noise levels on the project site and several area intersections would increase slightly, having negligible impacts on sensitive receptors.

Hazardous Materials

As with the proposed project, this alternative would require deconstruction of an existing office building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations. This alternative would present no significant adverse impacts related to hazardous materials.

Construction

As is the case with the proposed project, construction activity under this alternative would be short-term and would be of limited intensity. Construction under this alternative would have a shorter duration than the proposed project, due to its smaller size, but would still require similar equipment and transportation of materials having similar effects as the proposed project. As with the proposed project, there would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE A2: 1,000 CAR VALET PARKING FACILITY

Note: It is important to note that the space requirements, site disturbance, and operating characteristics for a 1,000-car parking garage would vary depending on whether the facility is self-park (i.e., 330 square feet of floor area per vehicle); valet (i.e., 250 square feet per vehicle); or automated (184 square feet per vehicle). While an automated facility requires less space per vehicle, the 1,000-car alternative would have a greater financial risk (and a lower relative return) due to lower capacity, yet a facility cost structure that is similar to the proposed project. A self-park facility would require significantly greater space requirements, resulting in significantly greater site disturbance. As such, for the purpose of this evaluation, a valet parking facility was analyzed.

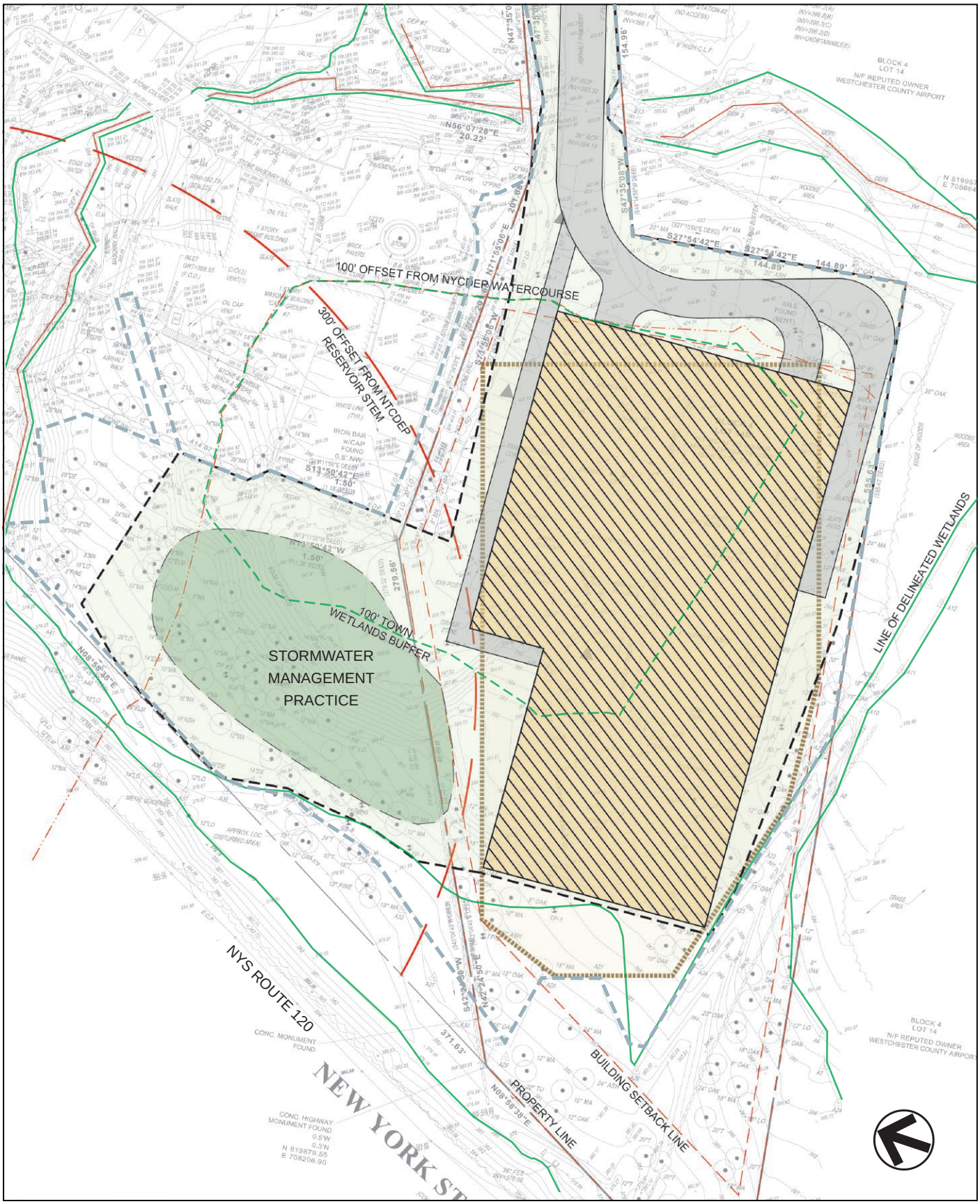
Alternative A2: 1,000 Car Valet Parking Facility (Alternative A2) analyzes a reduced size parking facility that would accommodate 1,000 cars in a six-level facility on the project site. This alternative considers a valet-type operation to reduce space requirements as compared to a conventional garage. The parking structure would have a building footprint of approximately 41,700 square feet, as compared to approximately 51,000 square feet with the proposed project. The height of the structure would measure 65 feet above average grade, which is nine feet taller than the proposed project. The design of this alternative is based on an industry standard of 250 square feet per parking space for valet-serviced structured parking. This number accounts for the size of each parking space, as well as circulation needs of a facility functioning with a valet service.

The total disturbance area of Alternative A2 would be slightly less than the proposed project. **Figure 18-2** provides a comparison plan of this alternative against the proposed project. This figure depicts a sketch plan of the alternative generated solely for comparison with the proposed project.

As shown in **Figure 18-2**, the layout of the site and its functional aspects would be similar to the proposed project in terms of site ingress and egress. The parking facility would be approached via an existing access drive from New King Street. Similar to the proposed project, a shuttle bus stop would be provided on-site to transport customers to the Westchester County Airport terminal.

As with the proposed project, the intent of constructing a valet parking facility with a capacity of 1,000 cars would be to alleviate existing parking deficiencies at Westchester County Airport. However, since it would accommodate fewer vehicles it would not adequately respond to existing parking demand at Westchester County Airport, in the applicant's opinion. As described above, parking at Westchester County Airport—based on a ratio of three spaces per 1,000 annual enplanements and current enplanement activity of approximately one million passengers per year—should be approximately 3,000 spaces. The airport currently provides approximately 1,500 spaces (1,100 spaces structured parking and 400 spaces in the overflow lot).

1.14.11



Building Footprint of Alternative

Building Footprint of Proposed Project

Limit of Disturbance of Alternative

Limit of Disturbance of Proposed Project

NOT TO SCALE

Alternative A-2: Reduced Size Facility - 1000 Cars

Figure 18-2

PARK PLACE at Westchester Airport

This alternative would require a proportionately larger building footprint and gross floor area for the number of parking spaces it would accommodate as compared to the proposed project. Beneficial impacts for air quality would be reduced by use of a valet instead of an automated parking system. As reflected in "Economic Conditions" in **Table 18-1**, the economic benefits to the Town and County are commensurately less, as is the opportunity to reduce traffic while simultaneously improving air quality in the study area.

Land Use, Zoning, and Public Policy

As with the proposed project, this alternative would result in a change of land use on the project site from a one-story office building to a six-story parking structure. The immediate vicinity is dominated by office buildings and high-volume transportation uses, such as I-684 and Westchester County Airport. The use of the property as a parking facility would be appropriate given this context. This new use would not result in a significant adverse impact to land use.

As would be required for the proposed project, Alternative A2 would require a zoning amendment to allow parking structures within the IND-AA with a special use permit. The height of this structure, at 65-feet, would exceed the height regulations of the proposed zoning amendments for parking garages in the IND-AA district (i.e., 60 feet). A set of standards would need to be established to regulate the location and dimensional aspects of this type of a parking structure to ensure they are developed in appropriate areas and that they do not diminish the character of the Town. The parking facility under this alternative would conform to setback and other dimensional requirements established by the proposed zoning amendments.

This alternative would reduce site disturbance and increase the assessed value of the project site, but it would not take full advantage of its economic potential compared with the proposed project. This alternative would not allow for compact design and would require more site disturbance per vehicle than the proposed project. However, this alternative would develop an already developed site, minimizing environmental impacts.

Visual Resources

This alternative would have a moderately smaller building footprint than the proposed project, but, at 65-feet, the structure would be approximately nine feet taller. The additional height would increase the visibility of the parking facility. Due to its scale, the overall perceived massing of the facility under this alternative would be similar to the proposed project.

The ventilation requirements for a valet parking facility would limit the opportunities for aesthetic design techniques aimed at improving the visual quality of the structure. The structure would have the appearance of a partially-open conventional parking facility in contrast to the proposed project which would be a fully enclosed structure. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable. The use of evergreen screening would further reduce the potential for visual impacts.

The ¼ -mile study area already includes several office buildings and airport related uses. As such, in the applicant's opinion, the parking facility in Alternative A2 would not alter the office/industrial character of the study area. Although the structure would be taller than most other buildings within its immediate environs, as is the case with the proposed project, it is the applicant's opinion that the structure would not result in a significant adverse visual impact.

Cultural Resources

The building footprint under this alternative would be 41,720 square feet, as compared to a building footprint of approximately 51,000 square feet with the proposed project. In addition the total area of disturbance for Alternative A2, which includes the driveways and stormwater management features, would be approximately 20,000 square feet smaller than the proposed project. As such, the stormwater management features would be sized proportionately smaller than the proposed project. Therefore, this alternative would have a smaller total area of disturbance than the proposed project, which would consequently reduce the area of potential effect.

Portions of the stone walls currently located on the project site which would be removed as part of the proposed project could potentially remain under this alternative due to the reduction in the size of the building footprint and disturbance area. However, these stone walls are not listed on or eligible for the S/NR.

Since there are no known or potential architectural resources within the project site or study area, and the Phase I archaeological survey determined that archaeological resources are not present on the project site, no adverse impacts to architectural or archaeological resources would be expected to result from Alternative A2, similar to the proposed project.

Natural Resources

Alternative A2 would reduce the total area of disturbance from the proposed project by approximately 20,000 square feet. As such, it would reduce potential impacts to natural resources. Alternative A2 would disturb an area of approximately 66,200 square feet within the 100-foot Town-regulated wetland buffer area and the NYCDEP 100-foot limiting distance for a regulated watercourse. This represents a reduction in disturbance to both buffer areas by approximately17 percent as compared to the proposed project. Similar to the proposed project, a small portion of the pervious stormwater management access path and the entirety of the stormwater management area, as well as a portion of the emergency fire access path, would be located within the 300-foot buffer of the NYCDEP Reservoir Stem. There would be no disturbance within the delineated wetlands on the site.

The reduced area of disturbance would result in fewer trees being removed from 122 in the proposed project to about 82 in Alternative A2. It would also reduce the amount of understory vegetation and groundcover removed from the project site. Although fewer disturbances to wildlife habitat would result under this alternative, since no protected wildlife species or any significant wildlife habitats have been identified on the project site, significant impacts to wildlife would not be expected, similar to the proposed project.

Geology, Soils, Topography, and Slopes

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion and to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. Alternative A2 would require less excavation of soil material than the proposed project and a similar amount of excavated material would be used as fill in the regrading of the construction area. Therefore, less material would be exported to an off-site location. Disturbance to slopes greater than 25 percent in this alternative would total approximately 9,000 square feet and comprise approximately nine percent of the overall area of site disturbance for this plan as compared to 10,223 square feet, or roughly eight percent, of the area to be disturbed with the proposed project.

As with the proposed project, to prevent the potential adverse effects of soil erosion, Alternative A2 would conform to the requirements of the NYSDEC SPDES General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a SWPPP, containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the NOI to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by NYCDEP. It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Alternative A2 would be limited to one construction phase, and the use of blasting would not be anticipated.

Groundwater Resources

Similar to the proposed project, Alternative A2 would require the installation and testing of a new bedrock supply well to meet the anticipated water demands. The existing on-site supply well would be decommissioned in accordance with applicable NYSDOH requirements. Design and use of aquifer resources for potable water supply are regulated by NYSDOH and WCDOH. In the applicant's opinion, direct impacts to groundwater resources on and adjacent to the project site resulting from Alternative A2 would not be significant. A pumping test program, which would include a water budget analysis and testing of the proposed water supply well, would need to be completed to determine the quantity of available water, the ability for the aquifer to satisfy the proposed water demand, the safe yield requirements for the proposed potable well, and the potential for impacts to adjacent groundwater resources. Installation, testing, and usage of the new well would be completed in accordance with all applicable NYSDOH and WCDOH requirements. Engineering design measures implemented during construction and after project completion would preserve groundwater quality and promote a sustainable groundwater resource system. In the applicant's opinion, as with the proposed project, with the implementation of the above measures, significant impacts to groundwater resources are not expected.

Surface Water Resources

Alternative A2 would not result in direct disturbance of the regulated surface water resources on or adjacent to the site. Similar to the proposed project, disturbance within the 100-foot Town regulated wetland and watercourse buffer, and the 100-foot NYCDEP watercourse limiting distance, would result from development of Alternative A2. Under this alternative, approximately 66,200 square feet of the 100-foot wetland buffer area and NYCDEP 100-foot limiting distance for a regulated watercourse would be disturbed, compared to approximately 79,700 square feet with the proposed project. Similar to the proposed project a permit from the Town and a variance from NYCDEP for the portion of that area to be disturbed that falls within the 100-foot limiting distance from the City protected stream, would be required. In the applicant's opinion, the Alternative A2 disturbance would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that

would be part of Alternative A2 would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

Stormwater

This alternative would result in roughly 47,000 square feet of impervious surfaces on the project site, as compared to approximately 60,200 square feet with the proposed project. Since this alternative would have less impervious surface coverage, it would require smaller stormwater management practices. Adequate stormwater treatment practices would be put in place to detain and treat stormwater runoff in order to protect important ground and surface water resources. As with the proposed project, stormwater management practices under this alternative would be designed to treat stormwater runoff from Lots 14B and 13A, both of which do not currently have any stormwater treatment systems. Consequently, untreated stormwater runoff discharges directly into wetlands and watercourses potentially carrying pollutants from parking areas and roofs. As with the proposed project, this alternative would work to improve water quality in nearby water resources.

Community Facilities and Services

As with the proposed project, it is not anticipated that this alternative would require any changes to the existing community facilities and services. In the applicant's opinion, existing services would be able to accommodate the parking facility under this alternative.

Infrastructure and Utilities

As is the case with the proposed project, no significant adverse impacts relating to infrastructure and utilities are anticipated under this alternative.

Economic Conditions

Similar to the proposed project, Alternative A2 would result in the relocation of three businesses currently housed in the existing office building. However, there is available office space at comparable rents in North Castle and the surrounding area for businesses wishing to relocate. The relocation of three businesses is not considered a significant adverse impact to economic conditions.

Alternative A2 would result in economic benefits during construction and during annual operations; however, these benefits would not be as great as the proposed project's since the capacity of the garage would be smaller. It is anticipated that the property taxes generated by Alternative A2 would be greater than existing property taxes, but due to its smaller scale it would generate less property tax revenue for the Town of North Castle, Westchester County, and the Byram Hills Central School District than the proposed project. It would also generate less income due to fewer customers served, further reducing positive fiscal benefits to the Town.

Traffic and Transportation

As is the case with the proposed project, this alternative would result in the positive impact of an overall reduction in the number of vehicle trips across the traffic network. In comparison to the proposed project the potential beneficial impacts would be proportionately less due to the reduced parking capacity in this alternative. Fewer vehicles would be removed from the roadway network, and there is the potential that the full demand could not be met, as discussed above, and the existing condition of people traveling between the various parking facilities in search of parking would continue.

Air Quality and Greenhouse Gas Emissions

Under this alternative, the proposed parking garage would be designed as a conventional valet parking structure. Therefore, valet attendants would circulate vehicles within the structure until a parking space is selected. This type of structure would result in greater vehicle emissions than the proposed project. Instead of customers parking in a kiosk at the garage entrance, turning the ignition off after which vehicles would be transported via battery-operated machines, valet attendants would need to drive until an occupied parking space is located.

Noise

As construction and operational conditions would be similar to those under the proposed project, this alternative would not result in any significant change in noise level. Land use on the project site would change from a small office building to a large parking facility, but ambient noise level is dominated by nearby NYS Route 120, I-684 and Westchester County Airport. Similar to the proposed project, noise levels on the project site and several area intersections would increase slightly, having negligible impacts on sensitive receptors

Hazardous Materials

As with the proposed project, this alternative would require deconstruction of an existing office building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations. This alternative would present no significant adverse impacts related to hazardous materials.

Construction

As is the case with the proposed project, construction activity under this alternative would be short-term and would be of limited intensity. Construction under this alternative would have a shorter duration than the proposed project, due to its smaller size, but would still require similar equipment and transportation of materials having similar effects as the proposed project. There would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE B: REDUCED HEIGHT PARKING FACILITY

Alternative B: Reduced Height Parking Facility (Alternative B) would reduce the height of the parking structure, thereby reducing the visibility of the parking facility in comparison to the proposed project. Alternative B would operate as a self-park garage with a capacity of 450 cars in a three-level parking structure. Although an automated facility and a valet operation would be able to accommodate more spaces within the parking structure due to lower space requirements (as shown in Table 18-1), in the applicant's opinion, neither would yield an acceptable return on investment. As such, a self-park scenario was analyzed for this alternative.

As with the proposed project, the intent of this alternative would be to alleviate existing parking deficiencies at Westchester County Airport. As described earlier, existing parking demand at the airport is based on a ratio of three spaces per 1,000 annual enplanements. With approximately one million enplanements per year at the airport, required parking is estimated at 3,000 spaces. Because this alternative would provide fewer spaces than the proposed project, it would not as adequately respond to existing demand, in the applicant's opinion.

Under Alternative B, the building would have a footprint of approximately 51,000 square feet (same size as the proposed project) and a gross floor area of approximately 153,000 square feet.

The height of the structure would measure approximately 35 feet above average grade which represents a reduction of roughly 20 feet in height compared to the proposed project. This parking capacity estimate is based on the industry standards for a self-park facility which allows on average 330 square feet per parking space. The per-parking space allowance accounts for the size of each parking space as well as additional circulation needs. **Figure 18-3** provides a comparison plan of this alternative against the proposed project. This figure depicts a sketch plan of the alternative generated solely for comparison with the proposed project.

As shown in **Figure 18-3**, the layout of the site and its functional aspects under Alternative B would be similar to the proposed project in terms of site ingress and egress. The parking facility would be approached via the existing access drive from New King Street. Similar to the proposed project, a shuttle bus stop would be provided on-site to transport the parking facility's customers to the airport terminal.

This Alternative would require a proportionately larger footprint for the amount of parking spaces it would accommodate as compared to the proposed project.

LAND USE, ZONING, AND PUBLIC POLICY

As with the proposed project, this alternative would result in a change of land use on the project site from a small one-story office building to a three-story parking structure. The immediate vicinity is dominated by office buildings and high-volume transportation uses, such as I-684 and Westchester County Airport. In the applicant's opinion, the use of the property as a parking facility would be appropriate given this context and would not result in a significant adverse impact to land use.

As would be required for the proposed project, Alternative B would require a zoning amendment to allow parking structures within the IND-AA with a special use permit. A set of standards would need to be established to regulate location and dimensional aspects of parking structures to ensure they are developed in appropriate areas and that they do not diminish the character of the Town. The parking facility under this alternative would need to conform to setback and other dimensional requirements established by the proposed zoning amendments.

VISUAL RESOURCES

This alternative would have a building footprint the same size as the proposed project, but the height of the structure would be reduced by approximately 20 feet. The reduction in height would decrease the visibility of the parking facility.

The ventilation requirements for conventional parking facility would limit the opportunities for aesthetic design techniques aimed at improving the visual quality of the structure. The structure would have the appearance of a partially-open conventional parking facility in contrast to the proposed project would be a fully enclosed structure. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable. Use of evergreen vegetation for screening could effectively minimize the visibility a structure of this height from locations off-site, but it should be noted that due to the large building footprint and the need for on-site stormwater treatment, the area for planting trees for screening would be limited.

The ¼ -mile study area already includes several office buildings and airport related uses. As such, in the applicant's opinion, the parking facility in Alternative B would not alter the

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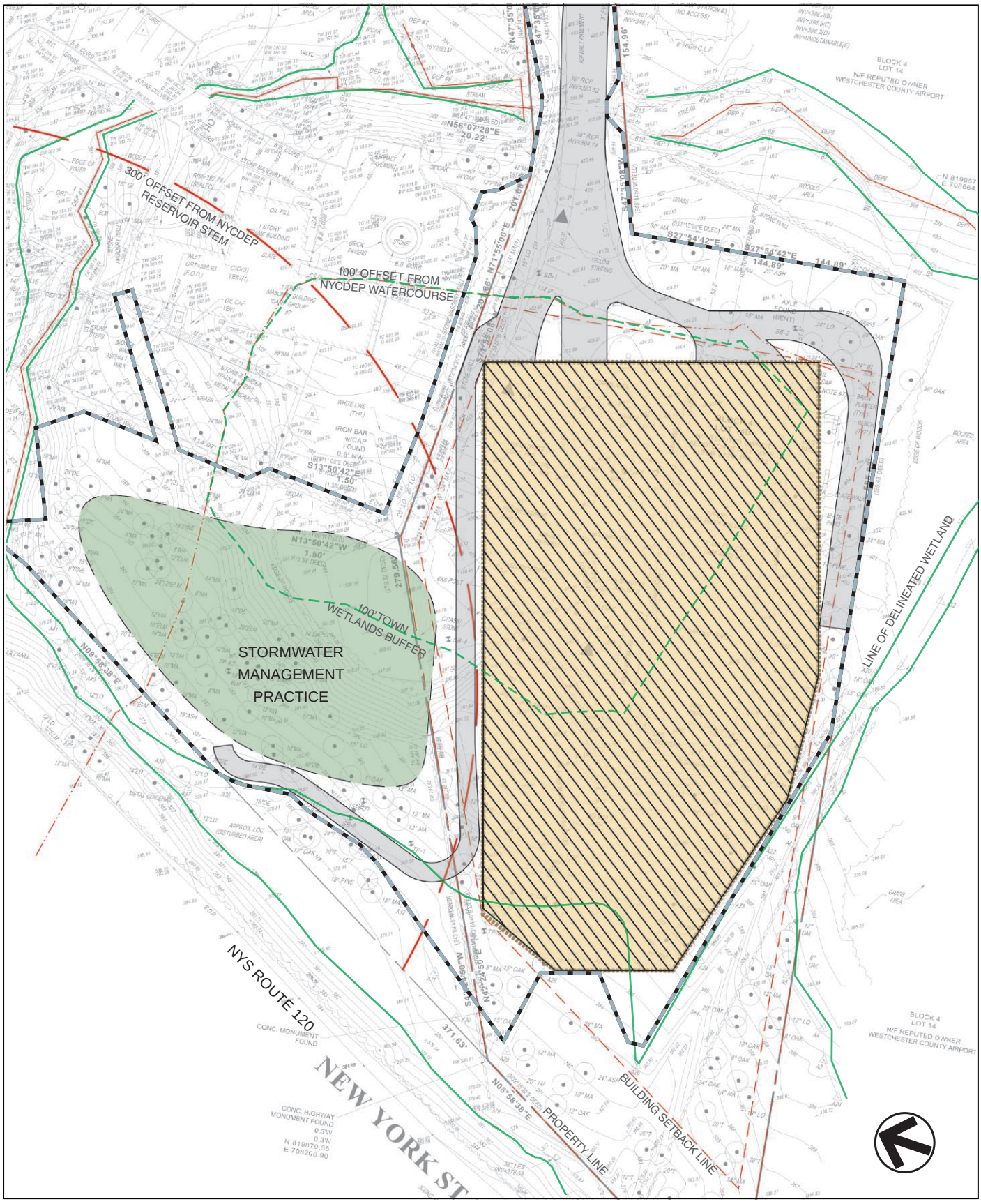

Building Footprint of Alternative

Building Footprint of Proposed Project

Limit of Disturbance of Alternative

Limit of Disturbance of Proposed Project

PARK PLACE at Westchester Airport

Alternative B: Reduced Height Alternative

Figure 18-3

office/industrial character of the study area. In the applicant's opinion, as is the case with the proposed project, Alternative B would not result in a significant adverse visual impact.

HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The building footprint under this alternative and the area of disturbance would be the same as the proposed project. Since there are no known or potential architectural resources within the project site or study area, and the Phase I archaeological survey determined that archaeological resources are not present on the project site, no adverse impacts to architectural or archaeological resources would be expected to result from Alternative B, similar to the proposed project.

NATURAL RESOURCES

The total disturbance area of Alternative B would be equal to that of the proposed project. Alternative B would have approximately the same building footprint, a similar amount of impervious surface, and comparable stormwater treatment requirements to the proposed project. Therefore, the potential natural resources impacts of Alternative B would be substantially the same as those under the proposed project.

GEOLOGY, SOILS, TOPOGRAPHY, AND SLOPES

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. The quantity of soil and excess material to be exported from the project site under Alternative B would be similar to the proposed project.

As with the proposed project, to prevent the potential negative effects of soil erosion, Alternative B would need to conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the New York City Department of Environmental Protection (NYCDEP). It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Like the proposed project, Alternative B would be limited to one construction phase, and the use of blasting would not be anticipated.

WATER RESOURCES

Groundwater Resources

Similar to the proposed project, Alternative B would require the installation and testing of a new bedrock supply well to meet the anticipated water demands. The existing on-site supply well would be decommissioned in accordance with applicable New York State Department of Health (NYSDOH) requirements. Design and use of aquifer resources for potable water supply are regulated by the NYSDOH and the Westchester County Department of Health (WCDOH). In the applicant's opinion, direct impacts to groundwater resources on and adjacent to the project site resulting from Alternative B would not be significant. A pumping test program, which will include a water budget analysis and testing of the proposed water supply well, will be completed to determine the quantity of available water, the ability for the aquifer to satisfy the proposed water demand, the safe yield requirements for the proposed potable well, and the potential for impacts to adjacent groundwater resources. Installation, testing, and usage of the new well would be completed in accordance with all applicable NYSDOH and WCDOH requirements. Engineering design measures implemented during construction and after project completion would preserve groundwater quality and promote a sustainable groundwater resource system. In the applicant's opinion, as with the proposed project, with the implementation of the above measures, significant impacts to groundwater resources are not expected.

Surface Water Resources

As with the proposed project, Alternative B would disturb approximately 5,700 square feet of a Town-delineated wetland on the project site. Disturbance within the 100-foot Town regulated wetland and watercourse buffer, and the 100-foot NYCDEP watercourse limiting distance, would be approximately 79,700 square feet under Alternative B, as with the proposed project. A permit from the Town and a variance from the NYCDEP, for the portion of that area to be disturbed that falls within the 100-foot limiting distance from the City protected stream, would be required for this disturbance. In the applicant's opinion, the Alternative B disturbance would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that would be part of Alternative B would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

STORMWATER

Alternative B would result in approximately the same amount of impervious surface on the project site as the proposed project. While new impervious surfaces and changes in land use would potentially increase the peak flow, decrease infiltration, and increase the pollutants in stormwater runoff, the stormwater management features that would be included as part of this alternative would minimize the potential environmental impacts. The post-development stormwater flows would be attenuated to the pre-development flow conditions which would help to decrease potential erosion and improve water quality. Portions of the existing impervious surface areas from the adjoining property (designated as Block 4, Lot 13A), which is currently untreated, would be collected into the new stormwater system for treatment before being released to the watercourse. As with the proposed project, with these stormwater management practices in place, significant adverse impacts would be avoided.

COMMUNITY FACILITIES AND SERVICES

As with the proposed project, it would not be anticipated that Alternative B would require any changes to existing community facilities and services. In the applicant's opinion, existing services would be able to accommodate the parking facility under this alternative. However, this alternative could potentially pose higher security risks in comparison to the proposed project. The proposed project would limit access to the interior of the structure to the employees, but a self-park facility would be freely accessible. Under this alternative, customers and the general public would have access to the interior of the structure where cars would be parked for extended periods of time with lesser security measures and only basic maintenance services.

INFRASTRUCTURE AND UTILITIES

Similar to the proposed project, Alternative B would not be anticipated to result in any significant adverse impacts to utility services and infrastructure related to water supply, sanitary waste, solid waste, energy, and telecommunications (including telephone and cable services). In the applicant's opinion, Alternative B would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. It is anticipated that, similar to the proposed project, this alternative would incorporate some sustainable and green features to reduce water usage, sanitary flow, and energy consumption.

ECONOMIC CONDITIONS

Similar to the proposed project, Alternative B would result in the relocation of three businesses currently located in the existing office building. However, there is available office space at comparable rents in North Castle and in the surrounding area for businesses wishing to relocate. The relocation of three businesses is not considered a significant adverse impact to economic conditions.

Alternative B would result in economic benefits during construction and during annual operations; however, these benefits would not be as great as the proposed project's since the capacity of the garage would be smaller. It is anticipated that the property taxes generated by Alternative B for the Town of North Castle, Westchester County, and the Byram Hills Central School District would be greater than existing property taxes, but less than under the proposed project.

TRAFFIC AND TRANSPORTATION

As is the case with the proposed project, this alternative would result in the positive impact of an overall reduction in the number of vehicle trips across the traffic network. In comparison to the proposed project, the potential beneficial impacts would be proportionately less due to the reduced parking capacity in this alternative. Fewer vehicles would be removed from the roadway network, and there is the potential that the full demand, as discussed above, could not be met and the existing situation of people traveling between the various parking facilities in search of parking would continue.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Under this alternative, the proposed parking garage would be a conventional structure (i.e., self-park). Therefore, vehicles would circulate within the structure until a parking space is selected. This type of structure would result in greater vehicle emissions than the proposed project, in

which customers would park in a kiosk at the garage entrance and turn the ignition off after which vehicles would be transported via battery-operated machines.

NOISE

As is the case with the proposed project, this alternative would not result in any significant change in noise level. Land use on the project site would change from an office building to a parking facility, but ambient noise levels are dominated by nearby NYS Route 120, I-684 and Westchester County Airport. Similar to the proposed project, noise levels on the project site and several area intersections would increase slightly, having negligible impacts on sensitive receptors.

HAZARDOUS MATERIALS

As with the proposed project, this alternative would require deconstruction of an existing office building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations. This alternative would present no significant adverse impacts related to hazardous materials.

CONSTRUCTION

As is the case with the proposed project, construction activity under this alternative would be short-term and would be of limited intensity. Construction under this alternative would have a similar duration to that for the proposed project and would require similar equipment and transportation of materials having similar effects as the surrounding area. As with the proposed project, there would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE C: REDUCED WETLAND IMPACT ALTERNATIVE

Alternative C: Reduced Wetland Impact Alternative would limit development of all pavement and structures to areas of the project site currently disturbed or developed, thereby minimizing disturbance to on-site wetlands and wetland buffers. This alternative would avoid disturbance to the wetland on the project site and would involve construction within the 100-foot wetland buffer area. **Figure 18-4** provides a comparison plan of this alternative compared with the proposed project.

Similar to the proposed project, the parking structure under this alternative would be intended to alleviate existing parking deficiencies at Westchester County Airport. Alternative C would operate as a self-park garage with a capacity of 350 cars in a 5-level parking structure. Although an automated facility and a valet operation would be able to accommodate more spaces within the parking structure due to lower space requirements (as shown in Table 18-1), in the applicant's opinion, neither would yield an acceptable return on investment. As such, a self-park scenario was analyzed for this alternative.

The building would have a footprint of approximately 24,400 square feet, about half the size of the footprint of the proposed project. The height of the structure would measure 55 feet above average grade, similar to the proposed project. This parking capacity estimate is based on the industry standards for a self-park facility which allows 330 square feet per parking space. The per-parking space allowance accounts for the size of each parking space as well as additional circulation needs.

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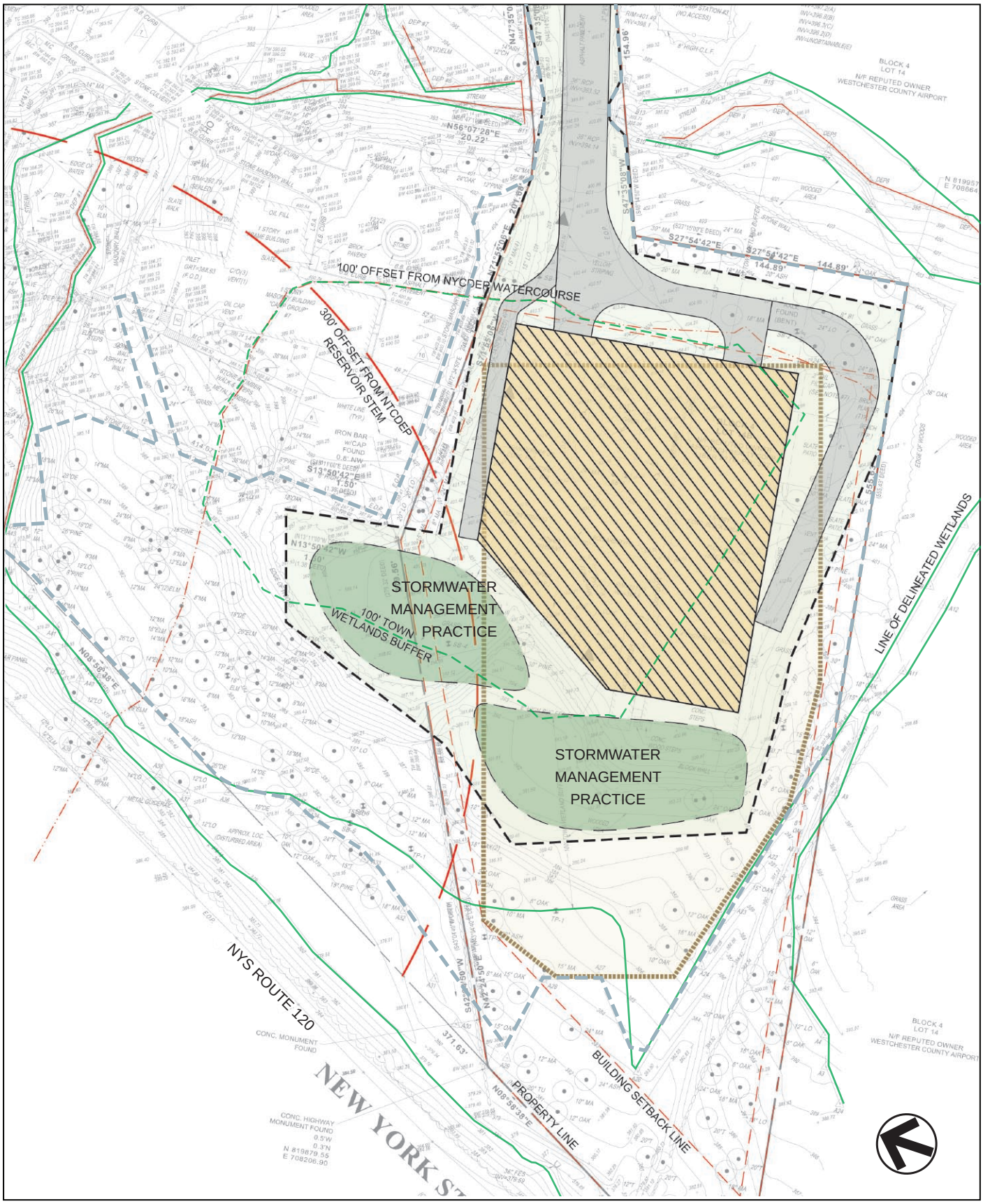


Building Footprint of Alternative

Building Footprint of Proposed Project

Limit of Disturbance of Alternative

Limit of Disturbance of Proposed Project

PARK PLACE at Westchester Airport

Alternative C: Reduced Wetland Impact

Figure 18-4

As shown in **Figure 18-4**, the layout of the site and its functional aspects under Alternative C would be similar to the proposed projects in terms of site ingress and egress. The parking facility would be approached via an existing access drive from New King Street. Similar to the proposed project, a shuttle bus stop would be provided on-site to transport the parking facility's customers to the airport terminal.

This Alternative would require a proportionately larger footprint for the amount of parking spaces it would accommodate as compared to the proposed project. The reduced building footprint would result in a significantly reduced capacity in comparison to the proposed project. As such, this alternative would not sufficiently respond to existing parking demand at Westchester County Airport, which is estimated at approximately 3,000 spaces based on industry standards of three spaces per 1,000 annual enplanements (current enplanement activity at the airport is approximately one million passengers per year). To meet the parking demand and achieve the 1,450 spaces of the proposed project, the parking facility under this alternative would have to comprise 20 levels, which is not a feasible alternative.

LAND USE, ZONING, AND PUBLIC POLICY

As with the proposed project, this alternative would result in a change of land use on the project site from a small one-story office building to a five-story parking structure. The immediate vicinity is dominated by office buildings and high-volume transportation uses, such as I-684 and Westchester County Airport. In the applicant's opinion, the use of the property as a parking facility would be appropriate given this context and would not result in a significant adverse impact to land use.

As would be required for the proposed project, Alternative C would require a zoning amendment to allow parking structures within the IND-AA with a special use permit. A set of standards would need to be established to regulate location and dimensional aspects of parking structures to ensure they would be developed in appropriate areas and that they do not diminish the character of the Town. The parking facility under this alternative would need to conform to setback and other dimensional requirements established by the proposed zoning amendments.

This alternative would meet objectives of local and regional policies that guide growth in Westchester County and the Town of North Castle. The proposed parking facility would be constructed on a currently developed site with, in the applicant's opinion, minimal disturbance of additional areas. The limit of disturbance would be contained to areas of existing impervious surfaces. This alternative would require minimal disturbance to environmental features on-site and would promote local and regional efforts to encourage smart growth and reduce sprawl. However, this alternative would require greater site disturbance per parking space than the proposed project and it would not realize the full the economic potential of the project site. In addition, this alternative would have greater impacts to air quality, as discussed below.

VISUAL RESOURCES

This alternative would have a building footprint approximately half the size of the proposed project, but a height similar to that of the proposed project. The reduction in the scale of the structure would reduce the visual impact of the parking facility. The reduction in the area of disturbance would require fewer trees to be removed and increase the area available for planting evergreen vegetation and canopy trees for screening.

The ventilation requirements for this type of conventional parking facility would limit the opportunities for aesthetic design techniques aimed at improving the visual quality of the structure. The structure would have the appearance of a partially-open conventional parking facility in contrast to the proposed project which would be a fully enclosed structure. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable.

The ¼ -mile study area already includes several office buildings and airport related uses. As such, in the applicant's opinion, the parking facility in Alternative C would not alter the office/industrial character of the study area. Although the structure would be taller than most other buildings within its immediate environs, as is the case with the proposed project, it is the applicant's opinion that the structure would not result in a significant adverse visual impact.

HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The building footprint under this alternative would be 24,420 square feet, as compared to a building footprint of approximately 51,000 square feet with the proposed project. The reduction of the footprint size would result in an area of disturbance in the Alternative C almost 45,000 square feet smaller than that in the proposed project. This would consequently reduce the area of potential effect.

Since this alternative would have a smaller building footprint and disturbance area, all of the existing stone walls on the project site would remain. However, as previously noted, these stone walls are not listed on or eligible for the S/NR.

Since there are no known or potential architectural resources within the project site or study area, and the Phase I archaeological survey determined that archaeological resources are not present on the project site, no adverse impacts to architectural or archaeological resources would be expected to result from Alternative C, similar to the proposed project.

NATURAL RESOURCES

Since Alternative C would limit new development to areas that are already developed, it would minimize disturbance to existing vegetation and wildlife habitat on the project site. The area of disturbance under Alternative C would be approximately 49,000 square feet smaller than the disturbance area for the proposed project. As such, Alternative C would reduce the potential effect of site development on natural resources.

Alternative C would cause disturbance to an area of approximately 41,200 square feet within the 100-foot town wetlands buffer zone and the NYCDEP 100-foot watercourse limiting distance. This represents a reduction in disturbance of both buffer zones when compared to the proposed project. There would be no disturbance within the delineated wetlands on the site.

The reduction is the area of disturbance would reduce the total number of trees to be removed from 122 in the proposed project, to 17 in Alternative C. It would also reduce the amount of understory vegetation and groundcover removed from the project site. Although fewer disturbances to wildlife habitat would result under this alternative, since no protected wildlife species have been identified on the site, impacts to them would be similar to that of the proposed project.

GEOLOGY, SOILS, TOPOGRAPHY, AND SLOPES

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. Alternative C would require less excavation of soil material than the proposed project and a similar amount of excavated material would be used as fill in the regrading of the construction area. Therefore, less net excess material would be exported to an off-site location. Disturbance to slopes greater than 25 percent in this alternative would total approximately 3,800 square feet and comprise approximately five percent of the overall area of site disturbance.

As with the proposed project, to prevent the potential negative effects of soil erosion, Alternative C would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the NYCDEP. It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Alternative C would be limited to one construction phase; the use of blasting would not be anticipated.

WATER RESOURCES

Groundwater Resources

Groundwater resources at the project site include an overburden aquifer within the glacial till sediments above the bedrock surface, and a bedrock aquifer within the fracture network of the bedrock formation. The bedrock aquifer is currently utilized as a source for potable water supply at the project site. Since Alternative C would be located in the same general footprint as the existing office building, a new well would not be required, as the existing well would be able to accommodate the demands of this alternative. As such, significant impacts to groundwater resources would not result.

Surface water and wetlands

The existing office building is located within the 100-foot buffer for Town regulated wetlands and watercourses, and the 100-foot NYCDEP watercourse limiting distance. Therefore, as with the proposed project, disturbance to these buffers would result from development of Alternative C. However, Alternative C would result in fewer disturbances to the buffers than the proposed project, and the disturbance would be farther from the wetland. Although these areas were previously disturbed, a permit from the Town and a variance from the NYCDEP, for the portion of that area to be disturbed that falls within the 100-foot limiting distance from the City

protected stream, would still be required for this disturbance. Alternative C would not result in direct disturbance of the regulated surface water resources on or adjacent to the site.

In the applicant's opinion, the Alternative C disturbance would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that would be part of Alternative C would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

STORMWATER

Alternative C would result in approximately the same amount of impervious surface as currently exists on the project site, which is less impervious surface than the proposed project. Under this alternative, areas of the project site that are currently paved would be incorporated into the garage structure. While changes in land use would potentially increase the peak flow, decrease infiltration, and increase the pollutants in stormwater runoff, the stormwater management features that would be included as part of this alternative would minimize the potential environmental impacts. The post-development stormwater flows would be attenuated to the pre-development flow conditions which would help to decrease potential erosion and improve water quality. Portions of the existing impervious surface areas from the adjoining property (designated as Block 4, Lot 13A), which is currently untreated, would be collected into the new stormwater system for treatment before being released to the watercourse. As with the proposed project, with these stormwater management practices in place, significant adverse impacts would be avoided.

COMMUNITY FACILITIES AND SERVICES

As with the proposed project, it is not anticipated that this alternative would require any changes to the existing community facilities and services. In the applicant's opinion, existing services would be able to accommodate the parking facility under this alternative. However, this alternative could potentially pose higher security risks in comparison to the proposed project. The proposed project would limit access to the interior of the structure to the employees, but a self-park facility would be freely accessible. Under this alternative, customers and the general public would have access to the interior of the structure where cars would be parked for extended periods of time with lesser security measures and only basic maintenance services.

INFRASTRUCTURE AND UTILITIES

In the applicant's opinion, similar to the proposed project, Alternative C is not anticipated to result in any significant adverse impacts to utility services and infrastructure related to water supply, sanitary waste, solid waste, energy, and telecommunications (including telephone and cable services). Unlike the proposed project, Alternative C would continue to utilize the existing well on the property, which has sufficient capacity to serve this alternative. Alternative C would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. It is anticipated that, similar to the proposed project, this alternative would incorporate some sustainable and green features to reduce water usage, sanitary flow, and energy consumption.

ECONOMIC CONDITIONS

Similar to the proposed project, Alternative C would result in the relocation of three businesses in the existing office building. However, there is available office space at comparable rents in North Castle and in the surrounding area for businesses wishing to relocate. The relocation of three businesses would not be considered a significant adverse impact to economic conditions.

Alternative C would result in economic benefits during construction and during annual operations; however, these benefits would not be as great as the proposed project's since the capacity of the garage would be smaller. It would be anticipated that the property taxes generated by Alternative C for the Town of North Castle, Westchester County, and the Byram Hills Central School District would be greater than existing property taxes, but less than the proposed project.

TRAFFIC AND TRANSPORTATION

As would be the case with the proposed project, this alternative would result in the positive impact of an overall reduction in the number of vehicle trips across the traffic network. However, in comparison to the proposed project the potential beneficial impacts would be proportionately less due to the reduced parking capacity in this alternative. Fewer vehicles would be removed from the roadway network, and the demand for additional parking would not be met, thus continuing the existing situation of people traveling between the various parking facilities in search of parking. As described above, existing parking demand at Westchester County Airport—based on a ratio of three spaces per 1,000 annual enplanements and current enplanement activity of approximately one million passengers per year—is approximately 3,000 spaces. The airport currently provides approximately 1,500 spaces, and this alternative would only provide an additional 350 spaces.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Under this alternative, the proposed parking garage would be a conventional structure (i.e., self-park). Therefore, vehicles would circulate within the structure until a parking space is selected. This type of structure would result in greater vehicle emissions than the proposed project. Instead of customers parking in a kiosk at the garage entrance and turning the ignition off after which vehicles would be transported via battery-operated machines, vehicles would circulate within the structure looking for an unoccupied parking space. Adverse impacts to air quality resulting from greenhouse gas emissions would not be significant under this alternative.

NOISE

As is the case with the proposed project, this alternative would not result in any significant change in noise level. Land use on the project site would change from a small office building to a large parking facility, but ambient noise level is dominated by nearby NYS Route 120, I-684 and Westchester County Airport. Similar to the proposed project, noise levels on the project site and several area intersections would increase slightly, having negligible impacts on sensitive receptors.

HAZARDOUS MATERIALS

This alternative would present no significant adverse impacts related to hazardous materials. As with the proposed project, this alternative would require deconstruction of an existing office

building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations.

CONSTRUCTION

As is the case with the proposed project, construction activity would be short-term and would be of limited intensity. Construction under this alternative would have a shorter duration than the proposed project, due to its smaller size, but would still require similar equipment and transportation of materials having similar effects as the proposed project. As with the proposed project, there would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE D: NO WETLAND IMPACT

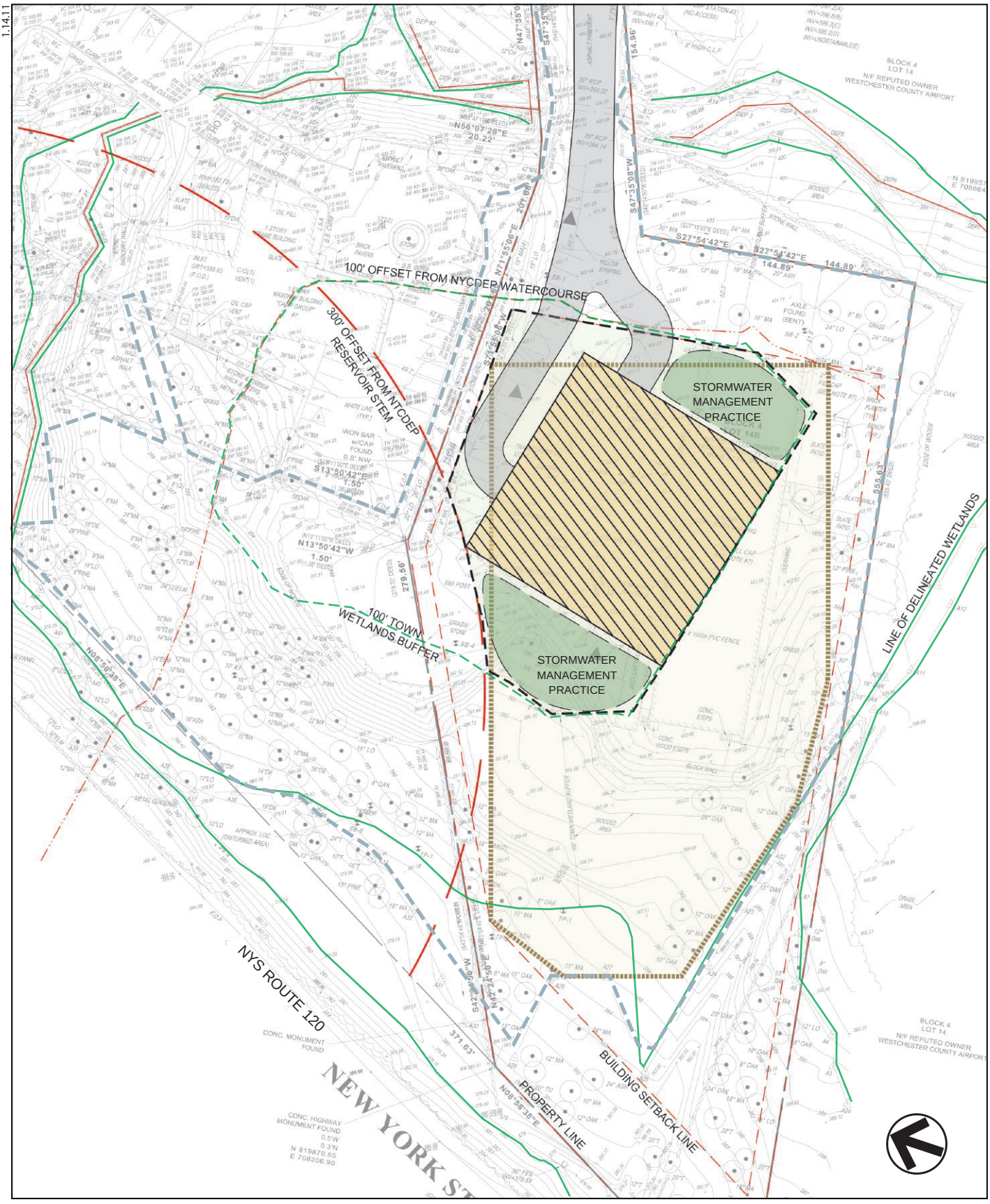
Alternative D: No Wetland Impact would avoid development within Town-regulated wetlands and wetland buffers. Disturbance would be required within the wetland buffer area for demolition of the existing office building. The area disturbed due to demolition would be replanted with appropriate native species. In addition to avoiding disturbance in wetland buffer areas, this alternative would avoid disturbance within the 300-foot reservoir stem for Kensico Reservoir and would comply with setbacks and other dimensional regulations established by proposed zoning amendments, similar to the proposed project. **Figure 18-5** provides a comparison plan of this alternative against the proposed project. This figure depicts a sketch plan of the alternative generated solely for comparison with the proposed project.

As with the proposed project, the purpose of the parking structure under this alternative would be to alleviate existing parking deficiencies at Westchester County Airport. Alternative D would operate as a self-park garage with a capacity of 210 cars in a 5-level parking structure. Although an automated facility and a valet operation would be able to accommodate more spaces within the parking structure due to lower space requirements (as shown in Table 18-1), in the applicant's opinion, neither would yield an acceptable return on investment. As such, a self-park scenario was analyzed for this alternative.

In the applicant's opinion, this alternative would not adequately respond to existing parking demand at Westchester County Airport. Existing demand, based on industry standards of three spaces per 1,000 annual enplanements (as discussed above), is approximately 3,000 parking spaces. The airport currently provides a 1,100-space garage and a 400-space overflow lot.

The building under this alternative would have a footprint of approximately 14,250 square feet, about one third the size of the proposed project. The height of the structure would measure 56 feet above average grade, similar to the proposed project. This parking capacity estimate is based on the industry standards for a self-park facility which allows 330 square feet per parking space. The per-parking space allowance accounts for the size of each parking space as well as additional circulation needs.

The layout of the site and its functional aspects under Alternative D would be similar to the proposed project in terms of site ingress and egress. The parking facility would be approached via an existing access drive from New King Street. Similar to the proposed project, a shuttle bus stop would be provided on-site to transport the parking facility's customers to the airport terminal.



Building Footprint of Alternative

Building Footprint of Proposed Project

Limit of Disturbance of Alternative

Limit of Disturbance of Proposed Project

PARK PLACE at Westchester Airport

Alternative D: No Wetland Impact

Figure 18-5

This alternative would require a proportionately larger footprint per parking space as compared to the proposed project. The reduced building footprint would result in significantly fewer parking spaces in comparison to the proposed project.

LAND USE, ZONING, AND PUBLIC POLICY

As with the proposed project, this alternative would result in a change of land use on the project site from a small one-story office building to a five-story parking structure. The immediate vicinity is dominated by office buildings and high-volume transportation uses, such as I-684 and Westchester County Airport. In the applicant's opinion, the use of the property as a parking facility would be appropriate given this context and would not result in a significant adverse impact to land use.

As would be required for the proposed project, Alternative D would require a zoning amendment to allow parking structures within the IND-AA with a special use permit. A set of standards would need to be established to regulate location and dimensional aspects of parking structures to ensure they would be developed in appropriate areas and that they would not diminish the character of the Town. The parking facility under this alternative would need to conform to setback and other dimensional requirements established by the proposed zoning amendments.

This alternative would meet objectives of local and regional policy documents that guide growth in Westchester County and the Town of North Castle. The proposed parking facility would be constructed on a currently developed site with, in the applicant's opinion, minimal disturbance of additional areas. The limit of disturbance would be contained to areas that have been previously disturbed. This alternative would require minimal disturbance to environmental features on-site and would promote local and regional policies to encourage smart growth and reduce sprawl. However, this alternative would require greater site disturbance per parking space than the proposed project and it would not realize the economic potential of the project site. In the applicant's opinion, this alternative would not adequately respond to existing demand for parking at Westchester County Airport, as discussed above. In addition, this alternative would have greater impacts to air quality, as discussed below.

VISUAL RESOURCES

This alternative would have a building footprint approximately one third the size of the proposed project, but the height of the structure would be similar to that of the proposed project, approximately 56 feet above average grade. The reduction in the scale of the structure would reduce the visual impact of the parking facility. The area of disturbance would be less than a quarter of the area of disturbance in the proposed project. This would require none of the existing vegetative buffer to be removed. It would also increase the area available for planting evergreen vegetation and canopy trees for screening.

The ventilation requirements for conventional parking facility would limit the opportunities for aesthetic design techniques aimed at improving the visual quality of the structure. The structure would have the appearance of a partially-open conventional parking facility in contrast to the proposed project which incorporates a fully enclosed structure. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable.

The ¼ -mile study area already includes several office buildings and airport related uses. As such, in the applicant's opinion, the parking facility in Alternative D would not alter the

office/industrial character of the study area. Although the structure would be taller than most other buildings within its immediate environs, as is the case with the proposed project, it is the applicant's opinion that the structure would not result in a significant adverse visual impact.

HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The building footprint under this alternative would be 14,250 square feet, as compared to a building footprint of approximately 51,000 square feet with the proposed project. This would consequently reduce the area of potential effect.

Since this alternative would have a smaller building footprint and disturbance area, all of the existing stone walls on the project site would remain. However, as previously noted, these stone walls are not listed on or eligible for the S/NR.

Since there are no known or potential architectural resources within the project site or study area, and the Phase I archaeological survey determined that archaeological resources are not present on the project site, no adverse impacts to architectural or archaeological resources would be expected to result from Alternative D, similar to the proposed project.

NATURAL RESOURCES

Alternative D would not result in any permanent disturbance to the Town-regulated 100-foot wetland buffer area or the NYCDEP watercourse buffer. The portion of the existing office building located within the wetland buffer area would be demolished, and the wetland buffer would be restored with native vegetation. Therefore, habitat areas on the project site would increase from those under the existing conditions.

Under this alternative, three trees would be removed and a minimal amount of wildlife habitat would be disturbed. Although fewer disturbances to wildlife habitat would result under this alternative, since no protected wildlife species have been identified on the site, impacts would be similar to that of the proposed project.

GEOLOGY, SOILS, TOPOGRAPHY, AND SLOPES

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. Alternative D would require substantially less excavation of soil material than the proposed project and a similar amount of excavated material would be used as fill in the regrading of the construction area. Therefore, less material would be exported to an off-site location. Disturbance to slopes greater than 25 percent in this alternative would total approximately 960 square feet and comprise approximately three percent of the overall area of site disturbance that would, result from the development of this alternative.

As with the proposed project, to prevent the potential negative effects of soil erosion, Alternative D would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the NYCDEP. It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Alternative D would be limited to one construction phase; blasting is not anticipated.

WATER RESOURCES

Groundwater Resources

Groundwater resources at the project site include an overburden aquifer within the glacial till sediments above the bedrock surface, and a bedrock aquifer within the fracture network of the bedrock formation. The bedrock aquifer is currently utilized as a source for potable water supply at the project site. Since Alternative D would not disturb the existing wellhead, a new well would not be required. The existing well would be able to accommodate the demands of this alternative.

Surface water and wetlands

Alternative D would not result in any permanent disturbance to the Town-regulated 100-foot wetland buffer area or the NYCDEP watercourse buffer. The portion of the existing office building that is located within the wetland buffer area would be demolished, and the wetland buffer would be restored with native vegetation. Town and NYCDEP permits may be required for the demolition and restoration activities within the wetland and watercourse buffers. Since this alternative would eliminate permanent disturbances to wetland and watercourse buffers, no significant adverse impacts to any onsite or downstream surface water resources are anticipated.

As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site, the stormwater control measures and water quality treatment features that would be part of Alternative D would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

STORMWATER

Alternative D would have a substantially smaller building footprint than the proposed project, as such, less stormwater runoff would need to be detained and treated. Under this alternative, stormwater treatment practices would be located on Lot 14B with the proposed parking structure. A drainage easement on Lot 13A would not be required. Stormwater runoff from Lot 13A would not be treated under this alternative, therefore, it would continue to discharge directly into the downstream watercourse and wetland.

COMMUNITY FACILITIES AND SERVICES

In the applicant's opinion, similar to the proposed project, it is not anticipated that this alternative would require any changes to the existing community facilities and services. Existing services would be able to accommodate the parking facility under this alternative. However, this

alternative could potentially pose higher security risks in comparison to the proposed project. The proposed project would limit access to the interior of the structure to the employees, but a self-park facility would be freely accessible. Under Alternative D, customers and the general public would have access to the interior of the structure where cars would be parked for extended periods of time with minimal security measures and only basic maintenance services.

INFRASTRUCTURE AND UTILITIES

Similar to the proposed project, Alternative D would not result in any significant adverse impacts to utility services and infrastructure related to water supply, sanitary waste, solid waste, energy, and telecommunications (including telephone and cable services). Unlike the proposed project, Alternative D would continue to utilize the existing well on the property, which has sufficient capacity to serve this alternative. Alternative D would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. It is anticipated that, similar to the proposed project, this alternative would incorporate some sustainable and green features to reduce water usage, sanitary flow, and energy consumption.

ECONOMIC CONDITIONS

Similar to the proposed project, Alternative D would result in the relocation of three businesses in the existing office building. However, there is available office space at comparable rents in North Castle and in the surrounding area for businesses wishing to relocate. The relocation of three businesses is not considered a significant adverse impact to economic conditions.

Alternative D would result in economic benefits during construction and during annual operations; however, these benefits would not be as great as with the proposed project since the capacity of the garage would be smaller. It is anticipated that the property taxes generated by Alternative D would be comparable to existing property taxes. This alternative would generate substantially less property tax revenue for the Town of North Castle, Westchester County, and the Byram Hills Central School District than the proposed project.

TRAFFIC AND TRANSPORTATION

As is the case with the proposed project, this alternative would result in the positive impact of an overall reduction in the number of vehicle trips across the traffic network. In comparison to the proposed project the potential beneficial impacts would be proportionately less due to the reduced parking capacity in this alternative. Fewer vehicles would be removed from the roadway network, and there is the potential that the full demand could not be met and the existing situation of people traveling between the various parking facilities in search of parking would continue.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Under this alternative, the proposed parking garage would be a conventional structure (i.e., self-park), therefore, vehicles would circulate within the structure until a parking space is selected. This type of structure would result in greater vehicle emissions than the proposed project. Instead of parking in a kiosk at the garage entrance and turning the ignition off after which vehicles would be transported via battery-operated machines, vehicles would circulate throughout the parking structure looking for an unoccupied parking space.

NOISE

As is the case with the proposed project, this alternative would not result in any significant change in noise level. Land use on the project site would change from a small office building to a large parking facility, but ambient noise level is dominated by nearby NYS Route 120, I-684 and Westchester County Airport. Similar to the proposed project, noise levels on the project site and several area intersections would increase slightly, having negligible impacts on sensitive receptors.

HAZARDOUS MATERIALS

This alternative would present no significant adverse impacts related to hazardous materials. As with the proposed project, this alternative would require deconstruction of an existing office building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations.

CONSTRUCTION

As is the case with the proposed project, construction activity would be short-term and would be of limited intensity. Construction under this alternative would have a shorter duration than the proposed project, due to its smaller size, but would still require similar equipment and transportation of materials having similar effects as the proposed project. As with the proposed project, there would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE E: ALTERNATIVE USE

Alternative E: Alternative Use assumes that the project site would be developed for office use and be constructed to maximum build out pursuant to existing zoning regulations. **Table 18-2** outlines existing zoning regulations for the IND-AA zoning district.

Table 18-2
IND-AA Zoning District Regulations

Zoning Regulation	Requirement
Minimum Lot Size	2 acres
Maximum Building Coverage	30%
Maximum Floor Area Ratio (FAR)	0.30
Maximum Height	2 stories / 30 feet
Minimum Setbacks:	
Front	50 feet
Side	50 feet
Rear	50 feet
Sources: Town of North Castle Town Code, Chapter 213, "Zoning."	

The project site currently houses a one-story 9,732-square-foot office building and 35 parking spaces. Building coverage on the 107,755-square-foot (2.47-acre) main project site parcel is approximately nine percent. Total impervious surface coverage, including the building and other paved areas, is approximately 32,442 square feet (about 30 percent). The existing office building accommodates 21employees.

As shown above in **Table 18-2**, existing IND-AA regulations permit building heights of two stories (or 30 feet) and building coverage up to 30 percent. Maximum permitted FAR is 0.30. To comply with FAR restrictions, a two-story building (where the second story is coterminous with the first story) could have maximum building coverage of 15 percent. Therefore, this alternative assumes an approximately 32,000-square-foot office building on two levels, having a building footprint of approximately 16,000 square feet. A sketch plan of a feasible site layout for this alternative was developed to illustrate the potential environmental impacts for the purpose of comparison with the proposed project (see **Figure 18-6**). This figure depicts a sketch plan of the alternative generated solely for comparison with the proposed project.

Pursuant to off-street parking requirements outlined in the Town Zoning Code under Section 213-45, "Schedule of Off-Street Parking Requirements," the proposed office building under this alternative would require 129 parking spaces at one space for every 250 square feet of floor area. The size of the project site is not sufficient to provide a surface parking area for this amount of cars; surface parking for 20 cars is shown in **Figure 18-6**. As such parking for an additional 45 cars would be provided below the first floor of the office building.

LAND USE, ZONING, AND PUBLIC POLICY

This alternative would not change existing land use on the project site but would expand an existing office facility. The office would be in context with surrounding land uses, which are predominantly small-scale office structures. No zoning amendments would be required under this alternative, as it would comply with existing zoning regulations. However, a waiver from the Planning Board for the number of parking spaces would be required.

This alternative would result in redevelopment of a currently developed site in an area served by municipal sewer infrastructure, thereby promoting objectives of local and regional public policy documents, which encourage smart growth and environmentally-conscious development. The new office building and parking area would be constructed on a currently developed site with minimal disturbance of additional areas.

VISUAL RESOURCES

This alternative would have an office building structure that would be smaller than the proposed parking structure, both in height and overall mass. Visibility of the proposed office building would increase slightly compared to existing conditions, but would be reduced in comparison to the proposed project. The area of disturbance would be about one quarter of the area of disturbance in the proposed project. This would require a less removal of existing vegetative buffer. It would also increase the area available for planting evergreen vegetation and canopy trees for screening.

The office building would have a similar appearance to nearby office structures. Building materials and colors would be selected on the basis of aesthetic appeal with the aim of blending with the surrounding uses to the extent practicable.

As the office building in this alternative would be minimally visible from locations off-site and given that the ¼ -mile study area already includes several office buildings and airport related uses, Alternative E would not alter the office/industrial character of the study area. Alternative E would not result in a significant adverse visual impact.

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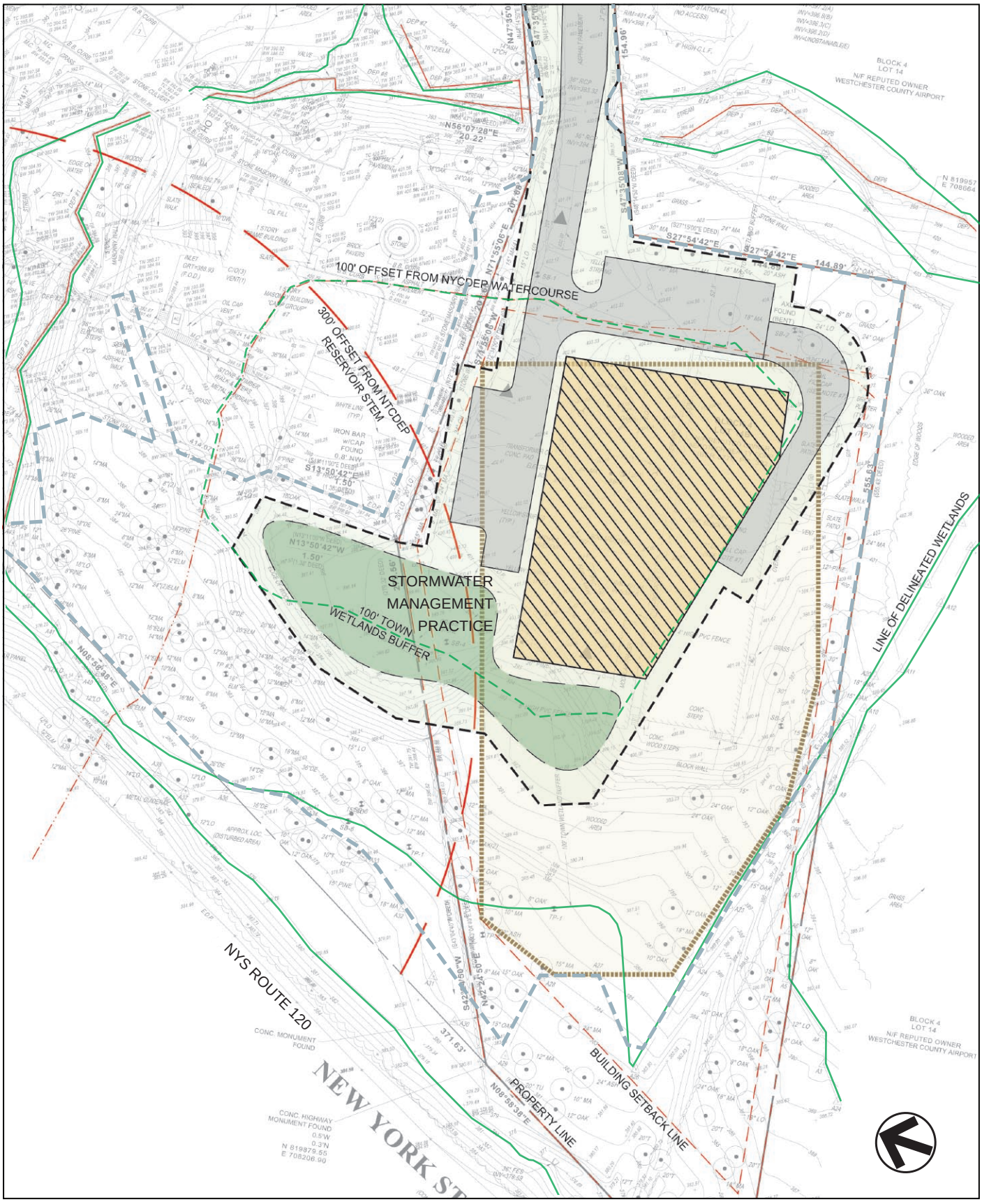

NOT TO SCALE

- Building Footprint of Alternative
- Building Footprint of Proposed Project
- Limit of Disturbance of Alternative
- Limit of Disturbance of Proposed Project

PARK PLACE at Westchester Airport

Alternative E: Alternative Use

Figure 18-6

HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The building footprint under this alternative would be 16,000 square feet, as compared to a building footprint of approximately 51,000 square feet with the proposed project. The reduction of the footprint size would result in an area of disturbance in the Alternative E approximately half of that in the proposed project. This will consequently reduce the area of potential effect.

Some of the portions of the stone walls currently located on the project site which would be removed as part of the proposed project could potentially remain in this alternative due to the reduction in the size of the building footprint and the disturbed area. These stone walls are not listed on or eligible for the S/NR.

Since there are no known or potential architectural resources within the project site or study area, and the Phase I archaeological survey determined that archaeological resources are not present on the project site, no adverse impacts to architectural or archaeological resources would be expected to result from Alternative E, similar to the proposed project.

NATURAL RESOURCES

The total disturbance area of Alternative E would be approximately 63,000 square feet less than that in the proposed project. As such, Alternative E would reduce the potential effect of site development on natural resources.

The Alternative E would cause disturbance to an area of approximately 26,800 square feet within the 100-foot town wetlands buffer zone and the NYCDEP 100-foot watercourse limiting distance. This represents a reduction in disturbance of both buffer zones when compared to the proposed project. There would be no disturbance within the delineated wetlands on the site.

The reduction in the area of disturbance would reduce the total number of trees to be removed from 122 in the proposed project, to 14 in Alternative E. It would also reduce the amount of understory vegetation and groundcover removed from the project site. Although fewer disturbances to wildlife habitat would result under this alternative, since no protected wildlife species have been identified on the site, impacts to them would be similar to that of the proposed project.

GEOLOGY, SOILS, TOPOGRAPHY, AND SLOPES

Potential impacts to geology, soils, topography and slopes are based on the potential for a project to cause soil erosion, to impact geologic resources or groundwater resources due to cut and fill activities during site earthwork. Alternative E would require less excavation of soil material than the proposed project and a similar amount of excavated material would be used as fill in the regrading of the construction area. Therefore, less net excess material would be exported to an off-site location. Disturbance to slopes greater than 25 percent in this alternative would total approximately 3,500 square feet and comprise approximately six percent of the overall area of site disturbance.

As with the proposed project, to prevent the potential negative effects of soil erosion, Alternative E would conform to the requirements of NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity Permit No. GP-0-10-001. This permit requires that proposed projects disturbing more than one acre of land must develop a Stormwater Pollution Prevention Plan (SWPPP),

containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term.

The Town of North Castle is a regulated, traditional land use control MS4. Therefore, the SWPPP would be reviewed by the Town. Once approved, an MS4 SWPPP Acceptance Form would be issued and submitted with the Notice of Intent (NOI) to NYSDEC for review and approval. The SWPPP for the proposed project would also be reviewed and approved by the New York City Department of Environmental Protection (NYCDEP). It is expected that conforming to the approved SWPPP would prevent any significant amounts of particulate matter from being transported into the natural stream channels adjacent to the project site.

In the applicant's opinion, with the implementation of the proposed measures, significant impacts to geology, soil, topography and slopes would not be expected. Alternative E would be limited to one construction phase, and the use of blasting would not be anticipated.

WATER RESOURCES

Groundwater Resources

Groundwater resources at the project site include an overburden aquifer within the glacial till sediments above the bedrock surface, and a bedrock aquifer within the fracture network of the bedrock formation. The bedrock aquifer is currently utilized as a source for potable water supply at the project site. The construction of Alternative E would not disturb the existing well head, therefore a new well would not be required. The existing well would be able to accommodate the demands of this alternative.

Surface water and Wetlands

Portions of the Alternative E office building and associated parking areas would be located within the 100-foot Town regulated wetland and watercourse buffers, and the 100-foot NYCDEP watercourse limiting distance. Therefore, as with the proposed project, disturbance to these areas would result from development of Alternative E. However, Alternative E would result in fewer disturbances than the proposed project, and the disturbance would be farther from the wetland. Although these areas were previously disturbed, a permit from the Town and a variance from the NYCDEP, for the portion of that area to be disturbed that falls within the 100-foot limiting distance from the City protected stream, would be required for this disturbance. Alternative E would not result in direct disturbance of the regulated surface water resources on or adjacent to the site.

In the applicant's opinion, the Alternative E disturbance would not be expected to result in significant adverse impacts to any onsite or downstream surface water resources. As with the proposed project, since existing runoff is currently uncontrolled and untreated from the project site (as well as adjacent sites), the stormwater control measures and water quality treatment features that would be part of Alternative E would have a beneficial impact on the quality of water that drains into the Kensico Reservoir.

STORMWATER

Alternative E would result in approximately the same amount of impervious surface as currently exists on the project site, which is less impervious surface than the proposed project. Under this alternative, areas of the project site that are currently paved would be incorporated into the new office building, and less parking is proposed. While changes in land use would potentially

increase the peak flow, decrease infiltration, and increase the pollutants in stormwater runoff, the stormwater management features that would be included as part of this alternative would minimize the potential environmental impacts. The post-development stormwater flows would be attenuated to the pre-development flow conditions which would help to decrease potential erosion and improve water quality. Portions of the existing impervious surface areas from the adjoining property (designated as Block 4, Lot 13A), which is currently untreated, would be collected into the new stormwater system for treatment before being released to the watercourse. As with the proposed project, with these stormwater management practices in place, significant adverse impacts would be avoided.

COMMUNITY FACILITIES AND SERVICES

As with the proposed project, it is not anticipated that this alternative would require any changes to the existing community facilities and services. In the applicant's opinion, existing services would be able to accommodate the office building under this alternative.

INFRASTRUCTURE AND UTILITIES

In the applicant's opinion, similar to the proposed project, Alternative E would not be anticipated to result in any significant adverse impacts to utility services and infrastructure related to water supply, sanitary waste, solid waste, energy, and telecommunications (including telephone and cable services). Unlike the proposed project, Alternative E would continue to utilize the existing well on the property, which has sufficient capacity to serve this alternative. Alternative E would not adversely affect municipal and private utility service providers, nor would it adversely affect environmental resources. It is anticipated that, similar to the proposed project, this alternative would incorporate some sustainable and green features to reduce water usage, sanitary flow, and energy consumption.

ECONOMIC CONDITIONS

Similar to the proposed project, Alternative E would result in the relocation of three businesses in the existing office building. However, these existing businesses could be accommodated in the new office building.

Alternative E would result in economic benefits during construction and during annual operations; however, these benefits would not likely be as great as the proposed project. It is anticipated that the property taxes generated by Alternative E for the Town of North Castle, Westchester County, and the Byram Hills Central School District would be greater than existing conditions but less than the proposed project.

TRAFFIC AND TRANSPORTATION

This Alternative would result in traffic and transportation conditions that are similar to the existing conditions of the project site. Traffic and transportation improvements associated with the proposed automated parking facility would not be realized under this alternative nor would improvements to airport parking.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Since no significant increases in traffic are anticipated, air quality and green house gas emissions are anticipated to be similar to existing conditions. Unlike with the proposed project, the

development of an office building would not reduce the overall vehicle trips from the region using the airport and the correlating reduction in regional emissions from mobile sources would not be realized. This would, therefore, not reduce GHG emissions in the study area and not work toward attaining regional air quality goals.

NOISE

As land use on the project site would be similar to the exiting condition, operational noise would not be expected to change and would be roughly the same as that under the proposed action. The amount of construction required to build Alternative E would be less than that required for the proposed project, therefore impacts would be less. However, since ambient noise level is dominated by nearby NYS Route 120, I-684 and Westchester County Airport and sensitive noise receptors are relatively distant, construction noise related impacts are not expected to be significant.

HAZARDOUS MATERIALS

As with the proposed project, this alternative would require deconstruction of an existing office building and excavation of fill material. These processes would be monitored for any contaminated materials and be handled or disposed of in accordance with all applicable local, state, and federal regulations. This alternative would present no significant adverse impacts related to hazardous materials.

CONSTRUCTION

As is the case with the proposed project, construction activity under this alternative would be short-term and would be of limited intensity. Construction under this alternative would have a shorter duration than the proposed project, due to its smaller size, but would still require similar equipment and transportation of materials having similar effects as the proposed project. There would be no significant adverse impact from the construction of this alternative.

ALTERNATIVE F: NO ACTION ALTERNATIVE

Alternative F: No Action Alternative assesses future conditions if the proposed project is not built and the existing use of the project site continues. This assessment corresponds to the "Future Without the Proposed Project" analyses provided in each chapter of this DEIS. Without the proposed project, no future development is planned on the project site. The existing office building would continue to operate under existing conditions.

LAND USE, ZONING, AND PUBLIC POLICY

Under Alternative F, land use is not expected to change on the project site or in the surrounding area. According to the Town of North Castle Planning Department, no planned development projects are currently proposed in the Town that would affect land use in the study area. The Town of Greenwich (Connecticut) Planning Department also confirmed that no development projects are planned in the vicinity of the project site. The study area would continue to be dominated by office uses and transportation uses, with residential uses being limited to the outskirts of the study area. The existing office building on the project site would continue to operate under existing conditions.

No changes to the Town zoning code that would affect the project site are expected without the proposed project. The project site would remain subject to standards established for the IND-AA zoning district. No significant changes to any Town public policy documents are expected that affect the study area. Westchester County is expected to continue developing *Westchester 2025*, an updated master plan for the County, replacing *Patterns for Westchester* (see Chapter 3, "Land Use, Zoning, and Public Policy," for further discussion). This regional policy document would provide an updated overview of the County's development patterns and provide a guide to Westchester municipalities to promote sustainable and environmentally-conscious development.

VISUAL RESOURCES

Alternative F would not result in any changes to the project site or surrounding area. As discussed above, no significant development projects are planned in the vicinity of the project site that would alter the visual character of the area. Therefore, no significant adverse visual impacts would result from Alternative F.

HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

Because Alternative F would not result in any alteration or disturbance of the project site, no impacts to historic, archaeological or cultural resources would result from this alternative. The architectural integrity of the existing office building and surrounding office buildings would remain in tact.

NATURAL RESOURCES

No site disturbance or site changes are proposed on the project site without the proposed project. Therefore, the Alternative F would not result in removal of any vegetation or wildlife habitat.

GEOLOGY, SOILS, TOPOGRAPHY, AND SLOPES

Alternative F would not result in any site disturbance. Therefore, no grading or excavation would occur. This alternative would have no impacts on geology, soils, topography, and slopes.

WATER RESOURCES

Under Alternative F, the project site would continue to operate under existing conditions and no land disturbance would occur. Therefore, groundwater and surface water resources would not be affected under this alternative. Water demand would be expected to remain similar to existing conditions and would not affect groundwater supply.

STORMWATER

Under Alternative F, no improvements to on-site stormwater runoff would occur and no stormwater improvement to the adjacent property would occur. The existing impervious surfaces from Lot 14B and adjacent Lot 13A that were constructed prior to federal and state regulations stormwater regulations were promulgated would continue without any modification. Therefore, pollutants that are deposited through atmospheric deposition and surface runoff would continue to be conveyed directly to the streams and ultimately discharging to the Kensico Reservoir. Stormwater would continue to discharge directly to the waterbodies from the project site and from the adjacent site without any control with respect to the volume or velocity, and without any water quality treatment. Stormwater runoff from the roof and paved surfaces would continue

to flow overland toward the watercourse, causing erosive conditions in some areas of the lawn. This would include the existing 9,000 square foot building on the project site, and the 5,370 square feet (0.12 acres) of impervious surfaces from the adjacent existing office building roof runoff and associated parking area of Lot 13A. No further clearing, grading, filling, or excavating within the water resources and their buffers would occur, with the exception of ongoing site maintenance. The proposed project would provide more impervious cover but in turn would provide an overall improvement in stormwater runoff quantity and quality. The proposed project includes the implementation of a stormwater treatment train that includes green practices, such as stormwater planters and rain gardens, a surface sand filter and wet pond.

COMMUNITY FACILITIES AND SERVICES

Under Alternative F, the existing office use on the project site would continue to operate under existing conditions. No improvements, site alterations, or any other changes are planned that would affect demand on community services and facilities. The project site would not be used for recreational or open space purposes, nor would it be a candidate for these uses as it is isolated from other areas by heavily traveled highways. The project site does not offer connectivity to any areas of open space or recreational uses.

No immediate changes to community facilities and services would be anticipated without the proposed project. As indicated by the Town, there are no significant development projects currently planned in the Town that would affect demand for municipal services. As stated above, according to estimates presented in the Westchester County Databook, the population of North Castle grew from 10,849 in 2000 to 12,148 in 2008. It is expected that municipal services would be adjusted as needed to accommodate any growth in the community and any increases in demand on their services.

INFRASTRUCTURE AND UTILITIES

Under Alternative F, no alterations to infrastructure or utility services would occur. The project site would continue to be served by an existing well for its potable water supply and would be served by existing municipal sanitary sewer services, electricity providers, and solid waste services. No development is planned on the project site and no changes in demand on these services are expected without the proposed project.

ECONOMIC CONDITIONS

Under Alternative F, the Town would not benefit from the expanded tax revenues that the proposed project would generate. Since no site changes would occur, Alternative F would not result in any economic benefits from construction. In addition, the property taxes of the project site would be more than five times less than those of the proposed project. Therefore, the Town of North Castle, Westchester County, and the Byram Hills Central School District would not receive this substantial benefit.

As discussed earlier in this DEIS, there are no other planned development projects currently before the Planning Board that would help support that Town's financial resources while having minimal burden on municipal services, as with the proposed project. The North Castle Police Department reported that five officers' positions were recently eliminated due to budget constraints. Further budget cuts may be necessary in the future under the Alternative F without additional funding or revenue sources.

TRAFFIC AND TRANSPORTATION

The No Action Alternative would not result in any changes in existing traffic on the project site or the surrounding area. Westchester County would continue to alert drivers to avoid driving to the airport, and those travelling to Westchester County Airport would continue to use two round trip rides. Those that do chance driving and finding a parking space would circulate throughout the parking structure in hopes of finding a space to park.

Any traffic increases on surrounding roadways would be attributed to normal background growth as no significant development projects in the study area are currently planned. For this area, a background growth factor of 2.5 percent per year is used to determine future traffic conditions, as discussed in Chapter 13, "Traffic and Transportation."

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The No Action Alternative would not result in any impacts to air quality and greenhouse gases. The opportunity for reducing the number of vehicular trips to the airport, with a corresponding decrease in the amount of greenhouse gases, would not exist and the greenhouse gas emissions from two round trips to the airport would continue. The existing office use on-site would continue to operate under existing conditions with no changes to mobile or stationary sources of air pollutants.

NOISE

Under the No Action Alternative, no changes to existing conditions on the project site would occur. Therefore, no significant adverse noise impacts would result from the No Action Alternative.

HAZARDOUS MATERIALS

The No Action Alternative would not result in any site alterations or changes to the existing office building on the project site. Therefore, no impacts related to hazardous materials would occur under the No Action Alternative.

CONSTRUCTION

The No Action Alternative would not result in any construction activities. The project site would remain under existing conditions with no expected significant alterations. ✷

Chapter 19: Adverse Impacts that Cannot Be Avoided if the Proposed Project is Implemented

The technical analyses presented in this Draft Environmental Impact Statement (DEIS) examined the potential for significant adverse impacts resulting from the proposed project. Through the analyses, no unavoidable, significant adverse impacts were identified. As discussed in each of the technical chapters in this DEIS, the proposed project would create a number of physical changes to the project site. Several environmental impacts would result that cannot be avoided; however, none of these impacts are considered significant. Potential adverse impacts include the following:

- Zoning: Potential adverse impacts may result from the proposed project, as it would require an amendment to the Town of North Castle Zoning Code to allow parking structures with a special use permit in the IND-AA zoning district. The proposed zoning amendment would incorporate restrictive locational requirements to ensure that any additional parking structures would only be located in appropriate areas that do not compromise the residential character of the Town. Bulk and dimensional standards would be in place to minimize visual impacts related to the size of any parking structures. However, the proposed maximum permitted building height (60 feet) and minimum permitted building setbacks (front: 50 feet; side: 10 feet; rear: 50 feet) may result in adverse visual impacts as the facility is viewed from surrounding streets. But due to the existing character of the study area (i.e., office buildings and heavy transportation uses such as I-684 and Westchester County Airport), it is the applicant's opinion that visual impacts would not be expected to be significant. Therefore, in the applicant's opinion, this change in zoning would not have a significant adverse impact on the Town of North Castle.
- Visual Resources: The proposed project would alter the appearance of the project site from a 9,700-square-foot one-story office building to a five-story, 56-foot tall parking structure with a building footprint of approximately 51,000 square feet, thereby potentially resulting in an adverse impact related to visual resources. Although there would be greater building mass on the site, the project site is located in an area characteristic of office buildings and heavy transportation uses, such as I-684, NYS Route 120, and Westchester County Airport. Further, this area is zoned for office, business, light industrial, and other non-residential uses, making it an appropriate location for a parking structure. Vegetative screening would be provided to reduce visual impacts from surrounding roadways. Trees and other vegetation would be preserved to the extent possible, and a landscape plan would be incorporated with the proposed project to revegetate disturbed areas and to improve the aesthetic quality of the site. Ivy would be provided along the structure's base level, as well as its north elevation, to further improve its appearance. In addition, the proposed parking facility would be constructed with materials having earth tones that blend with the surrounding environment. Due to the project site's location and the mitigation measures described above, in the applicant's opinion, any adverse visual impacts associated with the proposed project would not be considered significant. However, the lead agency may require additional screening or other mitigation measures to further reduce potential visual impacts.

- Natural Resources: The proposed project would result in the removal of trees and other vegetation and wildlife habitat, thereby resulting in a potential adverse impact to natural resources. A total of 122 trees equal to or greater than 8 inches in diameter would be removed, 25 of which would be significant trees (i.e., 24 inches or greater in diameter), as defined by the Town Code. No threatened or endangered species of plants or animals were identified on the project site. Several "exploitably vulnerable" plant species were identified onsite, which are protected species likely to become threatened if causal factors continue unchecked. There is nothing to preclude a property owner from removing "exploitably vulnerable" plants on private property. The "exploitably vulnerable" plants found on the project site are primarily located within the existing wetland, which would remain largely undisturbed. Some incidental removal of "exploitably vulnerable" plants would occur, but because these plants are common to the area and many of these plants would continue to occur in undisturbed areas, impacts are not expected to be significant. The proposed landscape plan would incorporate several of the "exploitably vulnerable" plants expected to be removed, thereby mitigating potential loss of these plants. The project site does not provide any connectivity to wildlife corridors due to existing development and the local road network. As stated above, a landscape plan would be implemented with the proposed project to revegetate disturbed areas with native plant species. The landscape plan would include plants that provide habitat and food sources for wildlife, potentially improving floristic and faunal diversity onsite. Therefore, in the applicant's opinion, any adverse impacts on natural resources resulting from the proposed project would not be significant.
- Hazardous Materials (Groundwater Resources): Fill material was encountered on the project site during the 2008 Preliminary Soils and Foundation Investigation conducted by Mellick-Tully and Associates, P.C., which appears to be a result of previous grading activities. Fill material has the potential to contain semi-volatile organic compounds and heavy metals. Therefore, fill material can potentially result in groundwater contamination, particularly when it is disturbed or excavated. If not handled properly, removal and transport of fill material can have an adverse impact on soil and groundwater resources. In a Phase I Environmental Site Assessment (ESA) conducted by The Chazen Companies in 2002, no sources of groundwater contamination were identified on the project site. Any fill material excavated during construction of the proposed project would be tested and, if found to be contaminated, would be handled and disposed of in accordance with all applicable federal, state and local regulations to ensure water resources would not be adversely affected. Therefore, in the applicant's opinion, the proposed project would not have any significant adverse impacts related to existing fill material.
- Surface Water Resources: Construction of the proposed project would require disturbance to a regulated wetland and regulated 100-foot watercourse and wetland buffer areas, thereby potentially resulting in adverse impacts to surface water resources. Wetlands and surface waters were initially delineated per Town and U.S. Army Corps of Engineers (USACE) standards in June and October 2008. Subsequently, in December 2010, the Town made preliminary modifications to the wetland boundary, which it intends to confirm during the 2011 growing season. The analyses in this DEIS are based on the December 2010 preliminary wetland boundary. A small portion of the onsite Town-regulated wetland would be directly disturbed for the proposed building and grading necessary for the stormwater basins. Direct wetland disturbance would be 5,669 square feet, subject to confirmation of the wetland line by the Town and by the USACE during the growing season. The watercourse buffer area is regulated by the Town of North Castle, as well as the New York State Department of Environmental Conservation (NYSDEC) and New York City Department of Environmental Protection

(NYCDEP) due to the project site's location within the New York City watershed. The wetland buffer area is regulated by the Town of North Castle. A total of 1.83 acres of land within the Town-regulated 100-foot watercourse and wetland buffer area would be disturbed. Much of this land, approximately 0.81 acres, is currently disturbed under existing conditions due to the existing office building and accessory parking area and maintained lawn on the project site. Disturbance to the wetland and watercourse buffer areas would be primarily related to improvement of the existing site access drive, development of stormwater management practices, construction of a pervious stormwater maintenance path and construction of a pervious emergency fire access way. Permit applications to disturb the watercourse buffer area would be submitted to the appropriate regulating agencies. Wetland mitigation would occur through the stormwater management plan, which would develop a new pocket wetland vegetated with water tolerant species to replicate wetland functions. The stormwater management area would include 12,675 square feet of growing space that would be planted with facultative and hydrophytic vegetation to compensate for loss of existing wetlands, thereby providing a 2.2:1 wetland mitigation. Therefore, in the applicant's opinion, disturbance to any watercourse and wetland buffer areas would not be considered significant. However, it is acknowledged by the applicant that the Town may not accept required stormwater management facilities to serve as wetland mitigation and would therefore work with the Town to identify the opportunities for offsite mitigation if adequate wetland mitigation can not be achieved onsite.

- Construction: Construction of the proposed project would result in a number of potential short term adverse impacts related to traffic, noise, air quality, and soil erosion. Traffic would be related to construction workers and larger trucks making occasional deliveries to the project site. Construction vehicle operators would be instructed to use I-684, as the project site is located just off of Exit 2. Some vehicles may access the site from NYS Route 120. Because there is sufficient highway access to the site, construction vehicles would not be required to use residential streets. Construction vehicles, as well as construction equipment, would generate noise during construction. However, construction activities would comply with all applicable noise and construction regulations in the Town Code. The nearest sensitive noise receptors (i.e., single-family residences) are located more than 400 feet from the project site entrance. Due to the site's flag lot configuration, actual construction activities would primarily occur further within the site, over 550 feet from the nearest single-family residences. Construction activities would also require ground disturbance, which can result in fugitive dust. Measures would be in place, such as watering of dry areas and truck mats, to reduce dust and reduce impacts to air quality. To further reduce potential adverse impacts related to air quality, unnecessary idling of construction vehicles would be prohibited onsite. Ground disturbance would also result in the potential for soil erosion and sedimentation of water bodies. A Stormwater Pollution Prevention Plan (SWPPP) would be implemented, including an Erosion and Sediment Control Plan (ESCP), to minimize erosion and sedimentation. The SWPPP and ESCP would conform to New York State Department of Environmental Conservation (NYSDEC) requirements for a SPDES General Permit and would therefore ensure all appropriate measures are put in place to avoid and minimize impacts related to erosion and sedimentation. Although the proposed project may result in several adverse impacts related to construction activities, it is the applicant's opinion that these impacts would not be significant due to the mitigation measures described above, the project site's distance from single-family residences and other sensitive land uses, and the temporary nature of construction.

All adverse impacts would be mitigated by the proposed project. Therefore, the proposed project would have no unavoidable adverse impacts. ✷

Chapter 20: Irreversible and Irretrievable Commitment of Resources

This chapter describes the irreversible and irretrievable commitment of resources that would result from the proposed project. Natural and manmade resources would be expended in the construction and operation of the proposed project. These natural resources include the use of land and energy. Manmade resources include the effort required to develop, construct, and operate the proposed project; building materials; financial funding; and motor vehicle use. Resources are considered irretrievably committed because it is highly unlikely that they would be used for some other purpose.

The use of land is the most basic of irretrievably committed resources, as the development of the proposed multi-level automated parking structure requires the commitment of land. As Park Place is proposed on property that was previously developed, it would not have an adverse effect on existing open space or significant forested areas within the Town of North Castle.

The building materials used for the construction of the proposed project (steel, concrete, glass, etc.), and the energy (gas and electricity) consumed during the construction and operation of the facilities by the various mechanical systems (e.g., heating, hot water, air conditioning), would be irretrievable.

To mitigate any potentially adverse impacts associated with the irreversible and irretrievable commitment of resources, the project sponsors would incorporate a series of sustainable development practices into the construction, operation, and management of Park Place. As further documented in Chapter 2, "Project Description," the proposed project would utilize the following sustainable development practices:

1. Efficient, Low level emergency artificial lighting. The majority of the building is dedicated to automated vehicle storage. As such, the only lighting required in this area is the minimal level required for building technicians and for emergency and maintenance needs. The lighting for the waiting room, office and other enclosed building service spaces would be highly efficient, fluorescent fixtures connected to occupancy sensors.
2. Plumbing requirements for this facility are limited. Low flow plumbing fixtures that would reduce up to 30 percent of water usage are proposed for the waiting room area. A car wash with greater than 70 percent recycled water usage is also proposed.
3. Mechanical systems would be limited to make-up air and exhaust air units in the storage areas. Due to 'no emissions' in the storage spaces, two units are proposed with multiple fan speeds and a carbon monoxide detector to allow the system to run on the minimum amount of mechanically processed air necessary to keep the building properly ventilated.
4. Local building materials wherever possible would be incorporated to reduce transportation costs. This would be considered within the project specifications and would be reviewed during the construction administration phase on a regular basis with the team of contractors.

5. High levels of recycled building materials with no VOC's would be listed in the project specifications.
6. Wall mounted planting trellis systems are proposed for portions of the building façade.
7. White heat reflective roofing would be used to reduce the 'heat island' effect of traditional dark roofs.
8. Minimal site light fixtures with cut-off type housings would be included along the entrance drive to allow safe passage of vehicles and pedestrians.
9. A regular building maintenance plan would be incorporated which utilizes bio-degradable cleaning products.
10. The vehicle palettes would be designed to contain fuel in the case of a leaking automobile. Drains would not be designed into the storage floors, so that a spill would sit on the sealed floor surface until cleanup has been performed.

Since the proposed project would utilize a previously developed project site, as well as sustainable development practices, the commitment of the irreversible and irretrievable resources identified above would not be anticipated to result in any significant adverse impacts.✷

Chapter 21: Impacts on the Use and Conservation of Energy

A. INTRODUCTION

This chapter discusses the impacts on energy use from the proposed project and the energy conservation measures that would be implemented with the proposed project.

B. EFFECTS ON ENERGY USE

Electric services are provided to the project site by Consolidated Edison (Con Ed). As described in Chapter 11, "Infrastructure and Utilities," the proposed project would consume 1.77 million kilowatt hours (kWh) annually. The proposed project would increase annual energy use on the site by approximately 1.67 million kWh from existing conditions. It is anticipated that some of this energy usage would be offset by onsite energy production through the use of photovoltaic cells or other green technologies. As discussed in Chapter 11, Con Ed has the capacity to service the site, but some upgrades to the existing transformer and underground feeders on the project site would be required. A back-up diesel generator would be located onsite.

C. ENERGY CONSERVATION MEASURES

The applicant would implement a number of energy conservation measures as part of the proposed project. The following energy-saving measures are being incorporated or contemplated:

1. Efficient, low level emergency artificial lighting. The majority of the building is dedicated to automated vehicle storage. As such, the only lighting required in this area is the minimal level required for building technicians for emergency and maintenance needs. The lighting for the waiting room, office and other enclosed building service spaces would be highly efficient, fluorescent fixtures connected to occupancy sensors.
2. Mechanical systems would be limited to make-up air and exhaust air units in the storage areas. Due to 'no emissions' being generated in the storage spaces, only two units with multiple fan speeds and a carbon monoxide detector would be needed to allow the system to run on the minimum amount of mechanically processed air necessary to keep the building properly ventilated.
3. Minimal site lighting fixtures with full cut-off type housings would be included along the entrance drive to allow safe passage of vehicles and pedestrians.
4. A 475 kWh photovoltaic array is being considered for the roof of the parking garage. It would be anticipated that the power generated by this photovoltaic array would offset the annual energy consumption of the proposed project by 547,153 (0.55 million) kWh, or 30 percent of that generated by a conventional electric plan.

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Chapter 22: Growth Inducing Aspects of the Proposed Project

A. INTRODUCTION

This chapter assesses the potential for the proposed project to induce growth. As described below, the proposed project is not anticipated to bring new users to the area or to Westchester County Airport; to introduce a substantial number of new residents or workers to the study area; or to spur offsite development.

B. POTENTIAL FOR NEW USERS OF WESTCHESTER COUNTY AIRPORT

As discussed in Chapter 13, "Traffic and Transportation," the 1,450 parking spaces associated with the proposed project would be anticipated to capture travelers that would otherwise utilize taxis, limousines, or friends/family to drop them off and pick them up at the airport, or that would drive themselves to existing airport parking areas. A consumer's choice of airport is based on a variety of factors, including airline ticket availability and cost, as well as location and convenience. While the addition of a new parking garage to service the airport would increase the convenience of Westchester County Airport, it is not anticipated to generate a substantial number of new users.

C. POTENTIAL FOR NEW FLIGHTS TO WESTCHESTER COUNTY AIRPORT

Flight schedules are regulated by the Federal Aviation Administration (FAA), and are therefore outside the control of the project sponsor. The proposed project is not anticipated to increase the number of travelers at Westchester County Airport, nor the frequency of commercial flights. In addition, the proposed project would have no impact on flights into or out of Westchester County Airport due to the existing agreement between the airport and the FAA and the U.S. Attorney (May 2004) regarding the operating capacity of the existing Westchester County Airport terminal.

D. POTENTIAL FOR NEW RESIDENTS AND WORKERS

The proposed project would generate about 35 new full and part-time jobs during the operational period, an increase of 10 to 15 over the number of individuals employed at the existing office building. However, it is not anticipated to necessitate, nor facilitate, new demands for commercial services, or create the need for new housing offsite. While it is possible that new employees of the proposed project would seek residential opportunities in North Castle, the change in population is expected to be negligible. Existing available housing stock and approved housing projects would adequately fulfill needs of new employees of Park Place who wish to move to North Castle.

A number of local businesses near the project site would likely experience increased patronage from employees during construction, as well as employees after the proposed project is completed. It is expected that this patronage would be welcomed in the business community.

Since the proposed project would capture exiting users of Westchester County Airport, demands for certain community services, such as emergency services, are not anticipated to change. As discussed in Chapter 12, "Economic Conditions," the cost of providing municipal services would be adequately funded by tax revenues generated by the proposed project. Chapter 11, "Infrastructure and Utilities," demonstrates that adequate capacity exists to serve the public utility needs of the site.

E. POTENTIAL FOR FURTHER OFFSITE DEVELOPMENT

The proposed project is not anticipated to result in any significant growth inducement, nor is it anticipated to result in the proliferation of similar structures within the Town of North Castle. The proposed amendment to the Zoning Ordinance as described in Chapter 3, "Land Use, Zoning, and Public Policy," would not result in any growth-inducing aspects. The proposed zoning amendment would only affect parcels of land located in the IND-AA Zoning District. In the Town of North Castle, the IND-AA district is limited to the area surrounding and including Westchester County Airport. This area is generally bounded by NYS Route 120, and the Town's border with Greenwich, CT; Harrison, NY; and Rye Brook, NY. Under the proposed amendment, parking structures would be a use requiring a special permit. As such, they would be required to meet certain conditions. Parking structures would be required to be located on lots or assemblages of parcels aggregating not less than two acres in area. Such parking structures would not be permitted to adjoin nor be located within 50 feet from any residentially zoned land. Access and frontage would be required to be on a state or county highway, or nonresidential collector road less than 1,500 feet from an intersection with a state or county highway. These Special Permit conditions limit the number of locations a parking structure such as the proposed project could be located. Since adjacent existing parcels that meet these development criteria are substantially developed, no significant growth-inducing aspects are anticipated from the proposed zoning amendment.

F. CONCLUSION

For the reasons identified above, the proposed project is not anticipated to result in any significant growth inducing aspects. ✷