Accepted at the March 26, 2015
Town Board Meeting

DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Arboretum at Farmingville

Horseblock Road
Farmingville, New York

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PREPARED FOR

Kelly Builders and Development Group, LLC and Kelly Builders of Farmingville
12 Elm Lane
Stony Brook, NY 11790

PREPARED BY

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100 Motor Parkway, Suite 135
Hauppauge, NY 11788

January 2015

Revised February 2015

Draft Environmental Impact Statement

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Prepared for **Kelly Builders and Development Group, LLC and**
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January 2015
REVISED February 2015

DRAFT ENVIRONMENTAL IMPACT STATEMENT
PROPOSED CHANGE OF ZONE AND SITE PLAN APPLICATION FOR
THE ARBORETUM DEVELOPMENT
HAMLET OF FARMINGVILLE, TOWN OF BROOKHAVEN
SUFFOLK COUNTY, NEW YORK

PROJECT LOCATION: 65.24± acres situated south of Horseblock Road and north of the Long Island Expressway, in the hamlet of Farmingville, Town of Brookhaven, Suffolk County, New York.

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DATE OF PREPARATION: January 2015
Revised February 2015

AVAILABILITY OF DOCUMENT: This document is a Draft Environmental Impact Statement (DEIS) prepared by the above-referenced Applicants. Copies are available for public review and comment at the offices of the Lead Agency and electronically at the Town of Brookhaven website (http://www.brookhaven.org/).

DATE OF ACCEPTANCE: **March 26, 2015**

DEADLINE FOR COMMENTS: **June 8, 2015**

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Executive Summary

1.1 Introduction

This document is a Draft Environmental Impact Statement (DEIS) prepared in accordance with the State Environmental Quality Review Act (SEQRA) and its implementing regulations at 6 New York Codes, Rules and Regulations (NYCRR) Part 617 for the action contemplated herein, and is based upon the Final Scope that was issued by the Town of Brookhaven. This DEIS evaluates the potential adverse impacts associated with the proposed project, which consists of a change of zone and site plan approval for the redevelopment of the 65.24±-acre subject property in the hamlet of Farmingville, Town of Brookhaven, Suffolk County (Suffolk County Tax Map [SCTM] Parcel Nos. 200-626-3-39.5, and 40, and 200-653-7-1), as a mixed-use residential community and commercial development to be known as The Arboretum at Farmingville (hereinafter "The Arboretum"). The subject property is located south of Horseblock Road and west of Blue Point Road in the hamlet of Farmingville, Town of Brookhaven, Suffolk County, New York.

The Town Board of the Town of Brookhaven (Town Board) is serving as lead agency for the proposed action. The DEIS evaluated the following issues, based on the Final Scope issued by the Town Board:

- Land Use, Zoning, and Community Character
- Subsurface Soils
- Community Services
- Transportation
- Water Resources
- Ecological Resources
- Visual Resources
- Use and Conservation of Energy
- Cultural Resources
- Solid Waste
- Air Quality
- Economic Impacts.

This Executive Summary is designed solely to provide an overview of the proposed project, a brief summary of the potential adverse impacts identified and mitigation measures proposed as well as alternatives considered. Review of the Executive Summary is not a substitute for the full evaluation of the proposed project performed in Sections 2.0 through 8.0 of this DEIS.

1.2 Existing Site Conditions and Site History

The subject site, according to the Town of Brookhaven Tax Assessor, consists of SCTM Parcel Nos. 200-626-3-40 and 200-626-3-39.5 (comprising the northern portion of the subject property), and 200-653-7-1 (comprising the central to southern portion of the subject property (also referred to as the subject site or project site). The northern portion of the subject property is developed with a single-family residence that was constructed in 1940. In the central-eastern portion of the subject property, there are vacant agricultural equipment storage buildings and a commercial nursery; vacant equestrian facilities (including a horse stable building, track, and grazing areas) are located in the southern portion; and soil stockpiling operations and vacant land, including an artificial drainage feature, are visible throughout the central portion of the property.

Based on an analysis of historic aerial photographs, from 1954 to 1980, the subject property was utilized primarily for agricultural purposes, with the existing single-family residence and vacant commercial structures, located in the northeastern and northern central portions of the subject property, respectively, also present during this same time period.

In January 2014, the previous property owner sold SCTM Parcel Nos. 200-626-3-40 and 200-653-7-1 to Kelly Builders and Development Group LLC, and SCTM Parcel No. 200-626-3-39.5 to Kelly Builders of Farmingville (the current property owners). Kelly Builders and Development Group LLC and Kelly Builders of Farmingville are the project sponsors (or otherwise referred to as "the Applicants").

In May 2014, subsequent to the property acquisition, the project sponsors filed an application with the Town Board in order to redevelop the site as a mixed-use commercial and residential development. In June 2014, after review of the application and Part 1 of the Environmental Assessment Form (EAF) that was submitted by the Applicants, the Town of Brookhaven preliminarily classified the proposed project as Type I, declared its intent to be lead agency and conducted coordinated review. After coordinated review, the Town Board became lead agency and issued a Positive Declaration. Based upon the Positive Declaration, the Town Board elected to conduct public scoping and issued a Final Scope, dated September 26, 2014, upon which this DEIS is based.

1.3 Project Description

The subject property is situated within the A Residence 1 and J Business 4 Zoning Districts of the Town of Brookhaven and currently contains a single-family residence, as well as agricultural and related commercial uses. The proposed project consists of an application for a change of zone to Multi-Family Residence District (MFRD) – Secondary Zone and J Business 2 for the redevelopment of the 65.24±-acre property, as a mixed-use residential community and commercial development.

The Arboretum consists of 292 residential units (i.e., 51 single-family residences, 164 two-bedroom flats, 63 Townhouse [triplex] units, and 14 three-bedroom "Rosebud" units); one two-story 24,000±-square-foot (SF) commercial building (containing 12,000± SF of restaurant space and 12,000± SF of office space); a 7,500±-SF recreational clubhouse for residents; a 7,728± SF sewage treatment plant (STP) with 150,000± gallon per day (gpd) capacity; 466 paved parking spaces situated in multiple parking fields throughout the subject property (200 parking spaces would be for the proposed commercial uses [not including six loading spaces], 216 paved surface parking spaces for the proposed two-bedrooms flats and 50 parking spaces would be for the proposed clubhouse), 112 landbanked parking spaces, and 256 parking spaces for the remaining residential uses within double-driveways and garages; internal driveways; and associated appurtenances (e.g., landscaping, lighting, etc.). A 7.28±-acre publicly accessible open space area, a 1.66±-acre private recreational open space area and an additional 1.38± acres of private recreational facilities are also proposed.

Per §85-87.2 of the Town of Brookhaven Town Code (Town Code), 10 percent of the proposed 292 residential units (i.e., 30 units) would be maintained as workforce housing, which is defined as housing for individuals and families at or below 120 percent of the median income for the Nassau-Suffolk Primary Metropolitan Statistical Area (MSA). Based on data provided by the United States Department of Housing and Urban Development (HUD), the median income for the Nassau-Suffolk Primary MSA is $105,100. Therefore, families with incomes of $126,120 or less would be eligible for the proposed workforce housing.

In order to achieve the proposed density on the site, as described above, The Arboretum must redeem Pine Barrens Credits. Per the Town Code, residential development on an eligible parcel is entitled to an increase in density based on the addition of Pine Barrens Credits to the customary unit yield (customary yield). Therefore, the proposed residential density increase to 292 units at the subject property will require a redemption of 38.6 Pine Barrens Credits.

Access to the subject property would be from two points: the main access would be located along the south side of Horseblock Road, adjacent to the proposed commercial and public recreational portions of the site and an additional access would be located farther south, from Henry Street to the east, in the vicinity of the

proposed residential portion of the development. Additionally, an emergency access drive would connect the subject property to Alamo Drive to the west.

Water would be supplied to the site via connection to the Suffolk County Water Authority (SCWA) infrastructure. Anticipated potable water demand is approximately 98,307± gpd, based upon sanitary flow with a 10 percent increase for irrigation purposes.

Based upon the proposed uses, the anticipated sewage flow has been calculated at 89,370± gpd. As previously indicated, a new STP would be constructed on the property, having a capacity of 150,000± gpd. .

The stormwater management system is proposed to be composed of a number of facilities, including drainage ponds, recharge basins and leaching pools. The system has been designed to capture and recharge stormwater runoff for an eight-inch storm, based upon Town of Brookhaven requirements. Stormwater runoff has been calculated at 568,353± cubic feet (CF). According to the site engineer, based on the conceptual design, it is anticipated that the northern to central sections of the site will be designed with ponds to have limited capacity and the southern section of the site will perform most of the stormwater collection and recharge within the two southernmost proposed recharge basins.

The development property is located within the service area of PSEG Long Island for electrical services and National Grid with respect to natural gas.

1.4 Purpose, Needs, and Benefits

The purpose of the proposed project is to redevelop an underutilized property, the majority of which is currently vacant, but was used for agricultural and related commercial uses, to a mixed-use residential community and commercial development. In redeveloping this property (which is situated in the vicinity of major access corridors), the Applicants have designed the development to create a community with a mix of commercial and residential uses, which incorporates public recreational open space on an important, large-scale property within the Town of Brookhaven (Town) and Suffolk County (County).

The Arboretum has been designed to meet the housing needs for various demographic segments (including income levels) of the Town as identified in both Town and County planning documents, as explained in Section 3.1 of this DEIS. Of the 292 units, 10 percent (30 units overall) would be maintained as workforce housing for individuals and families earning 120 percent of the area median income for the Nassau-Suffolk Primary MSA as defined by HUD.

Implementation of the proposed project would also enhance the tax base through redevelopment of existing uses that are generating a minimal amount in property tax revenue. The new development would enhance this area of Farmingville and is expected to add to the area's attractiveness and marketability of housing and commercial space. The mixed-use development aims to encourage uses that complement the surrounding existing uses with commercial development along Horseblock Road, and residential development adjacent to existing residential subdivisions, and would fulfill several goals/recommendations of relevant local comprehensive plans, as noted above.

Additional benefits include the creation of 7.28± acres of publicly accessible recreational open space and1.66± acres of ponds and recreational/open spaces (plus an additional 1.38± acres of private recreational facilities) for use by on-site residents.

1.5 Construction Project Phasing

The proposed project is expected to commence in 2016 and be completed by 2022 for a construction period of approximately six years. The Arboretum will provide a mix of residential product types including: single-family residences, two bedroom flats, two bedroom townhouses, and three bedroom "Rosebud" units.

It is anticipated that the proposed development would occur over four phases in the following sequence.

- **Phase I** will consist of 75 units with a mix of residential product types. Of these 75 units there would be 21 single family homes (three and four bedroom homes); 40 flats (20 units of first floor and 20 units of second floor units); seven Rosebud units and seven traditional townhouses will be constructed. In addition, the construction of the STP and the community clubhouse will be completed during this stage. Installation of the internal road system will begin from the Horseblock Road entrance. The drainage, sewer main, water main and utilities will be installed as needed or as practical. Landscaping, street lights for this section will also be installed.
- **Phase II** will consist of 84 units and will include the construction of a mix of residential product types. Seven single family homes (mix of three or four bedroom homes); 56 flats (28 units of first floor and 28 units of second floor units); and 21 traditional townhouses will be constructed. The associated utilities and infrastructure will also be continued to be installed into this Phase.
- **Phase III** will consist of 53 units and will be a mix of residential product types. Four single family homes, 28 flats and 21 townhouses will be constructed during this phase. In addition, during this phase, the construction of the commercial space along Horseblock Road will occur as well as, the public Arboretum space

and portions of the private open space located within the central portion of the development.

- **Phase IV** will consist of 80 units and will be a mix of residential product types. Of these 80 homes, 19 single family homes (mix of three and four bedroom homes); 40 flats (20 units of first floor and 20 units of second floor units); seven Rosebud units and 14 traditional townhouses will be constructed in this phase.

1.6 Required Permits and Approvals

The following permits and approvals are required for implementation of the proposed project:

Agency	Required Permit/Approval
Town Board	Change of Zone
Town Planning Board	Site Plan
Town Highway Department	Road/Access Permit
Town Division of Environmental Protection	Wetlands and Waterways Permit
Suffolk County Department of Health Services	Water Supply, Sanitary, Stormwater
Suffolk County Department of Public Works	Highway Work Permit
Suffolk County Planning Commission	239-m Referral
New York State Department of Environmental Conservation	SPDES General Permit for Stormwater (GP-0-10-001), SPDES for Sewage Treatment Plant Discharge

1.7 Potential Impacts of the Proposed Project

1.7.1 Land Use, Zoning, and Community Character

Land Use

Implementation of the proposed project would result in a change of use of the subject property from existing agricultural, commercial, and residential uses to a mixed-use residential and commercial development. Upon removal of all existing improvements and structures and implementation of a Soil Management Plan (SMP), the property would be redeveloped with single-family and multi-family residences and commercial uses.

Specifically, the residential component of the proposed project would include 51 single-family residences (situated primarily along the western and eastern boundaries of the subject property with lot sizes ranging in size from 0.29±- to 0.47±-acre), 164 two-bedroom flat units (in two-story structures), 63 townhouses units, and 14 three-bedroom units, all situated throughout the central portion of the subject property. In total, 292 residential units would be constructed, 10 percent, or 30, of which would be designated as workforce housing units, pursuant to Town of Brookhaven requirements. A 7,500±-SF private residential clubhouse and associated pool would also be provided for residents of the proposed residential portion of the development. A total of 266 paved surface parking spaces (plus an additional 112 spaces, which would be landbanked) would be provided for the proposed residential flats and clubhouse, with 256 parking spaces for the remaining residential uses provided via individual and shared driveways and garages.

The residential component of the development would be connected to the commercial portion of the development via a roadway located within a strip of land containing a publicly-accessible open space area along both the east and west sides of the roadway, with a pond situated within the eastern portion of this area. The internal roadway connecting these components would be from an access off Horseblock Road, with the entrance to the commercial development (discussed below), off the internal roadway. Thus, there would be only one access point from Horseblock Road serving both the residential and commercial portions of the development.

A 24,000±-SF commercial building (one, two-story building with a 12,000±-SF footprint) and associated 200-space parking lot (plus an additional six loading spaces) would be situated on approximately 3.65 acres in the northwestern portion of the subject property. As noted above, there would be no direct access to the commercial portion of the site from Horseblock Road; access would be from an internal roadway

that spans the entire development. For purposes of this analysis, it was assumed that the proposed commercial structure would include three 80-seat, 4,000±-SF restaurants, with office space occupying the other 12,000± SF.

In addition to the residential and commercial structures, a 7,728±-SF STP would be constructed on a 2.96±-acre "sanitary area" in the southernmost portion of the subject property in the area of the existing abandoned equestrian facilities. This area would be screened from the proposed residences by vegetative buffering to be planted just north of the building. It would also be screened from off-site residences by vegetative buffering the west, south, and east, as well as proposed single-family residences beyond to the west and east. Three drainage ponds situated in the northern and central portions of the subject property would capture and recharge stormwater runoff, as well as provide increased wetland and aquatic habitat values and an aesthetic feature for the development. In addition, two recharge basins would be located in the southern portion of the subject property.

Overall, the transformation of the site from an underutilized agricultural, commercial, and single-family use to an attractive, maintained mixed-use residential and commercial development is expected to result in positive, beneficial land use impacts.

Zoning

The proposed project includes two change of zone requests, which include:

1. A change of zone from the A Residence 1 and J Business 4 Zoning Districts to the Multi-Family Residence District (MFRD) – Secondary Zone Zoning District for the entirety of SCTM parcels District 200 – Section 626 – Block 3 – Lot 40 and District 200 – Section 653 – Block 7 – Lot 1 and a 3.65±-acre portion of SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5

2. A change of zone from the J Business 4 Zoning District for the remaining 6.35± acres associated with SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5 to the J Business 2 Zoning District.

The existing zoning at the subject property allows for residential and commercial development as does the proposed zoning. However, the proposed zoning would permit higher intensity development and a broader range of commercial uses. Therefore, although the allowable development intensity would increase, the overall categories of uses proposed on the site would not change from what is currently permitted.

Implementation of these change of zone requests would result in 61.59± acres of the subject property situated in the MFRD – Secondary Zone Zoning District and 3.65± acres of the subject property situated within the J Business 2 Zoning District. While

both commercial and residential uses would be permitted, as under the prevailing zoning, the proportions and specific types of such uses would change.

Regarding the MFRD – Secondary Zone Zoning District, pursuant to §85-80(B) of the Town Code, secondary zones are defined as sites located w*ithin 1,320 feet of a primary zone.*[1]

Permitted uses within the zoning districts of the change of zone requests include the following:

MFRD Secondary Zone: Rental or owner-occupied housing units; attached or semi-attached single-family residences; and detached single family residences.

J Business 2: Bank without accessory drive-through facility; bowling alley; church or similar place of worship; commercial center; day-care facility; delicatessen; dry cleaners; health club; Laundromats; non-degree granting schools; office; personal service shops; pharmacy without accessory drive-through facility; retail consumer shops and stores; shops for custom work; take-out restaurant; undertaking establishments; veterinarian; and all uses identified as incentive uses within the Transitional Area Overlay District established in connection with the Montauk Highway Corridor Study Land Use Plan for Mastic and Shirley Phase II; college or university, excluding dormitories and other college or university residential facilities;[2] large commercial retailer use, or major renovation or expansion of existing structure where such renovation and/or expansion is greater than 50 percent of the reconstruction cost of the total structure and results in a large commercial retailer use;[2] large commercial retailer within the Route 25A Hamlet Center Overlay District;[2] single-family dwelling;[2] and two-family dwelling.[2]

The proposed project would comply with the bulk and dimensional requirements of the MFRD – Secondary Zone and J Business 2 Zoning Districts.

Workforce Housing Requirement

Pursuant to §85-281 of the Town Code, a minimum of 10 percent (rounded up) of all residential units built under the MFRD Zoning District are required to be maintained as affordable or workforce housing. It is the intent of the Applicants to designate 30 of the two-bedroom flat units as workforce housing units (18.3± percent of the total two-bedroom flat units, 10.3± percent of all proposed residential units). As defined by

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[1] Pursuant to §85-80(A) of the Town Code, "Primary zones" shall be defined as sites located within a 1,320-foot radius of a major arterial roadway and also located within one of the following:
(1) Within a 1,320-foot radius of an existing downtown/hamlet center or existing commercial area or node, subject to review of a 1,320-foot radius map illustrating that a sufficient concentration of supporting services, public transportation opportunities and adequate pedestrian access to such services exists; or
(2) Within 2,000 feet of a transit-oriented development center designated by an adopted plan; or
(3) Within 2,000 feet of an MTA/Long Island Rail Road active rail road station.
(4) High-density housing sites designated pursuant to a Town Board adopted land use plan or study

[2] Requires Special Use Permit from the Town of Brookhaven Town Board

the Town Code, workforce housing is "housing for individuals and families at or below 120 [percent] of the median income for the Nassau-Suffolk primary metropolitan statistical area as defined by the Federal Department of Housing and Urban Development." The median income for this area was identified as $105,100[3] and, as provided by the Applicants, workforce housing units at the proposed development would be sold for $250,000 each.

Pine Barrens Credit Program ("PBC Program")

Pursuant to the Pine Barrens Credit Program Handbook, the entirety of the subject property is a designated receiving area and is therefore eligible for increased development rights / credits from sending areas under this program. Per the Town Code, residential development on an eligible parcel is entitled to an increase in density based on the addition of Pine Barrens Credits to the customary unit yield (customary yield). Therefore, the proposed residential density increase to 292 units at the subject property will require Pine Barrens Credit Redemption. The existing lot zone J-4 has an allowable density of three units per acres. The total 6.35 acres, zoned under the J-4 district would have a customary yield of 19 units ([6.35± acres] x 3= 19 units). For the existing A-1 district the allowable density or customary yield would be 50 units (55.238± acres x 43,560 SF = [2,406,167±/40,000 SF] = 60.15± x .825 = 50 units). Therefore, the total base residential density permitted at the subject property under the existing zoning is 69 units. The Arboretum proposes 292 units, therefore, less the 30 proposed workforce housing units, the proposed development exceeds the permitted base density by 193 residential units. Based on a development yield factor 0.20, 38.6 Pine Barrens Credits are required to be redeemed.

Based on the foregoing, the proposed project would not have significant adverse impacts with respect to zoning.

Community Character

As the existing buildings and land conditions at the subject property are largely unmaintained and the site is underutilized, implementation of the proposed project would improve the character of the property to that of a well-maintained mixed-use commercial and residential development, with public and private recreational opportunities.

The proposed commercial building would be situated in the northwestern portion of the subject property along Horseblock Road, the primary commercial corridor in the hamlet of Farmingville, therefore complementing existing commercial uses. A publicly-accessible open space area for passive recreation would be developed in the northeastern portion of the subject property, fronting along Horseblock Road as well, representing a new public amenity for employees, residents, and visitors.

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[3] http://www.huduser.org/portal/datasets/il/il2014/2014summary.odn, accessed October 7, 2014.

Various types of residential development would be constructed throughout the remainder of the property, with single-family residential uses situated at the western and eastern perimeters of the property to complement existing single-family residential uses that border the property in these directions.

The southern portion of the property is bordered by transmission towers associated with the 60-foot Long Island Power Authority (LIPA) right-of-way (ROW). Beyond, are approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School. A vegetated buffer, in addition to the existing LIPA ROW, would screen views of the proposed STP from the aforementioned uses further south, and further landscaping treatments on-site would screen views of the STP from the residential uses within the subject property.

Based on the foregoing, redevelopment of the subject property in accordance with the proposed development is expected to complement and enhance existing community character.

Comprehensive Planning Documents

The proposed project was evaluated for consistency with the following comprehensive planning documents:

2010 Farmingville Community Redevelopment Plan (Farmingville Plan)

As the proposed project involves the development of a 24,000± SF commercial building that could accommodate a varied mix of retail uses, it would be consistent with the goal to attract new businesses in which the community has expressed interest. In addition, the proposed project would include landscaping elements (e.g., trees, shrubbery, lawn areas, etc.) throughout the subject property, including along the northern property boundary, which is part of the Horseblock Road Corridor. Although the subject property is not within the downtown core area, it would be in keeping with the intent of the goal to encourage plantings in the downtown area along Horseblock Road. Finally, construction of a 7.28±-acre publicly-accessible open space area for passive recreation would be consistent with the *Farmingville Plan's* goal for development of public spaces.

The Brookhaven 1996 Comprehensive Land Use Plan (1996 Comprehensive Plan)

The proposed project includes a mix of housing types providing a heterogeneous mix of housing types on the same site. Further, the automobile transportation network would connect with the existing street network, and the internal street network would also feature appropriate sidewalk infrastructure to accommodate pedestrians. Acting together, these attributes of The Arboretum would help to reinforce and create a "sense of place" within the hamlet of Farmingville, as recommended by the *1996*

Comprehensive Plan. In addition, 10 percent of the proposed residential uses would be affordable, providing housing for a variety of age and income levels. Finally, construction of 7.28± acres of publicly-accessible open space, 1.66± acres of private recreational open space and an additional 1.38± acres of private recreational facilities would provide areas for active and passive recreation at the subject property. Overall, implementation of the proposed project would comply with the relevant recommendations of the *1996 Comprehensive Plan*.

While no significant adverse impacts to land use, zoning and community character have been identified, the following measures have been incorporated into the development plan to address these issues:

- The proposed development is a re-use of a currently partially active commercial and agricultural site (with one single-family home) with residential and commercial uses that fulfill a housing need that has been identified by the County (including workforce housing) as well as a commercial need for uses identified by the Farmingville community as desirable.
- The proposed mix of land uses on the site creates a compact, walkable development, allowing the opportunity for people to live and work within a cohesive community.
- Various housing types would be constructed as part of the project to provide a range of housing opportunities (including various sizes, types and costs) for the residents of Farmingville, the Town of Brookhaven, Suffolk County, and beyond.
- Landscaping at the subject property would include various grasses, shrubbery, and trees throughout the site, serving to both enhance proposed land uses at the subject property as well as screen views of the subject property from both the exterior and interior.
- The proposed project includes the creation of 7.28±-acres of publicly-accessible open space, which is intended to be a community amenity.
- The proposed single-family residential land uses would be placed at the eastern and western perimeters of the subject property in order to complement and enhance existing single-family residential uses that border the subject property to the east and west.
- The creation of a sense of place within the hamlet of Farmingville by strengthening the identity of the primary Farmingville commercial corridor along Horseblock Road with an assortment of commercial and residential uses.

1.7.2 Subsurface Soils

Due to historical agricultural use at the subject property, sampling was performed to determine if there had been contamination of on-site soils. Apex, LLC's (Apex)

Limited Phase II Environmental Site Assessment (Phase II ESA) report included soil sampling and analysis and concluded that arsenic concentrations were detected in soils on-site at concentrations exceeding Suffolk County Department of Health Services (SCDHS) guidance thresholds and New York State Department of Environmental Conservation (NYSDEC) Unrestricted Soil Cleanup Objectives (SCOs). Petroleum-related semi-volatile organic compounds (SVOCs) were detected in exceedance of their respective NYSDEC SCOs. In test pit samples, elevated concentrations of the heavy metals lead and mercury, and an elevated concentration of the pesticide 4, 4'-DDD were documented.

Without the proposed redevelopment of the site, existing operations that include the import and export of soil will likely continue, and as such, the soil impairments identified by Apex would not be addressed. Based upon the current site operations, there is also a potential for additional impaired soils to be imported on the site as part of routine operations.

However, since the proposed project involves the demolition of existing buildings and the disturbance of the impaired soils in order to construct the proposed development, such soils (or those that may be encountered during site preparation) would either need to be removed from the site or addressed on-site via the implementation of soil management techniques.

Based on the results of the Phase II ESA, the Town of Brookhaven would require that a SMP be developed for the site, at the time of site plan review. The SMP may include one or more of the following soil management techniques to address the identified heavy metals/pesticide impacts:

- Removal of heavy metals/pesticide-impacted soils in areas that were identified in the September 3, 2014 Phase II ESA, and as required by the Town of Brookhaven.
- Collection and analysis of endpoint soil samples to confirm post-removal soil conditions.
- Excavation of trenches within "clean" areas of the subject property, which do not contain any fill materials and use of the excavated native soil as a backfill for the excavations associated with heavy metals/pesticide-impacted soil excavations.
- Placement of the excavated heavy metals/pesticide-impacted soils into the "clean" area trenches, and/or beneath other impermeable features (i.e., building envelopes, roadways, etc.) and / or perimeter berms.

SVOCs are not related to former agricultural usage, and based upon field observations noted in the September 3, 2014 Phase II ESA prepared by Apex, are indicative of imported fill material from an unknown off-site source. Therefore, SVOC-impacted soils would be addressed through excavation, off-site disposal in accordance with prevailing regulations and with appropriate manifesting, and post-

removal confirmatory endpoint sampling to ensure completed remediation of the SVOC impacts.

Once implementation of such mitigation measures occurs, future occupants of the site would not encounter exposure to the identified impaired soils.

1.7.3 Community Services

Fire Protection and Ambulance Services

The Farmingville Fire Department provides ambulance services as well as fire protection to the project site. All multi-family and commercial buildings will be sprinklered, as required by the New York State Building and Fire Code and internal vehicular circulation has been designed to provide sufficient turning radii for emergency vehicles and full vehicular circulation throughout the subject property. Moreover, the maximum proposed building height within The Arboretum development (35 feet) is no higher than existing buildings within the fire department's existing service area. Furthermore, the proposed buildings will be constructed to latest New York State Building and Fire Code.

Based on a factor of 1.65 fire personnel per 1,000 persons of a new population, and a combined population of 749± (among the residential population and the employee population from direct jobs provided at The Arboretum), there would be a potential demand for 1.2± additional fire personnel, which is minimal, particularly considering that much of the proposed development will be sprinklered. With respect to ambulance services, it is estimated that 4.1 emergency medical services (EMS) personnel and one EMS vehicle are required per 30,000 employees/population. Thus, the proposed project would generate a demand for 0.1± additional EMS personnel and 0.02± additional EMS vehicles. It is important to understand, however, that this site is already developed with agricultural, commercial, and residential uses, and is already served by the Farmingville Fire Department.

Farmingville is a volunteer fire and rescue department. As there would be an additional permanent population of 677± persons, this new population would provide a new pool of potential volunteer firefighters and EMS personnel. In addition, the proposed project would contribute approximately $235,250± in tax revenues to the Farmingville Fire District, annually. The projected property tax revenue would assist in off-setting any potential increase in service demand.

Based on the foregoing, the proposed development is not expected to result in significant adverse impacts to the Farmingville Fire District.

Police Protection

The subject property is within the jurisdiction of the Suffolk County Police Department (SCPD) – 6th Precinct. Correspondence from SCPD – 6th Precinct indicated that the "SCPD will adapt as necessary to protect and serve the ever changing needs of the community."

Based on a factor of two police officers and 0.6 police vehicles required per 1,000 persons of a new population, the increase in on-site resident and direct employee populations by 749± persons would generate a need for 1.5± and 0.4± additional police personnel and vehicles, respectively. It is noted that the projected increased demand placed on the SCPD – 6th Precinct would represent a potential incremental increase in demand over the existing services it provides to the site, rather than demand for new services for the site and the overall area. In addition, the proposed project would contribute approximately $349,478± in tax revenues to the SCPD, which could be used to off-set increased costs and augment the SCPD's capabilities, as necessary.

Based on the above, the proposed development is not expected to result in significant adverse impacts to the SCPD – 6th Precinct.

Healthcare

Brookhaven Memorial Hospital and Stony Brook University Medical Center (SBUMC) serve as receiving hospitals for the subject property. Based on a factor of 36.5 EMS calls generated per year for every 1,000 in new population, and a projected population at the subject property of 749± persons (among the residential population and the employee population from direct jobs provided at The Arboretum), the proposed development would generate approximately 28 (rounded up) EMS-related calls per year. Assuming all 28 annual calls would result in hospital admission and based on a combined annual reported admissions of 48,973 persons between Brookhaven Memorial Hospital and SBUMC, and assuming all 28 annual calls would result in hospital admission, this would represent a 0.06± percent increase in hospital admissions resulting from the proposed development. Based on the foregoing, it is not anticipated that the proposed project would adversely impact health care services in the area.

Educational Facilities

The subject property is served by the Sachem Central School District (CSD). Implementation of the proposed project is projected to generate approximately 77 public school-aged children. Based on the 2014-2015 estimated cost per student of $21,132, the proposed project's total impact to the Sachem CSD is projected to be $1,415,844. The total tax revenues projected to be generated to the Sachem CSD is $1,734,938. Therefore, implementation of the proposed project is expected to have a net positive impact of $319,094.

Further, based on the declining student enrollment within the Sachem CSD over the last decade (i.e., a decrease of over 1,700 students over that time period), the projected addition of 77± school-age children resulting from the proposed development is not expected to adversely impact capacity within this district.

Based on the foregoing, no significant adverse impacts to the Sachem CSD are anticipated.

No significant adverse impacts associated with community services and facilities have been identified. However, the following measures have been incorporated into the proposed project and would assist in minimizing potential impacts to community services:

- The proposed development would be providing $2,907,454 in property taxes annually (approximately $2.8 million more than the current taxes) to all of the taxing jurisdictions upon completion of the project, which will assist in off-setting the cost of services from the various providers.
- On-site security would be provided during construction.
- With respect to fire protection, the buildings would be sprinklered, as required by the New York State Building and Fire Code and the condominium buildings.
- All access drives would be compliant with regulations and standards required for firefighting equipment.
- The residential community would be fenced and would include a security booth with a punch code for access. In addition, a security camera system would be utilized for the commercial area.

1.7.4 Transportation

The analysis of future conditions, with and without the proposed project ("Build" and "No-Build" conditions, respectively), was performed to evaluate the effect of the proposed project on future traffic conditions in the area.

No Build Condition

Background traffic volumes in the study area were projected to the year 2022, reflecting the year when the project is expected to be completed and operational. In addition to background traffic growth, the No-Build condition evaluated trips anticipated to be generated by the other planned developments in the area, including the Holmesview Commons, Expressway Plaza and Bristal Assisted Living developments.

Build Condition

To estimate traffic that would be added to the roadway network as a result of the proposed project, rates for uses, including "Apartments" (Land Use Code #220), "Single Family" (Land Use Code #210), "Medical/ Dental Office" (Land Use Code #720) and "Quality Restaurant" (Land Use Code #931) were utilized. While there are separate land uses for Townhouses, the trip generation rates for apartments are higher. Therefore, in order to provide a high-side conservative analysis, all townhouses and rosebuds units were analyzed using Land Use Code #220 "Apartments." Additionally, the number of seats for the three proposed restaurants (80 seats per restaurant) could have been utilized to estimate the number trips for the restaurant space, however the trip generation estimates are higher when the gross floor area is utilized. Therefore, utilizing the gross floor area to estimate the number of trips for the restaurant space yields the most conservative trip generation estimate. Based upon these rates, the proposed project is expected to generate 200 trips during the a.m. peak hour, 333 trips during the p.m. peak hour and 346 trips during the Saturday midday hour.

Traffic Operations Analysis

To assess quality of traffic flow, roadway capacity analyses were conducted with respect to the Existing, No-Build and future Build conditions. These capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands.

Level of Service (LOS) analyses were conducted for the Existing, No-Build and future Build conditions for the key signalized intersections and for the unsignalized site access point located along Horseblock Road (County Road [CR] 16) for the future Build Condition.

After a review of the capacity analysis table, it was found that the signalized intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road operate at an overall intersection LOS C or better during the weekday a.m. and Saturday midday peak periods. When comparing the No-Build Condition to the Build Condition, the overall intersection delay only increases by 2.4 seconds, which is relatively imperceptible to motorists and no mitigation is proposed. During the p.m. peak hour, the intersection of CR 16 and Waverly Avenue continues to operate at an overall intersection LOS D during the Build Condition. Even though the intersection operates a LOS D in both the No-Build and Build conditions, the northbound through and right and the westbound left-turn movements experience longer delays than experienced in the No-Build Condition. The intersection of CR 16 and Blue Point Road operates at a LOS E during the Build Condition and the southbound approach shows an increase in delay when comparing the No-Build and Build conditions. Potential measures to improve the LOS for this intersection have been evaluated and are discussed under Mitigation Measures.

The overall site will be served by two unsignalized site driveways. One full access site driveway will be located along the south side of CR 16, approximately 1,250 feet west of Hanrahan Avenue. This driveway will serve as the primary access to the residential, office, restaurant and publicly-accessible open space area located on the site. The access would provide one entering lane and individual right and left turn exiting lanes. As part of the project, it is also proposed to close the two existing site driveways located on Horseblock Road serving the United States Post Office (Post Office). The Post Office access would then be relocated along the east side of the new site driveway, approximately 250 feet south of CR 16. The Applicants are coordinating with the Post Office on the proposed site access reconfiguration. The relocation of these access points would decrease the number of curb cuts along CR 16, thus reducing the number of vehicle conflict points. The proposed site access approach will operate at LOS F in the Build Condition during all analysis periods. Therefore, the installation of a traffic signal was considered as a mitigation measure and a traffic signal warrant analysis was conducted.

The second proposed unsignalized site driveway would be located at the westerly terminus of Henry Street. This site driveway (located in the area of the proposed residential development) will provide access to the residential neighborhood to the east. This access is expected to be significantly less busy than the primary site access along CR 16 and therefore no unsignalized level of service and capacity analyses were conducted for this access. This access will provide one entering lane and one exiting lane and will be stop controlled.

Off-Street Parking and Site Circulation

The residential portion of the project will provide a total of 634 off-street parking spaces, including 112 landbanked spaces, thus meeting the 634 spaces required by the Town Code. The landbanked spaces are located proximate to the apartments and could be converted into paved parking spaces that would connect to the internal circulation system should the need arise.

In addition, the commercial portion of the project site will provide 200 off-street parking spaces, thus fulfilling the Town Code requirement of 200 spaces for the office and restaurant uses. In addition, six loading spaces would be provided, exceeding the two required.

A careful review of the proposed site plan shows that the configuration of the parking layout in each section of the development, drive aisles, site access points and internal site roadways will provide for adequate on-site circulation.

Based on a review of the traffic analysis, given implementation of the following mitigation measures, The Arboretum will not have a significant impact on the traffic flow or operations at the nearby intersections.

- The signal phase splits during the weekday p.m. peak period at the intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road would be adjusted, and upon implementation, the overall intersection and individual movements would operate better than they do in the No-Build Condition.

- In accordance with the findings of the traffic signal warrant analysis, a traffic signal is recommended at the proposed site access along CR 16 and, based upon a signalized capacity analysis for the site access with a traffic signal, the overall intersection will operate at satisfactory LOS B or better during all analysis periods.

- Two curb-cuts currently serving the Post Office would be relocated along the east side of the new entrance driveway, which would reduce the number of potential vehicle conflict points along CR 16.

1.7.5 Water Resources

Groundwater

Based upon published data, groundwater beneath the subject property would be expected to be approximately 61± feet to 108± feet below grade surface (bgs), and regional groundwater in the vicinity of the subject property is expected to flow to the south-southeast, toward the Patchogue River and eventually Great South Bay.

The subject property is located within Hydrogeologic Zone I, according to the *Long Island Comprehensive Waste Treatment Management Plan* (the *208 Study)* and Groundwater Management Zone (GWMZ) Zone III, as designated by the Suffolk County Sanitary Code (SCSC), which both indicate its location within a deep groundwater recharge area. Thus, proposed project has been designed with its location in a deep groundwater recharge area in mind, and measures would be taken to protect groundwater and to ensure compliance with applicable prevailing codes and regulations. In addition, the proposed project would be consistent with relevant groundwater studies, including the *208 Study*, the *Nonpoint Source Management Handbook,* and the *Final Long Island Groundwater Management Program*

Water Usage

Total water demand at the subject property by the existing land uses is projected to be 719± gpd, and is accommodated by a private well. Upon implementation of the proposed project, the proposed uses would be connected to the SCWA system. The Arboretum is expected to use an estimated 89,370± gpd of potable water, or 32.6 million gallons per year, less than 0.2 percent of SCWA Distribution Area 12's annual pumpage. It is also projected that an additional 10 percent of project water demand would be used for irrigation purposes, or 8,937± gpd. However, irrigation generally

only occurs during the late spring through early fall (essentially six months out of the year). Thus, maximum water demand during the irrigation season is expected to be approximately 98,307 gpd, which would still represent less than 0.2 percent of SCWA Distribution Area 12's daily pumpage. In order to minimize water demands, the proposed landscaping would consist of native species to the maximum extent practicable. Thus, it is expected that actual water usage for irrigation purposes would be less than that estimated. In addition, it is expected that the proposed buildings would incorporate low-flow, water-saving fixtures, to the maximum extent practicable. As SCWA currently serves the neighboring area, consultations would be undertaken with the SCWA to determine future connection fees and peak flow requirements during the preliminary design stage. Overall, no significant adverse impacts associated with water usage are expected.

Sanitary Flow and Disposal

Sanitary waste generated at the subject property is currently accommodated by on-site septic systems, and total sanitary waste currently generated is 719± gpd. The anticipated sanitary waste generation at the subject property upon implementation of the proposed project is projected to be 89,370± gpd. All sanitary waste generated at the subject property would be accommodated by an on-site STP, designed to accommodate 150,000± gpd of sanitary waste. The provision of the on-site STP and connection to community water would comply with the relevant sanitary density limitations of the SCSC. In addition, the proposed development would also require a State Pollutant Discharge Elimination System (SPDES) permit for discharge of effluent to the ground through 60 leaching pools, in accordance with Suffolk County Department of Works (SCDPW) standards, located adjacent to the STP within the 2.96±-acre STP site. The effluent quality is expected to meet or exceed the SPDES permit effluent requirements. A small sanitary pump station would be located north of the STP (within the STP area) that would be used to pump effluent from the pipes within proposed Road "A", east of the STP. The STP would be located a minimum of 200 feet from nearest on-site residence. It would be separated from the on-site residences to the north by two recharge basins. The proposed recharge basins would be 25 feet from the nearest leaching pool, exceeding the SCDHS requirement for a 20-foot separation. In addition, the STP is located approximately 150 feet north of the existing LIPA ROW, which further separates it from adjacent recreation and educational uses to the south. Test hole borings would be performed prior to development of the STP to assure that soils in the area would be able to adequately percolate the effluent from the STP and the stormwater from the proposed recharge basins, and to assure that on-site soil conditions are such that there would not be potential for adverse impacts to the recreation and educational uses from the effluent leaching pools associated with the STP.

It should be noted that the design capacity of the STP of 150,000± gpd exceeds the requirement for the proposed development (89,370± gpd) by more than 60,000 gpd. At this time, approximately 20,000 gpd of this excess capacity would be made available for existing commercial uses to connect to.

Stormwater Runoff

Existing stormwater runoff is contained on site in low-lying areas and depressions, with no formal stormwater drainage structures. Accordingly, stormwater that does not infiltrate or evapotranspire is permitted to pond at the site or run overland onto adjacent properties and roadways. Based upon the proposed amount of impervious and pervious surfaces on the site, the amount of runoff has been calculated. The analysis indicates that the proposed development would require 568,353± CF of storage, based on an eight-inch rainfall, as required by the Town of Brookhaven. Thus, 568,353± CF of storage is proposed to be provided on-site among proposed drywells, leaching pools, three drainage ponds. Specifically, there would be three constructed artificial pond areas with capacity for drainage in the northern and central portions of the subject property and two recharge basins in the southern portion of the subject. Therefore, the proposed stormwater management system would provide adequate capacity to contain and recharge all stormwater generated during an eight-inch rainfall event on site.

As the proposed project involves soil disturbance of one or more acres, coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) would be obtained. Further, as the proposed project would disturb greater than five acres of land, a Stormwater Pollution Prevention Plan would also be developed at the time the site plan is finalized, in accordance with the requirement of the GP-0-10-001 and Chapter 86 of the Town Code (Stormwater Management and Erosion Control).

All erosion and sedimentation control measures would be installed and maintained in accordance with the Erosion & Sediment Control Plan and/or as indicated within the *New York Standards and Specifications for Erosion and Sediment Controls*. In addition, the *New York State Stormwater Management Design Manual*, which provides standards and specifications for selection and design of stormwater management practices to comply with State stormwater management performance standards, would also be used in preparing the Stormwater Pollution Prevention Plan (SWPPP). Implementation of erosion and sedimentation control measures, as well as the use of best management practices, as also discussed in these publications, would assist in ensuring that the proposed development would minimize impact to groundwater and surface water resources.

Furthermore, the proposed project would be consistent with the recommendations of the *Long Island Segment of the Nationwide Urban Runoff Program* (the *NURP Study*) and the current Subdivision, Land Development and Stormwater Management and Erosion Control regulations of the Town Code (Chapters 85-843 and 86 and SR). As such, no significant adverse impacts associated with stormwater runoff are expected.

Surface Water, Wetlands and Floodplains

While there are no existing natural surface waters or wetlands present at or adjacent to the subject property, there is a 0.23±-acre excavated, artificial drainage feature located in the west-central portion of the site, which is regulated as an artificial wetland by the Town of Brookhaven. The artificial wetland would be filled in upon implementation of the proposed project, however three drainage ponds, within a total of 0.92±-acres, would be created on the subject property, representing a four to one ratio, which is greater than the required two to one restoration ratio. The ponds would serve as part of the stormwater management system, and stormwater collected by drywells across the subject property would be discharged to the ponds via underground pipes. The ponds would also function to provide wetland and aquatic habitat at the subject property, and would serve as an aesthetic element of the overall landscaping. All activities occurring within the artificial wetland area would be in accordance with Chapter 81 of the Town of Brookhaven, a Wetlands and Waterways Permit would be obtained and a pond/wetland maintenance plan would be submitted to the Town of Brookhaven Division of Environmental Protection (DEP) to ensure that the constructed ponds/wetlands maintain their artificial designation. Thus, the proposed project would not have significant adverse impacts upon surface waters or wetlands. Finally, as the subject property is not located within an area of special flood hazard, there would be no associated impacts.

The proposed project is not expected to result in significant adverse impacts to water resources; however, the following measures have been incorporated into the project to minimize or eliminate potential impacts to water resources:

- Sanitary waste generated by The Arboretum would be disposed of via connection to the proposed on-site STP, which would be designed and constructed in accordance with the prevailing regulations of the SCDHS. Moreover, the Applicants would apply for a SPDES permit from the NYSDEC, which would regulate effluent discharges from the STP. These measures would help mitigate potential impacts to groundwater from the sewage effluent generated by redevelopment within the subject site.
- Water conservation measures, such as low-flow fixtures, low-flow toilets, and drip irrigation, would be used within the development to minimize the water demand.
- The proposed project would adhere to the relevant requirements and recommendations of the *Final Long Island Groundwater Management Program*, the *NURP Study*, the *208 Study*, the *Nonpoint Source Management Handbook*, and other relevant water resources studies.
- The proposed stormwater management system would be designed to accommodate, and recharge on-site, stormwater runoff generated during an eight-inch rainfall event.

- The proposed project would use native or low maintenance plantings, to the maximum extent practicable, to reduce irrigation needs and fertilizer demand. These measures would mitigate potential impacts to water quantity and quality.
- The proposed project involves minimizing the number of paved parking spaces through the landbanking of 112 parking spaces. This would decrease the amount of impervious surfaces on-site, and thus lower the amount of stormwater runoff generated.
- Three drainage ponds would be constructed on the subject property, representing a greater than two to one restoration ratio for artificial pond/wetland features and a pond/wetland maintenance plan would be submitted to the Town of Brookhaven DEP.

1.7.6 Ecological Resources

Habitats and Vegetation

Virtually the entire subject property has been subject to significant clearing and ground disturbance associated with historical and ongoing commercial and agricultural uses. As a consequence, the vast majority of the subject property is characterized by unvegetated or sparsely-vegetated ground surfaces, or areas dominated by early successional vegetation. Specifically, the ecological communities currently on the subject property include construction/road maintenance spoils, cropland/row crops (fallow), successional old field, unpaved road/path, successional southern hardwoods, rural structure exterior and water recharge basin.

The proposed project involves the removal of the existing on-site vegetation. Since no species (either flora or fauna) were identified as rare, threatened or endangered by the NYSDEC's Natural Heritage Program (NYNHP), the removal of this habitat would not have a significant impact on same. Thus, no mitigation is proposed for such species. As a result of redevelopment, five of the seven existing ecological communities at the subject property would no longer be represented. More specifically, following redevelopment, the subject property would support five terrestrial communities, including moved lawn, mowed lawn with trees, urban structure exterior, paved road/path and successional southern hardwoods.

Following implementation of the proposed action, vegetated habitats (i.e., Mowed Lawn and Mowed Lawn with Trees communities) would become the dominant cover type/land use at the subject property, through the planting of 40.58±-acres (or 62.2 percent of the total site area) of landscaping throughout the site. These vegetated habitats would occur throughout the subject property and include open space areas, community gardens and orchards, common areas, rain gardens, building courtyards, single-family lot yard areas and buffer area plantings. The Mowed Lawn, Mowed Lawn with Trees and other vegetated communities would be planted with a species

assemblage comprised of ornamental turf grasses and various trees, shrubs and herbaceous plants. Native species would be planted to the maximum extent practicable.

Portions of the existing 4.06±-acres Successional Southern Hardwoods community would be preserved in some of the site perimeter areas, resulting in a post-development area of 2.65±-acres (4.1 percent of the total site area) for this wooded habitat.

Internal roadways, buildings and other paved or impervious surfaces would become the second-most prevalent cover type/land use following redevelopment, occupying 20.38±-acres or 31.2 percent of the total site area. This unvegetated cover type/land use would be represent the Paved Road/Path and Urban Structure Exterior communities.

Finally, the remaining 1.62±-acres or 2.5 percent of the subject property would be occupied by intermittently and permanently flooded habitat, in the form of drainage ponds and constructed artificial pond areas (0.92± acres) and recharge basins (0.70± acres). The former two features would serve the dual functions of temporary stormwater storage and stormwater infiltration.

Overall, through the creation of new habitat and the preservation of existing wooded habitat, vegetative cover at the subject property would more than double following redevelopment.

Wildlife

During clearing and construction phases of the proposed action, it is expected that individuals of some wildlife species, (i.e., smaller, less-mobile animals or juveniles of certain species) would be impacted, particularly within the vegetated early successional habitat at the southern portion of the subject property. Nevertheless, the majority of wildlife present within or expected to utilize the site are considered to be generally more mobile, and, therefore, would avoid elimination and be displaced to adjacent and nearby areas of undisturbed habitat.

The subject property is currently most suited to those wildlife species adapted to developed habitats, disturbed conditions and human presence. Following implementation of the proposed action, it is anticipated that the lawn/landscaped and developed habitats at the site would continue to attract a similar species assemblage. It is expected that the post-development species assemblage would include most of the avian species and many of the observed or expected mammals observed during the 2014 field inspection, as these species are expected to remain or re-colonize the site following development. The proposed detention/ drainage ponds, as well as the constructed artificial pond areas would result in the addition of intermittently flooded and permanently flooded habitats occupying 0.92± acres of the subject property. Over

time, it is anticipated that these habitats would attract a species assemblage comprised of birds, mammals and herpetofauna adapted to these conditions, resulting in an overall increase in wildlife species diversity at the site, as compared to existing conditions.

Based upon the foregoing, no significant adverse impacts to local wildlife populations are anticipated, it is expected that overall wildlife species diversity would increase as a result of the proposed action.

Rare/Protected Species and Communities

As suitable habitat to support the 10 species that appear on the United States Fish and Wildlife Service Federally Endangered and Threatened and Candidate Species List for Suffolk County does not exist at the subject property, these species would not be expected to occur at the site. With respect to New York State rare/protected species, no current records for such species were identified by the NYNHP or during the New York Nature Explorer database review. An historical record from 1936 for the New York State Endangered herbaceous plant species downy lettuce (*Lactuca hirsute*) is from an off-site location. Furthermore, this plant species was not observed at the subject property at the time of the field inspection.

Based upon the foregoing, no significant adverse impacts to rare/protected species or communities are anticipated as a result of the proposed action.

Wetlands

There are no New York State- or federally-regulated wetlands mapped at or adjacent to the subject property. However, there is a 0.23±-acre anthropogenic (created or influenced by humans) drainage feature located at the west-central portion of the subject property, which was excavated circa 1985, in order to provide on-site stormwater drainage. The drainage feature was observed to contain several inches of standing water at the time of the September 25, 2014 field inspection. No emergent or floating vegetation was observed within the drainage feature, and based upon site observations and given the artificial nature and ongoing disturbance that occurs within the excavated area due to maintenance activities, the drainage feature does not represent a significant wetland habitat with respect to wetland functions and values. Nevertheless, as the drainage feature is regulated as an artificial wetland, pursuant to Chapter 81 of the Town Code, a Town Wetlands and Waterways Permit would be required in order to fill or otherwise impact the drainage feature.

The proposed action would result in the filling of the 0.23±-acre drainage feature, however 0.92±-acres of intermittently flooded detention/drainage ponds and constructed artificial pond area would be created, representing a greater than two to

one restoration ratio. The presence of drainage ponds and constructed artificial pond area is expected to attract species that currently do not inhabit the property.

Based upon the foregoing, no significant adverse impacts to wetlands would result from implementation of the proposed action; however, implementation would result in a net benefit to this habitat type.

Although no significant adverse impacts to ecological resources on or adjacent to the site are anticipated to result from implementation of the proposed action, since the habitats being removed are abundant and no rare/protected species are present, the following measures are proposed as part of this proposed action to enhance ecological resources:

- Following implementation of the proposed action, the overall vegetated habitat at the subject property would more than double as compared to existing conditions, due to the replacement of non-vegetated or sparsely-vegetated dirt surfaces with lawns, landscaping and other vegetated habitats.
- Native vegetative species requiring little or no watering, fertilizers or chemical applications would be used to the maximum extent practicable.
- Installation of the proposed detention and drainage ponds and constructed artificial pond area would result in the establishment of intermittently and permanently flooded habits at the subject property that would provide additional habitat and increase overall vegetative and wildlife species diversity. In total, 0.92±-acre or approximately 1.4 percent of the subject property would be occupied by these habitats, resulting in a greater than an two-to-one replacement ratio for the filling of the existing on-site artificial drainage feature. A periodic pond/wetland maintenance plan would be implemented so that these maintain their artificial designation.

1.7.7 Visual Resources

Implementation of the proposed action would result in the alteration of views of the subject property from surrounding areas, as the proposed multi-family residential and commercial development containing numerous low-scale buildings would replace the existing single-family residential, agricultural and commercial uses, which are comprised of a limited number of buildings.

Upon implementation of the proposed action, travelers along Horseblock Road would see the proposed 2½-story commercial building, portions of the northern landscaped open space areas, and potentially partial views of the northernmost proposed multi-family residential buildings, although these buildings are set back a minimum of 900± feet from Horseblock Road and would be partially screened by the proposed commercial use. Views from the residences and roadway termini bordering the

subject property to the east and west would include the proposed multi-family residences and community building, ponds and landscaped open space, as well as the proposed commercial building. Views of the subject property from the south would be obscured by existing utility infrastructure (i.e., transmission towers and lines) and existing vegetation. Therefore, the one-story high STP and associated leaching fields that are proposed to be located in this area would not have a significant visual impact on the surrounding community.

The proposed development would include landscaping throughout the subject site, including various tree and plant species along the northern and northeastern property lines that would soften the appearance of the proposed buildings and provide visual screening from Horseblock Road and the agricultural use to the east. The commercial center, containing the proposed 2½ -story building, is proposed to be planted with a variety of buffer plantings around the perimeter, as well as street trees, rain gardens, and shrubs within the parking lot. It should be noted that the proposed commercial building does not exceed the height restrictions of the zoning district and is comparable in height to other larger commercial buildings in the vicinity.

The Arboretum would be loosely divided into contextual areas. Pine Barren plantings are proposed on the north end; orchards along the roadway reflect the North Fork farms and vineyards; and a detention pond provides an opportunity for a boardwalk around the constructed artificial (detention) pond area. Heading south, the sandy beaches and dunes, and rocky shorelines are recreated in the central section and reflect the coastal flavor of the island. Further south includes a more open and pastoral landscape that includes a council ring (described by the landscape architect as a circular stone seating area) for community gatherings and community garden, which offers a space for the residents to grow their own fruits and vegetables. The central portion of the site is divided into an active recreation space and a passive recreational area. The active recreational area provides activities for all ages and includes a clubhouse, two tennis courts, a farm-themed playground, and swimming pool. The passive recreational area includes a central oval containing an undulating field, rain gardens, lushly planted detention ponds, and a collection of trees to provide shade and sitting areas. The overall streetscape includes various groupings of shade trees including oaks, lindens, zelkova, elm, and sweetgum. In order to avoid monoculture, street trees will be spaced in groups of four to six to encourage biodiversity. The STP at the southern end of the subject site is proposed to be screened from both on-site and off-site views with dense evergreen and deciduous plantings in all directions of the STP.

The design of the proposed development provides an aesthetically-pleasing transition of the property from agricultural and commercial uses to a mixed-use commercial and residential development. The proposed residential buildings would be designed with a variety of materials and provide architectural variation and visual interest. The buildings would be arranged in a layout allowing for landscaping, which would soften the appearance of the buildings and provide shaded areas. Also, architectural

details of the proposed buildings would include variation in height (not to exceed zoning restrictions), exterior color and building materials. The proposed development, including the commercial, residential, and recreational structures would feature a combination of vinyl siding, fiberglass shingles, natural stone cladding, and metal roofing.

Overall, based upon the proposed architectural style of the buildings, the proposed landscaping throughout the site and the specific screening vegetation that is proposed, implementation of the proposed project is not expected to have a significant adverse visual impact. The following measures would be employed to mitigate potential visual impacts:

- The proposed commercial uses would be situated on the northern portion of the subject property, fronting along Horseblock Road, visually reinforcing the existing commercial nature of Horseblock Road within the hamlet of Farmingville, particularly east of the subject property.
- The proposed single-family residential uses would be situated at the exterior of the subject property, complementing the existing residential aesthetic to the east and west of the subject property, and partially screening views of the interior of the property, which would contain the townhouse units.
- The proposed development would include a number of aesthetic enhancements at the subject property compared to existing conditions, including landscaped public and private recreational areas, ponding areas, and active and passive recreational infrastructure such as playground equipment, benches and walkways.
- Trees and shrubbery would be planted along the northern and northeastern perimeters of the subject property that would soften the appearance of the commercial building and would screen views of the subject property from Horseblock Road and the agricultural uses to the east.
- Transmission lines associated with the 60-foot LIPA ROW are located immediately adjacent to the subject property to the south. Beyond the LIPA ROW, are approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School. A vegetated buffer, in addition to the existing LIPA ROW, would screen views of the proposed STP from the aforementioned uses further south. Further, vegetative buffers would be planted north of the proposed STP to screen views of this use from the proposed residential uses to be constructed as part of the proposed project.

1.7.8 Use and Conservation of Energy

In the existing condition, PSEG Long Island and National Grid provide electricity and natural gas service, respectively, to the subject site. Correspondence from PSEG Long Island indicated that it would provide service to the proposed development in accordance with the tariff and schedule in effect at the time service is required. Therefore, the availability of electricity for The Arboretum has been confirmed by the service provider. Similarly, with respect to natural gas, it is not expected that the proposed project would cause capacity issues for the National Grid.

The Applicants and design team are committed to the principles of energy efficiency and sustainable design and would consult with the Town of Brookhaven through the planning and design phase of the project on the specific design of buildings, which would meet the prevailing requirements of the Town Code (§16.4.1, Energy Conservation Requirements). Furthermore, the use of additional energy efficiency and sustainability methods would be examined, including, but not limited to, the use of recycled and/or local materials in the development's construction, incorporation of high- efficiency heating, ventilation and air conditioning (HVAC) systems, insulation and windows and use of ENERGY STAR appliances.

As described above, the proposed project will comply with the requirements of the Town Code, and throughout the Town's review process will continue to explore potential energy conservation methods, and will work with the Town to incorporate same. These potential methods include the following:

- Incorporating high-efficiency HVAC systems, improved insulation, energy-efficient windows, etc.
- Incorporating the use of ENERGY STAR appliances and following other ENERGY STAR guidelines to assist in reducing energy requirements.

Based upon the foregoing, it is not expected that the proposed project would result in significant adverse impacts to the use and conservation of energy.

1.7.9 Cultural Resources

The subject property is not listed, or eligible for inclusion on, the State or National Registers of Historic Places. However, the National Register of Historic Places-listed the Bald Hill School House located on the northern side of Horseblock Road, approximately 120± feet northeast of the subject property as proximate to the site. Upon development of the proposed project, views directly across Horseblock Road of the northeastern subject property boundary from the Bald Hill School House would be of vegetation, similar to the existing condition. Landscaping in the northeast area of the subject property would consist of plantings that would replicate the Pine

Barrens ecological community, and it is anticipated that the proposed landscaping would improve upon the view of the existing vegetation. Views toward the northwestern boundary of the subject property from the Bald Hill School House would be altered from the existing indirect view of vegetation along Horseblock Road. After development of The Arboretum this view would be of an attractive commercial building and associated site landscaping. The New York State Office of Parks, Recreation and Historic Preservation indicated that the proposed project would not result in any impacts to historic resources. In addition, the Farmingville Historical Society stated its support for the proposed project and did not raise any issues regarding the subject property's proximity to the Bald Hill School.

Based upon the foregoing, it is not anticipated that implementation of the proposed project would not have significant adverse impacts upon cultural resources. Since significant adverse impacts to cultural resources are not anticipated as a result of implementation of the proposed project, mitigation measures are not proposed.

1.7.10 Solid Waste

The existing uses at the subject property generate 1.24± tons per month of solid waste, which is collected and disposed of by a private carter and disposed of at a licensed facility. The proposed development, with maximum occupancy and utilization of the proposed facilities, could generate approximately 67.1± tons of solid waste per month. Solid waste generated at the subject property by both the proposed residential and restaurant/office uses would be collected by a licensed private carter and disposed of at a licensed facility. Thus, the ultimate disposal locations are at the discretion of the carter, pursuant to its disposal agreements. It is expected the proposed development would undertake a recycling program geared toward its individual uses. Each component user would recycle specific materials, and would provide the proper receptacles to allow for separation and recycling.

Based upon the foregoing, implementation of the proposed action would not be expected to result in significant adverse impacts to the Town's waste management facilities, practices or plans.

As no significant adverse solid waste impact has been identified, no mitigation is proposed.

1.7.11 Air Quality

Construction and demolition activities associated with implementation of the proposed action would result in a slight, short-term increase in air pollution emissions. The primary source of potential emissions is from fugitive dust resulting from construction operations (e.g., clearing, grading). To minimize fugitive dust emissions, as described below, mitigation measures will be employed to control dust.

This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration. Also, during construction, emission controls from construction vehicles and machinery would include proper maintenance and reduced idling on-site. Therefore, the impacts on ambient air quality from construction activities associated with site-specific development are not expected to be significant.

Subsequent to construction, The Arboretum is expected to include stationary sources of air emissions, such as heating boilers, hot water heaters, and emergency generators. Because the project is conceptual in nature, the design, size, and number of the stationary sources have not yet been finalized. As the design process moves forward and specific equipment is chosen, the proposed development would obtain operating permits for appropriate equipment under the State of NYSDEC Division of Air Resources regulations (6 NYCRR Part 201), as may be required.

No significant sources of mobile air emissions were identified with respect to the operational phase of the proposed project.

As noted above, emissions from the operation of construction machinery (carbon monoxide [CO], nitrogen oxides [NOx], particulate matter [PM], volatile organic compounds [VOCs], and greenhouse gases [GHGs]) are short-term and not generally considered substantial. Implementation of the following mitigation measures are expected to minimize construction-related air quality impacts:

- During construction, emission controls for construction vehicle emissions would be employed and would include, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities, such as, the maintenance of manufacturer's muffler equipment or other regulatory-required emissions control devices.
- During redevelopment, dust control measures would be implemented during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- Regular sweeping of pavement of adjacent roadway surfaces during construction would be conducted to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

As no long term adverse air quality impacts were identified with respect to the operational phase of the proposed project (from both stationary and mobile sources), no mitigation is proposed.

1.7.12 Economic Conditions

Population Generation

Implementation of the proposed action is projected to generate a residential population of 677± persons, of which approximately 77 would be public school-aged children.

Permanent Job Generation

The proposed 24,000-SF commercial portion of the development could generate approximately 72 direct jobs (assuming full occupancy), which is an increase of 55 jobs over the existing condition. In addition, the proposed 292 residential units, community building and STP are expected to generate approximately 11 indirect employment opportunities, for a total of 83 jobs generated by The Arboretum. As such, it is anticipated that the proposed project would provide employment opportunities to people in the surrounding area of the subject property, resulting in a beneficial economic impact.

Property Tax Revenues

Tax revenues to the various taxing jurisdictions into which the proposed project falls will take the form of increased property taxes. Based upon the combination of 26 single-family detached four-bedroom units, 25 single-family detached three-bedroom units, 67 first floor two-bedroom flats, 67 second floor two-bedroom flats, 30 workforce housing units, 63 two-bedroom townhouses, 14 three-bedroom Rosebud units, a 24,000±-SF commercial building, a 7,500±-SF community building and associated appurtenances, the total projected future assessed value of the proposed combined residential and commercial development would be $995,976.

Based upon this assessed value and the 2013-2014 tax rates, implementation of the proposed action is anticipated to result in total annual property tax revenues of $2,907,454 at the subject property, representing a net increase of $2,852,865 over existing conditions. Thus, implementation of the proposed action is expected to have a positive fiscal impact.

No significant adverse socioeconomic impacts have been identified. Therefore, no mitigation measures are proposed. It should be noted that the proposed development, at full occupancy, would be expected to provide approximately $2,907,454 in property taxes, annually to all taxing jurisdictions (combined) upon completion of the project. Furthermore, the restaurants would also contribute sales taxes to the Town, County and State.

1.8 Alternatives and Their Impacts

This section of the DEIS examines the alternatives that were outlined in the Final Scope, which was promulgated by the lead agency. The alternatives examined are as follows:

- SEQRA-mandated, no-action alternative
- Development pursuant to Prevailing Zoning
- Alternative Yield Plan

A comparison of the quantitative impacts of each of the alternatives to the proposed project is contained in the table below, and a description of each of the alternatives follows.

Comparison of Alternatives

PARAMETER	PROPOSED ACTION	NO ACTION	DEVELOPMENT UNDER PREVAILING ZONING (As-of-Right)	ALTERNATIVE YIELD PLAN
Type of Development	• Residential • Commercial • Sewage Treatment Plant • Public and Private Recreational/Open Space	• Residential • Agricultural • Commercial • Vacant Buildings / Land	• Residential • Commercial	• Residential • Commercial • Sewage Treatment Plant • Public and Private Recreational/Open Space
Number of Units/Type of Building/Gross Floor Area (SF) of New Development	• 51 Single-Family Residential Units • 164 Two-Bedroom Flats • 63 Townhouse (Triplex) Units • 14 Three-Bedroom "Rosebud" Units • Commercial Building (24,000 SF) – Restaurant and Commercial Uses • Private Resident Clubhouse (7,500 SF) • Sewage Treatment Plant (7,728 SF) • Private Recreational Open Space (1.66 acres) • Private Recreational Facilities (1.38 acres) • Publicly-Accessible Open Space (7.28 acres)	• 1 Single-Family Residence • Commercial Nursery Buildings and Associated Growing Area • Mulch / Soil Processing Area	• 50 Single-Family Residential Units • Commercial Space (30,000 SF medical office)	• 63 Single-Family Residential Units • 84 Two-Bedroom Flats • 63 Townhouse (Triplex) Units • 14 Three-Bedroom "Rosebud" Units • Commercial Building (24,000 SF) – Restaurant and Commercial Uses • Private Resident Clubhouse (7,500 SF) • Sewage Treatment Plant (7,728 SF) • Private Recreational Open Space (1.66 acres) • Private Recreational Facilities (1.38 acres) • Publicly-Accessible Open Space (7.28 acres)
Outdoor Recreational Facilities/ Open Space	• 7.28 Acres of Publicly-Accessible Open Space • 1.66 Acres of Private Recreational Open Space • 1.38 Acres of Private Recreational Facilities	• N/A	• N/A	• 7.28 Acres of Publicly-Accessible Open Space • 1.66 Acres of Private Recreational Open Space • 1.38 Acres of Private Recreational Facilities
Population (persons)	• 677 Persons	• 3 - 4 Persons	• 184 Persons	• 553 Persons
School-Aged Children Attending Public School	• 77 School-Age Children	• 1 - 2 School-Age Children	• 44 School-Age Children	• 73 School-Age Children
Permanent Employment	• 83 Employees	• 17 Employees	• 92 Employees	• 80 Employees
Domestic Water/Sewage	• 98,307 gpd/ 89,370 gpd	• 719 gpd/ 719 gpd	• 19,800 gpd / 18,000 gpd	• 79,167 gpd / 71,970 gpd
Solid Waste	• 67.1 tons/month	• 1.24 tons/month	• 14.4 tons/month	• 60.5 tons/month
Gross Tax Revenue Generation	• $2,907,454	• $54,589	• $804,560	• $2,381,371
Traffic Generation AM Peak Hour PM Peak Hour Saturday Peak Hour	 • 200 vehicle trips • 333 vehicle trips • 346 vehicle tips	 • 66 vehicle trips* • 77 vehicle trips* • 102 vehicle trips*	 • 110 vehicle trips • 157 vehicle trips • 156 vehicle trips	 • 168 vehicle trips • 296 vehicle trips • 317 vehicle trips

*These figures represent the traffic generated by the existing Post Office that would be re-routed through the proposed development's access at Horseblock Road.

1.8.1 No-Action Alternative

The SEQRA-mandated, No-Action Alternative would leave the site as it currently exists. Existing uses are discussed in Section 3.1.1.1 of this DEIS. There is currently a single-family residence, commercial nursery, and a mulch/soil processing operation at the subject property, as well a large tracts of vacant, former agricultural land and vacant equestrian facilities in the southern portion of the subject property. The analysis presented herein assumes full occupancy and use of all active uses and buildings, with no use of the former agricultural land and equestrian facilities.

The No-Action Alternative is inconsistent with the Applicants' right to apply for a change of zone and the right to develop the property, does not meet the objectives of the Applicants and is not viewed to be a feasible alternative by the Applicants. Nevertheless, despite this alternative not being feasible, SEQRA requires that this option be evaluated in the DEIS. This alternative assumes that no demolition would occur, and the site and existing buildings would remain as is.

1.8.2 Development Pursuant to Prevailing Zoning (Office and Residential)

The subject property is partially zoned J Business 4 Zoning District (10± acres) and partially zoned A Residence 1 Zoning District (55.24± acres), as previously noted. Based upon the parcel sizes and the requirements of the two above-cited zoning districts, as well as consideration for the GWMZ in which the subject property is located and the incorporation of infrastructure, off-street parking and landscaping, under prevailing zoning, the subject site could be developed with 50 single-family residences and a 30,000 SF commercial building (assumed to consist of medical office uses for purposes of this analysis). The project engineer calculated that the 55.24±-acre portion of the subject property that is zoned A Residence 1 could be developed with 50 single-family residences on 40,000 SF lots, as permitted by the zoning district, as follows:

55.24± x 43,560 SF = (2,406,167±/40,000 SF) = 60.15 x 0.825 = 50 lots

In addition to providing 50 lots for single family residential units, this layout would reserve 17.5 percent of aforementioned property for site infrastructure (as 82.5 percent of the subject property square footage was utilized to calculate number of 40,000 SF lots that could be created). SCDHS requirements were consulted to determine allowable density for medical office uses, which are permitted in the J Business 4 Zoning District. Pursuant to SCDHS standards for commercial projects, which have an allowable flow of 300 gpd per acre in GWMZ III, permitted density flow for the 10±-acre property zoned J Business 4 is as follows:

300 gpd/acre x 10± acres = 3,000 gpd

Therefore, a 30,000 SF medical office building, with a density flow of 0.1 gpd per SF, would be permitted in accordance with SCDHS standards, and would comply with prevailing zoning.

Upon implementation of this alternative (also cited as "as-of-right"), the existing buildings on the subject property would be demolished, the existing uses and operations would cease and 50 single-family homes, a 30,000 SF medical office building and associated site appurtenances, including individual on-site sanitary systems, drainage infrastructure, including an artificial drainage pond area, and access drives and parking would be constructed at the subject property. The single-family residences would be constructed in the central and southern portions of the site while the commercial uses would be constructed in the northwestern portion of the subject property, along Horseblock Road.

Development under prevailing zoning would result in similar impacts as the proposed project with respect to land use and zoning, subsurface conditions, community services, ecology, visual resources, cultural resources, solid waste, air quality and energy. Differences in impacts between this alternative and the proposed project with respect to water use, sewage generation and transportation are mostly due to fewer people residing at the subject property. However, as only single-family residences would be developed, it would not diversify the housing stock, there would be no new high-quality multi-family housing provided in this area of the Town, and there would likewise be no provision of much-needed workforce housing. This alternative would also result in approximately $804,560 of annual property taxes, which is approximately $2.1 million less than the proposed project. Overall, development under prevailing zoning would forego The Arboretum site plan, and the Applicants respectfully submit that the site design included with the proposed project represents the most efficient use of the subject property, with the most benefits for the surrounding community.

1.8.3 Alternative Yield-Alternative with an increased single-family component and decreased multi-family component

This alternative involves the development of the subject property with similar uses as the proposed project (i.e., single-family and multi-family residential uses, amenities for the residential community, public and private open/recreational space, commercial and office uses, an internal driveway, associated parking and an STP). The substantial difference between this Alternative Yield Plan and the proposed project is that this alternative would feature an increased single-family residential component and a reduced multi-family component. Specifically, 80 of the two-bedroom flats (within 40 structures) in the proposed project would be replaced by 12

single-family homes within the south-central portion of the subject property in the Alternative Yield Plan.

Upon implementation of this alternative, the existing buildings on the subject property would be demolished, the existing uses and operations would cease and 63 single-family homes, 84 two-bedroom flats, 63 townhouses, 14 three-bedroom units, a 24,000 SF commercial building, a private clubhouse for the residents, and an STP would be constructed at the subject property. In addition, as with the proposed project, the Alternative Yield Plan would include 1.66± acres of private recreational open space, and an additional 1.38± acres of private recreational facilities, , 7.28± acres of publicly-accessible recreational space and three artificial drainage ponds. The Alternative Yield Plan would result in relatively similar impacts as the proposed project with respect to land use and zoning, subsurface conditions, community services, ecology, visual resources, cultural resources, air quality and energy. Differences in impacts between this alternative and the proposed project with respect to water use, sewage generation, solid waste generation and transportation are mostly due to fewer people residing at the subject property. However, as the overall number of single-family residences would increase, there would be a decrease in new high-quality multi-family housing provided in this area of the Town, as compared with the proposed project. Further, as the number of residential units provided would decrease by 68, there would likewise be a proportionate decrease in workforce housing units provided. This alternative would also result in approximately $526,000 less in annual property tax revenues as compared to the proposed project.

2.0

Description of the Proposed Project

2.1 Introduction

The subject property is situated within the A Residence 1 (A-1) and J Business 4 (J-4) Zoning Districts of the Town of Brookhaven and currently contains a vacant single-family residence, as well as agricultural and related commercial uses. The proposed project consists of an application for a change of zone and site plan approval for the redevelopment of the 65.24±-acre subject property in the hamlet of Farmingville, Town of Brookhaven, Suffolk County (Suffolk County Tax Map [SCTM] Nos. 200-626-3- 39.5, and 40, and 200-653-7-1), as a mixed-use residential community and commercial development to be known as The Arboretum at Farmingville (hereinafter "The Arboretum"). See Figure 1 for the Site Location Map and Figure 2 for the Suffolk County Tax Map.

More specifically, the proposed project includes a change of zone for 3.65 acres of tax lot 39.5 to be rezoned from J-4 to J Business 2 (J-2) and the balance of tax lot 39.5 (6.35 acres) and all of tax lots 1 and 40 (55.24 acres) to be rezoned from A-1 to Multi-family Residential District (MFRD) (Secondary Zone). Additional details regarding the proposed project are contained in Section 2.3, below.

Date: 06.17.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

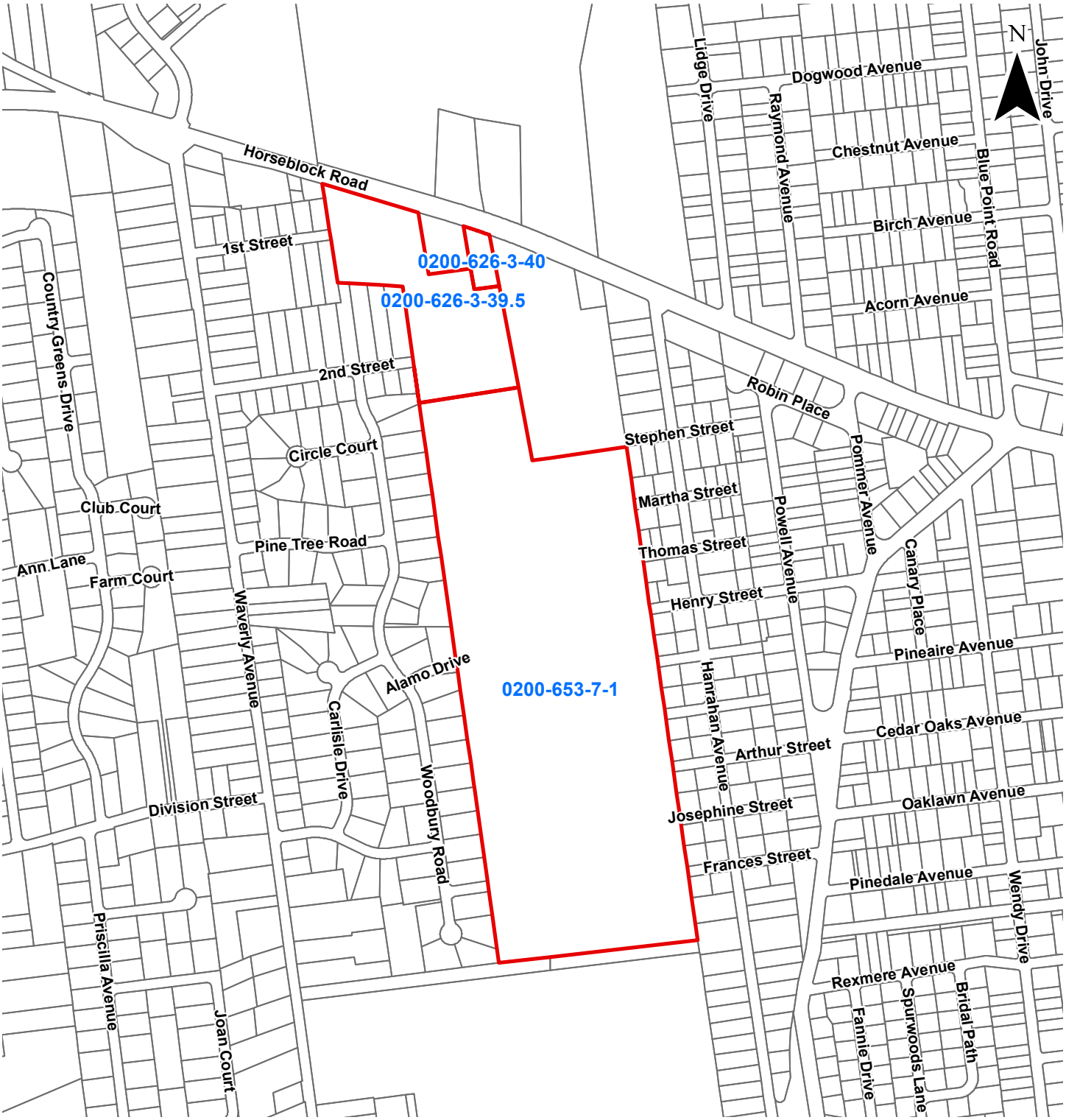
Site Location Map

Figure 1

Subject Property (Boundaries are approximate)

0 500 1,000 Feet

Date: 12. 24.14



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Suffolk County Tax Map

Figure 2

Subject Property

SCTM Parcels

0 370 740 Feet

Source: Suffolk County Real Property Tax Service Agency Tax Map Parcels.

This document is a Draft Environmental Impact Statement (DEIS) prepared in accordance with the State Environmental Quality Review Act (SEQRA) and its implementing regulations at 6 New York Codes, Rules and Regulations (NYCRR) Part 617 for the action contemplated herein, and is based upon the Final Scope that was issued by the Town of Brookhaven (see Appendix A). A more detailed description of the SEQRA process is provided in Section 2.2, below.

The DEIS is divided into eight sections, the first of which is the Executive Summary. This section, Section 2.0, provides a brief discussion of existing site and surrounding area conditions, and provides a description of the components of the proposed project including the proposed changes of zone, proposed site layout, a brief history of the site, the project's purpose, need and benefits, proposed demolition and construction, and the required permits and approvals.

Section 3.0 of this DEIS provides a discussion of the environmental setting for the project, by topic. Within each section the existing conditions, potential impacts that are likely to occur upon project implementation, and proposed mitigation measures that reduce or eliminate those impacts are discussed. Section 4.0 discusses the unavoidable adverse effects of the proposed project. Alternatives and their impacts are discussed in Section 5.0 of the DEIS. Among these alternatives is the "No Action" alternative that is required to be discussed pursuant to SEQRA and its implementing regulations at 6 NYCRR Part 617. Section 6.0 presents an analysis of the cumulative impacts. Sections 7.0 and 8.0 present a discussion on irretrievable and irreversible commitment of resources and potential growth-inducing aspects of the proposed project, respectively. References are included in Section 9.0 of this DEIS.

2.2 Existing Site Conditions and Site History

The subject property is currently developed with a single-family residence in the northeastern portion of the property, vacant agricultural equipment storage buildings located in the northern-central portion, a commercial nursery in the eastern portion, currently unused equestrian facilities (including a horse stable building, track, and grazing areas) in the southern portion, and soil stockpiling operations and vacant land, including a 0.23±-acre, excavated, artificial drainage feature, throughout the central portion of the subject property (see Figure 3). As noted above, the subject property is situated within the A Residence 1 and J Business 4 Zoning Districts of the Town of Brookhaven.

Existing site data for the subject property are described below in the table below:

Date: 12.15.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

2014 Aerial

Figure 3

Subject Property (Boundaries are approximate)

0 500 1,000 Feet

Table 1 – Existing Site Data

Development Type	Area (Acres)	Percent of the Subject Property
Impervious Surfaces (i.e., Buildings, Pavement, and Roadway)	0.67±	1.0±
Non-Vegetated Areas	43.70±	67.0±
Grass / Brushlands Areas	15.07±	23.1±
Agricultural Areas	1.51±	2.3±
Forested Areas	4.06±	6.2±
Artificial Wetlands	0.23±	0.4±
TOTAL:	65.24±	100

The land uses surrounding the subject property to the north include institutional, single-family residential, open space and recreational, utility, and commercial and retail uses. The Farmingville United States Post Office (Post Office) is situated along Horseblock Road, and is surrounded by two segments of the subject property. Immediately east of the easternmost portion of the subject property are agricultural uses and further east, along Horseblock Road, are commercial and retail uses. Single-family residential, commercial, and retail uses can also be found east of the subject property. To the south of The Arboretum are electric transmission lines, and further south are institutional (including 22±-acres of soccer fields and the Waverly Avenue Elementary School), single-family residential, commercial and retail uses. Commercial and retail uses are situated immediately west of the subject property along the Horseblock Road corridor, and land uses south of the Horseblock Road corridor are predominantly single-family-residential.

The proposed mixed-use development will be served by two site driveways. The primary site driveway will be located on the south side of Horseblock Road immediately adjacent to the west side of the existing Post Office site. An additional access will be provided on the east side of the site, which would be an extension of Henry Street. On the west side of the site there will be an emergency only access, which will be located at the easterly terminus of Alamo Drive.

According to the Traffic Impact and Parking Analysis Report (as discussed in Section 3.4) the existing transportation network includes the following roadways:

Horseblock Road (County Road [CR] 16) is an east-west arterial roadway that falls under the jurisdiction of Suffolk County Department of Public Works (SCDPW). Beginning at NY 25 (also known as Middle Country Road), CR 16 runs in a south-easterly direction to its terminus at Montauk Highway. Within the study area, CR 16 runs along the northerly border of the project site and provides one travel lane in each direction.

Waverly Avenue is a north-south collector-distributor roadway that runs south from College Road in Selden to its terminus at Montauk Highway in Patchogue. From College Road to CR 16 it is a Town of Brookhaven maintained roadway, south of which it falls under the jurisdiction of SCDPW and is designated initially as County Road 61 (CR 61) and then as County Road 19 (CR 19). Within the study area, Waverly Avenue runs to the west of the project site and provides one travel lane in each direction.

Blue Point Road is a north-south collector-distributor roadway that runs south from NY 25 (Middle Country Road) in Selden to its terminus at Waverly Avenue. It falls under the jurisdiction of the Town of Brookhaven. Within the study area, Blue Point Road is located approximately one half mile to the east of the project site and provides one travel lane in each direction.

Additional information regarding the existing roadways is provided in Section 3.4 of this DEIS.

2.2.1 Site and Project History

According to the Town of Brookhaven Tax Assessor, SCTM Parcel No. 200-626-3-40 (comprising the northeastern portion of the subject property), is developed with a single-family residence that was constructed in 1940.

As requested by the Applicants, Environmental Data Resources, Inc. (EDR) conducted a search and provided copies of available historical aerial photographs showing the subject and surrounding properties. VHB performed a review of aerial photographs available from EDR (1954, 1966, 1976, 1980, and 1994) to identify past uses of the subject property. Copies of the EDR Historical Aerial Photograph search are included in Appendix B.

Based on an analysis of the historic aerials, from 1954 to 1980 the subject property was utilized primarily for agricultural purposes, with the existing single-family residence and vacant commercial structures, located in the northeastern and northern central portions of the subject property, respectively, also present during this same time period.

The historic aerial for 1994 shows the now vacant/abandoned equestrian facilities (including the horse barn and track) in the southern portion of the property, the buildings associated with current commercial nursery in the eastern portion of the subject property, as well as the aforementioned residential and now vacant agricultural equipment storage buildings.

The 1994 historic aerial also shows site conditions that are fairly consistent with the present site conditions, with the exception that the southern equestrian facilities and northern agricultural equipment storage buildings in the northern-central portion of

the subject site, while still present, are now vacant. Further, central portions of the subject property are currently used for soil stockpiling, which is not shown on the 1994 historic aerial.

In January 2014, the previous property owner sold SCTM Parcel Nos. 200-626-3-40 and 200-653-7-1 to Kelly Builders and Development Group LLC, and SCTM Parcel No. 200-626-3-39.5 to Kelly Builders of Farmingville (the current property owners). Kelly Builders and Development Group LLC and Kelly Builders of Farmingville are the project sponsors (or otherwise referred to as the "Applicants").

In May 2014, subsequent to the property acquisition, the project sponsors filed the following applications with the Town of Brookhaven Town Board in order to redevelop the site as a mixed-use commercial and residential development:

1. A Change of Zone from A Residence 1 to the Multi-Family Residence District (MFRD) – Secondary Zone Zoning District for the entirety of SCTM Parcel Nos. 200–626–3–40 and 200–653–7–1 and a 3.65±-acre portion of SCTM Parcel No. 200–626–3–39.5.

2. A change of zone from J Business 4 for the remaining 6.35± acres associated with SCTM Parcel No. District 200 – Section 626 – Block 3 – Lot 39.5 to the J Business 2 Zoning District.

In June 2014, after review of the application and Part 1 of the Environmental Assessment Form (EAF) that was submitted by the Applicants, the Town of Brookhaven preliminarily classified the proposed project as Type I, declared its intent to be lead agency and conducted coordinated review. After coordinated review, the Town Board became lead agency and issued a Positive Declaration on June 24, 2014 (see Appendix A). Subsequent to issuing the Positive Declaration, the Town Board elected to conduct formal scoping, including a scoping meeting that was held on September 10, 2014, which culminated in the issuance of a Final Scope pursuant to 6 NYCRR §617.8. The issues to be addressed in the DEIS were outlined in the Final Scope (see Appendix A of this DEIS) promulgated by the Town Board and are as follows: land use, zoning, and community character; subsurface soils; community services; transportation; water resources; ecological resources; visual resources; use and conservation of energy; cultural resources; solid waste; air quality; and economic impacts.

2.3 Project Description

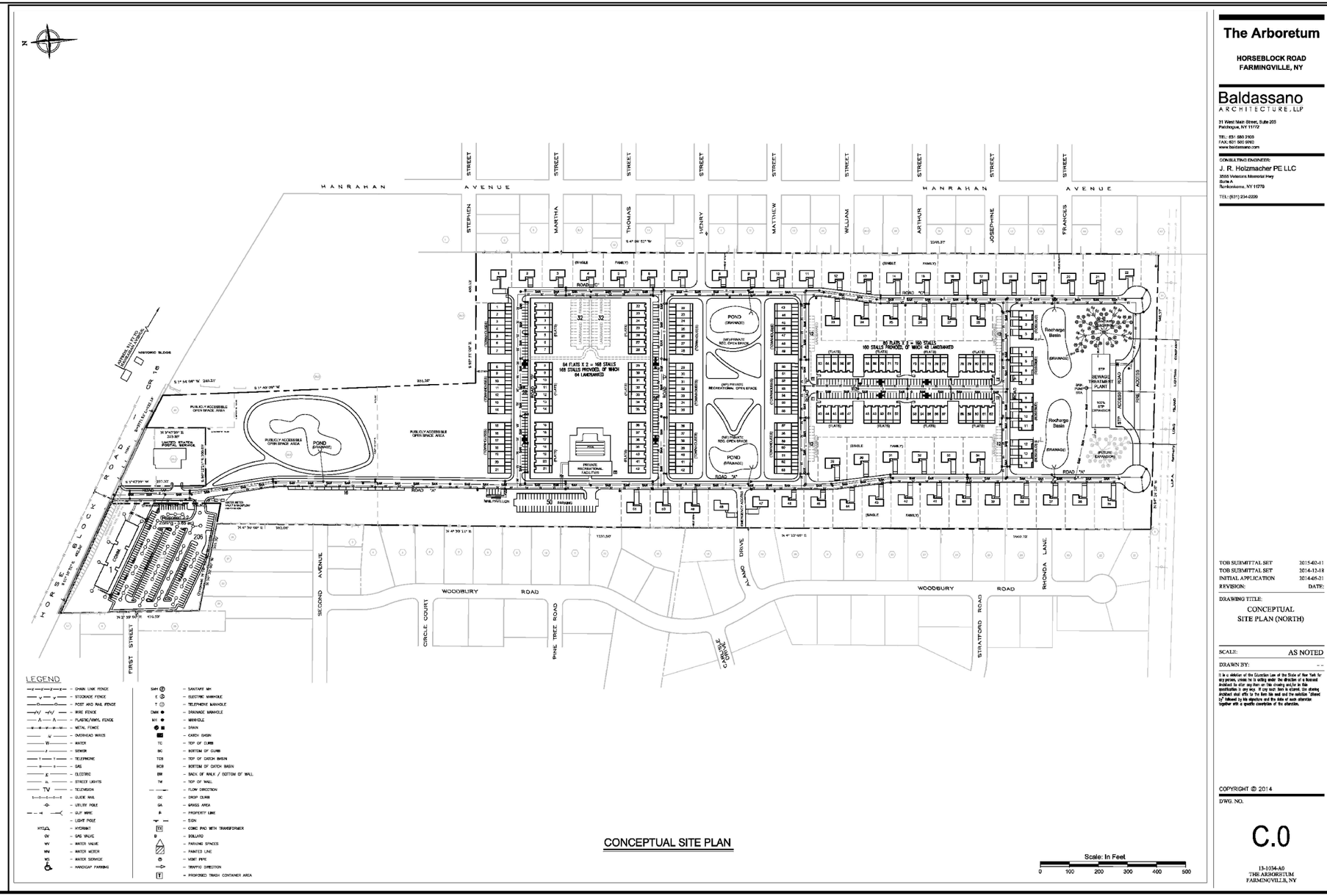
The proposed project consists of an application for a change of zone of the subject property from A-1 and J-4 Zoning Districts of the Town of Brookhaven to MFRD (Secondary Zone) and J-2, as detailed above, and site plan approval to permit the

redevelopment of the 65.24±-acre property as a mixed-use residential community and commercial development.

The proposed development consists of the construction of the following (see Figure 4 and Appendix C):

- 292 residential units (i.e., 51 single-family residences, 164 two-bedroom flats, 63 Townhouse (triplex) units, and 14 three-bedroom "Rosebud" units) of which 30 units would be workforce housing units, as explained below
- one two-story 24,000±-square-foot (SF) commercial building (containing 12,000± SF of restaurant space and 12,000± SF of office space)
- a 7,500±-SF recreational clubhouse for residents
- a 7,728±-SF on-site sewage treatment plant (STP), and associated leaching fields, with 150,000± gallon per day (gpd) capacity (as the proposed development is expected to generate 89,370 gpd of sewage effluent, there would be excess capacity of 60,630 gpd)
- 466 paved parking spaces situated in multiple parking fields throughout the subject property (200 parking spaces would be for the proposed commercial uses [plus an additional six loading spaces], 216 paved surface parking spaces for the proposed two-bedrooms flats and 50 parking spaces would be for the proposed clubhouse), 112 landbanked parking spaces and 256 parking spaces for the remaining residential uses within double-driveways and garages
- 1.66± acres of private recreational open space, and an additional 1.38± acres of private recreational facilities
- comprehensive landscaping and exterior lighting
- 7.28±-acre publicly accessible recreational open space area.

Per §85-87.2 of the Town of Brookhaven Town Code, 10 percent of the proposed 292 residential units (i.e., 30 units) would be maintained as workforce housing, which is defined as housing for individuals and families at or below 120 percent of the median income for the Nassau-Suffolk Primary Metropolitan Statistical Area (MSA). Based on data provided by the United States Department of Housing and Urban Development (HUD), the median income for the Nassau-Suffolk Primary MSA is $105,100. Therefore, families with incomes of $126,120 or less would be eligible for the proposed workforce housing.



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Proposed Conceptual Site Plan

Figure 4

Sources: Baldassano Architecture

In order to achieve the proposed density on the site, as described above, The Arboretum must redeem Pine Barrens credits, as explained herein. Per §85-725 of the Town of Brookhaven Town Code, the purpose, goals, and objectives of the Pine Barrens Credit Program is to "to maintain the value in lands designated in the Plan for preservation and protection through the use and allocation of Pine Barrens credits, and to promote environmentally sensitive development in an efficient and orderly fashion which shall protect the quality and quantity of surface waters, groundwater and the long- and short-term integrity of the Suffolk County Central Pine Barrens ecosystem(s)." Per the Town Code, residential development on an eligible parcel is entitled to an increase in density based on the addition of Pine Barrens credits to the customary unit yield (customary yield). Therefore, the proposed residential density increase to 292 units at the subject property will require Pine Barrens Credit Redemption. The existing lot zoned J-4 has an allowable density of three units per acre. The total 6.35 acres, which is zoned J-4, t would have a customary yield of 19 units (6.35 acres x 3 = approximately 19 units). For the existing A-1 district the allowable density or customary yield would be 50 units (55.238 acres x 43,560 SF = [2,406,167/40,000 SF] = 60.15 acres x .825 = approximately 50 units). Therefore, the total base residential density permitted at the subject property under the existing zoning is 69 units. The Arboretum proposes 292 units, therefore, less the 30 proposed workforce housing units, the proposed development exceeds the permitted base density by 193 residential units. Based on a development yield factor 0.20, 38.6 Pine Barrens Credits are required to be redeemed.

Access to the subject property would be from two points: the main access is proposed to be located along the south side of Horseblock Road, adjacent to the proposed commercial and public recreational portions of the property, and the other access point would be located farther south, from an existing access at Henry Street to the east, in the vicinity of the proposed residential portion of the development. Additionally, an emergency access drive would connect to Alamo Drive to the west. The emergency access would have a locked gate and would be keyed for emergency vehicles and personnel only. There would be 200 parking spaces provided for the proposed commercial portion of the development (as well as six loading spaces), and a total of 634 parking spaces, including 266 spaces in paved surface parking lots, 256 spaces in driveways and garages and 112 landbanked spaces, would be provided for the residential component. See Section 3.4 for a discussion of traffic and parking.

Water would be supplied to the site via connection to the Suffolk County Water Authority (SCWA) infrastructure. Anticipated potable water demand is approximately 98,307 gpd, based upon sanitary flow with a 10 percent increase for irrigation purposes (see Section 3.5.2.1 for details regarding water supply).

Based upon the proposed uses, the anticipated sewage flow has been calculated at 89,370 gpd. As previously indicated, a new STP would be constructed on the property, having a capacity of 150,000± gpd. Sewage disposal is discussed in detail in Section 3.5.2.1 of this DEIS.

The stormwater management system is proposed to be composed of a number of facilities, including drainage ponds, recharge basins and leaching pools. The system has been designed to capture and recharge stormwater runoff for an eight-inch storm, based upon Town of Brookhaven requirements. Stormwater runoff has been calculated at 568,353± cubic feet (CF). According to the site engineer, based on the conceptual design, it is anticipated that the northern to central sections of the site will be designed with ponds to have limited capacity and the southern section of the site will perform most of the stormwater collection and recharge within the two southernmost proposed recharge basins. See Section 3.5.2.2 for additional discussion of stormwater management.

The subject property is located within the service area of PSEG Long Island for electrical services and National Grid with respect to natural gas.

2.4 Purpose, Needs and Benefits

The purpose of the proposed project is to redevelop an underutilized property, the majority of which is currently vacant, but was used for agricultural and related commercial uses, to a mixed-use residential community and commercial development. In redeveloping this property (which is situated in the vicinity of major access corridors), the Applicants have designed the development to create a community with a mix of commercial and residential uses, which incorporates public recreational space on an important, large-scale property within the Town of Brookhaven (Town) and Suffolk County (County).

The Arboretum has been designed to meet the housing needs for various demographic segments (including income levels) of the Town as identified in both Town and County planning documents, as explained in Section 3.1 of this DEIS. Of the 292 units, 10 percent (30 units overall) would be maintained as workforce housing for individuals and families earning 120 percent of the area median income for the Nassau-Suffolk Primary MSA as defined by HUD.

Implementation of the proposed project would also enhance the tax base through redevelopment of existing uses that are generating a minimal amount in property tax revenue. The new development would enhance this area of Farmingville and is expected to add to the area's attractiveness and marketability of housing and commercial space. The mixed-use development aims to encourage uses that complement the surrounding existing uses with commercial development along Horseblock Road, and residential development adjacent to existing residential subdivisions, and would fulfill several goals/recommendations of relevant local comprehensive plans, as noted above.

Additional benefits include the creation of 7.28± acres of publicly accessible recreational open space, and 1.66± acres of ponds and recreational open space (plus an additional 1.38± acres of private recreational facilities) for use by on-site residents.

2.5 Construction Project Phasing

The proposed project is expected to commence in 2016 and be completed by 2022 for a construction period of approximately six years. The Arboretum will provide a mix of residential unit types including: single-family residences, two bedroom flats, two bedroom townhouses, and three bedroom "rosebud" units.

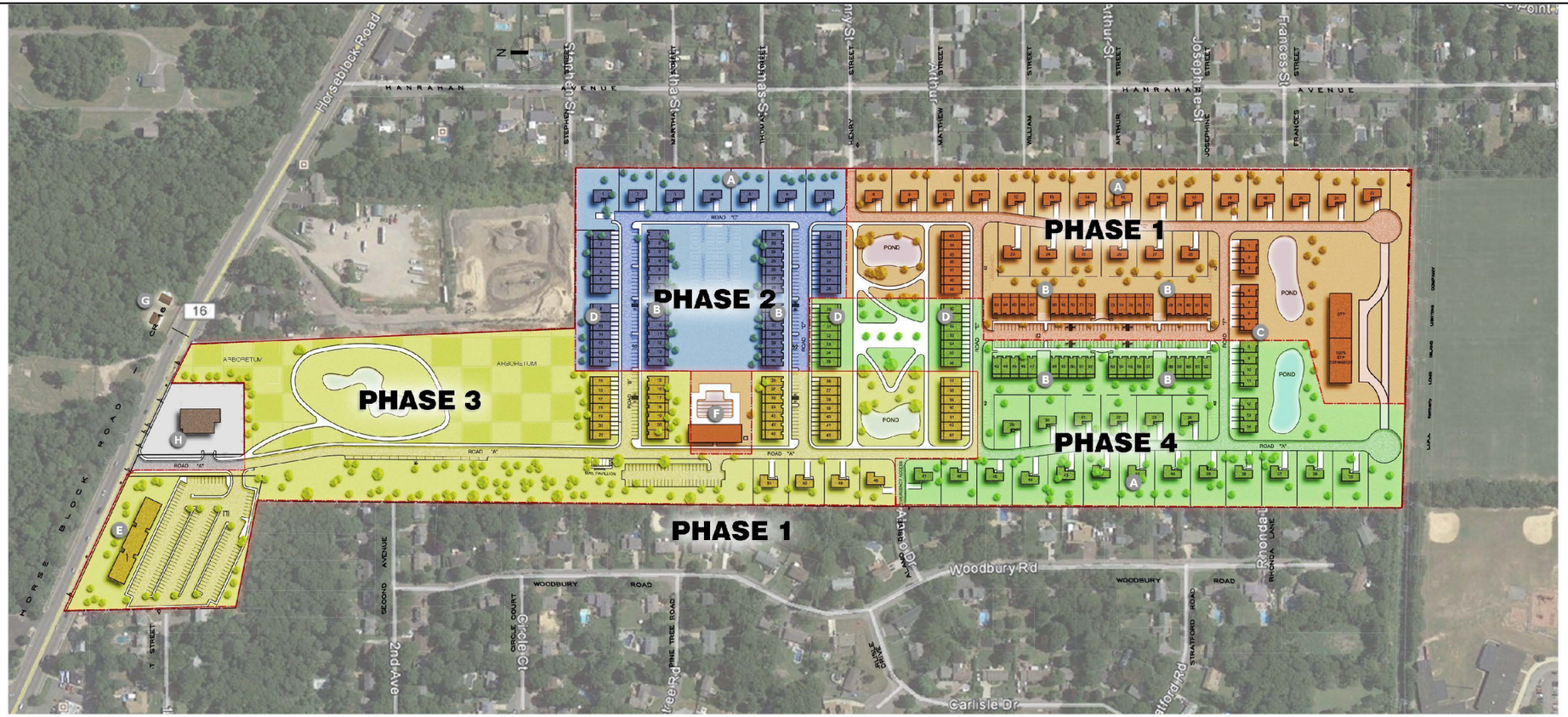
Construction traffic associated with the development will include trucks for performing operations on the site, as well as the delivery and removal of materials and worker's vehicles. The number and types of construction vehicles will vary considerably depending on the phase of construction and the particular operations underway at any given time.

All construction vehicles will arrive and depart via Horseblock Road. A construction entrance will be established on Horseblock Road in a location determined through consultation with the SCDPW and the Town of Brookhaven. All requirements of the County and the Town will be followed during the course of site construction.

Construction truck traffic is expected to arrive and depart the site via Horseblock Road to either Nicolls Road to the west or North Ocean Avenue to the east and ultimately to the Long Island Expressway (LIE).

While it is difficult to determine the traffic levels that will be generated by the construction activities on the site, it can be stated that they will not approach levels of traffic that will occur once the site is fully constructed and occupied. Additionally, Horseblock Road, Nicholls Road and North Ocean Avenue are major roadways that are designed to accommodate all types of vehicles including the construction vehicles that will be utilized through the various construction phases of the project.

It is anticipated that the proposed development would occur over the following four phases (see Figure 5), in the following sequence:



LEGEND	RESIDENTIAL UNIT COUNT	COMMERCIAL UNIT COUNT
A SINGLE FAMILY	FLATS 82 X 2 = 164 UNITS	BUILDING 1 = 12,000 x 2 = 24,000 SF
B FLATS	TOWNHOUSE = 63 UNITS	
C ROSEBUD	ROSEBUD = 14 UNITS	CLUBHOUSE=7,500SF / 150 = 50 REQ
D TOWNHOUSE	SINGLE FAM. = 51 UNITS	PROVIDED 50
E COMMERCIAL	TOTAL = 292 UNITS	
F RECREATIONAL		
-EXISTING-		
G BALD HIL SCHOOL HOUSE		
H POST OFFICE		

PHASE 1		
SINGLE FAMILY	21	75 UNITS
FLATS	40	
ROSEBUD	7	
TOWNHOUSE	7	
COMMERCIAL	0	1
RECREATIONAL	1	

PHASE 2		
SINGLE FAMILY	7	84 UNITS
FLATS	56	
ROSEBUD	0	
TOWNHOUSE	21	
COMMERCIAL	0	0
RECREATIONAL	0	

PHASE 3		
SINGLE FAMILY	4	53 UNITS
FLATS	28	
ROSEBUD	0	
TOWNHOUSE	21	
COMMERCIAL	1	1
RECREATIONAL	0	

PHASE 4		
SINGLE FAMILY	19	80 UNITS
FLATS	40	
ROSEBUD	7	
TOWNHOUSE	14	
COMMERCIAL	0	0
RECREATIONAL	0	

THE ARBORETUM - FARMINGVILLE

KELLY DEVELOPMENT GROUP Baldassano ARCHITECTURE VHB ENGINEERING J.R. HOLZMACHER EMTEC CONSULTANTS, INC. WAYMAN C WING CERTILMAN BALIN ADER & HYMAN 2014 11 21

The Arboretum at Farmingville
Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Construction Phasing

Figure 5

Sources: Baldassano Architecture

- **Phase I** will consist of the construction of 75 units with a mix of residential product types. Of these 75 units there would be 21 single family homes (three and four bedroom homes); 40 flats (20 units of first floor and 20 units of second floor units); seven Rosebud units and seven traditional townhouses will be constructed. In addition, the construction of the STP and the community clubhouse will be completed during this stage. Installation of the internal road system will begin from the Horseblock Road entrance. The drainage, sewer main, water main and utilities will be installed as needed or as practical. Landscaping, street lights for this section will also be installed.
- **Phase II** will consist of the construction of 84 units and will include the construction of a mix of residential product types. Seven single family homes (mix of three or four bedroom homes); 56 flats (28 units of first floor and 28 units of second floor units); and 21 traditional townhouses will be constructed. The associated utilities and infrastructure will also be continued to be installed into this Phase.
- **Phase III** will consist of the construction of 53 units and will be a mix of residential product types. Four single family homes, 28 flats and 21 townhouses will be constructed during this phase. In addition, during this phase, the construction of the commercial space along Horseblock Road will occur as well as, the publicly accessible open space and portions of the private open space located within the central portion of the development.
- **Phase IV** will consist of the construction of 80 units and will be a mix of residential product types. Of these 80 homes, 19 single family homes (mix of three and four bedroom homes); 40 flats (20 units of first floor and 20 units of second floor units); seven Rosebud units and 14 traditional townhouses will be constructed in this phase.

Site erosion control measures for demolition work, are included on the *Erosion Control Plan* (see Appendix C). Prior to the start of grading and clearing operations, erosion control measures will be installed, per the detail.

According to the project engineer, the following elements constitute the major work included in this project. Items may be performed simultaneously or out of sequence, as deemed necessary.

- Install all perimeter erosion control measures to ensure on-site containment of all sediments and runoff. Maintain daily.
- Install stabilized construction entrances as shown on plan.
- Control debris and dust created on the site on a daily basis, including dust associated with the demolition of existing on-site buildings and structures.
- Wash down construction vehicles prior to them leaving the construction areas to prevent materials from being tracked beyond the limits of disturbance.

- Preparation of an asbestos-containing material (ACM) survey prior to demolition of on-site buildings and structures, indicating that ACM would be properly handled in accordance with applicable regulatory requirements.
- Demolish and remove existing structures.
- Complete clearing and rough grading of the building sites, installation of drainage structures, sewer system and stormwater system, in accordance with approved plans. Stockpile topsoil in designated areas and cover as necessary to prevent exposure to erosive elements.
- Install inlet protection in accordance with the *Erosion Control Plan*. Extreme care will be taken to prevent any silt from getting into the inlets.
- Excavate foundations for proposed buildings.
- Remove all temporary erosion control measures. Install permanent vegetation to enhance erosion control.
- Complete landscaping and final lot grading.
- Finish final paving of site areas.
- Clean all drainage facilities of accumulated silt due to erosion incurred during construction.

The standards and specifications included in the *New York Guidelines for Urban Erosion and Sediment Control* provide criteria on minimizing erosion and sediment impacts from construction activity involving soil disturbance. Implementation of a sequenced construction process, described above, and use of other best management practices (BMPs), would ensure that the proposed development would minimize potential impacts with respect to erosion and sedimentation during the construction period.

Overall, as pedestrian and vehicular traffic flow would be maintained, to the maximum extent practicable; and erosion and sedimentation control measures would be implemented, significant adverse impacts associated with construction of the proposed project are not anticipated.

2.6 Required Permits and Approvals

The following permits and approvals are required for implementation of the proposed project:

Table 2 – Required Permits and Approvals

Agency	Required Permit/Approval
Town Board	Change of Zone
Town Planning Board	Site Plan
Town Highway Department	Road/Access Permit
Town Division of Environmental Protection	Wetlands and Waterways Permit
Suffolk County Department of Health Services	Water Supply, Sanitary, Stormwater
Suffolk County Department of Public Works	Highway Work Permit
Suffolk County Planning Commission	239-m Referral
New York State Department of Environmental Conservation	SPDES General Permit for Stormwater (GP-0-10-001), SPDES for Sewage Treatment Plant Discharge

3.0

Existing Environmental Conditions, Potential Impacts of the Proposed Project and Mitigation Measures

3.1 Land Use, Zoning, and Community Character

3.1.1 Existing Conditions

3.1.1.1 Land Use

Subject Property

The 65.24±-acre subject property is primarily bounded by Horseblock Road to the north, residential uses to the east and west, and public utilities are located directly south of the subject property. The subject property is comprised of three SCTM parcels, including District 200 – Section 626 – Block 3 – Lots 39.5 and 40, and District 200 – Section 653 – Block 7 – Lot 1 (as depicted on Figure 2). The subject property contains a single-family residence, commercial and agricultural uses, including a commercial nursery, soil stockpiling, vacant commercial structures and equestrian facilities, as well as vacant/unutilized land, including a 0.23±-acre, excavated, artificial drainage feature. There are also informal parking and staging areas throughout the site. Table 3 below identifies existing acreages and land uses by parcel.

Table 3 – SCTM Parcel Existing Acreage and Land Uses

SCTM Parcel No.	Area of Parcel (Acres)	Existing Land Use
200-626-3-39.5	10.00±	Commercial/ Agricultural
200-626-3-40	0.73±	Residential
200-653-7-1	54.51±	Commercial/ Agricultural

Source: Town of Brookhaven Receiver of Taxes

Lot No. 40 is developed with a single-family residence (see Photograph No. 1 in Appendix D1). Lot No. 39.5 is developed with unoccupied commercial structures and is also utilized as vehicle staging areas (see Photograph Nos. 2 through 5 in Appendix D1). Lot No. 1 is developed with agricultural and commercial uses, including soil stockpiling areas, commercial nursery storage and former equestrian facilities, as well as vehicle staging areas, observed to be primarily personal automobiles and a commercial truck (see Photograph Nos. 6 through 16 in Appendix D1).

Existing site data for the subject property are described below in Table 4.

Table 4 – Existing Site Data

Development Type	Area (Acres)	Percent of the Subject Property
Impervious Surfaces (i.e., Buildings, Pavement, and Roadway)	0.67±	1.0±
Non-Vegetated Areas	43.70±	67.0±
Grass / Brushlands Areas	15.07±	23.1±
Agricultural Areas	1.51±	2.3±
Forested Areas	4.06±	6.2±
Artificial Wetlands	0.23±	0.4±
TOTAL:	65.24±	100

As indicated above in Table 4, the subject property is primarily comprised of non-vegetated areas, with a moderately-sized portion of grass/brushlands area.

Surrounding Area

A description and depiction of the mix of land uses adjoining and surrounding (within a one-quarter-mile area of) the subject property follows (see Figure 6). Photographs of these properties are included in Appendix D2 of this DEIS.

Date: 07.01.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Existing Land Use Map

Figure 6

Subject Property (Boundaries are approximate)

Quater-Mile Radius

Land Use

Land Use Codes:
RSF - Residential, Single-Family
CR - Commercial/Retail
UL - Undeveloped Land
TU - Transportation / Utility
INST - Institutional

0 500 1,000 Feet

Sources: VHB Field Survey on June 23, 2014

North: Land uses north of the subject property include institutional, single-family residential, open space and recreational, utility, and commercial and retail uses (see Photograph Nos. 1 through 6 in Appendix D2).

East: Agricultural uses are situated immediately east of the subject property (see Photograph no. 7 in Appendix D2). Further east are commercial and retail uses along the Horseblock Road Corridor, single-family residential uses, and undeveloped land (see Photograph Nos. 8 through 10 in Appendix D2).

South: Electric transmission lines are situated immediately south of the subject property, within a 60-foot Long Island Power Authority (LIPA) right-of-way (ROW) (see Photograph No. 11 in Appendix D2). Further south are institutional (including approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School), single-family residential, commercial and retail uses (see Photograph Nos. 12 through 14 in Appendix D2). Beyond these is the LIE (see Photograph No. 15 in Appendix D2).

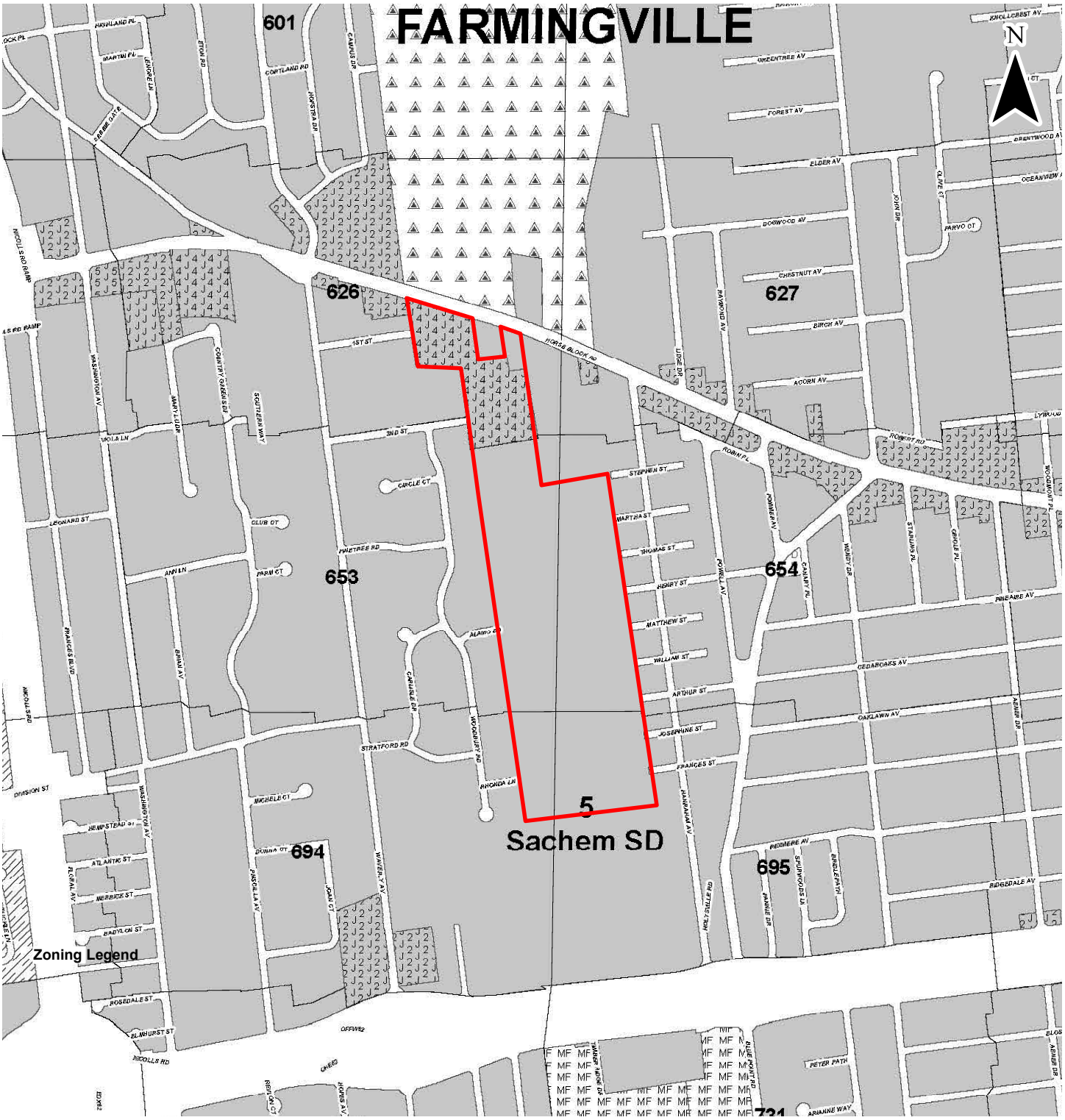
West: Commercial and retail uses are situated immediately west of the subject property along the Horseblock Road Corridor (see Photograph No. 16 in Appendix D2). South of the Horseblock Road Corridor, land uses west of the subject property are predominantly single-family residential uses (see Photograph No. 17 in Appendix D2).

Based upon the foregoing, the area surrounding subject property contains a broad range of land uses and development intensities.

3.1.1.2 Zoning

The subject property is situated within two zoning districts, the A-1 and J- 4 Districts of the Town of Brookhaven (see Figure 7). SCTM parcels District 200 – Section 626 – Block 3 – Lot 40 and District 200 – Section 653 – Block 7 – Lot 1 are situated within the A Residence 1 District while SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5 is situated within the J Business 4 District. Permitted uses within these zoning districts include the following:

Date: 06.17.14



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Existing Zoning Map

Figure 7

Subject Property (Boundaries are approximate)

0 500 1,000 Feet

Legend

A, A1, A2, A5, A10, B, B1, C, D, RD, MF, PDD, PRC, PRCHC, NHH, CD, CR, PC, HF, J, J2, J4, J5, J6, J8, K, L1, L2, L4, OF, Village

Long Island R.R.
HD - Historic District Line
317 Tax Map Sections
School District Line
TZ - Transition Zone Line

Sources: Town of Brookhaven Zoning Map, Panel No. 6 (August 11, 2008), Town of Brookjaven Department of Planning, Environmental and Land Management

A Residence 1: one-family dwellings; places of worship and parish houses; convents and monasteries; open farming; public, parochial and private schools; private garages; accessory professional offices; barns; greenhouses; day-care facilities;[4] colleges and universities;[5] golf courses and country clubs;[5] human cemeteries;[5] museum reuse of historic structures identified on the State or National Register of Historic Places or designated as a local landmark;[5] parks, playgrounds, athletic fields, bathing beaches, bathhouses or boathouses;[5] private community center, recreation buildings and outdoor recreation facilities as part of a homeowners', condominium or community association[5]; and voluntary nonprofit ambulance companies.[5]

J Business 4: administrative, financial, business and professional offices; art galleries; banks; day-care facilities; exhibit halls; undertaking establishments; drive-through facility as an accessory use to a bank facility;[5] restaurant as an accessory use to a permitted principal use;[5] and take-out restaurant as an accessory use to a permitted principal use.[5]

The bulk and dimensional requirements of the aforesaid Town of Brookhaven zoning districts are provided below in Table 5**.**

Table 5 – Bulk Dimensional Requirements of the A Residence 1 and J Business 4 Zoning Districts

Dimensional Requirement	A Residence 1	J Business 4
Minimum Lot Area (SF)	40,000	10,000
Minimum Lot Width (feet)	N/A	75
Maximum Height (feet)	35	35
Minimum Front Yard (feet)	40	40
Minimum Side Yard (each) (feet)	20	10
Minimum Rear Yard (feet)	60	25
Maximum Floor Area Ratio (FAR)	N/A	25 percent

SF = square feet
FAR = floor area ratio

As depicted in Figure 7, zoning patterns in the surrounding area are similar to that of the subject property. The properties to the north of the subject property are primarily situated within the A Residence 1 and A Residence 5 Zoning Districts. Parcels to the east of the subject property are primarily situated within the A Residence 1 and J Business 2 Zoning Districts. The predominant zoning districts to the south of the subject property include the A Residence 1 and Multi-Family Residence Districts. Parcels to the west of the subject property are primarily within the A Residence 1, J Business 2, and J Business 4 Zoning Districts.

▼

[4]Requires Special Use Permit from the Town of Brookhaven Board of Appeals
[5] Requires Special Use Permit from the Town of Brookhaven Planning Board

The zoning districts within the immediate vicinity of the subject property permit a wide variety of uses and various development densities.

Noise Control

The Town of Brookhaven has adopted a noise code, which regulates noise levels from different sources. Section 50-5 of the Town of Brookhaven Town Code states that:

> *"no person shall cause, suffer, allow or permit the operation of any source of sound on a particular category of property or any public land or right-of-way in such a manner as to create a sound level that exceeds the particular sound level limits set forth in Table 1 [reproduced as Table 7 herein] when measured at or within the real property line of the receiving property, except those acts specifically prohibited in Chapter §50-6 for which no measurement of sound is required."*

Table 6 – Permissible Noise Levels

	Receiving Property Category					
	Another Apartment within Multi-Dwelling Building		Residential		Commercial	Industrial
Sound Source Property Category	7:00 AM to 10:00 PM	10:00 PM to 7:00 AM	7:00 AM to 10:00 PM	10:00 PM to 7:00 AM	All Times	All Times
Apartment within Multi-Dwelling Unit	45	40	55	50	65	75
Residential	-	-	55	50	65	75
Commercial or Public Lands or Rights-of-Way Industrial	-	-	65	50	65	75
Industrial	-	-	65	50	65	75

Source: Chapter 50, Attachment 1 Town of Brookhaven Code (Table I)

3.1.1.3 Community Character

As described above, the character of the area is defined by a mix of land uses, including residential, commercial/retail uses, utility, agricultural, and community services.

The Horseblock Road corridor, which borders the subject property to the north, is a primarily commercial corridor in the hamlet of Farmingville, predominantly defined by one-story shopping center and strip mall style development set back slightly from the corridor to accommodate parking facilities and landscaping treatments. The corridor itself accommodates two lanes each of west and east, as well as sidewalks

for pedestrians. Traffic and noise conditions along Horseblock Road were observed to be typical of suburban commercial areas.

Beyond the Horseblock Road Corridor, the community character in the vicinity of the subject property is distinctly residential suburban typical of the Long Island area. Two-to-three story single-family residences are prevalent, set back from the street uniformly with moderate-to-large landscaped front yards. These are generally quieter areas with low intensity automobile traffic conditions. Immediately southwest and south of the subject property are a 60-foot LIPA ROW followed by approximately 22 acres of soccer fields, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School, which also contributes to the surrounding community character.

It should also be noted that a National Register of Historic Places-designated structure, the Bald Hill School House, is located north – northeast of the subject property, across Horseblock Road.

3.1.1.4 Comprehensive Planning Documents

This section contains a summary of identified comprehensive planning documents relevant to the subject property.

2010 Farmingville Community Redevelopment Plan (*Farmingville Plan*)

The *Farmingville Plan* is the outcome of a two-year planning and visioning process involving multiple stakeholders from within the community, designed to provide a "clear vision for the future of Farmingville" (pg. 4). This "clear vision" was developed through an examination of the existing conditions of, identification of needs relating to, and developing recommendations for the following topic areas:

- Zoning, policies, and guidelines
- Focus Areas
- Business Environment
- Landscaping & Beautification
- Transportation and Roads
- Recreation
- Implementation.

Recommendations relevant to the subject property are listed below:

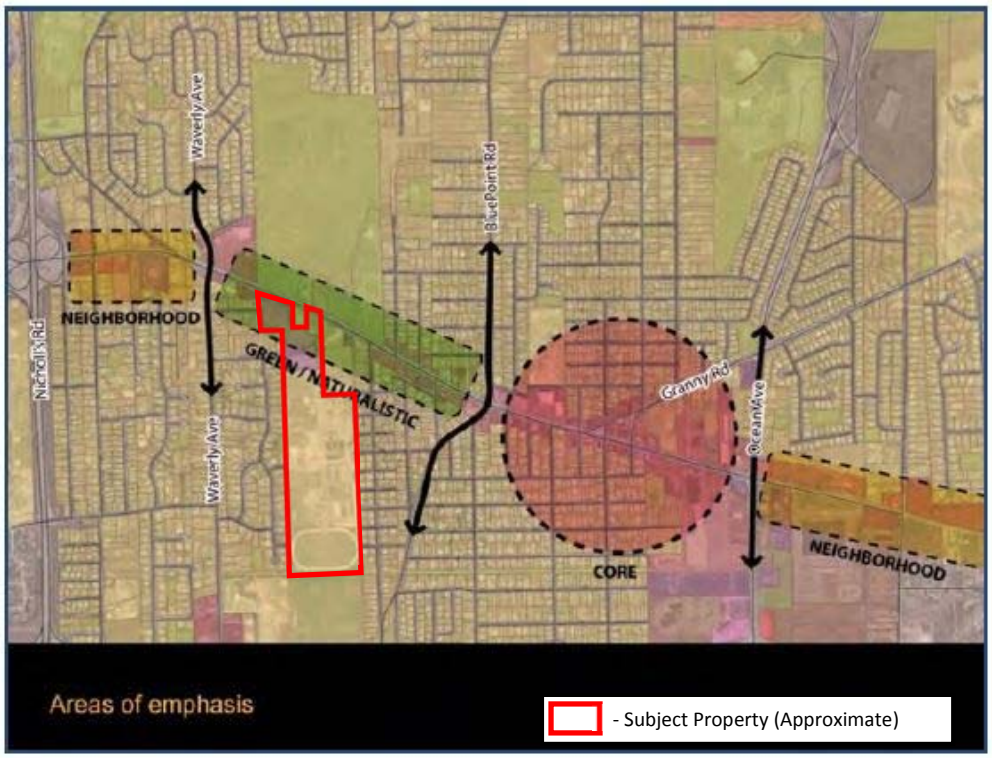
- *Attract new business in which the community has expressed interest, including restaurants, a live-music café, a bookstore, and a clothing store (pg. 5)*

- *Plant trees, flowers and shrubs in the downtown area along Horseblock Road. Put tress between the sidewalk and road to provide shade and enhance safety (pg. 5)*

  Encourage development of public spaces – plazas, gazebos, fountains, and a "village green" – in addition to Triangle Park (pg. 5)

In addition to these recommendations, the *Farmingville Plan* suggests a conceptual overlay district along the Horseblock Road Corridor that includes the northern portion of the subject property (see Figure 8 below).

Figure 8 - Horseblock Road Conceptual Overlay District



As illustrated in Figure 8 above, a small portion of the northern extent of the subject property is located within the proposed "Green/Naturalistic Area" of the Conceptual Overlay Plan. However, the *Farmingville Plan* does not elaborate on what the "Green/Naturalistic Area" should accomplish. The overall purpose of the overlay district is stated as "creating a cohesive look and feel for buildings that fits the scale and enhances the character of the surrounding context" (pg. 58).

A discussion of the proposed project's consistency with the *Farmingville Plan* is presented in Section 3.1.2 of this DEIS.

The Brookhaven 1996 Comprehensive Land Use Plan (*1996 Comprehensive Plan*)

The *1996 Comprehensive Plan* includes an assessment of existing land uses; existing zoning and related codes; demographic data depicting the population, housing, social and economic conditions in the Town; historical and cultural facts; previous land use plans such as Brookhaven's 1975 and 1987 plans; community services and facilities; circulation and transportation infrastructure; and environmental resources. It also identified existing problems, deficiencies and needs, as well as community strengths and assets, and set forth goals, aspirations and/or objectives to be achieved. Lastly, alternatives and implementation programs for achieving the plan goals and objectives were proposed.

Recommendations of the *1996 Comprehensive Plan* relevant to the subject property and proposed project include:

- *To promote the goal of creating a "sense of place" rezonings should be required to meet certain standards. These should include the fact that streets should interconnect, sidewalks and bike lanes should be included in the site plan applications and in housing developments houses should be built close to the street, should contain a heterogeneous mix of housing types and should be balanced with the fact that each site is different and must be considered on its individual merits and characteristics. (pg. 200)*
- *Both the Multi-Family Parts of the Code and siting of additional multi-family housing need to be addressed. Consideration should be given to placement of such housing along major roadways in place of commercial zoning in some areas. They should also be considered for locations adjacent to activity centers to create a sense of place, and the need to continue to provide a choice of housing types for an aging population desiring to remain in the community as well as affordable housing for the young. (p. 203)*
- *The Town should continue to develop appropriate areas for active and passive recreation (pg. 211)*

In addition to these recommendations, the proposed land use plan within the *1996 Comprehensive Plan* designates the land use of the subject property as "One Acre or Less." This is a residential land use category specifying residential lots of one-acre or less, designed to promote slightly higher residential densities relative to large residential lots greater than one-acre.

The proposed project's consistency with these recommendations of the *1996 Comprehensive Plan* are discussed in Section 3.1.2 of this DEIS.

Suffolk County Comprehensive Plan 2035 (*Suffolk 2035 Plan*)

The *Suffolk 2035 Plan* is an ongoing planning effort currently in its initial phase. Phase 1 consists of two parts, consisting of a data and inventory phase for demographics, economy, and quality of life (Volume 1A) and a second phase (Volume 1B), which will consist of additional data and inventory (for transportation,

natural resources, housing, and infrastructure) as well as preliminary analyses. Both parts of Phase 1 will be informed by public commentary and discussions. Phase 2 will features analyses of information and public comments, goals, recommendations, and implementation strategies. As the *Suffolk 2035 Plan* is currently in the Volume 1A stage of the Phase I, there are no recommendations relevant to the subject property or proposed project at this time. However, the following findings of Volume 1A were found to be relevant to the subject property and proposed project:

- *Based on current trends and a gradual reduction in the amount of vacant land available for redevelopment, Suffolk County's population is projected to increase by 240,000 or 16% between 2010 and 2035…the largest numerical increase in population is expected in the Town of Brookhaven with an addition of 108,000 persons. (p. 1-4)*
- *[T]he population age 5 – 17 in Suffolk County is expected slowly decrease for the next several years as the smaller populations currently in the 0 – 4 age group age into this demographic. (p. 1-5)*
- *The average household size in Suffolk County and in the US as a whole has decreased significantly in recent decades. As a 2010, the average household size in Suffolk County was 2.93 persons per household. The average household size in Suffolk peaked at 3.74 in 1967. (p. 1-5)*
- *A stable or very slowly increasing household size is expected in the coming years. (p. 1 – 5)*

3.1.2 Potential Impacts

3.1.2.1 Land Use

Upon implementation of the proposed project, all existing improvements and structures associated with existing agricultural, commercial, and residential uses would be demolished and removed from the subject property. Upon removal of all existing improvements and structures and implementation of a Soil Management Plan (SMP) (see Section 3.2.3 of this DEIS), the property would be redeveloped with a mixed-use residential and commercial development.

Specifically, the residential component of the proposed redevelopment would feature 51 single-family residences (situated primarily along the western and eastern boundaries of the subject property with lot sizes ranging in size from 0.29±- to 0.47±-acre), and 164 two-bedroom flat units (in two-story structures), 63 townhouses units, and 14 three-bedroom units, all situated throughout the central portion of the subject property (see the *Conceptual Site Plan* in Appendix C). In total, 292 residential units would be constructed, 10 percent, or 30, of which would be designated as workforce housing units, pursuant to Town of Brookhaven requirements (discussed in more detail in Section 3.1.2.2 of this DEIS).

A 7,500±-SF private residential clubhouse and associated pool would also be provided for residents of the proposed residential portion of the development. A total of 266 paved surface parking spaces (plus an additional 112 spaces, which would be landbanked) would be provided for the proposed residential flats and clubhouse, with 256 parking spaces for the remaining residential uses provided via individual and shared driveways and garages.

The residential component of the development would be connected to the commercial portion of the development via a roadway located within a strip of land containing a publicly-accessible open space, area along both the east and west sides of the roadway, with a pond situated within the eastern open space area. The internal roadway connecting these components would be from an access off Horseblock Road, with the entrance to the commercial development (discussed below), off the internal roadway. Thus, there would be only one access point from Horseblock Road serving both the residential and commercial portions of the development.

A 24,000±-SF commercial building (one, two-story building with a 12,000±-SF footprint) and associated 200-space parking lot (with an additional six loading spaces) would be situated on approximately 3.65 acres in the northwestern portion of the subject property. As noted above, there would be no direct access to the commercial portion of the site from Horseblock Road; access would be from an internal roadway that spans the entire development. For purposes of this analysis, it was assumed that the proposed commercial structure would include three 80-seat, 4,000-SF restaurants, with office space occupying the other 12,000 SF.

In addition to the residential and commercial structures, a 7,728±-SF STP would be constructed on a 2.96±-acre "sanitary area" in the southernmost portion of the subject property in the area of the existing abandoned equestrian facilities. This area would be screened from proposed the residences by vegetative buffering to be planted just north of the building. It would also be screened from off-site residences by vegetative buffering the west, south, and east, as well as proposed single-family residences beyond to the west and east.

Three drainage ponds situated in the northern and central portions of the subject property, comprising approximately 0.92 acres in total, would capture and recharge stormwater runoff, and provide increased wetland and aquatic habitat values, as well as an aesthetic feature for the development.

Table 7 indicates the proposed site data upon implementation of the proposed action, as provided by the project engineer, and compares them to the existing condition.

Table 7 – Existing and Proposed Site Data

Development Type	Existing Area (Acres)	Proposed Area (Acres)	Change (Acres)
Impervious Surfaces (i.e., Buildings, Pavement, and Roadway)	0.67±	20.38±	+19.71
Non-Vegetated Areas	43.70±	0.0	-43.70
Grass / Brushlands Areas (including landscaping)	15.07±	40.58±	+25.51
Agricultural Areas	1.51±	0.0	-1.51
Forested Areas	4.06±	2.65±	-1.41
Surface Water Areas	0	0	0
Artificial Wetlands	0.23±	0.92±	+0.69
Recharge Basins	0	0.70±	+0.70
TOTAL:	65.24±	65.24±	N/A

The existing Post Office outparcel (i.e., SCTM parcel District 200 – Section 262 – Block 3 – Lot 39.2), surrounded by the subject property to the west, south, and east, would not be affected due to implementation of the proposed project.

Overall, the transformation of the site from an underutilized agricultural, commercial, and single-family use to an attractive, maintained mixed-use residential and commercial development is expected to result in positive, beneficial land use impacts.

3.1.2.2 Zoning

The proposed project includes two change of zone requests, which include:

1. A change of zone from the A Residence 1 and J Business 4 Zoning Districts to the Multi-Family Residence District (MFRD) – Secondary Zone Zoning District for the entirety of SCTM parcels District 200 – Section 626 – Block 3 – Lot 40 and District 200 – Section 653 – Block 7 – Lot 1 and a 3.65±-acre portion of SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5

2. A change of zone from the J Business 4 Zoning District for the remaining 6.35± acres associated with SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5 to the J Business 2 Zoning District.

As discussed in Section 3.1.1.2, above, the existing zoning allows for residential and commercial development as does the proposed zoning. However, the proposed zoning would permit a higher intensity development and a broader range of commercial uses. Therefore, although the allowable development intensity would

increase, the overall categories of uses proposed on the site would not change from what is currently permitted.

Implementation of these change of zone requests would result in 61.59± acres of the subject property situated in the MFRD – Secondary Zone Zoning District and 3.65± acres of the subject property situated within the J Business 2 Zoning District (see Figure 9). While both commercial and residential uses would be permitted, as under the prevailing zoning, the proportions and specific types of such uses would change.

Regarding the MFRD – Secondary Zone Zoning District, pursuant to §85-80(B) of the Town Code, secondary zones are defined as sites located w*ithin 1,320 feet of a primary zone*[6].

Permitted uses within the zoning districts of the change of zone requests include the following:

MFRD Secondary Zone: Rental or owner-occupied housing units; attached or semi-attached single-family residences; and detached single family residences.

J Business 2: Bank without accessory drive-through facility; bowling alley; church or similar place of worship; commercial center; day-care facility; delicatessen; dry cleaners; health club; Laundromats; non-degree granting schools; office; personal service shops; pharmacy without accessory drive-through facility; retail consumer shops and stores; shops for custom work; take-out restaurant; undertaking establishments; veterinarian; and all uses identified as incentive uses within the Transitional Area Overlay District established in connection with the Montauk Highway Corridor Study Land Use Plan for Mastic and Shirley Phase II; college or university, excluding dormitories and other college or university residential facilities;[7] large commercial retailer use, or major renovation or expansion of existing structure where such renovation and/or expansion is greater than 50 percent of the reconstruction cost of the total structure and results in a large commercial retailer use;[7] large commercial retailer within the Route 25A Hamlet Center Overlay District;[7] single-family dwelling;[3] and two-family dwelling.[7]

▼

[6] Pursuant to §85-80(A) of the Town Code, "Primary zones" shall be defined as sites located within a 1,320-foot radius of a major arterial roadway and also located within one of the following:
(1) Within a 1,320-foot radius of an existing downtown/hamlet center or existing commercial area or node, subject to review of a 1,320-foot radius map illustrating that a sufficient concentration of supporting services, public transportation opportunities and adequate pedestrian access to such services exists; or
(2) Within 2,000 feet of a transit-oriented development center designated by an adopted plan; or
(3) Within 2,000 feet of an MTA/Long Island Rail Road active rail road station.
(4) High-density housing sites designated pursuant to a Town Board adopted land use plan or study

[7] Requires Special Use Permit from the Town of Brookhaven Town Board

Date: 06.17.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Proposed Change of Zone Map

Figure 9

Subject Property (Boundaries are approximate)

0 260 520 Feet

Proposed Change of Zone

J Business 2

Multifamily Residence District - Secondary Zone

Sources: Town of Brookhaven Zoning Map, Panel No. 6 (August 11, 2008), Town of Brookjaven Department of Planning, Environmental and Land Management

The proposed development was designed to comply with the bulk and dimensional requirements of the MFRD – Secondary Zone and J Business 2 Zoning Districts, as summarized in Table 8 and Table 9 below.

Table 8 – Zoning Compliance Table – MFRD Secondary Zone Zoning District

Dimensional Requirement	MFRD – Secondary Zone Zoning District	
	Required	Provided
Maximum Building Height	35 Feet / 2.5 Stories	35 Feet / 2.5 Stories
Maximum Building Area	30 Percent of Lot Area (804,832 SF)	19.89 Percent (533,688 SF)
Minimum Lot Area	3 Acres	61.59 Acres
Minimum Lot Width	200 Feet	448 Feet
Minimum Front Yard Setback	50 Feet	1,115 Feet
Minimum Side Yard Setback	50 Feet	50 Feet
Minimum Rear Yard Setback	50 Feet	80 Feet
Minimum Recreation Facilities	200 SF per Unit (58,400 SF)	60,000 SF

Table 9 – Zoning Compliance Table – J Business 2 Zoning District

Dimensional Requirement	J Business 2 Zoning District	
	Required	Provided
Maximum Building Height	35 Feet / 2.5 Stories	35 Feet / 2.5 Stories
Maximum Building Area	20 Percent of Lot Area (31,799 SF)	7.5 Percent (12,000 SF)
Minimum Gross Area	15,000 SF	158,994 SF (3.65 Acres)
Road Frontage	100 Feet	416 Feet
Minimum Front Yard Setback	40 Feet	70 Feet
Minimum Side Yard Setback	10 Feet	57 Feet
Minimum Rear Yard Setback	40 Feet	261 Feet
Minimum Landscaped/Natural Buffer	20 Percent	22.5 Percent
Minimum Front Yard Landscaped/Natural Area	10 Percent	15 Percent
Minimum Landscaped/Natural Area Street Frontage	15 Feet	40 Feet

Based on the foregoing, the proposed project would comply with all bulk and dimensional requirements of both zoning districts.

Workforce Housing Requirement

Pursuant to §85-281 of the Town of Brookhaven Town Code, a minimum of 10 percent (rounded up) of all residential units built under the MFRD are required to be maintained as affordable or workforce housing. It is the intent of the Applicants to designate 30 of the two-bedroom flat units as workforce housing units (18.3± percent of the total two-bedroom flat units, 10.3± percent of all proposed residential units). As defined by the Town Code, workforce housing is "housing for individuals and families at or below 120 [percent] of the median income for the Nassau-Suffolk primary metropolitan statistical area as defined by the Federal Department of Housing and Urban Development." The median income for this area was identified as $105,100[8] and, as provided by the Applicants, workforce housing units at the proposed development would be sold for $250,000 each.

Pine Barrens Credit Program ("PBC Program")

As described in the Pine Barrens Credit Program Handbook (Central Pine Barrens Joint Planning and Policy Commission, October 11, 1995), the PBC Program:

> *"allocates transferable development rights called Pine Barrens Credits…to privately owned Core Area property and other environmentally significant areas that are collectively referred to as 'sending areas.' These right or credits allow increased development in certain designated areas (outside the sending areas) called 'receiving areas.'"*

Pursuant to the PBC Program Handbook, the entirety of the subject property is a designated receiving area and is therefore eligible for increased development rights / credits from sending areas under this program.

The proposed residential density increase to 292 units at the subject property would require a Pine Barrens Credit Redemption. As shown on the *Conceptual Site Plan* (in Appendix C) the total base residential density permitted at the subject property under the existing zoning is 69 units. In order to achieve the proposed density on the site, as described above, The Arboretum must redeem Pine Barrens credits, as explained herein. Per §85-725 of the Town of Brookhaven Town Code, the purpose, goals, and objectives of the Pine Barrens Credit Program is to

> *"to maintain the value in lands designated in the Plan for preservation and protection through the use and allocation of Pine Barrens credits, and to promote environmentally sensitive development in an efficient and orderly fashion which shall protect the quality and quantity of surface waters, groundwater and the long- and short-term integrity of the Suffolk County Central Pine Barrens ecosystem(s)."*

[8] http://www.huduser.org/portal/datasets/il/il2014/2014summary.odn, accessed October 7, 2014.

Per the Town Code, residential development on an eligible parcel is entitled to an increase in density based on the addition of Pine Barrens credits to the customary unit yield (customary yield). Therefore, the proposed residential density increase to 292 units at the subject property will require Pine Barrens Credit Redemption. The existing lot zone J-4 has an allowable density of three units per acres. The total 6.35 acres, zoned under the J-4 district would have a customary yield of 19 units (6.35 acres x 3 = approximately 19 units). For the existing A-1 district the allowable density or customary yield would be 50 units (55.238 acres x 43,560 SF = [2,406,167/40,000 SF] = 60.15 acres x .825 = approximately 50 units). Therefore, the total base residential density permitted at the subject property under the existing zoning is 69 units. The Arboretum proposes 292 units, therefore, less the 30 proposed workforce housing units, the proposed development exceeds the permitted base density by 193 residential units. Based on a development yield factor 0.20, 38.6 Pine Barrens Credits are required to be redeemed.

3.1.2.3 Community Character

Upon implementation of the proposed project, the subject property would be redeveloped from agricultural, commercial, and residential uses (as well as vacant buildings and land) to a mixed-use commercial and residential development with associated appurtenances. As the existing buildings and land conditions at the subject property are largely unmaintained, and the site is underutilized (see Photograph Nos. 4 through 6 and 12 through 16 in Appendix D1), implementation of the proposed action would improve the character of the property to that of a well-maintained mixed-use commercial and residential development, with public and private recreational opportunities.

The proposed commercial building would be situated in the northwestern portion of the subject property along Horseblock Road, the primary commercial corridor in the hamlet of Farmingville, therefore complementing existing commercial uses. A publicly-accessible open space for passive recreation would be developed in the northeastern portion of the subject property, fronting along Horseblock Road as well, representing a new public amenity for employees, residents, and visitors.

Various types of residential development would be constructed throughout the remainder of the property, with single-family residential uses situated at the western and eastern perimeters of the property to complement existing single-family residential uses that border the property in these directions.

As discussed in Section 3.1.1.3, the southern portion of the property is bordered by transmission towers associated with the 60-foot LIPA ROW. Beyond, are approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School. A vegetated buffer, in addition to the existing LIPA ROW, would screen views of the proposed STP from the aforementioned uses further south, and further, landscaping treatments

on-site would screen views of the STP from the residential uses within the subject property.

Based on the foregoing, redevelopment of the subject in accordance with the proposed development is expected to complement and enhance existing community character.

3.1.2.4 Comprehensive Planning Documents

Presented herein is an analysis of the consistency of the proposed project with the comprehensive planning documents identified in Section 3.1.1.4 of this DEIS.

2010 Farmingville Community Redevelopment Plan (*Farmingville Plan)*

As discussed in Section 3.1.1.4 of this DEIS, the *Farmingville Plan* was developed in order to articulate a vision for the future of the hamlet of Farmingville. The stated goals, as they relate to the proposed development, are as follows:

- *Attract new business in which the community has expressed interest, including restaurants, a live-music café, a bookstore, and a clothing store*

As part of the proposed project, a 24,000± SF commercial building would be constructed in the northwestern portion of the subject property. For the purposes of the analysis presented in this DEIS, it was assumed that proposed commercial space would be occupied by various restaurant uses. However, it could also accommodate any of other retail uses mentioned in this recommendation. As such, the proposed project is consistent with this goal.

- *Plant trees, flowers and shrubs in the downtown area along Horseblock Road. Put tress between the sidewalk and road to provide shade and enhance safety*

Implementation of the proposed project would include landscaping elements (e.g., trees, shrubbery, lawn areas, etc.) throughout the subject property, including along the northern property boundary, which is part of the Horseblock Road Corridor. Though not in the downtown core area, as shown on Figure 8, the proposed commercial portion of the development would be similar in style and character within the existing commercial development in the area. Therefore, implementation of the proposed project is consistent with this goal.

- *Encourage development of public spaces – plazas, gazebos, fountains, and a "village green" – in addition to Triangle Park*

Redevelopment of the subject property would include construction of a 7.28±-acre publicly-accessible open space for passive recreation and 1.66±-acres of private recreational open space, in addition to 1.38±-acres of private recreational facilities, for residents of the development. Implementation of the proposed project would therefore be consistent with this goal.

Overall, based on the foregoing, implementation of the proposed project would be consistent with the relevant stated goals of the *Farmingville Plan*.

The Brookhaven 1996 Comprehensive Land Use Plan (1996 Comprehensive Plan)

The *1996 Comprehensive Plan* set forth goals, aspirations and/or objectives to be achieved within the Town of Brookhaven. Relevant goals, as they relate to the proposed project and subject property, are as follows:

- *[P]romote the goal of creating a "sense of place" rezoning should be required to meet certain standards. These should include the fact that streets should interconnect, sidewalks and bike lanes should be included in the site plan applications and in housing developments houses should be built close to the street, should contain a heterogeneous mix of housing types and should be balanced with the fact that each site is different and must be considered on its individual merits and characteristics*

  The proposed project includes a mix of housing types, providing a heterogeneous mix of housing types on the same site. The single-family homes would be located along the eastern and western boundaries of the property (relating to the adjacent off-site single-family homes), while the multi-family units (both market rate and workforce [see below]) would be located at the site's interior. As discussed above, 10 percent of the residential units would be designated as workforce housing (sold for approximately $250,000), providing housing opportunities for a variety of income levels. The proposed residential uses would be situated as close to the proposed internal street network as practically possible.

  Further, the automobile transportation network would connect with the existing street network, including a primary entrance along Horseblock Road, Henry Street to the East, and Alamo Drive to the west (which would be used for emergency access). Further, the internal street network would also feature appropriate sidewalk infrastructure accommodate pedestrians.

  Acting together, these attributes of The Arboretum would help to reinforce and create a "sense of place" within the hamlet of Farmingville. As such, the proposed project is consistent with this recommendation.

- *Both the Multi-Family Parts of the Code and siting of additional multi-family housing need to be addressed. Consideration should be given to placement of such housing along major roadways in place of commercial zoning in some areas. They should also be considered for locations adjacent to activity centers to create a sense of place, and the need to continue to provide a choice of housing types for an aging population desiring to remain in the community as well as affordable housing for the young*

  The proposed project is located on the south side of Horseblock Road (i.e., CR 16), a major east-west corridor in the hamlet of Farmingville and Town of Brookhaven, just west of the primary Farmingville commercial corridor.

Constructing a mixed-use commercial and residential development in this area (with relatively higher residential densities) would help support existing commercial and retail uses along the Horseblock Road Corridor, helping to reinforce a "sense of place" within the hamlet of Farmingville. As previously discussed, 10 percent of the proposed residential uses would be affordable, providing housing for a variety of age and income levels. Based on the foregoing, the proposed project complies with this recommendation.

- *The Town should continue to develop appropriate areas for active and passive recreation*

  Redevelopment of the subject property includes the construction of a 7.28±-acre publicly-accessible open space in the northeastern portion of the subject property. The open space area, which is proposed to contain a pond, would be primarily utilized for passive recreation. Thus, the proposed project is consistent with this recommendation.

As previously discussed, the proposed land use plan within *1996 Comprehensive Plan* designates the subject property as the residential "One-Acre or Less" land use category. While the various residential land uses proposed as part of the proposed action meet the one-acre or less criteria of the proposed land use plan, this plan also features a "High Density" residential land use category, which the proposed residential uses are more representative of. However, it should be noted that the *1996 Comprehensive Plan* is nearly 20 years old and more recent comprehensive planning efforts for the region, as documented in this section, advocate for higher density residential uses throughout the Long Island area.

Overall, implementation of the proposed project would comply with the relevant recommendation of the *1996 Comprehensive Plan*.

3.1.3 Conclusions

In conclusion, implementation of the proposed project would result in the following positive impacts to land use, zoning, and community character:

- The proposed development is a re-use of a currently partially active commercial and agricultural site (with one single-family homes) with residential and commercial uses that fulfill a housing need that has been identified by the County (including workforce housing) as well as a commercial need for uses identified by the Farmingville community as desirable.
- The proposed mix of land uses on the site creates a compact, walkable development, allowing the opportunity for people to live and work within a cohesive community.
- Various housing types would be constructed as part of the project to provide a range of housing opportunities (including various sizes, types and costs) for the residents of Farmingville, the Town of Brookhaven, Suffolk County, and beyond.

- Development of 7.28±-acres of publicly-accessible open space, which would meet the desired goal of the Farmingville community by providing an open space area.
- The creation of a sense of place within the hamlet of Farmingville by strengthening the identity of the primary Farmingville commercial corridor along Horseblock Road with an assortment of commercial and residential uses.

3.1.4 Mitigation Measures

Based upon the foregoing analysis, although the land uses on the subject property would change, the proposed project is expected to result in positive land use impacts. The proposed project would plant various grasses, shrubbery, and trees throughout the subject property, serving to both enhance proposed land uses at the subject property as well as screen views of the subject property from both the exterior and interior. This includes views of the proposed STP at the southern portion of the subject property, around which would be planted various tree species to obscure lines-of-site. Further, as described in detail, above, the proposed project includes the creation of publicly-accessible recreational open space, which is intended to be a community amenity. The proposed single-family residential land uses would be placed at the eastern and western perimeters of the subject property in order to complement and enhance existing single-family residential uses that border the subject property to the east and west. No other mitigations with respect to land use are proposed.

While the zoning of the subject property would change, no significant adverse environmental impacts with respect to zoning were identified. The proposed project has been designed to have a positive impact on the area through the creation and application of a mixed-use redevelopment of a mostly vacant, underutilized property, such that no mitigation is proposed.

The redevelopment of the majority of the subject property from agricultural and commercial uses to a mixed-use commercial and residential development with a publicly-accessible recreational open space more accurately reflects the existing community character in the surrounding area of the subject property, which, as previously discussed primarily consists of commercial and retail uses, therefore, the proposed project will result in positive community character impacts, such that no mitigation is proposed.

As demonstrated above, since implementation of the proposed project would be consistent with the relevant recommendations of the identified comprehensive planning documents discussed herein, no mitigation measures are proposed.

3.2 Subsurface Soils

3.2.1 Existing Conditions

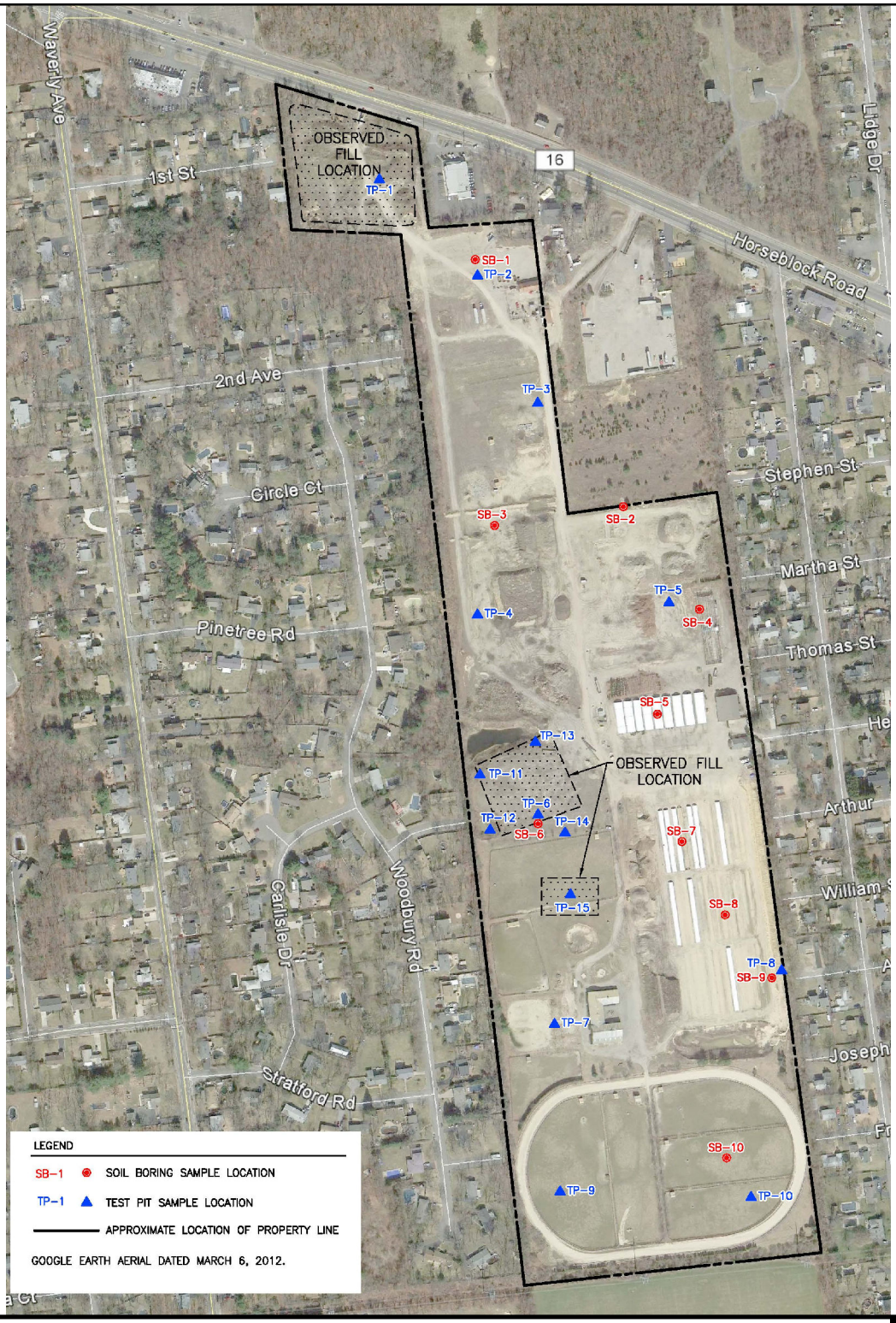
3.2.1.1 September 2014 Phase II Environmental Site Assessment (ESA) – Apex Companies, LLC

A Limited Phase II Environmental Site Assessment ("Phase II ESA") report, a copy of which is included in Appendix E of this DEIS, prepared by the Apex Companies, LLC (Apex), was performed at the subject property and was completed on September 3, 2014. The Phase II ESA was conducted in order to investigate potential impacts to on-site soils associated with historical agricultural uses and imported materials used in a mulch/soil manufacturing process, including arsenic, lead, DDT, and pesticide contamination. This investigation consisted of the following:

- Ten soil borings were conducted to a depth of 2.5-feet below grade surface (bgs), at various locations throughout the subject property to evaluate potential impacts associated with historical agricultural uses at the subject property. Two soil samples from each soil boring location were taken via hand sampling equipment. The soil samples were analyzed for Suffolk County List (SCL) pesticides Method 8081, SCL metals using United States Environmental Protection Agency (USEPA) Methods 6010 and 7471, and petroleum-related semi-volatile organic compounds (SVOC) using USEPA Method 827.
- Fifteen test pits were excavated at various locations throughout the subject property, all of which were generally advanced to a depth that uncovered native soil. These test pits were undertaken in order to evaluate the extent and conditions of fill materials that were used at the subject property. Multiple soil samples were taken at each test pit location, at the discretion of the Apex Companies, LLC representative. Soil samples taken from these test pits were analyzed for Target Compound List (TCL) pesticides using USEPA Method 8081, TCL polychlorinated biphenyls (PCBs) using USEPA Method 8082, TCL volatile organic compounds (VOCs) using USEPA Method 8260, TCL SVOCs using USEPA Method 8270, and Target Analyte List (TAL) metals using USEPA Methods 6010 and 7471.

A sampling location figure prepared by Apex, inclusive of the aforementioned ten soil borings and 15 test pits, has been included as Figure 10.

Date: 12.26.14



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Soil Boring Locations

Figure 10

SCALE IN FEET
0 150 300 600

Source: "Site Map with Soil Sample Locations," dated 8/12/14 from the "Draft Limited Phase II Environmental Site Assessment Report," submitted 9/3/14 by Apex Companies, LLC.

The pertinent findings of the above-described soil sampling are described as follows:

Soil Borings

- Arsenic concentrations were detected in concentrations exceeding Suffolk County Department of Health Services (SCDHS) guidance thresholds and New York State Department of Environmental Conservation (NYSDEC) Unrestricted Soil Cleanup Objectives (SCOs) in two multi-depth soil samples collected at the former equestrian riding track (boring SB-10; see Figure 10).
- Arsenic concentrations were found between SCDHS guidance thresholds and NYSDEC Unrestricted SCOs in three boring locations (four total samples) in the northern portion of the subject property (borings SB-1, SB-2 and SB-3; see Figure 10).
- Petroleum-related SVOCs were detected in both soil samples collected at the northernmost soil boring (boring SB-1; see Figure 10) in exceedance of their respective NYSDEC SCOs.

Test Pits

- Two test pit (TP) excavation samples revealed the presence of two metals and one pesticide exceeding NYSDEC Unrestricted SCOs. In test pit TP-1, located at the northern section of the property in an area determined by Apex to contain fill material, elevated concentrations of the heavy metals lead and mercury were documented. In test pit TP-3, located at a north-northeastern section of the property, an elevated concentration of the pesticide 4, 4'-DDD was documented. The locations of test pits TP-1 and TP-3 are included on Figure 10).

3.2.2 Potential Impacts

Operations at the property currently include the import and export of soil, compost and mulch, and temporary storage of live trees and plants supporting a nursery operation. Without the proposed redevelopment of the site, these operations will likely continue, and as such, the soil impairments identified by Apex would not be addressed. Based upon the current site operations, there is also a potential for additional impaired soils to be imported on the site as part of routine operations.

However, since the proposed action involves the demolition of existing buildings and the disturbance of the impaired soils in order to construct the proposed development, such soils (or those that may be encountered during site preparation) would either need to be removed from the site or addressed on-site via the implementation of soil management techniques. Specific mitigation for such impacted soils is described in Section 3.2.3, below.

3.2.3 Mitigation Measures

In 2006, the SCDHS provided guidance with respect to typical investigation procedures, as well as mitigation measures, which would be appropriate to address shallow soils impacted by agricultural uses, such as those found on the subject property. This guidance document provides protocols for the collection and analyses of soil and groundwater samples to evaluate, if present, whether impacted soils could be mitigated utilizing cost-effective soil management techniques. Implementation of soil mitigation techniques may be outlined in Soil Management Plans (SMPs) in accordance with the 2006 SCDHS guidance and submitted to the relevant towns on a site by site basis (in this instance, the Town of Brookhaven). The 2006 SCDHS guidance and previously approved Town of Brookhaven SMPs allow for on-site soils management of heavy metals and pesticides indicative of former agricultural usage.

Based on the results of the Phase II ESA, the Town of Brookhaven would require that an SMP be developed for the site at the time of site plan review, which may include one or more of the following soil management techniques to address the identified heavy metals/pesticide impacts:

- Removal of heavy metals/pesticide-impacted soils in areas that were identified in the September 3, 2014 Limited Phase II ESA, and as required by the Town of Brookhaven.
- Collection and analysis of endpoint soil samples to confirm post-removal soil conditions.
- Excavation of trenches within "clean" areas of the subject property, which do not contain any fill materials and use of the excavated native soil as a backfill for the excavations associated with heavy metals/pesticide-impacted soil excavations.
- Placement of the excavated heavy metals/pesticide-impacted soils into the "clean" area trenches, and/or beneath other impermeable features (i.e., building envelopes, roadways, etc.) and / or perimeter berms.

SVOCs are not related to former agricultural usage, and based upon field observations noted in the September 3, 2014 Limited Phase II ESA prepared by Apex, are indicative of imported fill material from an unknown off-site source. Therefore, SVOC-impacted soils would be addressed through excavation, off-site disposal in accordance with prevailing regulations and with appropriate manifesting, and post-removal confirmatory endpoint sampling to ensure completed remediation of the SVOC impacts. Once implementation of such mitigation measures occurs, future occupants of the site would not encounter exposure to the identified impaired soils.

3.3 Community Services

3.3.1 Existing Conditions

3.3.1.1 Fire Protection and Ambulance Services

The subject property is located within the jurisdiction of the Farmingville Fire District, and served by the Farmingville Fire Department, with its headquarters located at 780 Horseblock Road in the hamlet of Farmingville, approximately 0.7±-miles east of the subject property.

According to the *Farmingville Fire District Internal Controls Over Selected Financial Activities and Information Technology: Report of Examination Period Covered: January 1, 2010 — January 31, 2011,* prepared by the New York State Office of the Comptroller,

> *"The District has a main fire house, a storage garage and one sub-station, which all provide fire protection and emergency medical services to approximately 5.5 square miles and about 17,000 residents. In 2010, the District answered 529 fire calls and had 1,324 emergency medical responses. The District has a fire department made up of one ladder rescue company, two engine companies, one fire police squad and one ambulance squad."*[9]

The Farmingville Fire Department, in addition to providing fire protection services, provides ambulance services.[10] According to its website,[11] the goal of the Fire Department "is to provide quality emergency services to our Residents, Property Owners, Visitors, and our Neighbors in the event of Fire, Medical Emergencies, Accidents, and other Natural or Man-made disasters."

Correspondence was sent to Chief Ralph Gloria on September 9, 2014 to request information on existing services, operations and equipment with respect to fire protection and ambulance services and to inform the department of the proposed redevelopment of the property (see Appendix F). No response has been received to date.

3.3.1.2 Police Protection

The subject property is located within the 6th Precinct of the Suffolk County Police Department (SCPD), headquartered at 400 Middle Country Road in the hamlet of

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[9] http://www.osc.state.ny.us/localgov/audits/firedists/2012/farmingville.pdf
[10] http://www.health.state.ny.us/nysdoh/ems/counties/suffolk.htm
[11] http://www.farmingvillefd.org/index.php

Selden, approximately two and a half miles north of the subject property. Inspector Thomas Palmieri is Commanding Officer of the SCPD 6th Precinct.

Correspondence was sent to Inspector Palmieri on September 9, 2014 to request information on existing services, operations and equipment with respect to police services (see Appendix F). In a response letter (see Appendix F), Tracy Pollak, Principal Research Analyst and Research and Development Section Supervisor, confirmed that the subject property is within the jurisdiction of the SCPD – 6th Precinct and provided service information (see Appendix F). The SCPD – 6th Precinct is staffed by 187 sworn officers and, in 2013, the SCPD – 6th Precinct responded to a total of 5,480 calls.

3.3.1.3 Healthcare

The nearest receiving hospital to the subject property is Brookhaven Memorial Hospital, located at 101 Hospital Road in East Patchogue, approximately four-and-a-half miles southeast of the subject property. The Brookhaven Memorial Hospital is a voluntary, not-for-profit community hospital, with 306 beds, comprised of a main campus and two community multi-disciplinary health centers, and a facility located in the Village of Patchogue.[12]

Stony Brook University Medical Center (SBUMC), located six miles northeast of the subject property, is also a receiving hospital and is Suffolk County's only Level 1 Trauma Center. Certified for 571 beds, with more than 4,800 employees, it is the largest hospital in Suffolk County. SBUMC treats approximately 30,000 inpatients, more than 250,000 outpatients and is where more than 15,000 surgical cases are performed.[13]

3.3.1.4 Educational Facilities

The subject property is located within the Sachem Central School District (CSD), which has 12 elementary schools, four middle schools and two high schools. Based on data provided by the New York State Education Department (NYSED) for the 2014-2015 school year, the Sachem CSD has a projected enrollment of 13,992 students, with a projected budget of $294,199,322 for the same time period (resulting in an estimated cost per student of $21,026±).[14] As previously indicated, the subject property contains a single-family residential land use, and, therefore, has the potential to generate a minimal number of school-aged children.

As detailed in Table 29, in Section 3.12.1.2, *Economic Conditions*, the subject site contributed $35,458 in taxes to the Sachem CSD in the 2013-2014 tax year, pursuant to

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[12] http://www.brookhavenhospital.org/aboutus/
[13] http://www.stonybrookmedicalcenter.org/regionalresource/
[14] http://www.p12.nysed.gov/mgtserv/propertytax/

the Town of Brookhaven Receiver of Taxes, with no associated school-aged children, as noted above.

It should be noted that, according to data provided by the NYSED (www.nysed.gov), student enrollment within the Sachem CSD has steadily declined by 1,701 students since the 2005 – 2006 school year (when the enrollment was 15,623 students, which represents peak enrollment in the last decade), a decrease of 10.89 percent through the current school year.

Table 10 below describes this decline by year.

Table 10 – Sachem CSD Enrollment Data

School Year	Enrollment (Total Students)	Change Increment / Total (Students)	Change (Percent)
2005 – 2006	15,623	-	-
2006 – 2007	15,387	-236 / -236	-1.51
2007 – 2008	15,182	-205 / -441	-1.33
2008 - 2009	15,014	-168 / -609	-1.11
2009 – 2010	14,760	-254 / -863	-1.69
2010 – 2011	14,668	-92 / -955	-0.62
2011 – 2012	14,465	-203 / -1,158	-1.38
2012 – 2013	14,230	-235 / -1,393	-1.62
2013 – 2014	14,035	-195 / -1,588	-1.37
2014 – 2015	13,922	-113 / -1,701	-0.81
TOTAL:		-1,701	-10.89

Source: New York State Education Department School District Report Cards (https://reportcards.nysed.gov/), Accessed December 16, 2014; New York State Education Department Property Tax Report Cards (http://www.p12.nysed.gov/mgtserv/propertytax/), Accessed December 16, 2014.

3.3.2 Potential Impacts

3.3.2.1 Fire Protection and Ambulance Services

As indicated in Section 3.3.1.1 of this DEIS, the Farmingville Fire Department provides ambulance services as well as fire protection to the project site.
All multi-family and commercial buildings will be sprinklered, as required by the New York State Building and Fire Code and internal vehicular circulation has been designed to provide sufficient turning radii for emergency vehicles and full vehicular circulation throughout the subject property. Moreover, the maximum proposed building height within The Arboretum development (35 feet) is no higher than existing buildings within the fire department's existing service area (such as the Expressway Plaza Shopping Center and Public Storage buildings east of the subject

property and the Compare Foods building associated with the shopping center immediately northwest of the subject property). Therefore, the heights of buildings should not be a factor in the delivery of fire protection services. Furthermore, the proposed buildings will be constructed to latest New York State Building and Fire Code.

Based on planning standards contained in the Urban Land Institute's (ULI) 1994 *Development Impact Assessment Handbook*, it is estimated that 1.65 fire personnel per 1,000 employees/population is required to serve a new population. As previously discussed, the total number of permanent residents and employees (from direct jobs provided at The Arboretum) generated, based on full occupancy of the proposed action, is projected to be 749± combined. Based on this projection and the ULI standards, this translates to a potential demand for 1.2± additional fire personnel, which is minimal, particularly considering that much of the proposed development will be sprinklered.

With respect to ambulance services, the ULI 1994 *Development Impact Assessment Handbook*, estimates that 4.1 emergency medical services (EMS) personnel and one EMS vehicle are required per 30,000 employees/population. Based on the projected population and number of direct employees (i.e., 749±), the proposed action would generate a demand for 0.1± additional EMS personnel and 0.02± additional EMS vehicles.

It is important to note that this site is already developed with agricultural, commercial, and residential uses, and is already served by the Farmingville Fire Department.

Farmingville is a volunteer fire and rescue department. As there would be an additional permanent population of 677± persons, this new population would provide a new pool of potential volunteer firefighters and EMS personnel.

Based upon the analysis contained in Section 3.12.2.3, the proposed project would contribute approximately $235,250± in tax revenues to the Farmingville Fire District, annually. The projected property tax revenue would assist in off-setting any potential increase in service demand.

Based on the foregoing, the proposed development is not expected to result in significant adverse impacts to the Farmingville Fire District.

3.3.2.2 Police Protection

The subject property is within the jurisdiction of the SCPD – 6th Precinct, to which it currently provides police protection. Correspondence from Tracy Pollak, Principal Research Analyst of the SCPD – 6th Precinct, dated September 16, 2014, indicated that

the "SCPD will adapt as necessary to protect and serve the ever changing needs of the community" (see Appendix F of this DEIS).

Based on standards contained in the 1994 *Development Impact Assessment Handbook*, two police officers and 0.6 police vehicles are required per 1,000 population. The increase in on-site resident and direct employee populations of 749± persons would generate a need for 1.5± and 0.4± additional police personnel and vehicles, respectively. Again, this site is already developed and covered by the SCPD – 6th Precinct. It is noted that the projected increased demand placed on the SCPD – 6th Precinct would represent a potential incremental increase in demand over the existing services it provides to the site, rather than demand for new services for the site and the overall area, which the ULI rates assess.

Based upon the analysis contained in Section 3.12.2.3, the proposed project would contribute approximately $349,478± in tax revenues to the SCPD, which could be used to off-set increased costs and augment the SCPD's capabilities, as necessary.

Based on the above, the proposed development is not expected to result in significant adverse impacts to the SCPD – 6th Precinct.

3.3.2.3 Healthcare

As indicated in Section 3.3.1.3 of this DEIS, the nearest receiving hospital to the subject site is Brookhaven Memorial Hospital. However, SBUMC is also a receiving hospital for the area, and patients would be transported to either Brookhaven Memorial Hospital or the SBUMC from the subject property, depending on the type of injury and/or illness.

Based on standards contained in the 1994 *Development Impact Assessment Handbook*, there are 36.5 EMS calls generated per year for every 1,000 population. Therefore, based on a projected population of 749± persons (among the residential population and the employee population from direct jobs provided at The Arboretum), the proposed development would generate approximately 28 EMS-related calls per year. Assuming all 28 annual calls would result in hospital admission and based on a combined annual reported admissions of 48,973 persons between Brookhaven Memorial Hospital and SBUMC[15], this would represent a 0.06± percent increase in hospital admissions resulting from the proposed development. Based on the foregoing, it is not anticipated that the proposed action would adversely impact health care services in the area.

[15] http://health.usnews.com/best-hospitals/area/ny, Accessed December 16, 2014

3.3.2.4 Educational Facilities

As discussed in Section 3.12.2.1, *Economic Conditions* of this DEIS, implementation of the proposed action is projected to generate approximately 77 public school-aged children. Based on the 2014-2015 estimated cost per student of $21,026, the proposed action's total impact to the Sachem CSD is projected to be $1,415,844. As identified in Table 31, in Section 3.12.2.3, *Economic Conditions* the total tax revenues projected to be provided to the Sachem CSD is $1,888,501. Therefore, implementation of the proposed action is expected to have a net positive impact of $319,094.

Further, based on the declining student enrollment within the Sachem CSD over the last decade (i.e., a decrease of over 1,700 students over that time period), the projected addition of 77± school-age children resulting from the proposed development is no expected to adversely impact capacity within this district.

Based on the foregoing, no significant adverse impacts to the Sachem CSD are anticipated.

3.3.3 Mitigation Measures

No significant adverse impacts associated with community services and facilities have been identified. Therefore, no mitigation measures are proposed. It should be noted that the proposed development would be providing $2,907,454 in annual property taxes (over $2.8 million more than the current taxes) to all of the taxing jurisdictions upon completion of the project, which will assist in off-setting the cost of services from the various providers. The following measures have been incorporated into the proposed action and would assist in minimizing potential impacts to community services:

- On-site security would be provided during construction.
- With respect to fire protection, the buildings would be sprinklered, as required by the New York State Building and Fire Code and the condominium buildings.
- All access drives would be compliant with regulations and standards required for firefighting equipment.
- The residential community would be fenced and would include a security booth with a punch code for access. In addition, a security camera system would be utilized for the commercial area.

3.4 Transportation

A Traffic Impact and Parking Analysis (TIPA) was prepared by VHB to provide a comprehensive evaluation of the potential traffic impacts associated with the proposed mixed-use development (see Appendix G). The purpose of the TIPA is to determine whether any significant traffic impacts would result from the proposed project and to propose and evaluate mitigation measures, if required. The study also evaluates if the parking provided for the mixed-use development will be adequate to accommodate the future parking demands after the project is completed. The analysis presents the findings of the TIPA and summarizes the data collection process, traffic analysis procedures, and study conclusions.

3.4.1 Existing Conditions

Evaluation of the transportation impacts associated with the proposed development requires a thorough understanding of the current transportation system in the project study area. Existing transportation conditions include roadway geometry, traffic control devices, peak-hour traffic volumes, roadway operating characteristics, and parking availability. An inventory of available information on local roadways and traffic control in the vicinity of the project site was compiled. The study methodology and existing traffic conditions are summarized herein, and the complete TIPA is included in Appendix G of this DEIS.

3.4.1.1 Study Methodology

The following describes the methodology used in this traffic study:

- The project site plan and related documents were reviewed to obtain an understanding of the project scope and layout.
- A review was made of the adjacent roadway system and the key intersections that might be significantly impacted by the proposed project were identified.
- Field inventories were made to observe the number and direction of travel lanes at the key intersections, along with signal timing, phasing and cycle lengths.
- Accident data for the most recent three-year period for the study area were reviewed, tabulated and summarized.
- Turning movement counts were collected at the key intersections using Miovision cameras during weekday a.m. and p.m. peak periods and the midday period on a typical Saturday.
- The existing traffic volumes at the key intersections were expanded to the future No-Build year (assumed to be 2022).

- Any other significant planned developments in the vicinity of the project were identified and the traffic associated with those developments was included in No-Build analysis.
- The traffic generated by the proposed mixed-use development was projected based on recognized traffic engineering standards.
- The site-generated volumes were distributed along the adjacent roadway network and were added to the No-Build volumes to produce the proposed Build volumes.
- Capacity analyses were performed for the key intersections and the primary site driveway for the Existing, No-Build and future Build conditions.
- The results of the analyses for the Existing, No-Build, and Build conditions were compared to assess any significant traffic impacts due to the proposed project.
- The primary site access point was evaluated.
- The adequacy of the proposed off-street parking was evaluated and the site layout was reviewed.
- The need for traffic mitigation measures was evaluated.

Software

The capacity analyses cited herein were performed using the traffic analysis software Synchro, *version 8,* a computer program developed by Trafficware Ltd. Synchro is a complete software package for modeling and optimizing traffic signal timing. Synchro adheres to and implements the guidelines and methods set forth in the 2000 *Highway Capacity Manual* and the newly released 2010 *Highway Capacity Manual*. This analysis methodology was used to evaluate the ability of an intersection or roadway to efficiently handle the number of vehicles using the facility. Synchro was used to model and analyze the Existing, No-Build and Build conditions at the key intersections.

3.4.1.2 Roadway and Intersection Conditions

The principal roadways and intersections in the project area are described below. The descriptions of the roadways and key intersections include the geometric conditions and traffic control characteristics.

Horseblock Road (CR 16)

Horseblock Road (CR 16) is an east-west arterial roadway that falls under the jurisdiction of SCDPW. Beginning at NY 25 (Middle Country Road), CR 16 runs in a south-easterly direction to its terminus at Montauk Highway. Within the study area, CR 16 runs along the northerly border of the project site and provides one travel lane in each direction. The posted speed limit in the study area is 45 miles per hour (mph).

2011 traffic volumes counts obtained from the SCDPW show that the combined two-way Average Annual Daily Traffic (AADT) on the segment of CR 16 adjacent to the project site is 23,557 vehicles per day.

Waverly Avenue

Waverly Avenue is a north-south collector-distributor roadway that runs south from College Road in Selden to its terminus at Montauk Highway in Patchogue. From College Road to CR 16 it is a Town of Brookhaven maintained roadway, south of which falls under the jurisdiction of the SCDPW and is designated initially as County Road 61 (CR 61) and then as County Road 19 (CR 19). Within the study area, Waverly Avenue runs to the west of the project site and provides one travel lane in each direction. The posted speed limit in the study area is 30 mph.

Blue Point Road

Blue Point Road is a north-south collector-distributor roadway that runs south from NY 25 (Middle Country Road) in Selden to its terminus at Waverly Avenue. It falls under the jurisdiction of the Town of Brookhaven. Within the study area, Blue Point Road is located approximately one half mile to the east of the project site and provides one travel lane in each direction. The posted speed limit in the study area is 30 mph.

3.4.1.3 Study Area Intersections

To determine the potential traffic impacts of the proposed project, the following study intersections were identified for analysis under the Existing, No-Build and future Build conditions:

- Horseblock Road (CR 16) and Waverly Avenue (Signalized)
- Horseblock Road (CR 16) and Blue Point Road (Signalized)

The locations of the study intersections are shown in Figure 11. Detailed aerial photographs, as well as a discussion of the characteristics and geometry for each intersection are included in Appendix G of this DEIS.

Date: 12. 26.14

The Arboretum at Farmingville
Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Study Intersections

Figure 11

Not to Scale

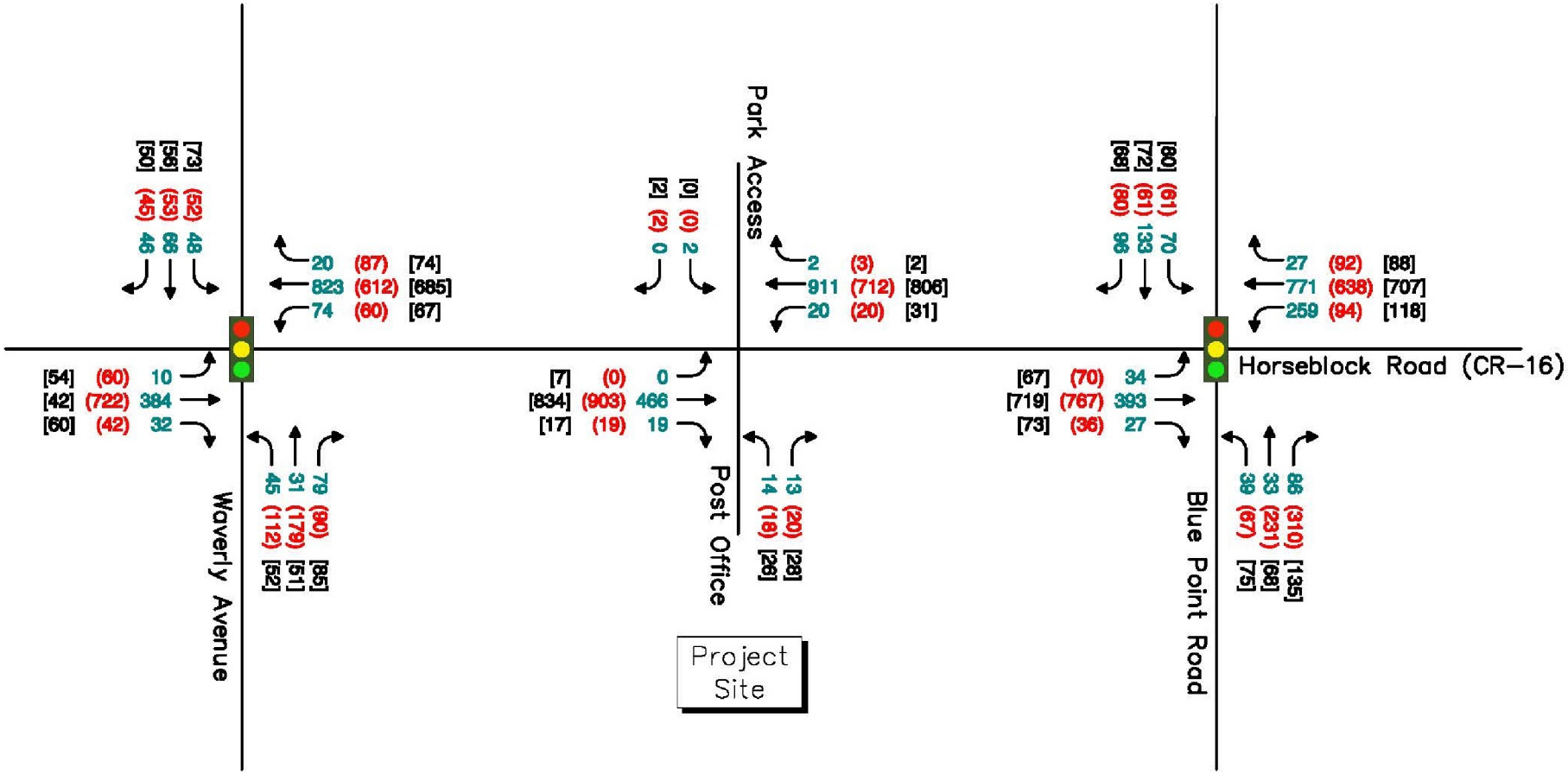
Source: VHB

3.4.1.4 Existing Traffic Volume Data

At the two study intersections, turning movement counts were collected using Miovision cameras on Saturday, June 7, 2014 from 10:00 a.m. to 2:00 p.m. and again on Tuesday, June 10, 2014 during the a.m. peak period from 7:00 a.m. to 9:00 a.m., and during the p.m. peak period from 4:00 p.m. to 6:00 p.m. These times reflect the heaviest traffic flows coinciding with commuter and shopping activities. The existing weekday a.m., p.m. and Saturday midday volumes are shown in Figure 12.

In addition to the above, driveway counts at the existing Post Office located on the south side of CR 16 directly adjacent to the subject site were collected. Driveway counts were conducted at this location since it is proposed to close the two existing site driveways serving the Post Office (on Horseblock Road) and provide a new access point via the new internal roadway system. The counts were conducted on Saturday, June 7, 2014 from 10:00 a.m. to 2:00 p.m. and again on Tuesday, June 10, 2014 during the a.m. peak period from 7:00 a.m. to 9:00 a.m., and during the p.m. peak period from 4:00 p.m. to 6:00 p.m.

The detailed summaries of the turning movement counts are provided in Appendix G of the DEIS. The existing peak hour traffic volumes for the weekday a.m., p.m. and Saturday peak hours are shown in Figure 12.



The Arboretum at Farmingville
Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Existing Peak Hour Traffic Volumes

Figure 12

Source: VHB

3.4.1.5 Accident History

Accident data from New York State Department of Transportation (NYSDOT) Accident Location Information System (ALIS) records for the most recent available three-year period were requested. Accident Verbal Description Reports (VDRs) for the period December 1, 2010 through November 30, 2013 were obtained for all intersections on CR 16 between Waverly Avenue and Blue Point Road, including the end points.

Table 11 summarizes accident data for six intersections within the study area by accident severity and the type of accident during the 36 months from December 1, 2010 through November 30, 2013.

Table 11 – Accident Data Summary

Location	Accident Severity				Total	Accident Type										
	Fatality	Injury	Property Damage Only	Non-Reportable		Rear-End	Overtaking	Right-angle	Left-turn	Right-turn	Fixed Object	Pedestrian/ Bicyclist	Parked Vehicle	Backing	Run Off The Road	Other/ Unknown
CR 16 at Waverly Avenue	0	7	8	0	15	9	1	1	0	1	0	0	1	1	0	1
CR 16 at Hanrahan Avenue	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0
CR 16 at Lidge Drive	0	2	1	0	3	1	0	0	0	0	0	1	0	0	1	0
CR 16 at Raymond Avenue	0	2	0	0	2	1	0	0	0	0	1	0	0	0	0	0
CR 16 at Pommer Avenue	0	1	2	0	3	1	0	1	1	0	0	0	0	0	0	0
CR 16 at Blue Point Road	0	15	11	0	26	4	4	5	9	2	0	1	0	0	1	0

A more detailed description of the accident severity and type for each intersection is provided in Appendix G of this DEIS.

3.4.2 Potential Impacts

The analysis of future conditions, with and without the proposed project ("Build" and "No-Build" conditions, respectively), was performed to evaluate the effect of the proposed project on future traffic conditions in the area. Background traffic volumes in the study area were projected to the year 2022,

reflecting the year when the proposed project is expected to be completed and operational. The No-Build condition represents the future traffic conditions that can be expected to occur, even if the proposed project is not constructed. The No-Build condition serves as a comparison to the Build condition, which represents expected future traffic conditions resulting from both project and non-project generated traffic. The entire TIPA is included in Appendix G of this DEIS and potential impacts are summarized herein.

3.4.2.1 No-Build Condition

No-Build traffic volumes include all existing traffic and any new traffic due to background traffic growth and any other significant planned developments in the immediate vicinity of the project site.

Other Planned Developments

The Town of Brookhaven's Department of Planning and Environment was contacted and the following three other planned developments were identified for inclusion in the analysis. These projects are located in the vicinity of the subject site and may have a measurable impact on traffic operations at the study intersections:

- **Holmesview Commons** – Located on 20.44 acres of the northeast quadrant of the signalized intersection of North Ocean Avenue (CR 83) and CR 16. This proposed development would consist of a 118,500 square foot shopping center that is estimated to generate 112 trips (Entering 69, Exiting 43) during the a.m. peak hour, 431 trips (Entering 203, Exiting 228) during the p.m. peak hour and 559 trips (Entering 285, Exiting 274) during the Saturday midday peak hour.
- **Expressway Plaza** – Located on the southwest quadrant of the signalized intersection of CR 83 and CR 16, this proposed development would consist of a 6,500 square foot restaurant and a 45,000 square foot fitness facility that is estimated to generate 64 trips (Entering 33, Exiting 31) during the a.m. peak hour, 223 trips (Entering 128, Exiting 95) during the p.m. peak hour and 216 trips (Entering 104, Exiting 112) during the Saturday midday peak hour.
- **Bristal Assisted Living –** Located on the north side of the LIE-North Service Road (NSR) about 400 feet west of the signalized intersection of LIE-NSR and CR 83. This proposed development would consist of a 146 bed Assisted Living Facility and is estimated to generate 20 trips (Entering 13, Exiting 7) during the a.m. peak hour, 32 trips (Entering 14, Exiting 18) during the p.m. peak hour and 48 trips (Entering 22, Exiting 26) during the Saturday midday peak hour.

The other planned development traffic as summarized above was then assigned to the roadway network, which is depicted on Figure 4 of Appendix G of the DEIS. To obtain the 2016 No-Build traffic volumes at the study intersections, the trips anticipated to be generated by the other planned developments in the area were then added to the existing traffic volumes. The resulting volumes were then inflated by a background growth factor as discussed in the following section.

Background Traffic Growth

To account for increases in general population and background growth not related to the proposed project or the other identified planned developments (discussed above), an annual growth factor was applied to the existing traffic volumes. Based on the NYSDOT, *Long Island Transportation Plan* (*LITP*), the growth rate anticipated for the Town of Brookhaven North, including the hamlet of Farmingville is 1.3 percent per year. Therefore, in order to account for any unidentified developments in the vicinity of the project site a growth rate of 10.4 percent was utilized (1.3 percent x 8 years).

After applying the growth factor, the resulting 2022 No-Build traffic volumes for the weekday a.m. peak, weekday p.m. peak and Saturday midday periods are shown in Figure 5 of Appendix G of the DEIS.

3.4.2.2 Build Condition

To estimate the traffic impact of the proposed development, it is necessary to determine the traffic volumes expected to be generated by the proposed project.

Program Mix

The Arboretum is proposed to consist of the following uses:

- Apartments: 164 units
- Townhouses: 63 units
- Rosebuds: 14 units
- Single Family Dwellings: 51 units
- Professional Office Space: 12,000 SF
- Restaurant Space: 12,000 SF

Project-Generated Traffic Volumes

To estimate the project-generated traffic for the Arboretum development, a review was undertaken of available trip generation data sources, including the reference published by the Institute of Transportation Engineers (ITE), *Trip Generation*, 9th Edition. This widely utilized reference source contains trip generation rates for the proposed uses, including "Apartments" (Land Use Code #220), "Single Family" (Land Use Code #210), "Medical/ Dental Office" (Land Use Code #720) and "Quality Restaurant" (Land Use Code #931). While there are separate land uses for Townhouses, the trip generation rates for apartments are higher. Therefore, in order to provide a high-side conservative analysis, all townhouses and rosebuds units were analyzed using LUC #220 "Apartments." Additionally, the number of seats for the three proposed restaurants (80 seats per restaurant) could have been utilized to estimate the number trips for the restaurant space, however, the trip generation estimates are higher when the gross floor area is utilized. Therefore, utilizing the gross floor area to estimate the number of trips for the restaurant space yields the most conservative trip generation estimate. Table 12 summarizes the anticipated trip generation for the project upon completion.

Table 12 – Trip Generation Projections

Project Component	Component Size	AM Peak		PM Peak		Saturday Midday Peak	
APARTMENTS ITE # 220 Apartments	241 Units	Rate =	0.51	Rate =	0.62	Rate =	0.52
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		20%	80%	65%	35%	50%	50%
		25	98	97	52	62	63
		Total =	123	Total =	308	Total =	308
SINGLE FAMILY ITE # 210 Detached Housing	51 Units	Rate =	0.75	Rate =	1.00	Rate =	0.93
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		25%	75%	63%	37%	54%	43%
		9	29	32	19	25	19
		Total =	38	Total =	51	Total =	47
OFFICE/COMMERCIAL ITE # 720 Medical/ Dental Office	12,000 SF	Rate =	1.56	Rate =	1.49	Rate =	0.43
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		79%	21%	28%	72%	57%	43%
		23	6	12	31	25	19
		Total =	29	Total =	43	Total =	44
RESTAURANT ITE # 931 Quality Restaurant	12,000 SF	Rate =	0.81	Rate =	7.49	Rate =	10.82
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		50%	50%	67%	33%	59%	41%
		5	5	60	30	77	53
		Total =	10	Total =	90	Total =	130
TOTALS		AM Peak Hour Trips		PM Peak Hour Trips		Saturday Peak Hour Trips	
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		62	138	201	132	189	157
		200		333		346	

Source: Institute of Transportation Engineers Trip Generation, 9th Edition. Trip generation rates for the weekday a.m. and p.m. peak hours are of the adjacent street traffic and the Saturday midday peak hour rates are of the generator.

As indicated in this table, the proposed development is projected to generate 200 trips (entering 62 & exiting 138) during the a.m. peak hour, 333 trips (entering 201 & exiting 132) during the p.m. peak hour and 346 trips (entering 189 & exiting 157) during the Saturday midday hour.

Trip Distribution and Assignment

The trips originating from and destined to the project site were assigned to the adjacent roadways based on characteristics of the roadway network, the location of the proposed site access points, existing travel patterns, and likely destination points. The trip distribution percentages, shown in Figure 6 of Appendix G of the DEIS, were then applied to the site-generated traffic volumes and assigned to the local roadway network resulting in project generated traffic volumes for the a.m., p.m. and Saturday midday peak hours, which are presented in Figure 7 of Appendix G of the DEIS.

To determine the future Build condition traffic volumes, the project-generated trips were added to the No-Build traffic volumes at the key intersections. The resulting Build traffic volumes for the weekday a.m., p.m. and Saturday midday peak hours are shown in Figure 8 of Appendix G of the DEIS.

3.4.2.3 Traffic Operations Analysis

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess quality of traffic flow, roadway capacity analyses were conducted with respect to the Existing, No-Build and future Build conditions. These capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands.

Level of Service and Delay Criteria

The evaluation criteria used to analyze area intersections in this traffic study are based on the 2000 & 2010 Highway Capacity Manual (HCM). The term 'level of service' (LOS) is used to denote the different operating conditions that occur at an intersection under various traffic volume loads. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay and freedom to maneuver. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

In addition to LOS, vehicle delay time (expressed in seconds per vehicle) is typically used to quantify the traffic operations at intersections. For example, a delay of 15 seconds for a particular vehicular movement or approach indicates that vehicles on the movement or approach will experience an average additional travel time of 15 seconds. It should be noted that delay time has a range of values for a given LOS letter designation. Therefore, when evaluating intersection capacity results, in addition to the LOS, vehicle delay time should also be considered.

The LOS designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus, the LOS designation is for the critical movement exiting the side street, which is generally the left-turn out of the side street or side driveway.

It should be noted that the analytical methodologies typically used for the analysis of unsignalized intersections use conservative parameters such as long critical gaps. Actual field observations indicate that drivers on minor streets generally accept shorter gaps in traffic than those used in the analysis procedures and therefore experience less delay than reported by the analysis software. The analysis methodologies also do not take into account the beneficial grouping effects caused by nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delay at unsignalized intersections in the study area. Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

The LOS definitions for both the signalized and unsignalized intersections can be found in Appendix B of the TIPA (see Appendix G of this DEIS).

Level of Service Analysis

LOS analyses were conducted for the Existing, No-Build and future Build conditions for the key signalized intersections and for the unsignalized site access point located along CR 16 for the future Build condition.

Since the peak hours for each intersection within the study network varies, the peak hour for each individual intersection was analyzed as opposed to using an overall network peak hour. This method provides a worst-case scenario. The peak hours used in the analysis for each period at each of the individual intersections are indicated on the turning movement diagrams provided in Appendix C of the TIPA (see Appendix G of this DEIS).

Signalized Intersection Analysis Results

The results of the capacity analyses for the signalized intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road in Existing, No-Build and future Build conditions are summarized in Table 13 through Table 15 below, for the weekday a.m., p.m. and Saturday midday periods, respectively. The detailed capacity analysis worksheets are contained in Appendix G of the DEIS.

Table 13 – Level of Service Summary – Signalized Intersection - AM Peak Hour

Intersection	Movement	Lane Group	Existing 2014		No Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Waverly Avenue	EB	L	42.4	D	42.8	D	42.8	D
		TR	23.5	C	22.9	C	25.7	C
		Approach	24.0	C	23.4	C	26.1	C
	WB	L	50.6	D	52.9	D	54.9	D
		T	20.1	C	20.2	C	20.3	C
		R	14.1	B	13.0	B	12.7	B
		Approach	22.5	C	22.6	C	23.8	C
	NB	L	24.2	C	26.6	C	26.8	C
		TR	24.7	C	25.5	C	25.0	C
		Approach	24.5	C	25.8	C	25.5	C
	SB	L	20.3	C	21.9	C	22.5	C
		TR	31.7	C	33.3	C	33.8	C
		Approach	28.3	C	29.8	C	30.4	C
	Overall		23.6	C	23.8	C	25.1	C
Horseblock Road (CR 16) & Blue Point Road	EB	L	7.2	A	7.3	A	7.3	A
		TR	17.9	B	18.4	B	18.8	B
		Approach	17.1	B	17.6	B	18.0	B
	WB	L	10.5	B	12.2	B	12.9	B
		TR	14.1	B	14.8	B	14.9	B
		Approach	13.2	B	14.2	B	14.5	B
	NB	L	25.3	C	30.3	C	31.5	C
		TR	10.0	A	10.5	B	10.7	B
		Approach	13.7	B	15.6	B	16.2	B
	SB	LTR	40.4	D	57.9	E	58.8	E
		Approach	40.4	D	57.9	E	58.8	E
	Overall		18.3	B	21.7	C	22.0	C

EB= eastbound, WB = westbound, NB = northbound, SB = southbound

Table 14 – Level of Service Summary – Signalized Intersection - PM Peak Hour

Intersection	Movement	Lane Group	Existing 2014		No Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Waverly Avenue	EB	L	51.7	D	53.7	D	53.7	D
		TR	32.7	C	37.3	D	49.7	D
		Approach	34.1	C	38.4	D	50.0	D
	WB	L	52.0	D	54.1	D	69.9	E
		T	29.0	C	30.5	C	30.6	C
		R	24.6	C	23.8	C	23.7	C
		Approach	30.4	C	31.5	C	33.9	C
	NB	L	19.5	B	20.5	C	20.2	C
		TR	54.5	D	56.8	E	69.2	E
		Approach	44.2	D	46.1	D	56.2	E
	SB	L	16.7	B	18.3	B	18.8	B
		TR	27.1	C	28.7	C	28.9	C
		Approach	23.5	C	25.1	C	25.4	C
	Overall		34.1	C	36.6	D	44.0	D
Horseblock Road (CR 16) & Blue Point Road	EB	L	11.1	B	12.0	B	12.3	B
		TR	23.8	C	25.8	C	26.4	C
		Approach	22.8	C	24.7	C	25.3	C
	WB	L	13.6	B	14.9	B	14.9	B
		TR	21.4	C	22.5	C	23.1	C
		Approach	20.5	C	21.7	C	22.3	C
	NB	L	17.7	B	20.7	C	22.2	C
		TR	49.0	D	89.1	F	93.5	F
		Approach	45.5	D	81.4	F	84.5	F
	SB	LTR	137.2	F	874.6	F	882.2	F
		Approach	137.2	F	874.6	F	882.2	F
	Overall		38.7	D	115.8	F	114.8	F

L= left turn lane, R = right turn lane, T = through lane

Table 15 – Level of Service Summary – Signalized Intersection – Saturday Midday Peak Hour

Intersection	Movement	Lane Group	Existing 2014		No Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Waverly Avenue	EB	L	46.2	D	49.1	D	50.0	D
		TR	27.7	C	26.8	C	31.0	C
		Approach	29.0	C	28.2	C	32.1	C
	WB	L	50.6	D	54.7	D	68.8	E
		T	23.6	C	24.7	C	23.5	C
		R	19.4	B	17.9	B	16.7	B
		Approach	25.4	C	26.4	C	27.7	C
	NB	L	19.6	B	21.6	C	22.7	C
		TR	27.9	C	31.6	C	32.8	C
		Approach	25.6	C	28.8	C	30.5	C
	SB	L	16.9	B	20.0	C	21.7	C
		TR	26.1	C	32.2	C	33.6	C
		Approach	22.3	C	27.2	C	28.7	C
	Overall		26.5	C	27.4	C	29.8	C
Horseblock Road (CR 16) & Blue Point Road	EB	L	7.5	A	8.2	A	8.3	A
		TR	19.4	B	21.9	C	22.2	C
		Approach	18.4	B	20.9	C	21.3	C
	WB	L	9.1	A	10.5	B	10.6	B
		TR	15.9	B	19.5	B	19.8	B
		Approach	15.0	B	18.4	B	18.7	B
	NB	L	22.2	C	25.8	C	27.8	C
		TR	13.8	B	16.3	B	16.9	B
		Approach	16.1	B	18.9	B	20.1	C
	SB	LTR	24.9	C	33.1	C	35.1	D
		Approach	24.9	C	33.1	C	35.1	D
	Overall		17.4	B	20.8	C	21.3	C

As shown in Table 13 and Table 15, the signalized intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road operate at an overall intersection LOS C or better during the weekday a.m. and Saturday midday peak periods. When comparing the No-Build condition to the Build condition, the overall intersection delay only increases by 2.4 seconds, which is relatively imperceptible to motorists and no mitigation is proposed.

As shown in Table 14, during the p.m. peak hour, the intersection of CR 16 and Waverly Avenue continues to operate at an overall intersection LOS D during the Build condition. Even though the intersection operates at LOS D in both the No-Build and Build conditions, the northbound through and right and the westbound left-turn movements experience longer delays than experienced in the No-Build condition. The intersection of CR 16 and Blue Point Road operates at a LOS F during the No-Build and Build conditions and the southbound approach shows an increase in delay when comparing the No-Build and Build conditions. See Section 3.4.3 of this DEIS for proposed mitigation with respect to this reduction in LOS.

Site Access

The overall site will be served by two unsignalized site driveways. One full access site driveway will be located along the south side of CR 16, approximately 1,250 feet west of Hanrahan Avenue. This driveway will serve as the primary access to the residential, office, restaurant and publicly-accessible open space uses located on the site. The access would provide one entering lane and individual right and left turn exiting lanes. As part of the project it is also proposed to close the two existing site driveways located on Horseblock Road serving the Post Office. The Post Office access would then be relocated along the east side of the new site driveway, approximately 250 feet south of CR 16. The Applicants are coordinating with the Post Office on the proposed site access reconfiguration. The relocation of these access points would decrease the number of curb cuts along CR 16, thus reducing the number of vehicle conflict points.

The second proposed unsignalized site driveway would be located at the westerly terminus of Henry Street. This site driveway (located in the area of the proposed residential development) will provide access to the residential neighborhood to the east. This access is expected to be significantly less busy than the primary site access along CR 16 and therefore no unsignalized LOS and capacity analyses were conducted for this access. This access will provide one entering lane and one exiting lane and will be stop controlled.

Based upon a field visit to the site there are no vertical or horizontal changes along CR 16 that would impair the driver's visibility when entering or exiting the site's primary driveway and vehicles will be able to adequately enter and exit the site. In order to ensure driver's sight lines are not obstructed when exiting the site, it is recommended that no landscaping, berms or any other roadside objects be placed along the site's frontage within 10 feet of the back of sidewalk along CR 16.

Unsignalized intersection capacity analyses were also performed for the site driveway along CR 16 and the results of the analyses will be further discussed below.

Unsignalized Intersection Analysis Results

An unsignalized intersection capacity analysis was prepared for the intersection of CR 16 at the Post Office/proposed site access in the future Build condition. The results of the unsignalized capacity analysis are summarized in Table 16 below for the weekday a.m., p.m. and Saturday midday periods, respectively. The detailed capacity analysis worksheets are contained in Appendix G of the DEIS.

Table 16 – Level of Service Summary – Site Access

Intersection	Movement	Lane Group	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Post Office/ Site Access	WB	L	8.9	A	11.5	B	11.4	B
	NB	Approach	143.5	F	353.9	F	495.2	F

Table 16 indicates that the proposed site access approach will operates at LOS F in the Build Condition during all analysis periods. Therefore, the installation of a traffic signal was considered as a mitigation measure and a traffic signal warrant analysis was conducted. The methodology and results of the traffic signal warrant analysis are summarized in Section 3.4.3 of the DEIS.

3.4.2.4 Off-Street Parking and Site Circulation

The required off-street parking for the proposed residential and commercial uses is set forth in the Town of Brookhaven's Zoning Code (Chapter 85, Section 852. Based on a review of the proposed *Conceptual Site Plan* (see Appendix C of this DEIS) the proposed project will consist of the following residential and commercial uses:

Residential breakdown

- 164 – 2 bedroom Apartment Flats
- 63 – 2 Bedroom Townhouses
- 14 – 3 Bedroom Rosebuds
- 51 – Single Family Dwellings
- 7,500 sf Clubhouse

Commercial Breakdown

- 12,000 sf of Restaurant Space (three – 80-seat restaurants)
- 12,000 sf of Professional Office Space

Table 17 and Table 18 summarize the parking requirements for the residential and commercial portions of the proposed project:

Table 17 – Residential Table of Off-street Parking Requirements

Use	Requirements per Zoning Code	No. of Units/ Bedrooms/ SF	Required Off-Street Parking Spaces
Apartment Flat	2.0 Spaces per Unit	164 Units	2.0 Spaces/ Unit x 164 Units = 328 Spaces
Townhouse	2.0 Spaces per Unit	63 Units	2.0 Spaces x 63 Units = 126 Spaces
Rosebud	2.0 Spaces per Unit	14 Units	2.0 Spaces x 14 Units = 28 Spaces
Single Family Dwelling	2.0 Spaces for Each Dwelling Unit	51 Dwelling Units	2.0 Spaces/ Dwelling Unit x 51 Units = 102 Spaces
Clubhouse	1 Spaces for Each 150 SF	7,500 SF	1 Space/ 150 SF x 7,500 SF = 50 Spaces
Total Required			634

Table 18 – Commercial Table of Off-street Parking Requirements

Use	Requirements per Zoning Code	Seats/ SF	Required Off-Street Parking Spaces
Restaurant	1 Space per 2 Seats or 1 Space per 100 SF Provided or 1 Space per Every 3 Legally Occupied	240 Seats*	1.0 Space/ 2 Seats x 240 Seats = 120 Spaces
Office	1.0 Space per 150 SF	12,000 SF	1.0 Space/ 150 SF x 12,000 SF/150 SF = 80 Spaces
Total Required			200

* Based on number of seats since it results in the highest number of off-street parking spaces required.

Off-Street Parking Provided

Based on a review of the *Conceptual Site Plan* for the proposed project, the residential portion will provide the following off-street parking spaces:

<u>Residential Off-street Parking Spaces Provided</u>

- Apartment Flats: 216 Standard & 112 Landbanked Spaces
- Townhouses: 63 Double Car Driveways (126 Spaces)
- Rosebuds: 14 Double Car Driveways & 14 Garages (28 Spaces)
- Single Family: 51 Double Car Driveways (102 Spaces)
- Clubhouse: 50 Spaces

Based upon the above, the residential portion of the project will provide a total of 634 off-street parking spaces, including 112 landbanked spaces, thus meeting the 634 spaces required. The landbanked spaces are located proximate to the

apartments and could be converted into paved parking spaces that would connect to the internal circulation system should the need arise.

In addition, the commercial portion of the project site will provide 200 off-street parking spaces, thus fulfilling the Town Code requirement for 200 spaces for the office and restaurant uses. Six loading spaces would also be provided, exceeding the required two.

Site Circulation

A careful review of the proposed site plan shows that the configuration of the parking layout in each section of the development, drive aisles, site access points and internal site roadways will provide for adequate on-site circulation.

3.4.2.5 Conclusions

Based on the results of the analyses conducted for the purpose of this report, VHB has made the following conclusions:

- The Arboretum will generate a moderate number of trips during the a.m., p.m. and Saturday midday peak periods.

- The intersection of CR 16 and Waverly Avenue will continue to operate at LOS D or better in both the No-Build and Build conditions. Even though the intersection operates a LOS D or better in both the No Build and Build conditions, the northbound through and right and the westbound left-turn movements experience longer delays during the p.m. peak period than experienced in the No Build condition. Adjustments to the signal phase splits are proposed as a mitigation measure. Upon implementation of phase split adjustments, the overall intersection and individual movements will operate better than they do in the No-Build condition.

- During the p.m. peak period the intersection of CR 16 and Blue Point Road operates at a LOS F during both the No-Build and Build conditions. Additionally, the southbound approach shows a large increase in delay when comparing the No-Build and Build conditions. Therefore, adjustments to the signal phase splits are also proposed as a mitigation measure at this intersection. Upon implementation of phase split adjustments, the overall intersection and individual movements will operate better than they do in the No-Build Condition.

- An unsignalized capacity analysis was conducted for the proposed site access along CR 16 and it was determined that the northbound site access approach would operate at LOS F during the a.m., p.m. and Saturday midday peak periods. Therefore, a traffic signal warrant analysis was conducted and it was found that Warrant 3, the "Peak Hour Vehicle Volume," was met.

- In accordance with the findings of the Traffic Signal Warrant Analysis, a traffic signal is recommended at the proposed site access along CR 16 and, based upon this, a signalized capacity analysis was conducted. Upon implementation of the traffic signal, the overall intersection will operate at satisfactory LOS B or better during all analysis periods.

- The elimination of the two curb-cuts currently serving the Post Office and relocating them along the east side of the new entrance driveway reduces the number of potential vehicle conflict points along CR 16.

- The traffic associated with the proposed Arboretum is not expected to result in a significant change in the frequency or severity of accidents within the project area.

- The off-street parking provided complies with the Town Code requirement and will be adequate to accommodate the anticipated parking demand for proposed uses.

- A careful review of the proposed site plan shows that the configuration of the parking layout in each section of the development, site access points and internal roadways and drive aisles will provide for adequate on-site circulation.

- The Arboretum will not have a significant impact on the traffic flow or operations at the nearby intersections given the above mentioned recommended mitigations measures are implemented.

3.4.3 Mitigation Measures

Several potential traffic-related impacts have been identified. The following provides a discussion of proposed mitigation for each of the identified potential impacts.

3.4.3.1 Level-of-Service at Study Intersections

As indicated in Section 3.4.2, above, based on the Build Condition results, the intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road have been identified for potential traffic mitigation measures. The mitigation consist of changes to the phase splits during the weekday p.m. peak period in order to minimize the impact of the reduced levels of service experienced in the Build condition. Phase splits of consist having two opposing approaches time consecutively rather than concurrently (i.e., all movements originating from the west followed by all movements from the east). Then both study intersections were re-analyzed for the p.m. peak hour with changes in the phase splits.

The mitigation proposed at this intersection optimizes the time allocated to each concurrent phase, thus reducing the overall intersection delay. The capacity analysis results after the implementation of this mitigation are summarized in Table 19. The No-Build and Build condition results are shown in the table for easy comparison, as well.

Table 19 – Level of Service Summary – Mitigation - PM Peak Hour

Intersection		Movement	Lane Group	No Build 2016		Build 2016		Build 2016 Mitigated	
				Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Waverly Avenue		EB	L	52.5	D	52.5	D	52.5	D
			TR	35.1	D	39.4	D	35.4	D
			Approach	36.3	D	40.3	D	36.5	D
		WB	L	52.7	D	66.2	E	53.8	D
			T	29.8	C	30.7	C	18.8	B
			R	23.8	C	23.8	C	16.0	B
			Approach	30.9	C	33.6	C	22.2	C
		NB	L	19.4	B	19.3	B	20.9	C
			TR	53.6	D	64.6	E	50.1	D
			Approach	43.5	D	52.8	D	42.4	D
		SB	L	17.6	B	18.1	B	21.2	C
			TR	30.0	C	30.1	C	31.3	C
			Approach	25.7	C	26.0	C	27.8	C
		Overall		35.1	D	39.6	D	32.1	C
Horseblock Road (CR 16) & Blue Point Road		EB	L	11.5	B	11.8	B	15.9	B
			TR	25.1	C	25.6	C	32.8	C
			Approach	24.1	C	24.6	C	31.6	C
		WB	L	14.2	B	14.3	B	18.9	B
			TR	22.2	C	23.0	C	28.3	C
			Approach	21.4	C	22.1	C	27.3	C
		NB	L	19.6	B	20.8	C	18.7	B
			TR	65.0	E	68.1	E	37.0	D
			Approach	59.8	E	62.0	E	34.7	C
		SB	LTR	355.5	F	400.1	F	62.6	E
			Approach	355.5	F	400.1	F	62.6	E
		Overall		62.2	E	65.8	E	33.7	C

Table 19 shows that with the changes to the phase splits implemented, the two study intersections will operate better than they do in the No-Build condition and no further mitigation is proposed.

3.4.3.2 Traffic Signal Warrant Analysis for Site Access

Based upon the results of the unsignalized intersection capacity analysis, the proposed site access at Horseblock Road would operate at an LOS F in the Build condition during all analysis periods. Therefore, the installation of a traffic signal was considered. In order to evaluate this recommendation, a traffic signal warrant analysis was conducted.

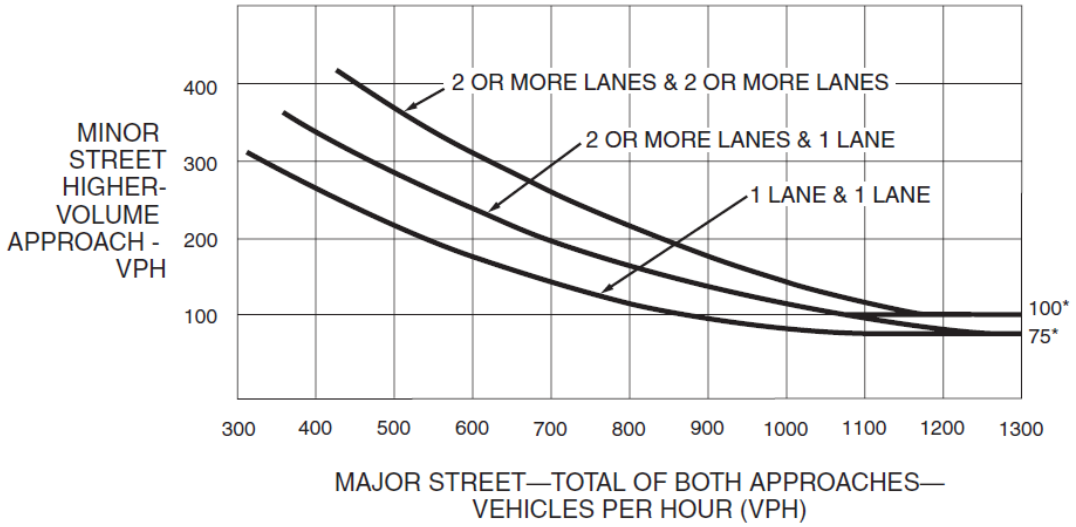
The warrant analysis was conducted in accordance with the 2009 *Manual on Uniform Traffic Control Devices* (MUTCD) standards for unsignalized intersections. As was summarized in the previous section, this intersection operates at LOS F in the future Build condition due to the introduction of the site generated traffic. There are eight warrants described in the MUTCD. The installation of a traffic signal should only be considered if one or more of the eight signal warrants are met. F or this analysis, Warrant 3, the Peak Hour Vehicle Volume warrant, was applicable and analyzed and the results are outlined below.

Warrant 3, Peak Hour

For the Peak Hour Vehicular Volume warrant to be met, the threshold from Figure 4C-4 from the MUTCD, shown below, must be met for at least one hour of an average day.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

ect

Figure 4C-4 shows that this warrant is met when the bidirectional major street traffic volume is above 1,100 vehicles per hour (vph), and the side street approach volume is at least 100 vph for a two lane configuration, which is the configuration of the proposed site access. Based on the projected site driveway traffic volumes shown in Table 20, the peak hour warrant is met for two hours on a typical weekday and one hour on typical Saturday.

Table 20 – Hourly Traffic Volumes – CR 16 at Proposed Site Driveway

Time Period	Weekday			Saturday		
	Minor Side Road Volumes Proposed Site Driveway Exiting Volume	Artery Volumes CR 16 Volume (Both Approaches)	Warrant Met	Minor Side Road Volumes Proposed Site Driveway Exiting Volume	Artery Volumes CR 16 Volume (Both Approaches)	Warrant Met
7:15 AM – 8:15 AM	170	1,515	Yes	-	-	
4:30 PM – 5:30 PM	155	1,845	Yes	-	-	
12:00 N – 1:00 PM	-	-		198	1,911	Yes

Source: No-Build and Build Condition traffic volumes depicted in Figures 5 and 7

As indicated above, the results of the traffic signal warrant indicate that the installation of a traffic signal is warranted at the proposed site access along CR 16. Since the warrant is met, a signalized intersection capacity analysis was conducted and the results for the weekday a.m., p.m. and Saturday midday peak hours are summarized in Table 21, below.

Table 21 – Level of Service Summary – Site Access Mitigation

Intersection	Movement	Lane Group	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
Horseblock Road (CR 16) & Post Office/ Site Access	EB	T	10.8	B	22.1	C	16.2	B
		R	1.3	A	4.8	A	2.4	A
		Approach	9.9	A	20.0	C	14.5	B
	WB	L	12.7	B	16.6	B	12.5	B
		T	23.5	C	15.8	B	12.8	B
		Approach	23.1	C	15.9	B	12.8	B
	NB	L	23.8	C	29.6	C	46.3	D
		R	4.0	A	9.5	A	12.2	B
		Approach	16.7	B	21.9	C	33.1	C
	Overall		17.9	B	18.0	B	18.8	B

This table reveals that the proposed site access with the installation of a traffic signal will operate at an overall intersection LOS B during all periods analyzed. Therefore, based upon the results of this analysis it is recommended that a traffic

signal be installed at this location. The installation of the traffic signal would require the review and approval of the SCDPW.

3.4.3.3 Sight Distance

As indicated above, there are no vertical or horizontal changes along CR 16 that would impair the driver's visibility when entering or exiting the site's primary driveway and vehicles will be able to adequately enter and exit the site. However, in order to ensure drivers' sight lines are not obstructed when exiting the site, it is recommended that no landscaping, berms or any other roadside objects be placed along the site's frontage within 10 feet of the back of sidewalk along CR 16.

3.5 Water Resources

3.5.1 Existing Conditions

3.5.1.1 Groundwater

Long Island is considered a sole source aquifer region, which means that groundwater is the single water supply source. Thus, land uses have the potential to impact the quality of the water supply. According to the NYSDEC, "the aquifers underlying Long Island are among the most prolific in the country. Almost all of Long Island's drinking water is from groundwater with surface water an insignificant contributor…The three most important Long Island aquifers are the Upper Glacial Aquifer, the Lloyd Aquifer, and the Magothy Aquifer."

More specifically, according to the NYSDEC,[16]

> *"The Upper Glacial Aquifer is an unconfined aquifer directly underlying the ground surface. The Upper Glacial aquifer was formed during the last ice age. Of note, the Harbor Hill Moraine and Ronkonkoma Moraine represent two different glacial advances and run roughly east to west for the length of Long Island. They comprise poorly sorted glacial till (sand, pebbles, rock, boulders) deposited at the glacier's leading edge. Found between these moraines and to the south, are outwash plains of well sorted sand and gravel.*
>
> *The Magothy is the largest of Long Island's aquifers. Consisting of sand deposits alternating with clay, it attains a maximum thickness of approximately 1,100 feet and is the source of water for most of Nassau County and about half of Suffolk County. The formation can be seen in the coastal bluffs of the north shore and plunges under the land surface to the south.*
>
> *The Raritan Formation underlies the Magothy. Its two primary units are an upper clay member and a lower sand member named the Lloyd Sand. The clay member separates the Magothy and Lloyd aquifers and serves as a confining unit for the underlying Lloyd Sand aquifer. The clay member has a maximum thickness of 300 feet.*

[16] http://www.dec.ny.gov/lands/36183.html.

The Lloyd Aquifer is the deepest and oldest of Long Island's aquifers. It is a sand and gravel formation ranging in thickness from zero to five hundred feet. At its deepest, it is 1,800 feet below the surface. The water contained in the Lloyd aquifer is about six thousand years old. Not many wells tap this formation and New York Environmental Conservation Law §15-1528 establishes a moratorium on the use of water from this formation in order to maintain it for future generations.

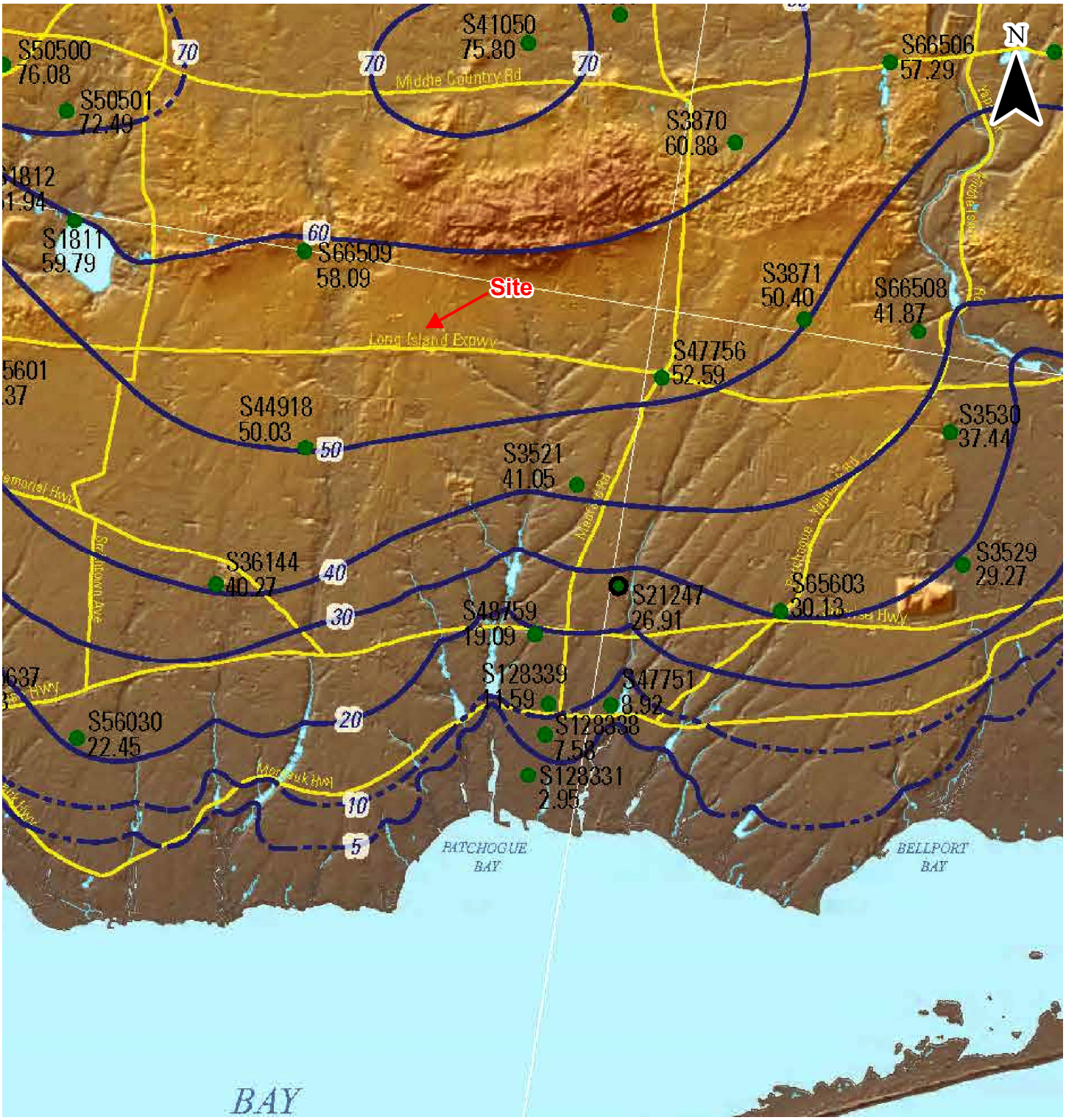
The Lloyd is underlain by bedrock."

Groundwater flow on Long Island is characterized by a groundwater divide, extending east-west along its length. To the north of the groundwater divide, horizontal groundwater flow is generally to the north; in areas south of the divide, it is toward the south. Based on a review of the United States Geological Survey (USGS) *Water-Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy, and Lloyd Aquifers beneath Long Island, New York in April – May 2010* (see Figure 13), regional groundwater in the vicinity of the subject property is expected to flow to the south-southeast, toward the Patchogue River and eventually Great South Bay.

According to the aforementioned water table map, the water table at the subject property is approximately 57± feet above mean sea level (amsl) (see Figure 13). With elevation of the subject property ranging from approximately 118 feet to 165± feet amsl, the depth to groundwater would be expected to be approximately 61± feet to 108± feet bgs.

Groundwater underlying the subject property and the surrounding area is categorized by the NYSDEC as Class GA, a source of potable water supply. This classification requires quality standards to be the most stringent.[17]

[17] New York State Department of Environmental Conservation, *Water Quality Standards and Classifications* (accessed December 2014); available at http://www.dec.ny.gov/chemical/23853.html.



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Groundwater Elevation Contours

Figure 13

Sources: USGS Water-Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy, and Lloyd Aquifers beneath Long Island, New York in April – May 2010

The subject property is located within Distribution Area 12 of the SCWA, according to the SCWA's *2014 Annual Drinking Water Quality Report* (the "*Drinking Water Report*"). In an effort to obtain information regarding quality of the public water supply in the vicinity of the subject property, VHB reviewed the 2014 water quality data for Distribution Area 12. The testing of drinking water within Distribution Area 12 did not indicate the presence of inorganic contaminants, synthetic organic contaminants, volatile organic contaminants, or unregulated contaminants beyond regulatory limits in any of the supply wells within the district, with the exception of iron. However, iron is naturally occurring in groundwater, and has no adverse health effects at the levels detected. With respect to potential contaminants that are not regulated, two wells, located in Distribution Area 12, have nitrosamines, which can be formed as a byproduct of the disinfection of drinking water or found as a contaminant in drinking water from manufacturing processes. In addition, they are found in tobacco smoke, cosmetics, and food products, and they can be created by the body during digestion of some dietary constituents. While the USEPA has not set a maximum contaminant level (MCL) for nitrosamines, it has classified several nitrosamines as probable human carcinogens. The nitrosamines found in the wells in Distribution Area 12 were found at extremely low levels. USEPA regulations also require public water systems to test for total coliform bacteria. Tests of groundwater in Distribution Area 12 detected the presence of total coliform bacteria, which required SCWA to test all wells in the surrounding area. All such test samples were negative for coliform, including E. coli, indicating there were no sanitary deficiencies.

Water Usage

Water demand generated by existing uses at the subject property, including the single-family residence and commercial nursery, is accommodated by a private well. Water demand is provided in Table 22 below, which is based upon sewage flow rates provided in the SCDHS Division of Environmental Quality's *Standards for Approval of Plans and Construction for Sewage Disposal Systems for other than Single-Family Residences* (July 15, 2008).

Table 22 – Existing Water Demand

Land Use	Design Flow	Design Units	Unit Count	Total Flow (GPD)
Single Family Residential	300	GPD/unit	1 unit	300
Commercial Nursery[2]	0.06	GPD/SF	6,984± SF[1]	419±
Total				719±

Notes: [1] = Approximated from building footprints displayed on the Suffolk County GIS Viewer (http://gis2.suffolkcountyny.gov/gisviewer/), Accessed September 18, 2014
[2] It was observed that the import and export of soil, compost and mulch at the subject property does not generate water demand, and, therefore, was not included in the calculations.

As the table shows, total existing water demand at the subject property by the existing land uses is projected to be 719± gpd. The commercial structures and areas are currently used for the storage of nursery inventory only, therefore irrigation needs associated with commercial nursery are not applicable.

The above-mentioned *Drinking Water Report,* notes that this Distribution Area has 112 active wells, representing 19.3± percent of all active wells operated by the SCWA. The total annual pumpage from Distribution Area 12, as of December 31, 2012, was approximately 18.725 billion gallons (or approximately 51,301,370 gpd), according to personnel from the agency. However, it is also noted that according to the *Drinking Water Report* "the distribution areas are interconnected with booster pumps and/or automatic control valves. In the event of very high demands for water during peak summer usage or an emergency, such as a fire or main break, the booster pump or automatic valve will operate and supply additional water to the impacted area." The existing water demand represents a negligible portion of the total water pumped within Distribution Area 12.

Sanitary Flow and Disposal

Sanitary waste generated at the subject property is currently accommodated by on-site septic systems. There are no sanitary facilities associated with the mulch/soil manufacturing use at the subject property. Total sanitary waste generated at the subject property is calculated using the above-referenced SCDHS sewage flow rates, and the results are provided in Table 23.

Table 23 – Existing Sanitary Waste Generation

Land Use	Design Flow	Design Units	Unit Count	Total Flow (GPD)
Single Family Residential	300	GPD/unit	1 unit	300
Commercial Nursery	0.06	GPD/SF	6,984± SF[1]	419±
Total				719±

Notes: [1] = Approximated from building footprints displayed on the Suffolk County GIS Viewer (http://gis2.suffolkcountyny.gov/gisviewer/), Accessed September 18, 2014

A discussion of the prevailing Suffolk County regulations with respect to sanitary waste and the subject property follows.

Suffolk County Sanitary Code

In order to protect the groundwater quality in Suffolk County, the SCDHS adopted Articles 6, 7 and 12 of the Suffolk County Sanitary Code (SCSC) in 1980, 1985 and 1976, respectively. Article 6, entitled, *Realty Subdivisions, Developments and Other Construction Projects*, contains several provisions relevant to this project, as summarized below:

Section 760-607(B) of the SCSC indicates that, for projects other than conventional single-family residential realty subdivisions and developments, a community sewerage system method disposal is required when any of the following conditions are present:

- *The construction project is located within Groundwater Management Zones (GWMZ) III, V or VI, and the population density equivalent is greater than that of a realty subdivision or development of single-family residences[18] in which all parcels consist of an area of at least 40,000 square feet*

- *The construction project, or any portion thereof, is located within an existing sewer district, and is located in an area where subsoil and groundwater conditions are not conducive to the proper functioning of individual or subsurface sewerage systems*

[18] Although there are single-family homes included within this development they would be part of a Homeowners Association for the residential component of the project.

The subject property is situated within GWMZ III, as indicated on the Suffolk County Sanitary Code – Article 6 SCDHS – Groundwater Management Zones Map (SCDHS, November 2011) (see Figure 14). The population density equivalent (maximum permissible discharge to on-site sanitary systems) for the 65.24±-acre subject property is calculated as 19,572± gpd, based upon SCDHS design flow standards and a maximum discharge of 300 gpd per acre for GWMZ III. In addition, the subject property is not located within an existing sewer district.

Section 760-608 (A) of the SCSC indicates that, for projects other than conventional single-family residential realty subdivisions and developments, a community water system method of water supply is required when any of the following conditions are present:

- *The construction project, or any portion thereof, is located within an existing water district or service area*
- *The construction project is reasonably accessible to an existing water district or service area, unless hardship can be demonstrated*
- *Individual wells cannot provide sufficient yield of freshwater meeting Department requirements or standards*
- *Groundwaters in the area are non-potable, or potentially hazardous or*
- *The construction project has a population density equivalent that is greater than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 40,000 SF, or any residential parcel that has an area of less than 20,000 SF.*

As previously discussed, the subject property is located within the service area of the SCWA (Distribution Area 12); however, the site is currently served by a private well.

Article 7 of the SCSC, *Water Pollution Control*, is intended to protect water resources "…from discharges of sewage, industrial and other wastes, toxic or hazardous materials and stormwater runoff," and sets forth restrictions and prohibitions for certain discharges of such materials. Article 7 sets forth additional restrictions on discharges within deep recharge areas and water supply sensitive areas, and enumerates those activities which are excluded from such restrictions (e.g., application of approved fertilizers or pesticides, deicing salts, discharge of sewage to municipal sewers, etc.). The subject property is not within a water supply sensitive area, however, as previously discussed, the subject property is in GWMZ III, which is considered to be a deep recharge area. Relevant considerations include:

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Groundwater Management Zones Map

Figure 14

Subject Property (Boundaries are approximate)

Groundwater Management Zone Boundary

0 7,500 15,000 Feet

Sources: Suffolk County Cartography & GIS Webpage (http://www.suffolkcountyny.gov/Departments/Planning/Divisions/CartographyandGIS.aspx), Accessed July 16, 2015

- *Section 760-706(A) indicates that, in deep recharge areas and water supply sensitive areas, it shall be unlawful for any person to discharge any restricted toxic or hazardous materials or to discharge industrial wastes from any facility containing restricted toxic or hazardous materials to the groundwaters, to the surface of the ground, beneath the surface of the ground, to a municipal or communal sewage system, or to a disposal system (subject to certain exceptions).*

- *Section 760-706(B) indicates that, in deep recharge areas and water supply sensitive areas, it shall be unlawful to use or store any restricted toxic or hazardous material on any premises (subject to certain exceptions).*

- *Section 760-711 indicates that existing disposal systems abandoned as a result of connection to municipal sewage systems or communal sewage systems or different disposal systems or for other reasons shall be removed or permanently sealed in a manner acceptable to the Commissioner.*

Article 12, *Toxic and Hazardous Materials Storage and Handling Controls*, addresses the storage and handling of toxic and hazardous materials in order to safeguard water resources from existing sources of contamination and to prevent further pollution from new sources. Relevant aspects of §760-1205 relate to the storage of fuel oil in underground/above-ground storage tanks and the storage of pesticides and related materials. Pursuant to §760-1208, underground or above-ground storage tanks (with a storage capacity of less than 1,100 gallons) that contain kerosene, number 2 fuel oil, number 4 fuel oil, number 6 fuel oil, diesel oil, lubricating oil or gasoline in aboveground tanks that are used solely for on-site heating or intermittent stationary power production (such as stand-by electricity generation) are exempt from most provisions of Article 12.

Pursuant to §760-1210, new storage facilities to be used for the underground storage of toxic or hazardous materials shall be "designed and constructed in a manner which would, in the opinion of the Commissioner [of the SCDHS], provide the maximum reasonable protection available against leakage or spillage from the facility due to corrosion, breakage, structural failure, or other means. Double-walled or equivalent facilities are required for all toxic and hazardous materials."

According to a database search of EDR[19], there are no records of toxic or hazardous materials being stored or used on-site. However, petroleum storage tanks containing less than 1,100 gallons associated with existing and former land uses may still be present at the subject property.

[19] http://www.edrnet.com/environmental-services/property-reports

A review of the proposed project's consistency with the relevant provisions set forth in the SCSC are included in Section 3.5.2.1 of this document.

Relevant Plans

Summaries of the relevant portions of several water resources policy documents are provided below, and the proposed project's consistency with same is provided in Section 3.5.2.1 of this DEIS.

The Long Island Comprehensive Waste Treatment Management Plan (208 Study) (1978)

In 1978, Long Island was divided into eight Hydrogeologic Zones in the *Long Island Comprehensive Waste Treatment Management Plan* (*208 Study*) prepared by the Long Island Regional Planning Board. These zones were delineated based upon groundwater recharge characteristics, existing water quality, water supply potential, and other factors, and their identification assisted in the development of targeted wastewater management approaches for each zone with the intent of protecting Long Island's aquifers. The subject property is situated in Hydrogeologic Zone I (see Figure 15).

Zone I encompasses areas characterized by a deep flow system, contributing to the middle and lower portions of the Magothy. According to the *208 Study*, Hydrogeologic Zone I is a primary source of drinking water in both counties. Areas within this zone are identified as "deep aquifer recharge areas," which are important to the groundwater supply.

The *208 Study* lists structural, non-structural and non-point source control options for wastewater management for each Hydrogeologic Zone. The highest priority areawide alternatives for Zone I (page 81) are as follows:

- *Minimize population density by encouraging large lot development (one dwelling unit/one or more acres), where possible, to protect the groundwater from future pollutant loading.*
- *Prohibit the establishment of new landfills, where possible, and the expansion of existing ones. Upgrade existing landfills, where possible, to minimize further groundwater contamination.*
- *Restrict the use of inorganic, fast-acting fertilizers. Promote the use of low-maintenance lawns.*
- *Require nitrogen removal for treatment plants recharging effluent.*
- *Strengthen and enforce regulations pertaining to industrial waste disposal, product storage and transportation of residuals.*
- *Prohibit the use of certain chemical cleaners in on-lot [sanitary] systems.*

Date: 07.16.14

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Hydrogeologic Zones Map

Figure 15

Subject Property (Boundaries are approximate)

Hydrogeologic Zone Boundary

0 7,500 15,000 Feet

Sources: Suffolk County Cartography & GIS Webpage (http://www.suffolkcountyny.gov/Departments/Planning/Divisions/CartographyandGIS.aspx), Accessed July 16, 2015

Nonpoint Source Management Handbook (1983)

The *Nonpoint Source Management Handbook* (the *Handbook*), which was prepared as part of the USEPA's 208 Plan Implementation Program, is divided into several elements: Land Use, Stormwater Runoff, On-site Systems, Highway Deicing, Fertilizer, Animal Waste, Wells-Water Supply, Boat Pollution, and Site Plan Review and Ordinances. The *Handbook* makes a variety of recommendations for counties, municipalities, engineers, etc., to use in the controlling of non-point sources of groundwater contamination. Relevant recommendations from this study are listed below:

Land Use

- Concentrate high density or commercial/industrial land uses in existing high density or commercial/industrial areas or in areas located downgradient and within existing contaminant plumes.
- Limit the removal of natural vegetation and the creation of lawn areas.
- Minimize nitrate loadings to groundwater and surface waters by requiring natural vegetative controls to limit lawn areas, thereby decreasing fertilizer use.

Stormwater Runoff

- Minimize grade changes and site clearing.
- Reduce the extent of impermeable surfaces insofar as possible.

The *Handbook* lists several recommendations relevant to the general design of a stormwater management system. A list of those recommendations follows:

- Use swales and shallow depressions to collect stormwater on-site, wherever possible.
- Use natural vegetation as an important nonstructural alternative in the control of stormwater runoff and erosion/sedimentation.
- Use man-made swales and other types of drainage channels to carry and recharge stormwater.
- Use a biofiltration system to detain runoff and reduce contaminant loadings.
- Use an in-line storage system for the collection of stormwater runoff from parking lots and roadways.
- Use permeable paving for patios and walkways to reduce the volume of stormwater runoff by increasing infiltration to the ground below, thus allowing for recharge of the aquifer.

- Use downspouts to collect and convey runoff from roofs to leaching pools.

The *Handbook* lists several recommendations relevant to stormwater management during site development. A list of those recommendations follows:

- Provide temporary on-site areas to receive stormwater runoff flows that are generated by construction and other site development activities.
- Do not allow increased sediment resulting from the construction or operational phase of site development to leave the site or to be discharged into stream corridors, marine or freshwater wetlands.
- Minimize the amount of soil area exposed to rainfall and the period of exposure. Cover or plant exposed soils as soon as possible.
- Do not allow the dumping or filling of excess soil or other materials generated from site development into swales and surface waters.
- Stabilize exposed slopes during and after construction, by using temporary and/or permanent, structural or nonstructural stabilization measures.

On-Site Systems

- Follow SCDHS guidelines.

Fertilizer

- Retain as much of the natural vegetation of the site as possible. Minimize grade changes and site clearing.
- Use native plants for the planting of areas that have been disturbed by grading. Consider the use of alternative types of groundcover and other plant materials to avoid or reduce lawn area and the consequent need for fertilizer applications, extensive watering and maintenance.

Final Long Island Groundwater Management Program (1986)

The *Final Long Island Groundwater Management Program* (*LI Groundwater Management Program*) is the product of a study effort, funded by a grant from the USEPA under Section 208 of the Federal Clean Water Act. Under this grant, the NYSDEC, with cooperation and advice of numerous other state, federal and local agencies involved with groundwater management on Long Island, conducted an intensive review of Long Island groundwater problems and the programs that address them, and prepared a detailed Groundwater Management Program designed to assure a viable, high quality groundwater resource for the future (Page xi).

Within the *LI Groundwater Management Program*, the NYSDEC identified the most significant groundwater problems to include: (Page II-3)

- Contamination by synthetic organic chemicals
- Solvents and degreasers
- Gasoline and petroleum products
- Agricultural pesticides and herbicides
- Groundwater quantity problems including depletion, saltwater intrusion, and flooding, often associated with regional imbalances of demand

Based upon the review of available information and agency consultations undertaken during the study effort, the NYSDEC developed various program actions within the *LI Groundwater Management Program* directed primarily at salient agencies (NYSDEC, New York State Department of Health, SCDHS, local agencies). The program actions that are relevant to the subject property and the proposed action are discussed below.

Chapter IV.B.1 of the *LI Groundwater Management Program* relates to hazardous material storage and handling, identifying that "the highest priority groundwater problem identified on Long Island is organic chemical and petroleum contamination." (Page IV-36) Relevant to Suffolk County, it is recognized that Article 12 of the SCSC is a broad prevention-oriented program for solving problems related to the storage and handling of these substances. The related Program Action is a recommendation that the SCDHS aggressively implement Article 12 of the SCSC covering toxic and hazardous materials storage and handling (Page IV-39).

Chapter IV.B.5 of the *LI Groundwater Management Program* addresses on-site sanitary wastewater disposal, and indicates that "[l]imitation of on-site system densities is the single most effective method available to prevent unacceptable groundwater quality impacts" from domestic wastewater. The relevant Program Action is a recommendation that SCDHS continue to administer Article 6 of the SCSC to appropriately limit density of on-site sanitary systems. (Page IV-57).

Chapter IV.C.4 of the *LI Groundwater Management Program* addresses water conservation. Among the identified examples of measures for discouraging waste and excessive use of potable water are: (Page IV-82)

- the use of water saving plumbing fixtures
- limiting the proportion of developed areas in turf
- promoting alternative ground covers that require less watering

The *LI Groundwater Management Program* was also reviewed to determine whether there is any reported presence of organics, nitrates or aldicarb in groundwater. Based on a review of the *Nitrate Contamination of Groundwater on Long Island* figure, the subject property is potentially within a general area of

shallow nitrate contamination. It is not situated within the general areas of groundwater contamination for organics or aldicarb.

The Long Island Comprehensive Special Groundwater Protection Area Plan (1992)

The *Long Island Comprehensive Special Groundwater Protection Area Plan* (*SGPA Plan*), dated July 27, 1992, designated Special Groundwater Protection Areas (SGPAs), which are Critical Environmental Areas (CEAs), and are significant, largely undeveloped or sparsely developed geographic areas of Long Island that provide recharge to portions of the deep flow aquifer system. They represent a unique, final opportunity for comprehensive, preventive management to preclude or minimize land use activities that can have a deleterious impact on groundwater. Nine SGPAs are located on Long Island: North Hills, Oyster Bay, West Hills/Melville, Oak Brush Plains, South Setauket Woods, Central Suffolk, Southold, South Fork and Hither Hills. The subject property is not located within an SGPA. Therefore, no further discussion of the *SGPA Plan* is included in this DEIS.

3.5.1.2 Stormwater Runoff

Stormwater runoff is generated by precipitation events and is divided into three components: surface runoff, interflow and base flow. Surface runoff is that portion of the stormwater that remains after a precipitation event and is not captured by depression storage or ponding, does not infiltrate the surface and is not evapotranspired from the earth's surface. Interflow is that portion of stormwater that infiltrates the surface into the soil zone and moves in a horizontal direction until reaching a surface water body. Finally, the base flow is that portion which infiltrates the surface and soil profile to reach groundwater.[20]

In the NYSDEC's manual, *Reducing the Impacts of Stormwater Runoff from New Development*, the concept of stormwater management is such that there is qualitative control, as a system of vegetative and structural measures can be used "to control the increased volume and rate of surface runoff caused by man-made changes to the land" and "to control or treat pollutants carried by surface runoff" (page 5). The goal of stormwater management is to prevent substantial alteration of the "quantity and quality of stormwater run-off from any specific development…from predevelopment conditions" (page 6).

Existing stormwater runoff is contained on site in low-lying areas and depressions, with no formal stormwater drainage structures. Accordingly,

▼

[20] *Reducing Impacts of Stormwater Runoff From New Development*, New York State Department of Environmental Conservation. As indicated on the NYSDEC website (www.dec.state.ny.us), "This document provides guidance on site planning and stormwater management including an example of a **model stormwater ordinance**. The document is out of print at this time because it is being revised and updated. Watch this web page for the update."

stormwater that does not infiltrate or evapotranspire is permitted to pond at the site or run overland onto adjacent properties and roadways.

Chapter 86 of the Town of Brookhaven Town Code: Stormwater Management and Erosion Control

Chapter 86 of the Town Code establishes minimum stormwater management requirements and controls. The purpose of Chapter 86 is to enable the Town to meet the requirements of NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permits for Municipal Separate Stormwater Sewer Systems (see discussion below); require land development activities to conform to the requirements of NYSDEC SPDES General Permit for Construction Activities; minimize increases in stormwater runoff from land development activities to reduce flooding, siltation, increases in stream temperature, stream bank erosion and degradation of local water quality; minimize the total annual volume of stormwater runoff which flows from any specific site; and reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution through stormwater management practices. Specific relevant provisions of this Chapter follow:

- Pursuant to §86-6, as part of any land development activity, a stormwater pollution prevention plan (SWPPP) must be filed and approved by the Town's Stormwater Management Officer, and must include all those materials as required by Chapter 86-6(B)(1).
- Pursuant to §86-7(A), stormwater management practices that are designed and constructed in accordance with NYSDEC's *New York State Stormwater Management Design Manual* and *New York Standards and Specifications for Erosion and Sediment Control* meet Town standards (see below for a brief summary of the aforementioned technical guides).
- Stormwater management facilities must be maintained during and after construction in accordance with the provisions of §86-8.
- Monitoring reports and as-built plans for stormwater management practices on site must be submitted in accordance with the provisions of §86-9.

A brief review of the documents cited in Chapter 86 is included below.

New York State Standards and Specifications for Erosion and Sediment Control

The *New York State Standards and Specifications for Erosion and Sediment Control* (*Standards and Specifications*) is a guidance document provided by the NYSDEC "to reduce the impact of soil loss from construction sites to receiving water bodies and adjacent properties" (page 1.1). Included in the *Standards and Specifications* are sections regarding Erosion Control Planning and Site Management, as well as Vegetative, Bio-Technical and Structural Measures for Erosion and Sediment Control. Adherence to the *Standards and Specifications* "…is presumed to be in compliance with the SPDES general permit for construction activities" (page 1.1).

New York State Stormwater Management Design Manual

The *New York State Stormwater Management Design Manual* (*NYS Stormwater Manual*) provides "standards for the design of Stormwater Management Practices (SMPs) to protect the waters of the State of New York from the adverse impacts of urban stormwater runoff" (page iii). The *NYS Stormwater Manual* includes chapters on Impacts of New Development; Stormwater Management Planning; Unified Stormwater Sizing Criteria; Green Infrastructure Practices, Performance Criteria; SMP Selection; Stormwater Management Design Examples; Redevelopment Projects; and Enhanced Phosphorus Removal Supplement.

SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001)

Pursuant to Section 402 of the CWA, stormwater discharges from certain construction activities to "Waters of the United States"[21] are unlawful unless they are authorized by a National Pollutant Discharge Elimination System Permit (NPDES) permit or by a state permit program.

The New York SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law (ECL)

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[21] Waters of the United States are defined pursuant to Title 33 of the Code of Federal Regulations ("CFR") Part 328.3(a); available at http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=0d027a7d11dc7aa3a0329d3002838e0d&r=PART&n=33y3.0.1.1.34#se33.3.328_13.

and administered by the NYSDEC. The SPDES program also extends permitting coverage for stormwater discharges to all other "Waters of New York State."

The SPDES permitting coverage applies to the following construction activities, when stormwater runoff would discharge to "Waters of the United States" or "Waters of New York State:"

- projects where disturbance is less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres
- projects where disturbance is one to five acres
- projects where disturbance is five acres or greater

Projects covered under the SPDES GP-0-10-001 are required to develop and implement a SWPPP that meets criteria set forth by NYSDEC. All SWPPPs must include practices consistent with the *Standards and Specifications* (see discussion above). Many construction sites must also comply with the *NYS Stormwater Manual* to address post-construction stormwater discharges (see discussion above).

Long Island Segment of the Nationwide Urban Runoff Program (NURP Study)

The *Long Island Segment of the Nationwide Urban Runoff Program* (*NURP Study*) recognized that years of study, including various 208 studies, have provided conclusive evidence that in many areas pollutant loading contributed by non-point sources exceed those contributed by point sources, with urban runoff being the most significant non-point source. With regard to stormwater runoff, the *NURP Study* made the following findings concerning groundwater and surface water:

Groundwater

- Most of the runoff into recharge basins is derived from rain that falls directly on impervious surfaces, except during storms of high intensity, high volume and/or long duration;
- In general, with the exception of lead and chloride, the concentrations of inorganic chemicals measured in stormwater runoff do not have the potential to adversely affect groundwater quality;
- Infiltration through the soil is generally an effective mechanism for reducing lead and probably chromium from runoff on Long Island. Although the

NURP Study findings concerning chromium are not conclusive, data from a spill at Farmingdale indicate attenuation. Chloride is not attenuated. The effect of infiltration on nitrogen is undetermined; and

- Coliform and fecal streptococcal indicator bacteria are removed from stormwater as it infiltrates through soil.

Surface Water

- Any control of chemical constituents in runoff requires awareness of the year-round presence. The use of highway deicing salts in winter explains the high chloride concentrations found in runoff during that season;
- Stormwater is a major source of coliform loading to Long Island bays. Some of the bays in Suffolk County contain areas where impaired water quality exists for reasons other than stormwater runoff (e.g., localized duck farm discharges); and
- The evidence accumulated in the *NURP Study* strongly supports the belief that fecal coliform loads are derived from non-human sources. Estimates indicate that the dog population could be a major source of the fecal coliform load in stormwater runoff.

3.5.1.3 Surface Water, Wetlands and Floodplains

A review of recent aerial imagery (see Figure 3) indicates that there are no natural surface waters located on or directly adjacent to the property. However, there is a 0.23±-acre excavated, artificial drainage feature, located at the west-central portion of the site that, according to consultations with Town of Brookhaven Division of Environmental Protection (DEP) personnel, is considered a Town of Brookhaven-regulated artificial wetland (see Figure 20 in Section 3.6.1.1) (see Appendix F of this DEIS for correspondence regarding the artificial wetland).

According to the NYSDEC Freshwater Wetlands Map No. 27 of 39 (Patchogue Quadrangle), no freshwater wetlands are located on or contiguous to the subject property (see Figure 16). Based on a review of the National Wetland Inventory Map (NWI) Map No. 647, there are also no federal wetlands on or contiguous to the subject property (see Figure 17). See additional discussion of wetlands in Section 3.6.1.4, *Ecological Resources*, of this DEIS.

The Federal Flood Emergency Management Agency (FEMA) Map Service, accessed on July 15, 2014, indicated that the subject property was not mapped on any Flood Insurance Rate Map (FIRM) panels. Therefore, the subject property is not located in a flood hazard area.

Date: 12.24.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

NYSDEC Wetlands Map

Figure
16

Subject Property (Boundaries are approximate)

NYSDEC Wetland

0 1,750 3,500
Feet

Sources: NYSDEC, New York State Regulatory Freshwater Wetlands For Suffolk County (ARC Export : 2013)

Date: 07.15.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

National Wetlands Inventory
Wetlands Map

Figure
17

Subject Property (Boundaries are approximate)

NWI Wetland

0 1,250 2,500 Feet

Sources: U.S. Fish & Wildlife Service NWI Wetlands Mapper (http://www.fws.gov/wetlands/Data/Mapper.html)

Chapter 81 of the Town of Brookhaven Town Code: Wetlands and Waterways

Chapter 81 of the Town Code, entitled "Wetlands and Waterways," is intended to safeguard, protect, and preserve surface waters, lands underwater, tidal and freshwater wetlands, and coastlines within the Town of Brookhaven. As previously discussed, there are no NYSDEC Freshwater Wetlands or NWI Wetlands at the subject property. However, as indicated above, there is a 0.23±-acre excavated, artificial drainage feature, located at the west-central portion of the site.

According to §81-3 of the Town Code, an "artificial wetland" is,

"Any water body or wetland not part of a natural system and created for the sole purpose of recreation, aesthetics, biofiltration or stormwater management, including but not limited to ponds, vegetated swales, rain gardens, and the equivalent. Artificial wetlands will include the created water body or wetlands and any natural wetlands that, because of the created feature, become established within the area around the artificial wetland. Artificial wetlands remain artificial wetlands until such time that they become a sustainable ecosystem independent of anthropogenic activities or structures. Artificial wetlands will not be included in the prohibition of development described within the Town Code of the Town of Brookhaven and therefore may be moved or altered by the issuance of a wetlands and waterways permit."

Chapter 81 of the Town Code sets forth the types of activities occurring within a freshwater or tidal wetland, waterway, or jurisdictional area that require Wetlands and Waterways permits and those activities which are exempt from such requirements. Requirements for Wetlands and Waterways permit applications are included in §81-6 of the Town Code.

Based upon consultations with Town of Brookhaven DEP, the artificial drainage feature located in the central portion of the subject property, along the western boundary, is considered an artificial wetland, and, thus, is regulated by Chapter 81 of the Town Code. According to Town of Brookhaven DEP personnel, artificial wetlands may be moved, as long as they are restored elsewhere on-site with a two to one restoration ratio, a Wetlands and Waterways Permit is obtained for activities conducted upon the existing artificial wetland area and a pond/wetland maintenance plan is submitted to ensure that the constructed ponds/wetlands maintain their artificial designation (see Appendix F of this DEIS for correspondence regarding the artificial wetland).

3.5.2 Potential Impacts

3.5.2.1 Groundwater

As discussed in Section 3.5.1, a single source aquifer provides Long Island's drinking water. As the groundwater underlying the subject property is a source of potable water, the most stringent quality standards apply. The proposed project has been designed with its location in a deep groundwater recharge area in mind. Measures would be taken to protect groundwater and to ensure compliance with applicable prevailing codes and regulations. Measures to be employed include:

- Connection to the proposed on-site STP
- Phased clearing of the property such that areas will only be cleared as they are developed
- The maintenance of natural vegetation and revegetation with native species in the design in order to minimize the need for irrigation and use of fertilizers
- The use of positive drainage systems (i.e., drainage ponds, recharge basins and leaching pools) to contain runoff on-site with maximum recharge
- Adherence with relevant provisions of the SCSC
- Connection to the public water supply system.

In addition, as discussed in more detail below, the depth to groundwater beneath the site (61± feet to 108± feet bgs) would permit adequate separation distance from the bottom of any proposed leaching structures on the site to allow filtration before stormwater or treated effluent would be discharged to groundwater. As discussed in the subsections below, water usage, sanitary waste generation and stormwater runoff resulting from the proposed project would not be expected to have significant adverse impacts upon groundwater resources.

Water Usage

As discussed in Section 3.5.1.1, potable water is currently supplied via an on-site private well. This private well would be abandoned upon construction of the proposed project and the proposed uses are expected to connect to the SCWA system. Anticipated water usage by The Arboretum, which is based upon sanitary design density factors provided by the project engineer, is provided in below, (see the *Conceptual Site Plan* in Appendix C).

Table 24 – Anticipated Water Demand

Description	Area	Units	Quantity	Sanitary Density (GPD/unit)	Sanitary Flow (GPD)	Kitchen/Grey Density (GPD/unit)	Kitchen/Grey Flow (GPD)	Total Flow (GPD)
Flats (lower)	<1,200	SF	82	225	18,450	-	-	18,450
Flats (upper)	>1,200	SF	82	300	24,600			24,600
Townhouses	>1,200	SF	63	300	18,900	-	-	18,900
Rosebud	>1,200	SF	14	300	4,200	-	-	4,200
Single-Family	>1,200	SF	51	300	15,300	-	-	15,300
Restaurant 1 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Restaurant 2 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Restaurant 3 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Office	12,000	SF		0.06	720	-	-	720
Total Potable Water Demand:					84,570		4,800	89,370
Irrigation (assumes 10% of potable demand)								8,937
Total Potable and Irrigation Water Demand:								98,307

As shown above, The Arboretum is expected to use an estimated 89,370± gpd of potable water, or 32.6 million gallons per year, less than 0.2 percent of SCWA Distribution Area 12's annual pumpage. It is also projected that an additional 10 percent of project water demand would be used for irrigation purposes, or 8,937± gpd. However, irrigation generally only occurs during the late spring through early fall (essentially six months out of the year). Thus, maximum water demand during the irrigation season is expected to be approximately 98,307 gpd, which would still represent less than 0.2 percent of SCWA Distribution Area 12's daily pumpage.

Based on an existing water demand of 719± gpd, water usage at the subject property is projected to increase by 88,651± gpd, with an additional 8,937± gpd expected during the seasonal time of late spring through early fall. In order to minimize water demands, the proposed landscaping would consist of native species to the maximum extent practicable. Thus, it is expected that actual water usage for irrigation purposes would be less than that estimated. In addition, it is expected that the proposed buildings would incorporate low-flow, water-saving fixtures, to the maximum extent practicable.

As SCWA currently serves the neighboring area, consultations would be undertaken with the SCWA to determine future connection fees and peak flow requirements during the preliminary design stage.

Sanitary Flow and Disposal

The anticipated sanitary waste to be generated by The Arboretum, based upon SCDHS sanitary design density is provided in Table 25, below.

Table 25 – Anticipated Sanitary Waste Generation

Description	Area	Units	Quantity	Sanitary Density (GPD/unit)	Sanitary Flow (GPD)	Kitchen/Grey Density (GPD/unit)	Kitchen/Grey Flow (GPD)	Total Flow (GPD)
Flats (lower)	<1,200	SF	82	225	18,450	-	-	18,450
Flats (upper)	>1,200	SF	82	300	24,600			24,600
Townhouse	>1,200	SF	63	300	18,900	-	-	18,900
Rosebud	>1,200	SF	14	300	4,200	-	-	4,200
Single Family	>1,200	SF	51	300	15,300	-	-	15,300
Restaurant 1 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Restaurant 2 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Restaurant 3 (4,000 SF)	80	seats		10	800	20	1,600	2,400
Office	12,000	SF	-	0.06	720	-	-	720
Total Sanitary Waste Generation:					84,570		4,800	89,370

As identified above, the anticipated sanitary waste generation at the subject property upon implementation of the proposed project is projected to be 89,370± gpd. As indicated in Section 3.5.1 of this DEIS, current uses at the subject property generate approximately 719± gpd of sanitary waste. Therefore, the proposed project would increase the sanitary waste generated on-site by approximately 88,651 gpd.

All sanitary waste generated at the subject property would be accommodated by an on-site STP, designed to accommodate 150,000± gpd of sanitary waste.

The STP design is discussed in the following subsection.

Suffolk County Sanitary Code

As explained in Section 3.5.1.1, pursuant to Article 6 of the SCSC, a community sewerage system method of disposal is required for projects exceeding their respective population density equivalents (e.g., connection to a municipal sewer system, connection to an existing off-site community STP or construction of an on-site community STP). As stated previously, the population density equivalent for the subject property is approximately 19,572 gpd (based on 65.24± acres and 300 gpd/acre), and, as described above, the proposed project would generate 89,370± gpd of sanitary waste. Therefore, a community sewage system would be required for The Arboretum. In order to meet the requirements of Article 6, the Applicants are proposing to construct an on-site STP in the

southern portion of the property with a capacity of 150,000± gpd to treat all the domestic raw sewage generated by the proposed development. Test hole borings would be performed prior to development of the STP to assure that soils in the area would be able to adequately percolate the effluent from the STP and the stormwater in the proposed recharge basins.

The project influent sewage characteristics are as follows:

BOD_5 (biochemical oxygen demand):[22]	272 mg/l
TSS (Total Suspended Solids):	320 mg/l
TKN (Total Kjehldahl Nitrogen):[23]	65 mg/l
ALK (Alkalinity):	175 mg/l

Based on an influent flow of 150,000± gpd, the influent loads would be as follows:

BOD_5:	272 mg/l x 8.34 lb./gal. x 150,000 gpd x 10^{-6}	=	340.3 lb. BOD_5/day
TSS:	320 mg/l x 8.34 lb./gal. x 150,000 gpd x 10^{-6}	=	400.3 lb. TSS/day
TKN:	65 mg/l x 8.34 lb. /gal. x 150,000 gpd x 10^{-6}	=	81.3 lb. TKN/day
ALK:	175 mg/l x 8.34 lb. /gal. x 150,000 gpd x 10^{-6}	=	218.9 lb. Alk./day

The treated effluent from the proposed STP would be recharged to the ground via leaching pools (see discussion below). Consequently, it is expected that the SPDES permit would require a daily maximum total nitrogen concentration of 10 mg/l as the limiting value and a pH limit of 5.5 to 8.5 standard units (SU). The 30-day arithmetic average flow limit will be the design flow of 150,000± gpd.

Based on this tertiary effluent standard, the following effluent quality is anticipated:

BOD_5:	< 30 mg/l
TSS:	< 30 mg/l
Total N (Nitrogen):	< 10 mg/l
pH:	6.5 to 8.5 SU

The effluent quality is expected to meet or exceed the SPDES permit effluent requirements.

As indicated above, the effluent would be discharged directly into the ground via the use of effluent leaching pools, located adjacent to the STP within the

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[22] BOD_5 is the biochemical oxygen demand of wastewater during decomposition occurring over a five-day period. It measures the organic content of wastewater.

[23] Total Kjeldahl nitrogen or TKN is the sum of organic nitrogen, ammonia (NH3), and ammonium (NH4+) in the chemical analysis of soil, water, or wastewater

2.96±-acre STP site. Based on a flow of 150,000± gpd, it is anticipated that the STP would require 60 leaching pools in accordance with SCDPW standards, each approximately 10 feet in diameter with 16 feet of effective depth. As indicated on the *Conceptual Site Plan (South)* (see Appendix C), the STP depicts a 100 percent expansion capability, including future expansion area (to the west of the building) for additional leaching pools. As mentioned above, the depth to groundwater beneath the site (61± feet to 108± feet bgs) would permit adequate separation distance from the bottom of the leaching pools to allow filtration before treated effluent would be discharged to groundwater.

A small sanitary pump station would be located north of the STP (within the STP area) that would be used to pump effluent from the pipes within proposed Road "A", east to the STP. The STP would be located a minimum of 200 feet from nearest on-site residence. It would be separated from the on-site residences to the north by two recharge basins. The proposed recharge basins would be 25 feet from the nearest leaching pool, exceeding the SCDHS requirement for a 20-foot separation. In addition, the STP is located approximately 150 feet north of the existing LIPA ROW, which further separates it from adjacent recreation and educational uses to the south. As mentioned above, test hole borings would be performed, prior to development of the STP, to assure that on-site soil conditions are such that there would not be potential for adverse impacts to the recreation and educational uses from the effluent leaching pools associated with the STP Access to the STP would be from an "STP Access Road" that connects the two cul-de-sacs located at the southernmost portion of the site.

Based upon the foregoing, the proposed STP would conform to the requirements of Article 6 of the SCSC. The future Homeowners' Association would maintain the proposed STP.

It should be noted that the design capacity of the STP of 150,000± gpd exceeds the requirement for the proposed development (89,370± gpd) by greater than 60,000 gpd. At this time, approximately 20,000 gpd of this excess capacity would be made available for existing commercial uses to connect to.

In addition, Article 6 of the SCSC also includes requirements for community water facilities with respect to those projects located within an existing water district or service area. As previously indicated, water is currently supplied to the subject property by a private well, which would be abandoned, and the proposed project would connect to SCWA public water supplies. Therefore, the proposed project would comply with this section of Article 6 of the SCSC.

In accordance with Article 7 of the SCSC, all sewage generated by the proposed project would be discharged directly to the on-site STP, which would comply with SCDHS standards, and the required permits for construction and operation of the STP would be obtained prior to construction. In addition, the stormwater

management design for the subject property would be such that stormwater would be recharged on-site, and would not be subject to contamination by any toxic or hazardous wastes or materials. The STP and stormwater systems would filter effluent and stormwater prior to reaching groundwater, which is located between 61± feet and 108± feet bgs, thus, the proposed project would be in compliance with the requirements of Article 7 of the SCSC.

As explained in Section 3.5.1, the subject property is located within a deep recharge area, as defined by the SCSC, and is, therefore, subject to certain additional restrictions and prohibitions, per Article 7, for discharges of toxic or hazardous materials. Toxic or hazardous materials would not be discharged to the proposed STP, and therefore would not pose a threat to groundwater supplies. Moreover, as explained above, the stormwater management system would be designed such that stormwater would be collected on-site so that it would not run off-site and be subject to potential contamination by pollutants, as it would be filtered before it reached groundwater, in compliance with SCSC requirements.

The Arboretum is expected to be served by natural gas from National Grid for the purposes of heating. The storage of heating fuel on-site is not proposed. It is expected that The Arboretum would include the storage or use of only limited quantities of chemicals or other hazardous materials associated with routine swimming pool maintenance, landscaping and other property maintenance. All pool maintenance chemicals, landscaping maintenance and other property maintenance agents to be stored or used at the subject property would be handled in accordance with the relevant provisions of Article 12 of the SCSC, and all required permits would be secured, as needed.

Relevant Plans

The Long Island Comprehensive Waste Treatment Management Plan (208 Study) (1978)

As introduced in Section 3.5.1.1, the subject property is located in Hydrogeologic Zone I. Among the highest priority areawide alternatives recommended in the *208 Study* for Zone I, those relevant to the proposed project are analyzed below.

- *Minimize population density by encouraging large lot development (one dwelling unit/one or more acres), where possible, to protect the groundwater from future pollutant loading*

  Although the proposed project would consist of a higher level of density than one unit per one or more acres, the proposed development would be protective of groundwater resources through the installation of an on-site STP to ensure that sanitary waste generated by the site would be handled properly so as to minimize potential for groundwater contamination. A

stormwater management system would also be installed to collect and recharge stormwater generated by the subject property. This would prevent stormwater runoff from potentially gathering contaminants and polluting groundwater. As such, the proposed project would adhere to this recommendation to the maximum extent practicable.

- *Prohibit the establishment of new landfills, where possible, and the expansion of existing ones. Upgrade existing landfills, where possible, to minimize further groundwater contamination*

  The proposed project would not involve the establishment or expansion of landfills, and, therefore, this recommendation is not relevant.

- *Restrict the use of inorganic, fast-acting fertilizers. Promote the use of low-maintenance lawns*

  To comply with this recommendation, the proposed project would incorporate native species, to the maximum extent practicable, to encourage a low-maintenance landscape.

- *Require nitrogen removal for treatment plants recharging effluent*

  As previously discussed, an on-site STP would accommodate all sanitary waste generated at the subject property after implementation of the proposed project. The STP would remove a significant amount of nitrogen before recharging to groundwater.

- *Strengthen and enforce regulations pertaining to industrial waste disposal, product storage and transportation of residuals*

  As the proposed project is residential and commercial in nature, it would not involve industrial waste disposal. Moreover, it is not expected that the proposed project would include the storage or use of any significant quantities of chemicals or other hazardous materials. Any routine maintenance chemicals (e.g., for landscaping or pool maintenance) stored on-site would be handled in accordance with all applicable regulations and guidelines.

- *Prohibit the use of certain chemical cleaners in on-lot [sanitary] systems.*

  As the proposed project includes an on-site STP, this recommendation is not relevant.

Based upon the foregoing, implementation of the proposed project would comply with the relevant recommendations of the *208 Study* and would minimize impacts to groundwater resources to the maximum extent practicable.

Nonpoint Source Management Handbook (1983)

The *Handbook* was reviewed as to recommendations related to the proposed project. Discussion of the proposed project's consistency with the relevant recommendations follows:

Land Use

- *Limit new development, particularly industrial uses, in the deep recharge and critical shallow recharge areas*

  The subject property is located within Hydrogeologic Zone I, characterized by a deep recharge system. However, the proposed project includes the redevelopment of the subject property from limited commercial and agricultural uses and a single-family residential use to commercial and residential uses, and, therefore, does not include industrial uses. Moreover, an STP would be constructed that would accommodate all sanitary waste generated by the proposed project. Accordingly, the proposed project complies with the intent of this recommendation to protect groundwater in deep recharge areas.

- *Concentrate high density or commercial/industrial land uses in existing high density or commercial/industrial areas or in areas located downgradient and within existing contaminant plumes*

  As previously indicated, the subject site is currently developed and used for primarily agricultural purposes. The proposed project, which includes 24,000± SF of commercial uses on the 65.24±-acre site, would be situated along the Horseblock Road corridor, an area that has been historically used for commercial and retail purposes. Therefore, the proposed project would comply with this recommendation.

- *Limit the removal of natural vegetation and the creation of lawn areas*

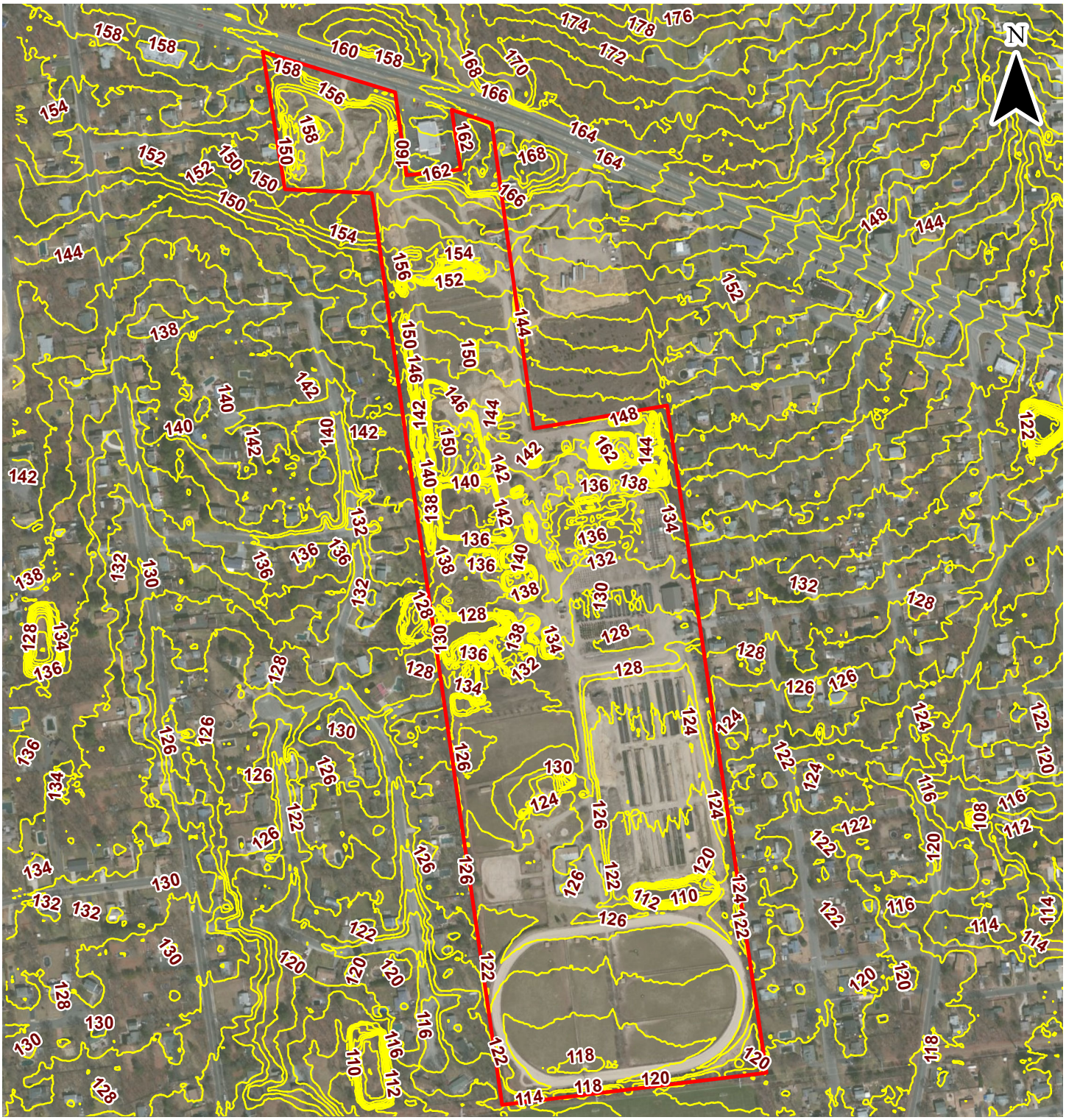
  Currently, the subject property contains approximately 19.13± acres of natural vegetation (including 4.06± acres of forested areas and 15.07± acres of grass brushlands). Upon implementation of the proposed project, natural vegetation would be removed, with the exception of 2.65± acres of forested area, which would remain. The proposed 40.58± acres of landscaping, as previously discussed, would consist of native and/or low-maintenance species, to the maximum extent practicable, which would minimize the need for fertilizers and irrigation. Accordingly, the proposed project would comply with the intent of this recommendation.

Stormwater Runoff

- *Minimize grade changes and site clearing. Preserve swales in their natural state. Avoid disturbance of existing grades, vegetation or soils and the alteration of surface hydrology*

  Much of the subject property has been disturbed, with the majority supporting unvegetated to sparsely-vegetated (as discussed further in Section 3.6.1), due to historical and ongoing commercial and agricultural activities. The overall topography of the subject property slopes southward from a maximum elevation of approximately 168 feet amsl to a minimum elevation of approximately 112 feet amsl. A review of USGS Light Detection and Ranging (LiDAR) elevation data for the subject property indicates that there are a variety of mounds, berms and swales, particularly on the northern half of the subject property, that are the result of excavation and storage of materials on-site, during use of the subject property for commercial soil stockpiling (see Figure 18). In addition, there are three deeper depressions on-site, including a 0.23±-acre area that was excavated for drainage purposes, and is a Town-regulated artificial wetland. Thus, the subject property would require regrading, but the change in grade would be generally attributable to the need to balance the site in preparation for installation of foundations and infrastructure, as well as to address impacted soils. Existing grades would be retained wherever possible. As part of the proposed project, a stormwater management system consisting of a network of drywells, stormwater ponds, recharge basins and natural infiltration would accommodate and recharge all stormwater on-site. The 0.92±-acres of proposed stormwater ponds would provide enhanced stormwater retention, as well as habitat value, as compared to the existing 0.23±-acre artificial pond. Existing vegetation and soils on the subject site would be disturbed during the demolition of existing structures and construction of proposed project. However, as previously indicated, although a majority of the existing natural vegetation would be removed, 40.58± acres of landscaping with native, low-maintenance species would be installed. Furthermore, as indicated in Section 3.5.2.2, erosion and sedimentation control measures would be implemented during construction to minimize potential soil impacts. Overall, drainage structures would be provided to minimize potential adverse impacts associated with stormwater runoff. Thus, the proposed project would comply with this recommendation.

Date: 01.30.15



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Topography

Figure 18

Subject Property (Boundaries are Approximate)

Elevation Contours (2 ft amsl intervals)

0 212.5 425 850 Feet

Sources: ESRI basemap; State of New York (Raster DeM): LiDAR for the North East - ARRA and LiDAR for the North East Part II (USGS Contract) (c) Photoscience 2010 and 2011.

- *Provide temporary on-site areas to receive stormwater runoff flows that are generated by construction and other site development activities. Do not allow increased sediment resulting from the construction or operation phase of site development to leave the site or to be discharged into stream corridors, marine or freshwater wetlands. Minimize the amount of soil area exposed to rainfall and the period of exposure. Cover or plant exposed soils as soon as possible*

  As indicated in Section 3.5.2.2 of this DEIS, erosion and sedimentation control measures would be developed and implemented during construction in accordance with prevailing requirements, including Town Code Chapter 86 standards and SPDES permit regulations. Drainage structures would be installed early in the construction process to accommodate stormwater runoff throughout the construction period. Inlet protection (such as hay bales) would be placed around the perimeter of drainage structures to prevent siltation and to ensure proper drainage of stormwater. During demolition and construction, silt fencing and hay bales would be placed at strategic locations to control overland runoff. As such, the proposed project would comply with this recommendation.

- *Detain runoff and direct stormwater from road surfaces to sediment basins before discharge to a sump wherever topography limits or precludes on-site recharge*

  Stormwater runoff would be contained and recharged on-site via drywells, drainage ponds, recharge basins, leaching pools and natural vegetation, as detailed below in Section 3.5.2.2 of this DEIS, and thus, this recommendation is not applicable.

- *Stabilize exposed slopes during and after construction by using temporary and/or permanent structural or nonstructural stabilization measures*

  As indicated above and depicted on Figure 18, the subject property contains mounds, berms and swales that have been created during prior use of the site for soil stockpiling. Regrading of these anthropogenic (created or influenced by humans) features would be required for redevelopment of the subject property. However, during construction, cleared areas and stockpiles would be stabilized through the use of temporary seeding, as required. Sediment barriers and other erosion control measures would remain in place until disturbed areas are permanently stabilized, which would include the installation of roads and landscaping. Thus, the proposed project would comply with this recommendation.

<u>Fertilizer</u>

- *Retain as much of the natural vegetation of the site as possible. Minimize grade changes and site clearing*

There are currently 19.13± acres of vegetation on the subject property, including 4.06± acres of forested areas and 15.07± acres of grass/brushlands. Upon implementation of the proposed project, there would be approximately 40.58± acres of lawn/landscaping, consisting of native and/or low-maintenance species, to the maximum extent practicable. In order to develop the property, clearing would occur to construct the internal roadways, parking areas and buildings. However, as previously discussed, the majority of the subject property currently supports unvegetated to sparsely-vegetated conditions due to historical and ongoing commercial and agricultural uses, and, therefore, the impact from the removal of natural vegetation and grade changes would not pose a significant adverse impact, and would comply with the intent of this recommendation.

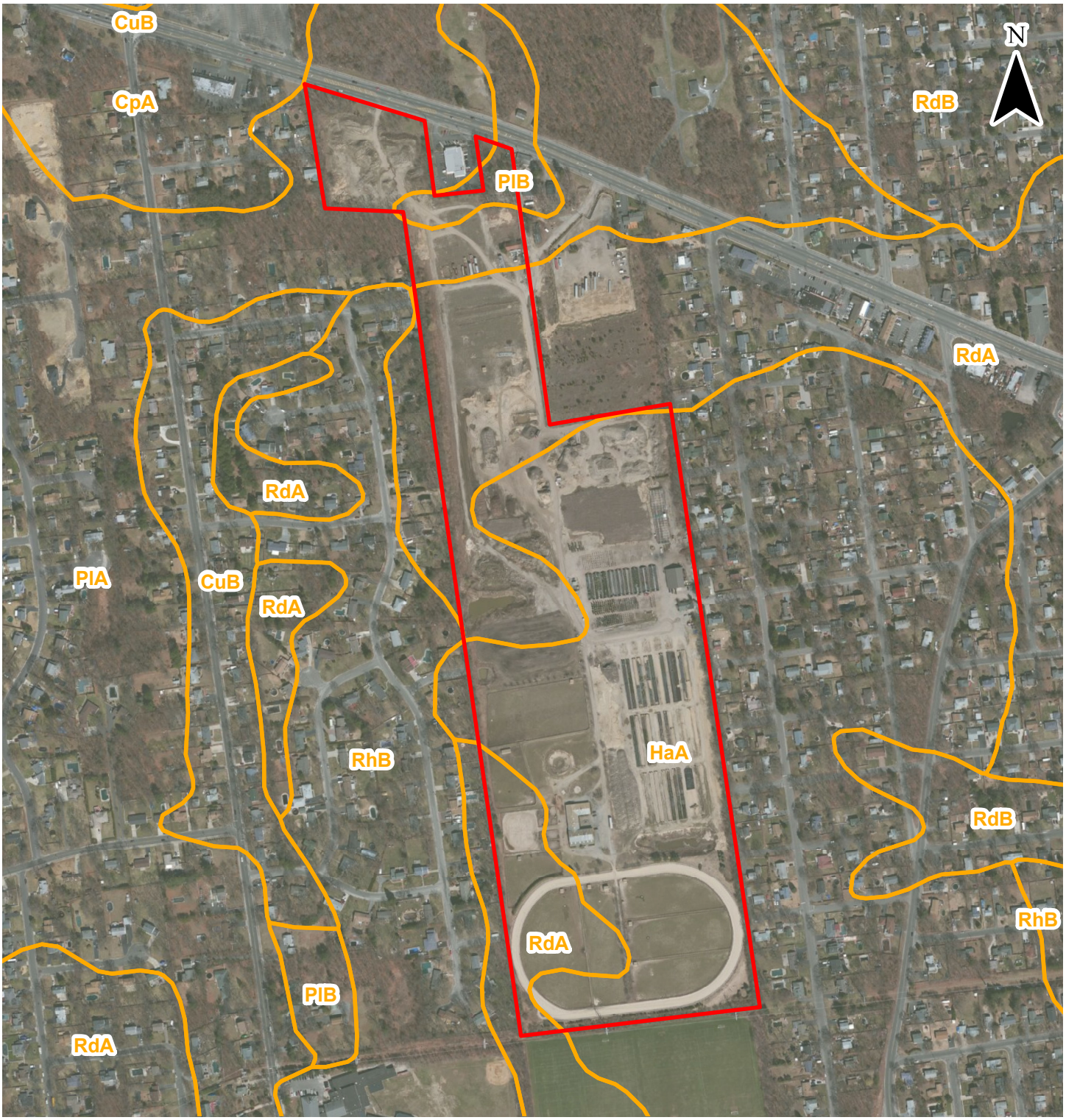
- *Avoid the use of lawns where the presence of the following conditions indicate potential problems in the establishment and maintenance of turf: soil constraints, including a seasonal high water table within six inches of surface soil*

  As indicated in Figure 19, the subject site is mapped with HaA, PlA, PlB, and RdA soils. Based on the *Soil Survey of Suffolk County, New York*[24], HaA and RdA soils, which comprise the majority of the subject property, have only slight limitations for lawns/landscaping. PlA and PlB soils have severe limitations for the development of lawn/landscaping due to a sandy surface layer; however, these soils are found in only the northern portion of the subject property and top soil would be brought to the site for landscaping, as necessary, to mitigate potential limitations due to the sandy surface layer. As the depth to groundwater beneath the subject property ranges from approximately 61 feet to 108± feet bgs, a seasonal high water table is not a concern. As such, the proposed project would comply with the intent of this recommendation.

- *Use native plants for the planting of areas that have been disturbed by grading. Consider the use of alternative types of groundcover and other plant materials to avoid or reduce lawn area and the consequent need for fertilizer applications, extensive watering and maintenance*

[24] *Soil Survey of Suffolk County, New York,* United States Department of Agriculture, Soil Conservation Service (Washington, D.C.: United States Department of Agriculture, 1975).

Date: 07.15.14



The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Soil Profile Map

Figure 19

Subject Property (Boundaries are approximate)

Soil Profile

0 275 550 Feet

On-Site Soil Key:

HaA - Haven loam, 0 - 2 Percent Slopes
PlA - Plymouth loamy sand, 0 - 3 Percent Slopes
PlB - Plymouth loamy sand, 3 - 8 Percent Slopes
RdA - Riverhead sandy loam, 0 - 3 Percent Slopes

Sources: U.S. Department of Agricultura Soil Survey Geographich (SSURGO) Database for Suffolk County, New York (December 15, 2013)

Native and/or low-maintenance species, to the maximum extent practicable, with a mix of trees, including, oaks, lindens, zelkova, elm, and sweetgum, shrubs and herbaceous plants would be planted at the Arboretum. As such, the need for extensive watering, fertilizer application and maintenance would be significantly reduced. Therefore, the proposed project would comply with this recommendation.

Based on the aforementioned analyses, the proposed project would be consistent with the relevant recommendations of the *Handbook*.

Final Long Island Groundwater Management Program (1986)

The *LI Groundwater Management Program* developed program actions to address management issues with respect to groundwater quality and quantity. Those program actions that are relevant to the proposed action are analyzed below.

With respect to the program actions recommending that Suffolk County aggressively implement Articles 6 and 12 of the SCSC, as discussed under the *Suffolk County Sanitary Code* subsection, above, the proposed project would comply with the provisions of Articles 6 and 12, and, as such, would be consistent with these program actions of the *LI Groundwater Management Program*. In addition, as described in Section 3.5.1.1 above, the *LI Groundwater Management Program* recommends measures for discouraging waste and excessive use of potable water. The proposed project would incorporate the use of low-flow plumbing fixtures and native, low-maintenance landscape species. Based on the foregoing analyses, the proposed project would be consistent with the findings of the *LI Groundwater Management Program.*

3.5.2.2 Stormwater Runoff

Proposed Post-Development Stormwater Management Plan

As provided by the project engineer and summarized below, upon implementation of the proposed project, the subject property would generate 568,353± CF of runoff, based upon a total tributary area of 2,841,767 SF (65.24± acres), a runoff coefficient of 0.30, and an eight-inch rainfall. Based on the proposed improvements, as compared with existing conditions, the total volume of stormwater runoff generated at the subject property is expected to increase as a result of the construction of buildings, parking areas and driveways, from 0.67±-acres (1.0± percent of the subject site) to 20.38±-acres (31.2± percent of the subject site). According to information from the Town, the stormwater management system on the subject property would be required to contain runoff from an eight-inch rainfall, and therefore, based on the calculations above (as

provided by the project engineer) total system capacity of 568,353± CF would be required. The proposed drainage system has been designed to provide a total capacity of 568,353± CF distributed among the proposed drywells, leaching pools, recharge basins and drainage ponds. Specifically, there would be three constructed artificial pond areas with capacity for drainage in the northern and central portions of the subject property and two recharge basins in the southern portion of the subject property. Therefore, the proposed stormwater management system would provide adequate capacity to contain and recharge all stormwater generated during an eight-inch rainfall event on site. Furthermore, the inclusion of the constructed artificial ponds would provide a sustainable drainage features within the overall drainage plan.

As indicated in Section 3.5.1.1 of this DEIS, based on published data, the depth to groundwater at the subject site is expected to range from approximately 61± feet to 108± feet bgs. Therefore, since the depth of the bottom of the proposed drywells would be about 12 feet, adequate separation distance would exist between the bottom of the proposed drywells and the water table, to allow substantial filtration before stormwater is ultimately discharged to groundwater.

In addition, proposed stormwater management system would comply with the current Subdivision, Land Development and Stormwater Management and Erosion Control regulations of the Town Code (Chapters 85-843 and 86 and SR) and would incorporate non-point source pollution mitigation measures. As such, no significant adverse impacts associated with stormwater runoff are expected.

Chapter 86 of the Town of Brookhaven Town Code: Stormwater Management and Erosion Control

The Arboretum's stormwater management system would comply with all applicable stormwater management requirements and controls as set forth by Chapter 86, and would conform to the requirements of NYSDEC SPDES General Permit for Construction Activities. Runoff generated by the proposed project would be collected and recharged by stormwater management infrastructure, and, as such, would not allow for stormwater to discharge to adjacent properties. By collecting and recharging stormwater on-site, stormwater would not risk contamination by pollutants, protecting groundwater and surface water quality. With regard to the relevant provisions of Chapter 86 of the Town Code, a consistency analysis follows:

- *Pursuant to §86-6, as part of any land development activity, a stormwater pollution prevention plan (SWPPP) must be filed and approved by the Town's Stormwater*

Management Officer, and must include all those materials as required by Chapter 86-6(B)(1).

A SWPPP would be prepared in compliance with §86-6(B)(1) of the Town Code and would be submitted to the Town's Stormwater Management Officer.

- *Pursuant to §86-7(A), stormwater management practices that are designed and constructed in accordance with NYSDEC's* NYS Stormwater Manual *and* Standards and Specifications *meet Town standards.*

  The Arboretum's stormwater management system would be designed in accordance with the above-referenced technical guides, brief summaries of which are included in Section 3.5.1.2 of the DEIS.

- *Stormwater management facilities must be maintained during and after construction in accordance with the provisions of §86-8*

  The stormwater management infrastructure, as described above, would be maintained during and after construction in accordance with §86-8.

- *Monitoring reports and as-built plans for stormwater management practices on site must be submitted in accordance with the provisions of §86-9.*

  The proposed project would comply with this requirement, in accordance with §86-9.

Consistency with the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001)

As discussed in Section 3.5.1.2 of the DEIS, certain discharges are unlawful unless they are authorized by a NPDES permit or by a state permit program. The New York SPDES program includes a General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001).

There would be no discharge to "Waters of the United States" or to "Waters of New York State" under the proposed project, as measures would be implemented to contain stormwater on-site and limit soil erosion and sedimentation during construction.

As indicated above, a SWPPP would be prepared and would include erosion and sedimentation controls and methods by which stormwater would be

accommodated during construction, consistent with the Chapter 86 of the Town Code, the *Standards and Specifications* (NYSDEC, 2005) and the *NYS Stormwater Manual* (NYSDEC, 2010). The erosion and sediment control measures to be incorporated into the SWPPP would generally include the following:

- Sediment barriers (i.e., silt fences, hay bales or approved equal) would be installed prior to any grading work along the limits of disturbances and would be maintained for the duration of the work.

- No sediment from the site would be permitted to wash onto or enter adjacent properties, roads, storm drains, etc.

- All materials spilled, dropped, washed or tracked onto the paved surfaces would be removed immediately.

- Graded and stripped areas and stockpiles would be stabilized through temporary seeding, as required. When final grading is complete, turf would be established as soon as possible. In the interim, hay, straw mulch or other approved means would be used to stabilize areas until turf establishment can be completed.

- Drainage structures installed as part of the proposed project would be protected from sediment buildup through the use of sediment barriers, sediment traps, etc., as required. Controls would remain in place until the disturbed areas draining to the inlet have been stabilized.

- Proper maintenance of erosion control measures would be performed by the contractor as indicated by periodic inspection and after heavy or prolonged storms, including, but not limited to, cleaning of sediment basins or traps, cleaning or repair of sediment barriers, cleaning and repair of berms and diversions, and cleaning and repair of inlet protection.

- Appropriate means would be used to control dust during construction (i.e., application of water during dry periods).

- The installation of drywells and regrading activities would control and direct the routes of water flow on-site to minimize the impacts associated with overland flow.

- Clearing and grading would be scheduled so as to minimize the size of exposed areas and the length of time that areas are exposed

- Sediment would be trapped on the subject site through erosion and sedimentation control measures

Under post-development conditions, the proposed stormwater management system would contain and is expected to recharge virtually all of the stormwater runoff generated at the subject property (see discussion above and the *Conceptual Grading Drainage Plan* in Appendix C). As the subject property would disturb greater than five acres of land, the SWPPP to be prepared would also address post-development stormwater management. Coverage would be obtained under GP-0-10-001, and erosion and sedimentation controls and stormwater management would be implemented in accordance with a SWPPP (to also be reviewed by the Town in accordance with Chapter 86 of the Town Code), in satisfaction of all relevant requirements.

Based on the information presented above, the proposed project would comply with the requirements of the New York SPDES program.

Long Island Segment of the Nationwide Urban Runoff Program (NURP Study)

The *NURP Study* has made recommendations with regard to stormwater runoff, as it pertains to the protection of groundwater and surface water resources. The proposed project's consistency with the relevant recommendations follows:

- *Continue to use recharge basins wherever feasible for the disposal of stormwater and the replenishment of the groundwater.*

  The proposed stormwater management plan includes collection and infiltration of stormwater by the use of drywells, leaching pools, recharge basins and stormwater ponds. Stormwater ponds are similar to recharge basins in that they are designed to store a specific volume of stormwater and provide a means for infiltration of stormwater into the ground, through the base of the pond. Therefore, the proposed development would be in keeping with the intent of this recommendation.

- *Consider the use of in-line storage leaching drainage systems, or components thereof, as a substitute for recharge basins in areas, other than parking lots, where maintenance will be assured and where the value of the land for development purposes is greater than the cost of installing and maintaining the underground system. Storage leaching drainage systems should also be considered for use where the installation of recharge basins is not feasible*

  The proposed stormwater management system includes the installation of drywells throughout the paved areas, leaching pools, three stormwater ponds and two recharge basins to contain and recharge stormwater runoff on-site. The Homeowners Association (for the residential component) and the property manager of the commercial portion of the site would be

expected to hire contractors who would properly maintain all elements of the stormwater management system, in keeping with this recommendation.

- *Prevent illegal discharges to drainage systems or recharge basins. Such discharges, which often result from improper storage or deliberate dumping or chemicals, must be controlled at the source*

  The proposed drainage system would be designed in accordance with prevailing regulations. Given that no industrial uses are proposed, and that household chemicals would be disposed of according to all applicable regulations, no potential related illegal discharges associated with the improper storage of chemicals would be expected. As such, the proposed project complies with this recommendation.

Based on the foregoing analysis, the proposed project would be consistent with the recommendations of the *NURP Study*. Further, compliance with local and state stormwater regulations, including the requirements of the NYSDEC SPDES program, as discussed above, would ensure consistency with the *NURP Study* findings.

3.5.2.3 Surface Water, Wetlands and Floodplains

As indicated in Section 3.5.1.3 of this DEIS, there is a 0.23±-acre artificial drainage feature that is regulated under Chapter 81 of the Town Code as an artificial wetland. The proposed project would constitute a regulated activity under the provisions of Chapter 81 of the Town Code and would require a Wetlands and Waterways permit.

The proposed project involves the creation of three drainage ponds on the subject property. The ponds would serve as part of the stormwater management system, and stormwater collected by drywells across the subject property would be discharged to the ponds via underground pipes. The ponds would also provide wetland and aquatic habitat and function as an aesthetic element of the overall landscaping. In addition, as discussed in the subsection below, the proposed project would comply with Chapter 81 of the Town Code regulations. Based on the foregoing, the proposed project would have no significant adverse impacts to wetlands.

As the subject site is not located within an area of special flood hazard, there would be no associated impacts.

Chapter 81 of the Town of Brookhaven Town Code: Wetlands and Waterways

As previously discussed, there are no Federal or New York State-regulated wetlands, surface waters, coastlines, or lands underwater at the subject property. However, there is a 0.23±-acre artificial drainage feature that is regulated under Chapter 81 of the Town Code as an artificial wetland. According to Town of Brookhaven DEP, the three proposed on-site drainage ponds would be an acceptable form of restoration, satisfying the requirement for at least a two–to-one restoration ratio. In addition, a Wetlands and Waterways permit would be obtained, in accordance with the requirements set forth in §81-6 of the Town Code, and a maintenance plan for the constructed pond areas would be submitted to the Town of Brookhaven DEP. Thus, the proposed project would comply with Chapter 81 of the Town Code.

3.5.3 Mitigation Measures

The proposed project is not expected to result in significant adverse impacts to water resources; however, the following measures have been incorporated into the project to minimize or eliminate potential impacts to water resources:

- Sanitary waste generated by The Arboretum would be disposed of via connection to the proposed on-site STP, which would be designed and constructed in accordance with the prevailing regulations of the SCDHS. Moreover, the Applicants would apply for a SPDES permit from the NYSDEC, which would regulate effluent discharges from the STP. These measures would help mitigate potential impacts to groundwater from the sewage effluent generated by redevelopment within the subject site.
- Water conservation measures, such as low-flow fixtures, low-flow toilets, and drip irrigation, would be used within the development to minimize the water demand.
- The proposed project would adhere to the relevant requirements and recommendations of the *Final Long Island Groundwater Management Program*, the *NURP Study*, the *208 Study*, the *Nonpoint Source Management Handbook*, and other relevant water resources studies.
- The proposed stormwater management system would be designed to accommodate, and recharge on-site, stormwater runoff generated during an eight-inch rainfall event.
- The proposed project would use native or low maintenance plantings, to the maximum extent practicable, to reduce irrigation needs and fertilizer

demand. These measures would mitigate potential impacts to water quantity and quality.

- The proposed project involves minimizing the number of paved parking spaces through the landbanking of 112 parking spaces (see Section 3.4.2). This would decrease the amount of impervious surfaces on-site, and thus lower the amount of stormwater runoff generated.
- Three drainage ponds would be constructed on the subject property, representing a greater than two-to-one restoration ratio for artificial pond/wetland features and a pond/wetland maintenance plan would be submitted to the Town of Brookhaven DEP.

3.6 Ecological Resources

3.6.1 Existing Conditions

Existing ecological conditions at the 65.24±-acre subject property were assessed through a review of federal and NYSDEC maps and records and a field inspection of the site conducted by VHB Project Scientist David Kennedy, on September 25, 2014 (resume included in Appendix H).

3.6.1.1 Habitats/Vegetation

As observed during the field inspection, virtually the entire subject property has been subject to significant clearing and ground disturbance associated with historical and ongoing commercial and agricultural uses. As a consequence, the vast majority of the subject property is characterized by unvegetated or sparsely-vegetated ground surfaces, or areas dominated by early successional vegetation. Sparsely-vegetated soil stockpiles occur across much of the central site area, while an active commercial nursery and fallow agricultural fields occupy eastern portions of the subject property. The northern, western and southern portions of the site support areas of early successional vegetation, including a vacant/abandoned equestrian facility located at the southern portion of the subject property. An excavated, artificial drainage feature is located at the west-central portion of the site. Several occupied and unoccupied buildings are located at the subject property, and vehicles, equipment and storage containers are parked or stored across the northern and eastern site areas. A network of unpaved and essentially unvegetated driveways transect the site, including a driveway that bisects the subject property from north to south.

In order to further characterize the habitats identified above, the New York Natural Heritage Program[25] (NYNHP) publication "*Ecological Communities of New York State*"[26] (ECNYS) was consulted. This guidance provides detailed descriptions and includes global and state rarity rankings for many habitats found within New York. Utilizing ECNYS, the following seven ecological communities were identified at the subject property during the field inspection and are shown on the following Ecological Communities Map (see Figure 20).

[25] The NY Natural Heritage Program is a partnership between the New York State Department of Environmental Conservation and the State University of New York College of Environmental Science and Forestry.

[26] Edinger, G.J., et al. (editors). 2002. *Ecological Communities of New York State*. Second Edition (Draft). New York Natural Heritage Program, NYSDEC.

Date: 10.16.14

The Arboretum at Farmingville

Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

Ecological Communities Map

Figure 20

Ecological Community

0 250 500 Feet

Ecological Community Symbol Key:
CRC = Cropland/Row Crops (fallow)
CRM = Construction/Road Maintenance Spoils
RSE = Rural Structure Exterior
SOF = Successional Old Field
SSH = Successional Southern Hardwoods
URP = Unpaved Road/Path
WRB = Water Recharge Basin (artificial wetland)

Ecological community descriptions taken from Edinger, G.J., et al. (editors). 2002. Ecological Communities of New York State. Second Edition (Draft). New York Natural Heritage Program, NYSDEC.

Existing Ecological Communities at the Subject Property

- Construction/Road Maintenance Spoils
- Cropland/Row Crops (fallow)
- Successional Old Field
- Unpaved Road/Path
- Successional Southern Hardwoods
- Rural Structure Exterior
- Water Recharge Basin

The following narrative provides a description of each of the seven aforementioned ecological communities, based upon the ECNYS community descriptions and supplemented with field observations from the subject property.

The four ecological communities described below encompass those site areas that are either unvegetated or sparsely-vegetated due to recent ground disturbance or as a result of development with commercial and residential buildings.

Construction/Road Maintenance Spoils

> *"A site where soil from construction work and/or road maintenance materials have been recently deposited. There is little, if any, vegetation."*

Cropland/Row Crops

> "*An agricultural field planted in row crops such as corn, potatoes and soybeans. This community includes vegetable gardens in residential areas*."

Unpaved Road/Path

> *"A sparsely vegetated road or pathway of gravel, bare soil, or bedrock outcrop. These roads or pathways are maintained by regular trampling or scraping of the land surface. The substrate consists of the soil or parent material at the site, which may be modified by the addition of local organic material (woodchips, logs, etc.) or sand and gravel. One characteristic plant is path rush (Juncus tenuis)…"*

Rural Structure Exterior

> *"The exterior surfaces of metal, wood or concrete structures (such as commercial buildings, barns, houses, bridges) or any structural surface compose of inorganic materials (glass, plastics, etc.) in a rural or sparsely populated suburban area.*

These sites may be sparsely vegetated with lichens, mosses and terrestrial algae; occasionally vascular plants may grow in cracks. Nooks and crannies may provide nesting habitat for birds and insects, and roosting habitat for bats."

According to the NYNHP, the four ECNYS communities listed above are distributed throughout New York State and have been assigned rarity rankings of G5, S5. G5 indicates a community that is considered "*demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery*." The S5 ranking refers to a community that is considered to be "*demonstrably secure in New York State*."

As noted during the field inspection, vegetation within the four ECNY communities described above is characterized primarily by common *"weedy"* herbaceous plants, including non-native/invasive species such as mugwort (*Artemesia vulgaris*), Queen Anne's lace (*Daucus carota*) and giant foxtail (*Setaria faberi*), as well as native herbs including goldenrods (*Solidago spp*.) red clover (*Trifolium repens*), lady's thumb (*Polygonum persicaria)* and pokeweed (*Phytolacca americana*). Within the four communities, the density of the vegetative cover ranges from non-existent to sparse, and is apparently dependent on the degree of disturbance and length of time since the disturbance occurred. In particular, the active commercial nursery and those portions of the Road Maintenance /Construction Spoils community that are not subject to current disturbance are characterized by sparse, patchy vegetative cover, while the Unpaved Road/Path community and recently excavated or stockpiled areas of the Road Maintenance /Construction Spoils community are essentially unvegetated. In the absence of further ground disturbance, it is anticipated that all of these communities would progress to Successional Old Field habitats over time, through the process of ecological succession. However, at the current time, recent and/or ongoing disturbance has prevented succession to this ecological stage from occurring, and the communities remain in the earliest stages of ecological succession.

The western and southern portions of the subject property, including the vacant/abandoned equestrian facility at the southern portion of the site, are dominated by brushy habitat that is best described by the ECNYS Successional Old Field community description:

Successional Old Field

"A meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development), and then abandoned.

Characteristic herbs include goldenrods (Solidago altissima, S. nemoralis, S. rugosa, S. juncea, S. canadensis, and Euthamia graminifolia), bluegrasses (Poa pratensis, P. compressa), timothy (Phleum pratense), quackgrass (Agropyron repens), smooth brome (Bromus inermis), sweet vernal grass (Anthoxanthum

odoratum), orchard grass (Dactylis glomerata), common chickweed (Cerastium arvense), common evening primrose (Oenothera biennis), oldfield cinquefoil (Potentilla simplex), calico aster (Aster lateriflorus), New England aster (Aster novae-angliae), wild strawberry (Fragaria virginiana), Queen-Anne's lace (Daucus corota), ragweed (Ambrosia artemisiifolia), hawkweeds (Hieracium spp.), dandelion (Taraxacum officinale), and ox-tongue (Picris hieracioides). Shrubs may be present, but collectively they have less than 50% cover in the community.

Characteristic shrubs include gray dogwood (Cornus foemina ssp. racemosa), silky dogwood (Cornus amomum), arrowwood (Viburnum recognitum), raspberries (Rubus spp.), sumac (Rhus typhina, R. glabra), and eastern red cedar (Juniperus virginiana)..."

The Successional Old Field ecological community is distributed throughout New York State and is ranked G4, S4. According to the NYNHP, G4 indicates a community that is considered "*apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery*." The S4 ranking denotes a community that is considered "*apparently secure in New York State*."

Many of the species listed in the ECNYS description are represented within the Successional Old Field Community at the subject property, including goldenrods, dandelions, Queen Anne's lace, ragweed and orchard grass. Other dominants noted within this community during the field inspection include bushy aster (*Symphyotrichum dumosum*), foxtails, and non-native/invasive mugwort. Additionally, some shrubs and vines are present, particularly within edge areas between the on-site Successional Old Field Communities and neighboring Successional Southern Hardwoods communities located along the site perimeter and on adjoining properties. These include primarily non-native/invasive shrubs and vines such as multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellata*) Japanese honeysuckle (*Lonicera japonica*), and Asiatic bittersweet (*Celastrus orbiculatus*).

Wooded communities exist along border areas of the site with the neighboring residential communities to the east and west and the transmission line right-of-way to the south. Based upon the dominant species observed, these habitats have been characterized according to the Successional Southern Hardwoods ecological community description, which is described in ECNYS as follows:

Successional Southern Hardwoods

"A hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: American elm (Ulmus americana), slippery elm (U. rubra), white ash

(Fraxinus americana), red maple (Acer rubrum), box elder (Acer negundo), silver maple (A. saccharinum), sassafras (Sassafras albidum), gray birch (Betula populifolia), hawthorns (Crataegus spp.), eastern red cedar (Juniperus virginiana), and choke-cherry (Prunus virginiana). Certain introduced species are commonly found in successional forests, including black locust (Robinia pseudo-acacia), tree-of-heaven (Ailanthus altissima), and buckthorn (Rhamnus cathartica). Any of these may be dominant or co-dominant in a Successional Southern Hardwoods forest. Southern indicators include American elm, white ash, red maple, box elder, choke-cherry, and sassafras. This is a broadly defined community and several seral and regional variants are known."

According to the NYNHP, the Successional Southern Hardwoods ecological community is distributed throughout New York State and is ranked G5, S5.

As observed during the field inspection, the perimeter vegetative communities at the subject property are narrow, linear features ranging in width from 20±-feet to less than five feet in width. As such, these features are essentially elongated wooded "edge" communities that do not support woodland interior habitat. It is likely that many of the resident trees within the perimeter communities were planted for ornamental purposes, as windbreaks and/or for privacy. Representative tree species observed include black locust, eastern cottonwood (Populus deltoides), black cherry (Prunus serotina), oaks (Quercus spp.), catalpa (Catalpa sp.), silver maple (Acer saccharinum), willows (Salix spp.) white mulberry (Morus alba), staghorn sumac (Rhus typhina), as well as ornamental spruces (Picea spp.) and arborvitaes (Thuja spp.) . Also present are non-native/invasive shrubs and trees, including autumn and Russian olive, tree-of-heaven, and Norway maple (Acer plantanoides).

Water Recharge Basin

"*the aquatic community of a constructed depression near a road or development that receives runoff from paved surfaces and allows the water to percolate through to the groundwater, thereby recharging the groundwater…*"

According to the NYNHP, the Water Recharge Basin ecological community is distributed throughout New York State and is ranked G5, S5.

An excavated, 0.23±-acre[27] drainage feature located within the surrounding Successional Old Field community at the west-central portion of the subject property is best described by the above ECNYS community description. According to an anecdotal account from a current site occupant, this anthropogenic (created or altered by humans) feature was excavated circa 1985,

[27] As scaled from Town of Brookhaven aerial imagery.

in order to provide on-site stormwater drainage. The site occupant further indicated that the drainage feature is subject to periodic maintenance efforts with heavy equipment. The feature was observed to contain several inches of standing water at the time of the field inspection. No emergent or floating vegetation was observed within the drainage feature, and the vegetative community of the steeply sloped sides of the excavation is comprised of the upland Successional Old Field species listed above, including bushy aster, lady's thumb, mugwort, goldenrods, Queen Anne's lace, autumn and Russian olive (*Elaeagnus spp.*) and staghorn sumac (*Rhus typhina*).

Additional information regarding the drainage feature is provided below in Section 3.6.1.4.

In summary, based upon the foregoing site observations and community descriptions, the subject property has been subject to historical and ongoing disturbances related to various commercial and agricultural site uses. As a result, the majority of the site supports unvegetated to sparsely-vegetated conditions and early successional communities characterized primarily by weedy herbaceous vegetation. Overall, tree and shrub cover at the site is minimal and restricted primarily to narrow edge habitats located along the site boundaries. Due to their linear configuration, these areas do not support woodland interior habitat. As a result of various site usages and associated ground disturbances, overall vegetative species diversity at the subject property is low, and the site supports a number of non-native/invasive plant species, some of which are dominant or co-dominant within their respective communities. As a general rule, the presence of non-native/invasive vegetation reduces the ecological value of a habitat by out-competing native vegetation, lowering overall species diversity and reducing or eliminating breeding and non-breeding habitat for native wildlife species. Accordingly, the overall habitat quality of the site has been degraded due to anthropogenic disturbances and subsequent colonization by non-native/invasive plant species. The seven ECNYS ecological communities identified at the subject property include disturbed, developed and successional habitats. According to the ECNYS, these ecological communities are distributed throughout New York State and are considered by the NYNHP to be either demonstrably or apparently secure, both globally and within New York State.

Plant Species List

The following list provides an inventory of terrestrial/upland and wetland vegetation observed during the September 25, 2014 field inspection of the subject property. This plant species list is not intended to be an all-inclusive inventory of the vegetative species present at the subject property.

Trees

red maple	*Acer rubrum*
Norway maple	*Acer plantanoides*
silver maple	*Acer saccharinum*
tree-of heaven	*Ailanthus altissima*
gray birch	*Betula populifolia*
catalpa	*Catalpa sp.*
Russian olive	*Elaeagnus angustifolia*
autumn olive	*Elaeagnus umbellata*
eastern red cedar	*Juniperus virginiana*
white mulberry	*Morus alba*
spruce	*Picea sp.*
eastern cottonwood	*Populus deltoides*
black cherry	*Prunus serotina*
white oak	*Quercus alba*
scarlet oak	*Quercus coccinea*
northern red oak	*Quercus rubra*
black oak	*Quercus velutina*
staghorn sumac	*Rhus typhina*
black locust	*Robinia pseudoacacia*
weeping willow	*Salix babylonica*
sassafras	*Sassafras albidum*
arborvitae	*Thuja sp.*

Shrubs and Vines

barberry	*Berberis sp.*
Asiatic bittersweet	*Celastrus orbiculatus*
privet	*Ligustrum sp.*
Japanese honeysuckle	*Lonicera japonica*
Tatarian honeysuckle	*Lonicera tatarica*
Virginia creeper	*Parthenocissus quinquefolia*
multiflora rose	*Rosa multiflora*
brambles	*Rubus spp.*
roundleaf greenbrier	*Smilax rotundifolia*
poison ivy	*Toxicodendron radicans*
grapes	*Vitis spp.*

Herbaceous Plants

bushy aster	*Symphyotrichum dumosum*
common yarrow	*Achillea millefolium*
garlic mustard	*Allaria petiolata*
common ragweed	*Ambrosia artemisiifolia*
hemp dogbane	*Apocynum cannabinum*
common mugwort	*Artemisia vulgaris*

orchard grass	*Dactylis glomerata*
Queen Anne's lace	*Daucus carota*
crabgrasses	*Digitaria* spp.
Fescues	*Festuca* spp.
bedstraw	*Galium* sp.
Canada lettuce	*Lactuca canadensis*
butter and eggs	*Linaris vulgaris*
ryegrass	*Lolium* sp.
switch grass	*Panicum virgatum*
timothy grass	*Phleum pratense*
common reed	*Phragmites australis*
pokeweed	*Phytolacca americana*
narrowleaf plantain	*Plantago lanceolata*
broadleaf plantain	*Plantago major*
bluegrass	*Poa* sp.
lady's thumb	*Polygonum persicaria*
dwarf cinquefoil	*Potentilla canadensis*
giant foxtail	*Setaria faberi*
tall goldenrod	*Solidago altissima*
rough-stemmed goldenrod	*Solidago rugosa*
goldenrod	*Solidago sp.*
sowthistle	*Sonchus sp.*
common chickweed	*Stellaria media*
common dandelion	*Taraxacum officinale*
New York fern	*Thelypteris noveboracensis*
marsh fern	*Thelypteris palustris*
red clover	*Trifolium pratense*
white clover	*Trifolium repens*
moth mullein	*Verbascum blattaria*
common mullein	*Verbascum thapsus*
common violet	*Viola sororia*

3.6.1.2 Wildlife

In addition to the September 25, 2014 field inspection, and in order to further investigate the potential on-site species assemblage, VHB consulted with the NYNHP and performed research of NYSDEC and United States Fish and Wildlife Service (USFWS) records regarding the potential presence or absence of particular species at and in the vicinity of the subject property. Based upon these resources and the field inspection, a summary of the birds, mammals and herpetofauna (amphibians and reptiles) observed or expected on the subject property follows.

Birds

Avian species are the most common form of wildlife observed and expected at the subject property. The 13 species listed below were observed at or over the site during the September 25, 2014 field inspection. All of the birds on the list are species that are common to developed or otherwise disturbed habitats on Long Island, including those at the subject property. Moreover, nine of the birds on the list also appear on the *List of Common Suburban Birds that Occur in the Town of Brookhaven* (copy included in Appendix H).[28]

Canada goose	*Branta canadensis*
northern cardinal*	*Cardinalis*
American crow	*Corvus brachyrhynchos*
blue jay*	*Cyanocitta cristata*
herring gull	*Larus argentatus*
northern mockingbird*	*Mimus polyglottos*
house sparrow	*Passer domesticus*
black-capped chickadee*	*Poecile atricapillus*
common grackle*	*Quiscalus quiscula*
chipping sparrow*	*Spizella passerina*
European starling*	*Sturnus vulgaris*
American robin*	*Turdus migratorius*
mourning dove*	*Zenaida macroura*

*Indicates that species is included on the *List of Common Suburban Birds that Occur in the Town of Brookhaven.*

In order to provide a detailed estimate of other avian species potentially utilizing the site, *The New York State Breeding Bird Atlas*[29] was consulted. According to this resource, a total of 74 bird species were identified between 2000 and 2005 within the two survey blocks in which the subject property is located (Blocks 6652C and 6652D). Of these species, 26 are confirmed as breeding, 16 are listed as probable breeders and 5 are listed as possibly breeding in Block 6652C. With respect to Block 6652D, there are 40 confirmed breeding species, 24 probable breeders and 7 possible breeders (copies of the atlas reports for Blocks 6652C and 6652D are included in Appendix H). It is important to note that Blocks 6652C and 6652D total 18 square miles in area and support a diverse range of habitats that are not supported at the subject property, including native grasslands, large tracts of forested habitat and riverine habitats (i.e., the Carmans River). As such, many of the avian species recorded for Blocks 6652C and 6652D require breeding and non-breeding habitats that are not supported at the subject property, and, therefore, these birds are not expected to utilize the site, except perhaps as occasional transients. For example, due to the absence of large blocks of forested

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[28] Wade, M.C., Griffen, N.R., et. al. 1990. *Town of Brookhaven New York 1990 Natural Resources Inventory*, p. 119 Town of Brookhaven.

[29] McGowan, K.J. and K. Corwin, eds. 2008. *The Atlas of Breeding Birds in New York State*. Cornell University Press. Data also available online at http://www.dec.ny.gov/animals/51030.html . Accessed October 2, 2014.

habitat at or adjacent to the subject property, (see discussion in Section 3.6.1.1), it is not anticipated that reclusive species of forest interiors that are intolerant of human activity (e.g., wood thrush [*Hylocichla mustelina*], ovenbird [*Seiurus aurocapilla*] and black-billed cuckoo [*Coccyzus erythropthalmus*]) would frequent the site, despite their inclusion on the two aforementioned atlas block lists.

Similarly, it is not anticipated that obligate grassland bird species regularly visit the site, due to the absence of native grassland habitat at or adjacent to the subject property. Rather, based upon the existing site conditions, the subject property is best suited to those avian species that are tolerant of human activity and adapted to developed and otherwise disturbed habitats. These include the common avian species noted at the site during the field inspection, as well as similar species noted on the *List of Common Birds that Occur in the Town of Brookhaven* and the two aforementioned atlas block lists.

Mammals

Eastern gray squirrel (*Sciurus carolinensis*) and red fox (*Vulpes vulpes*) were the only mammal species observed at the subject property at the time of the field inspection, although a woodchuck (*Marmota monax*) burrow and evidence of whitetail deer (*Odocoileus virginianus*) and eastern cottontail (*Sylvilagus floridanus*) scat and/or browsing were also noted.

In order to determine other mammal species that may utilize the site, existing surveys of Long Island mammalian populations, including *The Mammals of Long Island, New York*[30] (Connor, 1971) and the *List of Mammals that Occur in the Town of Brookhaven*[31] (copy included in Appendix H) were consulted. Based upon these resources, as well as an evaluation of existing ecological conditions, the following mammal species have been identified as potentially utilizing the subject property. However, this list is not intended to be an all-inclusive inventory of on-site mammals.

short-tailed shrew	*Blarina brevicauda*
star-nosed mole	*Condylura cristata*
Virginia opossum	*Didelphis virginialis*
woodchuck	*Marmota monax*
meadow vole	*Microtus pennsylvanicus*
house mouse	*Mus musculus*
whitetail deer	*Odocoileus virginianus*
white-footed mouse	*Peromyscus leucopus*
raccoon	*Procyon lotor*

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[30] Connor, Paul F. 1971. *The Mammals of Long Island. New York* State University of New York, New York Museum and Science Service.
[31] Wade, M.C., Griffen, N.R., et. al. 1990. *Town of Brookhaven New York 1990 Natural Resources Inventory*, p. 133. Town of Brookhaven.

Norway rat	*Ratus norvegicus*
eastern mole	*Scalopus aquaticus*
eastern gray squirrel*	*Sciurus carolinensis*
masked shrew	*Sorex cinerus*
eastern cottontail	*Sylvilagus floridanus*
eastern chipmunk	*Tamias striatus*
red fox*	*Vulpes vulpes*

*Indicates species was observed on-site.

Due to resource limitations and developed/disturbed conditions, it is not anticipated that all of the species listed above actually utilize the subject property. The smaller rodent species listed above (e.g., mice, moles and shrews) are expected to be the most abundant mammals at the site. However, due to their diminutive sizes and predominantly subterranean life histories, these species are not easily observed. Eastern gray squirrel, woodchuck, and eastern cottontail are expected to be among the most commonly observed mammal species at the subject property.

Herpetofauna

Two species of herpetofauna were observed at the western portion of the subject property during the field inspection: Fowler's toad (*Bufo fowleri*) and American bullfrog (*Lithobates catesbeianus*). In order to identify other herpetofauna that may utilize the site, an evaluation of existing site conditions was performed. Additionally, the references *Reptiles and Amphibians Found within the Town of Brookhaven*[32] and the 1990-1995 New York State Amphibian and Reptile Atlas Project (NYSARAP) database[33] were consulted (copies included in Appendix H). These two resources include a total of 35 herpetofauna species identified within the Town of Brookhaven and the USGS Patchogue, New York Quadrangle. However, as that subject property does not provide necessary habitat requirements for many of these species, and taking into account the existing ecological conditions observed during the field inspection, it is not expected that the subject property is utilized by all of the herpetofauna on the lists. More specifically, given that the majority of the subject property is surrounded by suburban development and major roadways, and is located in an area that has been subject to historical and ongoing ground disturbance, development and other human activity, the site does not represent viable habitat for the majority of the herpetofauna on the two species lists.

Based upon the foregoing considerations, and taking into account the resource limitations resulting from the developed and otherwise disturbed site conditions documented previously, the subject property does not provide optimal habitat

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[32] Wade, M.C., Griffen, N.R., et. al. 1990. *Town of Brookhaven New York 1990 Natural Resources Inventory*, p. 155. Town of Brookhaven.
[33] New York State Department of Environmental Conservation. 2014. New York State Amphibian and Reptile Atlas Project. Available online at: http://www.dec.ny.gov/animals/7140.html. Accessed October 3, 2014.

for herpetofauna. Beyond the two species already discussed, the site supports potential habitat for several reptiles that are tolerant of development/disturbance and human presence, including eastern garter snake (*Thamnophis sirtalis*), northern brown snake (*Storeria dekayi*) and northern black racer (*Coluber constrictor*).

3.6.1.3 Rare/Protected Species and Communities

No New York State or federally-listed endangered, threatened or special concern plants or wildlife, or significant natural communities, were observed at the subject property at the time of the September 25, 2014 field inspection.
The 10 species that appear on the USFWS Federally Endangered and Threatened and Candidate Species List for Suffolk County (copy included in Appendix H) include five sea turtles and two marine shorebirds.[34] The remaining three species, sandplain gerardia (Agalinis acuta), seabeach amaranth (Amaranthus pumilus) and small whorled pogonia (Isotria medeoloides), are plants of undisturbed native grass prairies, marine shorelines and mature, undisturbed hardwood forests, respectively. As suitable habitat to support these 10 species does not exist at the subject property, they would not be expected to occur at the site and were not observed during the field inspection.

As part of this existing conditions assessment, consultations were undertaken with NYNHP to determine whether records exist for known occurrences of rare or State-listed animals, plants or significant natural communities on or in the immediate vicinity of the subject property. In correspondence dated October 27, 2014 (copy included in Appendix F), the NYNHP indicated that no recent records of this type currently exist. The correspondence further indicates that an historical record exists for the New York State Endangered herbaceous plant species downy lettuce (*Lactuca hirsute*) as occurring at or in the vicinity of the subject property.

Pursuant to 6 NYCRR §193.3, New York State Endangered plants are defined as:

> *"…species in danger of extirpation throughout all or a significant portion of their ranges within the state and requiring remedial action to prevent such extinction."*

New York State Endangered plants receive the following protection under the New York State ECL Section 9-1503:

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[34] United States Fish and Wildlife Service. 2014. Federally Endangered and Threatened and Candidate Species List for Suffolk Count. Available online at: http://www.fws.gov/northeast/nyfo/es/CoListCurrent.pdf. Accessed October 6, 2014.

> "*It is a violation for any person, anywhere in the state to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant. Each protected plant so picked, plucked, severed, removed, damaged or carried away shall constitute a separate violation*."

As indicated above, it is not a violation of New York State law for a property owner or those authorized by a property owner to remove or otherwise disturb New York State-protected plants growing at their property.

According to the NYNHP, historical records are those records dated from 1979 or earlier. The NYNHP historical record for downy lettuce and the NYSDEC's New York Nature Explorer (NYNE) website,[35] indicate that this plant was collected from "Selden sandplain" over 78 years ago, on August 13, 1936 (a copy of the NYNE database report is included in Appendix H). As such, the historical record is from Selden (located approximately one mile north of the subject property), rather than the subject property itself.

During the September 25, 2014 field inspection, a similar and much more common species of wild lettuce (Canada lettuce [*Lactuca canadensis*]) was noted growing within disturbed soils at the subject property. However, although the field inspection was conducted during the season when downy lettuce is most easily identified and discerned from other similar species of wild lettuce (i.e., during the flowering/fruiting season), downy lettuce was not observed at the subject property. Based upon the foregoing, the historical record for downy lettuce is not from the subject property, and it is unlikely that this species currently grows at the subject property.

No other records for rare/protected plant or wildlife species, or significant natural communities were identified by the NYNHP or during the NYNE database review.

3.6.1.4 Wetlands

Based upon a review of the NYSDEC Environmental Resource Mapper (ERM) website[36] and the NYSDEC Freshwater Wetland Map of Suffolk County, Patchogue, New York Quadrangle (Map No. 27 of 39),[37] there are no New York

[35] New York State Department of Environmental Conservation. 2014. New York Nature Explorer. Available online at: http://www.dec.ny.gov/natureexplorer/app/?x=QCDR9dvkYjiCDYERd95slA http://www.dec.ny.gov/animals/7140.html Accessed October 6, 2014.

[36] New York State Department of Environmental Conservation. Environmental Resource Mapper. Available online at: http://www.dec.ny.gov/imsmaps/ERM/viewer.htm Accessed October 6, 2014.

[37] New York State Department of Environmental Conservation. 1975. New York State Freshwater Wetland Map No. 20 of 39, Suffolk County.

State-regulated freshwater wetlands located at or adjacent to the subject property.

According to the USFWS NWI Mapper website[38] there are no surface water features (including potential federally-regulated wetlands) located at or adjacent to the subject property.

According to an anecdotal account from a site occupant, the 0.23±-acre anthropogenic drainage feature located at the west-central portion of the subject property was excavated circa 1985, in order to provide on-site stormwater drainage. The site occupant further indicated that the drainage feature is subject to periodic maintenance efforts with heavy equipment. The drainage feature was observed to contain several inches of standing water at the time of the field inspection. No emergent or floating vegetation was observed within the drainage feature, and the vegetative community along the steeply sloped sides of the excavation is comprised of the upland early successional plant species.

The drainage feature is regulated as an artificial wetland by the Town of Brookhaven.[39] However, based upon site observations and given the artificial nature and ongoing disturbance that occurs within the excavated area due to maintenance activities, this drainage feature does not represent a significant wetland habitat with respect to wetland functions and values.

3.6.2 Potential Impacts

An impact assessment of the proposed action on the existing ecological resources at the subject property follows.

3.6.2.1 Habitats and Vegetation

As a consequence of implementation of the proposed action, virtually the entire site would be cleared prior to redevelopment. As previously described in detail in the existing ecological conditions section of this DEIS, the property has been subject to historical and ongoing disturbances related to various commercial and agricultural site uses. As a result, the majority of the subject property supports unvegetated to sparsely-vegetated conditions and early successional communities characterized primarily by weedy herbaceous vegetation. This overall vegetative community supports common plant species of disturbed and early successional habitats, including a number of non-native/invasive plant and

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[38] United States Fish and Wildlife Service National Wetlands Inventory. Available online at: http://www.fws.gov/wetlands/Data/mapper.html. Accessed October 6, 2014.
[39] Pursuant to September 24, 2014 electronic mail communication from Town Assistant Waterways Management Supervisor Thomas Carrano (see Appendix F of this DEIS).

shrub species that readily colonize areas of disturbed soils and vacant land. Overall, tree cover at the site is minimal and restricted primarily to narrow edge habitats located along the site boundaries. Due to their linear configuration, these areas do not support woodland interior habitat.

As a result of redevelopment, five of the seven existing ecological communities at the subject property would no longer be represented. These are the ECNY Construction/Road Maintenance Spoils, Cropland/Row Crops, Unpaved Road/Path, Rural Structure Exterior and Successional Old Field ecological communities. As detailed previously, all five communities are distributed throughout New York State and are considered by the NYNHP to be either demonstrably or apparently secure, both globally and in New York State. Furthermore, the aforementioned communities are predominantly disturbed, anthropogenic habitats that are common within The Town of Brookhaven and throughout Suffolk County in general. Accordingly no significant adverse impacts to the regional, New York State or global populations of these ecological communities are anticipated.

Based upon the existing site conditions and anthropogenic ecological communities described above, overall vegetative species diversity is low, and the site supports a number of non-native/invasive plant species, many of which are dominants or co-dominants. As a general rule, the presence of non-native/invasive vegetation reduces the ecological value of a habitat by out-competing native vegetation, lowering overall species diversity and reducing or eliminating breeding and non-breeding habitat for native wildlife species. Accordingly, the overall habitat quality of the site has been degraded due to anthropogenic disturbances and colonization by non-native/invasive plant species.

With respect to individual plant species, the majority of existing plants would be removed during clearing of the site. However, as detailed previously, overall vegetative diversity at the subject property is low and the site flora is characterized by a species assemblage of common native and non-native/invasive plants typically found within developed and disturbed habitats in Suffolk County. Furthermore, no New York State or federally-listed endangered, threatened or special concern plant species or significant natural communities, were observed at the subject property at the time of the September 25, 2014 field inspection. As such, no significant adverse impacts to local or regional populations of the existing plant species at the subject property are anticipated as a result of the proposed action. Moreover, no significant adverse impacts to populations of rare/protected plants are anticipated.

Based upon the foregoing considerations, the subject property does not support, and the proposed action would not result in, disturbance to “pristine” or otherwise undeveloped or undisturbed habitats or vegetation. Rather, the

proposed action represents the clearing of developed or otherwise disturbed site conditions and replacement with other anthropogenic habitats, including landscaping, buildings and pavement.

More specifically, following redevelopment, the subject property would support the following five ECNYS terrestrial communities:

- Mowed Lawn
- Mowed Lawn with Trees
- Urban Structure Exterior
- Paved Road/Path
- Successional Southern Hardwoods.
- Water Recharge Basin

Following implementation of the proposed action, vegetated habitats would become the dominant cover type/land use at the subject property, through the planting of 40.58±-acres (or 62.2 percent of the total site area) of landscaping throughout the site, primarily in the form of the various ECNYS Mowed Lawn and Mowed Lawn with Trees communities. These vegetated habitats would occur throughout the subject property and include open space areas, community gardens and orchards, common areas, rain gardens, building courtyards, single-family lot yard areas and buffer area plantings. The Mowed Lawn, Mowed Lawn with Trees and other vegetated communities would be planted with a species assemblage comprised of ornamental turf grasses and various trees, shrubs and herbaceous plants. Native species would be planted to the maximum extent practicable.

Portions of the existing 4.06±-acres Successional Southern Hardwoods community would be preserved in some of the site perimeter areas, resulting in a post-development area of 2.65±-acres (4.1 percent of the total site area) for this wooded habitat.

Overall, through the creation of new habitat and the preservation of existing wooded habitat, vegetative cover at the subject property would more than double following redevelopment.

Internal roadways, buildings and other paved or impervious surfaces would become the second-most prevalent cover type/land use following redevelopment, occupying 20.38±-acres or 31.2 percent of the total site area. This unvegetated cover type/land use would be represent the ECNYS Paved Road/Path and Urban Structure Exterior communities.

Finally, the remaining 1.62±-acres or 2.5 percent of the subject property would be occupied by intermittently and permanently flooded habitat, in the form of drainage ponds (0.92± acres) and recharge basins (0.70± acres). The former two features, which would serve the dual functions of temporary stormwater storage and stormwater infiltration, are best described by the ECNYS Water Recharge Basin community description as detailed previously.

It is anticipated that the creation of the detention and drainage ponds and the constructed artificial pond area would increase the overall vegetative species diversity at the subject property by providing a significant increase (from 0.23± to 0.92±-acres) in on-site intermittently flooded habitat for facultative plant species that occur therein (i.e., plant species adapted for growth in both upland and wetland condition). Similarly, the constructed artificial pond area would represent on-site habitat for both facultative and obligate wetland plants (i.e., plants found almost exclusively in wetland habitats).

Based upon the foregoing descriptions, the overall impact of the proposed redevelopment would be the clearing of developed or otherwise disturbed site conditions and replacement with other anthropogenic habitats. More specifically, existing unvegetated, scarcely-vegetated and early successional habitats that currently comprise the majority of the subject property would be replaced by vegetated habitats, as well as impervious surfaces consisting of buildings, roadways parking areas and other paved surfaces. Although the amount of impervious surface at the site would increase as a result of the proposed action, overall vegetated habitat would more than double as compared to existing conditions, due to the replacement of non-vegetated or sparsely-vegetated dirt surfaces with lawns and landscaping and other vegetated habitats. Early successional habitats would no longer be represented on-site. More than half of the limited forested habitat at the subject property would be preserved in perimeter areas. It is anticipated that the creation of the proposed detention and drainage ponds, as well as the constructed artificial pond area would increase the on-site diversity of plant species adapted to intermittently flooded and permanently flooded conditions. The existing flora comprised primarily of native and non-native successional vegetation would be replaced by a flora comprised of ornamental trees, shrubs, grasses and other herbaceous plant species. Similar to existing conditions, the subject property would continue to function ecologically as a location of developed and vegetated anthropogenic ecological communities, however the creation of the aforementioned drainage and artificial pond features would represent an increase in habitat and vegetative species diversity at the site. Accordingly, no significant overall impacts to existing vegetative communities or species are anticipated.

3.6.2.2 Wildlife

During clearing and construction phases of the proposed action, it is expected that individuals of some wildlife species, (i.e., smaller, less-mobile animals or juveniles of certain species) would be impacted, particularly within the vegetated early successional habitat at the southern portion of the subject property. Nevertheless, the majority of wildlife present within or expected to utilize the site are considered to be generally more mobile (e.g., blue jay, eastern gray squirrel, etc.), and, therefore, would avoid elimination and be displaced. Particularly with respect to the Successional Old Field community at the subject property, it is anticipated that individuals of some of these species would be displaced to the contiguous area of this community located immediately to the south of the subject property. Other wildlife would likely be displaced to wooded habitat located to the north across Horseblock Road and two contiguous residential properties in the general surrounding area of the subject property.

In analyzing the overall potential impacts of the proposed action to local and regional wildlife populations due to displacement of wildlife, it is important to note that the assumption that resource availability is the only limiting factor controlling wildlife carrying capacity (density) on the subject property and in the general surrounding area is an oversimplification, as many other factors influence wildlife population densities (i.e. disease, parasites, predation, weather, human disturbances, etc.). Therefore, it is possible that wildlife species populations may already be below the theoretical carrying capacities of the site and surrounding properties, due to one or more of these limiting factors. For example, the existence of large areas of unvegetated and sparsely-vegetated ground, the presence of non-native/invasive vegetation and ongoing human activity at the site may be limiting factors for wildlife species at the subject property. Nevertheless, under the assumption that resource availability is the only limiting factor affecting population density, in the short-term, it is anticipated that the habitats on and surrounding the site would experience a temporary increase in wildlife populations during the clearing and construction phases of the proposed action, due to emigration of individuals from the disturbed portions of the subject property. Subsequently, it is anticipated that inter- and intra-specific competition for available resources within these surrounding habitats would result in an insignificant net decrease in local population size for most species, until equilibrium between wildlife populations and available resources is achieved.

Notwithstanding the above, it is important to note that, as the proposed redevelopment would occur over time in four sequenced phases, clearing of all existing habitats would not occur simultaneously. As such, it is anticipated that some of the wildlife displaced from disturbed portions of the subject property would temporarily occupy remaining suitable habitat at the site, with the same

temporary population increases and subsequent declines to population equilibrium as described above.

As detailed in the existing ecological conditions section of this DEIS, the subject property is currently most suited to those wildlife species adapted to developed habitats, disturbed conditions and human presence. Following implementation of the proposed action, it is anticipated that the lawn/landscaped and developed habitats at the site would continue to attract a similar species assemblage. For example, many of the common songbirds (e.g. American robin, blue jay, song sparrow, etc.) and some of the smaller mammal species (e.g., eastern gray squirrel, raccoon, eastern mole, etc.) either observed or expected at the subject property are expected to remain or re-colonize the site following redevelopment.

The elimination of the Successional Old Field community from the site would restrict or eliminate the potential for certain observed or expected wildlife species that are specifically adapted to these conditions and are somewhat less tolerant of human presence and developed habitats (e.g., red fox). However, it is expected that these species would persist within successional and woodland habitat areas located adjacent to and in the general surrounding area of the subject property. Moreover, as many of the birds and mammals observed or expected within the Successional Old Field community are also frequently found in suburban habitats (e.g., northern mockingbird, northern cardinal, chipping sparrow, eastern gray squirrel, eastern cottontail, mice, moles, voles etc.), it is anticipated that most of these species would persist at the subject property following redevelopment.

As detailed previously, the proposed drainage ponds would result in an a significant increase of intermittently flooded and permanently flooded habitats occupying 0.92± acres of the subject property, as compared to 0.23±-acre under existing conditions. Over time, it is anticipated that these habitats would attract a species assemblage comprised of birds, mammals and herpetofauna adapted to these conditions, resulting in an overall increase in wildlife species diversity at the site, as compared to existing conditions.

In summary, following redevelopment, the overall area of vegetated habitat would more than double as compared to existing conditions, due to the replacement of non-vegetated or sparsely-vegetated dirt surfaces with lawns and landscaping. As a result, Mowed Lawn and Mowed Lawn with Tree communities would become the dominant cover type at the subject property, followed by Urban Structure Exterior and Pave Road/Path. Therefore, it is anticipated that the post-redevelopment wildlife species assemblage at the subject property would be comprised of fauna adapted to these conditions, including the majority of species currently found at the site. Furthermore, it is anticipated that the construction of the drainage ponds would result in a significant increase (from 0.23± to 0.92±-acres) in intermittently flooded and

permanently flooded plant communities. It is likely that these habitats would attract a number of wildlife species that are currently rare or non-existent at the subject property, including waterfowl, mammals and certain amphibians.

Based upon the foregoing, no significant adverse impacts to local wildlife populations are anticipated, it is expected that overall wildlife species diversity would increase as a result of the proposed action.

3.6.2.3 Rare/Protected Species and Communities

As detailed in the existing ecological conditions section of this DEIS, no New York State or federally-listed endangered, threatened or special concern plants or wildlife, or significant natural communities, were observed at the subject property at the time of the September 25, 2014 field inspection. Furthermore, as suitable habitat to support the 10 species that appear on the USFWS Federally Endangered and Threatened and Candidate Species List for Suffolk County does not exist at the subject property, these species would not be expected to occur at the site.

With respect to New York State rare/protected species, no current records for such species were identified by the NYNHP or during the NYNE database review. A historical record from 1936 for the New York State Endangered herbaceous plant species downy lettuce (*Lactuca hirsute*) is from an off-site location. Furthermore, this plant species was not observed at the subject property at the time of the field inspection.

Based upon the foregoing, no significant adverse impacts to rare/protected species or communities are anticipated as a result of the proposed action.

3.6.2.4 Wetlands

The proposed action would result in the filling of the 0.23±-acre anthropogenic drainage feature located at the west-central portion of the subject property. However, based upon site observations and given the artificial unvegetated nature and ongoing disturbance that occurs within the excavated area due to maintenance activities, the drainage feature does not represent a significant wetland habitat with respect to wetland functions and values. Nevertheless, as indicated in Section 3.6.1.4, above, the drainage feature is regulated as an artificial wetland by the Town of Brookhaven. Accordingly, a Town Wetlands and Waterways Permit would be required in order to fill or otherwise impact the drainage feature.

As described below in Section 3.6.3, mitigation for the filling of the 0.23±-acre drainage feature would occur through the creation of 0.92±-acre of new drainage features and ponds, representing, which is greater than the required two-to-one restoration ratio. In addition to providing wetland and aquatic habitat values and functions, the presence of drainage is expected to attract wildlife species that currently do not inhabit the property.

Based upon the foregoing, no significant adverse impacts to wetland habitats would result from implementation of the proposed action; however, implementation would result in a net benefit to this habitat type.

3.6.3 Mitigation Measures

Although no significant adverse impacts to ecological resources on or adjacent to the site are anticipated to result from implementation of the proposed action, since the habitats being removed are abundant and no rare/protected species are present, the following measures are proposed as part of this proposed action to enhance ecological resources:

- Following implementation of the proposed action, the overall vegetated habitat at the subject property would more than double as compared to existing conditions, due to the replacement of non-vegetated or sparsely-vegetated dirt surfaces with lawns, landscaping and other vegetated habitats.
- Native vegetative species requiring little or no watering, fertilizers or chemical applications would be used to the maximum extent practicable.
- Installation of the proposed detention and drainage ponds and constructed artificial pond area would result in the establishment of intermittently and permanently flooded habits at the subject property that would provide additional habitat and increase overall vegetative and wildlife species diversity. In total, 0.92±-acres or 1.4 percent of the subject property would be occupied by these habitats, resulting in a four to one restoration ratio for the filling of the existing on-site artificial drainage feature. A periodic pond/wetland maintenance plan would be implemented so that these maintain their artificial designation.

3.7 Visual Resources

3.7.1 Existing Conditions

In order to determine the visual characteristics of the subject property and the surrounding area, site and area inspections were conducted, and photographs were taken to record the existing conditions. Photographs of the subject property and the surrounding community are contained in Appendices D1 and D2 of this DEIS.

The subject property is currently developed with a two-story single-family residence, vacant commercial structures, a commercial nursery, soil stockpiling areas, and vacant equestrian facilities (see Photograph Nos. 1, 4 through 9, and 12 through 16 in Appendix D1). The periphery of the subject property features a vegetative buffer that screens views from Horseblock Road and recreational uses to the north, residences and local street termini to the east and west, and utility and institutional uses (including approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School) directly south of the subject property. Therefore, while active uses at the site can be viewed from various locations, they, along with vacant buildings and land, are obscured by existing vegetation. The northern half of the subject property consists of sparsely vegetated to unvegetated open areas and soil stockpiles, which are intermittently visible from Horseblock Road, as discussed below. The southwestern portion of the subject property consists of open fields, which are partially visible from the termini of the local streets within the residential neighborhood bordering the subject property to the west and east. Remnants of equestrian facilities, including a horse track and stables, are located on the southwestern portion of the subject property (also visible from local street termini to the east). It should be noted that, in addition to vegetative screening, transmission towers and lines associated with the 60-foot LIPA ROW also screen views of the subject property from the aforementioned institutional uses to the south.

As the subject site is surrounded by existing residential, institutional and recreational uses and a LIPA utility ROW, views of the subject property from surrounding roadways, including local roadway termini and Horseblock Road, are limited. As noted, northern portions of the subject property are intermittently visible from narrow segments of Horseblock Road. However, even these views are obstructed by existing residential development as well as the existing Farmingville Post Office situated along the south side of Horseblock Road. When traveling from west to east along Horseblock Road, views of the subject property consist of a vegetated buffer, followed by a driveway entrance at the northwest portion of the subject property, through which open, sparsely

vegetated areas containing mounds of soil are visible. Following this site access drive, views of the property are interrupted by the previously mentioned existing Post Office and residential development.

3.7.2 Potential Impacts

Implementation of the proposed action would result in the alteration of views of the subject property from surrounding areas, as the proposed multi-family residential and commercial development containing numerous low-scale buildings would replace the existing single-family residential, agricultural and commercial uses, which are comprised of a limited number of buildings.

The most prominent views of the proposed development would be from Horseblock Road, as is currently the case. Upon implementation of the proposed action, travelers along Horseblock Road would see the proposed 2½-story commercial building, portions of the northern landscaped open space areas, and potentially partial views of the northernmost proposed multi-family residential buildings, although these buildings are set back a minimum of 900± feet from Horseblock Road and would be partially screened by the proposed commercial use. Views from the residences and roadway termini bordering the subject property to the east and west would include the proposed multi-family residences and community building, ponds and landscaped open space, as well as the proposed commercial building. Views of the proposed development from the aforementioned soccer fields and elementary school to the south would be obscured by vegetated buffers. Therefore, the one-story high STP and associated leaching fields that are proposed to be located in this area would not have a significant visual impact on the surrounding community.

The proposed development would include landscaping throughout the subject site, including various tree and plant species along the northern and northeastern property lines that would soften the appearance of the proposed buildings and provide visual screening from Horseblock Road and the agricultural use to the east. The commercial center, containing the proposed 2½ -story building, is proposed to be planted with a variety of buffer plantings around the perimeter, as well as street trees and shrubs within the parking lot. It should be noted that the proposed commercial building does not exceed the height restrictions of the zoning district and is comparable in height to other larger commercial buildings in the vicinity.

Upon entering The Arboretum section of the development, visitors would be greeted with a “welcome” kiosk designed in the local historic architectural style. The Arboretum (publicly-accessible) section is then loosely divided into contextual areas. Pine Barrens plantings are proposed on the north end; orchards along the roadway reflect the North Fork farms and vineyards; and a detention

pond provides an opportunity for a boardwalk around the constructed artificial (detention) pond area. Heading south, the sandy beaches and dunes, and rocky shorelines are recreated in the central section and reflect the coastal flavor of the island. Further south includes a more open and pastoral landscape that includes a council ring (described by the landscape architect as a circular stone seating area) for community gatherings and a community garden. The central portion of the site is divided into an active recreation space and a passive recreational area. The active recreational facilities area (for the residents of the community) provides activities for all ages and includes a clubhouse, two tennis courts, a farm-themed playground, and swimming pool. The passive recreational area includes a central oval containing an undulating field, rain gardens two lushly planted detention ponds, and a collection of trees to provide shade and sitting areas. The overall streetscape includes various groupings of shade trees including oaks, lindens, zelkova, elm, and sweetgum. In order to avoid monoculture, street trees would be spaced in groups of four to six to encourage biodiversity. The STP at the southern end of the subject site is proposed to be screened from both on-site and off-site views with dense evergreen and deciduous plantings in all directions of the STP.

Regarding internal views, the backyards of the proposed townhouse units would look out onto the proposed ponds and private recreational areas situated towards the center of the subject property. The primary landscape concept of The Arboretum development is meant to embody and reflect the Long Island landscape from scenic farmland countrysides, to meandering dunes and fields, to rocky and coastal shorelines.

External views of proposed landscaping treatments would largely be limited to those plantings that are proposed at the perimeter of the subject property, which are intended to serve as a visual screen for the proposed residential and commercial uses. The proposed Pine Barrens plantings in the northern portion of the subject property would screen views of the proposed publicly-accessible passive recreational area and residential uses beyond to the south from Horseblock Road, the adjacent agricultural use to the east. Dense planting buffers, comprised of a variety of tree species as described above, would be visible along the southern perimeter of the subject property, and would serve to screen views of the proposed STP from the 22±-acres of soccer fields and the Waverly Avenue Elementary School, located to the south. It is anticipated that these plantings, in combination with the aforementioned transmission lines and towers, would have the effect of completely masking the lines of sight to the proposed STP. These planting buffers would also be visible at the northeastern portion of the subject property, bookending the proposed commercial building, and would screen views of the interior of the subject property from Horseblock Road.

The design of the proposed development provides an aesthetically-pleasing transition of the property from agricultural and commercial uses to a mixed-use commercial and residential development. The proposed residential buildings would be designed with a variety of materials and provide architectural variation and visual interest, as noted below and shown on the proposed building elevation rendering (see Figure 21 below). The buildings would be arranged in a layout allowing for the installation of landscaping, which would soften the appearance of the buildings and provide shaded areas. Also, architectural details of the proposed buildings would include variation in height (not to exceed zoning restrictions), exterior color and building materials. The proposed development, including the commercial, residential, and recreational structures would feature a combination of vinyl siding, fiberglass shingles, natural stone cladding, and metal roofing.

Figure 21 - Representative Elevation of Proposed Development

The proposed single-family residential units would line the perimeter of the subject property south of the publicly-accessible passive recreational area, which would visually blend with existing single-family houses located immediately east and west of the subject property. Further, these new single-family homes would screen views of the larger residential buildings (i.e., flat, townhouse, and Rosebud units) that would be situated in the central portions of the subject property). The development would thus create a visually compatible character with the surrounding single-family residential buildings by screening the higher density residential buildings.

The proposed redevelopment would alter the visual character of the immediate neighborhood. However, based upon the applicant having addressed questions and concerns of the Farmingville Historic District with respect to the adjacent Bald Hill School House (see Appendix F), implementation of the proposed project is not expected to have a significant adverse impact on visual resources affecting this local historic feature.

Figure 22 and Figure 23 demonstrate pre- and post-development visual conditions at the subject property along the Horseblock Road Corridor. As these renderings illustrate, the proposed commercial building would be the only portion of the development that would be prominently visible from eastbound and westbound traffic along Horseblock Road. As previously discussed, the proposed commercial building would vary in height from one-to-two-stories, consistent with other nearby commercial uses on Horseblock Road.

Figure 22 - Existing and Proposed Visual Conditions along Horseblock Road Corridor at the Subject Property (Looking West)

Figure 23 - Existing and Proposed Visual Conditions along Horseblock Road Corridor at the Subject Property (Looking East)

Overall, based upon the proposed architectural style of the buildings, the proposed landscaping throughout the site and the specific screening vegetation that is proposed, implementation of the proposed project is not expected to have a significant adverse visual impact.

3.7.3 Mitigation Measures

The following measures would be employed to mitigate potential visual impacts:

- The proposed commercial uses would be situated on the northern portion of the subject property, fronting along Horseblock Road, visually reinforcing the existing commercial nature of Horseblock Road within the hamlet of Farmingville, particularly east of the subject property.
- The proposed single-family residential uses would be situated at the exterior of the subject property, complementing the existing residential aesthetic to the east and west of the subject property, and partially screening views of the interior of the property, which would contain the townhouse units.
- The proposed development would include a number of aesthetic enhancements at the subject property compared to existing conditions, including landscaped public and private recreational areas, ponding areas, and active and passive recreational infrastructure such as playground equipment, benches and walkways.
- Trees and shrubbery would be planted along the northern and northeastern perimeters of the subject property that would soften the appearance of the commercial building and would screen views of the subject property from Horseblock Road and the agricultural uses to the east.
- The transmission lines associated with the 60-foot-wide LIPA ROW are located immediately adjacent to the subject property to the south. Beyond the LIPA ROW, are approximately 22 acres of soccer fields, composed of grasslands, used by the local soccer club, and adjacent to the Waverly Avenue Elementary School. A vegetated buffer, in addition to the existing LIPA ROW, would screen views of the proposed STP from the aforementioned uses further south. Further, vegetative buffers would be planted north of the proposed STP to screen views of this use from the proposed residential uses to be constructed as part of the proposed project.

3.8 Use and Conservation of Energy

3.8.1 Existing Conditions

Currently, PSEG Long Island and National Grid provide electricity and natural gas service, respectively, to the subject site.

3.8.2 Potential Impacts

Based upon the proposed redevelopment of the property, consultations were undertaken with PSEG Long Island and National Grid for review of the proposed project.

A letter, dated September 19, 2014, was sent to PSEG Long Island regarding electrical service to the proposed development (see Appendix F). In correspondence dated December 19, 2014, PSEG Long Island indicated that it would provide service to the proposed development in accordance with the tariff and schedule in effect at the time service is required (see Appendix F).

In addition, correspondence was sent to National Grid on September 19, 2014 regarding natural gas service to the proposed development (see Appendix F). On December 18, 2014, VHB followed up with an email to Mr. Richard Petraglia, Principal Engineer at National Grid regarding the aforementioned service request. To date, no response has been received.

The proposed redevelopment of the subject property would increase energy use on the subject site. However, as detailed below, the Applicants and design team are committed to the principles of energy efficiency and sustainable design and would consult with the Town of Brookhaven through the planning and design phase of the project on the specific design of buildings to meet the prevailing requirements of the Town Code (see the discussion of §16.4.1, Energy Conservation Requirements, of the Town Code, below). Furthermore, the use of additional energy efficiency and sustainability methods would be examined including, but not limited to, the use of recycled and/or local materials in the development's construction, and use of ENERGY STAR appliances.

The Applicants are committed to meeting the minimum energy requirements in the Town of Brookhaven Town Code §16.4.1. However, since the project is in the planning and zoning phase, specific energy reduction measures have not yet been developed. It is important to recognize that due to the current stage of this project, there would likely be changes and updates in building design based upon, among

other things, the Town review and approval processes that may dictate changes in building features/systems through the final design process.

Moreover, the final design of The Arboretum would comply with the Town's Energy Conservation Requirements (§16.4.1 of the Town Code). These requirements set forth minimum energy conservation performance standards for any new single-family dwellings, multiple-family dwellings, Planned Retirement Communities (PRC), and Planned Retirement Congregate Housing Communities (PRCHC), and ensure that new dwellings meet Town of Brookhaven-targeted energy efficiency standards for residential development. As the proposed project includes both single-family and multi-family development, it is subject to these standards. Buildings subject to the requirements in §16.4.1 must:

- Achieve minimum energy conservation performance as verified by the Home Energy Rating System (HERS) promulgated by the Residential Energy Service Network (RESNET)
- Achieve a minimum rating of 70 or lower on the current expanded HERS Index as defined in the 2006 RESNET, and have such rating certified by a HERS rater, architect or professional engineer, indicating that the current version of the Energy Conservation Construction Code of New York State (ECCCNYS) was utilized in the building's energy performance
- Include a tamper-resistant, automatically controlled mechanical ventilation system that provides whole house ventilation (dilution air) as required by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) 62.2 standard most recently published
- Comply with the Combustion Safety Testing Standards promulgated by RESNET, the Building Performance Institute, or other organization approved by the Commissioner of the Town's Department of Planning and Environment
- Achieve results as set forth in §16.4.1(C)(3) of the Town Code from a duct leakage test for heating, ventilation and air conditioning (HVAC) ducts
- Have compliance with the above-referenced requirements demonstrated by a final HERS rating performed by a RESNET-certified HERS rater that includes testing and review as set forth in §16.4.1(E) of the Town Code
- Comply with all aspects of the LIPA ENERGY STAR Homes Version 2 Program.

Compliance with the Town's Energy Conservation Requirements would ensure that the proposed project would also comply with various provisions of the 2010 ECCCNY, ensuring that:

- Measurement of the energy performance of buildings, including analysis of heating, cooling, and service water heating energy would be as indicated by criteria set forth in §405 of the 2010 ECCCNY
- Building envelope tightness and insulation installation would be tested in accordance with §402.4.2.1 and §402.4.2.2 of the 2010 ECCCNY
- All ducts, air handlers, filter boxes and building cavities used as ducts would be sealed and verified in accordance with §403.2.2 of the 2010 ECCCNY
- Heating and cooling equipment would be sized in accordance with the Indoor Environment & Energy Efficiency Association's (ACCA) Manual J or similar section of the Residential Code of New York State
- All supply and return ducts not completely inside a building's thermal envelope would be insulated to minimum requirements specified in §405.2.

The Applicants' commitment to sustainable design and emissions reduction through the implementation of the measures outlined above, including high- efficiency HVAC systems, insulation and windows and incorporation of ENERGY STAR appliances, as well as those that result from consultations with the Town would be finalized upon further development of the design of the buildings, to achieve energy efficient buildings. According to the RESNET website, homes meeting a HERS Index Score of 70 (which is the Town of Brookhaven requirement), are 30 percent more energy efficient than a standard new home.

3.8.3 Mitigation Measures

As described above, the Applicants would comply with the requirements of the Town Code and throughout the Town's review process would continue to explore potential energy conservation methods and would work with the Town to incorporate same. These potential methods include the following:

- Incorporating high-efficiency heating and air conditioning systems, improved insulation, energy-efficient windows, etc.
- Incorporating the use of ENERGY STAR appliances and following other ENERGY STAR guidelines to assist in reducing energy requirements.

Based upon the foregoing, it is not expected that the proposed project would result in significant adverse impacts to the use and conservation of energy.

3.9 Cultural Resources

3.9.1 Existing Conditions

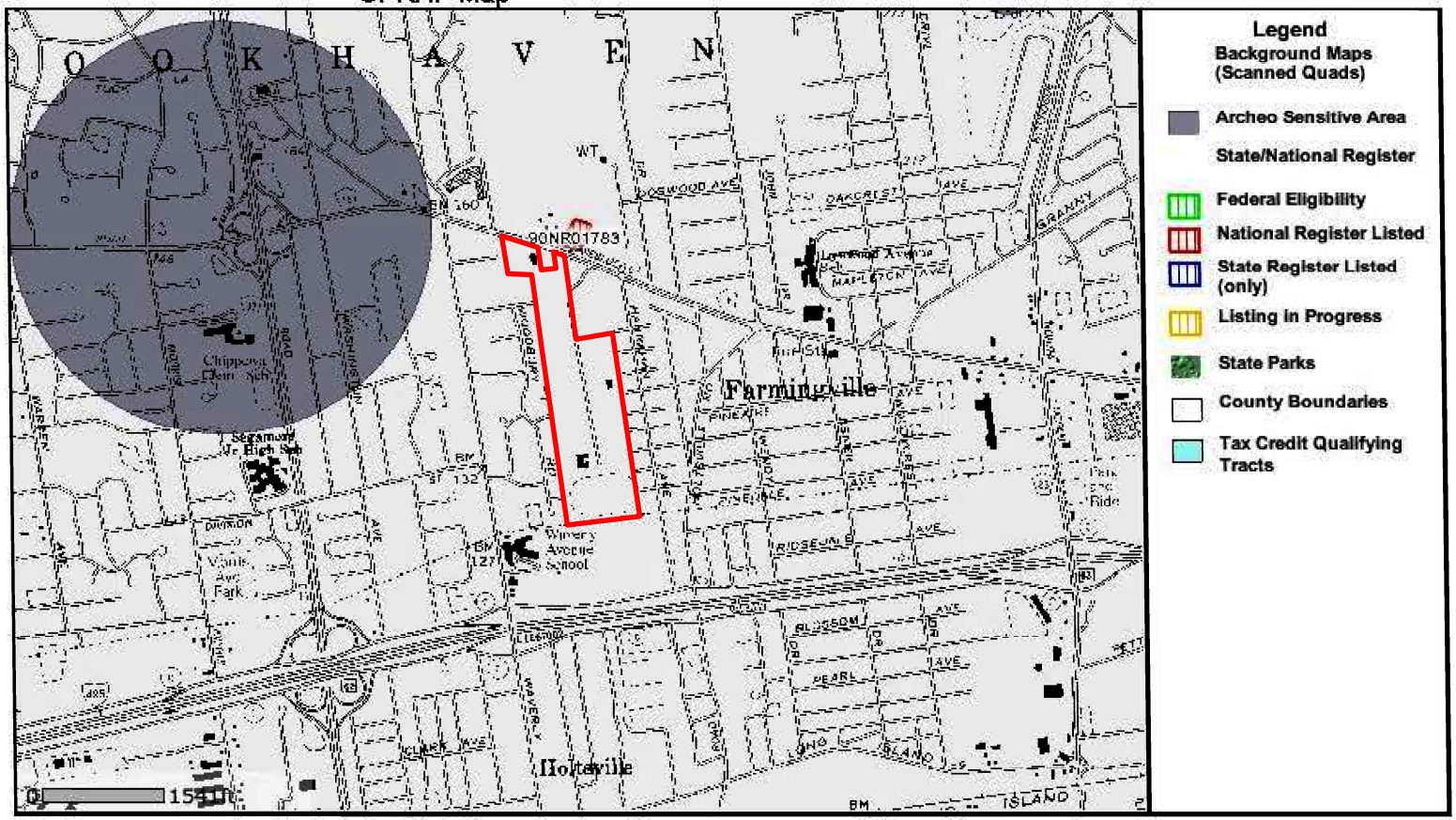
The online resources of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP)[40] were reviewed in order to determine whether any portion of the subject property is listed, or eligible for inclusion on, the State or National Registers of Historic Places. Additionally, these resources were examined to determine whether or not any portion of the subject property exists within an identified archaeological-sensitive area. Based on a review of such resources, the subject property is not listed on the State or National Registers of Historic Places or located within an archeological-sensitive area (see Figure 24).

However, based upon this review, it was found that the Bald Hill School House, a National Register of Historic Places (National Register)-listed resource (i.e., 90NR01783), although not directly adjacent, is situated on the north side of Horseblock Road, approximately 120 feet from the northeastern boundary of the subject property. Currently, views across Horseblock Road of the subject property from the Bald Hill School House are of a wooded area along an approximately 120-foot portion of the subject property's northern boundary bordering Horseblock Road. Looking west along Horseblock Road, additional, indirect views, of the subject property from the Bald Hill School House are of existing vegetation along the northwestern boundary of the subject property.

A review of the Town of Brookhaven Historic Landmarks List was conducted and no Town-designated Historic Landmarks are situated within or adjacent to the subject property. The Town of Brookhaven Historic District Advisory Committee's (HDAC) list of Town-designated historic districts was also consulted and the site is not situated within or adjacent to a Town historic district.

[40] http://www.nysparks.state.ny.us/shpo/resources/index.htm

OPRHP Map



June 10, 2014

Disclaimer: This map was prepared by the New York State Parks, Recreation and Historic Preservation National Register Listing Internet Application. The information was compiled using the most current data available. It is deemed accurate, but is not guaranteed.

The Arboretum at Farmingville
Hamlet of Farmingville, Town of Brookhaven
Suffolk County, New York

OPRHP Map

Figure 24

Subject Property (Boundaries are approximate)

Sources: 1. The Geographic Information System for Archeology and National Register - (http://nysparks.com/shpo/online-tools/#sthash.s7mzwFJz.dpuf), Accessed June 10, 2014

3.9.2 Potential Impacts

As indicated above, the subject property is not listed, or eligible for inclusion on, the State or National Registers of Historic Places. However, the National Register-listed Bald Hill School House is located on the northern side of Horseblock Road, approximately 120± feet northeast of the subject property's northern boundary. Upon development of the proposed project, views directly across Horseblock Road of the northeastern subject property boundary from the Bald Hill School House would be of vegetation, similar to the existing condition. Landscaping in the northeast area of the subject property would consist of plantings that would replicate the Pine Barrens ecological community, and it is anticipated that the proposed landscaping would improve upon the view of the existing vegetation. Views toward the northwestern boundary of the subject property from the Bald Hill School House would be altered from the existing indirect view of vegetation along Horseblock Road. After development of The Arboretum this view would be of an attractive commercial building, as depicted in the before and after photographic renderings, below.

Before: Existing view of the northwest boundary of the subject property along Horseblock Road, facing west from the location of the Bald Hill School House.

After: View of the northwest boundary of the subject property along Horseblock Road, upon development of The Arboretum, facing west from the location of the Bald Hill School House

Moreover, in correspondence dated June 5, 2014, (see Appendix F), the New York State OPRHP indicated that the proposed project would not result in any impacts to historic resources, and the Farmingville Historical Society stated its support for the proposed project and did not raise any issues regarding the subject property's proximity to the Bald Hill School House (see Appendix F). Further, as discussed in Section 3.7.2 of this DEIS, views of the subject property from the Bald Hill School House would improve as the overall aesthetic condition of the subject property would be improved.

Based upon the foregoing, it is anticipated that implementation of the proposed project would not have significant adverse impacts upon cultural resources.

3.9.3 Mitigation Measures

Since significant adverse impacts to cultural resources are not anticipated as a result of implementation of the proposed project, mitigation measures are not proposed.

3.10 Solid Waste

3.10.1 Existing Conditions

Existing, operational land uses at the subject property include a single-family residence, a commercial nursery, and a mulch/soil manufacturing use. Per information provided by the Applicants, the soil mulching operation generates minimal solid waste, separately from the commercial nursery operation. Existing solid waste generation is projected in Table 26, below.

Table 26 – Existing Solid Waste Generation

Land Use	Solid Waste Use Category	Solid Waste Generation Rate (per day)	Unit Count	Total Solid Waste Generation (lbs/day)
Single Family Residential	Household	3.5 lbs per capita	3.26 persons[1]	11.41±
Commercial Nursery	Commercial Building, Office	1.0 lbs per 100 SF	6,984± SF[2]	69.84±
TOTAL (lbs/day):				81.25±
TOTAL(tons/month):				1.24±

Source: Salvato, J. (2003). *Environmental Engineering* (5th ed.). Hoboken, N.J.: Wiley
Notes: [1] Average household size for the Farmingville CDP - United States Census Bureau, 2010 Census

[2] Approximated from building footprints displayed on the Suffolk County GIS Viewer (http://gis2.suffolkcountyny.gov/gisviewer/), Accessed September 18, 2014

lbs: pounds
SF: square feet

Existing solid waste generation at the subject property is collected and disposed of by a private carter and disposed of at a licensed facility.

3.10.2 Potential Impacts

The proposed development, with maximum occupancy and utilization of the proposed facilities, could generate approximately 67.1± tons of solid waste per month, as indicated in Table 27.

Table 27 – Projected Solid Waste Generation

Land Use	Solid Waste Use Category	Solid Waste Generation Rate (per day)	Unit Count	Total Solid Waste Generation (lbs/day)
Residential	Household	3.5 lbs per capita [1]	677 persons[4]	2,370±
Restaurants	Restaurant	2.0 lbs per meal[2]	240 seats total	1,920±[5]
Office Use	Commercial Office	1.0 lbs per 100 SF[3]	12,000 SF	120±
TOTAL (lbs/day):				4,410±
TOTAL(tons/month):				67.1±

[1] Salvato, J. (2003). *Environmental Engineering* (5th ed.). Hoboken, N.J.: Wiley – "Household"
[2] Salvato, J. (2003). *Environmental Engineering* (5th ed.). Hoboken, N.J.: Wiley – "Restaurant"
[3] Salvato, J. (2003). *Environmental Engineering* (5th ed.). Hoboken, N.J.: Wiley – "Office Building"
[4] Based on 292 proposed residential units with a projected population of 677 persons
[5] Assumes the restaurant would serve a number of meals equal to twice full occupancy during both lunch and dinner service (i.e., 960 meals)
lbs: pounds
SF: square feet

It should be noted that this represents a conservative estimate, as the projection for the proposed restaurant uses, the largest generator of solid waste, assumes that a number of meals would be served equal to twice full occupancy during both lunch and dinner service (i.e., 960 meals).

Solid waste generated at the subject property by both the proposed residential and restaurant/office uses would be collected by a licensed private carter and disposed of at a licensed facility. Thus, the ultimate disposal locations are at the discretion of the carter, pursuant to its disposal agreements. It is expected the proposed development would undertake a recycling program geared toward its individual uses. Each component user would recycle specific materials, and would provide the proper receptacles to allow for separation and recycling. Based upon the foregoing, implementation of the proposed action would not be expected to result in significant adverse impacts to the Town's waste management facilities, practices or plans.

3.10.3 Mitigation Measures

As no significant adverse solid waste impact has been identified, no mitigation is proposed.

3.11 Air Quality

3.11.1 Existing Conditions

This section of the DEIS presents existing air quality conditions and background information and assess compliance of the proposed action with state and federal air quality requirements, the 1990 Clean Air Act Amendments (CAAA) following the NYSDEC, the NYSDOT, and the USEPA policies and procedures.

3.11.1.1 Background

The 1990 CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. Areas of the country where air pollution levels persistently exceed the National Ambient Air Quality Standards (NAAQS) may be designated as "non-attainment areas." Carbon monoxide (CO), particulate matter ($PM_{2.5}$ and PM_{10}), ozone (O_3), lead (also known as Pb), and greenhouse gases (GHG) are the project-level pollutants of concern. The subject property is currently located in an attainment area for CO.

Suffolk County is a "Previous Nonattainment Area" which is no longer subject to the one-hour ozone standard as of June 15, 2005. As far as the eight-hour ozone standard, Suffolk County is designated as a non-attainment area for the eight-hour ozone. Suffolk County is also in non-attainment for $PM_{2.5}$ (for the 2007 standard) as of June 7, 2010. Suffolk County is in "attainment" for all of the remaining criteria pollutants (PM_{10}, lead, nitrogen oxide, and sulfur dioxide) for ambient (outdoor) air.

Air Quality Standards

The USEPA, through the 1970 Clean Air Act, has established National Ambient Air Quality Standards (NAAQS) for a number of pollutants. Currently, USEPA and NYSDEC enforce ambient air quality standards for the following eight pollutants: nitrogen dioxide (NO_2), CO, sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$), O_3 – which is controlled through limiting of nitrogen oxides (NOx) and volatile organic carbon (VOC) emissions, and lead. The 1977 and 1990 CAAA reinforced attainment and maintenance of these standards. There are no major stationary sources emitting significant quantities of pollutants as part of the proposed action, thus only vehicular emissions of CO, NOx, VOC, Pb, and $PM_{2.5}$ were of concern for this study.

CO emissions from vehicles are associated with incomplete fuel combustion. Impacts from vehicles generally are localized and can cause elevated concentrations

within a relatively short distance from heavily traveled traffic light signals and intersections. Consequently, it is appropriate to focus on CO emissions from motor vehicles on a localized or microscale basis.

NOx combine with hydrocarbons to produce ozone and other compounds in the atmosphere that can cause potential health effects including eye and lung irritation. NOx, generally nitric oxide (NO), are formed from high temperature fuel combustion and within a few hours of release are converted to NO_2 in the atmosphere. Further complex reactions occur with VOC in the atmosphere to produce ozone. Since these reactions occur several hours after the initial NOx release, the pollutant effects occur some distance downwind from the release. Thus, NO_2 impacts are normally studied within the context of a large-scale analysis or mesoscale basis.

Emissions of VOC occur from many processes including stationary fuel combustion sources and process sources (e.g., dry cleaning, painting, and coating), as well as mobile sources. VOC emissions contribute to the formation of smog and when reacted with other chemicals (such as NOx) in the atmosphere and ultimately produce ozone and other photochemical oxidants. As discussed previously for NOx, studies of VOC emissions usually entail mesoscale evaluations of large areas accounting for many emission sources including vehicles.

Up until the 1970s, lead emissions were associated with vehicular fuel combustion. At that time, Federal clean air legislation prompted the conversion of lead-based gasoline to lead-free fuels, which began a systematic phase-out of the sale of leaded gasoline. Emissions of lead from motor vehicles have decreased significantly as a result of lead being phased out as an additive in motor vehicle fuels. The Federal Highway Administration (FHWA) has advised that microscale lead analyses for highway projects are not needed or warranted. Lead emissions from highways have been virtually eliminated as a result of the regulation and legislation prohibiting the manufacture, sale, or introduction into commerce of any engine requiring leaded gasoline since model year 1992, sale of only unleaded gasoline, and the requirement for reformulated gasoline to contain no heavy metals (such as lead).

In 1997, USEPA codified its decision to revise the NAAQS for particulate matter. As part of this revision, new 24-hour and annual $PM_{2.5}$ standards were added. $PM_{2.5}$ can be emitted as a primary pollutant directly from stationary and mobile sources and can be formed in the ambient air through secondary formation. Secondary $PM_{2.5}$ formation is a long-term process taking hours and days and is due to multiple gases (e.g., oxygen, water vapor, and SO_2) chemically reacting in the atmosphere. Because secondary $PM_{2.5}$ formation is a large-scale phenomenon, it would be studied within the context of a large-scale analysis or mesoscale basis.

Primary $PM_{2.5}$ emissions from gasoline powered vehicles are negligible due to the low ash content of gasoline. Most of the $PM_{2.5}$ emissions from vehicle traffic are due to diesel powered vehicles. However, the proposed action would have limited diesel

vehicle traffic (mainly local deliveries). Furthermore, the majority of the Suffolk County Transit bus operations are fueled by compressed natural gas (CNG), and USEPA's Heavy-Duty Highway Diesel rule (the "2007 Highway Rule") has regulations to control the emissions from diesel trucks that would reduce the particulate matter emissions by 90 percent. The new diesel regulations have been enacted by the expected completion date of the proposed project and therefore, the proposed project would have negligible $PM_{2.5}$ impacts on the surrounding area. Table 28 presents the NAAQS for criteria pollutants.

Table 28 – National (and Federal) State of New York Ambient Air Quality Standards

	National (Federal) Standards				State of New York Standards	
	Primary Standards		Secondary Standards			
Pollutant	Level	Averaging Time	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m3)	eight-hour[1]	None		9 ppm	eight-hour
	35 ppm (40 mg/m3)	one-hour[1]	None		35 ppm	one-hour
Lead	0.15 µg/m3	Quarterly average	Same as Primary		None[2]	
Nitrogen Dioxide	53 ppb (0.053 ppm)[3]	Annual (Arithmetic mean)	Same as Primary		0.05 ppm	Annual
	100 ppb	one-hour	None			
Total Suspended Particulates (TSP)	None	12 consecutive months	None		75 µg/m3	12 consecutive months
	None		None		250 µg/m3	24-hour
Particulate Matter (PM_{10})	150 µg/m3	24-hour[3]	Same as Primary		None[4]	
Particulate Matter ($PM_{2.5}$)	15 µg/m3	Annual (Arithmetic Mean) [5]	Same as Primary		None	
	35 µg/m3	24-hour[6]	Same as Primary		None	
Ozone	0.075 ppm (2008 std)	eight-hour[7]	Same as Primary		None[8]	
	0.08 ppm (1997 std)	eight-hour[9]	Same as Primary		0.08 ppm	eight-hour
	0.12 ppm	one-hour[10]	Same as Primary		0.12 ppm	one-hour
Sulfur Dioxide	0.03 ppm	Annual			0.03 ppm	Annual
	0.14 ppm	24-hour[1]	0.5 ppm	3-hour[1]	0.14 ppm	24-hour
	75 ppb[11]	one-hour			0.50 ppm	3-hour
Hydrocarbons (non-methane)	None		None		0.24	3-hour (6-9 am)

Sources: U.S. Environmental Protection Agency and State of New York Department of Environmental Conservation.

(1) Not to be exceeded more than once per year.

(2) Federal standard for Lead has not yet been adopted by NYS, but is currently being applied to determine compliance status. The 0.15 µg/m3 standard is effective 1/12/2009 &replaces the previous level of 1.5 µg/m3.

(3) The 0.100 ppm standard is effective 1/22/2010. To attain this standard, the 3-year average of the 98th percentile of the daily maximum one-hour average within an area must not exceed 0.100 ppm.

(4) Federal standard for PM10 not yet officially adopted by NYS, but it is currently being applied to determine compliance status. The 0.15 ug/m3 standard is effective 1/12/2009 and replaces the previous level of 1.5 ug/m3.

(5) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0µg/m3.

(6) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).

(7) To attain this standard, the 3-year average of the fourth-highest daily maximum eight-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 parts per million ("ppm"). (Effective 60 days after publication in the Federal Register)

(8) Former NYS Standard for Ozone of 0.08 PPM was not officially revised via regulatory process to coincide with the Federal standard of 0.12 PPM which is currently being applied by NYS to determine compliance status.

(9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum eight-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—would remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(10) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.

(b) As of June 15, 2005 USEPA revoked the one-hour ozone standard in all areas except the eight-hour ozone nonattainment Early Action Compact (EAC) Area

(11) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum one-hour average at each monitor within an area must not exceed 75ppb.

3.11.2 Potential Impacts

Construction and demolition activities associated with implementation of the proposed action would result in a slight, short-term increase in air pollution emissions. The primary source of potential emissions is from fugitive dust resulting from construction operations (e.g., clearing, grading). Fugitive dust consists of soil particles that become airborne when disturbed by heavy equipment operations or through wind erosion of exposed soil after groundcover is removed. To minimize fugitive dust emissions, as described below, mitigation measures would be employed to control dust. This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration. Also, during construction, emission controls from construction vehicles and machinery would include proper maintenance and reduced idling on-site. Therefore, the impacts on ambient air quality from construction activities associated with site-specific development are not expected to be significant.

Overall, construction activities would not be expected to substantially affect air quality due to the implementation of emission control procedures and the temporary nature of construction activities. Emissions from the operation of construction machinery (CO, NOx, PM, VOCs, and greenhouse gases) are short-term and not generally considered substantial.

Subsequent to construction, The Arboretum is expected to include stationary sources of air emissions, such as heating boilers, hot water heaters, and emergency generators. Because the project is conceptual in nature, the design, size, and number of the stationary sources have not yet been finalized. As the design process moves forward and specific equipment is chosen, the proposed development would obtain operating permits for appropriate equipment under the State of NYSDEC Division of Air Resources regulations (6 NYCRR Part 201), as may be required. The NYSDEC Division of Air Resources regulatory process would ensure that these emission sources meet the NAAQS.

No significant sources of mobile air emissions were identified with respect to the operational phase of the proposed project.

3.11.3 Mitigation Measures

As noted above, emissions from the operation of construction machinery (CO, NOx, PM, VOCs, and GHGs) are short-term and not generally considered substantial. Implementation of the following mitigation measures are expected to minimize construction-related air quality impacts:

- During construction emission controls for construction vehicle emissions would be employed and would include, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities, such

as, the maintenance of manufacture's muffler equipment or other regulatory-required emissions control devices.

- During redevelopment, dust control measures would be implemented during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- Regular sweeping of pavement of adjacent roadway surfaces during construction would be conducted to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

As no long term adverse air quality impacts were identified with respect to the operational phase of the proposed project (from both stationary and mobile sources), no mitigation is proposed.

3.12 Economic Conditions

3.12.1 Existing Conditions

3.12.1.1 Population Generation

One single-family residence exists at the subject property. As reported in the United States Census Bureau's (U.S. Census) 2010 Census, an average household size in the Farmingville Census Designated Place (CDP) is 3.26 persons. Thus, the single-family residential use at the subject property likely generates three-to-four persons. The remainder of the subject property is utilized for agricultural and related commercial uses, and, therefore, do not generate a permanent population at the subject property.

Additionally, current active uses at the subject property, including the commercial nursery and soil processing operation, are estimated to generate approximately 17 employees (including two employees associated with the soil processing operation and up to 15 employees associated with commercial nursery during summer months, per the Applicants).

3.12.1.2 Property Tax Revenues

The subject site presently generates taxes to various taxing jurisdictions. According to tax bills for the tax parcels comprising the subject property, the 2013-14 combined taxable value of the parcels constituting the subject site was $18,700, as presented in Table 29 (see 2013-14 Tax Bills in Appendix I). In 2013-14, the subject property generated approximately $54,589 in annual property tax revenues (see Table 29).

Table 29 – 2013-14 Existing Tax Revenues of the Subject Site

Taxing Jurisdiction	2013-14 Tax Rate (per $100 AV)	Current Taxable Value	Existing Taxes
Suffolk County			
County of Suffolk	2.556	$18,700	$478
County of Suffolk - Police	35.089	$18,700	$6,562
Total Taxes Paid to Suffolk County			$7,040
Town of Brookhaven			
Town General - Town Wide Fund	3.695	$18,700	$691
Highway – Town Wide Fund	2.786	$18,700	$521
Town General – Part Town Fund	1.706	$18,700	$319
Highway – Part Town Fund	11.929	$18,700	$2,231
Total Taxes Paid to the Town of Brookhaven			$3,762
School taxes – Sachem Central School District			
Net School tax	189.613	$18,700	$35,458
Net Library tax	11.314	$18,700	$2,116
Total Taxes Paid to the Sachem Central School District			$37,573
Other Taxing Jurisdictions			
Blizzard Note Repayment	0.926	$18,700	$173
New York State MTA Tax	0.151	$18,700	$28
2004 $100M Bond Act & Open Space	1.595	$18,700	$298
Fire District - Farmingville	23.620	$18,700	$4,417
Brookhaven Lighting District	1.242	$18,700	$232
Real Property Tax Law	5.120	$18,700	$957
Out of County Tuition Tax	05.78	$18,700	$108
Total Taxes Paid to Other Taxing Jurisdictions			$6,214
Total Property Tax Revenues			$54,589

Source: Town of Brookhaven Receiver of Taxes, 2014.

3.12.2 Potential Impacts

3.12.2.1 Population Generation

Upon implementation of the proposed action, the subject property would be redeveloped with a variety of residential uses (both single-family and multi-family) that would result in a permanent resident population at the property (including public school-aged children). In order to determine the residential population and public school-aged children that would be generated by implementation of the proposed action, residential demographic multipliers published by Rutgers

University, Center for Urban Policy Research (CUPR)[41] were used. Table 30 indicates the residential and public school-aged children population generation for each type of residential unit proposed using the appropriate factors from the study cited above.

Table 30 – Projected Resident and Public School-Aged Children Generation

Type of Unit	Projected Average Sale Price	Unit Count	Resident Multiplier	Population Generation	Public School-Aged Children Multiplier	Total Public School-Aged Children Generation
Single-Family Detached – 3 Bedroom	$425,000	25	2.95[1]	73.75	0.50[1]	12.5
Single-Family Detached – 4 Bedroom	$475,000	26	3.67[2]	95.42	0.87[2]	22.62
Residential Flats – 1st Floor (2 Bedroom) – 5 Unit Structure	$300,000	67	2.05[3]	137.35	0.15[3]	10.05
Residential Flats – 2nd Floor (2 Bedroom) – 5 Unit Structure	$320,000	67	2.05[3]	137.35	0.15[3]	10.05
Residential Flats – Workforce Housing	$250,000	30	2.05[3]	61.5	0.15[3]	4.5
Townhouse (2 Bedroom)	$350,000	63	2.05[3]	129.15	0.15[3]	9.45
Rosebud (3 Bedroom)	$375,000	14	3.00[4]	42	0.49[4]	6.86
TOTAL:	N/A	292	N/A	676.52	N/A	76.03

Notes: [1] Single-Family Detached, 3 BR (More than $194,500)
[2] Single-Family Detached, 4 BR (More than $329,500)
[3] 5+ Units - Own, 2BR ($135,000 - $329,500)
[4] 5+ Units – Own, 3BR (All Values)

As indicated in the table, implementation of the proposed action is projected to generate a residential population of 677± persons, of which approximately 77 would be public school-aged children.[42]

3.12.2.2 Permanent Job Generation

The proposed commercial development would generate a number of employment opportunities. Job generation ratios were calculated on a per-square-foot basis for the proposed uses to estimate the permanent job generation potential of the proposed development. Based on a factor of 3.0 jobs per 1,000 SF of commercial space,[43] the

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[41] *Residential Demographic Multipliers, Estimates of the Occupants of New Housing (Residents,* School-Age Children, Public School-Age Children) by State, Housing Type, Housing Size, and Housing Price; Prepared by: Robert W. Burchell, David Listokin, William Dolphin' Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy; June 2006.

[42] Based on 2013 ACS Data, within the Farmingville CDP, approximately 99% of households average 1 occupant per room. Based on this data, the proposed project would have 675 residents, which is nearly identical to what VHB projected via the Rutgers factors.

[43] *Development Impact Assessment Handbook* (Urban Land Institute, 1993)

proposed 24,000-SF commercial portion of the development could generate approximately 72 direct jobs (assuming full occupancy).[44] This is an increase in 55 jobs over the existing commercial condition. The proposed commercial development is anticipated to be occupied by multiple restaurant uses (comprising 12,000 SF) and an additional 12,000 SF of office space. The proposed restaurant uses would require employees such as food servers, managers, chefs, and other related positions, while positions associated with the proposed office space would be dependent on the types of business locating there, but would provide a wide array of employment opportunities.

The proposed residential development, including the community building and STP, would support indirect employment opportunities as well, primarily within the local real estate, landscaping, and maintenance industries. Based on a generation factor of 1 job per 25 units,[45] the proposed 292 residential units, community building and STP are expected to generate approximately 11 indirect employment opportunities.

As such, it is anticipated that the proposed project would provide employment opportunities to people in the surrounding area of the subject property, resulting in a beneficial economic impact.

3.12.2.3 Property Tax Revenues

Consistent with the Fiscal Impact Methodology,[46] future property tax revenues have been determined by considering what taxes would be generated if the development were completed and occupied today. This approach recognizes that development often requires several years to be completed and that inflation would increase costs and revenues over time. It assumes that the rising costs of public services would be matched by an essentially comparable increase in revenues through increases in the tax rate, all other things held constant.

The proposed project includes the development of 292 residential units in various configurations (the sales prices and unit counts of each are indicated in Table 30 above), as well as a 24,000±-SF commercial building, 7,500±-SF community building and associated appurtenances. A rent per square foot of $19[47] and a capitalization rate of 9.75 percent[48] were applied to the proposed commercial uses and community building, and the Town of Brookhaven's 2013-14 equalization rate of 0.95 percent was applied to the projected market value of the proposed residential uses. Therefore, based on the foregoing, the total projected future assessed value of the proposed combined residential and commercial development would be $995,976.

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[44] Urban Land Institute's *Development Impact Assessment Handbook*, 1994.
[45] Based upon discussion with developers/property owners in the region and other DEISs.
[46] Burchell, Robert and Listokin, David. *The Fiscal Impact Handbook.* 1978.
[47] Long Island Market Report, Second Quarter 2014, Central Suffolk Class A Office Space, NAI Long Island
[48] Nassau County Commercial Valuation Standards. Discussions with the Town of Brookhaven Assessor's Office revealed no known sources for capitalization rates specific to the Town of Brookhaven or Suffolk County.

Table 31 summarizes the projected annual property tax revenues and net increase in property taxes generated by the current proposal. The projected revenues presented are based on current 2013-14 tax rates. With no changes in assessments, these rates are likely to increase over time.

Table 31 – 2013-14 Projected Tax Revenues for The Arboretum

Taxing Jurisdiction	2013-14 Tax Rate (per $100 AV)	Projected Assessed Value	Projected Taxes	Net Increase
Suffolk County				
County of Suffolk	2.556	$995,976	$25,457	$24,979
County of Suffolk - Police	35.089	$995,976	$349,478	$342,916
Total Taxes Paid to Suffolk County			$374,935	$367,896
Town of Brookhaven				
Town General - Town Wide Fund	3.695	$995,976	$36,801	$36,110
Highway – Town Wide Fund	2.786	$995,976	$27,748	$27,227
Town General – Part Town Fund	1.706	$995,976	$16,991	$16,672
Highway – Part Town Fund	11.929	$995,976	$118,810	$116,579
Total Taxes Paid to the Town of Brookhaven			$200,351	$196,589
School taxes – Sachem Central School District				
Net School tax	189.613	$995,976	$1,888,501	$1,853,043
Net Library tax	11.314	$995,976	$112,685	$110,569
Total Taxes Paid to the Sachem Central School District			$2,001,185	$1,963,612
Other Taxing Jurisdictions				
Blizzard Note Repayment	0.926	$995,976	$9,223	$9,050
New York State MTA Tax	0.151	$995,976	$1,504	$1,476
2004 $100M Bond Act & Open Space	1.595	$995,976	$15,886	$15,588
Fire District - Farmingville	23.620	$995,976	$235,250	$230,833
Brookhaven Lighting District	1.242	$995,976	$12,370	$12,138
Real Property Tax Law	5.120	$995,976	$50,994	$50,037
Out of County Tuition Tax	05.78	$995,976	$5,757	$5,649
Total Taxes Paid to Other Taxing Jurisdictions			$330,983	$324,768
Total Property Tax Revenues			$2,907,454	$2,852,865

Source: Town of Brookhaven Receiver of Taxes, 2013-14.

Based on the foregoing, implementation of the proposed action is anticipated to result in total annual property tax revenue of $2,907,454 at the subject property, representing a net increase of $2,852,865 over existing conditions. Thus, implementation of the proposed action is expected to have a positive fiscal impact. A discussion of the projected tax revenues resulting from implementation of the proposed action on community services (e.g., police and fire protection providers and the local school district) is found in Section 3.3.2 of this DEIS.

3.12.3 Mitigation Measures

No significant adverse socioeconomic impacts have been identified. Therefore, no mitigation measures are proposed. It should be noted that the proposed development, at full occupancy, would be expected to provide approximately $2,907,454 in property taxes, annually to all taxing jurisdictions (combined) upon completion of the project. Furthermore, the restaurants would also contribute sales taxes to the Town, County and State.

4.0

Unavoidable Adverse Effects

The environmental impacts associated with the implementation of the proposed action, and the mitigation measures that are incorporated into the proposed action, have been described throughout Section 3.0 of this DEIS. Those impacts that cannot be either entirely avoided or fully mitigated are described below.

4.1 Short-Term Impacts

There would be several temporary (short-term) construction-related impacts that cannot be completely mitigated. These impacts are associated with site preparation and development (including grading, excavation, installation of utilities, and construction of buildings and parking facilities). It is anticipated that these impacts would cease upon completion of the construction phase of the project. Specific impacts are identified below:

- Soils would be disturbed by grading, excavation, and mounding activities during site redevelopment.
- Despite the use of extensive and strategically-placed erosion and sediment control measures, minor occurrences of erosion may occur.
- There is the potential for minor releases of air contaminants that would occur from construction equipment and emissions of fugitive dust during dry periods, although dust would, for the most part, be controlled by covering of soil piles and watering down of the site.
- Operation of construction equipment, trucks and worker vehicles may temporarily impact traffic in the area of the project site.
- The visual quality of the area may be temporarily degraded by the presence and operation of construction equipment on the project site.

- Increases in noise levels at the site boundaries may result from construction activities. However, construction would occur only during hours permitted by the Town of Brookhaven.

It is anticipated that these impacts would be of short duration, that is, they would cease upon completion of construction.

4.2 Long-Term Impacts

Long-term impacts associated with project implementation have been identified within the various analyses contained in this DEIS. Mitigation measures have been proposed to reduce or eliminate most of these long-term adverse impacts. Those adverse long-term impacts which cannot be fully mitigated are set forth below.

- The addition of impermeable surfaces to the subject property, such as roadways, parking and structures, would increase runoff on the subject property. However, runoff would be contained and recharged within the property boundaries through the installation of a comprehensive stormwater management system consisting of drywells, leaching pools, recharge basins and drainage ponds.
- The proposed development would generate sewage effluent; however, disposal would occur via connection to a new on-site STP.
- The proposed development would utilize additional potable water and energy as compared with existing conditions.
- There would be additional solid waste generated at the site, although same would not adversely impact local or regional solid waste management practices.
- Site development would result in the removal of vegetation on the site. The use of native vegetation and the comprehensive nature of the landscaping would help mitigate impacts associated with vegetation removal.
- The proposed development would add permanent population, including school-aged children to the site.
- Traffic would be added to surrounding roadways due to the implementation of the proposed action.

5.0

Alternatives and Their Impacts

This section of the DEIS examines the alternatives that were outlined in the Final Scope, which was promulgated by the lead agency. The alternatives examined are as follows:

- SEQRA-mandated, no-action alternative
- Development pursuant to Prevailing Zoning
- Alternative Yield Plan

A comparison of the quantitative impacts of each of the alternatives to the proposed project is contained in Table 32.

Table 32 – Comparison of Alternatives

PARAMETER	PROPOSED ACTION	NO ACTION	DEVELOPMENT UNDER PREVAILING ZONING (As-of-Right)	ALTERNATIVE YIELD PLAN
Type of Development	• Residential • Commercial • Sewage Treatment Plant • Public and Private Open Space	• Residential • Agricultural • Commercial • Vacant Buildings / Land	• Residential • Commercial	• Residential • Commercial • Sewage Treatment Plant • Public and Private Open Space
Number of Units/Type of Building/Gross Floor Area (SF) of New Development	• 51 Single-Family Residential Units • 164 Two-Bedroom Flats • 63 Townhouse (Triplex) Units • 14 Three-Bedroom "Rosebud" Units • Commercial Building (24,000 SF) – Restaurant and Commercial Uses • Private Resident Clubhouse (7,500 SF) • Sewage Treatment Plant (7,728 SF) • Private Recreational Open Space (1.66 acres) • Private Recreational Facilities (1.38 acres) • Publicly-Accessible Open Space Area (7.28 acres)	• 1 Single-Family Residence • Commercial Nursery Buildings and Associated Growing Area • Mulch / Soil Processing Area	• 50 Single-Family Residential Units • Commercial Space (30,000 SF medical office)	• 63 Single-Family Residential Units • 84 Two-Bedroom Flats • 63 Townhouse (Triplex) Units • 14 Three-Bedroom "Rosebud" Units • Commercial Building (24,000 SF) – Restaurant and Commercial Uses • Private Resident Clubhouse (7,500 SF) • Sewage Treatment Plant (7,728 SF) • Private Recreational Open Space (1.66 acres) • Private Recreational Facilities (1.38 acres) • Publicly-Accessible Open Space Area (7.28 acres)
Outdoor Recreational Facilities/ Open Space	• 7.28 Acres of Publicly-Accessible Open Space • 1.66 Acres of Private Recreational Open Space • 1.38 Acres of Private Recreational Facilities	• N/A	• N/A	• 7.28 Acres of Publicly-Accessible Open Space • 1.66 Acres of Private Recreational Open Space • 1.38 Acres of Private Recreational Facilities
Population (persons)	• 677 Persons	• 3 - 4 Persons	• 184 Persons	• 553 Persons
School-Aged Children Attending Public School	• 77 School-Age Children	• 1 - 2 School-Age Children	• 44 School-Age Children	• 73 School-Age Children
Permanent Employment	• 83 Employees	• 17 Employees	• 92 Employees	• 80 Employees
Domestic Water/Sewage	• 98,307 gpd/ 89,370 gpd	• 719 gpd/ 719 gpd	• 19,800 gpd / 18,000 gpd	• 79,167 gpd / 71,970 gpd
Solid Waste	• 67.1 tons/month	• 1.24 tons/month	• 14.4 tons/month	• 60.5 tons/month
Gross Tax Revenue Generation	• $2,907,454	• $54,589	• $804,560	• $2,381,371
Traffic Generation AM Peak Hour PM Peak Hour Saturday Peak Hour	• 200 vehicle trips • 333 vehicle trips • 346 vehicle tips	• 66 vehicle trips* • 77 vehicle trips* • 102 vehicle trips*	• 110 vehicle trips • 157 vehicle trips • 156 vehicle trips	• 168 vehicle trips • 296 vehicle trips • 317 vehicle trips

*These figures represent the traffic generated by the existing Post Office that would be re-routed through the proposed development's access at Horseblock Road.

5.1 No-Action Alternative

The SEQRA-mandated, No-Action Alternative would leave the site as it currently exists. Existing uses are discussed in Section 3.1.1.1 of this DEIS. There is currently a single-family residence, commercial nursery, and a mulch/soil processing operation at the subject property, as well as large tracts of vacant, former agricultural land and vacant equestrian facilities in the southern portion of the subject property. The analysis presented herein assumes full occupancy and use of all active uses and buildings, with no use of the former agricultural land and equestrian facilities.

The No-Action Alternative is inconsistent with the Applicants' right to apply for a change of zone and the right to develop the property, does not meet the objectives of the Applicants and is not viewed to be a feasible alternative by the Applicants. Nevertheless, despite this alternative not being feasible, SEQRA requires that this option be evaluated in the DEIS. This alternative assumes that no demolition would occur, and the site and existing buildings would remain as is.

5.1.1 Land Use, Zoning, and Community Character

Implementation of the No-Action Alternative would not involve any change in land use and would not change zoning. Specifically, the subject property currently contains a single-family residence, a commercial nursery, a soil processing operation, as well as large tracts of vacant land and vacant equestrian facilities in the southern portion of the subject property. The site is zoned for both single-family residential and commercial development. Under this alternative, current active uses would continue while vacant land and uses would remain as well.

Approximately one percent of the site is covered with buildings and other impervious surfaces, while the remainder of the site (99± percent) is comprised of non-vegetated, grass/brushlands, forested, and an artificial drainage feature. These conditions would remain in the No-Action Alternative.

No significant impact to land use, zoning, and community character would occur under the No-Action Alternative, however this alternative would not achieve the goal of providing a diverse housing stock within this area of the Town, as recommended in the Town and County comprehensive plans, and would not provide the much-needed workforce housing units.

5.1.2 Subsurface Conditions

Implementation of the No-Action alternative would not require disturbance to the land. As such, the subject property would remain unchanged and there would be no significant adverse impact with respect to subsurface conditions. However, residual contamination from past activities on the subject property would remain, and would not be addressed by an SMP, in accordance with regulatory requirements, as the subject property would not be developed.

5.1.3 Community Services

The subject property is currently located within the service area of the SCPD – 6th Precinct. Fire protection and EMS services are provided by the Farmingville Fire District, and Brookhaven Memorial Hospital and SBUMC serve as receiving hospitals for uses associated with the subject property. It is expected these service providers would continue to serve the subject property, and no significant adverse impacts would occur.

As previously discussed, the subject property is located within the Sachem CSD. Under this alternative, the site would be expected to generate a minimal number of school-aged children attending public school (due to the presence of one single-family residence at the subject property).

The No-Action Alternative would not impact the community service providers. All of the providers would continue to serve the subject property. Therefore, no significant adverse impact to community services would be expected by implementation of the No-Action Alternative. However, no additional tax revenue would be generated by the subject property as would occur with the proposed project.

5.1.4 Transportation

No additional traffic would be added to the roadway network with the implementation of the No-Action Alternative. However, three other planned/approved developments located in the vicinity would add traffic to the roadway network, and traffic would also increase due to general background growth with or without the addition of The Arboretum development. This is reflected in the No Build condition analyzed in Section 3.4.2 of this DEIS.

Existing trips associated with the active uses on the subject property would continue. In addition, trips associated with the adjacent Post Office would remain and access to this facility would continue directly from Horseblock Road.

5.1.5 Water Resources

The No-Action Alternative would have minimal impacts on groundwater and surface water resources. Sewage effluent would continue to be disposed of via connection to on-site sanitary systems. Estimated sewage flow, based upon existing active uses, is 719± gpd, significantly less than the proposed action (89,370 gpd).

Potable water is estimated to be essentially the same as the sewage flow. Irrigation would continue as it currently exists. As with sewage disposal, the amount of water demand would be significantly below that of the proposed project.

Drainage is currently handled on-site mostly by a combination of existing manmade drainage features and overland flow, and this would not change as part of the No-Action Alternative. Since there would be no change to stormwater management for this alternative, unlike the proposed project, no comprehensive stormwater management system for collecting and recharging runoff would be installed. Thus, with the continuation of overland flow, the No-Action Alternative is somewhat less protective of groundwater resources.

Leaving the subject property in its present conditions would likewise not impact the artificial drainage feature located on the subject property. However, the No-Action Alternative would not involve the creation of artificial constructed pond areas, resulting in a 1.39±-acre increase in aquatic and wetland habitats on the subject property.

5.1.6 Ecology

As indicated in Section 3.6.1, a vast majority of the subject property is characterized by unvegetated or sparsely-vegetated ground surfaces, or areas dominated by early successional vegetation as a consequence of the significant clearing and ground disturbance associated with historical and ongoing commercial agricultural uses. As implementation of the No-Action Alternative would not require disturbance of the land, the subject property would remain unchanged, and, thus, there would be no impact to vegetation and wildlife. However, invasive species would still persist within areas of disturbance on the subject property and with continued operation of the commercial nursery and soil stockpiling facility, it is unlikely the process of ecological succession would progress within the ecological communities on-site. In addition, the No-Action Alternative would forego the creation of additional aquatic and wetland habitat on the subject property, in the form of artificial constructed pond areas, which would be expected to attract wildlife species that currently do not inhabit the property

5.1.7 Visual Resources

The aesthetics of the site would not change upon implementation of the No-Action Alternative, as existing active uses would be maintained, and there would be no significant changes to visual resources. However, as the No-Action Alternative would involve the equestrian facility remaining in its abandoned state, it would become dilapidated over time, resulting in a negative impact to visual resources in the surrounding area.

5.1.8 Use and Conservation of Energy

PSEG Long Island and National Grid currently provide service to the subject property. It is expected that this would continue to be the case with the No-Action Alternative.

5.1.9 Cultural Resources

Implementation of the No-Action Alternative would maintain existing active uses at the site, such that there would be no impact to existing cultural resources in the vicinity of the subject property (i.e., the Bald Hill Schoolhouse). As such, no impact to cultural resources would be expected as part of the No-Action Alternative.

5.1.10 Solid Waste

The subject property generates minimal solid waste daily based on its current use, and the No-Action Alternative would maintain existing, active uses as the subject property. Thus, it is anticipated that under the No-Action Alternative solid waste generation and the current method of collection would continue.

5.1.11 Air Quality

Implementation of the No-Action Alternative would maintain the existing land uses and traffic associated with the subject property. As such, there would be no change in air quality impacts with implementation of the No-Action Alternative.

5.1.12 Economic Conditions

Under this alternative, it is assumed that all existing active uses and buildings would be maintained, while vacant land and buildings would remain. Under this alternative, it is expected that the 17 jobs currently associated with the uses at the site would remain. The property currently generates $54,589 in annual property tax revenue and would continue to generate similar property tax revenue. This current

figure is $2,852,865 less than would be generated by implementation of the proposed project.

5.1.13 Growth Inducing Aspects

The No-Action Alternative would maintain the existing state of the subject property, such that no new uses, population, or tax base would be introduced. As such, it is not expected that this alternative would catalyze growth in the vicinity of the subject property. Therefore, the No-Action Alternative would have no growth-inducing aspects.

5.2 Development Pursuant to Prevailing Zoning (Office and Residential)

The subject property is partially zoned J Business 4 Zoning District (10± acres) and partially zoned A Residence 1 Zoning District (55.24± acres), as previously noted. Based upon the parcel sizes and the requirements of the two above-cited zoning districts, as well as consideration for the GWMZ in which the subject property is located and the incorporation of infrastructure, off-street parking and landscaping, under prevailing zoning, the subject site could be developed with 50 single-family residences and a 30,000 SF commercial building (assumed to consist of medical office uses for purposes of this analysis). As indicated on the *Conceptual Site Plan (North)* (see Appendix C), the project engineer calculated that the 55.24±-acre portion of the subject property that is zoned A Residence 1 could be developed with 50 single-family residences on 40,000 SF lots, as permitted by the zoning district, as follows:

55.24± x 43,560 SF = (2,406,167±/40,000 SF) = 60.15 x 0.825 = 50 lots

In addition to providing 50 lots for single family residential units, this layout would reserve 17.5 percent of aforementioned property for site infrastructure (as 82.5 percent of the subject property square footage was utilized to calculate number of 40,000 SF lots that could be created). SCDHS requirements were consulted to determine allowable density for medical office uses, which are permitted in the J Business 4 Zoning District. Pursuant to SCDHS standards for commercial projects, which have an allowable flow of 300 gpd per acre in GWMZ III, permitted density flow for the 10±-acre property zoned J Business 4 is as follows:

300 gpd/acre x 10± acres = 3,000 gpd

Therefore, a 30,000 SF medical office building, with a density flow of 0.1 gpd per SF, would be permitted in accordance with SCDHS standards, and would comply with prevailing zoning.

Upon implementation of this alternative (also cited as "as-of-right"), the existing buildings on the subject property would be demolished, the existing uses and operations would cease and 50 single-family homes, a 30,000 SF medical office building and associated site appurtenances, including individual on-site sanitary systems, drainage infrastructure, including an artificial drainage pond area, and access drives and parking would be constructed at the subject property. The single-family residences would be constructed in the central and southern portions of the site while the commercial uses would be constructed in the northwestern portion of the subject property, along Horseblock Road.

Development under prevailing zoning would result in similar impacts as the proposed project with respect to land use and zoning, subsurface conditions, community services, ecology, visual resources, cultural resources, solid waste, air quality and energy. Differences in impacts between this alternative and the proposed project with respect to water use, sewage generation and transportation are mostly due to fewer people residing at the subject property. However, as only single-family residences would be developed, it would not diversify the housing stock, there would be no new high-quality multi-family housing provided in this area of the Town, and there would likewise be no provision of much-needed workforce housing. This alternative would also result in approximately $804,560 of annual property taxes, which is approximately $2.1 million less than the proposed project. Overall, development under prevailing zoning would forego The Arboretum site plan, and the Applicants respectfully submit that the site design included with the proposed project represents the most efficient use of the subject property, with the most benefits for the surrounding community.

5.2.1 Land Use, Zoning, and Community Character

As with the proposed project, this alternative would result in a change from the existing commercial, and residential uses (as well as unoccupied commercial structures and equestrian facilities and vacant land) at the subject property to a mixed-use residential and commercial development. The residential component of this alternative would feature 50 single-family residences on 40,000 SF lots, situated on the approximately 55.24-acre property zoned A Residence 1 and located in the central and southern portions of the subject property. As there would be no multi-family housing provided, there would likewise not be any units designated as workforce housing, as compared to 30 workforce housing-units provided in the proposed project.

The commercial component under this alternative would be slightly larger than in the proposed project, and would include a 30,000 SF building (as compared to a 24,000 SF building in the proposed project) and associated parking areas, situated on the approximately 10-acre property zoned J Business 4, located in the northwestern portion of the subject property. For purposes of this analysis, the commercial space is assumed to consist of medical office uses.

The development would also include associated on-site sanitary systems, drainage infrastructure and access driveways for both the residential and commercial components. Unlike in the proposed project, there would be no publicly-accessible recreational areas and no common open spaces provided under this alternative. All open spaces would be associated with each single-family home, and thus would be private. There would, however, be an artificial pond area constructed to satisfy requirements for a two to one restoration ratio for the existing artificial drainage feature located at the west-central portion of the subject property.

No change in zoning would also be required for implementation of this alternative, and the subject property would remain zoned as A Residence 1 and J Business 4. With respect to community character, similar to the proposed project, the commercial building would be sited along Horseblock Road, the primary commercial corridor in Farmingville. In addition, the single-family residential uses would be consistent with the existing single-family developments located adjacent to the eastern and western perimeters of the subject property, and, thus, would blend with the existing community character.

Overall, it is not expected that implementation of this alternative would have a significant adverse impact on land use, zoning, or community character.

5.2.2 Subsurface Soils

Upon implementation of this alternative, impacts with respect to subsurface soils would be the same as for the proposed project. As the Phase II ESA for the subject property concluded on-site soil contamination is minor, and as an SMP would be implemented to address residual contamination from past activities on the subject property in accordance with regulatory requirements prior to development, it is not expected that there would be significant adverse impacts with respect to subsurface soils.

5.2.3 Community Services

Upon implementation of this alternative, the Farmingville Fire Department would continue to provide fire protection as well as ambulance services to the subject property, and the SCPD – 6th Precinct would provide police protection. Brookhaven Memorial Hospital and SBUMC would serve as receiving hospitals for development under this alternative. As with the proposed project, this alternative would involve an increase in the permanent population residing at the subject property. However, also as with the proposed action, the increase in property taxes associated with this alternative are expected to offset increases in the services provided to the subject property (see Section 5.2.12, below for projected property taxes associated with

Development Under Prevailing Zoning). Thus, significant adverse impacts to these service providers are not anticipated.

This alternative involves a permanent residential component, and, thus, as with the proposed project, this alternative would be expected generate public school-aged children and would increase enrollment in the Sachem CSD. Based upon the factor of 0.87 for four-bedroom single-family homes, this alternative would generate 44 public school-aged children versus 77 in the proposed project.[49] However, as with the proposed project, due to declining enrollment in the school district and the property taxes that would result from this alternative, no significant adverse impacts to the Sachem CSD are anticipated.

5.2.4 Transportation

As noted, development under this alternative would result in construction of 50 single-family residential units, compared to 51 single-family and 241 multi-family units in the proposed project. There would also be 30,000 SF of commercial space (assumed to be medical office for purposes of this analysis), as compared to 24,000 SF of office and restaurant uses in the proposed project. Site access (including the re-routing of the Post Office traffic through the subject property) and on-site circulation would be similar to the proposed project. Although there would be 6,000 SF more commercial space under this alternative, the volume of site-generated trips on the adjacent roadway network would be less than the proposed project, due to fewer permanent residents at the subject property. Table 33 shows the peak hour trips for the Development Under Prevailing Zoning Alternative, as compared to the proposed project:

Table 33 – Peak Hour Trips (Development Under Prevailing Zoning)

Peak Period	Proposed Project Development Mix			Development Under Prevailing Zoning		
	Entering	Exiting	Total	Entering	Exiting	Total
AM Peak	162	138	200	66	44	110
PM Peak	201	132	333	62	95	157
Saturday Peak	189	157	346	87	69	156

[49] Development Under Prevailing Zoning assumes all single-family residences would be four-bedroom units, which have a factor of 0.87. The 51 single-family residences in the proposed project are assumed to include 25 three-bedroom units, which have a factor of 0.50 and 26 four-bedroom units, with the aforementioned factor of 0.87.

As shown in Table 33, the number of trips generated by this alternative would be lower than the proposed project in the a.m., p.m. and weekend peak hours. However, as indicated in the TIPA (see Appendix G), the trips generated by the proposed project would not be expected to have a significant impact on the study intersections or roadway network provided the mitigation measures recommended are implemented. Thus, no mitigation measures with this alternative would be necessary and there would be no significant impact upon transportation in the vicinity of the subject property.

5.2.5 Water Resources

General impacts to groundwater for this alternative would be similar to that of the proposed action. The Development Under Prevailing Zoning Alternative would be connected to public water, similar to the proposed project, but unlike with the proposed project, sanitary wastewater would not be treated by an on-site STP. Although sewage generation would be less under this alternative as a result of fewer residential units than in the proposed project, there would be many more point sources of potential pollution from the individual sanitary systems for the 50 single-family residences and the commercial building. Although development under this alternative would meet SCSC Article 6 requirements, it is expected that impacts from sewage generation would be similar or greater under this alternative than for the proposed project, because the level of treatment provided by the STP under the proposed project would mitigate potential impacts from sewage. Development under this alternative would also occur in accordance with the *Final Long Island Groundwater Management Program*, the *NURP Study*, the *208 Study* and the *Nonpoint Source Management Handbook*, as with the proposed project.

Post-construction sanitary sewage generation for this alternative would be approximately 18,000 gpd, which is 71,370± gpd less than the proposed project (89,370± gpd) would generate. The proposed residential units and commercial building would be served by individual on-site sanitary systems. Water use would be approximately 19,800 gpd, which is 78,507± gpd less than the proposed project (98,307± gpd). Potable water would be supplied by SCWA, as in the proposed project.

With respect to use of fertilizer and irrigation practices, since there would be 50 separate single-family residential lots as well as the office building, it may be more difficult to control the application of fertilizers and the use of water for irrigation purposes as opposed to for the proposed project, wherein there would be homeowners associations that would control such practices.

As with the proposed project, development under this alternative would result in the disturbance of an area greater than five acres, and therefore, would be required to obtain a SPDES GP-0-10-001. In accordance with same, a SWPPP would be prepared

and same would include erosion and sedimentation controls as well as methods to accommodate stormwater during construction.

Similar to the proposed project, the erosion and sedimentation controls would consist of both vegetative and structural controls to stabilize soils and reduce the potential impacts to soils during construction activities. Included would be the strategic placement of silt fences and temporary berms and trenches to prevent overland runoff, stabilized construction entrance, stockpile protection, a concrete washout area, storm drain silt control measures, and installation of foundations, pavement and/or landscaping as soon as possible after soil disturbance which would effectively limit the extent of soil erosion. Additionally, the installation of drywells and regrading activities would control and direct the routes of water flow on-site to minimize the impacts associated with overland flow, which currently occurs.

To accommodate projected stormwater runoff under this alternative, numerous drywells would be installed on-site. This alternative would be expected to generate more stormwater runoff than in the existing condition, as it would involve additional impervious surfaces on the subject property. As this alternative is only conceptual in nature, the volume of stormwater runoff generated by this alternative is unknown. However, it is anticipated that, similar to the proposed project, a comprehensive stormwater management system would be implemented to address any new development, and overall, no significant adverse impacts associated with stormwater runoff would be expected.

With respect to wetlands, the existing 0.23±-acre artificial drainage feature would be filled, and an artificial pond would be created elsewhere on the subject property. This alternative would provide such pond features in a two to one restoration ratio, as compared with the existing condition. The three ponds in the proposed project, however, would provide a four to one restoration ratio, and would, thus, provide an increase in wetland and aquatic habit over this alternative. In addition, like with the proposed project, a Wetlands and Waterways permit would be obtained, in accordance with the requirements set forth in §81-6 of the Town Code, and a maintenance plan for the constructed pond area would be submitted to the Town of Brookhaven DEP. Thus, no significant adverse impacts to wetlands would be expected.

5.2.6 Ecology

Similar to the proposed project, development of this alternative would result in clearing of most of the natural vegetation that currently exists on the subject property. However, as the subject property has been subject to historical and ongoing disturbances related to various commercial and agricultural site uses, the overall habitat quality of the subject property has been degraded due to anthropogenic disturbances and colonization by non-native/invasive plant species. As such, similar to the proposed project, no significant adverse impacts to local or regional

populations of the existing plant species at the subject property are anticipated as a result of the development of this alternative. Moreover, no significant adverse impacts to populations of rare/protected plants are anticipated.

As the residential component of this alternative would consist of single-family homes on 40,000 SF lots, the landscaping on these lots would be provided by individual homeowners, and, therefore, this alternative would forego the comprehensive and cohesive landscaping contemplated for the proposed project, which would include a species assemblage comprised of ornamental turf grasses and various trees, shrubs and herbaceous plants. Depending on the ultimate layout of the residential lots, portions of the existing 4.06±-acres Successional Southern Hardwoods community could potentially be preserved in some of the site perimeter areas, as with the proposed project. However, as the individual lot owner would have the right to remove such vegetation, it is likely that under this alternative, less of this existing ecological community would be preserved, as compared with the proposed project. As required by the Town of Brookhaven, an artificial pond feature in a two to one restoration ratio would be provided. However, unlike with the proposed project, there would not be three drainage ponds and, therefore, there would be less intermittently and permanently flooded habitat provided under this alternative. Finally, the publicly-accessible, landscaped passive recreational area provided in the proposed project would not be included in this alternative.

With respect to wildlife, as with the proposed project, development of this alternative would occur over time in four sequenced phases, and clearing of all existing habitats would not occur simultaneously. As such, it is anticipated that some of the wildlife displaced from disturbed portions of the subject property would temporarily occupy remaining suitable habitat at the site, with the same temporary population increases and subsequent declines to population equilibrium as described in Section 3.6.2.2. It is further anticipated that the lawn/landscaped and developed habitats that would be installed at the site would continue to attract a similar species assemblage as in the existing condition and in the proposed project.

Finally, no New York State or federally-listed endangered, threatened or special concern plants or wildlife, or significant natural communities, were observed at the subject property at the time of the September 25, 2014 field inspection. Furthermore, as suitable habitat to support the 10 species that appear on the USFWS Federally Endangered and Threatened and Candidate Species List for Suffolk County does not exist at the subject property, these species would not be expected to occur at the site. Thus, as with the proposed project, this alternative would not be expected to impact rare or protected species and communities.

5.2.7 Visual Resources

As with the proposed project, the Development Under Prevailing Zoning Alternative would result in the alteration of views of the subject property from surrounding areas, as the 50 single-family residential units and 30,000 SF commercial building, consisting of numerous low-scale buildings, would replace the existing single-family residential, agricultural and commercial uses, which are comprised of a limited number of buildings.

The most prominent views under this alternative would be from Horseblock Road. Upon implementation of this alternative, travelers along Horseblock Road would see the medical office building and potentially partial views of the northernmost single-family residences. Views from the residences and roadway termini bordering the subject property to the east and west would include the single-family residences, as well as the proposed commercial building. Views of the subject property from the south would be obscured by existing utility infrastructure (i.e., transmission towers and lines) and existing vegetation. However, under this alternative some of the existing vegetation would be removed for construction of the single-family residences, are thus, there would potentially be views of the southernmost single-family residences from the south.

Although street trees would be provided along the access road, as the residential component of this alternative would consist of single-family homes on 40,000 SF lots, it is anticipated that most of the landscaping would be provided by individual homeowners, and there would not be a unified landscape concept for the subject property. The medical office building site would be planted with a variety of buffer plantings around the perimeter, as well as street trees and shrubs within the parking lot.

Regarding internal views, this alternative would differ from the proposed project due to the development consisting of only single-family residences and one commercial building. In this alternative, throughout a majority of the subject property, views would be of single-family homes, as opposed to a mix of single-family homes, two-story structures, a large clubhouse, common open spaces and parking lots. In addition, in this alternative there would not be views of the recreational areas. Overall, as with the proposed project, implementation of this alternative is not expected to have a significant adverse visual impact.

5.2.8 Use and Conservation of Energy

As with the proposed project, the Development Under Prevailing Zoning Alternative would increase energy use on the subject property; however, the design of this alternative would comply with the Town's Energy Conservation Requirements (§16.4.1 of the Town Code). Further, this alternative would incorporate high-

efficiency HVAC systems, insulation and windows and ENERGY STAR appliances, similar to the proposed project.

In addition, as PSEG Long Island indicated that it would provide service to the proposed project, it would be expected that a similar letter of availability would be issued for this alternative. Confirmation would also be obtained from National Grid regarding the ability to serve prior to development of this alternative.

Overall, as with the proposed project, significant adverse impacts to energy would not be expected due to implementation of this alternative.

5.2.9 Cultural Resources

As with the proposed project, it is not anticipated that development of this alternative would pose a significant adverse impact to the National Register-listed Bald Hill School House, located approximately 120± feet northeast of the subject property. Under this alternative, views of the subject property from the Bald Hill School would be similar as with the proposed project, and would be of vegetation, similar to the existing condition, across Horseblock Road. Facing west along Horseblock Road, views from the Bald Hill School would be of an attractive 30,000 SF commercial building, which would be similar to the view of the 24,000 SF commercial building included in the proposed project.

5.2.10 Solid Waste

As a result of fewer residential units at the subject property, this alternative would have 184 permanent residents, as compared with 677 for the proposed project, and although there would be more commercial office space, the resulting solid waste generation for this alternative would be approximately 14.4 tons per month, which is 52.7 tons per month less than the proposed project (67.1 tons per month) is anticipated to generate.

As with the proposed project, solid waste generated by both the proposed residential and medical office uses would be collected by a licensed private carter and disposed of at a licensed facility. It is expected that the development would implement a recycling program geared toward its individual uses. Thus, similar to the proposed project, development of this alternative would not be expected to result in significant adverse impacts to the Town's waste management facilities, practices or plans.

5.2.11 Air Quality

As with the proposed project, construction and demolition activities associated with implementation of this alternative would result in a slight, short-term increase in air

pollution emissions. Subsequent to construction, the development may include stationary sources of air emissions, such as heating boilers, hot water heaters, and emergency generators, but these are not anticipated to significantly affect air quality. In addition, the associated traffic would not adversely impact air emissions.

Overall, similar to the proposed project, this alternative would not have a significant long-term air quality impact.

5.2.12 Economic Conditions

Upon development under prevailing zoning, the subject property would be redeveloped with single-family homes that would result in a permanent residential population at the subject property (including public school-aged children). As a result of fewer residential units at the subject property, this alternative would have 184 permanent residents, as compared with 677 for the proposed project. The 184 residents would include 44 public school-aged children.

The medical office uses would be expected to generate approximately 90 jobs. Based on a generation factor of one job per 25 units,[50] the proposed 50 single-family homes are expected to generate approximately two employment opportunities, for a total of 92 jobs generated by this alternative, as compared to 83 for the proposed project.

To estimate the assessed value of the Development Under Prevailing Zoning Alternative, similar to the proposed project, a rent per square foot of $19[51] and a capitalization rate of 9.75 percent[52] were applied to the 30,000 SF commercial building that would contain medical office uses, and the Town's 2013-14 equalization rate of 0.95 percent was applied to the projected market value of the 50 single-family residential units. Therefore, based on the foregoing, the total projected assessed value of the combined residential and commercial development under this alternative would be $275,610. This is $720,366± lower than the assessed value of the proposed project.

Table 34 summarizes the projected tax revenues and net increase in taxes generated by development of this alternative. The projected revenues presented are based on current 2013-14 tax rates. With no changes in assessments, these rates are likely to increase over time.

▼

[50] Based upon discussion with developers/property owners in the region and other DEISs.
[51] Long Island Market Report, Second Quarter 2014, Central Suffolk Class A Office Space, NAI Long Island
[52] Nassau County Commercial Valuation Standards. Discussions with the Town of Brookhaven Assessor's Office revealed no known sources for capitalization rates specific to the Town of Brookhaven or Suffolk County.

Table 34 – Projected Tax Revenues, Development Under Prevailing Zoning

Taxing Jurisdiction	2013-14 Tax Rate (per $100 AV)	Projected Assessed Value	Projected Taxes	Net Increase
Suffolk County				
County of Suffolk	2.556	$275,610	$7,045	$6,576
County of Suffolk - Police	35.089	$275,610	$96,709	$90,147
Total Taxes Paid to Suffolk County			$103,753	$96,714
Town of Brookhaven				
Town General - Town Wide Fund	3.695	$275,610	$10,184	$9,493
Highway – Town Wide Fund	2.786	$275,610	$7,678	$7,158
Town General – Part Town Fund	1.706	$275,610	$4,702	$4,383
Highway – Part Town Fund	11.929	$275,610	$32,877	$30,647
Total Taxes Paid to the Town of Brookhaven			$55,442	$51,680
School taxes – Sachem Central School District				
Net School tax	189.613	$275,610	$522,592	$487,134
Net Library tax	11.314	$275,610	$31,182	$29,067
Total Taxes Paid to the Sachem Central School District			$553,774	$516,201
Other Taxing Jurisdictions				
Blizzard Note Repayment	0.926	$275,610	$2,552	$2,379
New York State MTA Tax	0.151	$275,610	$416	$388
2004 $100M Bond Act & Open Space	1.595	$275,610	$4,396	$4,098
Fire District - Farmingville	23.620	$275,610	$65,099	$60,682
Brookhaven Lighting District	1.242	$275,610	$3,423	$3,191
Real Property Tax Law	5.120	$275,610	$14,111	$13,154
Out of County Tuition Tax	05.78	$275,610	$1,593	$1,485
Total Taxes Paid to Other Taxing Jurisdictions			$91,591	$85,376
Total Property Tax Revenues			$804,560	$749,971

Source: Town of Brookhaven Receiver of Taxes; Assessed value calculated by VHB Engineering, Surveying and Landscape Architecture, P.C.

Based upon the results shown in Table 34, above, approximately $804,560 in property tax revenues would be generated by the Development Under Prevailing Zoning Alternative, which is approximately $2.1 million less than under the proposed project. Overall, as with the proposed project, development of this alternative would be expected to have a positive fiscal impact.

5.2.13 Growth Inducing Aspects

Similar to the proposed project, development of this alternative is not expected to induce significant additional growth in the surrounding community. While development under this alternative would add permanent population to the area, the area is well-served by existing community facilities and that area contains retail and other commercial development. The creation of 90 permanent jobs within the commercial uses could be filled with the future residents of the development or local residents. Further, the potable water, sanitary and stormwater management infrastructure would be sized only to serve the residences and commercial building on the subject property, and, therefore would not have excess capacity for new development. Further, with regard to traffic growth, any traffic mitigation proposed would not include additional roadways or significantly increase roadway capacity. Therefore, this alternative is not expected to have significant growth-inducing aspects.

5.3 Alternative Yield-Alternative with an increased single-family component and decreased multi-family component

This alternative involves the development of the subject property with similar uses as the proposed project (i.e., single-family and multi-family residential uses, amenities for the residential community, public and private open space, commercial and office uses, an internal driveway, associated parking and an STP). The substantial difference between this Alternative Yield Plan and the proposed project is that this alternative would feature an increased single-family residential component and a reduced multi-family component. Specifically, 80 of the two-bedroom flats (within 40 structures) in the proposed project would be replaced by 12 single-family homes within the south-central portion of the subject property in the Alternative Yield Plan.

Upon implementation of this alternative, the existing buildings on the subject property would be demolished, the existing uses and operations would cease and 63 single-family homes, 84 two-bedroom flats, 63 townhouses, 14 three-bedroom units, a 24,000 SF commercial building, a private clubhouse for the residents, and an STP would be constructed at the subject property. In addition, as with the proposed project, the Alternative Yield Plan would include 1.66± acres of private recreational open space, with an additional 1.38± acres of private recreational facilities, 7.28± acres of publicly-accessible recreational space and three artificial drainage ponds. The Alternative Yield Plan would result in relatively similar impacts as the proposed project with respect to land use and zoning, subsurface conditions, community services, ecology, visual resources, cultural resources, air quality and energy. Differences in impacts between this alternative and the proposed project with respect to water use, sewage generation, solid waste generation and transportation are mostly due to fewer people residing at the subject property. However, as the overall number of single-family residences would increase, there would be a decrease in new high-

quality multi-family housing provided in this area of the Town, as compared with the proposed project. Further, as the number of residential units provided would decrease by 68, there would likewise be a proportionate decrease in workforce housing units provided. This alternative would also result in approximately $526,000 less in annual property tax revenues as compared to the proposed project.

This alternative is depicted on the *Conceptual Alternative Yield Plan* included in Appendix J.

5.3.1 Land Use, Zoning, and Community Character

As with the proposed project, this alternative would result in a change from the existing commercial, and residential uses (as well as unoccupied commercial structures and equestrian facilities and vacant land) at the subject property to a mixed-use residential and commercial development. This alternative includes an increased number of single-family units and a decreased number of multi-family units as compared to the proposed project. Specifically, this alternative would feature 63 single-family residences (situated along the western and eastern boundaries and the south-central portion of the subject property), and 84 two-bedroom flat units (in two-story structures), 63 townhouses units, and 14 three-bedroom units, all situated throughout the central portion of the subject property. In total, 224 residential units would be constructed, as compared to 292 residential units in the proposed project. As the number of residential units would decrease under the alternative, the number of units designated as workforce housing would also decrease (23 workforce housing units would be provided, as compared to 30 units in the proposed project). The residential component of the development would also include a 7,500± SF private residential clubhouse and associated pool, as with the proposed project.

The commercial component under this alternative would be the same as in the proposed project, and would include a 24,000 SF building and associated 200-space parking lot situated on approximately 3.65 acres in the northwestern portion of the subject property. The commercial space would consist of 12,000 SF of restaurants and 12,000 SF of office space.

In addition to the residential and commercial structures, a 7,728±-SF STP would be constructed on a 2.96±-acre sanitary area in the southernmost portion of the subject property. As with the proposed project, this area would be screened from the proposed residences by vegetative buffering. Three artificial ponds would be situated throughout the subject property, which would capture and recharge stormwater runoff, and provide increased wetland and aquatic habitat values, as well as an aesthetic feature for the development.

Similar to the proposed project, a 1.66±-acre private recreational open space area and 1.38± acres of private recreational facilities would be included in the central portion of the subject property, and a 7.28±-acre publicly-accessible passive recreational area

would be developed in the northeastern portion of the subject property, fronting along Horseblock Road.

A change in zoning would also be required for implementation of this alternative. As with the proposed project, development of this alternative would require a change of zone to the MFRD – Secondary Zone Zoning District for the entirety of SCTM parcels District 200 – Section 626 – Block 3 – Lot 40 and District 200 – Section 653 – Block 7 – Lot 1 and a 3.65±-acre portion of SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5, and a change of zone for the remaining 6.35± acres associated with SCTM parcel District 200 – Section 626 – Block 3 – Lot 39.5 to the J Business 2 Zoning District. As with the proposed project, this alternative would also require a Pine Barrens Credit Redemption. This alternative would require that 26.4 Pine Barrens Credits be redeemed, as compared to 38.6 for the proposed project.

With respect to community character, similar to the proposed project, the commercial building would be sited along Horseblock Road, the primary commercial corridor in Farmingville. In addition, the various types of residential development that would be constructed throughout the property are not expected to impact the existing character, and, as with the proposed project, single-family residential uses would be situated at the eastern and western perimeters of the property to complement existing single-family residential uses in those areas.

Overall, it is not expected that implementation of this alternative would have a significant adverse impact on land use, zoning, or community character, nor would it significantly differ from the proposed action.

5.3.2 Subsurface Soils

Upon implementation of this alternative, impacts with respect to subsurface soils would be the same as for the proposed project. As the Phase II ESA for the subject property concluded on-site soil contamination is minor, and as an SMP would be implemented to address residual contamination from past activities on the subject property in accordance with regulatory requirements prior to development, it is not expected that there would be significant adverse impacts with respect to subsurface soils.

5.3.3 Community Services

Upon implementation of this alternative, the Farmingville Fire Department would provide ambulance services as well as fire protection to the subject property and the SCPD – 6th Precinct would provide police protection. Brookhaven Memorial Hospital and SBUMC would serve as receiving hospitals for the proposed development. Like for the proposed project, this alternative would involve an increase in the permanent population residing at the subject property. However, as with the proposed project,

the increase in property taxes associated with this alternative are expected to offset any increase in service provided to the subject property (see Section 5.3.12 for projected property taxes for the Alternative Yield Plan). Thus, significant adverse impacts to these service providers are not anticipated.

This alternative involves a permanent residential component, and, thus, as with the proposed project, this alternative would be expected generate public school-aged children and would increase enrollment in the Sachem CSD. This alternative would generate 73 public school-aged children, as opposed to 77 in the proposed project. However, as with the proposed project, due to declining enrollment in the school district and the property taxes that would result from this alternative, no significant adverse impacts to the Sachem CSD are anticipated.

5.3.4 Transportation

As noted, development under this alternative would result in construction of 224 residential units, compared to 292 in the proposed project. In addition, there would be 24,000 SF of commercial space, recreational elements and access (including the re-routing of traffic to the existing Post Office through the proposed development) and circulation similar to the proposed action. Thus, the volume of site-generated trips on the adjacent roadway network would be less than the proposed project, due to a decrease in the number of permanent residents at the subject property. Table 35 shows the peak hour trips for development under the Alternative Yield Plan, as compared to the proposed action:

Table 35 – Peak Hour Trips (Alternative Yield Plan)

Peak Period	Proposed Project Development Mix			Alternative Yield Plan		
	Entering	Exiting	Total	Entering	Exiting	Total
AM Peak	162	138	200	56	112	168
PM Peak	201	132	333	177	119	296
Saturday Peak	189	157	346	176	141	317

As shown in Table 35, the number of trips generated by this alternative would be lower than the proposed action in the a.m., p.m. and weekend peak hours. Therefore, it is expected that this alternative would not have a significant impact upon transportation in the vicinity of the subject property.

5.3.5 Water Resources

General impacts to groundwater for this alternative would be similar to the proposed project as both development under the proposed action and this alternative would be connected to public water and served by an on-site STP. Furthermore, development

would occur in accordance with the *Final Long Island Groundwater Management Program*, the *NURP Study*, and the *208 Study* and the *Nonpoint Source Management Handbook*.

Post-construction sanitary sewage generation for this alternative would be approximately 71,970 gpd, which is 17,400 gpd less than the proposed project (89,370± gpd) would generate. The proposed residential units and commercial building would be connected to proposed sewer infrastructure and treated by an on-site STP, designed to accommodate 150,000± gpd of sanitary waste, as with the proposed project. Thus, the STP would have approximately 78,030 gpd in excess capacity. Water use would be approximately 79,167 gpd, which is 19,140 gpd less than the proposed project (98,307± gpd). Potable water would be supplied by SCWA.

Drainage calculations indicated that the storage volume required to handle
As with the proposed project, development under this alternative would result in the disturbance of an area greater than five acres, and therefore, would be required to obtain a SPDES GP-0-10-001. In accordance with same, a SWPPP would be prepared and same would include erosion and sedimentation controls as well as methods to accommodate stormwater during construction.

Similar to the proposed project, the erosion and sedimentation controls would consist of both vegetative and structural controls to stabilize soils and reduce the potential impacts to soils during construction activities. Included would be the strategic placement of silt fences and temporary berms and trenches to prevent overland runoff, stabilized construction entrance, stockpile protection, a concrete washout area, storm drain silt control measures, and installation of foundations, pavement and/or landscaping as soon as possible after soil disturbance which would effectively limit the extent of soil erosion. Additionally, the installation of drywells and regrading activities would control and direct water flow on-site to minimize the impacts associated with overland flow.

To accommodate projected stormwater runoff under this alternative, three ponds, two recharge basins and numerous drywells would be installed on-site. This alternative would be expected to generate more stormwater runoff than in the existing condition, as it would involve additional impervious surfaces on the subject property. As this alternative is only conceptual in nature, the volume of stormwater runoff generated by this alternative is unknown. However, it is anticipated that, similar to the proposed project, a comprehensive stormwater management system would be implemented to address any new development, and overall, no significant adverse impacts associated with stormwater runoff would be expected.

With respect to wetlands, the existing 0.23±-acre artificial drainage feature would be filled and three artificial ponds would be created on the subject property. As with the proposed project, the drainage ponds would provide a four to one restoration ratio, and would, thus, provide an increase in wetland and aquatic habit over the existing condition. In addition, like with the proposed project, a Wetlands and Waterways

permit would be obtained, in accordance with the requirements set forth in §81-6 of the Town Code and a maintenance plan for the constructed pond area would be submitted to the Town of Brookhaven DEP. Thus, no significant adverse impacts to wetlands would be expected.

5.3.6 Ecological Resources

Similar to the proposed project, development of this alternative would result in clearing of most of the natural vegetation that currently exists on the subject property. However, as the subject property has been subject to historical and ongoing disturbances related to various commercial and agricultural site uses, the overall habitat quality of the subject property has been degraded due to anthropogenic disturbances and colonization by non-native/invasive plant species. As such, similar to the proposed project, no significant adverse impacts to local or regional populations of the existing plant species at the subject property are anticipated as a result of the development of this alternative. Moreover, no significant adverse impacts to populations of rare/protected plants are anticipated.

The proposed landscaping would be similar to the proposed project, including the creation of three artificial ponds. Therefore, impacts to habitat would be similar to those of the proposed project.

With respect to wildlife, as with the proposed project, development of this alternative would occur over time in four sequenced phases, and clearing of all existing habitats would not occur simultaneously. As such, it is anticipated that some of the wildlife displaced from disturbed portions of the subject property would temporarily occupy remaining suitable habitat at the site, with the same temporary population increases and subsequent declines to population equilibrium as described in Section 3.6.2.2. It is further anticipated that the lawn/landscaped and developed habitats that would be installed at the site would continue to attract a similar species assemblage as in the existing condition and the proposed project.

Finally, no New York State or federally-listed endangered, threatened or special concern plants or wildlife, or significant natural communities, were observed at the subject property at the time of the September 25, 2014 field inspection. Furthermore, as suitable habitat to support the 10 species that appear on the USFWS Federally Endangered and Threatened and Candidate Species List for Suffolk County does not exist at the subject property, these species would not be expected to occur at the site. Thus, as with the proposed project, this alternative would not be expected to impact rare or protected species and communities.

5.3.7 Visual Resources

As the Alternative Yield Plan would only result in a different mix of residential units (i.e., increase number of single-family residences and decreased number of flats) within the interior portion of the subject property, development of this alternative would not result in substantially different visual impacts as compared to the proposed project. Therefore, as with the proposed project, development of this alternative would result in the alteration of views of the subject property from surrounding areas, as the multi-family residential and commercial development containing numerous low-scale buildings would replace the existing single-family residential, agricultural and commercial uses, which are comprised of a limited number of buildings.

The most prominent views under this alternative would be from Horseblock Road. Upon implementation of the this alternative, travelers along Horseblock Road would see the proposed 2½-story commercial building, portions of the northern landscaped open space areas, and potentially partial views of the northernmost multi-family residential buildings, as with the proposed project. Views from the residences and roadway termini bordering the subject property to the east and west would include the multi-family residences and community building, ponds and landscaped recreational open space, as well as the commercial building. Views of the subject property from the south would be obscured by existing utility infrastructure (i.e.., transmission towers and lines) and existing vegetation. As with the proposed project, the one-story high STP and associated leaching fields that would be located in this area would not have a significant visual impact on the surrounding community.

Similar to the proposed project, landscaping would be provided throughout the subject property, including various tree and plant species along the northern and northeastern property lines that would soften the appearance of the proposed buildings and provide visual screening from Horseblock Road and the agricultural use to the east. The commercial center, containing a 2½ -story building, would be planted with a variety of buffer plantings around the perimeter, as well as street trees, rain gardens, and shrubs within the parking lot.

Regarding internal views, this alternative would differ slightly from the proposed project due to the different residential mix provided. In this alternative, within a portion of the southern half of the subject property, views would be of single-family homes, as opposed to a mix of single-family homes and two-story structures containing two flats and an associated parking lot. As with the proposed project, the primary landscape concept of this alternative would also embody and reflect the Long Island landscape from scenic farmland countrysides, to meandering dunes and fields, to rocky and coastal shorelines.

Overall, based upon the architectural style of the buildings, the landscaping throughout the site and the specific screening vegetation that is proposed,

implementation of this alternative is not expected to have a significant adverse visual impact.

5.3.8 Use and Conservation of Energy

As with the proposed project, development of this alternative would increase energy use on the subject property. However, as with the proposed project, the design of this alternative would comply with the Town's Energy Conservation Requirements (§16.4.1 of the Town Code). Further, this alternative would incorporate high-efficiency HVAC systems, insulation and windows and ENERGY STAR appliances, similar to the proposed project.

In addition, as PSEG Long Island indicated that it would provide service to the proposed project, it would be expected that a similar letter of availability would be issued for this alternative. Confirmation would also be obtained from National Grid regarding the ability to serve prior to development of this alternative.

Overall, as with the proposed project, significant adverse impacts to energy would not be expected due to implementation of this alternative.

5.3.9 Cultural Resources

As with the proposed project, it is not anticipated that development of this alternative would pose a significant adverse impact to the National Register-listed Bald Hill School House, located approximately 120± feet northeast of the subject property. Under this alternative, views of the subject property from the Bald Hill School would be the same as with the proposed project, and would be of vegetation, similar to the existing condition, across Horseblock Road and of an attractive commercial building and associated site landscaping, facing west along Horseblock Road.

5.3.10 Solid Waste

As a result of fewer residential units at the subject property, this alternative would have 553 permanent residents, as compared to 677 for the proposed project. Accordingly, solid waste generation for this alternative would be approximately 60.5 tons per month, which is 6.6 tons per month less than the proposed project (67.1 tons per month) would generate.

As with the proposed project solid waste generated would be collected by a licensed private carter and disposed of at a licensed facility. It is expected that the development would implement a recycling program geared toward its individual uses. Thus, similar to the proposed project, development of this alternative would not

be expected to result in significant adverse impacts to the Town's waste management facilities, practices or plans.

5.3.11 Air Quality

As with the proposed project, construction and demolition activities associated with implementation of this alternative would result in a slight, short-term increase in air pollution emissions. Subsequent to construction, the development may include stationary sources of air emissions, such as heating boilers, hot water heaters, and emergency generators, but these are not anticipated to significantly affect air quality. In addition, the traffic added to the roadway network would not be substantial enough to lead to a significant increase in mobile air emissions.

Overall, similar to the proposed project, this alternative would not have a significant long-term air quality impact.

5.3.12 Economic Conditions

Upon implementation of the Alternative Yield Plan, the subject property would be redeveloped with a variety of uses similar to the proposed project. Development under this alternative would result in construction of 68 fewer residential units, as compared to the proposed project. The commercial space, recreational elements and access and circulation would be the same as the proposed project. As a result of fewer residential units at the subject property, this alternative would have 553 permanent residents, as compared to 677 for the proposed project. The 553 residents would include 73 public school-aged children, four fewer than the proposed project.

Based upon the reduction in the number of residential units, this alternative would generate three fewer employment opportunities (80 total) as compared to the proposed project (83 total).

With respect to property tax generation, a rent per square foot of $19[53] and a capitalization rate of 9.75 percent[54] were applied to the proposed commercial uses and clubhouse, and the Town's 2013-14 equalization rate of 0.95 percent was applied to the projected market value of the proposed residential uses. Therefore, based on the foregoing, the total projected assessed value of the combined residential and commercial development for the Alternative Yield Plan would be $815,761. This is $180,215± lower than the assessed value of the proposed project, due to the decrease in the overall number of residential units.

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[53] Long Island Market Report, Second Quarter 2014, Central Suffolk Class A Office Space, NAI Long Island

[54] Nassau County Commercial Valuation Standards. Discussions with the Town of Brookhaven Assessor's Office revealed no known sources for capitalization rates specific to the Town of Brookhaven or Suffolk County.

Table 36 summarizes the projected tax revenues and net increase in taxes generated by development of this alternative. The projected revenues presented are based on current 2013-14 tax rates. With no changes in assessments, these rates are likely to increase over time.

Table 36 – Projected Tax Revenues, Alternative Yield Plan

Taxing Jurisdiction	2013-14 Tax Rate (per $100 AV)	Projected Assessed Value	Projected Taxes	Net Increase
Suffolk County				
County of Suffolk	2.556	$815,761	$20,851	$20,373
County of Suffolk - Police	35.089	$815,761	$286,242	$279,681
Total Taxes Paid to Suffolk County			$307,093	$300,054
Town of Brookhaven				
Town General - Town Wide Fund	3.695	$815,761	$30,142	$29,451
Highway – Town Wide Fund	2.786	$815,761	$22,727	$22,206
Town General – Part Town Fund	1.706	$815,761	$13,917	$13,598
Highway – Part Town Fund	11.929	$815,761	$97,312	$95,081
Total Taxes Paid to the Town of Brookhaven			$164,099	$160,337
School taxes – Sachem Central School District				
Net School tax	189.613	$815,761	$1,546,790	$1,511,332
Net Library tax	11.314	$815,761	$92,295	$90,180
Total Taxes Paid to the Sachem Central School District			$1,639,085	$1,601,511
Other Taxing Jurisdictions				
Blizzard Note Repayment	0.926	$815,761	$7,554	$7,381
New York State MTA Tax	0.151	$815,761	$1,232	$1,204
2004 $100M Bond Act & Open Space	1.595	$815,761	$13,011	$12,713
Fire District - Farmingville	23.620	$815,761	$192,683	$188,266
Brookhaven Lighting District	1.242	$815,761	$10,132	$9,900
Real Property Tax Law	5.120	$815,761	$41,767	$40,810
Out of County Tuition Tax	05.78	$815,761	$4,715	$4,607
Total Taxes Paid to Other Taxing Jurisdictions			$271,094	$264,879
Total Property Tax Revenues			$2,381,371	$2,326,781

Source: Town of Brookhaven Receiver of Taxes; Assessed value calculated by VHB Engineering, Surveying and Landscape Architecture, P.C.

Based upon the results shown in Table 36, approximately $2,381,371 in property tax revenues would be generated under the Alternative Yield Plan, which is approximately $526,000 less than under the proposed project. As with the proposed project, development of this alternative would be expected to have a positive fiscal impact.

5.3.13 Growth Inducing Aspects

Unlike the proposed project, the Alternative Yield Plan Alternative could have the potential to induce additional growth in the surrounding community, due to excess capacity of 78,030± gpd in the STP (as compared with more than 60,000 gpd for the proposed project). The excess capacity would potentially be utilized by existing or

future commercial uses to expand beyond what their respective allowed sanitary densities would permit. The other elements of this alternative, such as the creation of 72 permanent jobs within the commercial uses and the added permanent population would not be expected to induce growth, as new jobs could be filled by the new residential population. Further, the on-site residents would not induce the need for additional open space, as there is a well-established infrastructure of recreational uses within the Town, a 7.28± acre public open recreational space would be created on-site, and an additional 1.66±-acres of private recreational open space (plus an additional 1.38±-acres of private recreational facilities, including a 7,500 SF clubhouse) would be provided for residents. Overall, however, as stated above, additional excess capacity provided within the STP in this alternative could induce additional growth within the community.

6.0

Cumulative Impacts

With respect to other proposed or planned developments, or developments under construction, there are three of significance within the vicinity of the subject property, as follows:

1. **Holmesview Commons –** 118,500±-SF retail shopping center, including 100,000±-SF of general retail space in five separate buildings, a 15,000±-SF restaurant building, and a 3,500±-SF bank, which has been approved but construction has not yet commenced. Holmesview Commons is proposed to be located approximately one-mile east of the subject property, located at the northeast corner of the intersection of Horseblock Road and North Ocean Avenue.

2. **Expressway Plaza –** A 51,500±-SF commercial development featuring a restaurant and gym facility. This development has been approved but construction has not yet commenced. This development is located approximately 0.7-mile east of the subject site along Horseblock Road.

3. **The Bristal Assisted Living Facility at Farmingville** – A 146-bed assisted living facility, approval for which is pending. This development is located approximately 0.9-mile east of the subject property, located at the northwest corner of the intersection of the LIE and North Ocean Avenue.

The commercial and retail facilities associated with the Holmesview Commons and Expressway Plaza developments would complement the primarily residential Arboretum development by providing retail shopping outlets and other commercial services for its residents.

Further, the Bristal Assisted Living Facility would be providing specialized living facilities for a special needs population and not competitive housing, and would thus not be competing with housing proposed as part of The Arboretum at Farmingville.

The three developments have been examined from an environmental impact standpoint. The Arboretum development, being primarily residential with a

comparatively small amount of commercial development, would have different impacts than the retail and commercial development of Holmesview Commons and Expressway Plaza, and the assisted living facilities of the Bristal Assisted Living Facility. As noted above, the mostly residential nature of The Arboretum development would add a significant new population to the area who could patronize the newly-approved commercial and retail uses at Holmesview Commons and Expressway Plaza.

The Arboretum mixed-use development would generate approximately 200 trips in the a.m. peak hour, 333 trips in the p.m. peak hour, and 346 trips in the Saturday peak hour. The TIPA prepared for the proposed project indicates that the results of the intersection capacity analyses reveal that the site-generated traffic would not have a significant impact on the overall intersection LOS at the nearby signalized study intersections of CR 16 at Waverly Avenue and CR 16 at Blue Point Road during the weekday a.m., p.m. and Saturday midday peak hours. Even though the overall intersection LOS would not be impacted at these intersections, there would be individual movements that would experience longer delays during the weekday p.m. peak hour. In order to mitigate this impact it is recommended that the phase splits be adjusted. With the changes to the phase splits implemented, the two intersections would operate better than they do in the existing condition, and no further mitigation is proposed.

In addition to the above mitigation measures recommended at the two study intersections, the unsignalized intersection analyses prepared for the proposed site access along CR 16 indicate that it would operate at LOS F in the Build Condition. Therefore, the installation of a traffic signal was considered and a traffic signal warrant analysis was conducted. The results of the traffic signal warrant analysis indicate that a traffic signal would be warranted, and upon implementation of same, the site access would operate at an acceptable overall intersection LOS B. Thus, upon implementation of all the above-noted mitigation measures, there would be no significant adverse cumulative traffic impact.

With respect to air quality, since traffic impacts associated with all the developments discussed in this section are not expected to be significant, there would be no significant impact to air quality. Further, there would be no significant air emissions generators associated with these residential developments. Thus, there would be no significant cumulative air quality impact.

Holmesview Commons, Expressway Plaza and the Bristal Assisted Living Facility developments would not generate public school-aged children. The Arboretum development, however, is projected to generate approximately 77 public school-aged children, but is expected to generate $1,888,501 in net annual property tax revenues for the school district. Therefore, there would be no cumulative school district impacts.

Emergency services (police, fire and ambulance) would be required by Holmesview Commons, Expressway Plaza, and the Bristal Assisted Living Facility, described above, as well as The Arboretum development. All of the developments would generate property taxes to these entities and The Arboretum development itself would increase the pool of volunteers for fire and ambulance. Thus, it is expected there would be no significant adverse cumulative impact to emergency services.

With respect to water demand, The Arboretum would generate a much larger water demand than the uses associated with the Holmesview Commons, Expressway Plaza, and Bristal Assisted Living Facility developments. However, all of these developments have obtained, or are expected to obtain, a letter of water availability from their respective water districts or otherwise demonstrate that water service would be available. As the Holmesview Commons and Expressway Plaza developments have been approved, it is expected that water availability has already been established. While there would be an increase in overall water demand, it is the jurisdiction of the water district to determine whether water can be supplied to each individual development and whether there would be a significant adverse impact to the water supply.

Similar to water demand, the quantity of sewage effluent generated at The Arboretum development would be much larger than that projected to be generated by the Holmesview Commons and Bristal Assisted Living Facility developments. However, sewage effluent generated at The Arboretum and Bristal Assisted Living Facility developments would be accommodated by their own on-site STPs, while the Holmesview Commons and Expressway Plaza developments would include on-site septic systems (the Expressway Plaza development would also feature leaching pools). With respect to sanitary waste discharge, since there would either be an on-site STP, or each development would otherwise meet SCSC Article 6 requirements, there would be no adverse cumulative sewage disposal impacts.

There would be no cumulative impacts to ecology or soils and topography, as each of the developments is located on individual lots, with individual physical characteristics. It appears from a review of aerial photography that there is no significant vegetation located on any of the sites for proposed/approved development. Therefore, removal of such vegetation on the separate sites in the immediate area would not have a significant impact on local vegetation.

In addition, there would be no cumulative impacts with respect to cultural resources. Further, the proposed developments examined in this section would reflect existing development in the area, and thus would be in keeping with existing visual and neighborhood character. Therefore, no cumulative impacts are expected to same.

With respect to energy, each of the developments has or would have to demonstrate that utilities (i.e., electric, gas) are available to service the development. Although there would be an increase in overall energy use from all the developments, it is

within the jurisdiction of the energy providers to estimate whether they can service the individual developments.

Overall, based upon this analysis, the cumulative impact of The Arboretum development with the other aforementioned approved and planned developments would not result in significant adverse impacts.

7.0

Irretrievable and Irreversible Commitment of Resources

The proposed redevelopment of the subject property would require a commitment of natural and manmade resources, as well as time. Specifically, nearly the entire site would be cleared of natural vegetation, however the proposed project would result in the planting of 40.58±-acres (or 62.2 percent of the total site area) with low-maintenance lawn and landscaping, and 2.65± acres of the existing 4.06±-acres Successional Southern Hardwoods community would be preserved in some of the site perimeter areas. Approximately 20.38± acres of the subject property would be covered by impervious surfaces including buildings and internal roadways (i.e., an increase of 19.71± acres).

The existing structures at the subject property would be removed to allow for the redevelopment of The Arboretum.

Certain additional resources related to the construction aspects of the development would be committed. These resources include, but are not limited to, concrete, asphalt, lumber, paint and topsoil. Mechanical equipment resources would be committed to assist personnel in the construction at the property. The operation of construction equipment would require electricity, water resources and fossil fuels. Furthermore, the construction phase of the proposed project would require the commitment of manpower resources as well as time.

In addition, during the operational phase of the proposed development, electricity, water resources and fossil fuels would be used for heating, cooling and other purposes.

8.0

Growth-Inducing Impacts

Growth-inducing impacts are generally described as the long-term secondary effects of the proposed action. Specifically, with respect to growth inducement, *The SEQR Handbook* indicates:

> *"Some activities will encourage or lead to further increases in population or business activity. This type of secondary impact is called growth inducement…it is important to recognize activities which may induce growth because a consideration of the whole action must examine likely impacts of such growth, such as the need for additional sewer, water and other services; increased traffic congestion; or accelerated loss of open space."*

The proposed project is the redevelopment of a 65.24±-acre property, currently developed with a single-family home and agricultural and related commercial uses, to a mixed-use multi-family residential and commercial development. The proposed project would be a catalyst for revitalization, and foster a sense of place through development of a new mixed-use, self-sufficient community. The Arboretum would provide a permanent residential population, which would in turn augment the tax base and complement the surrounding uses. Moreover, the proposed development would create 7.28± acres of publicly-accessible open space for passive recreation in the northeastern portion of the subject property, fronting Horseblock Road, which would provide a new public amenity for employees, residents, and visitors.

With the addition of the new residential units, commercial space, and public, open space uses, the proposed redevelopment would enhance the area and create positive growth by potentially attracting more businesses, residents, and visitors to the area and generating a permanent population who would patronize existing businesses and institutions in the area. As discussed throughout this DEIS, some of the commercial demands can be met on-site through the proposed commercial facilities. Moreover, the Town has a well-developed infrastructure of retail and institutional uses. Therefore, it is not expected that the proposed project would induce additional growth of retail or institutional uses.

Also, development of 3.65± acres of the subject property with a combined 24,000 SF of restaurant and office uses, in accordance with the J Business 2 District, would provide approximately 72 permanent direct jobs. Some of these primary permanent jobs could be filled with the future residents of the development or local residents. Therefore, it is not expected that the proposed commercial development would induce the need for additional housing for people to fill such jobs.

In addition to the primary permanent jobs that would be generated, secondary jobs could be created in and around the area. Thus, employment opportunities would be created for professionals, young adults, part-time workers, college students, senior citizens and those who may wish to supplement a current salary.

The proposed project and associated permanent population would not induce the need for additional open space, as there is a well-established infrastructure of recreational uses within the Town, a 7.28± acre publicly-accessible open recreational space would be created on-site and an additional 1.66±-acres of private recreational open space (plus an additional 1.38±-acres of private recreational facilities, including a 7,500-SF clubhouse) would be provided for residents, thus increasing this resource. Moreover, while the subject property would be developed, it would not accelerate the loss of open space that is used by the community, since the subject property is privately-owned and not zoned for open space or recreational purposes.

With respect to sewage disposal, the proposed STP on the subject property is designed with sufficient capacity for the proposed development and with excess capacity to allow for existing local businesses to connect. As such, the excess sewage capacity is not expected to induce new residential or commercial growth, as it is designed for the capacity provided on-site, with limited additional capacity for existing businesses to connect to. Therefore, it would not result in potential inducement of new development.

With regard to traffic growth, the proposed development would provide mitigation to address specific local traffic concerns that both currently exist and would be created by the implementation of the proposed project. The traffic mitigation would not add additional roadways or significantly increase roadway capacity. The mitigation measures proposed are designed to address impacts from the proposed project, and, in part, to assist in mitigating existing traffic constraints.

As demonstrated herein, implementation of the proposed project is not expected to induce additional growth within the community.

9.0

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