



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

**NOTICE OF COMPLETION**  
**of the**  
**DRAFT ENVIRONMENTAL IMPACT STATEMENT**  
**for the**  
**CHARLESTON MIXED-USE DEVELOPMENT PROJECT**

**Lead Agency:** Office of the Deputy Mayor for Economic Development  
100 Gold Street, 2nd Floor  
New York, NY 10038

**CEQR Number:** 13DME001R

**SEQR Classification:** Type I

**Date Issued:** May 2, 2013

**Location:** Community District 3, Borough of Staten Island

Pursuant to City Environmental Quality Review, Mayoral Executive Order 91 of 1977, as amended, and the City Environmental Quality Review Rules of Procedure found at Title 62, Chapter 5 of the Rules of the City of New York (CEQR), and the State Environmental Quality Review Act, Article 8 of the State Environmental Conservation Law and its implementing regulations found at Part 617 of 6 NYCRR (SEQRA), a Draft Environmental Impact Statement (DEIS) has been prepared for the actions described below and is available for public inspection at the offices listed on the last page of this notice. A draft Scope of Work for the Environmental Impact Statement (EIS) was issued and distributed on September 28, 2012 and a public scoping meeting was held on December 10, 2012. The scoping meeting was held at Mount Loretto Church Community Center, 6581 Hylan Boulevard, Staten Island, NY to accept oral comments, and written comments were accepted until December 21, 2012.

The Final Scope of Work was issued on April 30, 2013 and reflects analyses determined to be appropriate for inclusion in the EIS.

A public hearing on the Draft Environmental Impact Statement (DEIS) will be held at a later date to be announced. Advance notice will be given of the time and place of the hearing. Written comments on the DEIS are requested and will be received and considered by the Lead Agency until the tenth calendar day following the close of the public hearing. Subsequent notice will be given as to the time and place of the public hearing and the close of the public comment period.

## 1. PROJECT DESCRIPTION

The New York City Economic Development Corporation (NYCEDC) is sponsoring an initiative to allow for the development of an approximately 66-acre parcel (the “Development Area”), located in Charleston, Staten Island, with parkland, retail, residential, and community facility uses and the mapping and construction of new public streets. In addition, NYCEDC is seeking to map as parkland an existing approximately 20-acre Conservation Area, which is located adjacent to the Development Area and to map adjacent privately-owned streets. The overall proposed project is referred to as the Charleston Mixed-Use Development (the “Proposed Project”).

The Development Area, the Conservation Area and existing private streets to be mapped, constitute the “Project Area.” The Project Area encompasses approximately 93 acres, including the mapping of streets, utility corridors, and the Conservation Area. The Project Area is generally bounded to the north by the future northern limit of Englewood Avenue and Clay Pit Ponds State Park Preserve, to the south and east by Veterans Road West, to the west by Arthur Kill Road, and to the south by the shopping center known as the Bricktown Centre at Charleston Mall (“Bricktown Centre”).

The Charleston Mixed-Use Development consists of a number of discrete project elements that would be undertaken by different entities. The Project Area is divided into the following development parcels:

- **Parkland:** The NYC Department of Parks and Recreation (“NYCDPR”) would map and develop an approximately 23-acre park site (Fairview Park) with areas for both active and passive recreation. Adjacent to this new park, the existing approximately 20-acre Conservation Area would be mapped as parkland, creating approximately 43 acres of contiguous mapped parkland.
- **Retail Site “A”:** A private developer has been selected to develop this approximately 11-acre site. This site would include a branch of the New York Public Library (“NYPL”). This site would be accessed from the existing privately-owned Bricktown Way/Tyrellan Avenue that would be mapped as streets as part of the Proposed Project.
- **Retail Site “B”:** This site consists of approximately 7.3 acres (not including approximately 1.3 acres of a proposed utility corridor and existing private easement area which divide the site). If the proposed utility corridor is not used, development of Retail Site “B” could be increased from 7.3 to approximately 8 acres, with only the area of the existing private utility easement remaining vacant. Retail Site “B” would be privately developed pursuant to a Request for Proposals (“RFP”) in the future.
- **Housing:** The NYCEDC would offer this approximately 9.1-acre site for senior housing in the future.
- **Public School:** The NYC School Construction Authority (“NYCSCA”) would construct a combined elementary/middle school on the approximately 6-acre site.
- **Street Mappings and Constructions:** Englewood Avenue would be mapped and constructed across the northern border of the Project Area (approximately 5.9 acres) and would connect Veterans Road West on the east to Arthur Kill Road on the west. In addition, Bricktown Way and Tyrellan Avenue, both privately-owned streets that currently serve the adjacent Bricktown Centre shopping center, would be mapped (approximately 6.4 acres).
- **Utility Corridor:** An approximately 50-foot wide access and utility corridor, running directly north of the existing private utility easement, would also be created for potential roadway or utility connections to Arthur Kill Road (approximately 1.9 acres).

To facilitate the redevelopment project, a number of discretionary actions would be required. Adoption of proposed Uniform Land Use Review Procedure (ULURP) actions would involve public review by a number of entities, which include, depending on the action, Staten Island Community Board 3 (CB3), the Staten Island Borough President, the New York City Planning Commission (CPC), and the New York City Council. These actions include zoning map changes and zoning text amendments, zoning special permits, authorizations and certifications, City map amendment, the disposition/sale of City-owned property, and an acquisition. Mayoral and Borough Board approval of the business terms with any selected developer(s) would also be required. A private developer has been selected, pursuant to a Request for Proposals (RFP), to develop Retail Site “A.” However, developers have not yet been identified for Retail

Site “B” or the Senior Housing site. Should the discretionary actions subject to ULURP be approved, an additional RFP process would solicit proposals for development of Retail Site “B” and the Senior Housing site.

## **SITE DESCRIPTION**

The Project Area is located in the southwestern portion of Staten Island Community District 3, within the area bounded by Veterans Road West to the east and south, Arthur Kill Road to the west and the extension of Englewood Avenue to the north.

The entire Development Area is vacant, undeveloped, and covered with vegetation. The amount of vegetation, predominantly trees and other types of vegetation, varies across the Development Area. The majority of the Development Area is undisturbed. Open-field areas are located within the northern portion of the Development Area, parts of which were previously cleared between 2002 and 2004. The western portion of the site contains some vacant open areas with trees along the east side of Arthur Kill Road. Portions of the Project Area include trails formed by hikers and horse riders; some areas in the northern portion of the Project Area have informal equestrian trails.

The surrounding area contains a mixture of land uses and vacant areas covered with natural features. Vacant and undeveloped areas can generally be found north of the Project Area, with designated open space and conservation areas northeast and east of the site towards the West Shore Expressway. Moving clockwise, commercial and retail stores, including large big-box retail stores, are generally located southeast and south of the site along Veterans Road towards the Outerbridge Crossing. A mixture of industrial, transportation and facility uses, as well as tracts of vacant and undeveloped land, are generally located southwest and west of the Project Area around Arthur Kill Road. A gated residential community of two-story homes (the Tides) is located within the western portion of the study area along the Arthur Kill waterfront, with a mixture of additional detached residences and commercial and industrial storage lots situated northwest of the Project Area along Androvette and Kreischer Streets, part of the neighborhood historically known as Kreischerville.

## **DISCRETIONARY ACTIONS SUBJECT TO CEQR AND SEQRA**

The proposed mixed-use development would require multiple City approvals. Some of these are discretionary actions requiring review under the CEQR process. The Office of the Deputy Mayor for Economic Development (ODMED) is the lead agency for CEQR. The potential discretionary actions that would be required for the proposed development include:

- Zoning Map amendments to rezone the existing M1-1 zone to R3-2 for the housing and school sites and C4-1 for the retail sites, including the rezoning of two privately-owned lots (Block 7494, Lots 1 and 88) that would not be redeveloped by the Proposed Project. These two private properties are being rezoned at the request of the NYCDCP to provide a regular and rational zoning district boundary.
- Authorizations and Certifications by the City Planning Commission (“CPC”) related to the Special South Richmond Development District (“SRD”) site plan approval, and reduction in required parking within C4-1 zoning districts.
- Certification by the CPC pursuant to New York City Zoning Resolution (ZR) Section 36-596 to waive the requirement for a cross-connection between retail sites (the proposed Retail Sites “A,” “B,” and the adjacent Bricktown Centre parcel), reflecting conditions on and near the sites that would make it difficult for cross-connections to be accommodated and provide cars access connections along Bricktown Way.
- Authorization pursuant to ZR Section 36-023 for site planning and to reduce the parking requirement in a C4-1 district.
- Authorization for City acquisition of an approximately 4,000 square foot privately-owned parcel (Block 7375, Lot 7) located within the area of the site for the proposed school.
- Acquisition by the City of a public access easement for unrestricted public, vehicular, pedestrian and bicycle access over Bricktown Way and Tyrellan Avenue to facilitate access to Retail Site “A,” the proposed NYPL branch, and the proposed Fairview Park;

- Mayoral and Borough Board approval of the business terms of the sale of the disposition parcels pursuant to Section 384(b)(4) of the New York City Charter.
- Mapping of approximately 43 acres of contiguous parkland, including the approximately 23 acres of a new recreational area in the proposed Fairview Park and the approximately 20 acres of the existing Conservation Area.
- Mapping of Englewood Avenue, as needed, from Veterans Road West to Arthur Kill Road to a width of 80 feet, including authorization to acquire all or portions of privately owned property within the proposed bed of the mapped street and the negotiated transfer of ownership of a portion of land within the existing mapped bed of the proposed roadway from New York State.
- Mapping of the privately-owned Bricktown Way and privately-owned Tyrellan Avenue within the Project Area as streets.
- Extinguishing of Third Street, Pembine Street, Bayne Avenue, Goethals Avenue, Burr Avenue, Claude Street, Alice Street, Baxter Street, Beaver Street, and Cady Avenue in their entirety, as well as Coke Street south of Englewood Avenue. These 11 record streets are currently mapped to a width of 50 feet, but are not built.
- Replacement of impacted trees in public property under the jurisdiction of the New York City Parks Department (NYCDPR) per Local Law 3 (*Local Laws of the City of New York for the Year 2010*).
- Site selection for a new NYPL library branch.
- New York State Department of Environmental Conservation (“NYSDEC”) and/or U.S. Army Corps of Engineers (“USACOE”) permits: In order to implement the proposed plan, USACOE and/or NYSDEC permits may be required for building within buffer zones surrounding jurisdictional wetlands.

***Further Discretionary Public Actions and Approvals***

In order to implement some of the development components of the Proposed Project, it is likely that further discretionary approvals may be required that require further public review. These additional actions would be subject to additional environmental review, as appropriate. Further CPC authorizations and certifications may be required for the development of the senior housing parcel, in accordance with SRD requirements, and further discretionary actions, such as CPC approval of a Large Scale Development Plan, may be necessary. Further public review per the NYCSCA’s process may also be required for the proposed school. The negotiated transfer of ownership of a portion of land within the existing mapped bed of the proposed roadway from New York State may require further state environmental review.

**2. ANALYTICAL FRAMEWORK FOR ENVIRONMENTAL REVIEW**

The Charleston Mixed-Use Development Project DEIS was prepared in accordance with the guidelines in the 2012 *CEQR Technical Manual*, which sets forth methodologies for environmental impact assessment consistent with SEQRA.

***DEFINING BASELINE AND FUTURE CONDITIONS***

***Existing Conditions***

For each technical area assessed in the EIS, the current conditions must first be described. The assessment of existing conditions establishes a baseline against which future conditions can be projected.

***Future No-Action Condition***

The DEIS analyzes the effects of a Proposed Project on its environmental setting. Since the development allowed under a Proposed Project would occur by some future “analysis” or “build” year, the EIS must first establish what changes to the current environment would occur by that future year in the absence of the

Proposed Project. The potential impacts of the elements of the Proposed Project were assessed in the DEIS for two analysis years: 2015 and 2020.

The “future without the proposed project” or “Future No-Action Condition” describes the projected future conditions without the Proposed Project that are compared against the “Future With-Action Condition” discussed below to identify the incremental changes due to a proposed project. The Future No-Action Condition uses existing conditions as a baseline and adds to it changes known or expected to be in place by the analysis year(s). The Future No-Action Condition within the Development Area is anticipated to be a continuation of existing conditions. If the Proposed Project is not approved, the Development Area is expected to remain in its existing vacant condition. No other projected or potential development is planned or considered likely to occur in the Development Area by the years 2015 or 2020.

For many technical areas, the Future No-Action Condition also incorporates known development projects that are likely to be built by the analysis years within the surrounding area. This includes development currently under construction or that can be reasonably anticipated to occur due to the current level of planning and public approvals. The following is a list of known projects that were considered in the DEIS analyses of the future without the Proposed Project:

- 236 Richmond Valley Road: 5,000 square feet of commercial development.
- 245 Richmond Valley Road: 8,000 square feet of commercial development.
- 4830 Arthur Kill Road: 14,674 square feet of retail space.
- Veterans Plaza Food Store: 70,000 square feet of retail space.
- Veterans Road West at Tyrellan Avenue: 58,030 square feet of retail space.
- Gateway Cathedral Residential: 70 residential units and additional recreational amenities.
- Veterans Road Realty Corp: 51,000 square feet of retail space.

In addition, a new public school (P.S. 62) is under construction on the northwest quadrant of the Woodrow Road/Bloomington Road intersection that was not identified during the scoping process. This project lies outside the study area for all analyses of the Proposed Project except for Transportation. A review of the traffic analysis in the P.S. 62 FEIS shows that the school’s analysis shares four study intersections with the transportation analysis for this DEIS. However the school’s peak hours only partially overlap with one of the Proposed Project’s peak hours – the weekday AM peak hour (8:00 to 9:00 AM). The inclusion of the trips generated by P.S. 62 at those locations in the AM peak hour would not result in any additional traffic impacts due to the Proposed Project, worsen impacts already identified, or alter the proposed mitigation measures at those locations. The P.S. 62 trips will be added to No-Build traffic volumes as part of the planned traffic re-analysis between the Draft and Final EIS.

It should also be noted that the New York State Department of Transportation (NYSDOT) is advancing the design of improvements to the southbound West Shore Expressway (WSE) ramp system and adjacent surface street intersections north of Englewood Avenue just north of the Project Area. The purpose of these improvements is to improve access to and from the Charleston commercial district, improve traffic safety, and alleviate congestion along the WSE and on the surrounding street system. Their construction may affect the visual perception of the study area. These improvements were not identified during the scoping process, but will be further discussed and analyzed in the Final Environmental Impact Statement (FEIS)

A Request for Proposals (“RFP”) was issued on June 22, 2012 by the New York State Urban Development Corporation (UDC) for the redevelopment of the former Arthur Kill Correctional Facility, a 69-acre waterfront site on Arthur Kill Road approximately one mile north of the Project Area. The RFP expected possible future uses on the site would be new destination retail, maritime and light industrial development, and other options that would maximize the creation of jobs. However, residential uses would not be expected to be permitted. The UDC did not receive any acceptable responses to the RFP and UDC is currently evaluating possible next steps. As such, the potential redevelopment of the Arthur Kill Correctional Facility is not included among the projects expected to occur in the future without the Proposed Project.

**Table 1: Components of the Proposed Project**

COMPONENT		SIZE (approx.)	DETAILS
<b><u>Development Area</u></b>			
<b>Retail Site A</b>	11.01 acres 479,591 sf	<ul style="list-style-type: none"> <li>Up to 195,000 SF of retail, including medium- to large-format retail.</li> <li>Up to 15,000 SF for a New York Public Library Branch.</li> <li>Approximately 633 parking spaces (includes shared parking for the library and Fairview Park).</li> </ul>	
<b>Retail Site B</b>	7.28* acres 317,083 sf	<ul style="list-style-type: none"> <li>Up to 90,000 SF of neighborhood retail.</li> <li>Approximately 300 parking spaces.</li> </ul>	
<b>Fairview Park</b>	23.53 acres 1,025,161 sf	<ul style="list-style-type: none"> <li>Mapping of over 23 acres of a new public park with active and passive recreation amenities.</li> <li>Potential shared uses with proposed school.</li> <li>60 parking spaces located on the park site.</li> </ul>	
<b>School</b>	5.88 acres 256,194 sf	<ul style="list-style-type: none"> <li>Approximately 750 seat capacity.</li> <li>60 parking spaces (estimated)</li> <li>Kindergarten to 8<sup>th</sup> grades.</li> <li>Potential shared uses with proposed park.</li> </ul>	
<b>Senior Housing</b>	9.06 acres 394,819 sf	<ul style="list-style-type: none"> <li>162 dwelling units: <ul style="list-style-type: none"> <li>80 affordable multi-family age-restricted rental units.</li> <li>82 age-restricted for-sale detached units.</li> <li>Community center for site residents.</li> </ul> </li> <li>195 parking spaces: <ul style="list-style-type: none"> <li>52 spaces for multi-family rental units (65%).</li> <li>20 spaces for the community center.</li> <li>123 spaces for for-sale detached units (1.5 per unit).</li> </ul> </li> </ul>	
<b>Street Mapping and Proposed or Potential Construction</b>	5.96 acres 259,702 sf	<ul style="list-style-type: none"> <li>Mapping and construction of Englewood Avenue.</li> <li>Map 80-foot wide corridor for a distance of approximately 1,800 feet.</li> <li>Full constructed length of Englewood Avenue would be approximately 3,265 feet and would include bicycle and pedestrian facilities.</li> </ul>	
	1.95 acres 84,770 sf	<ul style="list-style-type: none"> <li>Creation of access and utility corridor for potential future roadway or utility connections to Arthur Kill Road.</li> </ul>	
<b><i>Sub-Total (without Private Utility Easement)</i></b>		<b>64.67 acres</b>	
		<b>2,817,320 sf</b>	
<b>Private Utility Easement in Development Area (no construction)</b>	1.28 acres 55,872 sf	<ul style="list-style-type: none"> <li>Private utility easement (existing) for Bricktown Centre from Arthur Kill Road.</li> <li>No construction planned over easement, which is located within boundaries of Development Area</li> </ul>	
<b><i>Sub-Total (with Private Utility Easement)</i></b>		<b>65.95 acres</b>	
		<b>2,873,192 sf</b>	
<b><u>Non-Development Areas (part of Project Area)</u></b>			
<b>Conservation Area</b>	20.13 acres 876,705 sf	<ul style="list-style-type: none"> <li>Mapping of the existing 20-acre Conservation Area as parkland.</li> </ul>	
<b>Street Mapping (no new construction)</b>	6.39 acres 277,860 sf	<ul style="list-style-type: none"> <li>Mapping of privately-owned Bricktown Way and Tyrellan Avenue (existing and fully constructed) as streets.</li> </ul>	
<b>Rezoning of Private Tax Lots on Block 7494</b>	<b>Lot 1</b>	0.30 acres 13,280 sf	<ul style="list-style-type: none"> <li>Rezoning of Lot 1 located at the northeast corner of Arthur Kill Road and Veterans Road West (not part of the Development Area).</li> </ul>
	<b>Lot 88</b>	0.09 acres 4,000 sf	<ul style="list-style-type: none"> <li>Rezoning of Lot 88 located along the east side of Arthur Kill Road (not part of the Development Area).</li> </ul>
<b><i>Sub-Total</i></b>		<b>26.91 acres</b>	
		<b>1,171,855 sf</b>	
<b>TOTAL PROJECT AREA</b>		<b>92.86 acres</b>	
		<b>4,045,037 sf</b>	

Sources: New York City Economic Development Corporation; AECOM Concept Plan

\*Does not include approximately 1.3 acres of utility corridor which divides the site.

The analyses for some technical areas, such as traffic, may also use a background growth factor to account for general increases expected in the future. Such growth factors may also be used in the absence of known development projects. The Future No-Action Condition analyses must also consider other future changes that would affect the environmental setting. These could include technology changes (such as advances in vehicle pollution control and roadway improvements), changes to City policies (such as zoning regulations), or changes in public policy.

#### *Future With-Action Condition*

The “future with the proposed project,” or “Future With-Action Condition,” is the condition that is evaluated and compared to the Future No-Action Condition in order to identify incremental changes due to the Proposed Project.

In order to assess the Proposed Project under environmental review, a "Reasonable Worst Case Development Scenario" (“RWCDs”) was created for development expected within the Development Area by the years 2015 and 2020 with the Proposed Project. As the area is currently vacant, the net increment of change over the Future No-Action Condition is the Proposed Project, as briefly described above and shown in Table 1.

#### *IDENTIFYING SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS*

Identification of significant adverse environmental impacts is based on the comparison of future conditions without and with the proposed project. In certain technical areas (e.g., traffic, air quality, and noise), this comparison can be quantified. In other technical areas (e.g., neighborhood character), the analysis is qualitative. In either case, the methods for assessing such impacts and the significance of identified potential impacts are determined in accordance with criteria in the CEQR rules and the *CEQR Technical Manual*.

#### *MITIGATION*

Mitigation measures for all significant adverse impacts identified in this DEIS are described in a separate mitigation chapter of the DEIS. The CEQR process requires that any significant adverse impacts identified in the EIS be minimized or avoided to the greatest extent practicable. In the DEIS, options for mitigation can be presented for public review and discussion without the lead agency having selected specific measure(s) for implementation. Where no mitigation is available, the EIS must disclose the potential for un-mitigable significant adverse impacts.

#### *ALTERNATIVES*

The DEIS assesses a range of alternatives to the Proposed Project. CEQR requires that a description and evaluation of the range of reasonable alternatives to the action be included in an EIS at a level of detail sufficient to allow a comparative assessment of the alternatives to a Proposed Project. Alternatives and the rationale behind their selection are important in the disclosure of environmental effects of a Proposed Project, and provide options to the Proposed Project and a framework for comparison of potential impacts and project objectives.

The alternatives discussion includes:

- A No-Action Alternative, as required by SEQRA, where the Proposed Project does not occur and the area is not mapped or developed by either the years 2015 or 2020. The No-Action Alternative is also the No-Impact Alternative, as no impacts would occur under this alternative.
- An alternative that would only build Englewood Avenue from Arthur Kill Road east and terminate at the western end of the existing mapped portion of Englewood Avenue. This alternative build-out of Englewood Avenue would not require a transfer of state-owned property to the City, and would also avoid some of the potential impacts to natural resources in the section of Englewood Avenue between the Clay Pit Pond State Park and Preserve and the Conservation Area.
- An alternative that would build out the western section of Englewood Avenue as currently planned under the Proposed Project, and extend the roadway eastward from its current terminus to Veterans Road West at a width of 40-foot wide (one travel lane in either direction), instead of the currently planned 80-foot wide roadway (with two travel lanes in each direction). The remainder of the

Development Area would be constructed as currently planned under the Proposed Project. This alternative would require a more limited transfer of state-owned property to the City, and would also avoid some of the potential impacts to natural resources in the section of Englewood Avenue between the Clay Pit Pond State Park and Preserve and the Conservation Area, as the mapped 80-foot roadway crosses a wetland resource and constructing a narrower road could reduce potential impacts to that resource.

- An alternative with an access road constructed between Bricktown Way on the east and Arthur Kill Road on the west (over the planned access and utility corridor). Traffic impacts at some locations are lessened under this alternative, however, more habitat is removed and there is the potential to impact archaeological resources.

The analyses of these alternatives are primarily qualitative, except where specific project impacts have been identified (e.g., traffic intersections with significant impacts), where quantitative analyses may be provided. However, the analyses will be of sufficient detail to allow comparisons of associated environmental impacts and attainment of project goals and objectives.

### **3. PROBABLE IMPACTS OF THE PROPOSED PROJECT**

#### **LAND USE, ZONING, AND PUBLIC POLICY**

Overall, this analysis concludes that the Proposed Project would not have any significant adverse impacts on land use, zoning, or public policy.

##### *LAND USE*

##### *Year 2015 Analysis*

The land use changes resulting from the Proposed Project by the year of 2015 would be fully consistent with the general land use patterns of the study area. The proposed park (year 2015) would provide amenities for the growing residential communities in the area. The mapping and development of the proposed parkland would fit in well with the surrounding mixed-use community. Additionally, this new park would be mapped along with the adjacent approximately 20-acre Conservation Area for a new, approximately 43-acre mapped parkland. This parkland, which would serve the surrounding residential communities, would also fit in well with the other open spaces and natural areas of this section of Staten Island, including Clay Pit Ponds State Park Preserve, a 260-acre nature preserve located north of Englewood Avenue.

The proposed retail uses on Site “A” would also be supported by the surrounding residential community at large, and would support and complement existing retail uses adjacent to this portion of the Project Area. The land uses that would result from the Proposed Project are found in the immediate area surrounding the project area, and would therefore be compatible with them in the year 2015.

##### *Year 2020 Analysis*

The land use changes resulting from the Proposed Project by the year of 2020 would also be fully consistent with the general land use patterns of the study area. The proposed retail use on Site “B”, as well as the retail use on Site “A” that would already exist by the year 2020, would also be supported by the surrounding residential community at large, including the proposed senior housing, and would support and complement existing and other proposed retail uses in the immediate area. Additionally, the project area’s connections to both the Richmond Parkway and the West Shore Expressway make it suitable for proposed retail uses of this density.

The housing components associated with the Proposed Project also fit in well with the surrounding mixed-use community. West of the project area is the Tides gated residential community, which is similar to the anticipated design of the senior housing components of the Proposed Project. Additional residences are located north of the Project Area, as are large residential communities to the east and south past the regional roadways, and the Working West Shore 2030 Study calls for modest amounts of additional residential growth in the surrounding area.



Therefore, although the Proposed Project represents a significant land use change for the Project Area itself and includes the mapping and construction of new streets, the uses proposed are consistent with the diversity of uses in the surrounding community, and the Proposed Project would not result in any significant adverse impacts to land uses.

### *ZONING*

The proposed actions include creating an R3-2 district that would encompass the senior housing and school sites, and would be intended to accommodate those developments. C4-1 zoning districts would be mapped in two areas of the Project Area covering Retail Sites “A” and “B” to facilitate the planned retail development.

The Proposed Project also includes the rezoning of two privately-owned lots at the request of DCP to provide a regular and rational zoning district boundary (Block 7494, Lots 1 and 88) within the southwest corner of the Project Area at the intersection of Veterans Road West and Arthur Kill Road. These two lots are currently zoned M1-1 and would be rezoned to C4-1 as part of the rezoning for the adjacent Retail Site “B” parcel. Lot 1 is a 0.30 acre lot (13,280 square feet). Lot 88 is a 0.9 acre lot (4,000 square feet) located to the north along the east side of Arthur Kill Road. Both lots are used for contractor open storage and parking. These sites would be rezoned, but are not part of the area to be developed and are not included in the Development Area. They would continue to be occupied with their current uses as pre-existing non-conforming uses in the new C4-1 zone, which would encompass a larger area around these sites to promote the long-term redevelopment of this area with commercial uses. As these two sites are not directly adjacent to one another and cannot be combined, the redevelopment of these small sites from their rezoning would not be expected at this time.

In addition, CPC Authorizations and Certifications related to the SRD special district and C4-1 Zoning District are part of the Proposed Action. These zoning actions would not result in any significant adverse impacts, and the proposed zoning districts are compatible with zoning in the surrounding area. The proposed residential zoning district is similar to the existing residential zoning districts found to the west within the study area and those to the east across the West Shore Expressway. The proposed commercial zoning district would allow for commercial retail development on Retail Sites “A” and “B” adjacent to the Bricktown Centre shopping area and South Shore Commons shopping complex, which although zoned M1-1, are developed with commercial uses.

The zoning changes proposed as part of the Proposed Project would not result in any significant adverse impacts, and the proposed zoning districts are compatible with zoning in the surrounding area.

### *PUBLIC POLICY*

The proposed actions would support and further the objectives of applicable public policies, including *WRP/Coastal Zone Management* and *PlaNYC 2030*. The proposed actions would not result in any significant adverse public policy impacts. The proposed actions would be in broad accordance with CB3’s redevelopment guidelines in terms of its mixed-use character, affordable and market housing development, commercial development, urban design plan, parking, and potential for community facility development.

### **SOCIOECONOMIC CONDITIONS**

The analysis presented in this chapter finds that the proposed actions would not result in significant adverse socioeconomic impacts. In accordance with *CEQR Technical Manual* guidelines, this socioeconomic analysis evaluates the RWCDS against six specific elements that can result in significant adverse socioeconomic impacts: (1) direct displacement of a residential population from a project site; (2) direct displacement of existing businesses from a project site; (3) indirect displacement of residential population in a study area due to increased rents; (4) indirect displacement of businesses or institutions in a study area due to increased rents; (5) indirect business displacement due to retail market saturation; and (6) adverse effects on specific industries.

### *DIRECT RESIDENTIAL OR BUSINESS DISPLACEMENT*

Although the Development Area is vacant, there are residential and commercial properties abutting the existing built portion of Englewood Avenue that may be affected by its mapping and reconstruction. The following properties are situated within this area (from west to east):

- Along the north side of Englewood Avenue: Block 7380, Lots 51, 47, 40, 35, 29, 25, 18, 12, 7 and 1; Block 7376, Lots 8, 7 and 1; and
- Along the south side of Englewood Avenue: Block 7465, Lots 75 and 1; Block 7464, Lots 1 and 6; Block 7460, Lot 1; Block 7459, Lot 1; Block 7379, Lot 15; Block 7375, Lot 22; and Block 7374, Lot 22.

For most of the properties, only minor front yard portions of businesses are expected to be modified by the widening and realignment of Englewood Avenue. However, the widening will require acquisition of a portion of one property at 21 Englewood Avenue (Block 7380, Lot 51), located on the north side of Englewood Avenue, near the intersection with Arthur Kill Road. The proposed realignment of Englewood Avenue would encompass part of a two-story frame residential building with two residential units, with approximately 3,050 square feet of floor area on the approximately 28,054 square foot lot. The Proposed Project would directly displace these two residential units. According to the *CEQR Technical Manual*, displacement is not typically considered significant unless it involves 500 or more residents. Therefore, the Proposed Project is unlikely to have significant impacts based on direct residential or business displacement.

#### *INDIRECT RESIDENTIAL DISPLACEMENT*

A preliminary assessment finds that the proposed actions would not result in significant adverse impacts due to indirect residential displacement. The Proposed Project includes senior housing to be constructed by the year 2020, with a total of 162 dwelling units. As the Proposed Project would not introduce a sizable number of new residences over the CEQR threshold, further related assessment is not warranted.

The Proposed Project would include 80 affordable multi-family units that fall below existing market-rate units, and 82 age-restricted for-sale homes, which would not likely lead to rent increases. It is expected that the multi-family units would be occupied by households earning a range of low- to middle-incomes. The for-sale homes on the project site would attract residents above 55 years of age, many of whom may live alone, making an average household size of 1.5 more reasonable. In this case, the new residential units would bring approximately 272 new residents to the study area. However, for conservative analysis purposes, should two adults reside in each housing unit, this would add an estimated 324 new residents to the area by the year 2020 of the Proposed Project.

#### *INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS AND MARKET SATURATION*

The Proposed Project includes up to approximately 285,000 square feet of new retail floor area, which is above the 200,000 square foot CEQR threshold. Detailed assessments of indirect business displacement were performed to examine existing conditions and then evaluate the changes under the Future With-Action condition as compared with those expected under the Future No-Action Condition for the 2015 and 2020 analysis years. The detailed assessment considered potential indirect business displacement due to increased rents and indirect business displacement due to market saturation.

This analysis concludes that the Proposed Project would not result in any indirect business displacement:

- There are very low retail vacancy rates near the project site and existing retailers near the new development would likely benefit from the increased flow of consumers into the area due to the proposed retail development.
- The retail gap analysis showed that after accounting for other projected residential and commercial development in the area and the likely impact of the proposed project's residential and retail uses, the capture rate for retail would increase to over 40 percent within the three-mile Primary Trade Area. This value indicates that with the proposed development in place, the existing and projected retail outlets in that area would only meet roughly 40 percent of the projected retail demand generated by the trade area's residents and business.
- The data provided show that the three-mile Primary Trade Area is underserved for retail.
- The data for demographics show that the Primary Trade Area is continuing to grow in population.
- The lack of retail services in the Primary Trade Area likely causes area residents to leave the area to go shopping, either to other locations in Staten Island or to New Jersey

- While the new retail stores of the Proposed Project might divert some shoppers from visiting the other retail centers in Staten Island, many of these stores are of a different character than those that are expected to locate in the Development Area.
- Residents within the Primary Trade Area would still be expected to continue make shopping trips to other areas within Staten Island after the Proposed Project is completed.
- The Proposed Project would be expected recapture some volume of trade area sales that are now going to New Jersey.

#### *ADVERSE EFFECTS ON SPECIFIC INDUSTRIES*

The preliminary assessment concluded that the proposed actions would not have the potential to have a significant adverse impact on any specific industries in the city as no businesses would be directly displaced.

#### **COMMUNITY FACILITIES AND SERVICES**

Based on a preliminary screening, the proposed actions do not warrant a detailed analysis for potential community facility impacts. No direct effect to any community facility is anticipated, as the entire Project Area is vacant, undeveloped, and covered with vegetation. As such, no community facilities would be directly displaced by the Proposed Project. The Proposed Project also would not have an indirect effect on community facilities:

- Health Care: The Proposed Project would not have a direct effect on any health care facility and would not result in a significantly large residential population that would affect health care facilities in the area.
- Libraries: Only 162 new residential units would be developed as part of the senior housing complex, which is less than the 653 unit threshold for performing further library impact analyses.
- Educational Facilities and Child Care: The proposed residential component of the project would be targeted to seniors and, as such, would not introduce or induce school-age children or potential day care eligible populations. The Proposed Project would not displace any existing schools or day care facilities in the study area. Of note, the Proposed Project includes development of a new public elementary/middle school, to be built by the year 2020.

#### **OPEN SPACE**

##### *DIRECT EFFECTS*

The entire Development Area is vacant and undeveloped. The amount of vegetation varies across the area, predominantly trees and other vegetation. The western portion of the area contains some vacant open areas, with trees along the east side of Arthur Kill Road. There are no existing public parks within the Development Area. The Proposed Project would not result in a physical loss of a public open space, change the use of an open space so that it no longer serves the same user population, limit public access to an open space, or cause increased noise or air pollutant emissions, odors, or shadows on a public open space that would affect its usefulness. Therefore, no significant adverse impacts are anticipated. The Proposed Project includes a site for a new 23-acre park with 7.5 acres of active recreation and 15.5 acres of passive recreation. This new park would be mapped along with the adjacent approximately 20-acre Conservation Area to create approximately 43-acres of new mapped parkland.

##### *INDIRECT EFFECTS*

Based on the methodology of the *CEQR Technical Manual*, a preliminary analysis of the proposed actions' indirect effects on open space was conducted to determine the need for a detailed analysis. The preliminary analysis concluded that the proposed actions would not result in a significant adverse impact on open space and that a detailed analysis was not necessary.

##### *Future Residential Open Space Adequacy*

By the completion of the Proposed Project in 2020, the open space ratio in the residential study area is projected to increase from approximately 39.8 acres of open space per 1,000 residents under Future No-

Action Conditions to approximately 41.6 acres of open space per 1,000 residents under the Future With-Action Condition, an approximately 4.7 percent increase. Although the number of residents in the area would increase by approximately an estimated 324 persons within the proposed senior housing complex, the new 23-acre park would add a substantial amount of new open space to the study area, including both active and passive recreational areas. The open space ratio under the Future No-Action Condition would continue to far exceed the citywide median community district open space ratio of 1.5 acres per 1,000 residents and the City's planning goal of 2.5 acres per 1,000 residents.

#### *Future Non-Residential Worker Open Space Adequacy*

The passive open space ratio for this non-residential study area is projected to decrease from approximately 42.1 acres of passive open space per 1,000 workers under the year 2020 Future No-Action Condition to approximately 35 acres per 1,000 workers of passive open space under the Future With-Action Condition, an approximate 16.8 percent decrease. Although the number of workers in the area would increase by approximately 816 new workers from development of the entire Development Area, the new 23-acre park would add a substantial amount of new open space to the study area, including 15.5 acres of passive open space, somewhat offsetting the ratio decrease. For non-residential populations, the *CEQR Technical Manual* states that 0.15 acres of passive open space per 1,000 workers is typically considered adequate. As such, under the Future With-Action Condition, the passive open space ratio for the non-residential study area of approximately 35 acres of open space per 1,000 workers will continue to still exceed the City's guideline of 0.15 acres of open space per 1,000 workers, and no significant adverse impacts were projected.

### **SHADOWS**

Projected building heights within the Development Area are not expected to exceed the height limits of the proposed C4-1 and R3-2 zoning districts, with the potential exception of portions of the multi-family buildings of the senior housing that may reach 40 feet tall. The maximum building height permitted in the proposed C4-1 zoning district is governed by the sky exposure plane (after a 30 foot maximum base height), while R3-2 zoning districts allow a maximum building height of 35 feet. It is expected that the proposed retail buildings in the C4-1 zone would adhere to the sky exposure plane. While the proposed detached senior housing and school buildings would adhere to the R3-2 zoning district regulations and would rise to a maximum height of 35 feet tall, it is assumed for purposes of this analysis that the multi-unit senior housing would rise to 40 feet.

A Tier 1 Screening Assessment was performed to identify sunlight sensitive resources, if any, that might be impacted by shadows from buildings that are part of the Proposed Project. The Tier 1 screening showed that there are no sunlight-sensitive open space resources or sunlight-sensitive cultural or historic resources located within a potential shadow radius of 4.3 times the expected maximum heights of buildings, and thus further study under the next screening level was not warranted. Under both analyses for the 2015 year and the 2020 year, the longest shadows cast from the expected retail, library, school, housing and park buildings in the Development Area would not reach either the adjacent Conservation Area or Clay Pit Ponds State Park Preserve situated north of the Englewood Avenue corridor. Furthermore, the shadows would also not reach the nearest designated historic resource, the Kreisler House.

### **HISTORIC AND CULTURAL RESOURCES**

#### *ARCHAEOLOGICAL RESOURCES*

Construction of the Charleston Mixed-Use Development Project has the potential to disturb or destroy four archaeological sites located within the Development Area that were identified through prior archaeological survey work, resulting in potential adverse impacts to archaeological resources. Three of these resources are prehistoric sites and one is a historic site complex. In addition, there are portions in these areas that possess archaeological potential that have never been surveyed. According to the *CEQR Technical Manual*, in the event the proposed project results in adverse effects to resources, mitigation measures must be developed.

#### *Identified Archaeological Resources*

- **Site C4-MCB-1 (NYS Site A08501.002766).** This prehistoric site was located during the Phase IB survey atop a prominent knoll in the east-central portion of the current Development Area. According to project mapping, this site is located in Block 7452, Lot 75, proposed Retail Site A. The site is considered to be archaeologically significant. The construction of the proposed Public Library complex, associated retail buildings, and parking areas proposed as Retail Site “A” will adversely impact this prehistoric site.
- **Fairview Prehistoric Site (NYS Site A08501.002815).** This prehistoric site was located in 1999 during John Milner Associates (JMA) Phase II excavations at the Balthasar Kreischer Estate Ruins Site. Most of the prehistoric material was recovered from a small, 60-foot-by-40-foot area to the southeast of the main house foundation remains, but prehistoric cultural material was also recovered from test units to the northwest and east of the main house foundation. The limited testing conducted to date suggests that at least portions of the prehistoric site retain sufficient integrity to contribute important archaeological data; the site is considered to be archaeologically significant. Construction activities associated with the proposed 23-acre park trail system have the potential to adversely impact the site depending on their specific location and the degree of disturbance required for the trail construction. If construction of the proposed park trail system requires ground disturbance in these locations to a depth where the archaeological resource is located, the site would be adversely impacted.
- **Balthasar Kreischer Estate (Fairview) Ruins.** JMA conducted Phase II fieldwork at the Kreischer Estate in 1999. JMA documented 18 features with visible surface remains across the estate ruins. The site is historically significant in local terms for its association with the Kreischer Brickworks, the establishment of Kreischerville (Charleston), and other 19<sup>th</sup> century works that were sponsored by the Kreischer family. The site is also significant as an intact archaeological example of a 19<sup>th</sup> century elite residence and its associated features. The project actions associated with the development of the 23-acre proposed park have the potential to adversely impact portions or components of this historic site complex.
- **Site A7-MCB-1 (NYS Site A08501.002767).** This prehistoric site was located during the Phase IB survey on a small, pronounced knoll or hill with a flat summit just south of the proposed route of Englewood Avenue, within the (now) existing Conservation Area. The site, which covers an area of approximately 65 feet by 25 feet, is considered to be archaeologically significant. Project actions are limited at this site location, as it lies within the existing conservation area. However, completion of Englewood Avenue and the pedestrian/bicycle path along the northern boundary of the conservation area has the potential to adversely impact this prehistoric site.

*Unsurveyed Areas of Archaeological Potential*

- **Retail Site “B” (Block 7494: Lots 8, 90, 95, 97, and 18).** Development of the remaining sections of the proposed Charleston Mixed-Use Development Project may disturb or destroy potential archaeological resources in areas of the proposed Retail Site B that have not been archaeologically surveyed. Development on Retail Site “B” may disturb or destroy potential archaeological resources. It is possible that early features associated with the tenure of the Shea family (ca.1853-1887) are present on this property. Such features could include wells, cisterns, or privies, in addition to foundation remains of the house itself. It is equally possible that features associated with the tenure of the Beckman family (ca.1887-ca.1917) are present.

It is also possible that remains of prehistoric occupation are present on this parcel. Given the number of previously identified prehistoric sites and traces of occupation noted for the southwestern portion of Staten Island, including those located within the Development Area itself, it is quite possible that intact prehistoric resources are located on this parcel.

- **Englewood Avenue Extension and Pedestrian/Bicycle Path.** It is possible that remains of prehistoric occupation are present in this 80-foot wide roadway corridor where Englewood Avenue is to be extended. Given the density of prehistoric site locations already identified for this portion of Staten Island, including a site located less than 50 feet south of Englewood Avenue on the Development Area itself, it is possible that intact prehistoric resources are present. If archaeologically significant sites are determined to be located in the proposed Englewood Avenue corridor, construction activities associated with completion of the Englewood Avenue extension will adversely impact intact archaeological resources that may be present along this linear corridor.

- **Block 7487, Lot 100 – Retail Site “B”.** Block 7487, Lot 100 lies in the southwestern portion of the current Development Area. This Block has been impacted by recent development, notably the construction of the MTA Bus Annex that fronts on Arthur Kill Road. The bus annex occupies approximately one third of Block 7487, and is excluded from the current Development Area. However, the portion of Block 7487 that lies to the south of the bus annex and north of Block 7494 and the extant sewer line running along the southern block boundary has not been previously surveyed. Construction activities associated with completion of Retail Site “B” and construction of its access roads have the potential to adversely impact intact archaeological resources that may be present.

Further archaeological investigation will be required to be undertaken in the parkland and on Retail Site “A” prior to construction or any ground disturbing activities. A Scope of Work for archaeological field testing will be prepared and submitted to the New York City Landmarks Preservation Commission (NYCLPC) for review and approval prior to any ground disturbance. At this time, there are no specific development proposals for Site Retail Site “B” or the Senior Housing site and future developers would be selected pursuant to an RPF process. Further archaeological investigation will be required to be undertaken by the developer(s) after selection. Remedial measures, including Phase 1B testing, any necessary Phase 2 and 3 investigations, and continued consultation with NYCLPC and/or OPRHP, will be required to be undertaken by the developer(s) through provisions in the contract of sale between NYCEDC and the developer(s).

#### *ARCHITECTURAL RESOURCES*

No historic architectural resources have been identified within the Development Area. Therefore, the Proposed Project would not directly affect historic architectural resources. However, one resource has been identified within the Historic Architectural Resources study area: the NYCLPC-designated/S/NR-listed Charles Kreischer House, which has the potential to be indirectly affected by the Proposed Project. It is anticipated that the Proposed Project may result in increased traffic along Arthur Kill Road. However, it is not anticipated that an increase in traffic would impact the Charles Kreischer House because it is situated on a large parcel and is relatively well-screened from the road. Therefore, it is anticipated that the Proposed Project would not have any significant adverse impacts to historic architectural resources by the year 2015 or year 2020.

#### **URBAN DESIGN AND VISUAL RESOURCES**

The analysis concludes that the proposed actions would not have any significant adverse impacts related to urban design and visual resources. The Proposed Project would not result in any of the conditions that would merit further detailed assessment of urban design and visual resources. The structures that would be developed as part of the Proposed Project would be similar to the surrounding buildings within the study area. Several other one- and two-story retail buildings are found in the surrounding area, including directly adjacent to and across the street from the Project Area, and additional residences are located west of the Project Area along Arthur Kill Road. In addition, the full build out of the Proposed Project would not alter or result in substantial changes to the built environment of a historic district, or affect the components of an historic building that contribute to the resource’s historic significance, by the 2020 analysis year.

The full build out of the Proposed Project would also not block any view corridors or views to/from any natural areas with rare or defining features. Pedestrian views of these sites along Veterans Road West and Arthur Kill Road would be altered, but would allow for more people to interact with the surrounding natural areas adjacent to the view corridor, which is currently undeveloped. The development of these sites would also not block any views to the waterfront or along area roadways, as the proposed developments would be confined to each respective site.

#### **NATURAL RESOURCES**

Construction within the Development Area by the year 2020 would remove approximately 0.4 acres of wetlands and 50.1 acres of upland habitats, a substantial amount of habitat and natural resources. Of the impacted wetlands acres, only approximately 0.1 acre is expected to be jurisdictional by the USACE and regulated by NYSDEC. Also, a total of approximately 2,013 trees would be removed as a result of the total construction and development from the Proposed Project.

Boneset, a state endangered species was observed growing in the open fields throughout the Development Area. The implementation of the Proposed Project would remove 17.3 acres or 78.2 percent of available boneset habitat. Although, it should be noted that successional vegetation within previous mowed areas and open fields were identified in the 2012 survey, it unclear how much of the identified boneset habitat would remain by 2020 if woody species were left to continue to establish themselves and grow. The small area where Torrey's Mountain Mint was observed on Retail Site "A" would be removed in 2015.

The cumulative impacts of the 2020 development will have significant adverse impacts on the flora and fauna of CPPSPP and the Conservation Area and habitats and threatened and endangered species within the Development Area. The impacts to the CPPSPP are significant, and removal of portions of wetlands within the Englewood Avenue corridor, nearly 80% of the potential boneset habitat, and the area of Torrey's Mountain Mint growth in the Development Area are significant adverse impacts.

## **HAZARDOUS MATERIALS**

A Phase I Environmental Site Assessment ("Phase I ESA") was performed for the Project Area in accordance with the American Society of Testing and Materials ("ASTM") Standard Practice E 1527-05. Based on the findings of the Phase I ESA, a Phase II Subsurface Investigative Work Plan (Phase II Work Plan) and Site Specific Health and Safety Plan (HASP) have been prepared and submitted to NYCDEP for review and approval for the proposed parkland and Retail Site "A." The Phase II Work Plan includes soil, groundwater, and soil vapor testing at locations distributed across the two sites. If indicated by the results of the testing, a Remedial Action Plan (RAP) and Site Specific Construction Health and Safety Plan (CHASP) will be prepared and submitted to NYCDEP for review and approval. Required remediation will be performed in compliance with all federal, state, and local regulations. With the implementation of these measures prior to construction, no significant adverse hazardous material impacts are expected during construction or operation of these sites.

Prior to construction, as part of the due diligence process for all schools, the NYCSCA will perform further environmental studies (if necessary) and investigations to determine the environmental conditions at the proposed school site. Environmental due diligence includes, but is not limited to, Phase I Environmental Site Assessments, Phase II Environmental Site Assessments and mitigation/remediation as appropriate.

At this time there are no specific development proposals for Retail Site "B" and the Senior Housing site and future developers would be selected pursuant to a Request for Proposals. Further subsurface investigations will be required to be undertaken by the developer(s) after selection. For Retail Site "B" and the senior housing site, Phase II Environmental Site Assessments and mitigations as necessary, through continued consultation with NYCDEP, will be required to be undertaken by the developer(s) through provisions in the contract of sale between NYCEDC and the developer(s). With the implementation of these measures prior to construction no significant adverse hazardous material impacts are expected during construction or operations within the entire Development Area.

If unexpected areas of contamination are discovered during construction, these materials would be removed during construction or isolated from public contact with impervious surfaces such as buildings, parking areas and roadways, thus eliminating the potential for public exposure during the operational period. In addition, the general debris and junk vehicles would be removed from the site and properly disposed offsite. The Proposed Project would require excavation of soil within the remaining sections of the Development Area, and possibly dewatering of groundwater from excavations depending on the depth and location of the excavations for the remaining proposed buildings. In the event that unexpected areas of contamination are encountered during construction, mitigation measures would be undertaken as necessary to protect project workers and the surrounding community from exposure to hazardous materials.

## **WATER AND SEWER INFRASTRUCTURE**

This analysis finds that the proposed actions would not result in any significant adverse impacts on the City's water supply, wastewater or stormwater conveyance and treatment infrastructure.

### ***WATER SUPPLY***

By the year 2020 the Proposed Project would generate a water supply demand of approximately 189,400 gpd

(0.19 mgd), which represent less than 0.1 percent of the City's water supply demand. The incremental demand would, therefore, not adversely impact the City's water supply.

### *SANITARY SEWAGE*

The Project Area, as per the latest amended NYCDEP Drainage Plan for the Mill Creek Watershed, dated February 2005 ("the 2005 Drainage Plan"), has two mapped sanitary sewer easements that: (1) bisect the Project Area through a north-south 40-foot wide easement within the Development Area (between Fairview Park and Retail Site "A"); and (2) an east-west 35-foot wide easement connecting Bricktown Way to Arthur Kill Road. The 40-foot wide north-south easement has a planned 10-inch diameter sanitary sewer while the 35-foot wide east-west easement contains an existing 10-inch diameter sanitary sewer constructed previously to connect the existing Bricktown Centre's sanitary system into an 18-inch NYCDEP sanitary system located in Arthur Kill Road. In addition to this internal network of sanitary system easements, the 2005 Drainage Plan also includes mapped plans for a 10-inch diameter sanitary system to be constructed under the mapped (but un-built) Englewood Avenue right-of-way, as well as under a 35-foot wide sanitary sewer easement mapped from the Englewood Avenue right-of-way, running southeast through the Conservation Area. Ultimately a connection would be made to the existing 18-inch sanitary sewer under Arthur Kill Road for eventual discharge into the Oakwood Beach WPCP.

### *Proposed Sanitary Systems*

The Proposed Project would generate approximately 121,400 gpd of sanitary sewage. This increase represents 1.01 percent of the reserve capacity of the Oakwood Beach WPCP. Since the wastewater generated by the Proposed Project is well within the capacity of the treatment plant, no significant adverse impacts to the City's wastewater treatment services would occur. Connections to the treatment plant from the various components of the Proposed Project would be made as follows:

- Retail Site "A" and the Library would connect directly into the existing 10-inch diameter sanitary sewer within Bricktown Way. The developer of Site "A" has provided calculations to NYCDEP that both the on-site sanitary sewer systems within Bricktown Centre and the existing 18-inch diameter NYCDEP sanitary sewer in Arthur Kill Road have adequate capacity to handle the additional sanitary flows generated by Site "A" and Fairview Park. NYCDEP does not own the infrastructure under Bricktown Way and Tyrellan Avenue. In the future, NYCDEP's ownership and maintenance obligations will not change unless the infrastructure is built out to NYCDEP specifications pursuant to an approved drainage plan and NYCDEP accepts the infrastructure into its portfolio.
- The proposed Fairview Park would connect into the sanitary system within Retail Site "A," which would then connect into the existing sanitary sewer within Bricktown Way.
- Englewood Avenue would not generate any sanitary sewage, but under the 2005 Drainage Plan its construction would require installation of NYCDEP's planned sanitary sewers under the presently mapped sections of Englewood Avenue. However, this may be revised under the amended Drainage Plan. The eventual design of the sanitary and stormwater sewers in Englewood Avenue and connecting elements from them will be included in an amended Drainage Plan.
- Retail Site "B" would connect directly into the existing NYCDEP 18-inch sanitary sewer under Arthur Kill Road.
- The senior housing component would require design and construction of the planned 10" diameter sanitary sewer line within the presently mapped 35-foot wide north-south easement running along the western edge of Retail Site "B" down to Bricktown Way.
- The proposed school, to be developed by the NYC School Construction Authority (NYCSCA), would require a connection into the same north-south 10-inch sanitary sewer line system noted above for the senior housing complex.

### *STORMWATER*

The 2005 Drainage Plan indicates how planned storm drainage in this area would be handled:

- Stormwater flowing off site to the north and northeast would be collected into the proposed future



Englewood Avenue stormwater collection system, consisting of catch basins and a 36" diameter trunk sewer under the proposed Englewood Avenue segment west of Kent Street. This system would flow east to the future anticipated topographical low point along Englewood Avenue and discharge into the existing south flowing watercourse within the Clay Pit Ponds State Park Preserve.

- Stormwater flows traveling east, southeast, and south from the Project Area would either collect directly into the channel flow water course described above or drain into the existing Bricktown Centre stormwater collection system.
- Stormwater flowing southwest would eventually drain onto Veterans Road West. The current 2005 Drainage Plan calls for a new 24" to 30" diameter storm drainage sewer system with catch basins to be constructed west along Veterans Road West, connecting directly into the existing Arthur Kill Road 54-inch diameter storm drainage system.

In the Future With-Action condition, the 3,964,450 square-foot Project Area would have a total of 1,607,269 square feet of impervious surface area by the 2020 analysis year.

#### *Proposed Storm Drainage Systems*

- Retail Site "A" would connect directly into Bricktown Centre's existing storm drainage system.
- For Fairview Park, its proposed drainage system will endeavor to capture all storm water on site through the creation of bio-swales and detention areas as done at other active recreation sites. If it is determined that an overflow connection is needed, the park will connect to the City storm sewer at a location to be determined.
- Under the 2005 Drainage Plan, construction of Englewood Avenue would require installation of NYCDEP's planned stormwater sewers under the presently mapped sections of Englewood Avenue. However, this may be revised under the amended Drainage Plan. These sewers would be needed for drainage of the road itself as well as the Proposed Project's senior housing and school elements discussed below, both of which would front onto Englewood Avenue
- The senior housing component would connect into the new storm drainage system installed under Englewood Avenue.
- The proposed school would connect into the new storm drainage system installed under Englewood Avenue.
- Retail Site "B" would connect directly into the existing NYCDEP 54-inch storm drain sewer under Arthur Kill Road.

All of the proposed methods of handling stormwater would require sewer connection permits from NYCDEP, which require demonstrations that the existing stormwater system, after accounting for required on-site detention, could handle the increased flows. The NYCDEP would require a formal connection permit approval for each site. If it is determined that the system could not handle these loads, changes to the stormwater system sufficient to meet those demands would be included in the amended Drainage Plan.

#### **SOLID WASTE AND SANITATION SERVICES**

The Proposed Project would generate incremental solid waste at a rate of 69,080 pounds (approximately 34.5 tons) per week. Of this amount, about 4.9 tons per week would be handled by the NYC Department of Sanitation (DSNY), and private carters would handle about 29.6 tons per week. The incremental increase of approximately 4.9 tons per week, as a result of the Proposed Project, in residential and community facility-related solid waste to be picked up by DSNY is relatively small compared to the estimated nearly 13,000 tons of residential and institutional refuse and recyclables collected by DSNY per day. In addition, due to the Proposed Project, the net incremental non-residential waste collected by private carters would increase by approximately 29.6 tons per week over the Future No-Action Scenario, an insignificant amount compared to the estimated 10,000 tons of commercial MSW and recyclables currently removed by private carters per day. Furthermore, the total incremental increase in solid waste generated by the Proposed Project of approximately 34.5 tons per week is less than the 50 tons per week CEQR screening threshold, and therefore the Proposed

Project does not warrant a detailed solid waste assessment.

## **ENERGY**

The Proposed Project would not have a significant adverse impact on energy systems and services. Although the Proposed Project would increase demand on electricity, this increase in demand would be insignificant relative to the capacity of these systems and the current levels of service in the Con Edison service area. Upon completion, development associated with the project would comply with the New York City Energy Conservation Code. In compliance with the code, the basic designs of all buildings would incorporate the required energy conservation measures, including meeting the code's requirements relative to energy efficiency and combined thermal transmittance.

In addition, the affordable housing components are expected to be certified under the Enterprise Green Communities Program, or meet equivalent sustainability standards. Therefore, no significant adverse energy impacts would result from the Proposed Project.

## **TRANSPORTATION**

### *TRAFFIC*

The intersection capacity analyses presented in the DEIS are based on the methodology presented in the Highway Capacity Software Version HCS+ 5.4. Traffic data required for these analyses include volumes on each approach, as well as various other physical and operational characteristics. Signal timing plans for each intersection were obtained from NYCDOT. Field inventories were also conducted to document curbside parking regulations, vehicle classifications, and other relevant characteristics.

The HCM methodology expresses quality of flow in terms of level-of-service (LOS), which is based on the average control delay that drivers experience at an intersection. Control delay includes delays associated with acceleration, deceleration, and queue move-up time, in addition to stopped delay at the intersection. For signalized intersections, LOS ranges on a letter-grade scale from "A" (average control delays of 10 seconds or less per vehicle) to "F" (average control delays exceeding 80 seconds per vehicle). The methodology also provides a volume-to-capacity (v/c) ratio for intersection traffic movements. A ratio of under 0.85 is generally considered to represent non-congested conditions, whereas above this value, congestion increases. At a v/c ratio of between 0.95 and 1.00, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.05 indicate saturated conditions with queuing.

### 2015 Analysis Year Results

In accordance with *CEQR Technical Manual* guidelines, a RWCDs was developed to estimate the peak hour vehicular and pedestrian volumes expected as a result of the project elements completed by 2015. The analysis of these volumes indicated that 10 of the 24 study area intersections are projected to have one or more significantly impacted movements in one or more of the analyzed peak hours. There are four intersections with one or more impacted movements during the weekday AM peak hour, five during the weekday midday peak hour, seven during the weekday PM peak hour, and ten during the Saturday midday peak hour. The impacted intersections are:

- **Allentown Lane-Veterans Road West /Arthur Kill Road** – During the weekday PM and Saturday midday peak hours, the southbound approach is projected to operate at LOS "F" and LOS "E" respectively, with v/c ratios exceeding 0.90 during both peak hours. Overall, the intersection as a whole is projected to operate with a v/c ratio of 0.90 during the Saturday midday peak hour.
- **Richmond Valley Road/Arthur Kill Road** – During the weekday midday, weekday PM, and Saturday midday peak hours, the southbound approach is projected to operate with v/c ratios exceeding 0.90, and with delays corresponding to LOS "E" during the weekday midday peak hour, and LOS "F" during the weekday PM and Saturday midday peak hours. Overall, the intersection as a whole is projected to operate with v/c ratios exceeding 0.90 during the weekday midday, weekday PM, and Saturday midday peak hours, and with delays corresponding to LOS "E" during the weekday PM and Saturday midday peak hours.

- **Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp** – During the weekday AM peak hour, the westbound left-turn movement is projected to operate with delays corresponding to LOS “E” and a v/c ratio of 0.90. During the weekday midday peak hour, the eastbound left-turn movement is projected to operate with delays corresponding to LOS “E”. During the weekday PM and Saturday midday peak hours, the westbound left-turn movement is projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. In addition, the U-turn movement on the northbound approach to this intersection (an unsignalized movement) is projected to operate with delays corresponding to LOS “F” and a v/c ratio exceeding 0.90 during the weekday PM peak hour. During the Saturday midday peak hour, the northbound approach, the eastbound left-turn lane, and the southbound through/right-turn lane are projected to operate with delays corresponding to LOS “E” and v/c ratios exceeding 0.90. The intersection as a whole is projected to operate at LOS “E” overall during the Saturday midday peak hour.
- **Veterans Road West/Tyrellan Avenue** – During the weekday midday and Saturday midday peak hours, northbound left-turn movements are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. The intersection as a whole is projected to operate with an overall v/c ratio exceeding 0.90 and at LOS “E” overall during the Saturday midday peak hour.
- **Boscombe Avenue/Outerbridge Crossing ramps** – During all four analysis peak hours, the eastbound left-turn lane is projected to operate with v/c ratios exceeding 0.90. During the weekday midday and Saturday midday peak hours, the westbound shared through/left-turn lane is projected to operate with delays corresponding to LOS “E” and v/c ratios exceeding 0.90. During the weekday midday, weekday PM, and Saturday midday peak hours, the westbound right-turn movement is projected to operate with delays corresponding to LOS “F” with v/c ratios exceeding 0.90. In addition, during the weekday PM peak hour, delays for southbound left-turn movements are projected to correspond to LOS “E.” The intersection as a whole is projected to operate at LOS “E” overall with a v/c ratio exceeding 0.90 during the weekday midday peak hour, and LOS “F” overall with a v/c ratio exceeding 0.90 during the Saturday midday peak hour. During the weekday PM peak hour, the intersection as a whole is projected to operate with an overall v/c ratio exceeding 0.90.
- **Boscombe Avenue/Tyrellan Avenue** – During the weekday midday and Saturday midday peak hours, southbound right-turn movements are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. During the weekday PM peak hour, southbound right-turn movements are projected to operate with delays corresponding to LOS “E” and a v/c ratio exceeding 0.90. The intersection as a whole is projected to operate at LOS “E” overall during the weekday midday peak hour, and LOS “F” overall with a v/c ratio exceeding 0.90 during the Saturday midday peak hour.
- **Englewood Avenue/Veterans Road West** – During the Saturday midday peak hour, westbound left-turn movements are projected to operate with a v/c ratio exceeding 0.90.
- **Englewood Avenue/Veterans Road East** – During the Saturday midday peak hour, movements in the eastbound shared through/left-turn lane are projected to operate with delays corresponding to LOS “F” and a v/c ratio exceeding 0.90.
- **Veterans Road East-Drumgoole Road West/Bloomingdale Road** – During the weekday AM peak hour, the southbound approach is projected to operate with a v/c ratio exceeding 0.90. During the Saturday midday peak hour, the westbound approach is projected to operate with a v/c ratio exceeding 0.90. The eastbound right-turn lane and the northbound left-turn lane are both projected to operate with v/c ratios exceeding 0.90, with delays corresponding to LOS “F” and LOS “E”, respectively. The intersection as a whole is projected to operate with an overall v/c ratio exceeding 0.90 during the Saturday midday peak hour.
- **Pleasant Plains Avenue-Amboy Road/Bloomingdale Road** – During the weekday AM and midday peak hours, the southbound approach is projected to operate with v/c ratios exceeding 0.90.

#### 2020 Analysis Year Results

Under 2020 Future With-Action conditions, 13 of the 24 study area intersections are projected to have one or more significantly impacted movements in one or more of the analyzed peak hours. There are seven

intersections with one or more impacted movements during the weekday AM peak hour, eight during the weekday midday peak hour, 13 during the weekday PM peak hour, and 14 during the Saturday midday peak hour. These are discussed in more detail below:

- **Allentown Lane-Veterans Road West/Arthur Kill Road** – During the Saturday midday peak hour, the northbound approach is projected to operate with a v/c ratio exceeding 0.90. During the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, the southbound approach is projected to operate with v/c ratios exceeding 0.90 and with delays corresponding to LOS “F”. The intersection as a whole is projected to operate with overall v/c ratios exceeding 0.90 during the weekday midday, weekday PM and Saturday midday peak hours, and with overall delays corresponding to LOS “F” during the weekday PM and Saturday midday peak hours.
- **Richmond Valley Road/Arthur Kill Road** – During the weekday midday, weekday PM, and Saturday midday peak hours, the westbound approach is projected to operate with v/c ratios exceeding 0.90, and the southbound approach is projected to operate with v/c ratios exceeding 0.90 and with delays corresponding to LOS “F”. The intersection as a whole is projected to operate with overall v/c ratios exceeding 0.90 and with delays corresponding to LOS “F” during the weekday midday, weekday PM, and Saturday midday peak hour.
- **Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp** – During the weekday AM peak hour, the westbound left-turn lane is projected to operate with delays corresponding to LOS “F” and a v/c ratio exceeding 0.90. During the weekday midday peak hour, the eastbound left-turn lane is projected to operate with delays corresponding to LOS “E”. Also during the weekday midday peak hour, the westbound left-turn lane and the northbound approach are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. During the weekday PM peak hour, the westbound left-turn lane, the northbound approach, and the U-turn movement on the northbound approach (an unsignalized movement) are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. During the Saturday midday peak hour, the eastbound and westbound left-turn lanes and the northbound approach are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. Also during the Saturday midday peak hour, the southbound through/right-turn lane is projected to operate with delays corresponding to LOS “E” and with a v/c ratio exceeding 0.90. The intersection as a whole is projected to operate at LOS “E” during the weekday midday and PM peak hours, and at LOS “F” during the Saturday midday peak hour.
- **Veterans Road West/Tyrellan Avenue** – During the weekday midday, weekday PM, and Saturday midday peak hours, northbound left-turn movements are projected to operate with delays corresponding to LOS “F”, and with v/c ratios exceeding 0.90. During the Saturday midday peak hour, westbound left-turn movements are projected to operate with delays corresponding to LOS “F” and a v/c ratio exceeding 0.90. The intersection as a whole is projected to operate with overall v/c ratios exceeding 0.90 during the weekday midday, weekday PM, and Saturday midday peak hours, and at LOS “E” during the weekday midday peak hour and LOS “F” during the Saturday midday peak hour.
- **Boscombe Avenue/Outerbridge Crossing ramps** – During all four analysis peak hours, the eastbound left-turn lane is projected to operate with v/c ratios exceeding 0.90. In addition, during the weekday AM and weekday PM peak hours, delays in the eastbound left-turn lane are projected to correspond to LOS “E”. During the weekday midday and Saturday midday peak hours, the westbound shared through/left-turn lane is projected to operate with delays corresponding to LOS “F” and with v/c ratios exceeding 0.90. In addition, during all four analysis peak hours, the westbound right-turn lane is projected to operate with v/c ratios exceeding 0.90. The westbound right-turn lane is also projected to operate with delays corresponding to LOS “E” during the weekday AM peak hour, and at LOS “F” during the weekday midday, weekday PM, and Saturday midday peak hours. During the weekday PM peak hour, delays for southbound left-turn movements are projected to correspond to LOS “E”. During all four analysis peak hours, the intersection as a whole is projected to operate with v/c ratios exceeding 0.90, and during the weekday midday, weekday PM, and Saturday midday peak hours, the intersection as a whole is projected to operate with delays corresponding to LOS “F”.

- **Boscombe Avenue/Tyrellan Avenue** – During the weekday midday, weekday PM, and Saturday midday peak hours, southbound right-turn movements are projected to operate with v/c ratios exceeding 0.90 and with delays corresponding to LOS “F”. During the weekday midday, weekday PM, and Saturday midday peak hours, the intersection as a whole is projected to operate with v/c ratios exceeding 0.90 and with delays corresponding to LOS “F”.
- **Englewood Avenue/Veterans Road West** – During the weekday AM peak hour, the westbound through/left-turn lane is projected to operate with delays corresponding to LOS “E” and a v/c ratio exceeding 0.90. During the Saturday midday peak hour, westbound left-turn movements are projected to operate with delays corresponding to LOS “E” and a v/c ratio exceeding 0.90.
- **Englewood Avenue/Veterans Road East** – During the weekday PM peak hour, movements in the eastbound shared through/left-turn lane are projected to operate with a v/c ratio exceeding 0.90. During the Saturday midday peak hour, movements in the eastbound shared through/left-turn lane are projected to operate with a v/c ratio exceeding 0.90 and experience delays corresponding to LOS “F”. The intersection as a whole is projected to operate with a delay corresponding to LOS “F” during the Saturday midday peak hour.
- **Sharrotts Road/Bloomingdale Road** – During the Saturday midday peak hour, the northbound approach is projected to operate with a v/c ratio exceeding 0.90.
- **Veterans Road East-Drumgoole Road West/Bloomingdale Road** – During the weekday AM peak hour, the southbound approach is projected to operate with a v/c ratio exceeding 0.90. Also during the weekday AM peak hour, the eastbound right-turn lane and the northbound left-turn lane are projected to operate with delays corresponding to LOS “F”, with the eastbound right-turn lane also projected to operate with a v/c ratio exceeding 0.90. During the weekday midday peak hour, the eastbound right-turn lane is projected to operate with a delay corresponding to LOS “E” and a v/c ratio exceeding 0.90. During the weekday PM peak hour, the northbound left-turn lane is projected to operate with a delay corresponding to LOS “E” and a v/c ratio exceeding 0.90. During the Saturday midday peak hour, the westbound approach is projected to operate with a v/c ratio exceeding 0.90, and the eastbound right-turn lane and the northbound left-turn lane are projected to operate with delays corresponding to LOS “F” and v/c ratios exceeding 0.90. The intersection as a whole is projected to operate with an overall v/c ratio equal to 0.90 during the weekday AM peak hour, and exceeding 0.90 during the Saturday midday peak hour.
- **Pleasant Plains Avenue-Amboy Road/Bloomingdale Road** – During the weekday AM, weekday PM, and Saturday midday peak hours, the southbound approach is projected to operate with v/c ratios exceeding 0.90. During the weekday AM peak hour, the southbound approach is also projected to experience delays corresponding to LOS “F” and the intersection as a whole is projected to operate with delays corresponding to LOS “E”.
- **Arthur Kill Road/Bloomingdale Road** – During the weekday PM and Saturday midday peak hours, the westbound approach is projected to operate with delays corresponding to LOS “F” and with v/c ratios exceeding 0.90. During the weekday PM peak hour, the northbound approach is projected to operate with a v/c ratio exceeding 0.90. During the weekday PM and Saturday midday peak hours, the intersection as a whole is projected to operate with v/c ratios exceeding 0.90 and at LOS “E” and LOS “F”, respectively.
- **Englewood Avenue/Arthur Kill Road** – During the weekday AM peak hour, the westbound approach is projected to experience delays corresponding to LOS “E”.

## *PEDESTRIANS*

At present, pedestrian activity is relatively light at the sidewalks, crosswalks, and street corners in the study area. Low pedestrian activity in Charleston is due to (1) limited pedestrian facilities throughout the study area and (2) development densities that are not high enough to encourage a significant amount of pedestrian travel between desired origins and destinations. Sidewalks are typically provided in the residential neighborhoods and along commercial properties. However, the majority of the roadways within the study area (including key roadways such as Bloomingdale Road, Veterans Road East, and Arthur Kill Road) have discontinuous

sidewalk facilities across long distances, and as such, are not likely to encourage much pedestrian travel. Given the low number of pedestrian trips generated by the Charleston Mixed-Use Development, as a whole, significant adverse impacts are not anticipated and detailed pedestrian analyses are not warranted.

#### *VEHICULAR AND PEDESTRIAN SAFETY*

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) compiled by the NYCDOT for the most recent available three-year period (i.e., 2008 to 2010). The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than \$1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related accidents at each location. There were two pedestrian/bicyclist crashes in the study area from 2008 to 2010. Based on the crash detail reports, the first pedestrian crash occurred on May 4, 2008 at 1:30 AM when a pedestrian crossed near the South Bridge Street/Page Avenue-Boscombe Avenue intersection at a location with no crosswalk. The second pedestrian crash occurred at the Sharrotts Road/Bloomington Road intersection on June 25, 2009 at 6:43 AM when the pedestrian was crossing with the traffic signal. Both pedestrian crashes were described as resulting in a “possible injury.”<sup>1</sup> None of the other study intersections had any pedestrian and bicyclist crashes over the three-year period. Based on the findings noted above, none of the study intersections are classified as “high crash locations” as defined in the *CEQR Technical Manual*.

According to the *CEQR Technical Manual*, pedestrian safety is especially of concern at sensitive land use locations, such as hospitals, schools, parks, nursing homes, and elderly housing, where there would be substantial child or elderly activities. The proposed project would include an approximately 750-student elementary/middle school as well as senior housing on the project site. Pedestrian and bicycle activity from these uses is expected to concentrate at the intersections of Englewood Avenue/Arthur Kill Road and Englewood Avenue/Veterans Road West. While these intersections are presently not high-accident locations (limited pedestrian activity), the potential for vehicle-pedestrian conflicts would be expected to increase substantially with the Proposed Action. To address the increased presence of children, improvements to Englewood Avenue would include school crossing signs and pavement markings at the intersections of Englewood Avenue/Arthur Kill Road and Englewood Avenue/Veterans Road West, as well as mid-block pavement markings within the vicinity of the school.

#### *PARKING*

The total hourly parking demands over the course of both a typical weekday, and a typical weekend day, are not projected to exceed the proposed on-site parking supply for any development component. This applies to the proposed development components individual. Overall the Proposed Project will have a total parking supply for 1,248 vehicles. Demand is projected to peak at 893 on a typical weekday and at 987 on a typical weekend. Based on the findings of the parking analysis, the Proposed Project is anticipated to have sufficient on-site parking supply to accommodate projected hourly parking demands throughout the course of both a typical weekday and a typical weekend day. Therefore, no overflows of parked vehicles are projected to occur onto surrounding public streets and neighboring properties, and no significant parking impacts are anticipated, under typical weekday and weekend conditions.

#### **AIR QUALITY**

The maximum predicted pollutant concentrations and concentration increments from mobile sources with the proposed actions would be below the corresponding guidance thresholds and ambient air quality standards. The proposed actions’ parking facilities would also not result in any significant adverse air quality impacts. Based on a refined stationary source modeling analysis, there would be no potential for significant adverse air quality impacts from the heating and hot water systems for the proposed development. The only fossil fuel that would be used for heating and hot water systems at the development sites included in the proposed actions would be natural gas. This requirement will be included in the developers RFP(s) and agreements. The RFP requirements could be modified or eliminated in the future if additional air quality modeling shows that the requirements are not needed to meet national and local

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<sup>1</sup> A “possible injury” is defined by NYCDOT as: “No visible signs of injury, but complaint of pain or momentary unconsciousness.”

ambient air quality standards and thresholds. However, in accordance with New York City rules, developers would still be required to use clean fuel sources, such as ultra-low sulfur Number 2 oil. Future modeling could rely on information that is expected to become available as the design for the proposed sites progresses.

Therefore, there would be no potential for significant adverse impacts on air quality with the proposed actions.

## **GREENHOUSE GAS EMISSIONS**

The annual GHG emissions from the Proposed Project are predicted to be approximately 30,742 metric tons of CO<sub>2e</sub>. This does not represent a net incremental increase in GHG emissions, since similar GHG emissions would occur if the residential units, school, library, retail development and associated uses were to be constructed elsewhere. However, the Proposed Project would include measures aimed at reducing energy consumption and GHG emission and therefore, is generally consistent with the City's citywide GHG and climate change goals.

The Proposed Project pursues transit-oriented development and provides access to public transportation. Incorporating the mixed-use design promotes transit-oriented development with new residences, new parkland, a new school and a new library that are all walkable from the proposed retail shopping centers, including the nearby bus routes of the S74, S84, and S78 lines that serve this section of Staten Island, which would help encourage sustainable transportation.

The Proposed Project includes a number of commitments that would ensure that energy efficient buildings are constructed. If city capital funding is used to construct the library, the library would be built in accordance with the requirements of Local Law 86 of 2005, as applicable. The proposed school would be built according to the New York City Green Schools Guide, which addresses the sustainable design, construction, and operation of new schools. The Green Schools Guide and Rating System include strategies that substantially reduce energy costs and water use as compared with buildings constructed to meet code, and require the use of recycled content, and regional materials, if feasible, in construction. The contract of sale for Retail Site "A" will require the developer to: (i) design and construct to achieve a 10% reduction in energy performance, calculated in accordance with LEED Core and Shell, Energy and Atmosphere, Prerequisite 2, Option 1, or design and construct in accordance with the Prescriptive Compliance Path set forth in LEED Core and Shell, Energy and Atmosphere Credit 1, Option 3; and (ii) employ low flow fixtures, fittings and appliances, which are described in LEED Core and Shell, Water Efficiency, Prerequisite 1. For the remaining retail (Retail Site "B") and senior housing components of the development, through the request for proposals process the City would look favorably upon proposals that enhance the energy-efficiency of buildings. This may include, but not necessarily be limited to, designing and constructing to achieve LEED Silver certification, using fewer raw materials, making the best of natural light where appropriate, improving indoor air quality, and decreasing the total impact on the natural and human environment.

Overall, the Proposed Project, therefore, is consistent with the City's citywide GHG reduction policy.

## **NOISE**

Three types of potential noise impacts were addressed in the DEIS analysis: 1) mobile-source noise impacts on existing and future sensitive receptors, 2) playground noise generated at the new school impacts on future residents/park patrons, and 3) impulse noise from the adjacent gun club on future residents/park patrons. The analysis concluded that there would be no significant adverse noise impacts from the Proposed Project:

- **Mobile Source Noise.** The potential for mobile source impacts is screened out at most locations. Two monitoring sites, both adjacent to sensitive receptors (the park and the senior housing) within the Project Area were identified for further analysis. At both locations it was determined that the predicted peak traffic noise level would be below the 65 dBA absolute impact threshold level.
- **School Playground Noise.** During the daytime school opening hours, the closest residential land use, the proposed on-site senior housing, was projected to experience a maximum of 55 dBA L<sub>eq</sub>(1) which is equivalent to approximately 58 dBA L<sub>10</sub>. This level is well below the 65 dBA noise exposure guidelines

classified “Acceptable” for general residential external use. Therefore the proposed daytime school operation itself would not result in a significant noise impact in the neighborhood

- Gunshot Impulse Noise. Although gunshot impulsive noise would be noticeable within the proposed sensitive land uses with the highest levels observed along the trail in the park, the Lmax levels are still comparable to those generated from other background noise sources such as on road traffic in the neighborhood particularly within the most sensitive development site, the senior housing site

## **PUBLIC HEALTH**

As described in the preceding chapters of this DEIS and summarized below, the Proposed Project would not result in unmitigated significant adverse impacts in such areas as air quality, water quality, hazardous materials, or noise. Further, the Proposed Project would not introduce any unusual circumstances that have potential public health consequences related to other issues. Therefore, a detailed public health assessment is not warranted and significant adverse impacts to public health are not expected to occur.

## **NEIGHBORHOOD CHARACTER**

Of the technical areas that define neighborhood character, the Proposed Project has the potential to result in significant adverse historic and cultural resources and transportation impacts. However, it is not expected that the significant adverse historic and cultural resources and transportation impacts that would result from the Proposed Project would significantly affect the neighborhood character for the study area.

The significant adverse historic and cultural resources impacts identified are related to the potential for archeological resources to be present in the Development Area. While the potential adverse impacts to the archaeological resources would be significant, the potential archeological resources on site are not a defining feature of this area of Staten Island that is central to the character of the neighborhood.

The significant adverse transportation impacts projected as a result of the Proposed Project also are not expected to lead to significant adverse neighborhood character impacts. Subject to DOT approval, several mitigation measures are proposed that would serve to mitigate most of the significant adverse transportation impacts projected to occur as a result of the Proposed Project. Projected significant traffic impacts would, however, not be fully mitigated at three intersections. The additional level of congestion is not expected to significantly alter neighborhood character.

The Proposed Project is not expected to result in a combination of moderate effects that would collectively result in a significant adverse neighborhood character impact. The Proposed Project would not cause significant adverse impacts with regard to land use, zoning and public policy, socioeconomic conditions, shadows, open space, or urban design and visual resources. Further, as discussed in their respective chapters of the EIS, these technical areas are not considered reasonably close to their significant adverse impact threshold. The area surrounding the Development Area already contains retail shopping centers found within Bricktown Centre and the South Shore Commons, as well as a mixed-use neighborhood to the north and west. The changes of land uses on the sites within the Development Area would also generate beneficial impacts to the character of the neighborhood, as it would develop vacant and underused land, creating a more cohesive neighborhood in this section of Staten Island. Therefore, although some significant adverse impacts would occur in the CEQR technical areas that define neighborhood character, it is not expected that the significant adverse impacts in these technical areas would lead to significant adverse neighborhood character impacts. No significant adverse neighborhood character impacts are expected as a result of the Proposed Project.

## **CONSTRUCTION**

For each of the various technical areas presented below, appropriate construction analysis years were selected to represent reasonable worst-case conditions relevant to that technical area, which can occur at different times for different analyses. For example, the noisiest part of the construction may not be at the same time as the heaviest construction traffic. Therefore, the analysis periods may differ for different analysis areas. Where appropriate, the analysis accounted for the effects of project elements that would be completed and operational during the selected construction analysis years.

At this time, there are no specific construction programs or designs for any development that is projected to result from the proposed actions. The construction durations are conservatively chosen to serve as the



basis of the analyses in this chapter and are representative of the reasonable worst-case for potential impacts. The conceptual schedule represents a very compressed and conservative potential timeline for construction, which shows overlapping construction activities and simultaneously operating construction equipment for development sites in proximity of one another. Thus, the analysis captures the cumulative nature of construction impacts, which would result in the greatest impacts at nearby receptors.

#### *LAND USE AND NEIGHBORHOOD CHARACTER*

The Proposed Project is not expected to result in any significant adverse construction-related impacts on land uses or neighborhood character within the surrounding area. While construction activities in the Development Area are expected to span approximately seven years, each individual development, with the exception of the school, would take less than two years to complete. The on-site land clearing and construction activities would last for limited durations on each specific development site within the Development Area. Further, the construction that would occur would result in the enhancement of land uses by introducing new uses that would be compatible with the surrounding area. In addition, the development sites within the Development Area are buffered from potential sensitive resources in the surrounding area by the Bricktown Centre and other shopping areas, and by Arthur Kill Road and Veterans Road West. Therefore, although land use changes would occur, significant adverse impacts during construction activities to land uses and neighborhood character are not expected.

#### *OPEN SPACE*

The Proposed Project is not expected to result in any significant adverse construction related impacts on open space or on the public use of open space areas. Construction activities would occur within the vacant portions of the Development Area and would not alter or impact the adjacent Conservation Area, which would be mapped as parkland as part of the overall Proposed Project, and is separated from the Development Area by a series of fences. Standard construction protection measures (i.e., fencing) could also be taken to minimize any disturbance on adjacent open space or other open spaces in the surrounding area, including CPPSPP, which is adjacent to the location for the proposed construction of Englewood Avenue. Therefore, significant adverse impacts to open spaces during construction are not expected to occur. The exact nature of those protective measures would be developed as the conceptual plans for the individual development sites are refined.

#### *HISTORIC AND CULTURAL RESOURCES*

No historic architectural resources have been identified within or sufficiently close to the Development Area that would be affected by construction of the Proposed Project.

Project construction activities have the potential to disturb or destroy one identified archaeological site on Retail Site "A". In addition three identified archaeological sites located within other sections of the Development Area may be impacted depending on the location and character of future construction. These sites were identified through previous Phase IB/II archaeological surveys conducted in 1999 and 2000 by John Milner Associates, Inc. for the Bricktown Centre at Charleston Project. Three of these resources are prehistoric sites and one is the historic Balthasar Kreischer site complex.

#### *NATURAL RESOURCES*

The *CEQR Technical Manual* states that if a project or construction staging area is located near a sensitive natural resource, such as wetlands, construction activities may result in the disruption of these areas. The analysis of construction's effects on natural resources would also consider the loss or additional destruction of natural resources on the project site or in the staging area. An assessment could also include an inventory of existing street trees within the construction impact zone if the project would potentially result in the loss of those trees. For construction of the Proposed Project, general Best Management Practices (BMPs) would be followed in order to protect natural resources during construction.

By the 2020 analysis year, approximately 25.7 acres of land would be subject to earthmoving and filling associated with construction for a total nearly 66 acres altered within the Development Area. For the construction of the Englewood Road, the current topography may require substantial earthmoving activities in order to create a road embankment capable of supporting street traffic.

The total acreage of wetland impacts of the Proposed Project, as well as within the area for the construction of Englewood Avenue, would be 0.4 acres. The construction of Englewood Avenue, and specifically the segment between the CPPSPP and the Conservation Area under the proposed 80-foot wide conceptual roadway design, would impact approximately 0.1 additional acres of USACE wetlands that are expected to be USACE jurisdictional and NYSDEC-regulated, included in the total above. The construction footprint would end several feet from the delineated boundary of Wetland B, also regulated by the NYSDEC. Actions to mitigate the impacts to these regulated and jurisdictional wetlands would be required by the two regulatory agencies.

The development that would occur by the 2015 analysis year would include development of active recreation spaces that would separate the remaining undeveloped habitats on the western side of the site from the CPPSPP and the Conservation Area on the eastern side. Although many of the directly impacted habitats are generally successional habitats that are common to New York State, construction activities would potentially have indirect impacts on the CPPSPP and Conservation Area through removal and bifurcation of a large contiguous vegetated buffer area. Approximately 1,156 trees within the remaining portions of the Development Area would be removed as a result of construction activities, and overall, the Proposed Project would impact approximately 2,013 trees. Construction and implementation of development by the 2020 analysis year would also remove additional areas that serve or could serve as habitat to threatened and endangered bonesets.

The construction of the 80-foot wide Englewood Avenue would result in direct impacts to wildlife that exists in the CPPSPP and the Conservation Area. Currently, the dirt track that separates the CPPSPP from the Conservation Area does not serve as an impediment to fauna transiting between the parcels. Moreover, the canopies of the trees in both parcels intermingle in some locations, which provide an undisturbed continuous canopy. The CPPSPP is a NYSDEC Bird Conservation Area, and bird species, including listed species that live in the CPPSPP and likely transit to the Conservation Area for usage of the habitat there. Removal of the undisturbed continuous canopy for the construction of an 80-foot wide road would result in bifurcating valuable habitat and would have negative impacts on fauna within the CPPSPP and the Conservation Area.

Listed species exist in the CPPSPP and the Conservation Area. Many of these species either transit between both parcels or depend on the contiguous habitats to provide a vegetated buffer from anthropogenic disturbance. The bifurcating of habitats would have a negative effect on wildlife. Although there were no direct observations of listed species within the build footprint, Wetlands B and C and adjacent parcels provide habitat conditions favorable to listed species that occur on the Site. Under this scenario, these habitats would be impacted and removed once construction activities commence.

For both the 2015 year and 2020 year under the Proposed Project, general Best Management Practices (BMPs) would be adhered to in order to protect natural resources during construction. As design plans for the project are only conceptual at the time of publication of this document, examples of construction BMPs for natural resources include, but are not limited to:

#### General Construction

- Environmental Inspector – The project sponsor would provide Environmental Inspectors (EINSPs) who are both experts in ecology and who would confirm in the field that plans and stipulations are adhered to. EINSPs would have “stop work” authority should an activity deviate from a designed plan and potentially impact natural resources.
- Exclusion Barriers - In order to prevent disturbance to natural resources outside the construction footprint, construction fencing and/or exclusion barriers would be erected along the border of the disturbance footprint. To further reduce potential impacts to natural resources, prior to the initiation of work, the boundaries of the disturbance footprints will be clearly flagged in order to provide a visual reference of the limits of disturbance.
- Sediment and Erosion Control – Construction activities would adhere to a sediment erosion and control plan. When necessary and appropriate, hay bales, silt fencing and/or other sediment and erosion control measure would be implemented. These structures would be regularly inspected to ensure that they are functioning properly.

- Pollution Prevention. No refueling, washing and/or handling of toxic substances would occur within 100 feet of a wetland or regulated adjacent area. These activities would only occur in designated laydown areas with appropriate containment measures.
- Material Disposal – All waste materials generated during construction would be handled and disposed of properly in approved receptacle or facility.

#### Specific Construction BMPs for Flora and Fauna

- Endangered Species – Prior to construction, qualified individuals would survey the area for threatened and endangered species. If these species are present, the project’s sponsor would consult with the appropriate regulatory agency for guidance on transplant or translocation of the resource.

For threatened and endangered resources outside, but in close proximity to, the construction footprint, appropriate protection and avoidance measures would be adhered to ensure they are not directly or indirectly impacted. These measures would be developed in consultation with the regulatory agencies.

- Seasonal Restrictions – If the regulatory agencies require the construction not occur or be modified during an ecologically sensitive time frame (e.g., nesting, etc.), the project construction schedule and sponsors will adhere to these requirements.
- Tree Protection - With respect to the protection of onsite trees, it is likely that trees located along the edge of the construction boundary would have portions of their drip lines or critical root zones lie within the construction footprint. When this occurs, appropriate protective measures (e.g. root mats, etc.) will be utilized to prevent compression of soils and root damage. If trees growing on site are to be retained and utilized in as part of the future landscape designs, it is recommended that the tree be protected with root mats and exclusion barriers around the drip line. After construction ceases, it is recommended that the tree be inspected by a certified arborist to determine what, if any, damage may have occurred to the tree and what, if any, corrective measures would be required.

It is anticipated that some pruning of trees would be required along future roadways and/or for site access. If pruning of a tree is required, the pruning would occur under the supervision of a certified arborist. Also, if an engineered slope is to impact the soils within the critical root zone, consideration would be given to modifying the slope with retaining walls, tree wells, tree pits, etc. to allow for the preservation and future growth of established trees.

#### *HAZARDOUS MATERIALS*

The Proposed Project is not expected to result in any significant adverse construction related impacts to hazardous materials. A Phase I Environmental Site Assessment (“Phase I ESA”) was performed for the Project Area in accordance with the American Society of Testing and Materials (“ASTM”) Standard Practice E 1527-05. Based on the findings of the Phase I ESA, a Phase II Subsurface Investigative Work Plan (Phase II Work Plan) and Site Specific Health and Safety Plan (HASP) have been prepared and submitted to NYCDEP for review and approval for the proposed parkland and Retail Site “A”. The Phase II Work Plan includes soil, groundwater, and soil vapor testing at locations distributed across the two sites. If indicated by the results of the testing, a Remedial Action Plan (RAP) and Site Specific Construction Health and Safety Plan (CHASP) will be prepared and submitted to NYCDEP for review and approval. Required remediation will be performed in compliance with all federal, state, and local regulations. With the implementation of these measures prior to construction, no significant adverse hazardous material impacts are expected during construction or operation of these sites.

Prior to construction, as part of the due diligence process for all schools, the NYCSCA will perform further environmental studies (if necessary) and investigations to determine the environmental conditions at the proposed school site. Environmental due diligence includes, but is not limited to, Phase I Environmental Site Assessments, Phase II Environmental Site Assessments and Mitigation as appropriate.

At this time there are no specific development proposals for Retail Site “B” and the housing site and future developers will be selected pursuant to a Request for Proposal. Further subsurface investigations will be required to be undertaken by the developer(s) after selection. For Retail Site “B” and the senior housing site,

Phase II Environmental Site Assessments and mitigations as necessary, through continued consultation with NYCDEP, will be required to be undertaken by the developer(s) through provisions in the contract of sale between NYC and the developer(s). With the implementation of these measures prior to construction no significant adverse hazardous material impacts are expected during construction or operations within the entire Development Area.

If unexpected areas of contamination are discovered during construction, these materials would be removed during construction or isolated from public contact with impervious surfaces such as buildings, parking areas and roadways, thus eliminating the potential for public exposure during the operational period. In addition, the general debris and junk vehicles would be removed from the site and properly disposed offsite. The Proposed Project would require excavation of soil within the remaining sections of the Development Area, and possibly dewatering of groundwater from excavations depending on the depth and location of the excavations for the remaining proposed buildings. In the event that unexpected areas of contamination are encountered during construction, mitigation measures would be undertaken as necessary to protect project workers and the surrounding community from exposure to hazardous materials.

### *TRANSPORTATION*

Because the Proposed Project would involve construction on multiple development sites in the same geographic area, with the potential for several construction timelines to overlap, and last for more than two years overall, an assessment of the effect of construction on transportation was performed.

The proposed construction schedule assumes construction activities and construction trips would peak in the third quarter of 2018 with 97 total PCE trips, coinciding with construction of Retail Site “B” and the proposed school. In addition, a slightly lower but more sustained peak would occur during 2014 and the first half of 2015 with 96 total PCE trips, coinciding with construction of Retail Site “A,” the library, and the park. For a conservative reasonable worst-case analysis of potential construction traffic impacts, these two peak periods of construction activity were used as the basis for estimating peak hour construction traffic volumes. Construction traffic associated with the first peak construction period (i.e., 2014 year and early 2015 year) generates a peak of 54 total PCEs during the 6:00 a.m. to 7:00 a.m. hour, and 52 total PCEs during the 3:00 p.m. to 4:00 p.m. hour. Similarly, construction traffic associated with the second peak construction period (i.e., third quarter of 2018) generates a peak of 49 total PCEs during the 6:00 a.m. to 7:00 a.m. hour, and 46 total PCEs during the 3:00 p.m. to 4:00 p.m. hour throughout the study area roadway network.

These projected incremental numbers of vehicle-trips would be distributed to multiple site-access points and intersections in the vicinity of the development sites and, therefore, would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs at any one intersection in any one peak hour. Furthermore, the projected volumes of construction traffic during the weekday AM and PM peak hours are not projected to exceed the projected operational (post-construction) traffic volumes during the weekday AM and PM peak hours. Based on these findings, a detailed construction traffic analysis is not warranted, as significant adverse construction-related traffic impacts are not expected to occur as a result of the Proposed Project.

### *AIR QUALITY*

Construction of each of the components of the Proposed Project would occur on separate timelines and on separate parcels within the Project Area, and construction on any one parcel would be completed within three years. Therefore, the on-site construction equipment activities associated with each element can be considered independent and temporary. Given the distribution of construction among five different parcels over a seven-year period and the lack of sensitive receptors on or immediately adjacent to these construction sites, significant adverse construction-related air quality impacts, including to other elements of the Charleston Mixed-Use Development, are not expected as a result of the Proposed Project.

### *NOISE*

As with most construction projects in the City, the Proposed Project would result in temporary and short-term impacts on adjacent properties. Construction noise is regulated by the New York City Noise Control Code and by the U.S. Environmental Protection Agency (“EPA”) noise emission standards for construction equipment. These local and federal controls require that certain types of construction equipment and vehicles meet specific noise emission standards. Except under exceptional circumstances, City regulations limit

construction activity to weekdays between the hours of 7:00 a.m. and 6:00 p.m., and construction materials must be handled and transported in a manner that avoids the generation of unnecessary noise. Therefore, given these factors, the distribution of construction among five different parcels over a seven-year period and the lack of sensitive noise receptors on or immediately adjacent to these construction sites, significant adverse construction-related noise impacts are not expected as a result of the Proposed Project.

#### *OTHER TECHNICAL AREAS*

In addition to the technical areas discussed above, a preliminary assessment of the potential for construction-related impacts in other technical areas was performed for the Proposed Project. As per the *CEQR Technical Manual*, the other technical areas assessed were: socioeconomic conditions; community facilities; shadows; urban design and visual resources; and infrastructure, as follows below:

##### *Socioeconomic Conditions*

The Proposed Project is not expected to result in any significant adverse construction related impacts on socioeconomic conditions. The entire Project Area is vacant, and as such no direct displacement of businesses or residents would occur. The proposed construction activities would create construction and related jobs, a positive benefit. Construction activities would result in direct benefits due to expenditures on labor, materials, and related services, as well as indirect benefits due to expenditures for material suppliers and by construction workers and other employees involved in construction activities.

##### *Community Facilities and Services*

The Proposed Project is not expected to result in any significant adverse construction related impacts on community facilities within the area. Construction activities would not displace any existing community facilities, as none exist within or in close proximity to the Development Area. Local police departments, fire departments, and hospitals have sufficient resources to provide emergency services, if necessary, during construction activities.

##### *Urban Design and Visual Resources*

The Proposed Project is not expected to result in any significant adverse construction-related impacts on urban design or visual resources within the Development Area or within the surrounding area. Any visual impacts within the area that would occur due to construction activities, including various construction equipment and materials placed on the site, would be temporary and would be buffered from the neighboring areas by existing trees and vegetation.

##### *Infrastructure*

Construction activities associated with the Proposed Project are not expected to result in any significant adverse construction-related impacts on infrastructure (e.g., water supply and wastewater/stormwater conveyance). Best management and other practices would be adhered to, following all applicable local and state regulations, during construction activities to minimize and control stormwater runoff on the site.

## **4. ALTERNATIVES**

As mandated by both CEQR and SEQRA, the DEIS examines a No Action Alternative, which describes the conditions that would exist if the proposed actions were not implemented. The DEIS also analyzes three other alternatives that are differentiated by how the Project Area is accessed and the extent of potential impact they could have on the environment. The three other alternatives are as follows

- **Shortened Englewood Avenue Alternative.** This alternative assumes that Englewood Avenue would only be mapped and constructed from Arthur Kill Road east to the existing mapped area of the roadway which currently terminates at the un-built Kent Street.
- **40-Foot Wide Englewood Avenue Alternative.** This alternative assumes that Englewood Avenue would be mapped and constructed from Arthur Kill Road east to Veterans Road West; however, east of the presently mapped but un-built Kent Street, the roadway and sidewalk areas would be constructed to a total width of 40 feet.

- **Arthur Kill Access Road Alternative.** This alternative assumes that an east-west access road would be constructed along the planned 50-foot wide, 1.95-acre utility corridor from Arthur Kill Road through Retail Site “B” and eastward to a connection with Bricktown Way near the southeast corner of Fairview Park. Englewood Avenue would be constructed as described in the Proposed Project.

## **NO ACTION ALTERNATIVE**

The No-Action Alternative, analyzed throughout the document as the Future No-Action Condition, consists of normal and anticipated growth patterns by the 2015 and 2020 analysis years for the Proposed Project, as well as any other separately planned projects within the surrounding area, but does not include the construction of the proposed uses within the Development Area. Under this alternative, the Development Area would remain vacant and covered with vegetation, and Englewood Avenue would not be mapped and constructed. While the adjacent Conservation Area, which is part of the overall Project Area, would not be mapped as parkland, it is expected that no changes or development within the Conservation Area would occur.

The No-Action Alternative uses existing conditions as a baseline and adds to it changes known or expected to be in place by the 2015 and 2020 analysis years. For many technical areas, the No-Action Alternative incorporates known development projects that are likely to be built by the analysis years. The No-Action Alternative analyses must also consider other future changes that will affect the environmental setting. These could include technology changes (such as advances in vehicle pollution control and roadway improvements), changes to City policies (such as zoning regulations), or changes in public policy.

In the future without the Proposed Project, the Project Area is expected to remain in its existing vacant condition. No other projected or potential development is planned or considered likely to occur in the Project Area by the 2015 analysis year or 2020 analysis year of the Proposed Project. Under the No-Action Alternative, the Project Area would also not be rezoned from M1-1, and the existing zoning district would remain.

The No-Action Alternative would not further the goals of the PlaNYC 2030, the City’s WRP or Working West Shore 2030 Study. It is expected that the City would continue to refine polices and guidelines over the next several years related to sustainability with PlaNYC 2030; however, as the area would remain vacant, new development compatible with the PlaNYC’s sustainability would not occur. It is also expected that the City will continue to refine polices and guidelines over the next several years related to the goals and objectives of Working West Shore 2030 Study, the guiding document and framework to improve the area’s infrastructure and create jobs while managing the area’s growth and preserving its open spaces.

Under the No-Action Alternative, the Project Area is expected to remain in its existing vacant condition through the 2015 and 2020 analysis years. No new jobs would be created in the Development Area, and the economic goals of the Working West Shore 2030 Study related to the Proposed Project would not be met. The projected generation of over 700 new jobs under the Proposed Project would not occur under the No-Action Alternative. The Proposed Project would not result in any significant adverse socioeconomic impacts, nor would any occur under the No-Action Alternative.

Although no impacts to community facilities were anticipated as a result of the Proposed Project, under the No-Action Alternative, the proposed school and public library that would be developed under the Proposed Project would not be constructed. Furthermore, planning improvements to open space would not take place. While the existing 20-acre Conservation Area would remain undeveloped, it would not be mapped as new parkland, and the existing 23-acre portion of the Development Area planned for Fairview Park would remain in its natural vegetative state, used by area residents as unofficial passive open space.

Under the No-Action Alternative, it is estimated that no major changes would occur on the Project Area site. Remaining vacant, it is anticipated that there would be no new threats to the archaeological sites present. It is anticipated that buried archaeological resources would remain *in situ*. In comparison, the Proposed Project includes identified adverse impacts to prehistoric resources within the Development Area. By the year 2015 the proposed development activities would potentially disturb or destroy portions of one archaeological site located on Retail Site “A.” Construction of the remainder of the Project Area by the year 2020 has the potential to disturb or destroy portions of several more historic or prehistoric archaeological site located within the remaining sections of the Project Area that were identified through prior archaeological survey work or that may exist in areas not previously studied.

In the future without the Proposed Project, the Development Area would remain vacant and Englewood Avenue would not be constructed. Therefore, changes related to urban design and visual resources would not occur. The Proposed Project includes changes to the urban design and visual context in the area, with the mapping and construction of new streets and development of new buildings; however, no significant adverse impacts were identified.

Without the Proposed Project, conditions related to natural resources would not change over existing conditions, and no impacts would occur. Under the Proposed Project, the developments from the 2015 analysis year would remove or alter approximately 50.1 acres of habitat for flora and fauna in the area, and would impact 538 of the surveyed trees. Two endangered and one threatened plant species were also observed within the proposed areas of the 2015 year developments. The removal of a group of plants of one of these species would be viewed as a significant impact by regulatory agencies. Implementation of developments under the 2020 year analysis would impact approximately 0.30 acres of wetland habitats, none of which would be determined to be under the jurisdiction of either NYSDEC or USACE, and remove approximately 1,156 of the surveyed trees. These impacts would not occur under the No-Action Alternative.

Under the No-Action Alternative, the Development Area is expected to remain in its existing vacant condition. No other projected development is planned or considered likely to occur in the Development Area by the 2015 or 2020 analysis years. Therefore, total water, wastewater and stormwater generation in the Development Area and the area for the construction of Englewood Avenue under the No-Action Alternative would be similar to existing conditions. The increased sanitary and stormwater sewage demands due to the Proposed Project would require revisions to applicable NYCDEP Drainage Plans for the affected watersheds. However, no impacts were identified under the Proposed Project.

The Future No-Action condition traffic analysis identified how the study area's transportation system is projected to operate in the future without the Proposed Project, and include anticipated future increases in background traffic volumes for the 2015 and 2020 analysis years. With these increases under the No-Action Alternative, by the year 2015 ten of the 24 study area intersections are projected to have one or more congested movements (having a traffic volume to capacity ratio of .90 or greater) in one or more of the analyzed peak hours. Under the No-Action Alternative by the year 2020, 11 of the 24 study area intersections are projected to have one or more congested movements in one or more of the analyzed peak hours. Under the Proposed Project (by the year 2020), 13 of the 24 study area intersections are projected to have one or more congested movements in one or more of the analyzed peak hours.

Under the No-Action Alternative, no development would occur in the Development Area, and thus no new stationary sources would be constructed. Air Quality emissions from mobile sources would be similar to, but slightly higher due to natural traffic growth, when compared to emission levels under existing conditions. While the Proposed Project would result in increases in stationary and mobile source emissions, no significant adverse impacts were identified.

Noise levels from mobile sources on surrounding roadways without the Proposed Project would be similar to, but slightly higher due to natural traffic growth, when compared to noise levels under existing conditions. Under the Proposed Project, noise levels would be further increased from additional vehicular traffic; however, significant adverse impacts were not identified.

Under the No-Action Alternative, the character of the neighborhood is not expected to substantially change. Existing conditions in the Development Area would remain, and no impacts would occur. Under the Proposed Project, the character of the neighborhood would be altered with the proposed residential, educational, recreational and retail developments under the 2015 and 2020 year analysis; however, no significant adverse impacts to neighborhood character due to the Proposed Project were identified.

If the Proposed Project did not proceed, no construction activities would occur within the Development Area or the area for the construction of Englewood Avenue, and thus no impacts would occur. Under the Proposed Project, the Development Area would witness construction over several years on the retail, park, senior housing, and school sites, along with the construction of Englewood Avenue, removing natural resources on these sites and potentially destroying prehistoric resources, none of which would occur under the No-Action Alternative.

## **SHORTENED ENGLEWOOD AVENUE ALTERNATIVE**

This alternative assumes that Englewood Avenue would only be mapped and constructed from Arthur Kill Road eastward to the existing mapped area of the roadway which currently terminates near the un-built Kent Street. The existing mapped but un-built portion would remain un-built under this alternative, and Englewood Avenue would end at the un-built Kent Street just east of the northeast corner of the proposed school site. Englewood Avenue would include a turn-around meeting NYC Fire Department requirements for emergency access, and potentially a 24-foot wide limited access single-lane emergency roadway, extending east to Veterans Road West. The remainder of the Development Area would be constructed as planned under the Proposed Project. Because the amount, location, and nature of development under this alternative are identical to the Proposed Project, the potential for impact does not differ in most technical areas. Hence, the findings for the majority of the technical areas analyzed for the Proposed Project would be substantially the same for this alternative, with the exception of Cultural and Historic Resources, Natural Resources, Transportation, Air Quality and Noise.

The Shortened Englewood Avenue Alternative has the potential to minimize some of the potential significant adverse impacts on one archaeological site that would occur with the Proposed Project. At Site A7-MCB-1 (NYS Site A08501.002767), this prehistoric site was located during the Phase IB survey on a small, pronounced knoll or hill with a flat summit just south of the proposed route of Englewood Avenue. Under the Shortened Englewood Avenue Alternative, no roadway construction would occur through this sensitive area, and thus the potential for impacts at this location would not be a concern. All of the other development components would still be constructed in the Development Area.

The construction of Englewood Avenue, may require substantial earthmoving activities in certain segments to create a road embankment capable of supporting the proposed city street, and the future contractor would need to comply with a sediment and erosion control plan during the construction activities. Under the Shortened Englewood Avenue Alternative, such topographical changes would not occur.

The Shortened Englewood Avenue Alternative would also not directly impact wildlife that use the area between the CPPSPP and the Conservation Area. The existing dirt track that separates the CPPSPP from the Conservation Area does not present an impediment to fauna transiting between the parcels, and the canopies of the trees in both parcels intermingle in some locations, which provide an undisturbed continuous canopy. This undisturbed continuous canopy would not be disturbed under this alternative, and thus the bifurcating of valuable habitat for fauna between CPPSPP and the Conservation Area would not occur. In addition, 319 of the surveyed trees that are over six inches at diameter breast height (dbh) in this area would not be impacted under this alternative, as they would under the Proposed Project. Approximately one acre, or 4.5 percent of potential boneset habitat, would be removed by the construction of the shortened Englewood Avenue. Listed species occur in the CPPSPP and the Conservation Area. Many of these species either move between these two areas or depend on the contiguous habitats to provide a vegetated buffer from anthropogenic disturbance. The bifurcating of habitats would have a negative effect on wildlife under the Proposed Project. Such impacts would not occur under this alternative.

The primary traffic implication of this Shortened Englewood Avenue Alternative is that Englewood Avenue would not serve “through” traffic between Arthur Kill Road and Veterans Road West. The potential traffic impacts associated with this alternative were assessed by reassigning the year 2020 project-generated vehicle trips during each of the four analysis peak hours (i.e., weekday AM, weekday midday, weekday PM, and Saturday midday) in accordance with the access scheme under this alternative, as described above. The projected diversion of portions of the east-west traffic using Sharrotts Road to the full-length Englewood Avenue under the Proposed Project would also not occur under this alternative. The elimination of Englewood as an east-west connection would lead to the concentration of future traffic on existing roads.

Under the Shortened Englewood Avenue Alternative, traffic impacts were identified at the following intersections:

- Allentown Lane-Veterans Road West/Arthur Kill Road:
- Richmond Valley Road/Arthur Kill Road:
- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp:
- Veterans Road West/Tyrellan Avenue:



- Boscombe Avenue/Outerbridge Crossing Ramps:
- Boscombe Avenue/Tyrellan Avenue:
- Englewood Avenue/Veterans Road West:
- Englewood Avenue/Veterans Road East:
- Veterans Road East-Drumgoole Road West/Bloomingdale Road:
- Pleasant Plains Avenue-Amboy Road/Bloomingdale Road:
- Arthur Kill Road/Bloomingdale Road:
- Sharrotts Road/Arthur Kill Road:
- Englewood Avenue/Arthur Kill Road:

Transportation improvement measures were then investigated to identify those that mitigate the potential significant traffic impacts identified above. Those improvement measures identified for the Proposed Project would generally be the same as under this Alternative, but more unmitigable significant traffic impacts would remain under this Alternative than under the Proposed Project. Unmitigable traffic impacts would remain at the intersections of:

- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp,
- Boscombe Avenue/Outerbridge Crossing ramps,
- Sharrotts Road/Arthur Kill Road, and
- Englewood Avenue/Arthur Kill Road.

Under this alternative, mobile source impacts within the studied off-site roadway network would change at several locations as discussed above in the traffic section for this alternative. However, the maximum increase in traffic volume at any of these four intersections selected for CO microscale analysis would be 140 during the worst-case Saturday period at the intersection of Veterans Road West/North Bridge Street-Bricktown Way. Such an increase is less than 5 percent of total intersection volume and would result in negligible differences in microscale CO concentration levels, as compared to those predicted for the Proposed Project. Since the predicted CO levels for the Proposed Project are well below the CO NAAQS, this alternative would not result in significant adverse air quality impacts from mobile source operations.

Mobile source noise impacts would be slightly different as compared to the Future With-Action Condition, given the small fractional change in traffic volume at each studied intersection. It is anticipated that the change in mid-block traffic volume within the studied roadway network would also be small, resulting in an equally small change in noise relative to the level projected under the Future With-Action condition. Therefore, the conclusion that 3-dBA or greater incremental noise would only occur at two noise monitoring locations under the Proposed Project, Sites #4 and #7, would be the same under this alternative.

#### **40-FOOT WIDE ENGLEWOOD AVENUE ALTERNATIVE**

This alternative assumes that Englewood Avenue would be mapped and constructed as proposed from Arthur Kill Road east to Veterans Road West. However, east of its current terminus at the un-built Kent Street, Englewood Avenue would taper down to a 40-foot wide roadway. This portion of the proposed Englewood Avenue, extending approximately 1,465 feet west from Kent Street to Veterans Road West, is already mapped to a width of 80 feet. However, under this alternative, the constructed roadway would occupy only 40 feet of the mapped 80-foot width, with one travel lane provided in each direction, compared to two travel lanes under the Proposed Project. The remaining approximately 1,800 feet of Englewood Avenue west of Kent Street that would be mapped and constructed to 80 feet in width as part of the Proposed Project would remain the same under this alternative.

The remainder of the proposed developments would be constructed as planned under the Proposed Project. The proposed retail stores, park, senior housing and school would still be constructed by the 2015 and 2020 analysis years within the Development Area. Hence, the findings for the majority of the technical areas analyzed for the Proposed Project would be substantially the same for this alternative, with the exception of Historic and Cultural Resources and Natural Resources.

This alternative has the potential to minimize some of the potential significant adverse impacts on one archaeological site that would occur with the Proposed Project. At Site A7-MCB-1 (NYS Site A08501.002767), this prehistoric site was located during the Phase IB survey on a small, pronounced knoll or

hill with a flat summit just south of the proposed route of Englewood Avenue. Under this 40-foot wide alternative for Englewood Avenue, roadway construction would be limited in width, and thus the potential for impacts at this location would be lower than under the Proposed Project. All of the other development components would still be constructed on the Development Area.

This alternative would reduce some of the potential significant adverse impacts on natural resources relative to the Proposed Project, within the area where Englewood Avenue is proposed to be extended eastward along the existing mapped portion to Veterans Road West. This alternative would still directly impact wildlife that use the area between the CPPSPP and the Conservation Area, as the 40-foot wide roadway would serve as an impediment to fauna transiting between the parcels, as it would under the Proposed Project and 80-foot wide roadway. Thus the impacts to wildlife in the adjacent Conservation Area and CPPSPP under this alternative would be the same as the Proposed Project. Under this alternative, approximately 170 surveyed trees over a six-inch diameter breast height (dbh) would be removed, as compared to the expected 319 surveyed trees under the 80-foot wide roadway of the Proposed Project. The implementation of this alternative would also remove approximately 0.22 acres of red-maple sweetgum swamp, as compared to 0.26 acres under the Proposed Project. However, all of the other noted potential significant adverse impacts to Natural Resources in the remainder of the Development Area would remain and not change under this alternative.

### **ARTHUR KILL ACCESS ROAD ALTERNATIVE**

This alternative assumes that, in addition to the proposed 50-foot wide, 1.95-acre corridor extending from Arthur Kill Road through Retail Site “B” and eastward to Bricktown Way, an east-west access road would be constructed. This access road under this alternative scenario could potentially be constructed when Retail Site “B” is constructed, though actual construction scenarios are not planned or known at this time. Under the Proposed Project, the corridor would remain in its natural state, and the roadway would not be constructed. Under this alternative, this corridor would be constructed as an access road as opposed to remaining in a natural state. The remainder of the Development Area would be constructed as planned under the Proposed Project, including Englewood Avenue and its full east-west mapping and construction from Arthur Kill Road to Veterans Road West, and the mapping of Bricktown Way and Tyrellan Avenue. Because the amount, location, and nature of development under this alternative are identical to the Proposed Project, the potential for impact does not differ in most technical areas. Hence, the findings for the majority of the technical areas analyzed for the Proposed Project would be substantially the same for this alternative, with the exception of Land Use, Cultural and Historic Resources, Natural Resources, Transportation, Air Quality and Noise.

Under this alternative, proposed land uses under the Proposed Project on the sites within the Development Area would not change. The proposed retail stores, park, senior housing and school would still be constructed by the 2015 and 2020 analysis years. The additional roadway under this alternative would be the only land use change, as this area would not remain in its vacant state covered with vegetation. Zoning changes and their effects would be the same under this alternative as they would be under the Proposed Project.

This alternative has the potential for greater impacts on historic and cultural resources than the Proposed Project. Construction within this portion of the Project Area has the potential to disturb or destroy one prehistoric archaeological site, resulting in additional potential adverse impacts to archaeological resources. At this site (Block 7487, Lot 100), the areas for this access road runs just north of the existing 35-foot-wide sanitary sewer easement that runs from Bricktown Way to Arthur Kill Road. A portion of the access road corridor in the eastern half of Block 7487 and bordering on Bricktown Centre appears to have been included in previous archaeological surveys. However, the western half of Block 7487, including the access road corridor has not been previously surveyed. It is possible that remains of prehistoric occupation are present on this parcel. The construction of the access road under this alternative could disturb or destroy any such resources in this area.

The findings of the natural resource analysis for the Proposed Project would not be significantly changed under this alternative. All of the development components would still be constructed on the retail, park, senior housing and school sites, and the removal and alternation of natural resources on those sites would still occur. This alternative would alter existing natural resources within this area for the access road. This area is vacant and covered with low-level vegetation, within the Successional Old Field-Variant 1 mapped ecological community. Only seven additional trees with a breast-height diameter of six inches or more would be removed if this access road were constructed. Approximately 0.015 acres of non-regulated wetlands are also

located in this area towards the east near Retail Site “A,” consisting of small pits and roadside drainage swales in low areas that receive runoff from adjacent dirt roads, sparsely vegetated with soft rush, common reed, smilax, and poison ivy. These areas would also be impacted from development of the access road under this alternative.

The presence of the new access road would allow motorists traveling to and from Retail Site “A” and Fairview Park to bypass segments of Veterans Road West and Bricktown Way and access those areas directly via this additional new access road. The potential traffic impacts associated with this alternative were assessed by reassigning the year 2020 site-generated vehicle trips during each of the four analysis peak hours (i.e., weekday AM, weekday midday, weekday PM, and Saturday midday) in accordance with the access scheme described above. In addition to this reassignment, a reassignment of background traffic along Englewood Avenue was also conducted (i.e., same as under the Proposed Project) to estimate the traffic diversions that would be expected to occur as a result of Englewood Avenue being extended east to connect to Veterans Road West.

Traffic impacts were identified at five signalized intersections and one unsignalized intersection during the weekday AM peak hour, at six signalized intersections during the weekday MD peak hour, at 10 signalized intersections and one unsignalized intersection during the weekday PM peak hour, and at 10 signalized intersections and one unsignalized intersection during the Saturday MD peak hour. Under the Proposed Project, traffic impacts were identified at the same five signalized intersections and the same unsignalized intersection during the weekday AM peak hour, at the same six signalized intersections during the weekday MD peak hour, at 11 signalized intersections (one additional intersection of Allentown Lane-Veterans Road West/Arthur Kill Road) and the same unsignalized intersection during the weekday PM peak hour, and at the same 10 signalized intersections and the same unsignalized intersection during the Saturday MD peak hour. Those improvement measures identified for the Proposed Project would generally be the same under this alternative, with some additional phasing (at the intersection of Veterans Road West/Bricktown Way-Korean War Veterans Parkway Off-Ramp) and additional timing changes (at the intersection of Allentown Lane-Veterans Road West/Arthur Kill Road) under the Proposed Project that would not be required under this alternative.

Mobile source air quality impacts on the analyzed off-site roadway network were re-evaluated because of the change in traffic assignments, but would essentially remain the same as compared to the Future With-Action Condition, given the minimal change in traffic patterns around the Development Area. Similarly, mobile source noise impacts within the studied off-site roadway network would essentially remain the same as compared to the Future With-Action Condition. Therefore this alternative would not result in significant adverse air quality or noise impacts from mobile source operations.

## 5. MITIGATION MEASURES

The preceding sections discuss the potential for significant adverse environmental impacts resulting from the proposed Charleston Mixed-Use Development Project. Such potential impacts were identified in the areas of historic and cultural resources, natural resources, and transportation. Measures have been examined to minimize or eliminate these anticipated impacts. These mitigation measures are discussed below.

### HISTORIC AND CULTURAL RESOURCES

Specific plans are under preparation for the development of Retail Site “A” and for the proposed Fairview Park. Construction on these parcels has the potential to disturb or destroy other prehistoric archaeological sites and areas that possess archaeological potential that have never been surveyed. These resources and proposed mitigation strategies are noted below:

- **Fairview Park.** Two sites with historic and cultural resources have been identified within the current location of the proposed Fairview Park: *Fairview Prehistoric Site (NYS Site A08501.002815)* and *Balthasar Kreisler Estate (Fairview) Ruins*. To avoid impacts on these resources, the proposed Fairview Park has been designed to minimize the potential for adverse impacts to these identified archaeological sites. In the northwest portion of the proposed park where these sites are located, the Fairview Park plan would retain the existing walking trails with minimal changes to any surrounding areas. While the park

would include playing fields and other active recreation facilities, none of them would be located in this area, avoiding major grading and topographic changes that could result in impacts to these resources. With this resource-avoidance design, combined with careful attention to the presence of those resources during construction of other aspects of the park, adverse impacts to these resources due to the proposed park would be avoided.

- **Retail Site “A”.** A prehistoric site was located during the Phase 1B survey atop a prominent knoll in the east-central portion of the current Project Area where Retail Site “A” would be developed. To mitigate the loss of portions or components of this prehistoric site, further archaeological investigation will be required to be undertaken in the parkland and on Retail Site “A” prior to construction or any ground disturbing activities. A Scope of Work for archaeological field testing will be prepared and submitted to NYCLPC for review and approval prior to any ground disturbance. The exact protocol to be used for excavation, resource recovery and documentation would be defined in consultation with the NYCLPC prior to the initiation of work, all of which would occur prior to any construction activities in that portion of the Retail Site “A” parcel. Remedial measures, which could include Phase 1B testing, any necessary Phase 2 and 3 investigations, and continued consultation with NYCLPC and/or OPRHP, will be required to be undertaken by the developer through the provisions of a contract for sale or lease, or other legally binding agreement between NYCEDC and the developer.

The other components of the Proposed Project; Englewood Avenue, the school and the senior housing, would not be developed until 2020 and no specific plans exist at present. Consequently, the full potential for these Proposed Project components to result in significant adverse impacts on identified historic or prehistoric resources is not yet known. The potential cultural resources of concern are:

- **Englewood Avenue.** In addition to the known prehistoric “*Site A7-MCB-1*” It is possible that remains of prehistoric occupation are present elsewhere in this 80-foot wide linear corridor. Given the density of prehistoric site locations already identified for this portion of Staten Island, it is possible that other intact prehistoric resources are present.
- **Retail Site “B”.** Block 7494: Lots 8, 90, 95, 97, and 183 - Retail Site “B” (*Features associated with occupation by Shea or Beckman families. Remnants of prehistoric occupation*) and Block 7487, Lot 100 – Retail Site B. Block 7487 (some areas within the existing sewer easement line running have not been previously surveyed).
- **Senior Housing Site.** *Fairview Prehistoric Site (NYS Site A08501.002815) and Balthasar Kreischer Estate (Fairview) Ruins*, as discussed under Year 2015 above.

Further archaeological investigation will be required to be undertaken in the parkland and on Retail Site “A” prior to construction or any ground disturbing activities. A Scope of Work for archaeological field testing will be prepared and submitted to the NYCLPC for review and approval prior to any ground disturbance. Remedial measures, including Phase 1B testing, any necessary Phase 2 and 3 investigations, and continued consultation with NYCLPC and/or OPRHP, will be required to be undertaken by the developer(s) through provisions in the contract of sale between NYC and the developer(s).

At this time, there are no specific development proposals for Site Retail Site “B” and future developers would be selected pursuant to a RFP process. Further archaeological investigation will be required to be undertaken by the developer(s) after selection. For all developments in the Project Area to be completed by the year 2020, remedial measures, including Phase 1B testing, any necessary Phase 2 and 3 investigations, and continued consultation with NYCLPC and/or OPRHP, will be required to be undertaken by the developer(s) through provisions in the contract of sale between NYC and the developer(s).

With these types of mitigation strategies, adverse impacts to these resources could potentially be avoided or substantially minimized.

## NATURAL RESOURCES

The DEIS presents mitigation strategies for impacts to wetlands and habitats that are summarized below.

### WETLANDS

It is anticipated that the wetlands impacted by the Proposed Project would require mitigation by the USACE

and NYSDEC. Federal Executive Order (EO) 11990 Protection of Wetlands, issued in 1977, is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. EO 11990 requires that, when a construction project involves wetlands, a finding must be made by the federal agency that there is no practicable alternative to such construction, and that the Proposed Project includes all practicable measures to minimize impacts on wetlands resulting from such use. It requires federal agencies to follow avoidance, mitigation, and preservation procedures, with public input, before proposing new construction in wetlands, and generally requires the minimization of activities in wetlands and coordination with United States Army Corps of Engineers (USACE) regarding wetlands mitigation. If federal funding would be utilized for the Proposed Project, the Proposed Project would need to comply with EO 11990. Wetlands are also regulated under Section 404(b)(1) of the Clean Water Act. The USACE and USEPA joint Compensatory Mitigation for Losses of Aquatic Resources, Final Rule (33 CFR Part 332; 73 Federal Register [FR] 19670, April 10, 2008) establishes a hierarchy of preferred options for providing required compensatory mitigation. This part (33 CFR Part 332) is intended to further clarify mitigation requirements established under U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency (U.S. EPA) regulations at 33 CFR part 320 and 40 CFR part 230, respectively.

The NYSDEC prioritizes wetland mitigation options differently than do the USACE and the USEPA. NYSDEC guidelines (NYSDEC, 1993) specify that preferably compensatory mitigation should be on site. Off-site mitigation, although generally not preferred, is acceptable in some circumstances; notably, when on-site mitigation is not possible or desirable. NYSDEC guidelines on compensatory mitigation specify that the preferred order of compensatory mitigation is wetland restoration, then creation, and finally enhancement. Also, New York State wetland laws do not allow the use of in-lieu fee programs.

The NYSDEC typically regulates a 100-foot adjacent area to NYSDEC-regulated freshwater wetlands. Mitigation is required for impacts to wetlands and the regulated adjacent area; although, impacts to adjacent areas typically require mitigation of a smaller magnitude than wetlands.

NYSDEC-regulated Freshwater Wetlands within the Development Area are Class II Wetlands. As indicted in Part 663: Freshwater Wetlands Permit Requirements “A permit shall be issued only if it is determined that the proposed activity satisfies a pressing economic or social need that clearly outweighs the loss of or detriment to the benefit(s) of the Class II wetland.” Thus, the purpose and need for impacts to these wetlands would need to be demonstrated and the project sponsor would need to demonstrate that the loss of functions and value would be minimized and mitigation performed.

### ***Required Mitigation***

It is anticipated that approximately 0.07 acres of NYSDEC- and USACE-regulated wetlands and 0.089 acres of NYSDEC-regulated adjacent areas would require mitigation. Therefore, it is anticipated that the USACE and NYSDEC would require mitigation for the wetlands impacted by the Proposed Project. These impacts would be caused by the development of Englewood Avenue..

If compensatory mitigation is required, regulatory agencies prefer to have mitigation occur within the same watershed as the impacted wetlands. The ratio of mitigation for regulated wetlands and adjacent areas would be determined in consultation with the regulatory agencies. Currently, the amount of regulated wetlands and adjacent areas that would require mitigation is 0.07 and 0.089 acres, respectively. As noted earlier, other wetlands delineated in the area, may be considered jurisdictional by the USACE. If so, additional wetland mitigation may be required.

Given the sensitive nature of the forest surrounding the impacted wetlands, mitigation likely would not occur in either of the adjacent areas, CPPSPP, or the Conservation Area. However, some mitigation opportunities may exist within the proposed Fairview Park section of the Development Area. In the southern portion of proposed Fairview Park, near an existing wetland the land area is of lower elevation than much of the Development Area and it is anticipated that hydrology (e.g., sheet flow, runoff, etc.) could be conveyed to this location. Thus, this area should be examined as a potential candidate for wetland creation on site.

The regulatory agencies require post-mitigation monitoring for created and/or enhanced wetlands. Created and/or enhanced forested wetlands usually require longer mitigation monitoring periods than emergent wetlands.

While the location and width of its right-of-way is defined, the plans for Englewood Avenue within that area, especially between CPPSPP and the Conservation Area, are conceptual in nature and have not yet reached the design phase. As the design plans for the roadway advance in the future, it is anticipated that there would be opportunities to minimize impacts on these wetland resources. Design measures that could be considered include, but are not limited to, minimizing the disturbance footprint to the greatest extent practicable, using grates when possible to reduce shading, treatment of stormwater discharges etc.

## *FLORA AND HABITATS*

### *Flora*

Based on New York City Local Law 3 of 2010, mitigation for trees on NYCDPR property and mapped rights-of-way would be required. However, other city agencies also are anticipated to adhere to Local Law 3 and require mitigation for trees on their property. The total amount of mitigation will be determined after an evaluation of each tree to be removed is performed.

### *Habitats*

General recommendations presented for the preservation of habitats includes:

- Hybrid and Rare Species Preservation
- Topsoil Seed Bank Retention
- Vernal Pool Habitat Preservation and/or Creation
- Invasive and Nuisance Species Removal

Specific mitigation recommendations presented in the DEIS are as follows:

- ***Development Areas (Excluding Englewood Avenue).*** Within the proposed parkland, the adoption of best management practices for control and management of non-native, invasive species would be required to minimize the spread of invasive species.
- ***Englewood Avenue.*** Impacts within the build footprint should be minimized to the greatest extent practicable. Due to the likely difference in elevation between the proposed roadway and the existing dirt path roadway in the eastern portion of Englewood Avenue, the elevation of the new road surface would be at least several feet higher than the current dirt road. Underneath the road surface the use of culverts or other structures to allow for the passage of fauna under the roadway without contact with moving vehicles is advisable as part of the eventual design of this roadway.

## *THREATENED AND ENDANGERED SPECIES*

There is a small patch of Torrey Mountain Mint (endangered) growing along the edge of an expanding wood line in the southeast portion of Retail Site “A.” Boneset plants (2 species - one threatened; one endangered) were observed in the southern and central portion of the Development Area and another 20-30 specimens were observed in the central successional old field. Below are three mitigation options presented in the DEIS to offset the potential impacts to these species.

- 1) Soil Retention and Similar Habitat Development – Ecologists will identify locations in the westernmost portions of Fairview Park or in other suitable locations nearby with a growth habitat (e.g., shading, hydrology, etc.) similar to the area in Retail Site “A” where the Torrey’s Mountain Mint was observed. Prior to construction, one or more of these identified preservation areas, which are largely expected to remain vegetated in a natural state, would be set aside and isolated so that soils and existing vegetation are not disturbed. Top soil from the Retail Site “A” location where the species is currently located, would be preserved, and relocated within the identified preservation area(s), which would be monitored and maintained to ensure proper growing conditions for the species. For the boneset species, a similar program could protect and maintain on-site open field areas, within Fairview Park or elsewhere, of that type that currently provide suitable habitat for the bonesets within the Development Area.
- 2) Transplant and Seed Propagation – Ecologists will engage with biologists/horticulturalists to assist with transplanting the species and collecting appropriate cutting and seed stock to grow Torrey’s Mountain Mint and bonesets at an appropriate facility (for instance, NYCDPR’s Greenbelt Native Plant Center has such capabilities). Once the species is grown, the respective developer or agency would consult with

appropriate regulatory agencies for locations to plant the species. It is hoped that species could be grown at the ecologists' facility, with the intention of transplanting those plants to appropriate habitats within Fairview Park or other locations as directed by the regulatory agency(s).

- 3) Advanced Species Search – Under this mitigation scenario, ecologists, as directed by regulatory agency(s), will survey publicly owned parcels (up to 10 acres) to determine if other populations of Torrey's Mountain Mint occur near the site. If observed, the species will be documented and location will be identified to the regulatory agency(s).

## **TRANSPORTATION**

### *TRAFFIC*

The Proposed Project would result in significant adverse traffic impacts at a number of locations in the traffic study area. The major overall finding of the traffic mitigation analysis is that the majority of the 24 intersections analyzed would either not be significantly impacted or could be mitigated with readily implementable traffic improvement measures, including signal timing and phasing changes, regulation changes to gain or widen a travel lane at key intersections, and lane restriping. These measures represent some of the standard traffic capacity improvements that are typically implemented by NYCDOT.

Based on the identified potential traffic impacts, transportation improvements are recommended at the following intersections for one or more of the four weekday or Saturday peak periods under the year 2015 analysis:

- Allentown Lane-Veterans Road West/Arthur Kill Road;
- Richmond Valley Road/Arthur Kill Road;
- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp;
- Veterans Road West/Tyrellan Avenue;
- Boscombe Avenue/Outerbridge Crossing Ramps;
- Boscombe Avenue/Tyrellan Avenue;
- Englewood Avenue/Veterans Road West;
- Englewood Avenue/Veterans Road East;
- Veterans Road East-Drumgoole Road West/Bloomingdale Road; and
- Pleasant Plains Avenue-Amboy Road/Bloomingdale Road.

Based on the identified potential traffic impacts, transportation improvements are recommended at the following intersections for one or more of the four weekday or Saturday peak periods under the year 2020 analysis:

- Allentown Lane-Veterans Road West/Arthur Kill Road;
- Richmond Valley Road/Arthur Kill Road;
- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp;
- Veterans Road West/Tyrellan Avenue;
- Boscombe Avenue/Outerbridge Crossing Ramps;
- Boscombe Avenue/Tyrellan Avenue;
- Englewood Avenue/Veterans Road West;
- Englewood Avenue/Veterans Road East;
- Veterans Road East-Drumgoole Road West/Bloomingdale Road;
- Pleasant Plains Avenue-Amboy Road/Bloomingdale Road;
- Arthur Kill Road/Bloomingdale Road;
- Sharrotts Road/Arthur Kill Road; and
- Englewood Avenue/Arthur Kill Road.

The improvement measures are designed to accommodate the future traffic volumes projected to occur on the roadway network during critical periods of peak traffic activity in the future with the Proposed Project condition; specifically, during the peak 15-minute periods, by both the 2015 and 2020 analysis years. Subject to approvals of the relevant agencies, including NYCDOT, with the recommended transportation system improvement measures in place, no significant adverse traffic impacts would occur as a result of the Proposed

Project in the 2015 or 2020 analysis years, with the exception of three locations:

- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp.
- Boscombe Avenue/Outerbridge Crossing Ramps.
- Sharrotts Road/Arthur Kill Road.

It should be noted that the New York State Department of Transportation (NYSDOT) has announced that it will implement improvements to the southbound on- and off-ramps on the West Shore Expressway (“WSE”) between Bloomingdale Road and Englewood Avenue by 2015. By improving the connection between the southbound WSE and its adjacent service road (Veterans Road West), traffic heading south on the WSE could more easily access the major traffic generators along Veterans Road West (including the Bricktown Centre). The projected resultant traffic shifts would reduce the volume of traffic added by the Proposed Project to the Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp intersection, potentially reducing or eliminating the unmitigated traffic impacts noted above

## 6. UNAVOIDABLE ADVERSE IMPACTS

As described above, a number of the potential impacts identified for the proposed actions could be mitigated. However, in some cases, impacts from the proposed actions would not be fully mitigated. Most of the potential significant adverse impacts of the Proposed Project could be avoided or mitigated by implementing a number of measures. However, in a few instances, no practicable mitigation was identified to fully mitigate significant adverse impacts, and there are no reasonable alternatives to the Proposed Project that would meet its purpose and need, eliminate its impacts, and not cause other or similar significant adverse impacts.

### *HISTORIC AND CULTURAL RESOURCES*

The Proposed Project would potentially disturb or destroy portions of the following archaeological site located within the Development Area, identified through prior archaeological survey work. These activities could result in potential adverse impacts to the following archaeological resources:

- **Site C4-MCB-1 (NYS Site A08501.002766).** This prehistoric site was located during the Phase IB survey atop a prominent knoll in the east-central portion of the current Project Area. While development of this site would potentially disturb or destroy these resources, a Phase III Archaeological Data Recovery Excavation process would be completed to recover those resources and prehistoric data the site may contain before construction begins and the prehistoric site is lost.
- **Fairview Prehistoric Site (NYS Site A08501.002815).** This prehistoric site was located in 1999 during JMA Phase II excavations at the Balthasar Kreischer Estate Ruins Site. Most of the prehistoric material was recovered from a small, 60-foot-by-40-foot area to the southeast of the main house foundation remains, but prehistoric cultural material was also recovered from test units to the northwest and east of the main house foundation. The limited testing conducted to date suggests that at least portions of the prehistoric site retain sufficient integrity to contribute important archaeological data.
- **Balthasar Kreischer Estate (Fairview) Ruins.** JMA conducted Phase II fieldwork at the Kreischer Estate in 1999. JMA documented 18 features with visible surface remains across the estate ruins. The features included the main house foundation, an extensive complex of foundation remains, intact archaeological features (such as possible cisterns and wells), landscape features (such as summer house/gazebo remains, pond, and driveways), and mid-Late-19<sup>th</sup> century and Early-20<sup>th</sup> century sheet middens (ceramic and glass sherds, etc.).
- **Site A7-MCB-1 (NYS Site A08501.002767).** This prehistoric site was located during the Phase IB survey on a small, pronounced knoll or hill with a flat summit just south of the proposed route of Englewood Avenue, within the existing conservation area. The Proposed Project would include no development component at this site, which lies within the existing Conservation Area. However, completion of Englewood Avenue along the northern boundary of the Conservation Area has the potential to adversely impact this prehistoric site.



- **Block 7494: Lots 8, 90, 95, 97, and 183 - Retail Site B.** Completion of Retail Site B may disturb or destroy potential archaeological resources. It is possible that early features associated with the tenure of the Shea family (ca.1853-1887) are present on this property. It is also possible that remains of prehistoric occupation are present on this parcel.
- **Englewood Avenue Extension and Pedestrian/Bicycle Path.** It is possible that remains of prehistoric occupation are present in this 80-foot wide linear corridor.
- **Block 7487, Lot 100 – Retail Site B.** Block 7487, Lot 100 lies in the southwestern portion of the current Project Area. However, the portion of Block 7487 that lies to the south of the bus depot and north of Block 7494 and the extant sewer line running along the southern block boundary has not been previously surveyed.
- **Retail Site “B” and Proposed Utility/Roadway Corridor.** There are unsurveyed areas of archaeological potential in these sections of the Project Area that may be impacted by development of the Proposed Project. It is possible that remains of prehistoric occupation are present on this parcel.

Further site testing, including Phase 1B assessments would be performed in the future as plans for these project elements advance further in the development process. This would confirm the potential resources in these areas and define ways for proposed future developments to minimize or avoid impacts to those resources.

#### NATURAL RESOURCES

Construction of the Proposed Project by the year 2020 would remove a substantial amount of habitat and natural resources within the Development Area. Approximately 0.4 acres of wetlands and 50.1 acres of upland habitats would be removed by the 2020 analysis year. Of the impacted wetlands acres, only approximately 0.1 acre is envisioned to be deemed to be jurisdictional by the USACE and regulated by NYSDEC. Also, a total of approximately 2,013 trees would be removed as a result of the total construction and development from the Proposed Project, consisting of 538 trees impacted by the developments under the 2015 year analysis, 1,156 trees impacted by the developments under the 2020 year analysis, and 319 trees impacted by the construction of Englewood Avenue.

Completion of the Proposed Project as a whole by 2020 and in particular the construction of Englewood Avenue would bifurcate remaining undeveloped habitats within the Development Areas from the Clay Pit Ponds State Park Preserve and the Conservation Area. Although many of the directly impacted habitats are generally successional habitats that are common to New York State, the proposed uses within the Development Area would have further indirect impacts on the preserve and Conservation Area through removal and bifurcation of a large contiguous vegetated buffer area.

Two endangered and one threatened plant species were observed within the proposed areas of the 2015 year developments. Two species, the bonesets (one threatened and one endangered), were observed in open areas (e.g., successional old fields Variants I and II, and unpaved paths) throughout the Development Area. As such, the removal and/or disturbance of open areas would impact the bonesets through habitat loss and direct removal of individual plants. The removal of bonesets throughout the site, would be a significant unavoidable adverse impact to the species.

Torrey’s Mountain Mint, an endangered species, occurs in one discreet location on the southern border of Retail Site “A.” Review of the NYS NHP website indicates “*There are three existing populations in New York but all of them are small or highly threatened*” and “*A recently discovered population on Staten Island was almost destroyed by the construction of a shopping center.*” NYS NHP conservation and management strategies for the species identify that “open areas need to be maintained without directly damaging existing plants.” The removal of one of the remaining three sites for this species would be a significant adverse impact.

Taken in whole, the cumulative impacts of the 2020 development would have significant adverse impacts on the flora and fauna of CPPSPP and the Conservation Area and habitats and threatened and endangered species within the Development Area. The impacts to the CPPSPP may be viewed as significant, and removal of most

of the potential boneset habitat and the Torrey Mountain Mint in the Development Area may be viewed as substantial.

#### *TRANSPORTATION*

Under the Proposed Project, an un-mitigable significant adverse impact would occur at three study area intersections:

- Veterans Road West/Bricktown Way/Korean War Veterans Parkway westbound off-ramp. Projected potential significant traffic impacts can only be partially mitigated. Impact conditions are projected to remain at this intersection for the eastbound left-turn movement, the northbound approach, and the southbound through/right-turn lane during the Saturday midday peak hour.
- Boscombe Avenue/Outerbridge Crossing Ramps. With proposed mitigation measures in place, potential significant traffic impacts are projected to remain for westbound right-turn movements at this intersection during the weekday midday and weekday PM peak hours.
- Sharrotts Road/Arthur Kill Road. At this stop-controlled intersection no mitigation is proposed and a marginally un-mitigable significant traffic impacts may potentially remain on the eastbound and westbound approaches during the Saturday midday peak hour in 2020. Traffic capacity improvements described above fall within the jurisdiction of NYCDOT for implementation.

## **7. GROWTH-INDUCING ASPECTS OF THE PROPOSED ACTIONS**

The term “growth-inducing aspects” generally refers to the potential for a proposed action to trigger additional development in areas outside of the project site or sites (i.e., directly affected area) that would not experience such development without the proposed action. The *CEQR Technical Manual* indicates that an analysis of the growth-inducing aspects of a proposed action is appropriate when an action:

- Adds substantial new land use, new residents, or new employment that could induce additional development of a similar kind or of support uses, such as retail establishments to serve new residential uses; and/or
- Introduces or greatly expands infrastructure capacity.

The purpose of the Proposed Project is to comprehensively plan and develop the beneficial use of approximately 66 acres of undeveloped property in the Charleston neighborhood of Staten Island. The proposed development of the area is intended to achieve the following goals: (i) accommodate community needs including recreational, housing, cultural, educational, and commercial facilities; (ii) preserve and link open space where feasible; and (iii) expand local employment options. The proposed project will provide new recreational facilities and public open spaces, a new school, a new public library, a mix of retail and office uses, and opportunities for housing for seniors. The project will address a rising demand for additional retail, cultural, educational, and recreational facilities on the South Shore of Staten Island. The Proposed Project, which is considered reasonable worst-case development scenarios (“RWCDs”), developed to assess the possible short- and long-term effects of the Proposed Action and the environmental consequences of the growth, are the subject of the DEIS.

The Proposed Project is not expected to induce additional notable growth outside of area to be rezoned and redeveloped (the Development Area). The neighborhood surrounding the area consists of a mixed-use neighborhood, and many new separately planned commercial projects are already under construction. This growth is anticipated to occur independent of the Proposed Project, and the new uses introduced by the Proposed Project would not trigger additional development outside of the Development Area.

## **8. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

These resources include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation of the project-generated development; and the human effort (time and labor) required to develop, construct, and operate various components of the project-generated development. They are considered irretrievably committed because their reuse for some purpose other than the project-generated development would be highly unlikely.

Both natural and man-made resources would be expended and utilized under the Proposed Project. The irretrievable and irreversible commitment of resources involves the construction materials and labor associated with the site developments within the Development Area, including mechanical equipment and energy committed to assist construction workers. The development of various sites within the Development Area with new mixed-use development, including new retail stores, housing, parkland and a new public school, constitutes a long-term commitment of land resources, thereby rendering land use for other purposes highly unlikely in the foreseeable future. These commitments of resources and materials are weighed against the goals of the Proposed Project of activating the Development Area by permitting the proposed site developments, including new senior housing and parkland, while enhancing the area's commercial base. Furthermore, by introducing a limited residential population and creating a demand for retail uses, the Proposed Project seeks to attract and retain a variety of commercial tenants that will contribute to the city's economy for decades to come.

Additionally, public services (e.g. police and fire protection, public school seats, etc.) necessitated in connection to service the area also constitute resource commitments that might otherwise be used for other programs or projects. However, the Proposed Project would generate a significant amount of additional gross and net tax revenues to the City of New York which is projected to far exceed public funds needed to provide such services.

## **9. NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW**

This Notice of Completion for the Draft Generic Environmental Impact Statement for the Charleston Mixed-Use Development Project has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law.

## **10. CONTACT OFFICE**

Requests for copies of this DGEIS should be forwarded to the contact office, Mayor's Office of Environmental Coordination, 100 Gold Street – 2nd Floor, New York, NY 10007, or by email at [rkulikowski@cityhall.nyc.gov](mailto:rkulikowski@cityhall.nyc.gov).

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

<http://www.nyc.gov/oec>



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May 2, 2013  
Date