EXPANDED ENVIRONMENTAL ASSESSMENT FORM (EAF)

Speonk Commons

Change of Zone Application

SCTM: 900-350-2-18
41 North Phillips Avenue
Hamlet of Speonk, Town of Southampton
Suffolk County, New York

Prepared for:
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NP&V Project No. 14258

January 2017

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SECTION 1.0

DESCRIPTION OF THE PROPOSED PROJECT

1.0 DESCRIPTION OF THE PROPOSED PROJECT

1.1 Introduction

This document is an Expanded Environmental Assessment Form (EEAF) for a proposed project known as **Speonk Commons**. It has been prepared in support of the Change of Zone application for the project that was submitted to the Southampton Town Board in December 2016 (see **Appendix A-1** for the EAF Part 1 that was a part of that submission), and is intended to provide the Board with information it would find useful in reaching an informed decision on that application. A copy of the **Conceptual Plan** for the project is attached hereto *(in a pouch at the back of this document)*.

The site of this proposal is in the hamlet of Speonk, on the west side of North Phillips Avenue south of the Long Island Rail Road (LIRR) tracks (hereafter, "the project site" or "the subject site"). The street address of the project site is 41 North Phillips Avenue. **Figure 1-1** provides a location map of the project site *(all figures will be found in the section following the main text of this document)*.

The property is 4.28-acres in size and is split zoned between R-20 (2.94 acres) and Village Business (VB; 1.34 acres). To accommodate the density of the workforce housing and commercial spaces in the Speonk Commons proposal, a change of zone of the site from its current mix of R-20/VB zoning districts to 3.52 acres of MF-44 and 0.76 acres of retained VB zoning would be required (see **Table 1-1**). This change would be made through consideration of Town Code Section (§) 330-8 regarding increased residential density for low- and lower-middle-income housing.

Table 1-1
EXISTING AND PROPOSED ZONING

Existing Conditions		**Proposed Project**	
Zoning District	Acres	Zoning District	Acres
R-20	2.94	MF-44	2.94
VB	1.34		0.58
		VB	0.76
Totals	**4.28**		**4.28**

The site is currently an eyesore in the community and contains several deteriorated and boarded-up houses, overgrown vegetation, and fallen electrical wires (see **Appendix A-2**). The property does not contain any fences or security measures, which makes the buildings a target for illegal drug activity and vandalism. Additionally, the overgrown vegetation provides a haven for pests, and the buildings' structural damage is not only a safety hazard for anyone that enters the buildings, but also a liability for the property owner.

The need for additional workforce housing has been noted in numerous Town planning documents including the Town of Southampton 1999 Comprehensive Plan and the 2013

Sustainability Plan Addendum to the Comprehensive Plan, and this proposal is consistent with Town and regional goals concerning workforce housing, and development oriented toward hamlet areas with available services and transportation opportunities. The Town is a co-developer through the Town of Southampton Housing Authority (TSHA) further attesting to the Town support and need for the project.

Speonk Commons will be operated under a management plan that will be approved by all the relevant stakeholders, which include: the owner and co-developers, the Town of Southampton, the construction loan lender, the permanent loan lender, the Suffolk County Office of Community Development, the tax credit investor, and New York State Homes and Community Renewal (NYSHCR).

Whenever NYSHCR allocates tax credits and low-interest (1%) funds to an affordable housing project, this agency often requests that the municipality contribute financial assistance to the project to keep the project economically feasible and ultimately keep the rents affordable to prospective tenants. Examples of the ways municipalities can provide financial assistance include:

a. Monetary grants
b. Low-interest loans
c. Waiver of building permit fees
d. Waiver of real estate taxes

The principle behind this is that government entities at all levels can provide financial help for the betterment and feasibility of an affordable housing project.

The Town of Southampton can provide a loan to the owner of the project at 1% interest, only paid out of available cash flow after the payment of all operating expenses, deferred developer fees and debt service on senior loans, with a balloon payment in 50 years.

As shown in the **Yield Map** *(in a pouch at the back of this document)*, under existing zoning and acreages, the site could yield five residential lots on the R-20 zoned portion, and 7,500 SF of ground floor retail spaces and six second story apartments on the VB-zoned area.

The applicant and co-developer, Georgica Green Ventures, LLC (GGV), with its co-developer the TSHA, seeks Southampton Town Board approval to demolish the five existing structures and construct six two-story frame structures, to contain a total of 38 residences, 4,380 square feet (SF) of ground floor commercial space, and 3,178 SF of indoor community space (see **Table 1-2**).

Throughout the early design stage, the GGV team developed and evaluated numerous site plan iterations, to ensure that the design ultimately selected would complement the surrounding Speonk neighborhood. After multiple Town Board work sessions and numerous meetings with Speonk residents, the Applicant feels that the site plan described and analyzed herein will best serve Speonk Commons residents, the Speonk community, and the Town of Southampton at large.

Table 1-2
USES, UNITS & YIELDS IN BUILDING
Proposed Project

Floor	Commercial Space	Community Space	Residences		Residential Space	Total Floor Spaces
Building 1						
Ground	4,380 SF	---	---		---	4,380 SF
Second	---	---	8 studio		4,380 SF	4,380 SF
Total	4,380 SF	---	8 studio		4,308 SF	8,760 SF
Building 2						
Ground	---	3,178 SF	---		---	3,178 SF
Second	---	---	2 two-bdrm.		2,139 SF	2,139 SF
Total	---	3,178 SF	2 units		2,139 SF	5,317 SF
Building 3						
Ground	---	---	2 one-bdrm. 1 ADA two-bdrm.	1 two-bdrm. (2 floors)	3,496 SF	3,496 SF
Second	---	---	1 one-bdrm. 1 two-bdrm.		2,747 SF	2,747 SF
Total	---	---	6 units		6,243 SF	6,243 SF
Building 4						
Ground	---	---	2 one-bdrm. 1 ADA two-bdrm.	1 two-bdrm. (2 floors)	3,496 SF	3,496 SF
Second	---	---	1 one-bdrm. 1 two-bdrm.		2,747 SF	2,747 SF
Total	---	---	6 units		6,243 SF	6,243 SF
Building 5						
Ground	---	---	1 studio 2 one-bdrm.	2 two-bdrm. (2 floors)	3,382 SF	3,382 SF
Second	---	---	1 studio 2 one-bdrm.		3,149 SF	3,149 SF
Total	---	---	8 units		6,531 SF	6,531
Building 6						
Ground	---	---	1 studio 2 one-bdrm.	2 two-bdrm. (2 floors)	3,382 SF	3,382 SF
Second	---	---	1 studio 2 one-bdrm.		3,149 SF	3,149 SF
Total	---	---	8 units		6,531 SF	6,531 SF
TOTALS						
Ground	**4,380** SF	**3,178 SF**	**2 studio** **8 one-bdrm.** **<u>2 ADA two-bdrm.</u>** **12 units**	**6 two-bdrm.** **<u>(2 floors)</u>** **6 units**	**13,756 SF**	**21,314 SF**
Second	**---**	**---**	**10 studio** **6 one-bdrm.** **<u>4 two-bdrm.</u>** **20 units**		**18,311 SF**	**18,311 SF**
TOTAL	**4,380** SF	**3,178 SF**	**12 studio** **14 one-bdrm.** **10 two-bdrm.** **<u>2 ADA two-bdrm.</u>** **38 units**		**32,067 SF**	**39,625 SF**

Enclosed in pouches at the back of this document are sketch plans (labeled A-G) depicting alternative site yields and layouts evaluated by GGV and the Town. The following briefly indicates the reason each was ultimately not pursued.

A. Did not conform to parking requirements and exceeded the maximum number of units per building.
B. Did not conform to side yard setback requirements and exceeded the maximum number of units per building.
C. Exceeded the maximum number of units per building and incorporated over 38 units (45).
D. Incorporated over 38 units (51).
E. Incorporated over 38 units (51).
F. Exceeded the maximum number of units allowed in the VB zone.
G. Exceeded the sewage treatment plant setback requirements relative to the LIRR parking lot.

All 38 units will be designated as "workforce," units, to be rented at rates that would be affordable to lower-income households than a comparable studio, one-bedroom or two-bedroom unit rented at the market rate. The commercial space will be rented at market rates for such uses, and the community space will not be charged rent at all.

Sanitary wastewater from the project will be retained and treated on-site, in a new facility to be constructed in the western portion of the project site, as close to the south side of the exiting LIRR commuter parking lot as can be achieved under required setbacks. The project will conform to all applicable flow, design and maintenance/operational requirements of the Suffolk County Department of Health Services (SCDHS), the Suffolk County Department of Public Works (SCDPW), and the New York State Department of Environmental Conservation (NYSDEC).

On-site parking for 102 cars will be provided, and an additional 12 new parallel spaces will be created along the site's frontage on the west side of North Phillips Avenue. There are presently two private driveways through the subject site to three residential properties adjacent, two to the north and one to the south. Both accesses will be maintained and incorporated into the project design.

The applicant has designed the project to:

- Conform to the Town Comprehensive Plan and the Town Sustainability Plan Addendum in terms of providing workforce housing opportunities;
- Minimize potential adverse impact to groundwater resources by constructing and using a new, state-of-the-art treatment facility on-site;
- Provide an aesthetically attractive development;
- Provide safe pedestrian and vehicle access in conformance with Town and County highway access limitations; and
- Conform to all other appropriate land use requirements.

Provide superior site design, including appropriate on-site recreational amenities; walkability and sense of place through attractive community architecture and landscaping.

Community Benefits
§330-240 of the Town of Southampton Town Code defines community benefits or amenities as:

> *Open space, housing for persons of low or moderate income, parks, elder care, day care, or other specific physical, social or cultural a amenities, or cash in lieu thereof, of benefit to the residents of the affected community or communities and commensurate with the benefit to the applicant.*

By providing 100% of its proposed residences as workforce housing, Speonk Commons fits the definition of a community benefit as defined by the Town Code. In addition, GGV and TSHA are open to discussing other community benefits meaningful to the Town and to the residents of the local community and how to incorporate those benefits into the proposed project.

The Town of Southampton has a high percentage of citizens who are unable to afford to obtain quality housing in the Town as prices have become prohibitive. As stated in the 2013 Town Sustainability Plan Addendum, this is creating a problem for the Town as the need for municipal employees, teachers, emergency services, police officers, and other core personnel increases and there are few opportunities for affordable housing for the local workforce as well as seniors in our area who wish to "age in place" but cannot afford the rising costs of housing.

This document describes the proposed project, identifies anticipated impacts, and outlines potential mitigation measures. Further, it is intended to assist the Southampton Town Board, acting as lead agency under the NYS Environmental Quality Review Act, (SEQRA) in rendering an informed decision on the change of zone application.

1.2 Project Background

GGV and the TSHA have partnered to create the Speonk Commons proposal, which includes the creation of a mixed-use workforce housing unit and additional commercial space in the hamlet of Speonk (see **Figure 1-2**), as follows:

- The proposal includes transforming the currently derelict site into a mixed-use workforce housing development to serve a variety of income levels and include provisions for veterans and the disabled.
- Speonk Commons would consist of 38 units of workforce housing in six buildings available to residents earning between 60% and 90% of the average monthly income (AMI) for a family of four in the area, as determined by the Town. The units will be divided between 12 studios (less than 600 SF each), 14 1-bedrooms (600-1,199 SF each), and 12 2-bedrooms (600-1,199 SF each).
- The project includes 3,178 SF of ground floor community space, for the use and enjoyment of the site's residents.
- The proposal includes 4,380 SF of ground floor commercial space and 102 on-site and 12 off-site parking spaces.
- The project also includes an on-site advanced wastewater treatment system.
- The proposal hopes to inspire similar developments to provide quality workforce housing in the East End of Long Island and reinvigorate the surrounding businesses.

There is significant need within the community for a project such as the Speonk Commons. The home prices in Southampton are some of the highest in the nation and there is a scarcity of rental apartments. Essential workers in the community including teachers, firemen, medical staff, and retail workers often live far from the community due to high housing costs. The daily commute for workers is not only arduous and expensive, but also contributes to increased traffic conditions. The need for additional workforce housing developments has been noted in numerous planning documents and this proposal is consistent with many of the goals of these plans and the community, as follows:

- **The Town of Southampton 1999 Comprehensive Plan** includes a "Vision for Affordable Housing" which recognizes the lack of housing options that are affordable and suggests that the Town should pursue regulatory and financial incentives for affordable housing. The Plan includes a goal for the creation of 1,101 affordable rental housing units created by 2020. Very few affordable units have been constructed so far and the Speonk Commons would help the Town reach that goal.

- **The 2013 Sustainability Plan Addendum to the Town Comprehensive Plan** focuses on numerous initiatives including education, water, economics, land use, transportation/air quality, energy and carbon, green buildings, waste, quality of life, and stewardship. The Speonk Commons proposal addresses many of these goals, as follows:

    - *Quality of Life:* Numerous factors contribute to the quality of life section including the cost of living and the type/length of the commute to work. The Speonk Commons proposal will address both of these issues by increasing affordable housing options for residents with low- and lower-middle-incomes and reducing commute times for the workforce.
    - *Economics:* The economics section includes the goal of "increasing efforts to provide workforce housing, including the Town Board oversight of workforce housing initiatives" and "seek alternative private/public partnerships."
    - *Land Use:* Land use recommendations included the Sustainability Plan Addendum suggest that the Town consider zoning amendments to allow for mixed-use development in hamlet centers and around train stations.
    - *Transportation:* This section seeks to reduce transportation impacts on environmental quality, which includes promoting transit options. By providing workforce house near both a train station and bus stop, residents will have other transportation options besides cars.
    - *Green Buildings:* The new units will be constructed to high standards of efficiency and sustainability including LEED®.

GGV has met with the Speonk-Remsenburg Civic Association and the Westhampton-Speonk-Remsenburg-Eastport-Quogue Citizen Advisory Committee to discuss the project with community members and incorporate their suggestions.

The property is an ideal location for the use proposed, and the proposal would provide numerous advantages over current zoning and as a needed land use option in itself:

- Since the site is located at the intersection of the Speonk LIRR Station and a Suffolk County bus stop, residents of Speonk Commons would be able to reduce automobile dependence. (The site is served by the S90 bus route with stops located in Center Moriches, East Moriches, Eastport, Speonk, Westhampton Beach, Quogue, East Quogue, and Riverhead. This bus route also

connects to seven additional bus service lines and two LIRR stations.) Residents could utilize these transit resources, which would reduce traffic and save residents the expense of buying and maintaining a car. Such a relationship between workforce housing and proximity to public transit reflects the "Transit-Oriented Development" concept.

- Providing local housing for the members of the Speonk workforce will make these members of the community feel like residents rather than commuters.
- 100% of the project's residential units will be designated for occupancy by moderate-income households in perpetuity; this requirement will be overseen by the Town.
- The project's community space will be open to public use, such as for Speonk-Remsenburg Civic Association and Westhampton-Speonk-Remsenburg-Eastport-Quogue Citizen Advisory Committee meetings.
- The project's playground will be open to public use.
- The project will create temporary jobs during the planning and constructing phase of the project as well as permanent jobs such as property managers and maintenance once the development is complete. Additionally, the retail space could boost the tax revenue of the area.
- The economic activity associated with the project's construction as well as its occupancy, will encourage further construction and economic activity in the area, thereby increasing all property values.
- The project will bring in a substantial amount of taxes as public revenue for distribution to all levels of government to the Town of Southampton.
- The proposed redevelopment would remove a visual blight and a public safety/security hazard, would remediate an impacted property, and is an opportunity to improve the character and reinvigorate the hamlet of Speonk. Currently, the site discourages further development and the proposed development could act as a catalyst for future projects and increase property values.
- Speonk Commons will be built to the highest standards of energy efficiency and sustainability by meeting the requirements of the New York State Energy Research and Development Authority Low-Rise Residential New Construction Program and the (LEED® Homes Program. Environmental testing will be conducted to eliminate any on-site contamination and ensure the site is safe for development.
- A new, state-of-the-art wastewater management system utilizing BESST technology will also be incorporated into the project to prevent any contamination of groundwater.

In order to accommodate the density of the workforce housing development and retail space in the Speonk Commons proposal, a change of zone from the current R-20/VB zoning districts to MF-44 required for part of the site, while part of the site will remain zoned VB. This change would be made through the flexibility inherent in §330-8 regarding increased residential density for low- and lower-middle-income housing, which is outlined below.

- **§330-8 Increased residential density to establish low- and lower-middle-income housing inventory**
    - The provisions in §330-8 were enacted to implement the Town of Southampton Master Plan of 1970 to address the limited supply of housing available for residents with low- or lower-middle incomes. These provisions allow the Town Board to authorize by local law an increase in residential development density for low- and lower-middle-income housing for purchase or rent.
    - The Town Board decides if it will consider the proposal and if so, the proposal will follow the provisions of §330-185 (outlined below).

- The Town Planning Board will submit a report to the Town Board that considers all aspects of the proposal and the degree to which the proposal implements the Master Plan of 1970.
- Once the proposal receives a favorable review from the Town Board, the application shall be approved subject to the completion of other requirements from the Town Board including a detailed site development plan approved by the Planning Board.
- The maximum number of dwelling units is 12 units per gross acre of land; Speonk Commons is proposed to have less than nine units per acre. For all other requirements, the Tables of Use and Dimensional Regulations for the MF-44 District will apply to the proposal.

- **§330-185 Procedure for amendment of Zoning Law and zoning classification**

  - This section allows the Town Board to amend, supplement, or repeal the regulations and provisions of the chapter after public notice and a public hearing.
  - The proposed project will be the subject of a public work session where the applicant presents the proposal and the Department of Land Management Administrator will submit a report and recommendation to the Town Board. The Code outlines the documents that the applicant must submit including the owner's information, locations and owners of adjoining lands, proposed concept plan, any existing easements/covenants/deed restrictions, and community benefits. Following the public work session, the Town Board shall elect whether to consider the application.
  - Petitions to change the Zoning Map must submit owner information, a map showing the proposed zone district boundary changes and property lines, and information about the adjacent and surrounding properties.
  - Every proposed amendment and change of zone shall be referred to the Planning Board to prepare a report. Additional referrals include the Chief Fire Marshal, Fire Department, ambulance/emergency services, school district, and possibly the Suffolk County Planning Commission. The Town Board will consider the responses from the community services when determining to approve or reject an application.

In December of 2016, the applicant submitted a change of zone application to the Southampton Town Board to allow development of the proposed project. As part of that application package, the applicant prepared a Part 1 EAF form, which generally describes the project and provides general information to the Town with respect to potential impacts of the project. The EAF Part 1 is contained herein, in **Appendix A-1**.

This document has been prepared by the applicant as a supplement to the EAF 1, to provide the Town Board and other reviewing agencies with the expanded descriptions/discussions of those potential impacts of the project, that are anticipated to be of concern to the Town and community. All this information will be considered by the Town Board and Town planning staff to determine the environmental significance of the proposed project.

1.3 Project Location and Existing Site Conditions

1.3.1 Project Location

The subject site is 4.28 acres in size, and is located at 41 North Phillips Avenue, in the hamlet of Speonk, Town of Southampton. The property is identified as SCTM District 0900, Section 350,

Block 2, Lot 18 (see **Figure 1-3**). The eastern 1.34-acre portion is presently zoned Village Business (VB), and the westerly 2.94 cares are zoned Residence 20 (R-20). The subject site is residentially-developed with five structures, four of which are vacant, non-maintained and in a dilapidated state. The site is heavily overgrown with weedy vegetation.

To the north of the site are two residences and a commuter parking lot for the Speonk LIRR station. To the east and to the south are residential and commercial uses. Land contiguous to the west is residential in nature.

The site is within the following planning and service zones and districts:

- Village Business (VB) Zoning District (58,414 SF; 1.34 acres)
- Residence 20 (R-20) Zoning District (136,299 SF; 2.94 acres)
- Groundwater Management Zone III (300 gallons per day per acre; gpd/acre)
- Federal Emergency Management Agency (FEMA) Flood Hazard Zone X (denotes area outside the statistical 500-year flood plain)
- Remsenburg-Speonk Union Free School District (UFSD)
- Eastport Fire District
- Eastport Fire Department
- Westhampton War Memorial Ambulance Association Inc.
- Southampton Town Police Department
- Suffolk County Water Authority (SCWA)
- Public Service Electric and Gas Company (PSE&G; electricity)
- National Grid (natural gas)

The project site is not in the Aquifer Protection Overlay District (APOD), the Central Suffolk Special Groundwater Protection Area (SGPA) or the Central Pine Barrens Zone.

1.3.2 Existing Site Conditions

A series of photographs of the site and surroundings were taken in November 2016 for this document, and are reproduced in **Appendix A-2**. **Figure 1-4** presents an aerial photograph of the subject site, which depicts its existing conditions as of 2013. This figure and the **Boundary and Topographic Survey** *(in a pouch at the back of this document)* also indicate the locations of the various site features delineated and discussed in this document.

> The site has a total area of 4.28 acres or 186,405 SF. The property is irregular in shape and has 357.82 feet of road frontage on North Phillips Avenue, with an average depth of approximately 511 feet.
>
> The property currently consists of five [structures, of which four are] vacant and dilapidated residential structures. There are 15 existing non-habitable dwelling units with 24 total bedrooms.
>
> There are no fences or other security measures surrounding the property. The site is replete with fallen electrical wires and the buildings' extensive structural damage poses a serious hazard for anyone who enters the property. Vegetation surrounding the buildings continues to grow without remediation.

Although not apparent on the Suffolk County tax maps, there is one access easement that provides access to the two small parcels located on the north side of the property, which have no legal road frontage. A review of Town records indicates that a Certificate of Occupancy ("CO") was issued on December 21, 2007 for 10 apartments in the two-story apartment building; a CO was issued on January 31, 2005 for a shed; and a CO was issued on October 4, 1967 for a two-story apartment building, five one-story houses (rentals), one frame garage, and one building.

A Phase I Environmental Site Assessment (ESA) was prepared for the site by NP&V, LLC in November 2015 (see **Appendix A-3**). The following descriptions of the existing uses of the site, as well as its recognized environmental conditions (RECs), has been taken from the summary of that document.

The subject property has been inspected and reviewed independently by Nelson, Pope & Voorhis, LLC in order to determine potential environmental or public health concerns. This report is intended to identify Recognized Environmental Conditions (as defined in Standard Practice for Environmental Site Assessment; ASTM E 1527-13 and United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI) on the subject property based on four components of a Phase I ESA: records review, site reconnaissance, interviews and evaluation and reporting.

The subject property is developed with one main residence in the central portion of the subject property which is in a deteriorated condition, one residence in the northeast corner of the subject property that is presently occupied, and three vacant residences in the northwest, north-central and west portions of the subject property. In addition, the subject property contains one metal shed in the south-central portion of the subject property that reportedly contains a boat. The main residence, occupied residence and metal shed were not accessible during the reconnaissance of the subject property. The remainder of the subject property consists of landscaped or undeveloped land. The residences consist of wood-framed structures, situated on concrete block foundations that form partial basements and/or crawl spaces. Exterior surfaces of the structures are primarily suspected asbestos or asphalt shingle siding and asphalt shingle roofs. The residences are connected to on-site sanitary systems and the local public water purveyor. Electrical service is available to the property and is provided by PSE&G.

Fuel oil-fired boilers were observed in the basements of the vacant residences located in the north-central and west portions of the subject property. No fuel oil-fired boiler was observed in the basement of the house located in the northwest corner of the subject property. Evidence of three underground storage tanks associated with the vacant residences was observed during the reconnaissance of the subject property, including vent pipes and/or fuel oil fill ports. Specifically, there is an underground fuel oil storage tank located on the southeast corner of the house located in the north-central portion of the subject property, an underground fuel oil storage tank located on the northeast corner of the house located on the west side of the subject property, and an underground storage tank located on the southwest side of the house located in the northwest corner of the subject property. The age and capacity of these storage tanks are unknown. In addition, it is possible that there are existing storage tanks associated with the main residence and the occupied residence, since these structures were not accessed during the reconnaissance of the subject property.

One propane storage tank was observed on the exterior of the main residence located in the central portion of the subject property. In addition, one rusted drum with unknown contents or labels was observed on the west side of the residence located in the western portion of the subject property.

There was no evidence of any floor drains, or hazardous materials on the subject property. In addition, there was no evidence of discharge, areas of stressed vegetation, staining, residue of oils or other toxic substances, pools of residue, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

Sanborn maps were not available for the area containing the subject property. Aerial photographs from 1957, 1962, 1966, 1970, 1976, 1980, 1985, 1994, 2006, 2008, 2009 and 2011 were reviewed in order to determine if any prior uses occupied the subject property. The subject property appeared to be developed with all of the existing structures in all of the available aerial photographs. The area surrounding the subject property was lightly developed and consisted of single-family dwellings, farmland, and wooded land in the 1957-1980 aerial photographs, and was more densely developed with single-family residences and condominiums in all of the remaining aerial photographs.

The USGS Riverhead and Eastport Quadrangle Maps dated 1904, 1944 and 1956 were reviewed. The subject property appeared to be located in a lightly developed area in the 1904 topographic map, and the subject property appeared to be developed with four structures in the 1944 topographic map. The subject property appeared to be developed with all of the existing structures in the 1956 topographic map, and development of the surrounding area increased in the vicinity of the subject property. The surrounding area contained schools, country clubs, Long Island Railroad tracks, cemeteries and a racing strip.

An extensive government records search did not identify any sources of environmental degradation on the subject property. However, the subject property was identified as being located within the Speonk Solvent Plume site, which covers approximately 600 acres [see **Section 2.2.1**]. The Speonk Solvent Plume area was identified as containing the presence of chlorinated solvent-contaminated groundwater in the area. The Suffolk County Department of Health Services (SCDHS) confirmed the presence of perchloroethene, trichloroethene, trichloroethane, carbon tetrachloride and chloroform in groundwater in the area. All residential wells where contaminants were detected above New York State drinking water standards were connected to the public water supply system by the United States Environmental Protection Agency to eliminate the ingestion exposure pathway. The source of solvent contamination is unknown. Based on the State's review of the Site Characterization report, it was decided in May 2012 that the contaminated groundwater plume did not meet the criteria for listing it as a site on the New York State Registry of Inactive Hazardous Disposal Sites.

Several Federal, State and County documented regulated sites were noted in the vicinity of the subject property. Specifically, one Inactive Hazardous Waste Disposal site is located within one mile of the subject property, and one Solid Waste Facility/Landfill, one active and twenty closed spill incidents, and no active and three closed Leaking Underground Storage Tank incidents are located within one-half (mile of the subject property. In addition, five Petroleum Bulk Storage facilities, two Resource Conservation and Recovery Act Generators and one Permit Compliance System Toxic Wastewater Discharge facility are located within one-quarter mile of the subject property.

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance to the methods and procedures, outlined within ASTM E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

For this assessment, under conditions where the direction of groundwater flow can be ascertained, critical search distances are used to determine if a VEC exists. Specifically, the following distances are applied to the Tier I Assessment:

Upgradient Sources
1,760 feet for Chemical of Concern (COC)
520 feet for petroleum hydrocarbons

Cross-gradient Sources
365 feet for COC
165 feet for petroleum hydrocarbon LNAPL sources & 95 feet dissolved petroleum hydrocarbon sources with plume considerations

Down-gradient Sources
100 feet for COC/petroleum hydrocarbon LNAPL sources
30 feet dissolved petroleum hydrocarbon sources

Review of the regulatory agency database report provided for the subject property identified one closed spill incident located in close proximity to the subject property. Since this incident was relatively minor and has been addressed to the satisfaction of the NYSDEC, it is not expected to adversely affect the subsurface resources of the subject property. However, the subject property was identified as being located within the vicinity of the Speonk Solvent Plume, with known chlorinated solvent-contamination in groundwater. Therefore, the subject property may be adversely affected by a VEC. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

This assessment has identified the following with respect to RECs, controlled recognized environmental conditions, historic recognized environmental conditions and de minimus conditions in connection with the subject property, subject to the methodology and limitations of this report.

Five RECs were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Evidence of three underground storage tanks associated with the three vacant residences was observed during the reconnaissance of the subject property. The age and capacity of these storage tanks is unknown.
2. The main house and occupied residence may contain storage tanks. The structures were not accessed during the reconnaissance of the subject property.
3. There is a propane storage tank located on the exterior of the main residence located in the central portion of the subject property, and a rusted drum located on the exterior of the residence located in the western portion of the subject property.
4. The residences are connected to on-site sanitary systems.
5. The subject property was identified as being located within the Speonk Solvent Plume, with known contamination in groundwater by chlorinated solvents.

No controlled RECs were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

One de minimus condition was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Miscellaneous debris and litter was observed in several locations throughout the subject property. Although it is not expected to adversely affect the subject property, the debris and littler should be removed and properly disposed of.

No historic RECs were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

This report was completed in accordance with the standards set forth in the ASTM E 1527-13 and the USEPA AAI. ASTM protocols identify asbestos containing material (ACM) as non-scope issues. In the interest of serving the client, observations concerning ACM are included herein. This visual assessment should not be considered an asbestos survey which would be required for building demolition and/or identification of all possible sources of ACM, regardless of health danger. Based on observations made during the site reconnaissance, the following is noted:

1. Suspect asbestos shingles were observed on the exteriors of the residences. If the buildings are to undergo major renovation or demolition, an Asbestos Survey should be completed in accordance with the New York State Department of Labor Industrial Code 56.

The observation noted above is not intended to eliminate any other possible sources which may or may not be present.

In conclusion, this assessment has revealed evidence of five RECs and one (1) de minimus condition in connection with the subject property, subject to the methodology and limitations of this report.

In response to the recommendations of the Phase I ESA, a Phase II ESA was prepared in December 2016, in order to address the RECs by completing an investigation of the soil vapors, soils surrounding the underground storage tanks, and the soils in the on-site sanitary systems (see **Appendix A-4**). The following summary of the Phase II ESA has been taken from that document.

A sampling and analysis program was designed to determine if the underground storage tanks had caused a release that would impact the environmental quality of subsurface soils, if the on-site sanitary systems had been impacted by the existing use of the subject property or if the presence of the off-site groundwater contamination plume had resulted in a release that may have generated environmentally adverse soil vapor conditions. The sampling and analysis plan consisted of soil vapor testing and soil/sediment quality testing using analytical test methods consistent with expected parameters and regulatory action levels and agency soil cleanup objectives. The following presents the results of this investigation.

1. Review of the analytical results finds that sampling detected the presence of several volatile organic compounds in all of the samples collected.

   New York State currently does not have any specific standards for the concentrations of compounds in either ambient air or subsurface vapors and has established air guidance values for only three (3) volatile organic compounds which include methylene chloride, tetrachloroethene and trichloroethene. However, the New York State Department of Health (NYSDOH) has issued the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYS Department of Health - Center for Environmental Health - Bureau of Environmental Exposure Investigation, October, 2006) which provides evaluation tools which may be used to evaluate the potential exposure impacts related to elevated levels of volatile organic compounds in soil vapors and ambient air. With regard to this investigation the document provides background air database summary results for a variety of property uses which may be used for comparison with site specific soil vapor and ambient air sampling results. Finally, soil vapor results are also reviewed "as a whole" to identify trends and special variations in the data, as outlined in the manual.

Of the compounds for which the NYSDOH has established guidance values for indoor air only methylene chloride was detected in the sample collected from the east-central portion of the property. The concentration for methylene chloride at this sample location was found to below the guidance value of 60 $\mu g/m^3$.

To complete the assessment of soil vapor and ambient air quality at the property, the analytical results were also compared to the Upper Fence values established in the NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes which was a study conducted between 1997 and 2003 to assess the occurrence of volatile organic chemicals in the indoor air of fuel oil heated homes. This database is the recommended source of comparison recommended for evaluating residential properties in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in New York State. Comparison of the analytical results to the Upper Fence values found exceedances with regard to detections of Acetone, Benzene, Chloromethane and Methyl Ethyl Ketone. However, to ensure that the potential for vapor intrusion is mitigated it is recommended that a vapor barrier and/or a passive sub-slab venting system be installed as part of building design.

2. Ground Penetrating Radar (GPR) was utilized to survey the area of the underground storage tanks in order to locate and orientate the tanks to properly position the soil probes around the tanks. This survey identified the location of the tanks adjacent to each of the four (4) smaller houses on the subject property.

3. The soils surrounding the four (4) underground storage tanks were sampled using a Power Probe sampling apparatus. A total of thirteen (13) probe points were installed around the accessible side of the four (4) tanks. Each sample interval obtained from the probe points were bagged and field screened using a PID meter in order to determine which sample was sent to the laboratory for analysis. Typically, the sample with the highest PID reading from the tank is chosen for lab analysis. However, the sample collected from the down gradient sides of the tanks were chosen since no significantly elevated PID readings were recorded in any of the fifty (50) soil samples collected.

   The laboratory results for the four (4) samples collected around the on-site tanks revealed that no elevated concentrations were detected in the tank samples. Since no concentrations were detected, no prior release is expected to have occurred from any of the underground tanks. If these tanks are no longer in service, the tanks should be removed and properly disposed of in accordance with SCDHS regulations and oversight.

4. The sanitary system leaching pools associated with the five (5) houses located on the subject property were sampled using a stainless steel hand auger in order to determine if the prior and existing uses of the property had adversely impacted the subsoils. The soil samples were transported to a certified laboratory for analysis of volatile and semi-volatile organic compounds and metals. The analytical results revealed that several of the analyzed constituents exhibited elevated concentrations; however, only one (1) of the metals (mercury) was elevated in excess of the SCDHS guidance values pursuant to SOP 9-95. As a result, SH-LP should be remediated under the auspices of SCDHS personnel.

The applicant is committed to addressing all the above-specified RECs to the satisfaction of all appropriate reviewing entities as part of the redevelopment of the site. These include: removing the three underground storage tanks for the three vacant residences; removing any unknown underground storage tanks associated with the main house and/or the occupied residences;

removing the propane storage tank at the main house and the rusted drum in the western portion of the property; removing all septic systems on the site; removing and disposing of all of the scattered liter and debris on the site; and performing an ACM survey of all structures and properly removing it prior to demolition. As discussed in **Section 2.2.1**, the NYS Department of Health and the SCDHS determined that no actions are needed to address exposure related to soil vapor intrusion from the Speonk Solvent Plume.

1.4 Project Design and Layout

1.4.1 Buildings to be Demolished

Refer to **Section 1.5.1** for a discussion of the anticipated schedule for the demolition process, and to **Section 1.5.2** for a general description of the demolition process.

All six of the existing structures on the site will be removed prior to the onset of construction of the proposed project. Also to be removed at this time will be all septic systems, aboveground and belowground tanks and utility connections. However, vehicle accesses to the three adjacent residences through the project site will be maintained throughout the demolition and construction periods. Prior to starting the demolition process, all of the RECs noted in the ESA for the site (see **Section 1.3.2**) will be addressed.

1.4.2 Overall Site Layout

Refer to **Table 1-3** for a listing of the current and anticipated future conditions of the project site, and to the **Conceptual Plan**.

As the project site has frontage on only North Phillips Avenue, only one vehicle access is possible; no secondary or emergency access is proposed. This access will be "stop-controlled" for all vehicles departing the site, and will have two lanes: one for northbound traffic, and one for southbound traffic. Generally, the project's internal road system is a simple dual loop configuration; the main roadway will proceed westerly from the access point and terminate near the site's western border, from which point loops will be oriented northward and southward, to loop back in an easterly direction along the rear of Buildings 3, 4 and 5, before terminating at the main road in the eastern portion of the site. The wastewater treatment facility will be accessible for maintenance vehicles off the loop roadway in the site's northwestern corner.

The western quarter of the site will remain undisturbed naturally-vegetated land, to provide a visual and aesthetic buffer from the residences to the west. Three Green Spaces are proposed, adjacent to Buildings 2, 3, 4 and 5. While details of the features within these areas are not determined as yet, it is expected that these may include small playgrounds, benches, water features and the like.

Sidewalks are planned along the west side of North Phillips Avenue, as well as along all of the site's internal roadways.

Table 1-3
SITE AND PROJECT CHARACTERISTICS
Existing Conditions and Proposed Project

Parameter	Existing Conditions	Proposed Project
Use & Yield	Residential (vacant); 15 units	Residential (38 units), Community Space (3,178 SF) & Commercial (4,380 SF)
Zoning	VB (1.34 acres) & R-20 (2.94 acres)	VB (0.76 acres) & R-20 (3.52 acres)
Wastewater Treatment System	Septic Tank/Leaching Pool	Advanced On-Site BESST System
Coverages (acres)**:**	---	---
Building	0.22	0.49
Paved/Impervious	0.23	1.24
Natural	2.13	0
Landscaped	1.70	2.55
TOTAL	4.28	4.28
Water Resources:	---	---
Domestic Water Use (gpd) (1)	300	7,750
Commercial Water Use (gpd) (1)	0	788
Irrigation Demand (gpd) (2)	0	3,035
Total Water Use (gpd)	300	11,573
Recharge Volume (MGY)	4.66 (3)	7.33 (4)
Nitrogen Concentration (mg/l)	0.63 (3)	2.76 (4)
Vehicle Trips (vph)**:**	---	---
Weekday AM Peak Hour	--- *	32
Weekday PM Peak Hour	--- *	43
Saturday Midday Peak Hour	--- *	68
Miscellaneous:	---	---
Workforce Units	0	38
Total Residents (capita) (5)	3	69
School-Age Children (capita) (6)	1	4
Employees (FTE)	0	5
Solid Waste Generated (lbs/day)	12	478
Parking Required (spaces)	30	96
Parking Provided (spaces)	---	102 (7)

Notes: gpd-gallons per day; MGY-million gallons per year; mg/l-milligrams per liter; vph-vehicles per hour; FTE full time equivalents.

(1) Based on SCDHS rates; see **Table 1-5**.
(2) Annualized; calculated based on 365-day year.
(3) See **Appendix A-6**.
(4) See **Appendix A-7**.
(5) Assuming 1.50 capita/studio unit, 1.67 capita/one-bedrooom unit, & 2.31 capita/two-bedroom unit.
(6) Assuming 0 school-age children/studio unit, 0.08 school-age children/studio or one-bedroom unit, & 0.23 school-age children/two-bedroom unit.
(7) An additional 12 parallel spaces will be provided along the site's frontage on North Phillips Avenue.
* While the site is currently minimally occupied, trip generation from the existing structures has occurred in the past and could occur if the structures are occupied.

As detailed in **Table 1-2**, Speonk Commons will consist of six two-story structures, of which Building 1 would have both ground floor commercial space and residential units on the second floor, Building 2 will have ground floor community space and units on the second floor, and Buildings 3 through 6 would have only residences on the ground and second floors.

There will be a separate, fenced wastewater treatment facility featuring a small control building in the northwestern corner of the site, abutting the LIRR commuter parking lot; the majority of this facility will be underground tanks and leaching field.

There will be a total of 38 units of workforce housing, as: 12 studio apartments, 14 one-bedrooms, and 12 two-bedrooms. All 38 apartments will be designated as "workforce housing units," meaning that they are intended for occupancy by households meeting specific economic/income standards. Occupancy will be subject to review and jurisdiction of the Town.

The proposal also includes 4,380 SF of commercial space, 3,178 SF of community space, and 102 parking spaces.

As the project has been designed to conform to all applicable Town Zoning Code requirements for building bulk and setbacks, no variances will be needed.

Potable water will be supplied by the SCWA, wastewater will be conveyed to the on-site treatment facility, and stormwater generated on-site will be retained on-site, to be recharged in subsurface leaching pools distributed along the internal roadway and parking areas. Electrical power will be provided by PSE&G, and natural gas will be available from National Grid.

Based on the anticipated types of occupants and commercial tenants, it is expected that the solid waste generated at the site will not include any significant amounts of toxic or hazardous substances. All solid wastes will be retained on-site, to be deposited in closed containers or dumpsters located throughout the property, and will be removed by a properly licensed carter on a regular basis, for disposal.

1.4.3 Grading Program and Drainage System

<u>Grading</u>
Based on the coverage values in **Table 1-3**, it is expected that all of the site will be cleared, and that 1.73 acres (40.4% of the site) will be subject to grading to construct the proposed project. It is expected that the areas to be cleared but not graded would be landscaped.

Generally, some amount of soil disturbance is necessary as part of the demolition process, as well as to establish suitable grades for the proposed developed surfaces such as buildings, roads, parking areas and landscaping. Additionally, the grading program must consider requirements for low grades required for proper drainage system performance, conformance with requirements of the Americans with Disabilities Act (ADA), and the convenience of the site's visitors, patrons and residents. Grade transitions will be made using slopes of 1:3 or less.

As part of the grading program, any excess, "clean" (i.e., uncontaminated) soil excavated during the demolition process that displays acceptable characteristics as fill may be used elsewhere on-site to provide suitable development surfaces. Any excess potential fill material, as well as all the soil that is unacceptable for use as fill, will be removed and taken to an approved disposal or re-use facility. See **Section 2.1.2** for a discussion of the potential impacts of the proposed grading program with respect to post-construction soil erosion.

Drainage System

In conformance with Town requirements, all stormwater runoff generated on the property will be retained on-site and recharged into the ground via an engineered system of roadside curbs, catch basins and leaching pools. The system will be designed to accommodate in excess of the minimum amount of storage capacity, as established by the Town.

1.4.4 Vehicle Access and Parking

Vehicle Access

As the project site has frontage on only one roadway (North Phillips Avenue, along the site's entire eastern border), there will be only one vehicle access, off this roadway; no secondary or emergency access is proposed. The vehicle access will be "stop-controlled" for exiting vehicles, and will provide two lanes: one for northbound (i.e., left turning) traffic, and one for southbound (right turning) traffic. Upon entering the site, vehicles bound for the commercial area will immediately turn right into the small parking area behind Building 1. Vehicles bound for the community space in Building 2 may turn left to access the parking spaces in the rear of that building. Vehicles bound for the remaining residences would proceed westerly through the center of the site and park either in front of Buildings 3, 4, or 5, or loop behind each of these structures to access the parking spaces behind them. For drivers destined for Building 6, at the western end of the site, a small parking area is places in front of that structure (there is no roadway or parking behind Building 6.

As part of the Town's site plan review process, the Town Fire Marshall and representatives of the Westhampton Beach Fire Department will evaluate the project design for proper access for emergency and fire equipment access.

Parking

The project will provide a total of 102 spaces distributed throughout the site, in the rear of Buildings 1 and 2, in the front and rear of Buildings 3, 4 and 5, and in the front of Building 6. An additional 12 spaces will be provided, as parallel spaces along the site's frontage on North Philips Avenue. Based on the requirements of the Town Zoning Code, a minimum of 96 parking spaces are required (see **Table 1-4**). Thus, the proposed project complies with the Town Code with respect to its parking provision.

Table 1-4
PARKING
Required Minimum & Provided

Use	Town Standard*	Quantity	Spaces Required (minimum)	Spaces Provided
Studio Unit	1.50 spaces/unit	12 units	18	102
One-Bedroom Unit	1.75 spaces/unit	14 units	24.5	
Two-Bedroom Unit	2.00 spaces/unit	12 units	24	
Commercial Space	1.00 space/150 SF	4,380 SF	29.2	
Community Space	---	3,178 SF	0	
TOTALS	**---**	**---**	**95.7**	**102***

* Includes 7 spaces for handicapped drivers; an additional 12 spaces to be provided as parallel parking on west side of North Phillips Avenue along site frontage.

1.4.5 Water Supply and Sanitary Wastewater Disposal Systems

Water Supply System

Potable water will be provided to the proposed project from the SCWA distribution system. It is anticipated that the project would be served via the existing service connection to the site, which in turn is served from the 12-inch line beneath North Phillips Avenue. The final determination of this connection will be made as part of the water supply connection application review process. All necessary associated meters, easements and installations will be provided to ensure adequate water supply.

Assuming the sanitary design flow rates used by the SCDHS for wastewater systems (discussed below), each studio unit will consume 150 gpd of potable water, and each one- or two-bedroom unit will consume 225 gpd. In addition, the commercial space will consume 788 gpd and the community space will use 100 gpd. Thus, total indoor consumption is estimated to be 8,538 gpd (see **Table 1-5**). It is conservatively assumed that all 2.55 acres of landscaping will be irrigated, to be applied at a rate of 16 inches during the six-month growing season. To determine the project's total per-day water usage, it is necessary to calculate the irrigation demand on an annual (i.e., 365 day) basis, which is 3,035 gpd. Therefore, it is expected that the proposed project will consume a total of 11,573 gpd of water.

Sanitary Wastewater Disposal

Sanitary wastewater flow and discharge requirements are determined by the SCDHS, under the jurisdiction of SCSC Article 6. The project site is located within Groundwater Management Zone III as defined by the SCDHS. Based on the requirements of SCSC Article 6, for a property that uses a simple on-site septic tank/leaching pool system (a "secondary system") in Zone III, no more than 300 gallons may be discharged per acre on a daily basis. For the 4.28-acre subject site, this maximum allowed sanitary flow would be 1,284 gpd, if an on-site septic system were proposed. However, if use of an advanced, "tertiary system" (either by constructing such a system on-site or by connection to such a system at an off-site location) is proposed, the sanitary

flow limitations of Article 6 would not apply, and the site's sanitary flow is then limited to the available capacity of that tertiary system.

Table 1-5
WASTEWATER FLOWS & TOTAL WATER USE
Proposed Project

Use	Quantity	Article 6 Wastewater Flow Rate	Wastewater Flow/Water Use (gpd)
Commercial Spaces			
Restaurant (2,500 SF)	20 seats	30 gpd/seat	600
Retail	1,880 SF	0.10 gpd/SF	188
Total Commercial Use	**4,380 SF**	**---**	**788**
Residential Spaces			
Community Space	3,303 SF	0.03 gpd/SF	100
Studio Unit	12 units	150 gpd/unit	1,800
One-Bedroom Unit	14 units	225 gpd/unit	3,150
Two-Bedroom Unit	12 units	225 gpd/unit	2,700
Total Residential Use	**---**	**---**	**7,750**
Total Domestic Use	**---**	**---**	***8,538***
Landscape Irrigation			
Irrigated Landscaped Area	2.55 acres	16 inches/season	3,035
TOTAL WATER USE	**---**	**---**	**11,573**

Based on the values listed in **Table 1-5**, the proposed project would generate a volume of wastewater well in excess of its Article 6 limit. Therefore, the proposed project will include a new tertiary treatment system in its western portion, to treat all of its wastewater and comply with SCDHS Article 6. This system will be a state-of-the-art facility incorporating "BESST" (biologically engineered single-sludge treatment) technology. The system will have a capacity in excess of the project's anticipated 8,538 gpd generation rate and will be designed pursuant to SCDHS requirements.

SCSC Article 12 regulates storage and handling of toxic and hazardous materials as a means to *"…maintain its [Suffolk County's] water resources as near to their natural condition of purity as reasonably possible for the safeguarding of the public health…"* Based on the uses proposed, other than common household cleaners, it is not expected that the project would utilize any significant amounts or types of toxic or hazardous materials. In such a case, the potential for impacts to water quality would be minimized, as such materials would not be present on the site. Additionally, the use, storage and disposal of these common household materials would reflect common household practices, further protecting water quality. In these ways, the proposed project would conform to the goals and intent of this regulation.

1.4.6 Lighting and Amenities

Lighting will be consistent with current Town standards and requirements, with all installed lighting dark-sky compliant with downcast fixtures. Lighting will be provided to establish a safe

and secure environment with illumination only in those areas where it is necessary.

The three proposed Green Spaces may include small playgrounds, benches, water features and the like.

It is expected that the proposed project will illuminate the building facades, parking areas and sidewalks, as well as the Green Spaces. Lighting will be provided consistent with other adjacent and nearby properties typical of a quality mixed commercial/residential structure. Lighting for the project will conform to the applicable requirements of Town Zoning Code Article XXIX (Outdoor Lighting). The applicant will ensure that only "dark sky" compliant luminaires will be used; this type of fixture is equipped with a full cut-off shroud that directs all illumination downward. By use of such fixtures, the potential for adverse impacts to the visibility of the nighttime sky for site patrons and residents, as well as impacts to the neighboring properties will be minimized.

1.4.6 Site Operations and Management

As noted in **Section 1.1**, the operations and management of the project will be performed and supervised by an experienced management company implementing a management plan that is fully vetted by all relevant stakeholders, including, but not limited to: owner and co-developers, the Town of Southampton, construction loan lender, permanent loan lender, Suffolk County Office of Community Development, tax credit investor, and NYSHCR.

The following summarizes the "General Rules and Operations" for the project property, to which all residents must adhere, and the required submission items for resident eligibility.

Prospective residents must provide the following information:

- Name and address of employer and 6 most recent pay stubs;
- Previous rental history;
- Name, Social Security number, and date of birth for all occupants.

Prospective residents must certify or submit to the following, the results of which could render them ineligible to live at the property:

- If any member of household has engaged in the illegal use or distribution of any controlled substance;
- If any member of household has been convicted of a felony or misdemeanor;
- If any member of household is subject to lifetime sex offender registration;
- Detailed banking information;
- Detailed asset information;
- Personal references;
- Landlord references;
- Authorization of credit report;
- Criminal background check.

1.5 Demolition and Construction Schedule & Operations

1.5.1 Demolition and Construction Schedule

It is expected that the demolition phase of the construction process would commence shortly after issuance of the necessary permits from the Town, and last an estimated 2 months. The limited recommended remediation actions given in the Phase I ESA will be completed as part of this phase, and is not anticipated to take a substantial amount of time to perform.

Based on a preliminary estimate, construction of the proposed project is anticipated to occur in one phase, with construction anticipated to begin upon completion off the demolition phase, which is estimated to be in the spring of 2017. It is expected that the construction phase will last 14 months, so that the project would be completed in the summer of 2018.

Demolition and construction activities will conform to Town Code Section 235 regulations on hours, and would not occur between the hours of 7:00 PM and 7:00 AM (excepting Sundays, when no construction activities are anticipated), and will conform to additional applicable Town regulations regarding construction noise generation.

1.5.2 Demolition and Construction- Related Operations

The overall site development process will begin as soon as practicable following the completion of the site plan approval process, and building permit issuance.

<u>General Remediation and Demolition Process Descriptions</u>
The remediation/demolition phase will begin with investigations of the six structures for the potential sources of impact described in the ESA.

If found in the existing structures, any ACM and/or tanks will be properly removed and disposed of, in conformance with appropriate regulations. Some measures may include, but not be limited to, restricted hours that removal operations may occur, installation of proper shielding, air baffles or the like, establishment of equipment and personnel staging areas, and provisions for waste material storage on-site until it is removed for disposal. As the removal operations would occur within the structures, it is expected that these measures would be located within the structures, to minimize potential disturbance to the neighborhood. The applicant will utilize experienced contractors licensed in the appropriate remediation activities to ensure compliance with applicable health/safety requirements.

With respect to USTs, each will be removed and an investigation of the surrounding soil will be made to determine the presence, nature and extent of any soil contamination resulting from leakage or spillage from each UST. Tank removal will be conducted subject to applicable Town, County and/or State standards, including but not limited to the NYS Department of Environmental Conservation (NYSDEC). The SCDHS will be notified of any storage tanks that require removal. The tanks will be removed under the oversight of SCDHS personnel and by a reputable, licensed contractor.

After completion of remediation actions, the buildings and associated utility connections on the site will be removed. A Demolition Plan will have been prepared for Town review and approval, and a demolition permit will be obtained prior to the onset of demolition activities. In general, demolition for each of the structures would follow the same process, including disconnection of utilities, followed by inspection for potentially hazardous or toxic building materials (e.g., asbestos, chemicals, etc.; see above). Any recyclable building materials would be removed at this time, to increase re-use of materials and reduce the volume of demolition wastes to be handled.

Demolition may be performed by use of an excavator and/or front-end loader to transfer the debris to dump trucks for disposal at an approved and permitted construction/demolition debris landfill. Trucks will access the site via the existing entrance on North Phillips Avenue, and will be staged and loaded within the site.

General Construction Process Description

Immediately upon completion of the demolition phase, construction of the proposed structures can commence. It is anticipated that the central portion of the property will be used for construction material unloading/storage and staging areas, as well as for construction worker parking. Like the demolition phase, it is expected that trucks will use North Phillips Avenue to approach and depart the site area, as the only road frontage is on that roadway.

The construction phase would commence with clearing and grading operations. As the site is already developed, and is relatively flat, the acreage to be cleared is limited to the central and eastern portions of the site, and grading would not be extensive (minimizing the amount of earthwork needed to create the surface contours designed for the drainage plan).

Excavations for the buildings, roadway foundations, the treatment facility, and utility connections will occur next, followed by installing forms for the building foundations, then pouring of concrete. After the concrete has set, building construction can then begin. Framing of walls, ceilings and floors would take place now, with installation of windows, skylights, and doors, and installation of wallboard and taping & spackling. This process may feature a number of concurrent activities which could include: completion of the wastewater treatment facility, installation of the utility connections; application of the various building shell exteriors (e.g., insulations, sidings, and roofing); and the major interior electrical, plumbing and other mechanical systems (e.g., HVAC [heating, ventilation and air conditioning]); installation of the exterior lighting system and landscaping. Finally, the building interiors would be finished by tilework, painting and wallpapering, followed by installation of carpeting, paneling, interior lighting and plumbing fixtures, etc.). Utility system commissioning will complete the construction process.

1.5.3 Erosion Control During Construction

The project's drainage system will comply with requirements under NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP 0-15-002 or "General Permit") and Chapter 285 of the Town Code.

Under these requirements, a site-specific Storm Water Pollution Prevention Plan (SWPPP) must be prepared and submitted to the Town for review and approval as a condition to final site plan approval. The SWPPP evaluates the proposed drainage system to ensure that it meets the NYSDEC and Town requirements for treatment and retention of stormwater runoff. The SWPPP must demonstrate that the proposed stormwater management system is sized adequately to ensure that there is no net increase in peak stormwater discharges from a property once developed.

Additionally, the SWPPP will include details of the erosion controls to be employed during construction. Appropriate plans and analyses will be prepared to support a finding that adherence to the SWPPP design will ensure that the volume of post-development stormwater will be less than that of the volume of pre-development stormwater. The proposed dimensions, material specifications, and installation details for all erosion and sediment control practices will be provided on the Erosion Control Plans, which will be subject to Town review and approval as part of the Town's site plan review process.

The following discussion presents a general discussion of the erosion and sedimentation control guidelines to be observed during construction in order to minimize impacts. Because of the implementation of these measures, sediment will not be transported off-site by stormwater runoff, so that no significant level of impact on adjacent sites is expected. However, should any sediment escape from the site, it will be swept back onto the site by manual or mechanical means (depending upon the amount of fugitive sediments) under the direction of the construction manager.

During the construction process, inspections of the construction site will be regularly performed under the supervision of a qualified professional to ensure that erosion controls are properly maintained.

The construction manager, in combination with the various specialized contractors, will be responsible for all construction activities, and installation and maintenance of the erosion and sediment controls. The construction manager will also be responsible for ensuring proper storage and stockpiling of construction materials and that building supplies will be stored in designated areas, and that measures are implemented to prevent/reduce wind-blown dust. The construction manager will be responsible for securing an approved carter to empty the construction waste dumpsters and haul waste from the site to an approved location for disposal.
It is expected that the erosion control plan will incorporate recommended measures of the NYSDEC Technical Guidance Manual, and use of measures such as:

- Silt fence, storm drain inlet protection, hay bales and good housekeeping procedures will be used;
- Construction equipment and vehicles will be parked and loaded/unloaded within the site;
- "Rumble strips" at the site entrance will prevent soil on truck tires from being tracked onto the public road system;
- The construction process will begin with establishment of flagged clearing limits, followed by installation of the erosion control measures; and
- The drainage system will provide permanent stormwater controls once construction is completed.

The property will be operated by the site's owner, which will be responsible for all on-site maintenance and repair, including all the interior spaces and exterior surfaces, connections to the public utility systems, snow removal, garbage pick-up, etc.

1.6 Permits and Approvals Required

All site development submissions are subject to review under SEQRA. For the proposed project, this review commenced with the submission of the change of zone application to the Town Board in December 2016. Based on the information presented in the documents comprising that application, the Town Board (as lead agency under SEQRA) will evaluate the project to determine if a significant impact to the environment would or may occur.

This EEAF has been prepared to address those potential impact issues that are anticipated to be of concern to the Town and community. This document also provides an analysis of the potential impacts of development of this parcel consistent with its existing zoning, to establish a comparative assessment of impacts.

This EEAF is intended to provide the Southampton Town Board with information to assist it in reaching an informed decision on the change of zone application. This document complies with SEQRA requirements as administered by the Town.

Table 1-6 is a list of the permits and approvals anticipated to be necessary for the proposed project.

Table 1-6
PERMITS AND APPROVALS REQUIRED

Applicable Board/Agency	Permit/Approval Type
Town Board	Change of Zone approval
Town Planning Board	Site Plan approval
Town Building Department	Building Permit
	239f review (to SCDPW)
Town Fire Marshal	Site Plan review
SCWA	Water Supply System Connection approval
SCDHS	Sanitary System review
	Water Supply System review
SCPC*	Referral
NYSDEC	SWPPP approval
	SPDES Permit

* SCPC - Suffolk County Planning Commission.

SECTION 2.0

NATURAL ENVIRONMENTAL RESOURCES

2.0 NATURAL ENVIRONMENTAL RESOURCES

2.1 Topography and Soils

2.1.1 Existing Conditions

Topography

The subject property was previously developed and is not subject to any constraining topographic conditions. The site is characterized as having varying topography which generally trends from east to west. The eastern half of the property is relatively flat with a gentle slope of approximately 1% trending from a high elevation of 35 feet above mean sea level (asl) in the northeastern corner of the property down to 31 feet asl in the central portion of the property. Steeper slopes ranging from 3% to 10% are present in the western half of the property and trend from an elevation of 30 feet asl in the central portion of the property down to a low elevation of 18 feet asl in the southwestern corner of the property. The topography present on the subject property is illustrated in the **Boundary and Topographic Survey**.

Soils

The Soil Survey of Suffolk County, prepared by the US Department of Agriculture in 1975[1], is a useful source of soils information, which identifies soil types resulting from natural deposition and modification, as well as man-induced alterations associated with land use. The Soil Survey indicates that two soil types are present on the subject property and are identified as RdA - Riverhead Sandy Loam (0-3% slopes) and PIB - Plymouth Loamy Sand, 3-8% slopes (see **Figure 2-1**). The characteristics of these soil types are identified as follows **(Warner et al., 1975)**:

> *Riverhead Sandy Loam, 0-3% slopes (RdA) – These soils are found within the eastern half of the property and consists of deep, excessively drained, coarse - textured soils that formed in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. This soil is generally found on outwash plains, and the areas are large and uniform. The hazard of erosion is slight and is limited only by moderate droughtiness in the moderately coarse textured upper layer of the soil profile. This soil is well suited for crops but most areas in the western part of the Suffolk County are used for housing developments and industrial parks.*
>
> *Plymouth Loamy Sand, 3-8% slopes (PlB) – These soils are found within the western half of the property and consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand over thick layers of stratified coarse sand and gravel. This soil is on moraines and outwash plains. The erosion hazard is slight and soil tends to be droughty. This soil is well suited for crops but most areas in the western part of the Suffolk County are used for housing developments.*

The Soil Survey was reviewed for information relating to possible limitations that the identified soils may present. Constraints commonly associated with these soils are summarized below in **Table 2-1**.

[1] Updated/digitized maps used for figures from Soil Survey Geographic Database for Suffolk County, New York (SSURGO); USDA Natural Resources Conservation Service; 2010; updated September 24, 2015; the Suffolk County Soil Survey (**Warner, 1975)** provides soil descriptions/constraints.

As noted in the table, only PlB soils were found to pose "moderate" and "severe" limitations for site use and development due to sandy surface layer and slopes.

Table 2-1
SOIL LIMITATIONS

Soil Type	Riverhead Sandy Loam, 0-3% slopes (RdA)	Plymouth Loamy Sand, 3-8% slopes (PlB)
Limitations for:	---	---
Sewage disposal fields	Slight	Slight
Homesites		Slight
Streets and Parking lots		Moderate: slopes
Lawns and Landscaping		Severe: sandy surface layer
Picnic areas		Moderate: sandy surface layer
Paths and trails		
Engineering Properties:	---	---
Top soil	Good	Poor: coarse texture
Embankment foundations	Strength generally adequate for high embankments; slight settlement	Strength generally adequate for high embankments; slight settlement
Low building foundations	Low compressibility	Low compressibility
Embankments	Fair to poor resistance to piping; fair to poor stability; moderate to high permeability	Fair to poor resistance to piping; fair to poor stability; moderate to high permeability
Irrigation	Moderate to rapid water intake; moderate available moisture capacity	Very low available moisture capacity; rapid water intake

As discussed in **Section 1.3.2**, a Phase I ESA was prepared for the site by NP&V in November 2015. Results of the Phase I ESA identified five RECs on the subject property based on the site reconnaissance, interviews and regulatory agency records review. Of these RECs, four may have a potential impact on the quality of soils on the subject property and consist of the following.

1. Evidence of three underground storage tanks associated with the three vacant residences was observed during the reconnaissance of the subject property. The age and capacity of these storage tanks is unknown.
2. The main house and occupied residence may contain storage tanks. The structures were not accessed during the reconnaissance of the subject property.
3. There is a propane storage tank located on the exterior of the main residence located in the central portion of the subject property, and a rusted drum located on the exterior of the residence located in the western portion of the subject property.
4. The residences are connected to on-site sanitary systems.

In response to the Phase I ESA recommendations, a Phase II ESA was prepared, to: 1) determine if the underground storage tanks had caused a release that would impact the environmental quality of subsurface soils; 2) determine if the on-site sanitary systems had been impacted by the existing use of the subject property; and 3) determine if the presence of the off-site groundwater

contamination plume had resulted in a release that may have generated environmentally adverse soil vapor conditions.

The sampling and analysis plan of the Phase II ESA consisted of soil vapor testing and soil/sediment quality testing using analytical test methods consistent with expected parameters and regulatory action levels and agency soil cleanup objectives (see also **Section 1.3.2 and Appendix A-4**). The following briefly summarizes the results of this investigation.

1. Review of the analytical results reveals the presence of several volatile organic compounds in all of the samples collected. To ensure that the potential for vapor intrusion is mitigated, it is recommended that a vapor barrier and/or a passive sub-slab venting system be installed as part of building design.
2. A total of 13 probe points were installed in the soil around the accessible side of the four underground storage tanks. The laboratory results revealed that no elevated concentrations of soil vapors were detected. Since no concentrations of soil vapors were detected, no prior release is expected to have occurred from any of the underground tanks. If these tanks are no longer in service, the tanks should be removed and properly disposed of in accordance with SCDHS regulations and oversight.
3. The sanitary system leaching pools associated with the five houses located on the subject property were sampled to determine if the prior and existing uses of the property had adversely impacted the subsoils. The soil samples were analyzed for volatile and semi-volatile organic compounds and metals. The results revealed that several of the analyzed constituents exhibited elevated concentrations; however, only one of the metals (mercury) was elevated in excess of the SCDHS guidance values pursuant to SOP 9-95. As a result, sample location SH-LP should be remediated under the auspices of SCDHS personnel.

2.1.2 Anticipated Impacts

<u>Topography</u>
Since the site was previously developed, is not subject to extreme topographic relief, and will be designed to address the site-specific conditions as part of site plan civil engineering, potential impact to topography will be minimal. Based on the coverage values in **Table 1-3**, most of the existing disturbed site will be cleared, and 1.73 acres (40.4% of the site) will be subject to grading to construct the proposed project. It is expected that the areas to be cleared but not graded would be landscaped.

Generally, some amount of soil disturbance is necessary as part of the demolition and redevelopment process, as well as to establish suitable grades for the proposed developed surfaces such as buildings, roads, parking areas and landscaping. Additionally, the grading program must consider requirements for low grades required for proper drainage system performance, conformance with requirements of the Americans with Disabilities Act (ADA), and the convenience of the site's visitors, patrons and residents. Grade transitions will be made using slopes of 1:3 or less.

As part of the grading program, any excess, "clean" (i.e., uncontaminated) soil excavated during the demolition process that displays acceptable characteristics as fill may be used elsewhere on-site to provide suitable development surfaces. Any excess potential fill material, as well as all

the soil that is unacceptable for use as fill, will be removed and taken to an approved re-use or disposal facility.

All construction trucks and equipment, as well as material storage and staging areas will use the proposed construction entrance to the site, which will be located on North Phillips Avenue in the same location as the eventual site entrance to the project. Truck traffic impacts would be temporary, and would occur on roads (NYS Route 27A and North Phillips Road) that have sufficient capacity to accommodate this traffic with minimal potential for impact.

All disturbed surfaces will be stabilized prior to construction, to minimize the potential for erosion. Other than excavations for the building foundations, recharge areas, retention ponds and subsurface utility connections, it is not expected that the depths of cutting and filling would be extensive, so that planned re-use of excavated material elsewhere on-site will not require significant import or export of fill.

Following construction, the roadways within the site will maintain grades ranging from 1.0 to 3.0 percent to direct stormwater runoff to drainage structures. A detailed Grading and Drainage Plan will be prepared as part of the site plan application, which will provide additional details of overall site grading, and will require Town planning and engineering reviews and Planning Board approval prior to implementation. The need for and details of any retaining walls will be determined during this period. All grading and the drainage system will conform to applicable Town regulations.

Grading activity will be conducted internally within the site and will not impact adjacent properties. In addition, construction management techniques outlined in **Section 1.5.3** will ensure that sedimentation and erosion control measures are implemented. No significant adverse topographic impacts are anticipated as a result of the project.

<u>Soils</u>
The soils present on the subject property do not possess any significant limitations that would be expected to impede the proposed development of the site. It is noted that there is a sandy surface layer found in the PlB soils encountered at the site which will warrant proper management of lawns and landscaping as part of the proposed project. Impacts related to this limitation may be mitigated through the installation of plant species suitable for this environment and proper irrigation techniques.

Overall, considering the size of the site, its generally flat, and the fact that it has been previously developed, it is not expected that the necessary clearing and grading operations would be limited by any soil-related condition.

The Phase I and Phase II ESAs prepared for subject property (see **Section 1.3.2**) noted the presence of USTs and sanitary systems related to the existing on-site structures, and provided recommended actions to address the potential impacts that may have occurred in relation to each.

With respect to USTs, each will be removed and an investigation of the surrounding soil will be made to determine the presence, nature and extent of any soil contamination resulting from leakage or spillage from each UST. Tank removal will be conducted subject to applicable Town,

County and/or State standards, including but not limited to the NYSDEC. The SCDHS will be notified of any storage tanks that require removal. The tanks will be removed under the oversight of SCDHS personnel and by a reputable, licensed contractor.

With respect to existing sanitary systems present on the subject property they will be sampled, remediated (if required) and abandoned in accordance with SCDHS requirements and protocols and done under the oversight of SCDHS personnel and by a reputable, licensed contractor.

Erosion control measures to be implemented during the construction phase are discussed in detail in **Section 1.5.3**, and are expected to include measures recommended in the NYSDEC Technical Guidance Manual, such as:

- Silt fence, storm drain inlet protection, hay bales and good housekeeping procedures will be used;
- Construction equipment and vehicles will be parked and loaded/unloaded within the site;
- "Rumble strips" at the site entrance will prevent soil on truck tires from being tracked onto the public road system;
- The construction process will begin with establishment of flagged clearing limits, followed by installation of the erosion control measures; and
- The drainage system will provide permanent stormwater controls once construction is completed.

2.1.3 Proposed Mitigation

- A detailed grading and drainage plan will be prepared for the site plan application, and will provide details of overall site grading and will require Town Division of Planning review and Planning Board approval prior to implementation.
- Any soil contamination that may have occurred because of oil storage tank leakage or former sanitary discharges will be properly evaluated and remediated prior to initiation of the demolition phase. The remediation process will be subject to the review and approval of proper county and state entities, which will certify that such remediation was properly conducted, and that the process is complete.
- Erosion at the site and sedimentation at downslope locations may occur during the construction phase of the project. These potential impacts will be overcome by implementing erosion control measures and installing proper drainage facilities as part of the construction activities.

2.2 Water Resources

2.2.1 Existing Conditions

<u>Surface Water Conditions</u>
There are no surface water bodies on the subject site. The nearest surface water bodies in the vicinity of the subject property consist of Fish Creek which is located approximately 0.6 miles to the south-southeast of the subject property and the East River which is located approximately 0.75 miles to the west of the subject property. **Figures 2-2** and **2-3** depict the locations of the freshwater and tidal (i.e., marine/saltwater) wetlands in the vicinity, as designated by the NYSDEC and National Wetland Inventory (NWI), respectively.

Figure 2-4 depicts the FEMA compilation of Flood Hazard Zones for the area of the subject site. As can be seen, the site is within an area designated "Zone X" which is an area outside the statistical 500-year flood plain.

Groundwater Conditions

The subject property varies in elevation from a high of 35 feet asl in the northeast corner of the site, to a low of 18 feet asl, located in the southwestern corner of the site. As shown in **Figure 2-5**, the water table is found at an elevation of about 11 feet asl beneath the site indicating that the depth to the water table underlying the property ranges from approximately 7 to 24 feet below ground surface. Based on the contours of the water table, it is expected that groundwater in the shallow (i.e., Upper Glacial) aquifer flows in a southeasterly direction, toward Fish Creek.

In addition, it should be noted that the subject property is located within an area potentially affected by the Speonk Solvent Plume (see **Figure 2-6**); however, current information finds that this is not a significant issue with regard to redevelopment of the site as will be described herein. The following description and discussion of this plume has been taken from a Fact Sheet prepared by the NYSDEC on this matter.

> In December 2001, the Suffolk County Department of Health Services (SCDHS) detected chlorinated volatile organic compounds in a private drinking water well near the intersection of Old Country Road and North Phillips Avenue. Subsequently, the SCDHS conducted an initial investigation to determine the area of impacted groundwater. Work completed by the SCDHS included the sampling of private drinking water wells, aquifer screening and monitoring well installations in the area. The SCDHS data confirmed the presence of chlorinated solvent contaminated groundwater in the area. The primary contaminants found were perchloroethene (PCE), trichloroethene (TCE), trichloroethane (TCA), carbon tetrachloride, and chloroform.
>
> All residential wells where contaminants were detected above New York State drinking water standards were connected to the public water supply system by the United States Environmental Protection Agency (USEPA) to eliminate the ingestion exposure pathway. SCDHS continued to monitor private water supply wells at structures not connected to the public water supply through 2012. The public water supply system obtains water from a source which is not affected by this contamination and is monitored to ensure that it meets Federal and State drinking water standards.
>
> Based on the initial SCDHS findings, the NYSDEC initiated a Site Characterization to determine the source of the contamination and assess the pathways by which the contamination could travel. During the investigation, samples of soil, soil vapor, and groundwater were collected. Soil and groundwater profile borings were advanced, monitoring wells were installed, and background information gathered.
>
> The general location of contamination in the aquifer has been characterized. The contaminated groundwater solvent plume is about two miles in length. The plume is located at depths ranging from 25 feet to 115 feet below the land surface and moves in a north-to south direction.
>
> The potential for soil vapor intrusion to occur at buildings overlying the contaminated plume was also evaluated during the site characterization. Soil vapor intrusion is the process by which vapors volatilize, from volatile organic compounds in soils and/or groundwater, and then move into the indoor air of a structure through cracks or holes in a foundation. Soil vapor intrusion, as a potential

exposure pathway, was evaluated by the New York State Department of Health (NYSDOH) and the SCDHS. Based on the data, it was determined that no actions are needed to address exposures related to soil vapor intrusion.

The Site Characterization investigation was unsuccessful in locating the source of solvent contamination. The Site Characterization report, dated December 2011, detailed the investigation results and based upon the State's review of the report, it was decided, in May 2012, that the contaminated groundwater plume did not meet the criteria for listing it as a Site on the New York State Registry of Inactive Hazardous Waste Disposal Sites.

Based on this fact sheet, it was determined that no actions are needed to address exposures related to soil vapor intrusion.

The groundwater budget for an area is expressed in the hydrologic budget equation, which states that recharge equals precipitation minus evapotranspiration plus overland runoff. This indicates that not all rain falling on the land is recharged. Loss in recharge is represented by the sum of evapotranspiration and overland runoff. The equation for this concept is expressed as follows:

$$\mathbf{R = P - (E + Q)}$$

where: **R** = recharge
P = precipitation
E = evapotranspiration
Q = overland runoff

NP&V has utilized a microcomputer model developed for its exclusive use in predicting both the water budget of a site and the concentration of nitrogen in recharge. The model, named **SONIR** (**S**imulation **O**f **N**itrogen **I**n **R**echarge), utilizes a mass-balance concept to determine the nitrogen concentration in recharge. Critical in the determination of nitrogen concentration is a detailed analysis of the various components of the hydrologic water budget, including recharge, precipitation, evapotranspiration and overland runoff.

The **SONIR** model includes four sheets of computations: 1) Data Input Field; 2) Site Recharge Computations; 3) Site Nitrogen Budget; and 4) Final Computations. All information required by the model is input in Sheet 1. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

It should be noted that the simulation is only as accurate as the data which is input into the model. An understanding of hydrologic principles is necessary to determine and justify much of the data inputs used for water budget parameters. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must apply caution in arriving at assumptions in order to ensure justifiable results. There are a number of variables, values and assumptions concerning hydrologic principles, which are discussed in detail in a user manual developed for the SONIR Model and provided in **Appendix A-5**.

The model was run to obtain the existing water budget and nitrogen concentration in recharge. The run was based on current site conditions and land use coverages for the overall Speonk Commons property which includes 2.13 acres of natural area, 0.45 acres of impervious surfaces, and 1.70 acres of landscaping. Based on the SONIR model calculations the site currently has a total site recharge of 4.66 million gallons per year (MGY), with a total nitrogen concentration of 0.63 milligrams per liter (mg/l). Of the total nitrogen concentration 100% is attributable to precipitation. The results of this analysis are presented in **Appendix A-6.**

2.2.2 Anticipated Impacts

<u>Groundwater Conditions</u>
The proposed project is expected to result in the generation of wastewater well in excess of Article 6 limit in Groundwater Management Zone III. Therefore, the proposed project will utilize a new tertiary treatment system which will be situated in its western portion of the property, to treat all of its wastewater. This system will be a state-of-the-art facility incorporating "BESST" (biologically engineered single-sludge treatment) technology. While the design of this system has not been finalized, it is anticipated that it will have a capacity in excess of the project's projected 8,538 gpd generation rate and will be subject to SCDHS design requirements, review and approval for design, installation and operation.

SCSC Article 12 regulates storage and handling of toxic and hazardous materials as a means to *"…maintain its [Suffolk County's] water resources as near to their natural condition of purity as reasonably possible for the safeguarding of the public health…"* Based on the uses proposed, other than common household cleaners, it is not expected that the project would utilize any significant amounts or types of toxic or hazardous materials. In such a case, the potential for impacts to water quality would be minimized, as such materials would not be present on the site. Additionally, the use, storage and disposal of these common household materials would reflect common household practices, further protecting water quality. In these ways, the proposed project would conform to the goals and intent of this regulation.

2.55 acres of maintained landscape vegetation, including grasses and/or shrubs, are included in the proposed project, so that use of landscape chemicals (e.g., fertilizers, pesticides, herbicides, fungicides, etc.) is assumed to occur on the site. This is another source of potential adverse impact to groundwater quality on the subject site.

Utilizing the same mass balance model described in **Section 2.2.1**, the water balance and concentration of nitrogen in recharge was calculated for the proposed project. **Table 1-3** provides a tabulation of existing and proposed site conditions. These coverage quantities were used in the SONIR model to obtain the results described herein.

The SONIR computer model results for the overall property following development of the proposed project (**Appendix A-7**) indicate that a total of 7.33 MGY of water will be recharged on the site. This represents an increase of approximately 38% in recharge generated on the property. This anticipated recharge volume represents 63.06 inches of water distributed annually over the 4.2- acre site. The concentration of nitrates (as nitrogen) in this recharge is anticipated

to be increase due to the proposed project to a total of 2.76 mg/l. The increase in recharge and nitrogen concentration is directly attributable primarily to the increase in sanitary discharge on the subject property (and landscaping to a lesser extent); however, the magnitude of this increase is limited through the use of treatment technologies and remains substantially below the NYSDEC ambient groundwater standard of 10 mg/l.

Surface Water Conditions

The project will not adversely impact any surface water resources. Generally, the primary source of such an impact would be from the off-site transport of stormwater runoff to a surface water resource (e.g., a pond/wetland, a creek or river, etc.). However, as noted **Section 1.4.2**, stormwater generated on-site will be retained on-site, to be recharged in subsurface leaching pools distributed along the internal roadway and parking areas. As a result, no runoff from the site (along with any contamination that may be carried in that water) will reach the nearest surface water resource which is located 0.6 miles to the south-southeast.

The project is located within Flood Zone X which is an area of minimal flooding. As a result, no impacts related to flooding are expected.

2.2.3 Proposed Mitigation

- As no adverse impacts to groundwater quality or quantity are anticipated to occur because of the project, no additional mitigation is necessary or proposed.
- As no adverse impacts on the elevation of the water table or direction of groundwater flow beneath the subject site are expected, from the project, no additional mitigation is necessary or proposed.
- No impacts on the quality or quantity of water in any surface water resource in the vicinity is anticipated to occur from the project, no additional mitigation s necessary or proposed.
- No impacts related to flooding are expected following development of the proposed project.

2.3 Ecology

2.3.1 Existing Conditions

Vegetation

The 4.28-acre subject property is the site of several deteriorated and boarded-up houses, landscaped (overgrown lawn with trees), and successional woodland. A site inspection was performed on November 17th, 2016 to identify flora and fauna present on the site. No freshwater wetlands are located on or in the vicinity of the subject site. **Figure 2-7** depicts the successional woodland identified on the subject property compared to the developed portion of the property.

The habitat types were defined according to a classification system developed by the NYSDEC **(Edinger, 2002).** Habitats present on the site include: successional southern hardwood, and landscaped (Overgrown Mowed Lawn with Trees). **Table 2-2** identifies the acreage of each habitat on the subject site. The limit of each habitat was determined by a combination of aerial photography and field inspections by NP&V.

Table 2-2
SITE COVERAGE/HABITAT QUANTITIES
Existing Conditions

Coverage/Habitat Type	Coverage (acres)	Percent
Successional Southern Hardwood Forest	±2.13	49.77%
Landscaped (Mowed Lawn with Trees)	±1.70	39.72%
Impervious	±0.45	10.51%
TOTAL	**4.28**	**100.00%**

The NYSDEC Freshwater Wetlands Map and National Wetland Inventory Map were reviewed (see **Figures 2-2** and **2-3**) to determine the presence of wetlands on or in the immediate vicinity of the subject site. No State listed wetlands were identified within the site (**Figure 2-3**). The nearest NYSDEC freshwater wetlands are numbers E-3 and E-9. E-3 is located approximately 2,850 feet to the west of the site, while E-9 is 2,350 feet to the south southwest of the site.

The entire site was cleared as shown in the historic aerial photograph of 1957 (**Appendix A-3**). The majority of the site was developed into a landscaped condition of mowed lawn with trees. A portion of the site has revegetated which can now be best described as successional southern hardwood forest.

Successional Southern Hardwood Forest is classified as "*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 (Ulmus rubra), white ash (Fraxinus americana), red maple*[s] *(Acer rubrum), box elder (Acer negundo), silver maple (Acersaccharinum), 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 codominant in a successional southern hardwood forest. This is a broadly defined community and several seral and regional variants are known.* (**Edinger, 2014**)." This habitat represents a portion of the site that was previously cleared for landscaping activities (±2.13 acres), and has since experienced regrowth due to lack of regular mowing. A wide variety of species occupies this habitat, including Norway maple, red oak, sweet gum, black cherry, green ash, eastern red cedar, multiflora rose, wineberry, bittersweet, common milkweed, garlic mustard, Solomon's seal, and ferns. The habitat is generally of low value as a result of the previous disturbance associated with the area.

Mowed Lawn with Trees is defined as **"***residential, recreational, or commercial land in which the groundcover is dominated by clipped grasses and forbs, and it is shaded by at least 30% cover of trees. Ornamental and/or native shrubs may be present, usually with less than 50% cover. The groundcover is maintained by mowing. Characteristic animals include gray squirrel (Sciurus carolinensis), American robin (Turdus migratorius), mourning dove (Zenaida macroura), and mockingbird (Mimus polyglottos*)." This habitat classification best characterizes

the landscaped area on site as several areas of open lawn exist in conjunction with large ornamental trees, such as blue spruce, Norway maple, honey locust, and Eastern red cedar.

Table 2-3 presents a list of vegetation observed or expected on site given the habitats present; it is based upon field investigations conducted by NP&V. This list is not meant to be all-inclusive but was prepared as part of the field inspection to provide a detailed representation of what is found on site. Care was taken to identify any species that might be unusual for the area.

Table 2-3
PLANT SPECIES LIST

Trees		
	amur maple	*Acer pginnala [i]*
*	Norway maple	*Acer platanoides [i]*
*	red maple	*Acer rubrum*
*	silver maple	*Acer saccharinum*
	sugar maple	*Acer saccharum*
	tree-of-heaven	*Alianthus altissima [i]*
	gray birch	*Betula populifolia*
	white birch	*Beti]ula papyrifolia*
	pignut hickory	*Carya ovalis*
	mockernut hickory	*Carya tomentosa*
	silky dogwood	*Cornus amomum*
	flowering dogwood	*Cornus florida [p]*
	red-osier dogwood	*Cornus stolonifera*
	hawthorne	*Craetagus sp.*
	American beech	*Fagus gradifolia*
	black walnut	*Juglans nigra*
*	eastern red cedar	*Juniperus virginiana*
	magnolia	*Magnolia sp.*
	crab apple	*Malus coronaria[p]*
	common apple	*Malus pumila*
	mulberry	*Morus alba*
	pitch pine	*Pinus rigida*
	white pine	*Pinus strobus*
	eastern cottonwood	*Populus deltoides.*
	bigtooth aspen	*Populus grandidenta.*
*	black cherry	*Prunus serotina*
	choke cherry	*Prunus virginiana*
	white oak	*Quercus alba*
	scarlet oak	*Quercus coccinea*
	pin oak	*Quercus palustris*
	chestnut oak	*Quercus prinus*
*	red oak	*Quercus rubra*
	black oak	*Quercus velutina*
*	black locust	*Robinia pseudoacacia [i]*
	sassafrass	*Sassafras albidum*
*	yew	*Taxus floridana*
	hemlock	*Tsuga canadensis*

Shrubs and Vines

	bamboo (several "running" varieties)	*[i]*
	porcelain-berry	*Ampelopsis brevipedunculata [i]*
	Japanese barberry	*Berberis thunbergii [i]*
	boxwood	*Bux sempervirens*
	trumpet creeper	*Campsis radicans*
*	Oriental bittersweet	*Celastrus orbiculatus [i]*
	American bittersweet	*Celastrus scandens [p]*
	Chinese yam	*Dioscorea batatas [i]*
	silverberry	*Elaeagnus commutata*
	Russian olive	*Elaeagnus angustifolia [i]*
	autumn olive	*Elaeagnus umbellata [i]*
	winged eunonymous	*Euonymus alatus [i]*
	burningbush	*Euonymus atropurpureus*
	forsythia	*Forsythia sp.*
*	English ivy	*Hedera helix[i]*
	Japanese holly	*Ilex crenata 'Microphylla'*
	bush clover	*Lespedeza sp.*
	border privet	*Ligustrum obtusifolium [i]*
	California privet	*Ligustrum ovalifolium [i]*
	Chinese privet	*Ligustrum sinense [i]*
	European privet	*Ligustrum vulgare [i]*
	honeysuckle	*Lonicera spp.*
	Japanese honeysuckle	*Lonicera japonica [i]*
	fly honeysuckle	*Lonicera morrowii [i]*
	trumpet honeysuckle	*Lonicera sempervirens*
	tartarian honeysuckle	*Lonicera tatarica [i]*
	stagger-bush	*Lyonia mariana*
	bayberry	*Myrica pensylvanica* [p]
*	Virginia creeper	*Parthenocissus quinquefolia*
	mile-a-minute vine	*Polygonum perfoliatum [i]*
	kudzu	*Pueraria Montana var. lobata [i]*
	common buckthorn	*Rhamnus cathartica [i]*
	smooth buckthorn	*Rhamnus frangula [i]*
	pinkster bloom	*Rhododendron nudiflorum [p]*
	azaelea	*Rhododendron sp. [p, native only]*
	smooth sumac	*Rhus glabra*
	staghorn sumac	*Rhus typhina*
	currant	*Ribes lacustre*
*	multiflora rose	*Rosa multiflora [i]*
	brambles	*Rubus sps.*
	blackberry	*Rubus allegheniensis*
	common dewberry	*Rubus flagellaris*
*	wineberry	*Rubus phoenicolasius[i]*
	greenbriar	*Smilax rotundifolia*
*	nightshade	*Solanum sp.*
	Japanese spiraea	*Spiraea japonica [i]*
	poison-ivy	*Toxicodendron radicans*
	maple-leaved viburnum	*Viburnum acerifolium*
	grape	*Vitis spp.*

	myrtle	*Vinca minor[i]*
	Japanese wisteria	*Wisteria floribunda [i]*
	American wisteria	*Wisteria frutescens*
	Chinese wisteria	*Wisteria sinensis [i]*
Herbs and Groundcovers		
	yarrow	*Achillia millefolium*
	redtop	*Agrostis gigantea*
*	garlic mustard	*Alliaria petiolata [i]*
*	wild onion	*Allium stellatum*
	big bluestem grass	*Andropogon gerardii*
	little bluestem grass	*Andropogon scoparius.*
	pigweed	*Amaranthus sp.*
	ragweed	*Ambrosia artemisiifolia*
	dogbane	*Apocynum maculosa*
*	mugwort	*Artemisia vulgaris [i]*
*	common milkweed	*Asclepias syrica*
	asters	*Aster spp.*
	yellow rocket	*Barbarea vulgaris*
*	mustard	*Brassica sp.*
	sedge	*Carex sp.*
	spotted knapweed	*Centurea maculosa*
	common lamb’s quarters	*Chenopodium album*
	chicory	*Cichorium intybus*
*	enchanter’s nightshade	*Circacea quadrisulcata*
	thistle	*Cirsium sp.*
	crown vetch	*Coronilla varia*
	black swallow-wort	*Cynanchum louiseae [i]*
	broom	*Cytisus scoparius*
	poverty grass	*Danthonia spicata*
	Queen Anne's lace	*Daucus carota*
	cypress spurge	*Euphorbia cyparissias*
	common strawberry	*Fragaria virginiana*
	ground ivy	*Glechoma hederaceae*
	woodland sunflower	*Helianthus divaricatus*
	giant hogweed	*Heracleum mantegazzianum [i]*
	hawkweed	*Hieracium sp.*
	common St. Johnswort	*Hypericum perforatum*
	tall, perennial pepperweed	*Lepidium latifolium [i]*
	field pepperweed	*Lepidium campestre*
	butter-n-eggs	*Linaria vulgaris*
	rye grass	*Lolium sp.*
	white campion	*Lychnis alba*
	whorled loosestrife	*Lysimachia quadrifolia*
	Japanese stilt grass	*Microstegium vimineum [i]*
	Chinese silver grass, Eulalia	*Miscanthus sinensis [i]*
	evening primrose	*Oenethera biennis*
*	sensitive fern	*Onoclea sensibilis*
	sweet cicely	*Osmorhiza claytoni*
*	panic grass	*Panicum sp*

	common reed	*Phramites australis.[i]*
*	timothy	*Phleum pratense*
	poke weed	*Phytolacca americana*
	bluegrass	*Poa sp.*
*	Soloman's seal	*Polygonatum biflorum*
	plantain	*Plantago sp*
	cinquefoils	*Potentilla spp.*
	mock or Indian strawberry	*Potentilla indica*
	common buttercup	*Ranunculus acris*
	lesser celandine	*Ranunculus ficaria [i]*
	black-eyed Susan	*Rudbeckia hirta*
	dock	*Rumex crispus*
	bouncing bet	*Saponaria officinalis*
	green foxtail	*Setaria viridis*
*	goldenrod	*Solidago spp.*
	false Soloman's seal	*Smilacina racemosa*
*	common dandelion	*Taraxacum officinale*
	clover	*Trifolium sp.*
	common mullein	*Verbascum thapsus*
	cow vetch	*Vicia cracca*
	spring vetch	*Vicia satvia*
	sweet violet	*Viola blanda*
	cocklebur	*Xanthium chinense*

* Species identified on site during field visits by NPV Staff.
[e] NYS endangered species
[i] NYS invasive species (no legal status)
[p] NYS exploitably vulnerable protected plant

Wildlife

Relatively few wildlife species were observed on site, although it is expected that the property should support a number of wildlife species common to suburban and forested habitats, particularly those that are more tolerant of human activity. Species that avoid humans, and/or those that are sensitive to development may also be present on site, though in lesser numbers.

Avian species which might be expected on the property include a variety of woodpeckers, wrens, titmice, nuthatches, kinglets, thrushes, creepers, flycatchers, swallows, warblers, corvids, thrashers, orioles and blackbirds, doves, starling, grosbeaks, finches, towhees, juncos, and sparrows. During the warmer months, a variety of warblers may also migrate into the area. A limited number of game birds such as the ruffed grouse and bobwhite may also be present, and owls and raptors may use the site for hunting and limited numbers may breed in the surrounding areas. Data from the 2005 Breeding Bird Survey for the census block which contains the site was obtained from the New York State Department of Environmental Conservation (**Appendix A-8**). This study surveyed the entire State by 25 km² census blocks over a five-year period (2000 to 2004) to determine the bird species which breed within the State. Most of the species listed by the DEC breeding bird survey are likely to be found on site, with the exception of species common to habitats not found on site. No unique species are expected given the site development, adjacent roadway and surrounding residential development resulting in limited off

site natural habitat. **Table 2-4** is a list of the bird species observed or expected on site given the habitats present and is also based upon field investigations conducted by NP&V.

Table 2-4
BIRD SPECIES LIST

* gray catbird	*Dumetella carolinensis*
red-winged blackbird	*Agelaius phoeniceus*
* black-capped chickadee	*Parus atricapillus*
common bobwhite	*Colinus irginainuse*
indigo bunting	*Passerina cyanea*
* Northern cardinal	*Cardinalis cardinalis*
brown-headed cowbird	*Molothrus ater*
brown creeper	*Certhia familiaris*
* American crow	*Corvus brachyrhynchos*
yellow-billed cuckoo	*Coccyzus americanus*
black-billed cuckoo	*Coccyzus americanus*
* mourning dove	*Zenaida macroura*
American black duck	*Anas rubripes*
American goldfinch	*Carduelis tristis*
house finch	*Carpodacus mexicanus*
purple finch	*Carpodacus purpureus*
Northern flicker	*Colaptus auratus*
least flycatcher	*Empidonax minimus*
willow flycatcher	*Empidonax trailii*
great-crested flycatcher	*Myiarchus crinitus*
blue-grey gnatcatcher	*Polioptila caerulea*
common grackle	*Quiscalus quiscula*
ring-necked pheasant	*Phasianus colchicus*
rose-breasted grosbeak	*Pheucticus ludovicianus*
red-tailed hawk	*Buteo jamaicensis*
* blue jay	*Cyanocitta cristatta*
Northern (dark-eyed) junco	*Junco hyemalis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern phoebe	*Sayornix p hoebe*
golden-crowned kinglet	*Regulus satrapa*
ruby-crowned kinglet	*Regulus calendula*
bobolink	*Dolichonyx oryzivorys*
* Northern mockingbird	*Mimus polyglottos*
white-breasted nuthatch	*Sitta carolinensis*
northern oriole	*Icterus galbula*
ovenbird	*Seiurus aurocapillus*
common nighthawk	*Chordeiles minor [s]*
Eastern screech owl	*Otus asio*
barred owl	*Strix varia*
* American robin	*Turdus migratorius*
American redstart	*Setophaga ruticilla*
* chipping sparrow	*Spizella passerina*
swamp sparrow	*Melospiza georgiana*
white-crowned sparrow	*Zonotrichia leucophrys*

fox sparrow	*Passerella iliaca*
house sparrow	*Passer domesticus*
* song sparrow	*Melospiza melodia*
white-throated sparrow	*Zonotrichia albicollis*
European starling	*Sturnus vulgaris*
barn swallow	*Hirundo rustica*
rough-winged swallow	*Stelgidopteryx ruficollis*
tree swallow	*Tachycineat bicolor*
purple martin	*Progne subis*
chimney swift	*Chaetura pelagica*
scarlet tanager	*Piranga olivacea*
brown thrasher	*Toxostoma rufum*
Eastern towhee	*Pipilo erythrophathalmus*
Eastern bluebird	*Sialia sialis*
hermit thrush	*Catharus guttatus*
wood thrush	*Hylocichla mustelina*
tufted titmouse	*Parus bicolor*
veery	*Catharus fuscescens*
red-eyed vireo	*Vireo olivaceus*
white-eyed vireo	*Vireo griseus*
blue-winged warbler	*Vermivora pinus*
black-and-white warbler	*Mniotilta varia*
black-throated blue warbler	*Dendroica caerulescens*
prairie warbler	*Setophaga discolor*
yellow-rumped warbler	*Dendroica coronata*
yellow warbler	*Dendrocica petchia*
Carolina wren	*Thryothorus ludovicianus*
horned lark	*Eremophila alpestris*
killdeer	*Charadrius vociferus*
cedar waxwing	*Bombycilla cedrorum*
American woodcock	*Philhela minor*
Eastern wood-peewee	*Contopus virens*
downy woodpecker	*Picoides pubescens*
hairy woodpecker	*Picoides villosus*
red-bellied woodpecker	*Melanerpes carolinus*
yellow bellied sapsucker	*Sphyrapicus varius*
house wren	*Troglodytes aedon*
common yellowthroat	*Geothlypis trichas*

[s] Special concern species
* Species identified on site during field visits by NP&V Staff.

A variety of small mammals would also be expected and include the eastern chipmunk, house mouse, white-footed mouse, Norway rat, eastern mole, short-tailed shrew, masked shrew, and meadow vole. Of the larger mammals, the Virginia opossum, fox and raccoon and white-tailed deer would also be expected to utilize the property, although in somewhat lesser numbers than smaller mammals. Several bat species may also be present on site and in the general area. Species identified during that survey are included in **Table 2-5** below, and further detail regarding the survey methodology is provided in **Section 2.3.2** and in **Appendix A-9**.

Table 2-5
MAMMAL SPECIES LIST

big-brown bat	*Eptesicus fuscus*
hoary bat	*Lasiurus borealis*
Keen's bat	*Myotis keenii*
little-brown bat	*Myotis lucifugus*
red bat	*Lasiurus borealis*
Eastern pipistrelle	*Pipistrellus subflavus*
silver-haired bat	*Lasionycteris noctivagans*
Eastern chipmunk	*Tamis striatus*
Eastern cottontail	*Sylvilagus floridanus*
red fox	*Vulpes vulpes*
Eastern mole	*Scalopus aquaticus*
house mouse	*Mus musculus*
white-footed mouse	*Peromyscus leucopus*
Virginia opossum	*Didelphis virginiana*
raccoon	*Procyon lotor*
Norway rat	*Rattus norvegicus*
masked shrew	*Sorex cinereus*
short-tailed shrew	*Blarina breuicauda*
* Eastern gray squirrel	*Sciurus carolinensis*
meadow vole	*Microtus pennsylvanicus*
white-tailed deer	*Odocoileus virginianus*

*species observed by NP&V staff

The site exhibits a terrestrial habitat. The spadefoot toad is expected, as it is found in upland habitats, and the Fowler's toad might also be present (see **Table 2-6**). The red-backed salamander is the most common salamander on Long Island, and is highly terrestrial. It prefers a dry woodland habitat with plenty of leaf litter and fallen logs to forage for insects **(Bishop, 1943)**, and generally lays its eggs in clumps on damp logs or moss (**Conant and Collins, 1991**). The most likely reptiles to be present on site are the colubrid snakes, including the eastern garter snake, eastern hognose snake, worm snake, black racer and eastern milk snake. The only turtle species common to terrestrial habitats on Long Island is the eastern box turtle, which requires very little water **(Obst, undated)**.

Rare and Endangered Species/Unique Habitat Potential

A site visit was conducted by NP&V staff on November 17th, 2016. No rare, threatened or endangered plants or animal species or evidence of any such species were observed on site. The site is unlikely to have any rare and endangered species or unique habitat as the site was previously cleared as indicated by historic photography and discussed in Vegetation section. Furthermore, a review of NYSDEC Environmental Resource Mapper determined that no significant natural communities, rare, threatened or endangered plants or animal species are expected to occur on the project site.

Table 2-6
AMPHIBIAN & REPTILE SPECIES LIST

Fowler's Toad	*Bufo woodhousei fowleri*
spring peeper	*Hyla crucifer*
common gray treefrog	*Hyla versicolor*
red-backed salamander	*Plethodon cinereus cinereus*
wood frog	*Rana sylvatica*
eastern spadefoot toad	*Scaphiopus holbrooki*
common garter snake	*Thamnophis sirtalis*
eastern box turtle	*Terrapene Carolina [s]*
eastern hognose snake	*Heterodon platyrhinos [s]*
eastern milk snake	*Lampropeltis triangulum*

[s] NYS special concern species
[e] NYS endangered species
* Species identified on site during field visits by NPV Staff.

No rare, threatened or endangered plants were observed on site. The New York Natural Heritage Program (NHP; ECL 9-1503) was contacted to determine if there is any record of rare plants, habitats or wildlife on or within the vicinity of the project site. The NHP listed three historical records of known occurrences of rare or state-listed species on or in the vicinity of the subject site; one avian and two plant species (see **Appendix A-10**). No endangered species were encountered during NP&V's inspections of the property. Furthermore, the project site lacks the habitats most commonly associated with the threatened and endangered species reported by NHP. The threatened sedge wren (*Cisothorus platensis*) typically occurs in moist meadows and brackish marshes which were not found on the project site. Spahgnum swamps and/or dry woods, the habitat types associated with the endangered Colins' sedge (*Carex collinsii*) and endangered white milkweed (*Asclepsia variegata*) were also not detected on-site.

2.3.2 Anticipated Impacts

<u>Vegetation</u>
The impacts to the ecological resources of a site are generally a direct result of clearing of natural vegetation, increase in human activity and associated wildlife stressors, and the resulting loss and fragmentation of wildlife habitat. As noted, the site was previously cleared and is now established in successional vegetation and landscaped area. The majority of the development area is currently landscaped area, with the exception of approximately 2.13 acres of successional wooded area. It is anticipated that under the proposed development, the entire site will be cleared including the 2.13 acres of Successional Southern Hardwood forest. The site does not contain unique habitat and revegetation through landscaping will re-establish habitat on the site.

The change in habitat quantities is listed in **Table 2-7**. As illustrated in the table, the proposed development will remove all of the successional vegetation and convert it to Landscaped, Paved/Impervious and Building. This will result in an alteration habitat on the site. It is further

noted that the loss of habitat on this site is of marginal value due to the previous disturbance associated with the site.

Table 2-7
SITE COVERAGE/HABITAT QUANTITIES
Existing Conditions & Proposed Project

Coverage/Habitat Type	**Existing Conditions**		**Proposed Project**		**Change** (ac)
	Coverage (acres)	Percent	Coverage (acres)	Percent	
Successional Southern Hardwood	2.13	49.77%	0.00	0.00%	-2.13
Landscaped (Mowed Lawn with Trees)	1.70	39.72%	2.55	59.58%	0.85
Paved/Impervious	0.23	5.37%	1.24	28.97%	1.01
Building	0.22	5.14%	0.49	11.45%	0.27
TOTAL	**4.28**	**100.00%**	**30.43**	**100.00%**	**---**

As previously stated, no rare and endangered species or unique habitats were observed during site visits. It is not anticipated to contain any rare, threatened or endangered plant species. As such, no impact to rare, threatened or endangered plant species are anticipated as a result of the proposed project.

Wildlife

The majority of habitat on the property is dominated by a Successional Southern Hardwood Forest. The property is not expected to act as a refuge for rare native flora or fauna, but does contain a small population of local birds and mammals, such as blue jay, chickadee and eastern gray squirrels. The proposed project will favor those wildlife species that prefer edge and suburban habitats and those that are tolerant of human activity. Most of the species expected on the property are tolerant of human activity. It is also expected that particular species of wildlife (particularly avian species) will migrate to undisturbed areas adjacent or near the site as a result of development.

In the short term, lands adjacent to the property will experience an increase in the abundance of some wildlife populations due to displacement of individuals by the construction phase of the proposed project. Mobile species and particularly large mammals such as fox and deer (if present) would be expected to find suitable habitat west and north of the site where larger areas of natural open space currently remain. Ultimately, competition with both conspecifics and other species already utilizing the resources of the surrounding lands would be expected to result in a net decrease in population size for most species.

No rare or endangered wildlife species are expected on the site given the habitats present. Due to the low potential presence of these species on site, impacts to rare, threatened or endangered species are not anticipated.

2.3.3 Proposed Mitigation

- Native plant species that provide food and shelter to wildlife will be utilized in some of the landscaped areas.
- Disturbance will be minimized to the maximum extent practicable, including delineating tree-clearing limits at the site prior to construction in order to avoid inadvertent clearing.
- No known invasive plant species will be utilized, including those species specifically those species listed in Nassau County Local Law 22-2009 and 6 NYCRR Part 575.

SECTION 3.0

HUMAN ENVIRONMENTAL RESOURCES

3.0 HUMAN ENVIRONMENTAL RESOURCES

3.1 Land Use, Zoning, and Plans

3.1.1 Existing Conditions

Land Use

Figure 3-1 depicts the land use categories of properties adjacent to the project site, as well as of sites in the immediate vicinity of the project site. As can be seen, the land use category of the site is presently "residential (vacant)." Following are the land uses of the properties abutting the site and in the vicinity:

Direction	Abutting Properties	In the Vicinity
to the north	Transportation	Residential
to the east	Commercial, Residential	Residential
to the south	Residential	Commercial, Residential
to the west	Residential	Residential

The pattern of land uses in the vicinity is dominated by Residential development in all directions from the site, though Commercial sites are found along the North Phillips Avenue corridor and the NYS Route 27A corridor near the site.

Zoning

Figure 3-2 depicts the zoning designations of properties adjacent to the project site, as well as of sites in the immediate vicinity of the project site. As can be seen, the eastern portion of the site is zoned VB, while the western portion is zoned R-20. Following are the zoning classifications of the properties abutting the site and in the vicinity:

Direction	Abutting Properties	In the Vicinity
to the north	VB	CR-40, R-20
to the east	VB	LI-40, HB, MF-44
to the south	VB, R-40	R-40
to the west	R-20	R-20

Generally, the local zoning pattern reflects the land use pattern in the vicinity, in that commercial zones (e.g., the VB and HB districts) dominate along North Phillips Avenue between the LIRR station and NYS Route 27A, with residential districts characterized by increasingly-lower densities radiating outward from this intersection.

Land Use Plans

Town of Southampton Comprehensive Plan Update (1999) - The following description of the genesis, reasons for, and preparation of the Town Comprehensive Plan Update has been taken from that document.

The Town's 1999 Comprehensive Plan Update (the 1999 Plan) reviewed the history of Southampton, demographic and land use trends, the Town's natural and historic resources, economic factors, transportation issues and other relevant factors. The Plan is organized through technical reports, plan and implementation strategies, and strategic and capital improvements.

The 1999 Plan outlined four key visions and goals for the Town:

- The Town will protect its valuable natural, historic and scenic resources;
- The Town will enhance the community through a variety of public facilities and programs designed to ensure that Southampton can meet the fullest range of needs for its entire community today and tomorrow (including recreation, affordable housing, etc.)
- The Town will maintain the existing nature of the local economy, while working to enhance the diversity of the economy for the future, particularly in the areas of tourism and the second home industry, by protecting the Town's character and quality of place; and
- The Town will create more choices for residents in how they travel to and through Town, and will create a transportation system that works in tandem with land use to preserve a landscape of rural roads with distinct village and hamlet centers.

Since the adoption of the original Master Plan in 1970, land use planning has been affected by the adoption of the Central Pine Barrens (CPB) Plan and the creation of a regional authority to oversee implementation for an area, which covers approximately 30,000 acres within Southampton Town. Due to the adoption of these regulations, the Town is faced with shifting of growth for those areas designated as Core Preservation Areas. The protection and preservation of these lands, and implementation of the CPB Plan, was listed as a specific goal in the chapter covering the Town's natural resources. The 1999 Plan points out, however, that some of the Residential Receiving Area Districts are in conflict with the Town's agricultural and preservation goals and scenic corridor recommendations. The 1999 Plan identifies potential strategies for the protection of natural resources and open space, such as cluster development, the use of transfer of development rights, planned residential development and scenic resource protection strategies, such as overlay districts.

The 1999 Plan addresses the importance of preserving scenic resources, and the goal of providing an interconnected system of greenways, walkways and bicycle paths. It is suggested that community facilities be concentrated in village and hamlet centers.

Eastport/Speonk/Remsenburg/Westhampton Study (September 2004) - The following description of the Eastport/Speonk/Remsenburg/Westhampton hamlet study has been taken from the Introduction of that document.

The Town of Southampton has a long and comprehensive history of land use planning that has formed the foundation that this current planning effort builds upon. The hamlets of Speonk-Remsenburg, Eastport and Westhampton (the Study Area) have histories dating back to the very formation of the Town. These hamlet areas, which form the southwestern corner of Southampton Town, act as a gateway to the eastern end of Long Island and the South Fork. This Area-Wide Planning Study marks the first time that a concentrated planning effort has been focused on all of these hamlet areas at once. While each hamlet has its own distinct identity and background, they are tied together by four main roadways- Sunrise Highway, Old Country Road, Montauk Highway and South Country Road (Main Street) – which form scenic corridors linking the hamlet communities.

The southwestern corner of Southampton Town is facing significant development pressures and the challenges of growth. Concerns have been ongoing as reflected in the following excerpt from the 1992 Speonk-Remsenburg Hamlet Study:

> *In the past twenty years, the year-round population of Southampton has more than doubled, as has the summer population. This has meant more traffic, more demand on Town services and schools, more water consumed and sewage produced, a decreasing supply of un-subdivided open space, unavailable affordable housing, shifts in commercial development away from historic hamlet centers, and a growing concern for the future character of the Town.*

Though other East End towns in Suffolk County and other hamlets in Southampton Town face the same issues, each community is unique. Each hamlet within the Study Area must recognize its attributes and summon collective resources to work in partnership with decision-makers in local government to sustain itself as a community and to maintain the special character that makes the hamlet desirable for year-round living and attractive for seasonal residents and visitors.

The Study Area's proximity to ocean beaches and countryside ambiance has been factors in the evolution of the economic base from farming to tourism, typically in the form of summer homes and resort accommodations for affluent persons whose primary residence is the New York metropolitan area. This transformation and the related rise in real estate values have endangered the continuation of an attractive rural quality. Today, only one duck farm remains while a few hundred acres of nursery stock and small family farms sprinkle the Old Country Road corridor in Westhampton, Speonk and Eastport area. Where cow pastures, chicken coops, and duck farm buildings once dominated south of the Montauk Highway throughout the hamlets of Westhampton, Speonk-Remsenburg, and Eastport, there now exist residential subdivisions of single family homes, many palatial, and having individual market values in excess of 1.5 million dollars. Once affordable homes and building lots are now well out of reach of the children and grandchildren of community residents, due primarily to a dramatic appreciation in the market value of the underlying land and the principles of limited supply and substantial demand.

Gentrification has occurred in much of the area along with the shift in the nature of the local economy. No longer is the area's economic base attached to farming and "mom & pop" stores. Instead, local residents commute to employment centers in western Suffolk or Nassau County; work for local agencies (e.g., public schools, Village government, Town government, County government); are employed at Southampton Hospital or elsewhere in the health care professions; or are involved in real estate, construction and related professional services/trades, home improvement or home service industries (e.g., landscaping, cleaning services). Thus, at this time, the economic base of the community remains primarily linked to the continued desirability of the area for summer residents to maintain vacation homes in the Hamptons.

Protecting and enhancing "Community Character" is a central theme that has resonated with area residents with respect to preserving open space, enhancing pedestrian-oriented circulation, and focusing on appropriately scaled development. It is integral to the public health, safety and welfare of the community- in terms of its positive impact on the quality of life of area residents and the economic well-being of the township as a whole.

The southwestern-most portion of the Town is a critical gateway to the Town of Southampton, with four important corridors: the Sunrise Highway scenic corridor through the Pine Barrens region; the Old Country Road scenic corridors dotted with agricultural and woodland attributes; and the Montauk Highway and South Country Road corridor dotted with historic heritage and country ambiance. All

of these corridors must maintain scenic qualities, rural charm, and attributes central to eco-tourism, agri-tourism, and historic tourism ambiance in the community's best interest.

What can a community do to protect its quality of life, community character, and its natural, scenic, and historic resources? How can a community shape and direct growth, and plan for future needs?

There are a variety of tools and techniques that can be marshaled in a community to maintain or enhance environmental resources, manage growth and development, sustain the local economy, provide for community recreation and housing needs, and preserve farmland and open space. Like many other complex land use problems, it is unlikely that only one technique will adequately protect environmental resources or meet the needs of the hamlets of Eastport, Speonk-Remsenburg, and Westhampton. Rather, a combination of techniques should be carefully evaluated and implemented to meet the community planning objectives and policy needs of the particular area.

Prior Planning Studies
This Area-Wide Planning Study builds upon the 1970 Town Master Plan, Master Plan Updates do the 1980s, a prior Hamlet Study for Speonk-Remsenburg (1992) and the 1999 Comprehensive Plan, as well as other related planning studies, including the Central Pine Barrens Comprehensive Land Use Plan, Westhampton Planned Development District Study, and the Suffolk County Smart Growth Policy Plan. It serves as a guiding document developed from an investigation of existing conditions, land use patterns and demographic trends as well as from the vision that local citizens have for their community, as expressed through a comprehensive public involvement process. The underling purpose of such planning efforts is to guide decision makers concerning land use and zoning for the benefit of the entire community. Once adopted as an update to the Town-wide Comprehensive Plan, this Area-Wide Plan serves as the "blueprint" or basis for all future planning, zoning, and land use decisions.

As an addendum to the 1999 Plan, the hamlet study provided a series of Goals and Objectives Statements that provide a guideline for issues related to these hamlets. The following represent those Goals and Objectives that pertain to the project and/or to the project site:

Goals and Objectives Statements
This Area Study Report attempts to establish preservation priorities, meaningfully address the pressures being applied to the Study Area, outline issues and opportunities, and recommend strategies to protect the community character of this part of the Town, all in an effort to effectively address the concerns raised by area residents and business owners.

The following goal and objective statements provide a guideline for issues relating to the Study Area but may often be more appropriately addressed on a comprehensive Town-Wide basis.

COMMUNITY CHARACTER GOALS: Maintain community character and high quality of life. Ensure that new development respects and is compatible with existing residential neighborhoods and commercial areas. The communities' critical environmental resources, such as woodlands, wetlands, waterbodies, greenways, remaining agricultural properties (farms and nurseries), scenic vistas, community gateways and the Old Country Road scenic corridor must be protected from incompatible development. Maintain overall low density and small town setting.

Objectives:

- To protect environmental resources, in particular: critical recharge areas and aquifer-sensitive areas of the Central Pine Barrens region; wetlands and areas important to the health of the South Shore Estuary; and areas sensitive for wildlife and forest habitat preservation.

HOUSING GOALS: Purchase priority lands identified for Community Preservation Fund and utilize zoning tools to ensure new construction is compatible with existing residential neighborhoods. Ensure housing stock diversity in all hamlets and availability within the means of local residents and their offspring, senior citizens, young professionals, and local trades/service workers. Ensure that the scale, design, location, population density, and dispersion of affordable housing and senior housing are appropriate, and consider potential impacts on school, fire and ambulance districts.

Objectives:

- Concentrate community workforce housing and commercial rental housing proximate to public transit and traditional hamlet shopping areas.
- Address blight and substandard housing by directing private sector resources (i.e., the development community) and public sector resources (i.e. Community Development/Community Renewal efforts and the Town Housing Authority) to identified sites that present redevelopment opportunities for mixed-income housing providing community benefits and meeting other community planning objectives.
- Support not-for-profit and for-profit housing developments of appropriate scale, design, density, location, which appropriately address community character concerns and other community planning needs.

HAMLET CENTER AND ECONOMIC DEVELOPMENT GOALS: Concentrate retail/commercial development at existing and traditional hamlet business areas. Integrate mixed uses, including residential, for economic vitality, enhanced security, and provision of affordable housing in keeping with Smart Growth principles. Incorporate pedestrian-friendly amenities for a walkable hamlet business center. Provide for adequate industrial zoning and tax-ratable commercial development in appropriate locations. Protect small-town character and accentuate hamlet heritage areas within the community. Build on historic attributes of hamlet centers, including existing buildings, structures, landscapes, and new designs that emulate historic small-town character, as well as enhancing eco-tourism attractions and agri-tourism venues and vistas.

Objectives:

- Use Smart Growth principles including providing for a range of housing types, with denser development to be concentrated closer to hamlet centers where services exist and there is access to public transit. Encourage mixed-uses in hamlet centers and transition zones.
- Encourage redevelopment of disturbed sites, rather than new development of disturbance, and extensive clearing of wooded land tracts.

TRANSPORTATION GOALS: Address pedestrian safety issues throughout the Study Area. Encourage intermodal connections, use of public transit and bicycle travel routes.

Objectives:

- To provide additional transit service for seniors, beachgoers, and students and better coordinate multi-modal use of the Study Area train stations.

DESIGN GOALS: Implement appropriate design standards for individual hamlet center and commercial/mixed use core areas. Utilize existing historically significant precedents as guidelines for appropriate design, scale and materials. Consider "streetscape" features such as lighting and street trees to enhance a "sense of place" for hamlet centers.

Objective:

- To reach consensus within individual hamlet areas on appropriate design-related issues, such as design treatments for commercial, residential and mixed-use development/redevelopment within a proximate to the hamlet core areas. Additional design related items for consideration would include decorative lighting, sidewalk treatments, street furniture (e.g., benches, clocks, planters and trash cans) and pedestrian crosswalks in an effort to create more intimate, pedestrian-oriented hamlet center (commercial/mixed-use core) areas, such as in Speonk at the intersection of Montauk Highway and North Phillips Avenue.

3.1.2 Anticipated Impacts

Land Use

As the site has been used for residential land use, and the proposed project is primarily also a residential use (with additional complementary commercial use present), there would be no significant change in the land use type of the site, or to the pattern of land uses in the area. It is acknowledged that the amount of residential development in the vicinity would be increased by the proposed project, but the amount of commercial space in the vicinity would not be substantially increased. Based on Land Use Plans noted in **Section 3.1.1**, the hamlet location of the subject site supports the density and type of development, particularly in view of the provision of needed workforce housing. No significant adverse impact on land use is expected as a result of the project.

Zoning

The proposed project will result in a change in the zoning category of the central and western portions of the site, from R-20 and VB, to MF-44. Specifically, as listed in **Table 1-1**, all of the area now zoned R-20, with the westerly portion of the site's current VB-zoned land, will be rezoned to MF-44. The easterly portion of the site's VB-zoned area will remain in that zoning category.

These zone changes will change the pattern of zoning in the vicinity, by creating MF-44 zoned land on the western side of North Phillips Avenue, where it is not presently found locally. However, this would represent only an incremental impact on the local zoning pattern, as this district is already not only represented in the area, it is associated with VB-zoned land fronting North Phillips Avenue, in a mirror-image arrangement of the proposed project.

Tables 3-1a and 3-1b list the various building bulk and setback requirements of the VB and MF-44 zoning districts, along with the pertinent quantity of the proposed project, to indicate whether and to what degree the project either conforms or fails to conform. As can be seen, the proposed project will conform to all the applicable requirements of the respective district.

Table 3-1a
CONFORMANCE TO BULK, HEIGHT & SETBACK REQUIREMENTS
MF-44 Zoning District

Parameter	Required	Provided
Town Zoning Code Section 330-11		
Lot Area, Min. (SF)	44,000	153,170
Lot Area, per Dwelling Unit, Min. (SF)	11,000	--- (1)
Number of Units, Max.	46	26
Lot Coverage, Main & Accessory Bldgs, Max. (%)	20	9.00
Lot Width, Min. (feet)	200	>200
Height, Max. (stories/feet)	2/32	2/32
Yards, Principle Building, Min. (feet)	---	---
Front	50	n/a
Side, for One	50	50/64.9/61.7
Side, for Both, Interior Lot	100	176.6
Rear	50	176.6
Yards, Accessory (feet)	---	---
Distance from Street, Min.	60	526.3
Distance from Side & Rear Lot Lines, Min.	20	51.7

(1) 12 units/acre maximum pursuant to Town Code §330-8; increased residential density to establish low- and lower middle-income housing inventory (4.279 aces X 12 units/acre = 51.35 units maximum).

Table 3-1b
CONFORMANCE TO BULK, HEIGHT & SETBACK REQUIREMENTS
VB Zoning District

Parameter	Required	Provided
Town Zoning Code Section 330-11		
Lot Area, Min. (SF)	None	33,234
Lot Area, per Dwelling Unit, Min. (SF)	None	---
Number of Units, Max.	2	12
Lot Coverage, Main & Accessory Bldgs, Max. (%)	70	21.3
Lot Width, Min. (feet)	20	>20
Height, Max. (stories/feet)	2/35	2/35
Yards, Principle Building, Min. (feet)	---	---
Front	10	10
Side, for One	None	10/28.5
Side, for Both, Interior Lot	15	38.5
Rear	35	18.2
Yards, Accessory (feet)	---	---
Distance from Street, Min.	20	n/a
Distance from Side & Rear Lot Lines, Min.	35	n/a

Land Use Plans

Town of Southampton Comprehensive Plan Update (1999) - The following discusses how the proposed project supports the visions and goals of the 1999 Plan.

- The Town will protect its valuable natural, historic and scenic resources.
  The proposed project will not remove any significant natural vegetation on the project site, will not remove any significant historic resources on the site (the six existing structures are not significant cultural resources, and are in a dilapidated condition), and the site is not a scenic resource for the community.

- The Town will enhance the community through a variety of public facilities and programs designed to ensure that Southampton can meet the fullest range of needs for its entire community today and tomorrow (including recreation, affordable housing, etc.).
  The proposed project has been specifically designed and intended to address the Town-established need for workforce housing.

- The Town will maintain the existing nature of the local economy, while working to enhance the diversity of the economy for the future, particularly in the areas of tourism and the second home industry, by protecting the Town's character and quality of place.
  The project is comprised of two complementary land uses that will support the local economy, by incrementally increasing the base of potential customers for local businesses, while simultaneously increasing the inventory of community-scale businesses.

- The Town will create more choices for residents in how they travel to and through Town, and will create a transportation system that works in tandem with land use to preserve a landscape of rural roads with distinct village and hamlet centers.
  By its location within easy walking distance of both a major regional transportation artery (the LIRR) and a local transit route (MTA-Long Island Bus Route 90), the project will encourage the use of these transportation modes for both the site's residents and potential customers of the site's businesses.

Eastport/Speonk/Remsenburg/Westhampton Study (September 2004) - The following discusses how the proposed project supports the goals and objectives of the hamlet study for Speonk.

COMMUNITY CHARACTER

- The proposed project has been designed specifically to be based upon and to enhance the character of the community in its combination of uses, yields and architecture. In this way, it is intended that the project would maintain the character of its community and thereby its high quality of life.
- The project is a mixed-use development featuring workforce residences and community-scale commercial spaces, which complement those of the surrounding neighborhood.
- The scenic resources of the community will be enhanced by the project, in that the dilapidated structures and unkempt vegetation will be removed, to be replaced with architecturally-attractive buildings in a well-landscaped setting.
- The proposed project will produce six two-story structures well-separated on the site in a well-landscaped setting, with architectural treatment reminiscent of the small-town aesthetic.
- The project includes a new, on-site advanced wastewater treatment facility (operating using BESST technology), to provide an enhanced level of protection to groundwater quality.

HOUSING

- While the project does not include any use of CPF funding, it will utilize the flexibility inherent in the Town Zoning Code to enable development of an appropriate number of workforce residences with commercial spaces, to add to the fabric of the community.
- The project is intended and designed to meet the needs and budgets of workforce households, to provide high quality housing at a price affordable to local residents and their offspring, young professionals, and local trades/service workers. It is well-located with respect to public transit and easy access to nearby traditional hamlet shopping areas, and will not unduly burden school, police, fire, ambulance or other community services.
- The project is the result of a teaming of private and public funding resources (i.e. the TSHA) to redevelop a previously-developed and impacted property at a location that is well-suited for a mixed-use workforce project that also meets community planning objectives.

HAMLET CENTER AND ECONOMIC DEVELOPMENT

- The proposed mixed-use workforce housing project is located near the heart of the existing Speonk hamlet center, at the northerly edge of the North Phillips Avenue commercial corridor. Such a location conforms to the appropriate tenets of the Smart Growth concept.
- The project incorporates pedestrian-friendly amenities such as new sidewalks along its eastern frontage.
- The project will incrementally increase the amount of tax-ratable commercial development in an appropriate location.
- The project's density, siting and architectural treatment are all expected to support the small-town character and heritage of this portion of Speonk hamlet.
- The project is based upon the Smart Growth principles of locating denser development close to hamlet centers where services exist and there is easy pedestrian access to public transit. and of placing mixed-uses in hamlet centers.
- The project will redevelop a disturbed, previously-developed site, and will minimize the loss of undisturbed vegetation.

TRANSPORTATION

- The project site is located within safe and easy walking distance of not only the Speonk LIRR Station and MTA-Long Island Bus Route 90, but also of other commercial sites in the north Phillips Avenue commercial corridor.

DESIGN

- All of the proposed buildings will be designed in an architectural theme that reflects the prevailing architecture of the Speonk community, including any "street furniture' such as lighting fixtures, benches, signage, landscaping, clocks, planters, trash receptacles, etc. In this way, a "sense of place" would be established for this component of the overall Speonk hamlet center area.

The project is consistent with the goals and objectives of the applicable land use plans. The project is well placed in a hamlet setting, provides site design in keeping with this aesthetic, takes advantage of intermodal transportation opportunities and provides workforce housing. The redevelopment of the site will remove the current unattractive conditions, and restore the site to productive re-use that will create jobs, revenues, housing and consumer base on the community.

3.1.3 Proposed Mitigation

- As no significant impact with respect to the change in the land use type of the site, or to the pattern of land uses in the vicinity are expected, no mitigation measures with respect land uses are necessary or proposed.
- As the project will conform to all the requirements of the MF-44 and/or VB zoning districts, no impact with respect to nonconformance will occur, and no mitigation measures in this regard are necessary or proposed.
- While the project will change the zoning of a portion of the site from R-20 to MF-44, thereby introducing a zoning district to the western side of the North Phillips Avenue commercial corridor, no significant adverse impact to the pattern of zoning is expected, as this district is already present nearby, across North Phillips Avenue to the east. Therefore, no mitigation is necessary or proposed.
- The proposed project conforms to the applicable visions and goals of the 1999 Plan, as well as to the applicable goals and objectives of the Speonk Hamlet Study. Thus, no additional mitigation in this regard is necessary or proposed.

3.2 Community Character

3.2.1 Existing Conditions

As can be seen upon review of the photographs in **Appendix A-2**, the site is presently a generally unmaintained residential property, providing a total of six residences, of which only one is presently occupied. The remaining five structures are in a dilapidated condition.

Photographs taken depicting the character of the north-south North Phillips Avenue corridor show a low-density, rural area, with small structures placed well-back from the roadway and substantial landscaping and natural vegetation interspersed along the roadside.

3.2.2 Anticipated Impacts

The proposed project will remove all of the existing residences on the site, as well as all of the unkempt, overgrown vegetation that presently grows on it. This action would substantially improve the appearance of the site for passersby and the neighborhood by removing this unattractive and unsafe condition.

Figures 1-2a & 1-2b present artist renderings of the two commercial/residential structures planned along the west side of North Phillips Avenue; these figures differ only in the general color of the façade materials to be used. These figures depict the general architectural style of the project's buildings, which would reflect the rural character of the area as embodied in the project's built environment. The proposed project will substantially improve the aesthetic character of not only the subject site, but of the neighborhood as a whole.

3.2.3 Proposed Mitigation

- As the proposed project will substantially improve the appearance of the subject site, there would be no adverse impact on the character of the community; as such, no additional mitigation measures are necessary or proposed.

3.3 Community Services

Figure 3-4 shows the locations of the public schools in the neighborhood, **Figure 3-5** is a map depicting the location of public safety and security-related services, **Figure 3-6** depicts water supply services in the area, **Figure 3-7** shows the locations of nearby park and recreational sites, and **Figure 3-8** shows the presence and local route of the public transportation services in the area.

For this application, letters were sent to the community service providers, soliciting information on services available and currently provided, as well as provider input regarding concerns that the proposed project may adversely affect each service provider's ability to provide services, whether extensions of services would be necessary to provide services, and whether the ability to maintain existing service levels would be impaired. **Appendix B** contains these letters, with the service provider response letters, if received.

3.3.1 Existing Conditions

<u>Public Schools</u>
The project site is within the Remsenburg-Speonk UFSD. According to the district's website (http://rsufsd.weebly.com), the Remsenburg-Speonk UFSD has only one school: the Remsenburg-Speonk Elementary School, serving grades K-6. Middle School and High School services are provided cooperatively at neighboring school district facilities. The following has been taken from the district's response letter:

> First, you inquire as to the enrollment of each school within the RSUFSD. Please be advised that the District is a stand-along kindergarten through sixth grade school district with only one building, which presently is educating approximately 138 students for the 2016-17 school year. Of these, approximately 18 percent are serviced through our Special Education department. It is important to note that the District is also responsible for the education of all school-age children in grades 7-12 that reside within our districts. These students have a choice of attending the Eastport-South Manor (ESM) or Westhampton Beach (WHB) School districts. At present, approximately 9% of our students attend ESM and 91% attend WHB. In each case, and for every student, the RSUFSD and its community are responsible for secondary tuition payment to these receiving Districts, as well as transportation costs. Therefore, additional enrollment projections include, 168 students who attend either WHB Middle School and High School or ESM Jr-Sr High School. Approximately 16 percent of these students receive Special Education services.
>
> Second, you inquire into the cost of educating students in the RSUFSD. According to the NY State Education Department's 2014-15 School Report Card Fiscal Supplement, the cost of educating elementary students at Remsenburg-Speonk Elementary School is $19,538 per year for general

> education and $82,922 for our students who receive Special Education services. The per-student cost of grades 7-12 tuition varies by district, with WHB General Education tuition costing in excess of $21,000/student and ESM costing $9,767/student during the 2015-16 school year. In that same fiscal year our students receiving Special Education services were educated at a cost of $64,320.00 and $50,317.00 at WHB and ESM respectively.

As only one of the buildings on the subject site is presently occupied, only one school-age child is assumed to be present, so that the site only minimally impacts the enrollment of the local school district.

Police Protection

The subject site is served by the Town of Southampton Police Department, whose headquarters is located at 110 Old Riverhead Road, in Hampton Bays.

Fire & Ambulance Protection

The subject site is within the Eastport Fire District, and so is served primarily by the Eastport Fire Department. The Department headquarters is located at 21 Union Avenue (about 1 mile from the site), and is served by the Mercury Hose Company and the Seatuck Engine Company. The Department also has three Fire Safety officers, and a Fire Police squad. The following has been taken from the department's response letter:

- Fire fighting apparatus: 2-1,500 gpm pumpers, 1-3,000 gallon Tank Truck, with 1,500 gpm fire pump, 1-Heavy Rescue Truck, 1-Brush fire fighting vehicle, 5-support vehicles.
- There are 104 members of the fire department. Being "volunteer" you never know how many would be available to respond. We do have an "automatic mutual aid" plan for structure fires with our neighboring fire departments, between the hours of 8 AM and 6 PM, Monday to Friday.
- Specialize firefighting: 45 members are "Class A" fire firefighters, meaning that they have the required training to enter burning buildings. All members are CPR trained, we have 10 Emergency Medical Technicians, and 1 Critical Care Technician, although we do not provide medical transportation.

The project site is served by the Westhampton War Memorial Ambulance Association Inc. The following has been taken from the association's response letter:

> The Westhampton War Memorial Ambulance Association is an Advanced Life Support (ALS) volunteer ambulance company, located at 3 Hazelwood Avenue, Westhampton Beach. The organization responds to approximately 1,200 alarms per year. The association has over 50 members, 42 of which are NYS Licensed EMTs, CC's or Paramedics. In addition to our volunteer's we have a paid paramedic on duty 24 hours a day 7 days a week. We have 3 ambulances and two first responder cars located at our headquarters, with one of those first responder cars dedicated as an ALS car for the duty paramedic.

Public Water Supply

The project site is within the SCWA service area and so is served with potable water by that entity. As shown in the **Conceptual Plan**, the SCWA has a 12-inch main beneath North Phillips Avenue. As only one of the six residential structures on the site is presently occupied, it is assumed that 300 gpd of potable water are consumed on the site. The nearest SCWA public

supply wellfield is located approximately 6,700 feet to the northeast, near the SCPD Firing Range, north of Old Country Road.

Energy Suppliers

Electricity - PSE&G provides electricity in the area and to each of the buildings that occupy the site though, as only one of the buildings is assumed to be presently occupied, it is expected that minimal amounts of electricity are presently consumed on the site

Natural Gas - National Grid provides natural gas in the area, via individual connections from its subsurface distribution system. Since only one of the six residential structures on the site is currently occupied, it is assumed that only a minimal amount of natural gas is currently consumed on the site.

Recreational Facilities

There are several public recreational sites/open spaces in the vicinity of the project site. While the subject site is currently developed, the buildings are presently vacant, so that no residents are generated, and no attendance impact at any of the public recreational resources in the area are attributable to the project site.

Solid Waste Handling and Disposal

As only one of the residences on the site is presently occupied, only an estimated 12 lbs of solid waste are assumed to be generated on the property daily.

The Town does not provide curbside solid waste pick-up services. Town residents can take their wastes to any of the four transfer stations, using Pay As You Throw (PAYT) bags purchased at local supermarkets and hardware stores. However, the applicant expects that the solid wastes generated on-site will be taken by private carters (operating under contract with the site owner) to one or more of these Town Transfer Stations for disposal or further processing. There are four Town-operated Transfer Stations at which solid wastes generated within the Town can be disposed of, including the Westhampton Transfer Station, at 66 Old Country Road.

3.3.2 Anticipated Impacts

With respect to the community services discussed herein, it is expected that the project, when it is completed, occupied and fully operational, will increase in property taxes generated by the site. This increase will be distributed among the various community services, which would help to offset at least a portion of any increased costs to provide services to the project site.

Public Schools

As detailed in the Applicant's enrollment projection analysis letter (see **Appendix B**), it is projected that four (4) school-aged children will reside at the proposed project; in order to prepare a conservative analysis of the potential impacts of these students on the Remsenburg-Speonk UFSD, it is assumed that all four will attend local public schools. This will have the effect of incrementally increasing not only the enrollment of the school district, but of incrementally increasing its expenditures as well. Fan increase of four children is not expected

to cause an impact on the ability of the school district to provide educational services as it is a small number of students and will likely be distributed across several grade levels.

Police Protection

It is expected that the project will result in an increased potential for need of Town of Southampton Police Department emergency services, due to the increased development and human presence on the property. However, the Town Police Department has been notified of the project and is expected to provide police coverage as needed and consistent with other development in the Town. The site is currently an attractive nuisance and the new community is not expected to increase the burden on police protection.

Fire & Ambulance Protection

It is expected that the project will result in an increased potential for need of the emergency services of the Eastport Fire Department and the Westhampton War Memorial Ambulance Association Inc. These service providers have been notified of the proposed new development so they can plan appropriately for coverage. The new community will be constructed to current building and fire code requirements. The existing site is an attractive nuisance and existing buildings are unoccupied and not constructed to current building and fire code requirements. The proposed use is not expected to add a significant burden to the fire and ambulance capabilities of the fire or ambulance districts.

Public Water Supply

As shown in **Table 1-5**, it is expected that the proposed project will consume a total of 11,573 gpd of potable water, to be supplied by the SCWA. This increase in demand would represent a minimal percent increase in the average daily pumpage of the SCWA. The proposed project is not anticipated to impact the ability of the SCWA to serve the subject site and existing customers.

The project's design will be subject to detailed engineering review by Town and SCWA staff as part of the Town's site plan review process, at which time final arrangements for infrastructure improvements will be made.

Energy Suppliers

It is expected that PSE&G and National Grid can and will serve the proposed project with electrical and natural gas services, respectively. Generally, PSE&G and National Grid provide services per their filed tariff and schedules in effect at the time service is required. As the project will remove the buildings presently on the site, the existing service connections will also be removed, to be replaced with new service connections. Because of the relatively small scale of the project, it is not expected that the existing distribution system immediately upstream of these new connections will need to be replaced or supplemented to service the project.

Recreational Facilities

The proposed project will not encroach into or otherwise adversely impact any of the existing recreational sites/public open spaces in the vicinity. The proposed project would increase the number of potential patrons of local and regional park and recreation sites, but this impact would

be incremental in nature and is not expected to significantly impact the use of any of these sites, in consideration of the following:

- there are a number of such facilities to choose from. This would tend to distribute these visits broadly and conversely reduce the number of these visits (and their associated impacts) at any one park/recreational site.
- the number of site residents is small in comparison to the number of local and regional residents, so that any increase in park/recreational site patronization attributed to the proposed project would be small as well.

Solid Waste Handling and Disposal

It is anticipated that the residential, community, and commercial components of the proposed project would generate a total of about 478 lbs/day of solid waste, as follows:

Generator	**Solid Waste Generation Rate**	**Quantity**	**Waste Generated** (lbs/day)
Residents	3.5 lbs/day/resident*	69 residents	241.5
Community Space	3.12 lbs/day/100 SF**	3,178 SF	99.2
Commercial Space		4,380 SF	136.7
Total	**---**	**---**	**477.4**

* Per **Nemerow (2009)**.
** Per http://www.calrecycle.ca.gov/WasteChar/WasteGenRates/Service.htm.

Based on the uses proposed, this volume is not anticipated to contain significant amounts of potentially toxic or hazardous materials, other than empty household and commercial cleaner containers. These wastes (including food wastes from the community space and the residences) will be stored in dumpsters on-site, and disposed of by regularly-scheduled pick-ups by a certified carter operating under a contract with the owner of the project and disposed of at an approved facility.

It is expected that the Town disposal/transfer facilities have adequate capacity to accept and process the project's wastes, and that the incremental increases in wastes provided would not significantly impact the operations at any of these facilities.

3.3.3 Proposed Mitigation

- It is expected that the proposed project will increase the need for and usage of those community facilities and services pertinent to commercial and residential spaces, and, hence the costs that such services will expend. However, the expected increase in taxes generated by the site will help to offset at least portions of the increased needs for and costs of community services.
- The Remsenburg-Speonk UFSD will benefit from an increase in annual school tax revenue as compared to the amount of school taxes generated by the site in its current condition. This increased revenue will assist in offsetting some of the increased district expenditures necessitated by the expected four new students generated by the project.
- The proposed project will increase the potential need for emergency security services of the Town of Southampton Police Department. However, to mitigate this potential increase in calls, the proposed buildings will be equipped with security lighting and emergency alarms.

- The proposed project will increase the potential need for emergency security services of the Eastport Fire Department and the Westhampton War Memorial Ambulance Association Inc. However, to mitigate these potential increases in calls, the proposed buildings will be equipped with fire and smoke alarms, emergency lighting systems, and sprinklers, as required by NYS Fire and Building Codes.
- Pertinent input from the Eastport Fire Department will be solicited throughout the site plan application process to ensure that the site layout and the buildings are designed to provide adequate provisions for emergency vehicle access and adequate hydrant and standpipe locations.
- The project will increase the consumption of water on-site. In compensation for this increase in demand, water-conserving plumbing fixtures and mechanical systems will be utilized in construction, which will further minimize the volume of water required from the public water supply.
- While the project will increase the consumption of energy resources, it is anticipated that sustainable energy-conserving measures, including energy-saving wall insulations, triple-glazed windows and energy efficient mechanical systems will be utilized, thereby mitigating the anticipated increase in energy consumption.

3.4 Transportation

3.4.1 Existing Conditions

The following description and analysis of the existing traffic-related resources and conditions in the vicinity of the project site has been taken from the Traffic Impact Study (TIS) prepared in February 2016 by N&P, LLP (see **Appendix C-1**).

<u>Study Methodology</u>

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing driveways and intersections along with signing, signal timings, phasing and cycle lengths.
- Turning movement volume counts were conducted during the weekday AM, (7-9 AM), PM (4-6PM) and Saturday Midday (11AM-2PM) peak periods at the intersection of North/South Phillips Avenue and Montauk Highway (CR 80) and North Phillips Avenue/Homestead Avenue at Old Country Road [see **Figure 3-9**].
- Hourly traffic volumes collected on Montauk Highway (CR 80), North Phillips Avenue and Old Country Road were obtained from the New York State Department of Transportation (NYSDOT).
- Accident data for the study intersections and roadways in the vicinity of the site were obtained from NYSDOT.
- An annual growth factor, obtained from the NYSDOT, was applied to the existing volumes to estimate the increase in background traffic that would occur in 2017 (Ambient Traffic Volumes).
- The Town of Southampton Planning Department was contacted to obtain information on other planned developments that might impact traffic flow in the study area.
- Traffic volumes from the other planned projects in the study area were added to the Ambient Traffic Volumes to generate the 2017 No Build Volumes.
- Estimates of traffic that would be generated by the proposed development were prepared utilizing trip generation data published by the Institute of Transportation Engineers (ITE) publication, *Trip Generation, Ninth Edition*. The site-generated traffic volumes were assigned to the adjacent

street system based upon the anticipated directional trip distribution forecasted by Nelson & Pope.

- The 2017 Build Condition volumes for the proposed development were developed by adding the site generated traffic volumes to the 2017 No Build Condition volumes.
- Capacity analyses were performed at the study intersections identified above for the Existing Condition, No Build Condition and Build Condition for weekday AM, PM and Saturday midday peak hours. Capacity analyses were also conducted at the site driveway for the Build Condition during the weekday AM, PM and Saturday midday peak hours.
- The results of the analyses for the 2017 No Build Condition and 2017 Build Condition were compared to identify any significant impact associated with the proposed residential/retail development.

Roadway Resources and Traffic Conditions

- *Montauk Highway (CR 80)* is defined as a minor arterial roadway under the jurisdiction of the Suffolk County Department of Public Works with a general east/west orientation. In the vicinity of the site, Montauk Highway provides one lane per travel direction with shoulders and curbs. This section of roadway is relatively flat and straight with a posted speed limit of 40 mph and carries an average annual daily traffic (AADT) volume of approximately 11,200 vehicles per day. The land uses along Montauk Highway in the vicinity of the site are a mix of residential, commercial and vacant lands.
- *Old Country Road* is defined as a minor arterial roadway under the jurisdiction of the Town of Southampton with a general east/west orientation. This roadway extends east from Montauk Highway in the vicinity of Moriches-Riverhead Road (Eastport) to Montauk Highway in the vicinity of Mill Road (Westhampton) and provides one travel lane per direction. The posted speed limit is 40 mph and carries an AADT volume of approximately 5,940 vehicles per day. The land uses along Old Country Road are a mix of agricultural, residential and commercial.
- *North Phillips Avenue* is a collector roadway under the jurisdiction of the Town of Southampton with a general north/south orientation. North Phillips Avenue provides one travel lane in each direction and extends north from Montauk Highway (a continuation of South Phillips Avenue, which extends north from South Country Road) with its northern terminus at Old Country Road. The posted speed limit is 30 mph and carries an AADT volume of approximately 2,450 vehicles per day. The land uses along North Phillips Avenue are predominantly.
- **Table 3-2** summarizes the lane configurations and traffic controls at the study intersections.

The peak hour traffic volumes depicted in Figures 3, 4 and 5 [of **Appendix C-1**], were used to determine the existing capacity and LOS of the study intersections. **Tables 3-3a and 3-3b** contain the LOS summary for the Existing Condition for the Signalized and Unsignalized intersections, respectively.

Table 3-2
INTERSECTION GEOMETRY

Intersection	Approach	Lane Designation*	Traffic Control
Montauk Hwy. (CR 80) at N/S Phillips Ave.	EB	L-TR	Two-Phase Traffic Signal
	WB	L-TR	
	NB	L-TR	
	SB	L-TR	
Old Country Rd. at North Phillips Ave./Homestead Ave.	EB	LTR	Stop Sign – NB/SB
	WB	LTR	
	NB	LTR	
	SB	LTR	

* L = Left turn lane; T = through lane; R = Right turn lane

Table 3-3a
LOS SUMMARY, Existing Conditions
Signalized Intersection

Intersection	Approach	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Montauk Hwy. (CR 80) at North/South Phillips Ave.	EB	L	A	6.6	A	5.0	A	7.5
		TR	A	8.4	A	4.9	B	10.9
	WB	L	A	6.2	A	4.9	A	8.6
		TR	A	7.7	A	6.0	A	9.5
	NB	LTR	B	17.4	B	17.5	C	24.7
	SB	LTR	C	22.7	B	15.0	B	13.6
	Overall	---	B	10.9	A	7.2	B	12.9

Notes: LOS = Level of Service, Delay = seconds/vehicle

Table 3-3b
LOS SUMMARY, Existing Conditions
Unsignalized Intersection

Intersection	Approach	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Old Country RD. at North/South Phillips Ave.	EB	LTR	A	0.1	A	0.0	A	0.1
	WB	LTR	A	3.4	A	1.8	A	2.7
	NB	LTR	B	14.9	B	13.8	C	16.8
	SB	LTR	C	21.8	C	17.3	C	15.4

Notes: LOS = Level of Service, Delay = seconds/vehicle

Montauk Highway (CR 80) at N/S Phillips Avenue

North/South Phillips Avenue intersects Montauk Highway (CR 80) to form a four-leg intersection controlled by a two-phase traffic signal running free at all times. The northbound South Phillips

Avenue approach provides one lane for all turning movements and the southbound North Phillips Avenue approach also provides one lane for all turning movements. The eastbound and westbound Montauk Highway approaches both provide one exclusive left-turn lane and a shared through/right-turn lane. The level of service analyses indicates that the intersection currently operate at overall LOS B during the weekday AM and Saturday midday peak hours and at LOS A during the PM peak hour. During all peak periods, all individual traffic movements operate at LOS C or better.

Old Country Road at N Phillips Avenue/Homestead Avenue
The northbound (North Phillips Avenue) stop controlled approach of this unsignalized intersection currently operates at LOS B during the weekday AM and PM peak hours and at LOS C during the Saturday midday peak hour. The southbound (Homestead Avenue) stop controlled approach currently operates at LOS C during the weekday AM and PM peak hours as well as the Saturday Midday peak hour. The eastbound approach operates at LOS A during the weekday AM and PM peak hours as well as the Saturday Midday peak hour. The westbound approach operates at LOS A during the weekday AM and PM peak hours as well as the Saturday Midday peak hour.

3.4.2 Anticipated Impacts

It is noteworthy that the February 2016 TIS was prepared for a prior version of the proposed project, specifically for 50 residences and 2,304 SF of commercial space in a configuration that, for purposes of traffic impact analysis, is the same as that of the proposed project as described and analyzed in this EEAF.

The TIS concluded as follows:

- After the completion of the project, the signalized intersection of Montauk Highway (CR 80) at N/S North Phillips Avenue will continue to operate at No Build levels of service conditions during the analyzed peak periods.
- After the completion of the project, the site driveway will operate at LOS A during the weekday AM and PM peak hours and during the Saturday midday peak hour.

Based on the results of the Traffic Impact Study…it is the professional opinion of Nelson & Pope that constructing the proposed residential/retail development will not result in significant traffic impacts in the study area.

The TIS establishes that, for a prior version of the project having a larger number of residences but less non-residential space, there would be no significant traffic-related impacts. As a result, it was decided that revising the TIS to reflect the current proposed project (i.e., 38 residences and 4,380 SF of commercial space) would not be necessary, and that a simple analysis comparing the trip generation characteristics of each scenario would establish whether significant impacts could result from the trips generated by the proposed project. The analysis letter is presented in **Appendix C-2**.

The analysis compared the vehicle trips that would be generated by the prior and the current versions of the project. Review of **Table 3-4** shows that there are only minimal differences in the number of vehicle trips anticipated from the prior and the current versions of the project. Specifically, during the Weekday AM Peak Hour, the current version is anticipated to generate

four (4) fewer trips than the prior version; for the Weekday PM Peak Hour, the prior and current versions would generate the same number of trips, and for the Saturday Midday Peak Hour, the current proposal is anticipated to generate seven (7) more trips than the prior version.

The analysis letter concludes as follows:

> It is our opinion that any variation of anticipated trips between the original [prior] and the current proposal will have an imperceptible impact on the operation of the study intersections, as all movements at the study intersections are anticipated to operate at LOS C or better during the previously-completed build analysis during all peak periods. It should be noted that ITE equations were utilized for the condominium component of the project, which provides the most conservative results. Actual trip generation may be lower.
>
> Therefore, from a traffic operation perspective, it is our professional opinion that the proposed 38 condominium/townhouse units and 4,380 SF of retail space will not have an adverse impact on area traffic and safety conditions, and it is not necessary to revise the submitted TIS associated with this application.

Table 3-4
TRIP GENERATION COMPARISON
50 Residences & 2,304 SF Commercial Space vs. 38 Residences & 4,380 SF Commercial Space

Peak Hour	Distribution	50 Residences & 2,304 SF Commercial Space			38 Residences & 4,380 SF Commercial Space		
		Residences	Commercial	Total	Residences	Commercial	Total
Weekday AM	Enter	5	1	6	4	2	6
	Exit	25	1	26	20	2	22
	Total	**30**	**2**	**32**	**24**	**4**	**28**
Weekday PM	Enter	23	4	27	18	8	26
	Exit	11	5	16	9	8	17
	Total	**34**	**9**	**43**	**27**	**16**	**43**
Saturday Midday	Enter	31	6	37	29	11	40
	Exit	26	5	31	25	10	35
	Total	**57**	**11**	**68**	**54**	**21**	**75**

Source: Trip Generation, 9th Edition, published by ITE

Thus, the TIS concluded that there would be no significant adverse impacts on traffic from a prior version of the project that proposed more residences but less commercial space than the current version of the project. When the vehicle trips of each scenario are compared, the traffic analysis letter indicates that the differences in trips would not be large enough to change that conclusion.

3.4.3 Proposed Mitigation

- As no significant adverse impacts on traffic generation or intersection LOS are anticipated, no mitigation measures (beyond adherence to applicable Town and County design standards and professional engineering practices) are necessary or proposed.

3.5 Cultural Resources

3.5.1 Existing Conditions

The term *"cultural resources"* refers to both pre-historic era and historic era resources (the latter also includes architectural and engineered structures) that merit preservation and protection for the benefit of future generations.

As shown in **Figure 3-9**, the subject site is within a 0.5-mile radius of an established site listed on the National Register of Historic Places. **Figure 3-9** notes that the property and the structures on it were evaluated for potential inclusion on the State or National Registers by the NYS Office of Parks, Recreation, and Historic Preservation (OPRHP), State Historic Preservation Office (SHPO) in 2015, and were found to be Not Eligible for listing. Further, the proposed project was reviewed to determine whether impacts to historic/cultural resources may occur. That review concluded (see **Appendix D-1**):

> Based on this review, the New York SHPO has determined that no historic properties will be affected by this undertaking.

Thus, the proposed project will not impact the above-noted National Register-listed site in the vicinity.

In order to determine whether any impacts to pre-historic resources on the subject site may occur, the Applicant had a Phase I Archaeological Assessment prepared for the site. The complete Phase I assessment is presented herein, in **Appendix D-2, and** has been forwarded to SHPO for review and comments. The following description of that study and its outcome has been taken from that document.

Introduction

The purpose of the documentary was to determine the prehistoric and historic potential of the property for the recovery of archaeological remains. The Phase IA research was implemented by a review of the original and current environmental data, archaeological site files, other archival literature, maps, documents, and interviews. The prehistoric and historic site file search was conducted utilizing the resources of the New York State Historic Preservation Office-Field Services Bureau in Waterford, New York. Various historic web sites may have been visited to review any pertinent site information.

The purpose of the Phase IB survey was to recover physical evidence for the presence or absence of archaeological sites on the property. This was accomplished through subsurface testing and surface reconnaissance.

Prehistoric Potential

A prehistoric site file search was conducted at NYSHPO. The search included a 1 mile-radius around the study area.

An Indian trail was recorded very close to present day Montauk Highway which tended to connect the various tidal creeks in this area. Although the trail was recorded for the Contact Period, it most likely existed during the prior prehistoric period.

Assessing the known environmental and prehistoric data, the following points can be summarized:

- An intermittent drainage is depicted on the County Soil Survey flowing south through the project area and draining south into a tidal inlet, about 2,900 feet away, and shortly after into Moriches Bay. It is also about 3,300 feet east of East River, another tidal inlet draining into the bay.
- The parcel is situated on level terrain with well drained soils, on a natural peninsula of sorts, with long tidal inlets on either side to east and west. The property had been previously developed.
- Prehistoric sites are located in the vicinity of the project area in somewhat similar terrain and proximity to the same drainage.
- An Indian trail passes in the vicinity of the study area.

In our opinion, the study area has a higher than average potential for the recovery of prehistoric sites on any intact soils. The type of site encountered could be a procurement site from the Woodland or Archaic periods.

Historic Potential

Contact Period (Seventeenth Century)
At the time of European contact and settlement, the study area and surrounding territory appeared to be occupied by the Speonk people which were probably a sub-tribe or village of the large Shinnecock tribe. An Indian trail was recorded very close to present day Montauk Highway (Route 27A) near the project corridor.

The native inhabitants were seasonally migratory maritime hunter/gatherers. There were probably between 400 to 500 Shinnecocks by the early part of the century. They generally lived in small villages of about 50 people. Population density at the time of European contact was higher than most hunter/ gatherer societies and more typical of maritime hunter/gatherers. Summer villages were usually located along the south shore where fish and shellfish were exploited along the ocean, bays and inlets. Shore whaling was also an important part of the local economy. Winter camps were usually located along the more protected fresh water streams which drained into the bays. Hunting deer and other forest dwelling game was important during this season.

Although the Native Americans of Long Island also grew corn, horticulture did not appear to be as important to the economy as non-island (upstate) groups. Horticulture here may have been practiced as an extension of gathering along coastal routes.

Eighteenth Century
The Shinnecocks dissatisfaction with being dispossessed and fenced out of their hunting and gathering territory, led to the Shinnecock Hills being leased back to the Indians in 1703 for a thousand years. This 3,600-acre tract was the original "reservation".

As early as 1712, the (salt) meadows along the south shore at Speonk/Remsenburg were leased to cattle owners from Southampton (village). Eventually the cattlemen found it more convenient to build small houses near the meadows to tend the herds. Most of the early settlers came from Southampton and Bridgehampton in the 1740's. Speonk (which occupies the same peninsula with Remsenburg) may mean “a high place” in Algonkian.

Wigwams were recorded along the aforementioned Indian trail, one was on the west bank of the East River and the other on west bank of the Speonk River. They were still in existence during the 18th century by Reverend Horton in the 1740's.

Between 1700 and 1750 offshore whaling was a fast-growing industry. Seven companies were engaged in this work in Southampton. They had try works along the beaches at Sagaponack, Mecox, Wickapogue, Southampton, Shinnecock Point, Quogue, and Ketcheponack (West Hampton). Indians had taught the European-Americans and often worked along with them. By the second half of the century, the whalers were traveling further out from shore to catch their whales.

By 1761 a post rider brought mail from New York to Southampton once a week. The trip took five days. The rider stopped off in New York, Brooklyn, Jamaica, Smithtown, Suffolk Court House, Southold, Shelter Island, Hog Neck (New Haven), Sag Harbor, East Hampton, Southampton and then went back to New York. A stagecoach line was established a few years later.

The Southampton patent Town map shows present day Montauk Highway. The property is in the Speonk division of 1738, or on or near Speonk Neck (Figure 3 [see **Appendix D-2**]).

Nineteenth Century
The 1836 Colton map shows the settlement along Montauk Highway, Main Street, and South Country Road (Main Street). No roads are depicted between South Country and Montauk roads here (Figure 4 [see **Appendix D-2**]).

The 1858 Chace map shows Old Country Road/Main Street. North Phillips Avenue is not depicted yet (Figure 5 [see **Appendix D-2**]).

In 1859, the original 3,600-acre Indian reservation was reduced to the 800 acre Shinnecock Reservation of today. This appeared to be associated with plans for the Long Island Railroad to purchase the right-of way through Shinnecock Hills.

The 1873 Beers map shows Montauk Highway, Main-South Country Road, and Old Country Road. North Phillips Road appears depicted south of the railroad tracks but not north of the tracks. The O. Dayton structure is shown on or adjacent to the project area (Figure 6 [see **Appendix D-2**]).

Nearby Eastport became the unofficial capital of Long Island duck farming on Long Island soon after the introduction of the Pekin duck (from China) in 1873. The first commercial farms sprang up along the streams leading to Seatuck Cove and Moriches Bay.

The 1896 Hyde atlas shows the W. Fordham building on or adjacent to the project property where the Dayton structure was (Figure 7 [see **Appendix D-2**]).

Twentieth Century
By 1900, 29 duck farms dotted the Eastport area. This dropped to 15 duck farms by the late 1940's when Long Island produced 6.5 million ducks going to market. Population pressures and associated pollution problems in the 1960's and early 1970's put most of the duck farms out of business.

The 1904 USGS shows the aforementioned structure on or adjacent to the project property (Figure 8 [see **Appendix D-2**]).

An historic site file search was conducted at the New York State Historic Preservation Office. The site file search included a 1 mile radius around the study area. The following historic sites were recorded:

- No sites are recorded within 1 mile.

Assessing the known environmental and historic data, we can summarize the following:

- An intermittent drainage is depicted on the County Spoil Survey flowing south through the project area and draining south into a tidal inlet, about 2,900 feet away, and shortly after into Moriches Bay. It is also about 3300 feet east of East River, another tidal inlet draining into the bay.
- The parcel is situated on level terrain with well drained soils, on a natural peninsula of sorts, with long tidal inlets on either side to east and west. The property had been previously developed.
- An Indian trail passes in the vicinity of the study area. An historic wigwam/village was situated along the trail not far from the project area.
- No historic archaeological sites were reported in the vicinity.
- A historic map documented structure (MDS) is depicted on or adjacent to the project area.

In our opinion the project parcel has a high potential for the recovery Euro-American sites and a moderate potential for native American sites on any intact soils.

Field Results

Field testing of the project area included the excavation of 57 shovel tests (ST's) across the project area at 15 meter intervals. No prehistoric artifacts or features were encountered. No historic artifacts or features were encountered. Multiple twentieth century structures were on the property and included 4 dwellings with concrete foundations, and associated barn/garage, metal garage, concrete building, and gravel driveways and parking areas.

3.5.2 Anticipated Impacts

As noted above, the Phase I study did not reveal the presence of any pre-historic or historic era cultural resources on the site. The following is the Conclusions and Recommendations of the Phase I study.

Based upon soil type, topography, distance to water, an Indian foot trail, and prehistoric sites, the property is seen as having an above average potential for the recovery of prehistoric archaeological sites on intact soils.

Based upon similar environmental characteristics, and proximity to Indian trails, wigwams, and historic map documented structures, the property is seen as having a high potential for Euro-American sites and a moderate potential for the recovery native American historic sites on intact soils.

During the Phase IB archaeological field survey, 57 STs were excavated. No historic or prehistoric artifacts or features were encountered. The property was previous twentieth century residential development. No further archaeological work is recommended.

3.5.3 Proposed Mitigation

- As there are no cultural resources on the subject site, no adverse impacts to such resources can occur, and no mitigation is necessary or proposed.

SECTION 4.0

SUMMARY & CONCLUSIONS

4.0 SUMMARY & CONCLUSIONS

This section provides a statement addressing the balance between impacts and benefits of this change of zone application, to enable an informed decision by each of the various involved agencies.

The investigations contained in this document are useful in determining the importance of the proposed project's impacts, based on the criteria included in the format for an EEAF. The criteria are as follows:

- Probability of the impact occurring,
- The duration of the impact,
- Its irreversibility, including permanently lost resources of value,
- Whether the impact can or will be controlled,
- The regional consequence of the impact,
- The potential divergence from local needs and goals,
- Whether known objections to the project relate to this impact.

The following summarizes the anticipated impacts of the proposed project, as described and discussed in **Sections 2.0 and 3.0** of this document.

4.1 Summary

4.1.1 Topography and Soils

Considering the small size of the site, its flat surface, and the fact that it is already fully developed, it is not expected that the necessary clearing and grading operations would be limited by any soil-related condition.

It is expected that all of the site will be cleared, and that 1.73 acres (40.4% of the site) will be subject to grading to construct the proposed project. It is expected that the areas to be cleared but not graded would be landscaped. Grading activity will be conducted internally within the site and will not impact adjacent properties.

Generally, some amount of soil disturbance is necessary as part of the demolition process, as well as to establish suitable grades for the proposed developed surfaces such as buildings, roads, parking areas and landscaping. Additionally, the grading program must consider requirements for low grades required for proper drainage system performance, conformance with requirements of the ADA, and the convenience of the site's visitors, patrons and residents. Grade transitions will be made using slopes of 1:3 or less.

As part of the grading program, any excess, "clean" (i.e., uncontaminated) soil excavated during the demolition process that displays acceptable characteristics as fill may be used elsewhere on-site to provide suitable development surfaces. Any excess potential fill material, as well as all

the soil that is unacceptable for use as fill, will be removed and taken to an approved re-use or disposal facility.

All disturbed surfaces will be stabilized prior to construction, to minimize the potential for erosion. Other than excavations for the building foundations, and subsurface utility connections, it is not expected that the depths of cutting and filling would be extensive, so that planned re-use of excavated material elsewhere on-site will not require significant import or export of fill.

The soils present on the subject property do not possess any significant limitation that would be expected to impact development. One soil has a sandy surface layer (specifically PlB soils encountered at the site) which may impact future lawns and landscaping installed as part of the proposed project. Impacts related to this limitation may be mitigated through the installation of plant species suitable for this environment and proper irrigation techniques.

The Phase I and Phase II ESAs prepared for subject property noted the presence of USTs and sanitary systems related to the existing on-site structures. With respect to USTs, each will be removed and an investigation of the surrounding soil will be made to determine the presence, nature and extent of any soil contamination resulting from leakage or spillage from each UST. Tank removal will be conducted subject to applicable Town, County and/or State standards, including but not limited to the NYSDEC. The SCDHS will be notified of any storage tanks that require removal. The tanks will be removed under the oversight of SCDHS personnel and by a reputable, licensed contractor.

With respect to existing sanitary systems present on the subject property they will be sampled, remediated (if required) and abandoned in accordance with SCDHS requirements and protocols and done under the oversight of SCDHS personnel and by a reputable, licensed contractor.

Erosion control measures to be implemented during the construction phase are expected to include measures recommended in the NYSDEC Technical Guidance Manual, so that no significant level of potential adverse impact from erosion would be expected during this construction period.

4.1.2 Water Resources

The proposed project will utilize a new tertiary treatment system which will be situated in its western portion of the property, to treat all of its wastewater. This system will be a state-of-the-art facility incorporating “BESST” technology. It is anticipated that it will have a capacity in excess of the project’s projected 8,538 gpd generation rate. Ultimately, the design, review/approval, operation and maintenance of this system will be the responsibility of SCDHS. Such systems are routinely approved and permitted in Suffolk County.

The SONIR computer model indicates that 7.33 MGY of water will be recharged on the site. This represents an increase of approximately 38% from the site’s existing condition. The concentration of nitrates (as nitrogen) in this recharge is anticipated to be increased from that of the existing condition, to a total of 2.76 mg/l. These increases in recharge and nitrogen

concentration are directly attributable primarily to the increase in sanitary discharge on the subject property; however, the magnitude of this increase remains below the NYSDEC ambient groundwater standard of 10 mg/l.

The project will not adversely impact any surface water resources, as none are located on the site or in sufficiently close that such resources could be impacted by runoff escaping the project site. All stormwater generated on-site will be retained on-site, to be recharged in subsurface leaching pools distributed along the internal roadway and parking areas. As a result, no runoff from the site (along with any contamination that may be carried in that water) will reach the nearest surface water resource, which is located 0.6 miles to the south-southeast.

The project is located within Flood Zone X which is an area of minimal flooding. As a result, no impacts related to flooding are expected.

Groundwater quality impacts that may occur during construction activities could potentially result from leaching of contaminants entrained in rain falling on building materials and equipment stored outdoors on-site. However, such materials are anticipated to be inert and therefore are not expected to have an adverse impact on the site. In addition, these materials would be present in such a condition for only a limited time before being used in construction, and would be stored under cover. Equipment stored on-site which will be utilized during clearing and construction activities will be properly maintained to eliminate leakage of fluids and reputable contractors will be used for all site work.

4.1.3 Ecology

The impacts to the ecological resources of a site are generally a direct result of clearing of natural vegetation, increase in human activity and associated wildlife stressors, and the resulting loss and fragmentation of wildlife habitat. The majority of the development area is currently landscaped area, with the exception of approximately 2.13 acres of wooded area. It is anticipated that under the proposed development, the entire site will be cleared including the 2.13 acres of Successional Southern Hardwood forest.

The proposed development intends to ultimately eliminate all of the successional vegetation and convert it to Landscaped, Paved/Impervious and Building coverages. As a result, the site habitats will change from successional to landscaped and will continue to provide habitat for wildlife. It is further noted that the loss of habitat on this site is of marginal value due to the previous disturbance associated with the site.

No rare and endangered flora species or unique habitats were observed during site visits. It is not anticipated to contain any rare, threatened or endangered plant species. As such, no impact to rare, threatened or endangered plant species are anticipated as a result of the proposed project.

The property is not expected to act as a refuge for rare native flora or fauna, but does contain a small population of local birds and mammals, such as blue jay, chickadee and eastern gray squirrels. The proposed project will favor those wildlife species that prefer edge and suburban

habitats and those that are tolerant of human activity. Most of the species expected on the property are at least somewhat tolerant of human activity, but others will be impacted by the proposed clearing operation and increase in human activity. It is also expected that particular species of wildlife (particularly avian species) will migrate to undisturbed areas adjacent or near the site as a result of development.

In the short term, lands adjacent to the property will experience an increase in the abundance of some wildlife populations due to displacement of individuals by the construction phase of the proposed project. Mobile species and particularly large mammals such as fox and deer would be expected to find suitable habitat west and north of the site where larger areas of natural open space currently remain. Ultimately, competition with both conspecifics and other species already utilizing the resources of the surrounding lands would be expected to result in a net decrease in population size for most species.

The NHP lists three historical records of known occurrences of rare or state-listed species on or in the vicinity of the subject site; one avian and two plant species. However, no rare, threatened or endangered plants were observed on the site during NP&V's inspections of the property. Further, the site lacks the habitats most commonly associated with the threatened and endangered species reported by NHP.

4.1.4 Land Use, Zoning and Plans

Like much of the neighborhood, the site is presently considered a residential site, and the proposed project is primarily residential in nature (with additional complementary commercial use present). Therefore, there would be no significant change in the land use type of the site, or to the pattern of land uses in the area. It is acknowledged that the amount of residential development in the vicinity would be increased by the proposed project, but the amount of commercial space in the vicinity would not be substantially increased.

The proposed project will result in a change in the zoning category of the central and western portions of the site, from R-20 and VB, to MF-44. The easterly portion of the site's VB-zoned area will remain in that zoning category.

These zone changes will change the pattern of zoning in the vicinity, by creating MF-44 zoned land on the western side of North Phillips Avenue, where it is not presently found locally. However, this would represent only an incremental impact on the local zoning pattern, as this district is already not only represented in the area, it is associated with VB-zoned land fronting North Phillips Avenue, in a mirror-image arrangement of the proposed project.

The proposed project will conform to all the applicable building bulk and setback requirements of the respective zoning districts.

Review of the Town of Southampton Comprehensive Plan Update (the 1999 Plan) and the Eastport/Speonk/Remsenburg/Westhampton Study (the Hamlet Study) indicate that the proposed project conforms to all of the pertinent visions, goals and objectives of these document.

4.1.5 Community Character

The proposed project will remove all of the existing residences on the site, as well as all of the unkempt, overgrown vegetation that presently grows on it. This action would substantially improve the appearance of the site for passersby and for the neighborhood by removing this unattractive and unsafe condition.

The architectural style of the project's buildings is intended to reflect the rural character of the area as embodied in the project's built environment. The proposed project will substantially improve the aesthetic character of not only the subject site, but of the neighborhood as a whole.

4.1.6 Community Services

It is expected that the project will increase the amount of property taxes generated by the site. This increase will be distributed among the various community services providers, to offset at least a portion of any increased costs to provide services to the project site.

The four school-aged children anticipated to reside at the proposed project will have the effect of incrementally increasing not only the enrollment of the school district, but of incrementally increasing its expenditures as well. This is not expected to be significant based on the low number of children which are expected to be distributed across several grade levels.

It is expected that the project will result in an increased potential for need of Town of Southampton Police Department, Eastport Fire Department, and Westhampton War Memorial Ambulance Association Inc. emergency services, due to the increased development and human presence on the property. However, the attractive nuisance of the site, and the old, unoccupied buildings that are not built to current building and fire code requirements will be removed. The new community will feature security lighting and alarms, fire protective features and is not expected to burden existing community service providers.

It is expected that the project will consume a total of 11,573 gpd of potable water, to be supplied by the SCWA. This increase in demand would represent a minimal percent increase in the average daily pumpage of the SCWA. The proposed project is not anticipated to impact the ability of the SCWA to serve the subject site and existing customers.

The project's design will be subject to detailed engineering review by Town and SCWA staff as part of the Town's site plan review process, at which time final arrangements for infrastructure improvements will be made.

It is expected that PSE&G and National Grid can and will serve the proposed project with electrical and natural gas services, respectively. Generally, PSE&G and National Grid provide services per their filed tariff and schedules in effect at the time service is required. Because of the relatively small scale of the project, it is not expected that the existing distribution system immediately upstream of these new connections will need to be replaced or supplemented to service the project.

The proposed project will not encroach into or otherwise adversely impact any of the existing recreational sites/public open spaces in the vicinity. The proposed project would increase the number of potential patrons of local and regional park and recreation sites, but this impact would be incremental in nature and is not expected to significantly impact the use of any of these sites.

It is anticipated that the residential, community, and commercial components of the proposed project would generate a total of about 478 lbs/day of solid waste. Based on the uses proposed, this volume is not anticipated to contain significant amounts of potentially toxic or hazardous materials, other than empty household and commercial cleaner containers. It is expected that the Town disposal/transfer facilities have adequate capacity to accept and process the project's wastes, and that the incremental increases in wastes provided would not significantly impact the operations at any of these facilities.

4.1.7 Transportation

The TIS prepared for the project was based on a prior yield, of 50 residences and 2,304 SF of commercial space. That TIS concluded that there would be no significant adverse impact on traffic conditions. Subsequently, the project was revised to include fewer residences but more commercial space (i.e., 38 residences and 4,380 SF of commercial space). The applicant's traffic engineer compared the vehicle trips generated by both scenarios, to determine whether there was any potential for increased impact from the latter yields as compared to those for the former yields.

The engineer's traffic letter concluded that, when the vehicle trips of each scenario are compared, the differences in trips would not be large enough to change the conclusion originally given in the TIS.

4.1.8 Cultural Resources

The established, National Register-listed site within 0.5 miles of the subject property will not be impacted by the proposed project, as confirmed by SHPO.

The property and the structures on it have been evaluated for potential inclusion on the State or National Registers, but were found to be Not Eligible for listing. Since there are no pre-historic era or historic era cultural resources on the subject site, the proposed project would not impact such resources, nor would the removal of the existing buildings result in an impact on cultural resources.

4.2 Conclusions

The environmental review process is a balancing process, wherein the potential adverse impacts of the proposed project are matched against its potential beneficial impacts, to give reviewing

entities sufficient information and analysis to render an informed decision to approve or deny the application.

The analyses in this document support a conclusion that the potential adverse impacts of the proposed project will not be significant and will be geographically localized, and that the potential beneficial impacts will be significant.

- The proposed project is in conformance with and complements the local land use pattern; it conforms to the requirements of the MF-44 and VB zoning districts; it conforms to Town planning documents.
- The project helps fulfill a need in the Town for workforce housing, by providing 38 units for such households.
- The project would not strain the ability of any of the community services to adequately serve the site or project.
- The project will increase the amount of property taxes generated by the site, which would offset at least a portion of the increased costs to provide such services, particularly educational expenses of the Remsenburg-Speonk UFSD.
- The trips generated by the proposed project are not sufficient to cause any significant adverse impact on the operation of any local roadways or intersections.
- The project will not adversely impact resources because of its use of a new, on-site wastewater treatment system.
- The site's soils do not present any engineering-related limitations on the project.
- There are no cultural resources on the site, so that no direct impact to such resources could or would occur. The new buildings have been designed to have an architectural appearance conforming to and complementing that of its surroundings,

This report has been structured to provide additional information on the issues anticipated to be of concern to the Town planning and environmental staff on behalf of the Town Board. This additional information will be used to determine the environmental significance of the proposed project. Therefore, based on this EEAF, it is respectfully submitted that no significant impacts are expected to occur, and thus, a Negative Declaration is appropriate for the proposed project.

SECTION 5.0

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5.0 REFERENCES

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FIGURES

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FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

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Change of Zone

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FIGURE 1-2a
CONCEPTUAL ARTIST RENDERING

Source: Artist Rendering
Scale: Not To Scale

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FIGURE 1-2b
CONCEPTUAL ARTIST RENDERING

Source: Artist Rendering
Scale: Not To Scale

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FIGURE 1-3
TAX LOT MAP

Source: NYS Orthophotos, 2013

Scale: 1 inch = 150 feet

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FIGURE 1-4
EXISTING SITE AND AREA

Source: NYS Orthophotography, 2013
Scale: 1 inch = 200 feet

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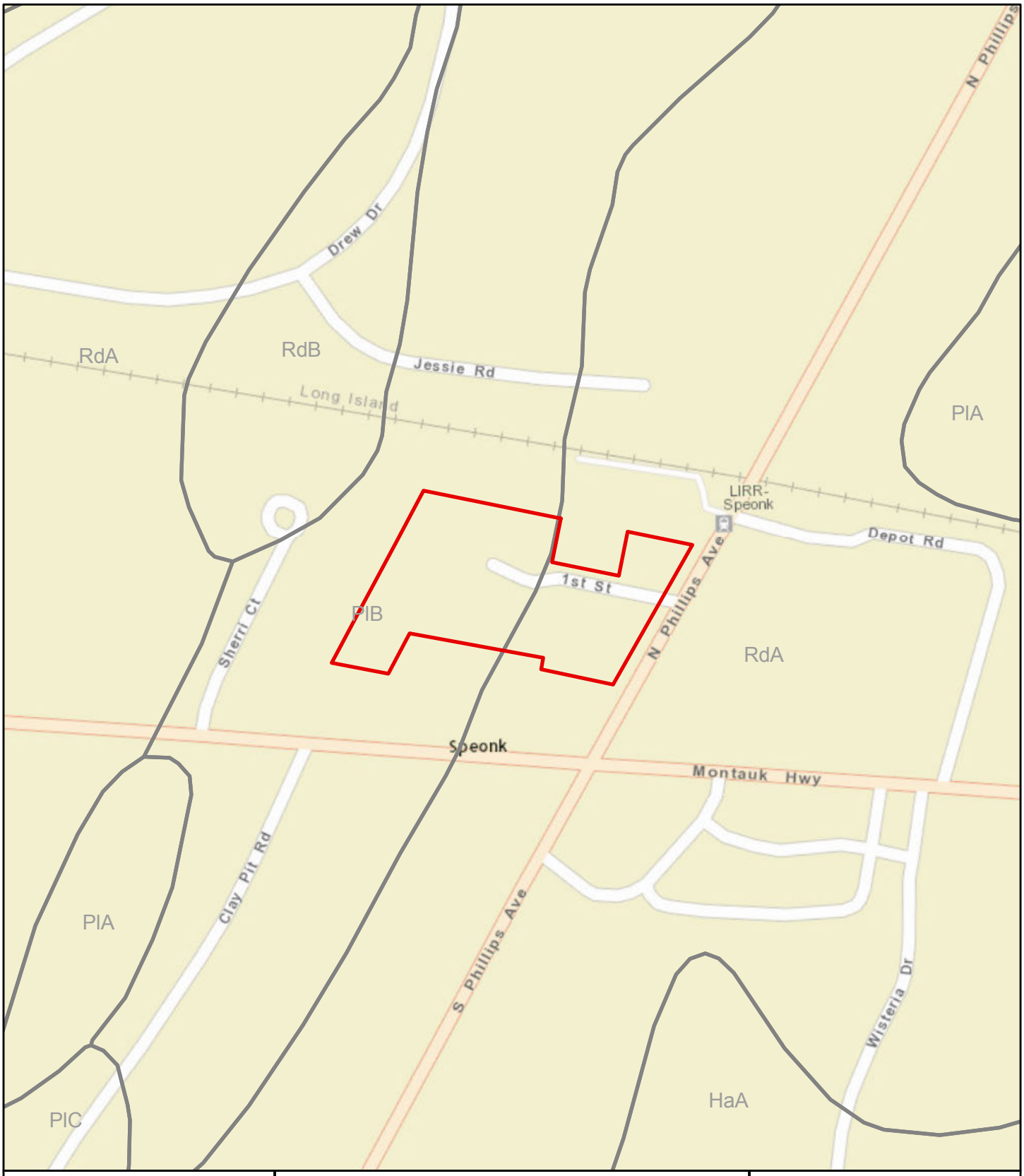

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FIGURE 2-1
SOIL MAP

Source: ESRI wms; NRCS soil GIS layers
Scale: 1 inch = 300 feet

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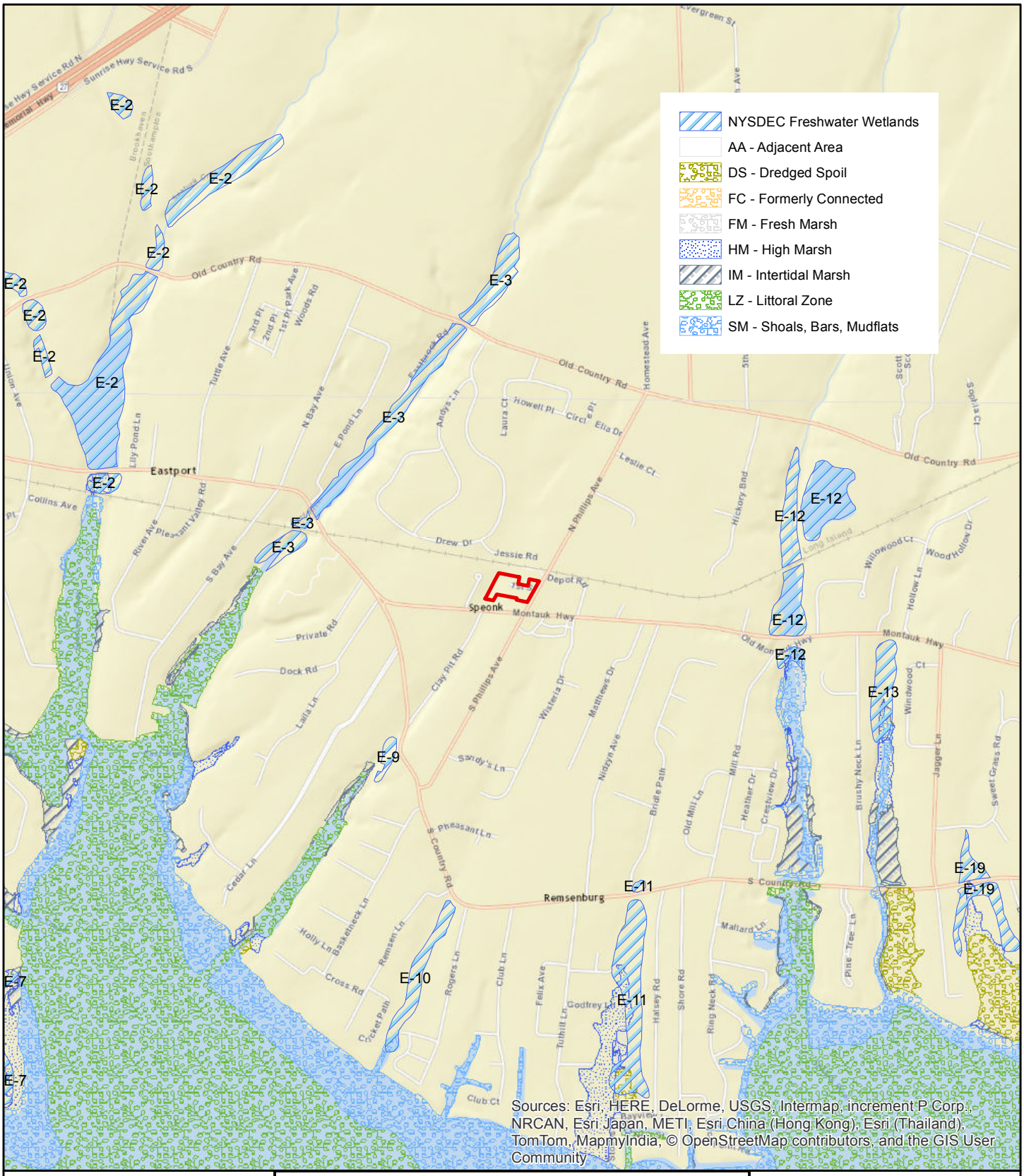

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FIGURE 2-2
NYSDEC
WETLANDS MAP

Source: ESRI Web Mapping Service, NYSDEC Freshwater and Tidal Wetlands Maps
Scale: 1 inch = 2,000 feet

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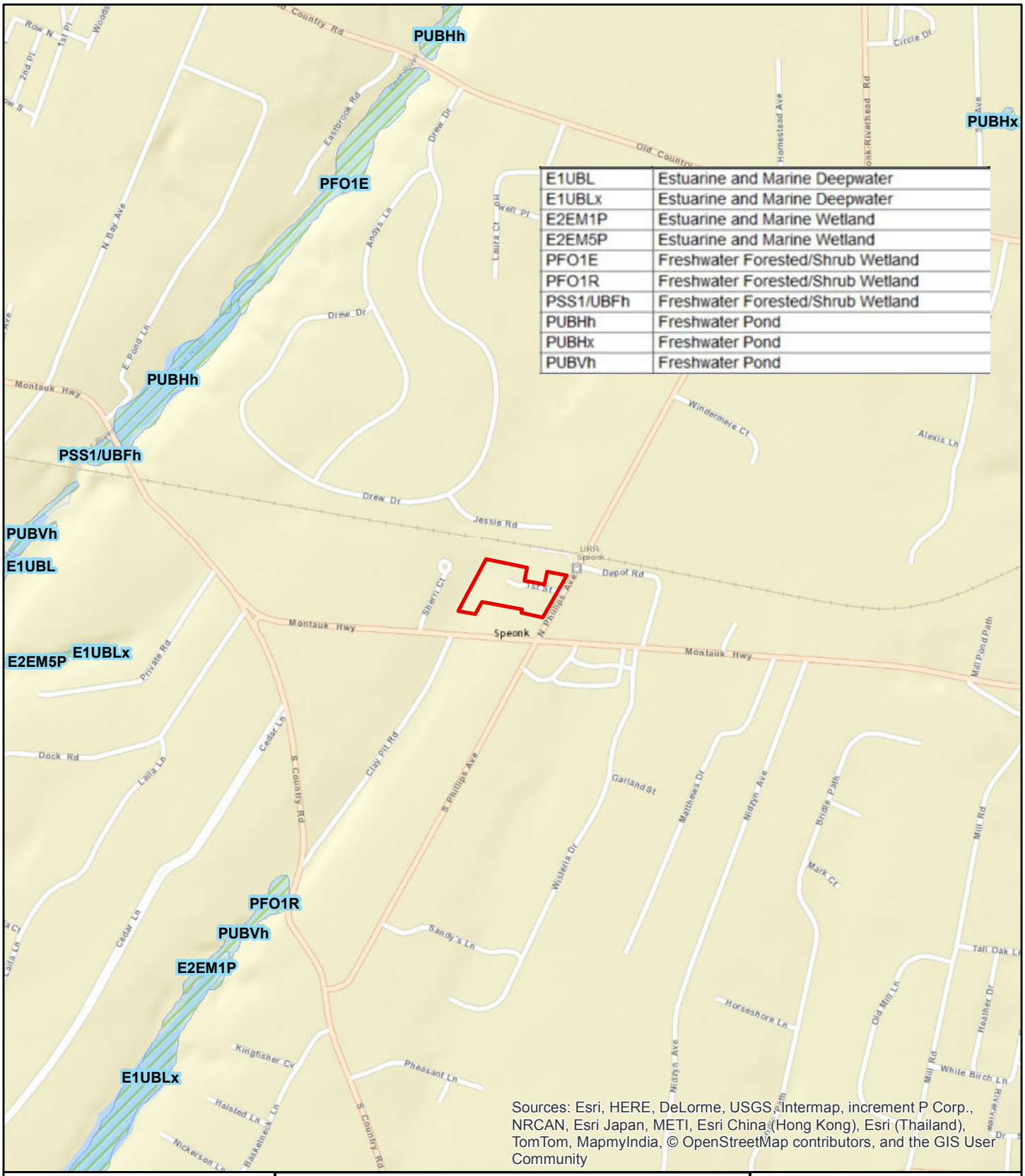

E1UBL	Estuarine and Marine Deepwater
E1UBLx	Estuarine and Marine Deepwater
E2EM1P	Estuarine and Marine Wetland
E2EM5P	Estuarine and Marine Wetland
PFO1E	Freshwater Forested/Shrub Wetland
PFO1R	Freshwater Forested/Shrub Wetland
PSS1/UBFh	Freshwater Forested/Shrub Wetland
PUBHh	Freshwater Pond
PUBHx	Freshwater Pond
PUBVh	Freshwater Pond

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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FIGURE 2-3
NATIONAL WETLANDS INVENTORY MAP

Source: ESRI Web Mapping Service, National Wetlands Inventory Map (NWI, USF&WService)
Scale: 1 inch = 1,000 feet

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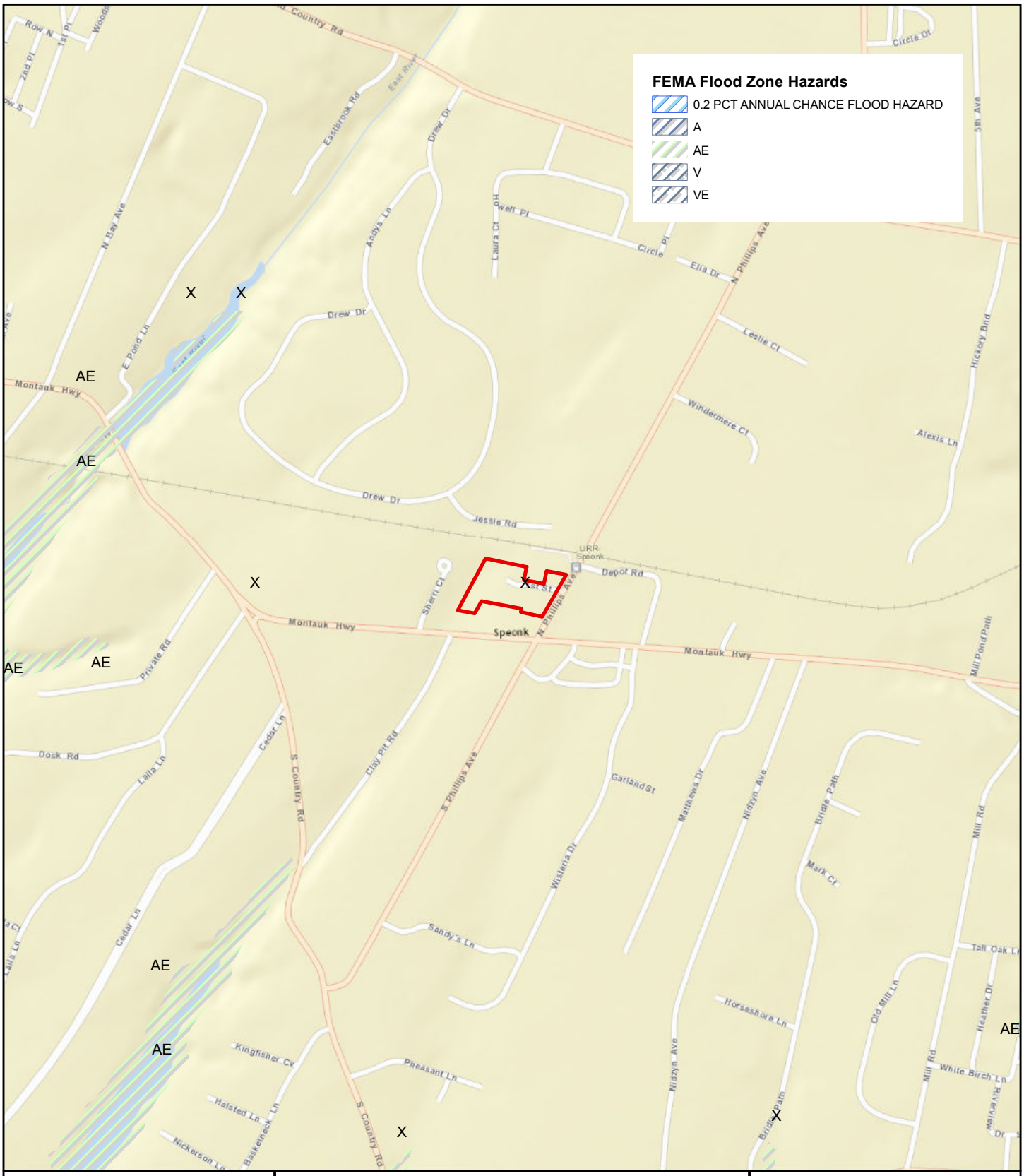

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FIGURE 2-4
FEMA FLOOD HAZARD ZONE MAP

Source: ESRI wms; FEMA layers
Scale: 1 inch = 1,000 feet

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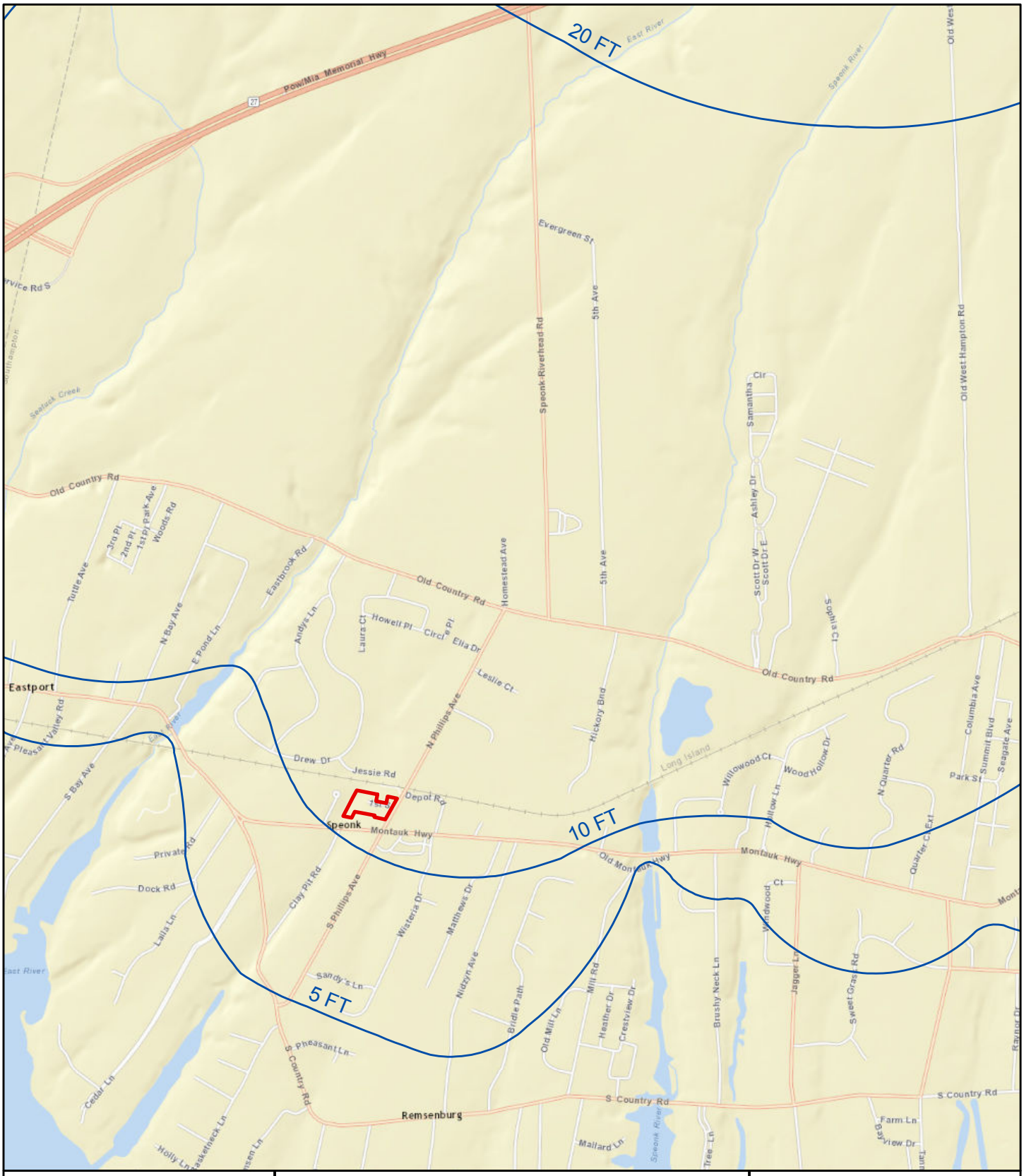

FIGURE 2-5
WATER TABLE CONTOUR MAP

Source: ESRI wms; USGS Scientific Investigations Map 3270, 2010 data
Scale: 1 inch = 2,000 feet

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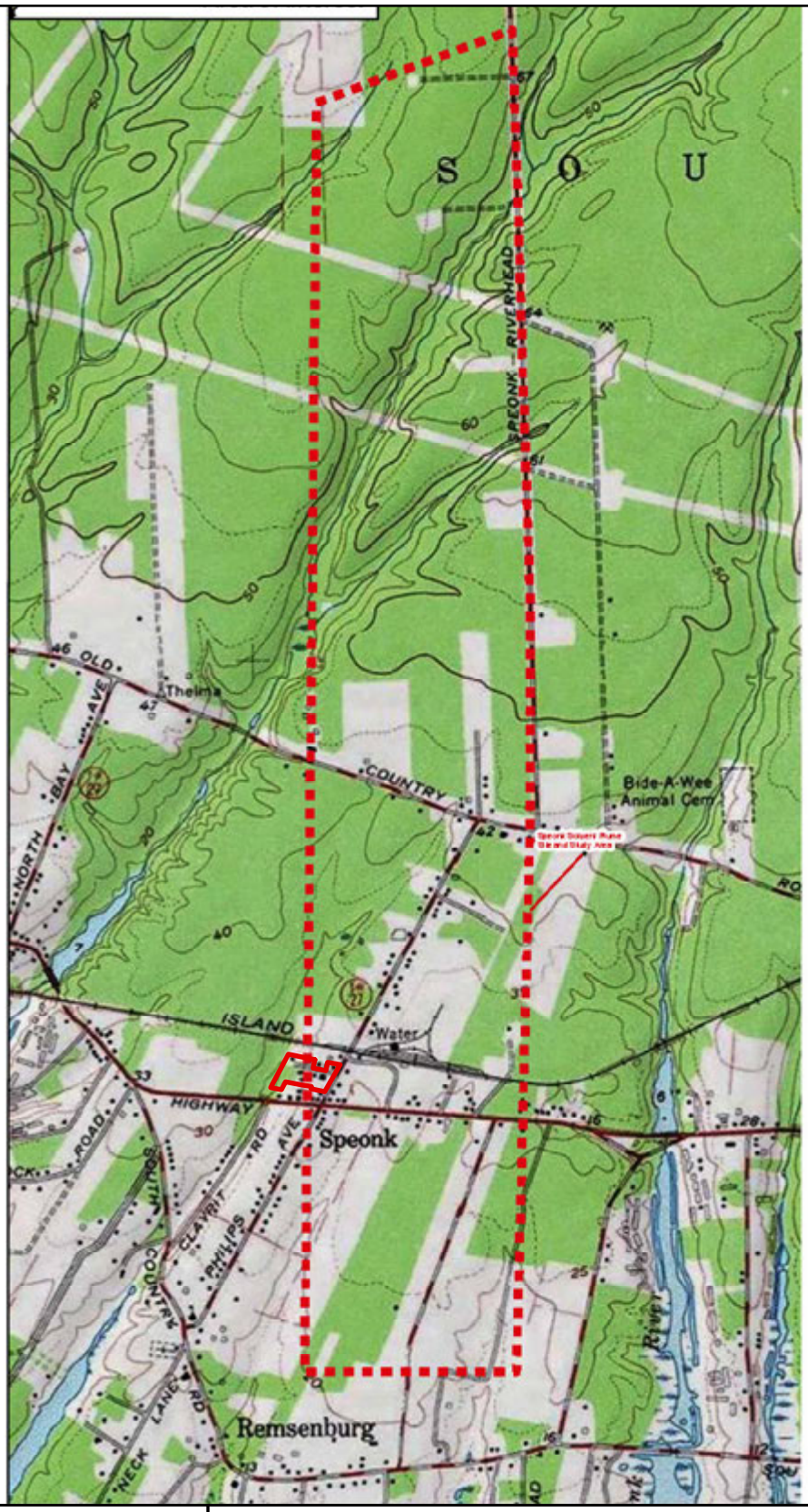

Source:United States Department of the Interior Geological Survey

Eastport Quad

Figure 1-1
Site Location Map
Speonk Solvent Plume Site
NYSDEC Site No. 1-52-185

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FIGURE 2-6
SPEONK PLUME MAP

Source: United States Department of the Interior Geological Survey
Scale: 1 inch = 2,000 feet

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FIGURE 2-7
HABITAT MAP

Source: NYS Orthophotos, 2013

Scale: 1 inch = 120 feet

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FIGURE 3-1
LAND USE MAP

Source: NYS Orthophotos, 2013
Scale: 1 inch = 200 feet

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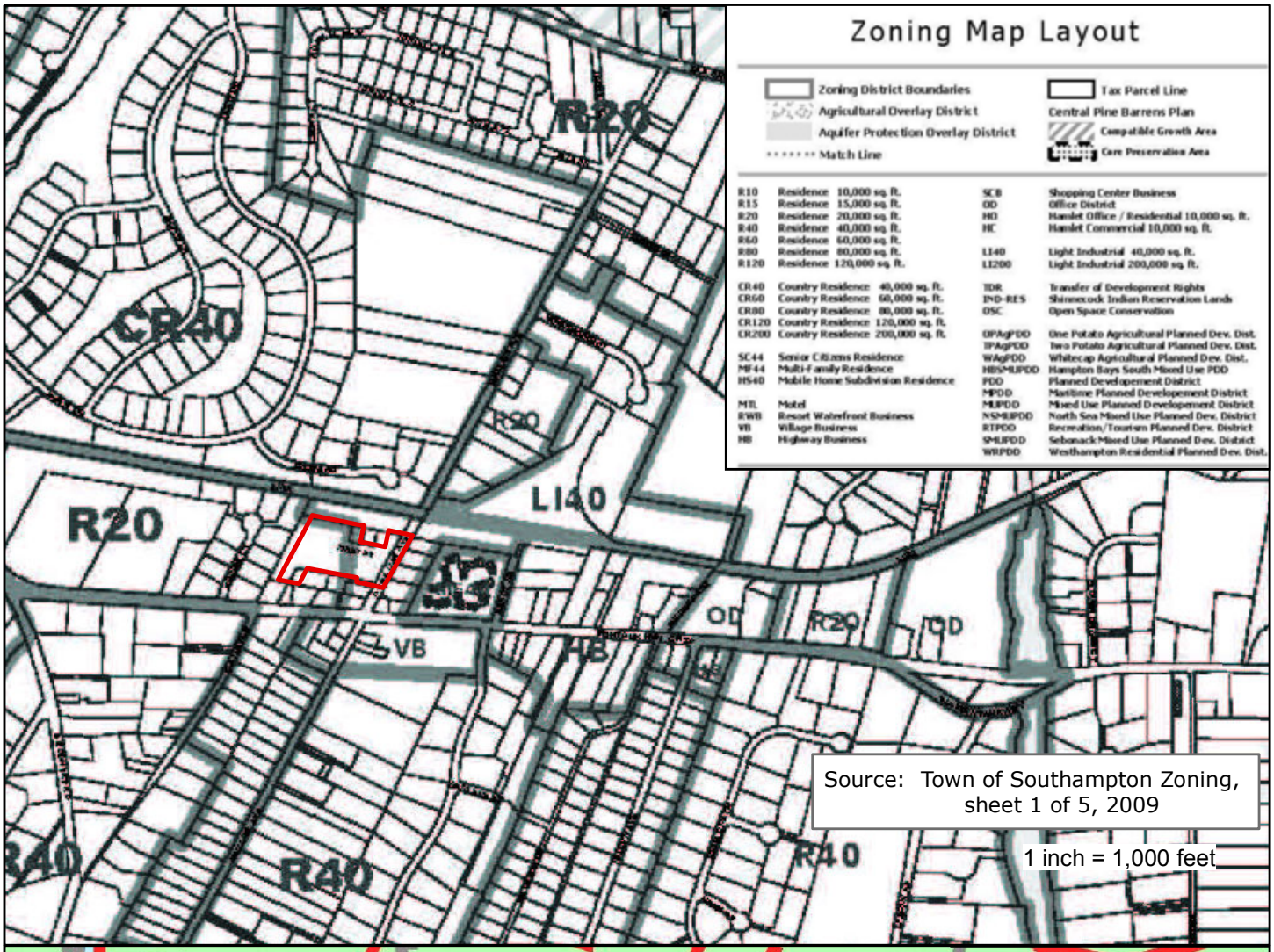

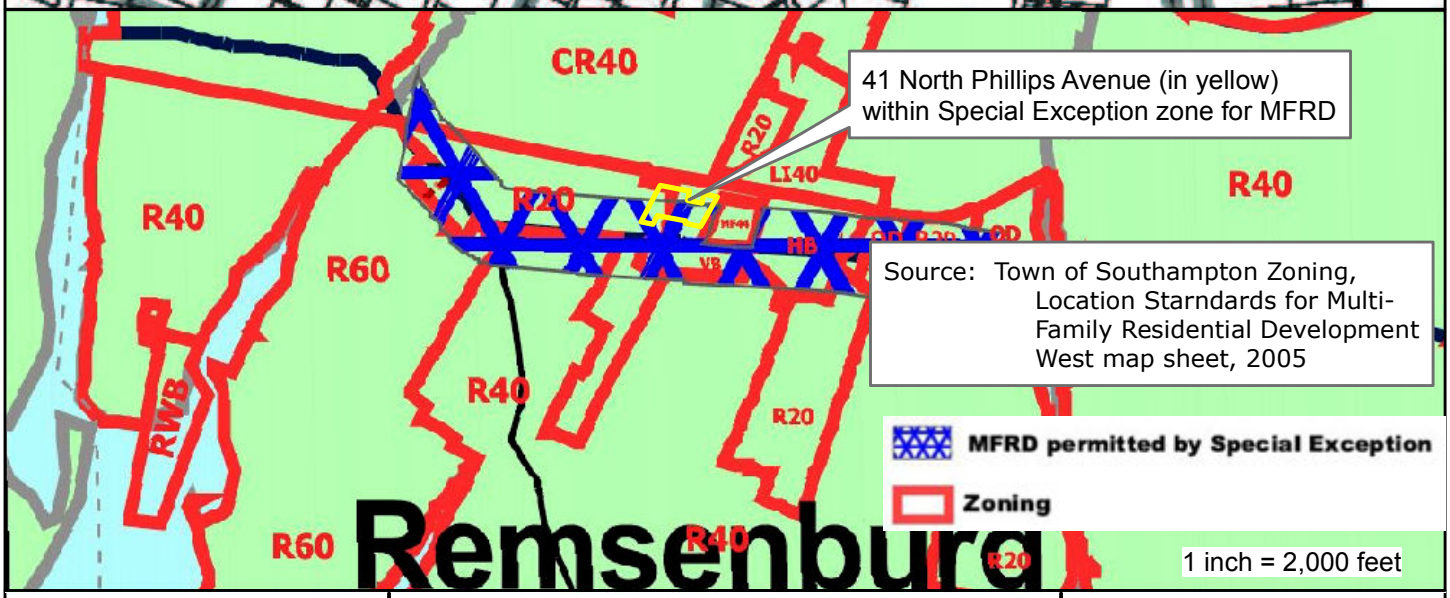

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FIGURE 3-2
ZONING MAP

see separate sources and scales for each figure

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FIGURE 3-3
COMMUNITY SERVICES, SCHOOLS

Source: NYS Orthophotos, 2013
Scale: 1 inch = 1,000 feet

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FIGURE 3-4
COMMUNITY SERVICES, SAFETY & SECURITY

Source: NYS Orthophotos, 2013

Scale: 1 inch = 1,000 feet

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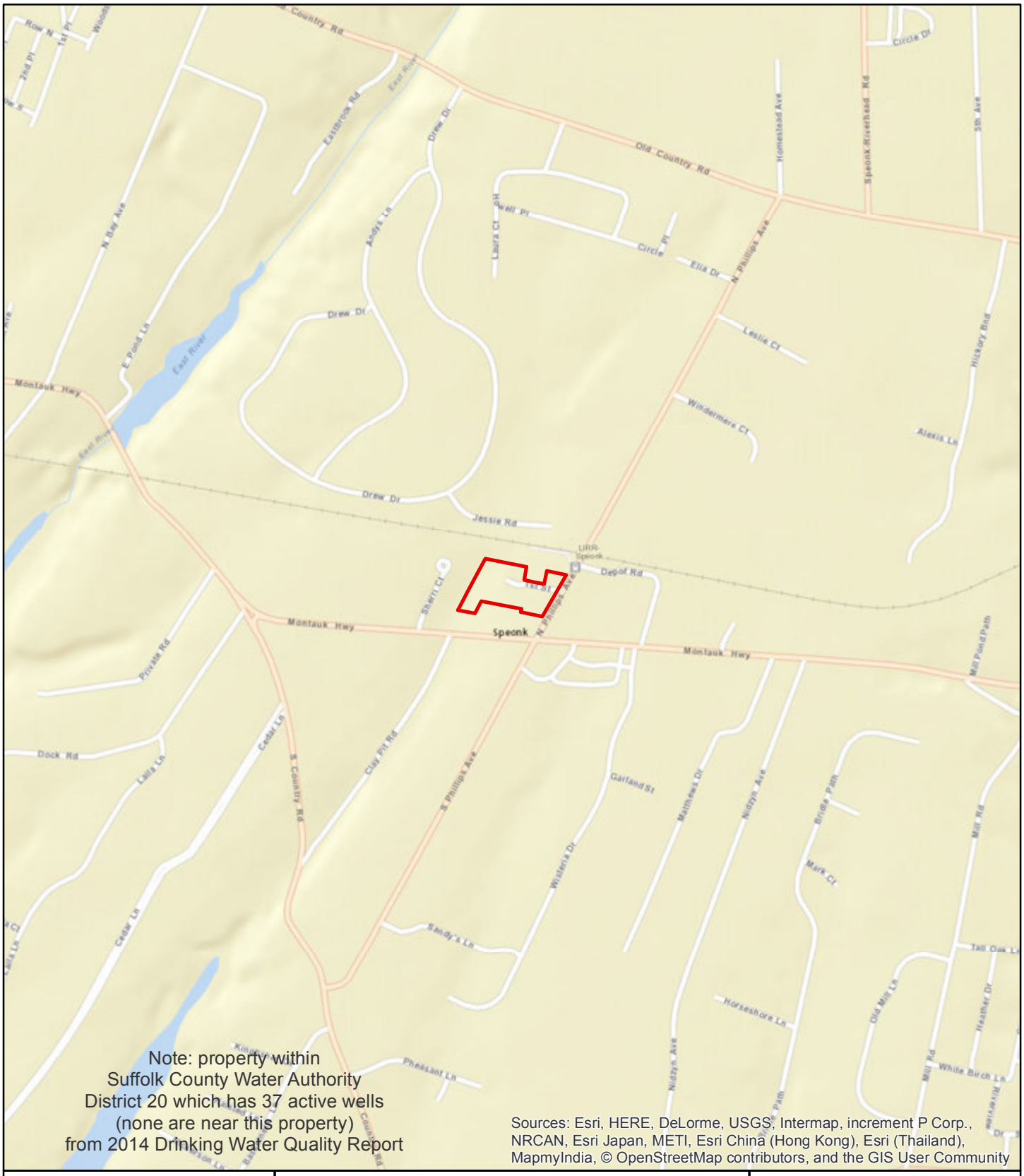

Note: property within Suffolk County Water Authority District 20 which has 37 active wells (none are near this property) from 2014 Drinking Water Quality Report

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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FIGURE 3-5
COMMUNITY SERVICE , PUBLIC WATER SUPPLY

Source: ESRI Web Mapping Service, Suffolk SWAP report, 2001
Scale: 1 inch = 1,000 feet

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FIGURE 3-6
COMMUNITY SERVICES, PUBLIC RECREATIONAL SITES

Source: Suffolk County Transit
Scale: 1 inch = 1,000 feet

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FIGURE 3-7
COMMUNITY SERVICES, PUBLIC TRANSIT

Source: Suffolk County Transit
Scale: 1 inch = 3,500 feet

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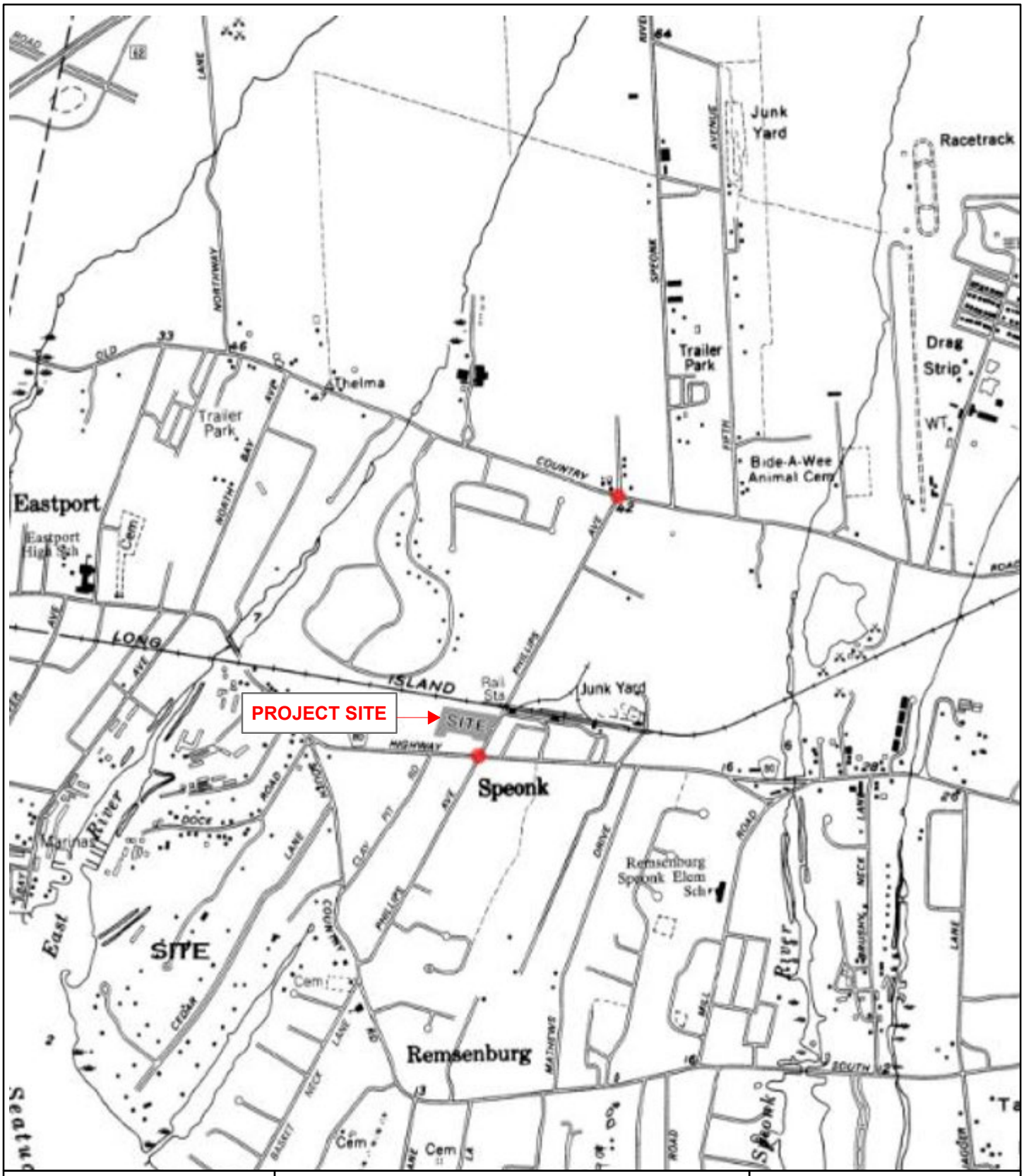

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FIGURE 3-8
INTERSECTIONS STUDIED, TIS

Source: United States Department of the Interior Geological Survey
Scale: Not to scale

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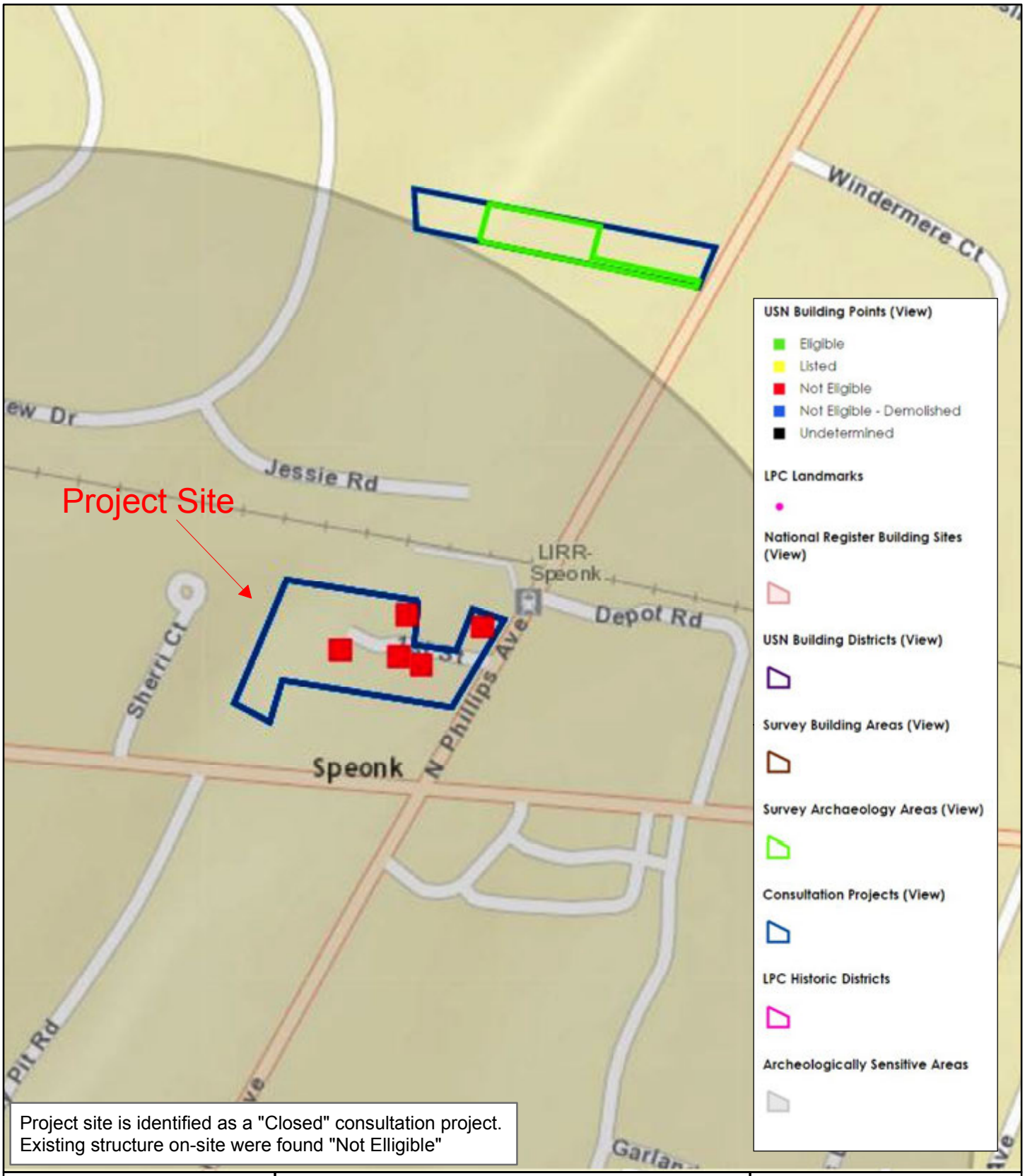
Speonk Commons Change of Zone

Expanded EAF



Project site is identified as a "Closed" consultation project.
Existing structure on-site were found "Not Elligible"

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 3-9
CULTURAL RESOURCE SENSITIVITY MAP

Source: ESRI Web Mapping Service, NY
https://cris.parks.ny.gov
Scale: 1 inch = 350 feet

N

Speonk Commons Change of Zone

Expanded EAF

APPENDICES

APPENDIX A

MISCELLANEOUS DOCUMENTS

Appendix A-1
Environmental Assessment Form, (EAF) Part 1

NP&V, LLC

December 9, 2016

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

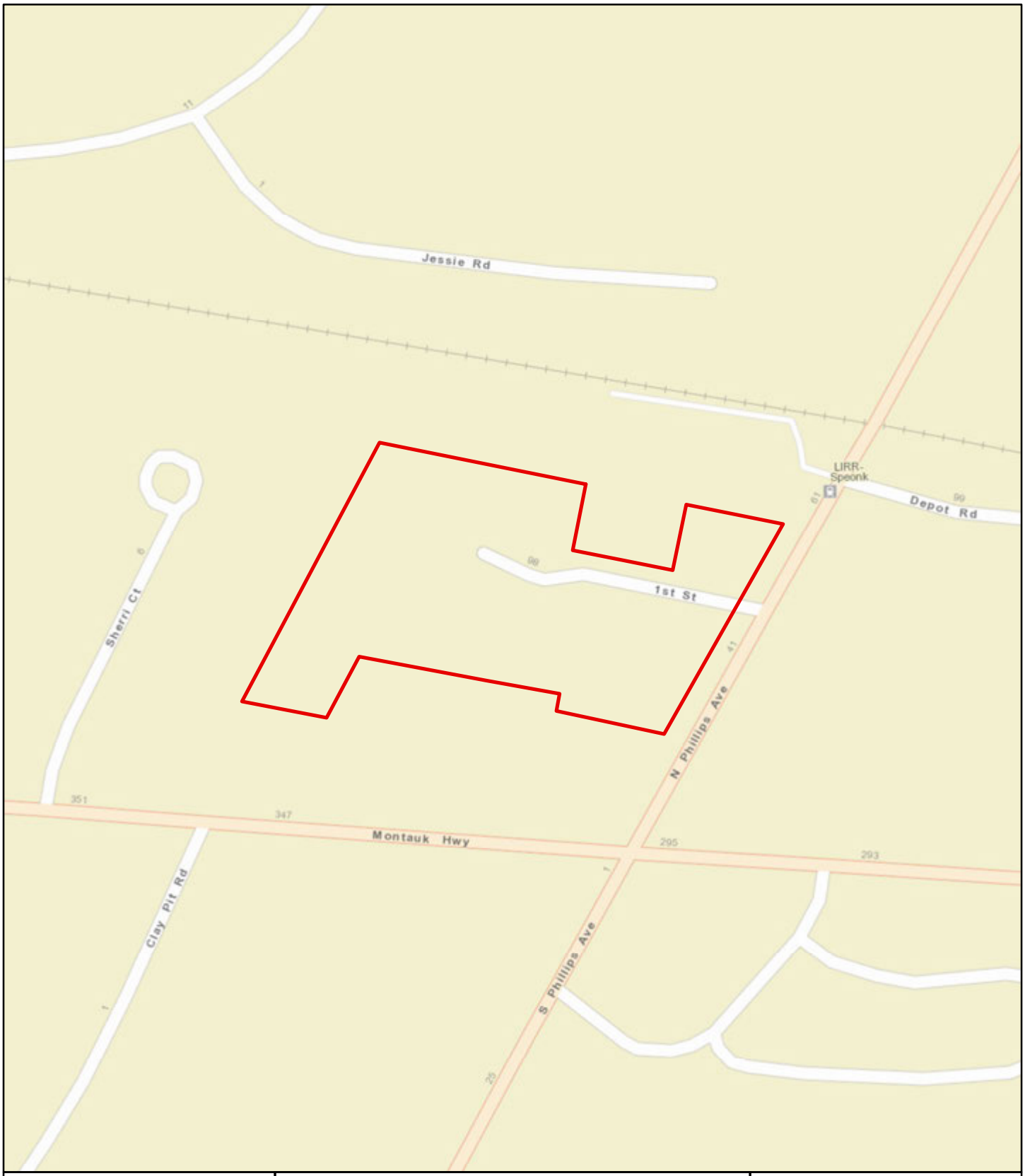
Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Speonk Commons		
Project Location (describe, and attach a general location map): 41 North Phillips Avenue, west side of North Phillips Ave., south of LIRR tracks, Speonk; SCTM: 0900-350-2-18		
Brief Description of Proposed Action (include purpose or need): (see attached)		
Name of Applicant/Sponsor: Georgica Green Ventures, LLC	Telephone: (516) 390-9387 E-Mail:	
Address: 50 Jericho Quadrangle, Suite 200		
City/PO: Jericho	State: NY	Zip Code: 11753
Project Contact (if not same as sponsor; give name and title/role): Matthew L. Ardito, Project Manager	Telephone: (516) 390-9384 E-Mail: matthewardito@georgicagreen.com	
Address: (same)		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Sanborn Land, LLC	Telephone: E-Mail:	
Address: 3106 Riverside Drive		
City/PO: Wantagh	State: NY	Zip Code: 11793

RESET FORM



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LOCATION MAP

Source: ESRI Web Mapping Service

Scale: 1 inch = 200 feet

N

Speonk Commons

EAF Part I

Project Description

The parcel proposed for redevelopment is located at 41 North Phillips Avenue (SCTM #900-350-2-18), in the hamlet of Speonk. The property is 4.28 acres in size and is split zoned between R-20 (2.94 acres) and Village Business (VB; 1.34 acres). To accommodate the density of the workforce housing development and commercial space in the proposal, a change of zone of the site from its current mix of R-20/VB zoning districts to 3.52 acres of MF-44 zoned land and 0.76 acres of retained VB zoned land would be required (see table below). This change would be made through consideration of Town Code Section 330-8 regarding increased residential density for low- and lower-middle-income housing. The new units will be constructed to high standards of efficiency and sustainability, including LEED.

Existing Conditions		**Proposed Project**	
District	Acres	District	Acres
R-20	2.94	MF-44	2.94
VB	1.34		0.58
		VB	0.76
Totals	**4.28**	---	**4.28**

The site is currently an eyesore in the community and contains several deteriorated and boarded-up houses, overgrown vegetation, and fallen electrical wires. The property does not contain any fences or security measures, which makes the buildings a target for illegal drug activity and vandalism. Additionally, the overgrown vegetation provides a haven for pests, and the buildings' structural damage is not only a safety hazard for anyone that enters the building, but also a liability for the property owner.

Speonk Commons would consist of six two-story structures, of which Building 1 would have both ground floor commercial space (4,380 square feet) and eight second floor units, Building 2 would have ground floor community space (3,178 square feet) and four second floor units, and Buildings 3 through 6 would have only residences on the ground and second floors. There will be a total of 38 units of workforce housing, as: 12 studios, 14 one-bedrooms, and 12 two-bedrooms. The proposal includes 102 on-site and 12 off-site parking spaces.

Sanitary wastewater generated on the site will be treated in a new, advanced-technology (BESST) treatment facility located in the western portion of the property. Based on SCDHS design flow rates for wastewater system engineering, the domestic flow of the project is estimated at 8,540 gallons per day (gpd). The treatment system will be designed with sufficient capacity to handle this amount of wastewater.

The project will fully conform to all of the applicable Town Zoning Code setback and bulk requirements; no variances will be required.

The need for additional workforce housing developments has been noted in numerous planning documents and this proposal is consistent with many of the goals of these plans and the community, including: the Town of Southampton 1999 Comprehensive Plan and the 2013 Sustainability Plan Addendum to the Comprehensive Plan.

B. Government Approvals

B. Government Approvals Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☑Yes☐No	Change of Zone Approval	Pending
b. City, Town or Village Planning Board or Commission ☑Yes☐No	Site Plan Approval	Pending
c. City Council, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☑Yes☐No	Town Building Permit	Pending
e. County agencies ☑Yes☐No	SCDHS- Water Supply, Sanitary System & STP SCPC- 239-m	Pending Pending
f. Regional agencies ☐Yes☑No		
g. State agencies ☐Yes☑No		
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

If Yes,

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes☐No

Traditional Neighborhood Development (mixed commercial & residential)

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes☑No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

RESET FORM

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
R-20 (2.94± acre) VB (1.34± acres)

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☑ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? MF-44 (3.52 acres) & VB (0.76 acres)

C.4. Existing community services.

a. In what school district is the project site located? Remsenberg-Speonk UFSD

b. What police or other public protection forces serve the project site?
Town Police Department/Suffolk County PD

c. Which fire protection and emergency medical services serve the project site?
Eastport Fire Department

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential (38 units) and Commercial (4,380 SF)

b. a. Total acreage of the site of the proposed action? 4.28 acres
b. Total acreage to be physically disturbed? 4.28 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 4.28 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 14 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

RESET FORM

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				38
At completion of all phases				38

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 2

ii. Dimensions (in feet) of largest proposed structure: 2-story height; 35 width; and 70 length (only 1st floor is (commercial)

iii. Approximate extent of building space to be heated or cooled: 4,380 square feet (commercial only)

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify: _____

iii. If other than water, identify the type of impounded/contained liquids and their source. _____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i. What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

RESET FORM

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes☐No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes☐No
If Yes:

- acres of aquatic vegetation proposed to be removed
- expected acreage of aquatic vegetation proposed to be removed
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes☐No
If Yes:

i. Total anticipated water usage/demand per day: 8,540± gallons/day ***does not include irrigation***

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes☐No
If Yes:

- Name of district or service area: SCWA
- Does the existing public water supply have capacity to serve the proposal? ☑Yes☐No
- Is the project site in the existing district? ☑Yes☐No
- Is expansion of the district needed? ☐Yes☑No
- Do existing lines serve the project site? ☑Yes☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes☐No
If Yes:

i. Total anticipated liquid waste generation per day: 8,540± gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes☑No
If Yes:

- Name of wastewater treatment plant to be used:
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes☐No
- Is the project site in the existing district? ☐Yes☐No
- Is expansion of the district needed? ☐Yes☐No

RESET FORM

- Do existing sewer lines serve the project site? ☐Yes☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes☑No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

On-site advanced treatment facility (BESST)

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

N/A

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 1.73 acres (impervious surface)

_____ Square feet or 4.28 acres (parcel size)

ii. Describe types of new point sources. Stormwater runoff

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

on-site drainage system

- If to surface waters, identify receiving water bodies or wetlands: _____

  N/A
- Will stormwater runoff flow to adjacent properties? ☐Yes☑No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes☑No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

N/A

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

Anticipate stationary generators

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

Anticipate heating system emission

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

RESET FORM

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☑Yes ☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☐Weekend

☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: unknown at present

iii. Parking spaces: Existing 10± Proposed 102 Net increase/decrease 104*

iv. Does the proposed action include any shared use parking? *Additional 12 spaces on-street (total 114) ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

N/A

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☑No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: unknown at present

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

LIPA (electricity) & PSE&G (natural gas)

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7AM-5PM
- Saturday: N/A
- Sunday: N/A
- Holidays: N/A

ii. During Operations:

- Monday - Friday: 24/7 (residential) ; 10am-6PM (commercial)
- Saturday: 24/7 (residential) ; 10am-6PM (commercial)
- Sunday: 24/7 (residential); N/A Commercial
- Holidays: 24/7 (residential); N/A Commercial

RESET FORM

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐Yes ☑No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐Yes ☐No

Describe:

n.. Will the proposed action have outdoor lighting? ☑Yes ☐No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Anticipate wall-mounted lights for safety/security, low-mounted lights along sidewalks and along internal roadway and at site entrance

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐Yes ☑No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐Yes ☑No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products (185 gallons in above ground storage or an amount in underground storage)? ☐Yes ☑No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

RESET FORM

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☑ Rural (non-farm)
☐ Forest ☑ Agriculture ☐ Aquatic ☑ Other (specify): transportation (LIRR); vacant;

ii. If mix of uses, generally describe:

Generally residential (with some commercial land) along both sides of North Phillips Avenue to both north and south of site, with Transportation (LIRR yard) to northeast, and Agriculture to north

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.45	1.73	+1.28
• Forested	2.13	0	-2.13
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	1.70	0	-1.70
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: landscaped	0	2.55	+2.55

RESET FORM

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐Yes ☑No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No

If Yes:

i. Has the facility been formally closed? ☐Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☐No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

RESET FORM

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐Yes ☐No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 1,100± feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Riverhead sandy loam,	40 %
0-3% slopes	%
Plymouth loamy sand, 3-8% slopes	60 %

d. What is the average depth to the water table on the project site? Average: 20 feet

e. Drainage status of project site soils:
☑ Well Drained: 100 % of site
☐ Moderately Well Drained: ____% of site
☐ Poorly Drained ____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: ____% of site
☐ 15% or greater: ____% of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐Yes ☑No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐Yes ☑No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐Yes ☐No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☐Yes ☑No

k. Is the project site in the 500 year Floodplain? ☐Yes ☑No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑Yes ☐No
If Yes:
i. Name of aquifer: ***Upper Glacial & Magothy***

RESET FORM

m. Identify the predominant wildlife species that occupy or use the project site: _____

Birds and small mammals _____ _____ _____

_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

RESET FORM

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

*Phase I CRA being prepared

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name *Phil Malicki, CEP, AICP, LEED AP; NP&V, LLC* Date *12/9/16*

Signature _____ Title *Senior Environmental Planner*

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Appendix A-2
Photographs of Site and Vicinity

NP&V, LLC

Photographs taken in November 2016

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

APPENDIX A-2
PHOTOGRAPH LOCATION MAP

Source: NYS Orthophotos, 2013

Scale: 1 inch = 120 feet

N

Speonk Commons
Change of Zone

Expanded EAF

Photograph 1: Photograph at northeast corner of property looking south along North Phillips Avenue.

Photograph 2-1: Photograph looking north along North Phillips Avenue from main entrance to property.

Photograph 2-2: Photograph looking northwest into the property from main entrance to property.

Photograph 2-3: Photograph looking west along the main driveway into the property from main entrance to property.

Photograph 2-4: Photograph looking south along North Phillips Avenue from main entrance to property.

Photograph 3: Photograph looking northwest into the property from the center of the property along North Phillips Avenue.

Photograph 4: Photograph taken at the southeast corner of the property looking west along southern property line.

Photograph 4: Photograph taken at the southeast corner of the property looking northwest at the main large abandoned building on the site.

Photograph 4: Photograph taken at the southeast corner of the property looking north along North Phillips Avenue.

Photograph 5-1: Photograph looking north at abandoned building behind main building in center of the property.

Photograph 5-2: Photograph looking west northwest at lawn and abandoned building along north property line in background.

Photograph 5-3: Photograph looking west southwest at start of Successional Southern Woodland and abandoned building near south property line.

Photograph 6: Photograph looking west at abandoned building mid back of property.

Photograph 7-1: Photograph looking west northwest at garbage within the Successional Southern Woodland on west end of the property.

Photograph 7-1: Photograph looking west southwest at garbage within the Successional Southern Woodland on west end of the property.

Photograph 8-1: Photograph looking west along driveway to back abandoned house.

Photograph 8-2: Photograph looking east along driveway to back abandoned house with the view of the large abandoned building in center of property.

Photograph 9-1: Photograph looking north at abandoned house in northwest corner of the property.

Photograph 9-2: Photograph looking south from abandoned house in northwest corner of the property at Successional Southern Woodland.

Photograph 10-1: Photograph looking north at west side of the abandoned house in northwest corner of the property.

Photograph 10-2: Photograph looking south from abandoned house in northwest corner of the property at an opening in the Successional Southern Woodland.

Photograph 11-1: Photograph looking north at an abandoned house midway along the north property boundary.

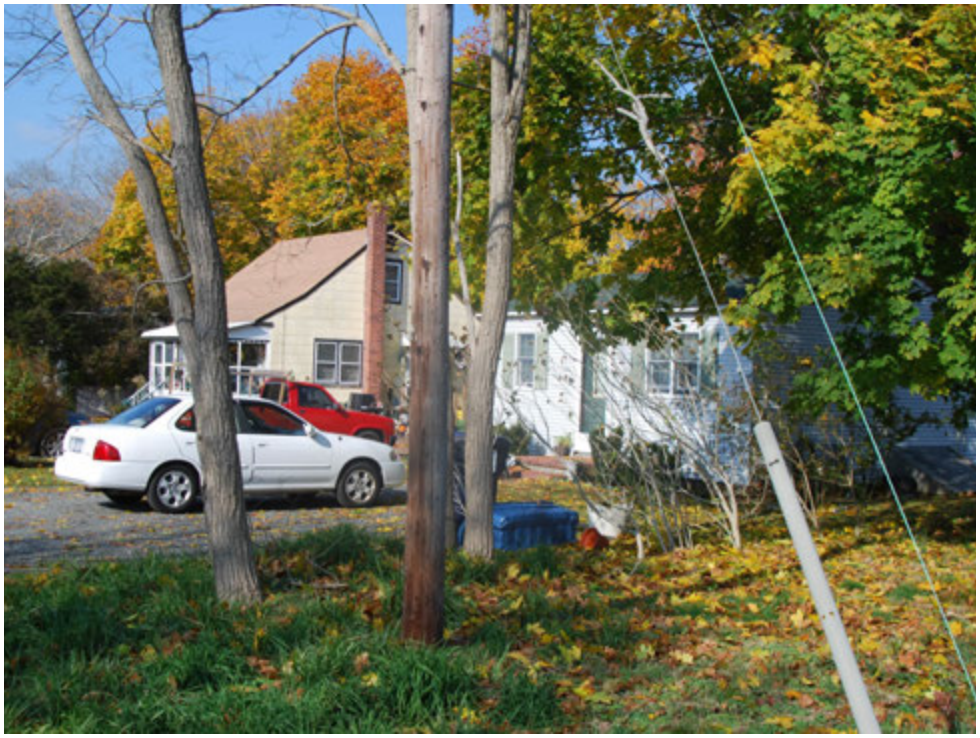
Photograph 11-2: Photograph looking southeast at two abandoned buildings within the center of the property.

Photograph 12: Photograph looking east behind the abandoned house midway along the north property boundary at garbage and into neighbors property beyond the fence line.

Photograph 13-1: Photograph looking at adjacent neighboring property to the northwest.

Photograph 13-2: Photograph looking east northeast along main entrance with inhabited house in northeast corner of property.

Photograph 14-1: Photograph looking north along property line of the adjacent property northwest.



Photograph 14-2: Photograph looking northwest at the two inhabited homes in adjacent properties.

Photograph 14-3: Photograph looking west of main driveway near adjacent properties.

Photograph 15: Photograph of Country Market across North Phillips Avenue of subject property.

Appendix A-3
Phase I Environmental Site Assessment (text, figures & Appendix E)

NP&V, LLC

November 25, 2015

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Phase I

Environmental Site Assessment

41 North Phillips Avenue

Speonk, New York

NP&V Job# 14258

November 25, 2015

CONFIDENTIAL AND PRIVILEGED

Phase I

Environmental Site Assessment

41 North Phillips Avenue

Speonk, New York

THIS DOCUMENT CONTAINS 32 PAGES OF TEXT

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NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Phase I

Environmental Site Assessment

41 North Phillips Avenue, Speonk

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Phase I
Environmental Site Assessment

41 North Phillips Avenue, Speonk

1.0 SUMMARY

The subject property has been inspected and reviewed independently by Nelson, Pope & Voorhis, LLC in order to determine potential environmental or public health concerns. This report is intended to identify Recognized Environmental Conditions (as defined in Standard Practice for Environmental Site Assessment; ASTM E 1527-13 and United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI)) on the subject property based on four (4) components of a Phase I Environmental Site Assessment (ESA): records review, site reconnaissance, interviews and evaluation and reporting. **Appendix A** provides a statement of limiting conditions. **Appendix B** includes the resumes of key personnel.

The subject property is located in the Hamlet of Speonk, Town of Southampton, County of Suffolk, New York. The subject property consists of a ±4.4 acre, irregularly-shaped parcel of developed land, located on the west side of Phillips Avenue, approximately 170 feet north of Montauk Highway. The property is more particularly described on the Suffolk County Tax Map as District 0900, Section 350, Block 02, Lot 18. The physical address of the property is 41 North Phillips Avenue.

The subject property is developed with one (1) main residence in the central portion of the subject property which is in a deteriorated condition, one (1) residence in the northeast corner of the subject property that is presently occupied, and three (3) vacant residences in the northwest, north-central and west portions of the subject property. In addition, the subject property contains one (1) metal shed in the south-central portion of the subject property that reportedly contains a boat. The main residence, occupied residence and metal shed were not accessible during the reconnaissance of the subject property. The remainder of the subject property consists of landscaped or undeveloped land. The residences consist of wood-framed structures, situated on concrete block foundations that form partial basements and/or crawl spaces. Exterior surfaces of the structures are primarily suspected asbestos or asphalt shingle siding and asphalt shingle roofs. The residences are connected to on-site sanitary systems and the local public water purveyor. Electrical service is available to the property and is provided by PSEGLI.

Fuel oil-fired boilers were observed in the basements of the vacant residences located in the north-central and west portions of the subject property. No fuel oil-fired boiler was observed in the basement of the house located in the northwest corner of the subject property. Evidence of three (3) underground storage tanks associated with the vacant residences was observed during the reconnaissance of the subject property, including vent pipes and/or fuel oil fill ports. Specifically, there is an underground fuel oil storage tank located on the southeast corner of the house located in the north-central portion of the subject property, an underground fuel oil storage tank located on the northeast corner of the house located on the west side of the subject property,

and an underground storage tank located on the southwest side of the house located in the northwest corner of the subject property. The age and capacity of these storage tanks are unknown. In addition, it is possible that there are existing storage tanks associated with the main residence and the occupied residence, since these structures were not accessed during the reconnaissance of the subject property.

One (1) propane storage tank was observed on the exterior of the main residence located in the central portion of the subject property. In addition, one (1) rusted drum with unknown contents or labels was observed on the west side of the residence located in the western portion of the subject property. There was no evidence of any floor drains, or hazardous materials on the subject property. In addition, there was no evidence of discharge, areas of stressed vegetation, staining, residue of oils or other toxic substances, pools of residue, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

Sanborn maps were not available for the area containing the subject property. Aerial photographs from 1957, 1962, 1966, 1970, 1976, 1980, 1985, 1994, 2006, 2008, 2009 and 2011 were reviewed in order to determine if any prior uses occupied the subject property. The subject property appeared to be developed with all of the existing structures in all of the available aerial photographs. The area surrounding the subject property was lightly developed and consisted of single-family dwellings, farmland, and wooded land in the 1957-1980 aerial photographs, and was more densely developed with single-family residences and condominiums in all of the remaining aerial photographs.

The USGS Riverhead and Eastport Quadrangle Maps dated 1904, 1944 and 1956 were reviewed. The subject property appeared to be located in a lightly developed area in the 1904 topographic map, and the subject property appeared to be developed with four (4) structures in the 1944 topographic map. The subject property appeared to be developed with all of the existing structures in the 1956 topographic map, and development of the surrounding area increased in the vicinity of the subject property. The surrounding area contained schools, country clubs, Long Island Railroad tracks, cemeteries and a racing strip.

An extensive government records search did not identify any sources of environmental degradation on the subject property. However, the subject property was identified as being located within the Speonk Solvent Plume site, which covers approximately 600 acres. The Speonk Solvent Plume area was identified as containing the presence of chlorinated solvent-contaminated groundwater in the area. The Suffolk County Department of Health Services (SCDHS) confirmed the presence of perchloroethene (PCE), trichloroethene (TCE), trichloroethane (TCA), carbon tetrachloroide and chloroform in groundwater in the area. All residential wells where contaminants were detected above New York State drinking water standards were connected to the public water supply system by the United States Environmental Protection Agency (USEPA) to eliminate the ingestion exposure pathway. The source of solvent contamination is unknown. Based on the State's review of the Site Characterization report, it was decided in May 2012 that the contaminated groundwater plume did not meet the criteria for listing it as a site on the New York State Registry of Inactive Hazardous Disposal Sites.

Several Federal, State and County documented regulated sites were noted in the vicinity of the subject property. Specifically, one (1) Inactive Hazardous Waste Disposal (IHWD) site is located within one (1.0) mile of the subject property, and one (1) Solid Waste Facility/Landfill (SWF), one (1) active and twenty (20) closed spill incidents, and no active and three (3) closed LUST incidents are located within one-half (0.5) mile of the subject property. In addition, five (5) Petroleum Bulk Storage (PBS) facilities, two (2) RCRA Generators and one (1) Permit Compliance System Toxic Wastewater Discharge (PCSTWD) facility are located within one-quarter (0.25) mile of the subject property.

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance to the methods and procedures, outlined within ASTM E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

For this assessment, under conditions where the direction of groundwater flow can be ascertained, critical search distances are used to determine if a VEC exists. Specifically, the following distances are applied to the Tier I Assessment:

<u>Upgradient Sources</u>
1,760 feet for Chemical of Concern (COC)
520 feet for petroleum hydrocarbons

<u>Cross-gradient Sources</u>
365 feet for COC
165 feet for petroleum hydrocarbon LNAPL sources & 95 feet dissolved petroleum hydrocarbon sources with plume considerations

<u>Down-gradient Sources</u>
100 feet for COC/petroleum hydrocarbon LNAPL sources
30 feet dissolved petroleum hydrocarbon sources

Review of the regulatory agency database report provided for the subject property identified one (1) closed spill incident located in close proximity to the subject property. Since this incident was relatively minor and has been addressed to the satisfaction of the NYSDEC, it is not expected to adversely affect the subsurface resources of the subject property. However, the subject property was identified as being located within the vicinity of the Speonk Solvent Plume, with known chlorinated solvent-contamination in groundwater. Therefore, the subject property may be adversely affected by a VEC. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

This assessment has identified the following with respect to recognized environmental conditions, controlled recognized environmental conditions, historic recognized environmental conditions and de minimus conditions in connection with the subject property, subject to the methodology and limitations of this report.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Evidence of three (3) underground storage tanks associated with the three (3) vacant residences was observed during the reconnaissance of the subject property. The age and capacity of these storage tanks is unknown.

2. The main house and occupied residences may contain storage tanks. The structures were not accessed during the reconnaissance of the subject property.

3. There is a propane storage tank located on the exterior of the main residence located in the central portion of the subject property, and a rusted drum located on the exterior of the residence located in the western portion of the subject property.

4. The residences are connected to on-site sanitary systems.

5. The subject property was identified as being located within the Speonk Solvent Plume, with known contamination in groundwater by chlorinated solvents.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

One (1) de minimus condition was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Miscellaneous debris and litter was observed in several locations throughout the subject property. Although it is not expected to adversely affect the subject property, the debris and littler should be removed and properly disposed of.

No historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

This report was completed in accordance with the standards set forth in the ASTM E 1527-13 and the USEPA AAI. ASTM protocols identify asbestos containing material (ACM) as non-scope issues. In the interest of serving the client, observations concerning ACM are included herein. This visual assessment should not be considered an asbestos survey which would be required for building demolition and/or identification of all possible sources of ACM, regardless of health danger. Based on observations made during the site reconnaissance, the following is noted:

1. Suspect asbestos shingles were observed on the exteriors of the residences. If the buildings are to undergo major renovation or demolition, an Asbestos Survey should be completed in accordance with the New York State Department of Labor Industrial Code 56.

The observation noted above is not intended to eliminate any other possible sources which may or may not be present.

NP&V has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 and USEPA AAI for 41 North Phillips Avenue, Speonk. Any exceptions to, or deletions from, this practice are described in Section 11.0 of this report. In conclusion, this assessment has revealed evidence of five (5) recognized environmental conditions and one (1) de minimus condition in connection with the subject property, subject to the methodology and limitations of this report.

2.0 INTRODUCTION

2.1 PURPOSE

This report is intended to meet the format and requirements of the ASTM Standard Practice for Environmental Site Assessments, as published in ASTM E 1527-13 and USEPA AAI standards. Banks, insurance companies and prospective property purchasers require an understanding of existing and past property conditions and uses in order to assess the potential liabilities associated with a site. This assessment has been completed by a qualified environmental professional as defined in ASTM Standards. The objectives of this Environmental Site Assessment are stated as follows:

- Establish a basis of understanding of past and present use in order to determine potential environmental and/or public health risk.
- Establish a basis of understanding of surrounding uses, and area environmental resources in order to determine if the property is affected by such uses or resources.
- Identify, to the extent feasible, *recognized environmental conditions* (i.e., potential risk caused by the presence of Hazardous Substances or Petroleum Products) in connection with the site and adjoining properties.
- Identify any known or potential items in noncompliance with applicable Local, State or Federal laws and regulations.
- Specify how any items in noncompliance with applicable Local, State or Federal laws and regulations can be brought into compliance.
- Confirm the absence of environmental problems or quantify potential environmental liabilities. In the event such findings cannot be made, recommend further environmental sampling.

The final purpose of the report is to utilize the information gained to report "Recognized Environmental Conditions", a very important term defined and utilized in the ASTM Standards. Recognized Environmental Conditions are defined as follows:

> *The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.*

2.2 DETAILED SCOPE OF SERVICES

This ESA has been completed by Nelson, Pope & Voorhis, LLC, in accordance with ASTM standards. The following documentation is intended to provide the financing institution with the information related to the environmental and public health integrity of the subject property.

The report was completed utilizing a variety of techniques and sources of information. The following is a procedural account of the methodology for report preparation:

1) Field inspection of the site was conducted including indoor and outdoor facilities and interview of site personnel and property owners, to document facilities and operations, and to determine applicable Federal, State and Local laws and regulations.
2) Inspection of areas surrounding the site was conducted in order to document surrounding uses as related to the integrity of the subject site.
3) Federal government records were researched including the NPL site list, the CERCLIS site list, and RCRA Hazardous Waste TSD Facilities and Generator Lists, and ERNS lists to determine if the site or adjacent sites are included in listings.
4) State government records were researched including NYS Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal site lists, landfills and solid waste disposal facilities, registered underground storage tanks (USTs), wastewater disposal sites, air emission sources, and leaking USTs/materials spill lists, to determine if the site or adjacent sites are included in listings.
5) County government records were researched including tank and drum registration, violations/enforcement action files, and for sites in Suffolk County, the CLEARS remote sensing site inventory.
6) Local government records were researched including zoning, assessor's records, building permit and Certificate of Occupancy to determine site compliance and history.
7) Records involving Transfer of Property were reviewed as available to determine site ownership and history where possible.
8) Published literature concerning on-site soils, and groundwater resources were reviewed as related to environmental audits to establish environmental resource information.
9) Additional interviews of past owners and operators, surrounding property owners/users were conducted as necessary.
10) Conclusions regarding the site were formulated based upon the above tasks.
11) No sampling of suspected recognized environmental conditions was completed as part of this report.
12) Non-scope issues such as asbestos, radon, lead based paint, wetlands, lead in drinking water, cultural and historic resources, endangered species, indoor air quality, mold, etc. are addressed with certain limitations noted herein. If obvious signs of such issues were observed during the site reconnaissance, such observations are indicated in the report. However, this report should not be considered a full asbestos survey, lead based paint report, wetlands delineation survey, mold assessment, etc. The recommendations of this will indicate if a full survey or report should be undertaken to fully determine if such issues exist on the subject property.

2.3 LIMITATIONS AND EXCEPTIONS

This report is dated, and is only valid for activities which occurred prior to the date of facility inspection. Activities, liabilities and alterations to environmental conditions documented in this report that may have occurred subsequent to the date of inspection are not included in this analysis.

There are several limitations of this study which should be understood. The study is intended to assess the potential for public health or environmental liabilities based upon examination of the subject property in accordance with the ASTM Standards. The ASTM Standards provide specific guidance with regard to radon, asbestos, lead in drinking water and lead based paint.

Analysis of the CERCLA implications with regard to the innocent purchaser defense under Superfund, finds that naturally occurring radon is not subject to CERCLA liability and is appropriately considered as a non-scope issue. Accordingly, this survey will not address radon gas, and will not involve or recommend air monitoring for radon gas. As a point of information for users of this report, radon is a colorless, odorless, inert gas which has become a common air contaminant of concern in certain geographic areas. Radon is a natural isotope, which is present most commonly in association with crystalline bedrock and at times other geologic deposits. Natural isotope decay, can emit radiation which causes health concerns due to inhalation **(Sax and Lewis, 1987).** Radon levels generally increase in areas where bedrock is close to the land surface, and generally creates a health related problem only where underground basements are constructed which may allow radon gas to accumulate in a manner which would cause exposure. Geographically, radon may be of concern in some portions of western Long Island, New York City and nearby counties. Absent these conditions radon gas presents less of a concern. Similarly, the ASTM Standards do not recognize liability with regard to asbestos that is part of the building materials of a structure, in accordance with CERCLA innocent purchaser defense under Superfund. If asbestos containing material is disposed of on a site however, such practice would be subject to Superfund response actions and should be identified. In the interest of serving the client, and addressing the needs of lending institutions, this report will identify observed asbestos containing material (ACM) on the site which may cause a health danger or is considered friable, as a non-scope issue. This report is not a full asbestos survey as would be required for building demolition, or identification of all possible sources of ACM, regardless of health danger.

Lead in drinking water and lead based paint are also issues which are considered to be non–scope under CERCLA innocent purchaser defense under Superfund. Lead based paint has been in use for many years, and it is likely that most older buildings will contain this paint. As a general rule, painted surfaces should be maintained and ingestion of paint products should be avoided. If disposal of these materials is involved, disclosure of this practice would be subject to the scope of this environmental audit. Lead in drinking water occurs generally as a result of past use of high lead content solder. Water left stagnant in pipes overnight or longer, may leach lead from these joints and affect drinking water quality. As a general rule, water should be run for several minutes in the morning where such plumbing is present.

This report cannot identify all sources of PCB containing oils. Common sources of these materials include transformers and fluorescent lamp ballast. Electric service transformers may include ground level or pole mounted units. These transformers are owned and maintained by the Long Island Power Authority (LIPA), the entity responsible for their use and integrity. Transformers are inventoried and periodically inspected. LIPA environmental engineer Mike Lauro reported in conversation that LIPA transformers were not manufactured to contain PCB

contaminated oils. Aggressive and destructive testing which would be required for definitive identification of PCB's is beyond the scope of this study. The study will however identify observed potential sources, fluid leaks, hazardous materials and/or petroleum substance disposal and other environmental or health hazards appropriate the scope of the survey.

It must be noted that the accuracy of any Environmental Site Assessment is limited to the information available during the time of the site survey, and from the records, files and drawings provided by the owner and released by governmental agencies; and, the accuracy and completeness of the information provided during interviews. **Appendix A** of this report contains a Supplemental Statement of Conditions for Phase I Environmental Audits. This list was established by the Environmental Assessment Association (EAA) in order to standardize procedures and understanding with regard to the scope of environmental audits. Charles J. Voorhis is an active member of the EAA and is a Certified Environmental Inspector (CEI). Nelson, Pope & Voorhis, LLC (NP&V), may be contacted if there are any questions regarding this analysis or the methods involved. The resumes of key personnel involved in the preparation of this report are included in **Appendix B**.

2.4 SPECIAL TERMS AND CONDITIONS

It is the responsibility of the user of this report (for example, the purchaser, potential tenant, owner lender or property manager) to provide certain segments of information utilized in the report. This would include reporting of any *environmental liens* (i.e. consideration against property for response action, cleanup or remediation of hazardous substances or petroleum product) encumbering the property or specialized knowledge or experience that would assist in identifying *recognized environmental conditions*.

It must be recognized that the level of inquiry is variable for each Phase I Environmental Site Assessment, depending upon the availability of information and quality of information received. As per the ASTM Standards, it should also be noted that the "environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I Environmental Site Assessment or otherwise actually known to the environmental professional". Personnel involved in report preparation will make judgments on the accuracy of information and conduct additional research as necessary in order to meet the requirement of identifying recognized environmental conditions on the site. ASTM Standards provide a number of standards sources of historic information, any one of which may be sufficient. Nelson, Pope & Voorhis, LLC will seek to research as many sources of historic information as may be available as a means cross confirmation. Based on ASTM Standards, the Phase I Environmental Site Assessment is not intended to include any sampling or testing of materials associated with the project site (i.e. soil, water, air or building materials). Accordingly, this report will conform with this intent and no testing will be conducted.

2.5 USER RELIANCE

Nelson, Pope & Voorhis, LLC (NP&V) understands that our client (and their successors or assigns) are relying upon the contents of this Phase I Environmental Site Assessment report for the above referenced property in making a loan secured by or affecting the property and/or acquiring the property as the case may be. The format of this Phase I Environmental Site Assessment was predicated upon general guideline requirements established by individual lending institutions, American Society for Testing and Materials Standards (1527-13) and United States Environmental Protection Agency (USEPA) All Appropriate Inquiries (AAI) standards, various professional organizations, and our professional judgment.

The date of inspection, key personnel in the preparation of the report, and a list of persons interviewed is provided below in order to provide further insight into methodology:

Project Commenced:	October 28, 2015
Inspection Date:	November 24, 2015
Report Date:	November 30, 2015
Inspector/Preparer:	Charles J. Voorhis, CEP
	Steven J. McGinn, CEI
Persons Interviewed	Daphne, Property Owner

3.0 SITE DESCRIPTION & RECONAISSANCE

3.1 OBJECTIVES

The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the subject property. The site reconnaissance typically involves observing all areas of the subject property in order to determine if any potential recognized environmental conditions are present.

3.2 METHODOLOGY

All areas of the exteriors and most areas of the interiors of the buildings were observed. Due to the deteriorated condition of most of the on-site buildings, the interior of the building were inspected. The exteriors of the buildings was examined for any potential pipes or structures which may indicate a potential recognized environmental condition that may be present. The exteriors of the buildings and remaining area which comprises the subject property were walked in order to identify potential recognized environmental conditions associated with the specific use of the subject property and the uses surrounding the subject property.

3.3 LIMITATIONS

All areas of the subject property were inspected without impediments, except that the main residence, the occupied residence in the northeast corner and metal shed located in the southwest portion of the property. These structures were not accessible due to the deteriorated condition of the structure or the buildings were locked.

3.4 LOCATION, SETTING AND LEGAL DESCRIPTION

The subject property is located in the Hamlet of Speonk, Town of Southampton, County of Suffolk, New York. The subject property consists of a ±4.4 acre, irregularly-shaped parcel of developed land, located on the west side of Phillips Avenue, approximately 170 feet north of Montauk Highway. The property is more particularly described on the Suffolk County Tax Map as District 0900, Section 350, Block 02, Lot 18. The physical address of the property is 41 North Phillips Avenue. **Figure 1** provides a location map depicting the subject property and the surrounding area. *All figures are located in a separate section immediately following the text of this report.*

3.5 EXISTING AND PAST SITE USES

The subject property is developed with one (1) main residence in the central portion of the subject property which is in a deteriorated condition, one (1) residence in the northeast corner of the subject property that is presently occupied, and three (3) vacant residences in the northwest, north-central and west portions of the subject property. In addition, the subject property contains

one (1) metal shed in the south-central portion of the subject property that reportedly contains a boat. The main residence, occupied residence and metal shed were not accessible during the reconnaissance of the subject property. The remainder of the subject property consists of landscaped or undeveloped land. A copy of a recent aerial illustrating the development on the subject property is provided as **Figure 2**.

In terms of available records, historical use can be documented using a variety of standard records. The intent is to trace land use to a period prior to 1940. For the purpose of this Environmental Site Assessment, as many sources as are reasonably available have been consulted. The following are considered standard historical sources:

Aerial Photographs
Fire Insurance Maps (Sanborn Maps)
Property Tax Files
Recorded Land Title Records
USGS 7.5 Minute Topographic Maps
Local Street Directories (Cole Directories)
Building Department Records
Zoning/Land Use Records

3.5.1 Aerial Photography

Aerial photographs from 1957, 1962, 1966, 1970, 1976, 1980, 1985, 1994, 2006, 2008, 2009 and 2011 were reviewed in order to determine if any prior uses occupied the subject property. The subject property appeared to be developed with all of the existing structures in all of the available aerial photographs. The area surrounding the subject property was lightly developed and consisted of single-family dwellings, farmland, and wooded land in the 1957-1980 aerial photographs, and was more densely developed with single-family residences and condominiums in all of the remaining aerial photographs. Refer to **Appendix E** for a copy of the aerial photographs.

3.5.2 Sanborn Maps

Sanborn map coverage was not available for the area containing the subject property. Refer to **Appendix F** for a copy of the Sanborn report.

3.5.3 USGS Quadrangle Maps

The USGS Riverhead and Eastport Quadrangle Maps dated 1904, 1944 and 1956 were reviewed. The subject property appeared to be located in a lightly developed area in the 1904 topographic map, and the subject property appeared to be developed with four (4) structures in the 1944 topographic map. The subject property appeared to be developed with all of the existing structures in the 1956 topographic map, and development of the surrounding area increased in the vicinity of the subject property. The surrounding area contained schools, country clubs, Long Island Railroad tracks, cemeteries and a racing strip. Refer to **Appendix G** for a copy of the topographic maps.

3.5.4 Other Sources

The EDR City Directory Abstract was consulted for the years 1970, 1975, 1980, 1985, 1992, 1995, 1999, 2003, 2008 and 2013 to identify occupants of the subject property and surrounding properties. Review of the City Directory listings revealed that no occupancy listings were available for the subject property in any of the listings. The only occupants identified on North Phillips Avenue included Peggy and Chris Keatts in 1992 and Mayra Muralles in 2013. Refer to **Appendix H** for a copy of the City Directory Abstract.

3.5.5 Data Gaps

The aerial photographs received exceeded the five (5) year interval in several consecutive photographs in the series as noted above. The data gap has been evaluated and it is noted that the subject property was vacant land prior to the construction of the existing structures.

3.6 SITE AND VICINITY CHARACTERISTICS

The subject property is developed with one (1) main residence in the central portion of the subject property which is in deteriorate condition, one (1) residence in the northeast corner of the subject property that is presently occupied, and three (3) vacant residences in the northwest, north-central and west portions of the subject property. In addition, the subject property contains one (1) metal shed in the south-central portion of the subject property that reportedly contains a boat. The main residence, occupied residence and metal shed were not accessible during the reconnaissance of the subject property. The remainder of the subject property consists of landscaped or undeveloped land. **Appendix D** contains site photographs which depict typical views of the subject property. An aerial photograph depicting the existing conditions of the subject property is provided as **Figure 2**.

The area immediately surrounding the subject property is a mix of residential and commercial uses that are described in more detail in **Section 3.8**. An aerial photograph depicting the surrounding property uses is provided as **Figure 3**.

3.7 DESCRIPTION OF SITE IMPROVEMENTS & FACILITIES

The subject property is developed with five (5) residences and one (1) metal shed structure. The remainder of the property consists of a landscaped and undeveloped areas. Following, is a specific description of construction materials and building characteristics:

Construction - The residences consist of wood-framed structures, situated on concrete block foundations that form partial basements and/or crawl spaces. Exterior surfaces of the structures are primarily asbestos and asphalt shingle siding and asphalt shingle roofs.

Interior - The interiors of the residences were not inspected during the reconnaissance of the subject property.

Heating/Air Conditioning Equipment - Fuel oil-fired boilers were observed in the basements of the vacant residences located in the north-central and west portions of the subject property. No fuel oil-fired boiler was observed in the basement of the house located in the northwest corner of the subject property. The interiors of the main house, occupied house located in the northeast corner of the property and the metal shed located in the southwest portion of the property were not inspected during the reconnaissance of the subject property.

Asbestos Containing Material (ACM) - Suspect asbestos shingles were observed on the exteriors of the residences. Since the interior of some of the buildings could not be accessed at the time of the site reconnaissance, it is uncertain if suspect asbestos containing materials are present in these structures. According to Industrial Code 56, if major renovation or demolition of any of the buildings is contemplated, a complete asbestos survey for both friable and non-friable ACM is required. This report is not a substitute for a complete demolition asbestos survey.

Storage Tanks - Evidence of three (3) underground storage tanks associated with the vacant residences was observed during the reconnaissance of the subject property, including vent pipes and/or fuel oil fill ports. Specifically, there is an underground fuel oil storage tank located on the southeast corner of the house located in the north-central portion of the subject property, an underground fuel oil storage tank located on the northeast corner of the house located on the west side of the subject property, and an underground storage tank located on the southwest side of the house located in the northwest corner of the subject property. The age and capacity of these storage tanks are unknown. In addition, it is possible that there are existing storage tanks associated with the main residence and the occupied residence, since these structures were not accessed during the reconnaissance of the subject property. One (1) propane storage tank was observed on the exterior of the main residence located in the central portion of the subject property.

Drum Storage - One (1) rusted drum with unknown contents was observed on the exterior of the residence located in the western portion of the subject property.

Sanitary Disposal - The existing structures are connected to individual on-site sanitary systems.

Water Supply - The subject property is serviced by the local municipal water purveyor.

Electric Utility - Electrical service is available to the property and is provided by PSEGLI.

PCBs - No transformers or other sources of PCBs were observed on the subject property.

Floor Drains - No floor drains were observed during the reconnaissance of the subject property.

Stormwater - No stormwater drainage features were observed during the reconnaissance of the subject property.

There was no evidence of discharge, major staining, areas of stressed vegetation, residue of oils or other toxic substances, pools of discharge, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

3.8 ADJACENT LAND USE

Current land use at the subject property and surrounding area is described based on aerial photographs and visual observations. The area immediately surrounding the subject property is a mix of commercial/industrial and residential uses. An aerial photograph depicting the surrounding property uses is provided as **Figure 3**.

North: Single-family residences, beyond which is the Speonk Long Island Railroad Station.
South: Single-family residences, beyond which is Montauk Highway.
East: North Phillips Avenue, beyond which are single-family residences and condominiums.
West: Vacant, wooded land and single-family residences.

Past uses in the vicinity of the subject property are described based on review of historic aerial photographs and the field reconnaissance. The area surrounding the subject property was vacant wooded land prior to the construction of the existing residential development surrounding the subject property.

3.9 NATURAL SETTING

3.9.1 Soils and Topography

The surficial geology of a site can often provide insight into the past activities on a given parcel of land. The Soil Survey of Suffolk County, conducted by the U.S. Department of Agriculture in 1975 is a useful source of soils information, which identifies soil types resulting from natural deposition and modification, as well as man-induced alterations associated with land use.

The subject property is comprised of soil types: RdA - Riverhead Sandy Loam (0-3% slopes) and PIB - Plymouth Loamy Sand, 3-8% slopes. The characteristics of these soil types are identified as follows **(Warner et al., 1975)**:

> *Riverhead Sandy Loam, 0-3% slopes (RdA) - Consists of deep, excessively drained, coarse - textured soils that formed in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. This soil is generally found on outwash plains, and the areas are large and uniform. The hazard of erosion is slight.*
>
> *Plymouth Loamy Sand, 3-8% slopes (PlB) - Consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand over thick layers of stratified coarse sand and gravel. This soil is on moraines and outwash plains. The erosion hazard is slight and soil tends to be droughty.*

The nature of the surrounding area consists of residential and commercial uses. The subject property has flat topography and neither soils nor topography appear to pose a constraint to the current use of the subject property. Bedrock in the vicinity of the subject property is approximately 1,500 feet below grade. The soil types overlying and surrounding the subject property are illustrated in **Figure 5**. The topography of the subject property is provided in **Figure 6**.

3.9.2 Groundwater Resources

Groundwater on Long Island is entirely derived from precipitation. Precipitation entering the soils in the form of recharge, passes through the unsaturated zone to a level below which all strata are saturated, referred to as the water table. The groundwater table is equal to sea level on the north and south shores of Long Island, and rises in elevation toward the center of the Island. The high point of the parabola is referred to as the groundwater divide. The changes in elevation of the water table create a hydraulic gradient which causes groundwater to flow, dependent upon potential.

The subject property is located to the south of the regional groundwater divide indicating that in the horizontal plane, flow is generally toward the south. Therefore, groundwater will ultimately be discharged from the subsurface system into Moriches Bay, southwest of the subject property. The major water bearing units beneath the subject property include: the Upper Glacial aquifer, the Magothy aquifer, and the Lloyd aquifer **(Smolensky et al, 1989).**

The elevation of groundwater beneath the subject property is approximately twelve (12) feet above msl, depending on meteorological conditions associated with the water year. The topographic elevation of the subject is approximately thirty (30) feet. Therefore, the depth to groundwater is approximately eighteen (18) feet. The water table elevations and generalized direction of flow are illustrated in **Figure 7**.

The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) provides information on water quality from 0 to 400 feet below the water table, based upon observation as well as public and private water supply and well monitoring. The general area in proximity to the subject properties is depicted as having good water quality with respect to nitrate-nitrogen (0-6 mg/l) at between 0 and 100 feet. With regard to organic compounds, SCDHS water quality data presented in the Suffolk County Comprehensive Water Resources Management Plan indicates that Volatile Organic Compound levels at 0-100 feet below the water table are good (<60% of standard) and found not to exceed drinking water standards the majority of the time; however, there are several areas in proximity to the site that exceed drinking water standards for organic parameters.

The Suffolk County Department of Health Services (SCDHS) conducted an eighteen (18) month long study of the impact pesticides have had on the groundwater. The study obtained water quality information from across the full geographic area of both counties

in order to identify if any pesticides and metabolites had leached into the groundwater. The data from the wells in Nassau County and the five (5) western Towns of Suffolk show that only 1.5 and 2.0%, respectively, exceeded the pesticide related drinking water MCL and 15.4% of the wells in the five (5) eastern Suffolk Towns exceeded the MCL. Private wells in the five (5) eastern towns are at the highest risk of pesticides contamination. Based on the maps provided in the appendix of the SCDHS report, the subject property is not located in the vicinity of any wells which are contaminated with pesticides.

There are no water supply wells in the vicinity of the subject property.

3.9.3 Wetlands

The subject property was inspected to identify the possible presence of any wetland vegetation and/or water surfaces that would sustain wetland vegetation. The site reconnaissance did not reveal any wetlands or wetland species present on the subject property. Review of NYSDEC Freshwater Wetland and Tidal Wetland maps and the National Wetland Inventory Maps confirmed that there are no designated wetlands on the subject property. The NYSDEC Wetland map, **Figure 9**, indicated that the subject property is located approximately 0.6 miles north, east and west of Tidal Wetlands, designated IM and Freshwater Wetlands designated E-3 and E-12. The National Wetlands Inventory Map, **Figure 10**, indicated that the subject property is located approximately 0.6 miles east of Freshwater Forested/Shrub wetlands, Freshwater Ponds, and Estuarine and Marine Deepwater wetlands.

3.9.4 Coastal Barrier Improvements/Flood Plains

The subject property is not located in the vicinity of a coastal area; therefore, coastal barrier improvements are not required. The entirety of the subject property is located within Flood Zone X, and area with minimal flood hazards. The subject property is located approximately 0.6 miles north, east and west of Flood Zone AE areas. The portion of the Flood Insurance Rate Map that covers the subject property is provided in **Figure 11**.

3.9.5 Critical Habitat/Endangered Species

The NYSDEC Environmental Resource Mapper identified the subject property as being within the vicinity of six (6) rare species: Swamp Sunflower, Little-leaf Tick-trefoil, Golden Dock, White Milkweed, Collins' Sedge and Sedge Wren, although it was noted that these listings may be from old or potential records since they were not displayed on the map. No rare species were identified during the reconnaissance of the subject property. This report is not a substitute for an ecological survey.

4.0 USER PROVIDED INFORMATION AND INTERVIEWS

The purpose of this section as defined in Section 6 of the ASTM E1527-13 is to describe tasks to be performed by the user (the individual or entity for which this document has been prepared) that will help identify the possibility of recognized environmental conditions in connection with the subject property. This information does not require the technical expertise of an environmental professional and is generally not performed by environmental professionals who prepare Phase I Environmental Site Assessments. The information provided in this section is the sole responsibility of the user and has been included in this report if provided by the user.

4.1 Title Records

No Title Insurance Report was provided for review as part of this Phase I ESA.

4.2 Environmental Liens or Activity and Use Limitations

No environmental liens appear to have been imposed on the subject property. No other activity or use limitations have been imposed on the subject property to best of our knowledge.

4.3 Specialized Knowledge Obtained from Interviews

No specialized knowledge was obtained regarding the subject property.

4.4 Commonly Known or Reasonably Ascertainable Information

No additional information, other than that previously noted was available or provided regarding the subject property.

4.5 Property Valuation Reduction for Environmental Issues

Based on the inspection of the property and review of available documentation, no reduction in the price of the land appears to be warranted due to the presence of past or existing hazardous or toxic materials, provided the recommendations in *Section 6.0* are addressed.

4.6 Owner, Property Manager and Occupant Information

The Suffolk County Tax Assessor records indicated that the overall property is owned by Sanborn Land LLC. The subject property is developed with a five (5) residences and one (1) metal shed.

4.7 Reason for Performing Phase I ESA

This Phase I ESA has been completed as part of the due diligence of purchasing the subject property.

5.0 ENVIRONMENTAL RECORDS AND AGENCY DATA REVIEW

With the understanding of the facilities at the subject property, it is important to establish the environmental and regulatory conditions of the subject property and surrounding area, as related to public health and environmental issues. This section of the report includes a review of agency records, soils and groundwater resources and historical data review. The site inspection and the environmental and regulatory conditions form the basis for conclusions regarding the risks and liabilities associated with this site.

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

A search of Federal, State and Local databases was performed in order to provide a profile of the site and surrounding area with regard to published government agency records. The procedures employed adhere as closely as possible to ASTM standards.

Contact was made with the United States Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), the Suffolk County Department of Health Services (SCDHS), and local government regarding environmental and/or public health concerns associated with the subject property.

5.1.1 United States Environmental Protection Agency

The United States Environmental Protection Agency was contacted in order to obtain information regarding the National Priorities List (NPL), and sites documented on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The NPL defines all known hazardous material waste sites, which are described by the Federal Government as needing immediate cleanup action. All hazardous material waste sites considered for addition to the NPL are listed in the CERCLIS list.

Review of the NPL Site List (search distance 1.0 mile), and the CERCLIS) lists (search distance 0.5 miles) finds the following with respect to the subject property and surrounding area:

1. The subject property did not appear on the NPL, Delisted NPL or CERCLIS lists.
2. There were no sites appearing on the NPL list located within one (1.0) mile of the subject property.
3. There were no sites appearing on the Delisted NPL list located within one half (0.5) mile of the subject property.
4. There were no sites appearing on the CERCLIS list located within one-half (0.5) mile of the subject property.
5. There were no sites appearing on the CERCLIS NFRAP list located within one-half (0.5) mile of the subject property.

The USEPA was also contacted in order to obtain information concerning RCRA TSD facilities (treatment, storage, and disposal of hazardous wastes, as defined and regulated by the Resource Conservation and Recovery Act, RCRA), and RCRA Generators (of hazardous wastes as defined and regulated by RCRA). RCRA TSD facilities are sites that treat, store or dispose of wastes that can be toxic, flammable, corrosive, explosive or otherwise hazardous; and, RCRA Generators are sites that generate or transport wastes of the above noted characteristics. The search also included review of the Emergency Response Notifications System (ERNS) list, which is a list of reported releases or spills in quantities greater than reportable quantities, Federal Permit Compliance System Toxic Wastewater Discharges (PCSTWD) which permits toxic wastewater discharges and Federal Civil Enforcement Docket (CED) which lists judiciary cases filed on behalf of the EPA by the Department of Justice.

Review of the RCRA TSD Facilities List (search distance 1.0 mile), the PCSTWD and CED facilities (search distance 0.25 mile), the RCRA Generator List (search distance, subject property and adjoining properties), and the ERNS List (search distance, subject property only) finds the following with respect to the subject property and surrounding area:

1. The subject property did not appear on the RCRA TSD Facilities List, or the ERNS List.
2. The subject property was not listed as a RCRA Generator.
3. The subject property was not listed as a Civil Enforcement Docket Facility.
4. The subject property was not listed for Permit Compliance System Toxic Wastewater Discharges.
5. The subject property was not identified on the ERNS list.
6. There were no sites listed as RCRA TSD facilities identified within one (1.0) mile of the subject property.
7. There were two (2) RCRA Generators listed within one-quarter (0.25) mile of the subject property.
    a. NYSDEC Region 1 (Facility ID# NYD982719155), located 371 feet to the south-southeast on Phillips Avenue and Montauk Highway, was historically listed as a large quantity generator. The facility generated 106 gallons of solid waste that exhibits the characteristic of ignitability in 1989, and 1,500 lbs. of benzene in 1995.
    b. LIRR (Facility ID# NYR000109868), located 1,192 feet to the east-northeast on North Phillips Avenue, was EPA-classified as a conditionally exempt small quantity generator, and was historically listed as a small quantity generator and a large quantity generator. The facility generated 800 lbs. of solid waste that exhibits the characteristic of ignitability in 2005, and 51 gallons of solid waste that exhibits the characteristic of ignitability in 2011.
8. There were no CED facilities within one-quarter (0.25) mile of the subject property.
9. There was one (1) PCSTWD facility located within one-quarter (0.25) mile of the subject property.
    a. LI Railroad - Speonk Yard (Facility ID# NY0226955), located 1,267 feet to the east-northeast on Depot Road, is an active railroad (line haul operating) facility that had a permit issued for a minor discharge in 2004. The permit reportedly expired in 2009.

The RCRA Generator program is intended to track the origin and destination of hazardous waste, and there is no indication that listing on this inventory constitutes an environmental threat. In addition, the Federal Facilities Index that includes resources conservation and Recovery Corrective Action Sites (CORRACTS) was reviewed. No CORRACTS sites were identified in the vicinity of the subject property.

5.1.2 New York State Department of Environmental Conservation (NYSDEC)

The NYSDEC is charged with the responsibility of registering inactive hazardous waste disposal sites, and administering the investigation and cleanup of such sites. The NYSDEC inventory is contained in the publication, Inactive Hazardous Waste Disposal Sites in New York State. The inventory provides the location, extent of contamination and remediation status of each listed site in New York State. Accordingly, the registry of the NYSDEC was consulted for information on Inactive Hazardous Waste Disposal Sites (IHWDS). The NYSDEC provides information regarding Hazardous Substance Waste Disposal Sites (HSWDS) that are sites contaminated with toxic substances but are not eligible for state cleanup funding programs. The NYSDEC provides information regarding Brownfield cleanup site - these are sites that are abandoned, idled or under-used industrial and/or commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination. Similarly, the NYSDEC is responsible for permitting Solid Waste Facilities (SWF) - these are facilities including landfills, incinerators, transfer stations and other solid waste management sites. The NYSDEC also registers Petroleum Bulk Storage (PBS) where the total storage capacity at the facility exceeds 1,100 gallons, Chemical Bulk Storage (CBS), Major Oil Storage Facilities (MOSF) and Toxic Release Inventory Sites (TRI). Finally, the NYSDEC regulates and monitors Air Discharges and NYS Toxic Spills which include Leaking Underground Storage Tanks (LUSTs).

Review of the IHWDS, Brownfield Sites and HSWDS Lists (search distance 1.0 mile), SWF, CBS and MOSF lists, and LUST Lists (search distance 0.5 miles), TRI and Air Discharge sites (search distance 0.25 miles) and the PBS List (search distance, subject property and adjoining properties) finds the following with respect to the subject property and surrounding area:

1. The subject property was not listed as an IHWDS Brownfields or HSWDS site.
2. The subject property was not listed on the SWF, CBS or MOSF Lists.
3. The subject property was not listed as a PBS facility.
4. The subject property was not listed on the NYS Toxic Spill site list.
5. The subject property was not listed as a TRI Site.
6. The subject property was not listed on the NYS Air Discharge list.
7. The subject property was not listed as having a LUST incident.
8. There as one (1) IHWDS listing located within one (1.0) mile of the subject property.
    a. Speonk Solvent Plume (Facility ID# 152185), located 2,715 feet to the north on North Phillips Avenue, is a site in which remediation is complete, although the site may still require some degree of site management. The subject property was identified as being located within this plume. A portion of the subject property was used as a former bombing range during World War II. A junk yard and asphalt plant are located in the northern area of the property and various

commercial buildings have been erected along Speonk-Riverhead Road. In December 2001, the SCDHS sampled a number of private wells in Speonk near the intersection of Old Country Road and North Phillips Avenue, which revealed the presence of four chlorinated solvents in the water at four of the homes. The USEPA extended the public water supply main to the four affected homes to eliminate the exposure to these contaminants. The SCDHS has investigated the groundwater contamination in the area. Soil sampling did not report contaminants of concern at levels exceeding SCGs. PCE and chloroform were detected in soil vapor but did not require mitigation.

9. There were no HSWDS facilities located within one (1.0) mile of the subject property.
10. There were no Brownfields Sites located within one (1.0) mile of the subject property.
11. There was one (1) SWF listing identified within one-half (0.5) mile of the subject property.
    a. Peconic Auto Wreckers Inc. (Facility ID# NY40000011737), located 2,002 feet to the east on Montauk Highway, is an active vehicle dismantling facility that began operations in 2002.
12. There were five (5) PBS facilities within one-quarter (0.25) mile of the subject property.
    a. Gas Station S/S-OOB (Facility ID# NYSF12791), located 353 feet to the southeast on Montauk Highway, utilized three (3) 4,000 gallon underground gasoline storage tanks and one (1) 550 gallon underground waste oil storage tank that were removed in 1986. The facility also utilizes a 275 gallon above ground #2 fuel oil storage tank that was installed in 1974.
    b. Life Heating Inc. (Facility ID# NYSF12884), located 371 feet to the south-southeast on Phillips Avenue, utilized three (3) underground #2 fuel oil storage tanks, one (1) 1,000 gallon underground gasoline storage tank, and one (1) 7,500 gallon underground kerosene storage tank that were removed in 1986 and 1990. In addition, two (2) 12,000 gallon above ground storage tanks were never installed at the facility.
    c. Speonk Post Office (Facility ID# NYSF13359), located 492 feet to the south-southwest on Montauk Highway, utilizes an exempt/permitted 500 gallon above ground #2 fuel oil storage tank that was installed in 1992. In addition, the facility previously utilized a 550 gallon underground #2 fuel oil storage tank that was removed in 1992.
    d. Long Island Railroad Speonk Yard (Facility ID# NYSF13070), located 1,256 feet to the east-northeast on Phillips Avenue, utilizes one (1) 500 gallon and one (1) 1,000 gallon exempt/permitted oil/water separators.
    e. Long Island Railroad Speonk Depot (Facility ID# NYSF13123), located 1,256 feet to the east-northeast on Depot Road, did not report any specific storage tank information.
13. There were no CBS sites within one-quarter (0.25) mile of the subject property.
14. There were no State Registered MOSF facilities within one-half (0.5) mile of the subject property.
15. There were no TRI sites within one-half (0.5) mile of the subject property.
16. There were no Air Dischargers located within one-quarter (0.25) mile of the subject property.
17. There were no active and three (3) closed LUST incidents identified within one half (0.5) mile of the subject property. The closed LUST incidents were investigated and addressed to the satisfaction of the NYSDEC and are also not expected to adversely impact the subject property. Information regarding these LUST incidents is contained in **Appendix C**.

The NYSDEC also responds to incidents involving hazardous waste spills. The Department maintains a logbook and files on all reported and actual incidents at the NYSDEC offices at Stony Brook. This file was reviewed in conjunction with the subject property. Review of the file revealed that one (1) active and twenty (20) closed spill incidents were identified within one-half (0.5) mile of the subject property. The active incident is located down or cross gradient and at a significant distance from the subject property and is not expected to adversely affect the subject property. All of the closed spill incidents have been investigated and addressed to the satisfaction of the NYSDEC and are also not expected to adversely affect the subject property. Information regarding all of the reported incidents is contained in **Appendix C**.

5.1.3 Suffolk County Department of Health Services (SCDHS)

The SCDHS performs many important functions in environmental resource protection. These include inspection of facilities that use or store significant quantities of toxic or hazardous material or generate waste. SCDHS records received pertained to the house located adjacent to the southern property boundary that utilizes a portion of the subject as a driveway. No information regarding the subject buildings was obtained.

Also of interest with regard to Health Department functions is a study completed in conjunction with Cornell University, referred to as the CLEARS study (Cornell Laboratory for Environmental Applications of Remote Sensing). This research involves stereoscopic analysis and interpretation of historic aerial photographs for the purpose of identifying past and present hazardous waste disposal sites, solid waste disposal sites, disturbed areas, chemical storage, and other potential sources of contamination. The study has been ongoing since approximately 1986. The CLEARS study was consulted with regard to the area surrounding the subject property. No sites were identified in the immediate vicinity of the subject property.

The CLEARS Study assists with an historical perspective of the site and surrounding area. Little interpretation can be made with regard to the findings of the CLEARS study. There is no confirmation of activities which may have caused environmental degradation with regard to any of the sites. The SCDHS contracted the CLEARS study and will continue to interpret the results and take remedial action as necessary. The subject property was not identified as a CLEARS study site as described above.

Four (4) CLEARS study sites were identified within the general area of the subject property.

1. Site Reference: Eastport # X 7
   Site Location: located 2,000 feet to the west.
   Site Description: Disturbed Land
   <u>1947</u> - Site Developed: two (2) residences and business on corner, lawns, trees, shrubs.

1962 - Same as in 1947.
1969 - Only residences remain; all else removed and cleared land used for open dumping
1972 - Residences removed; part of site re-developed commercially; rest of site continues as open dump with several access points, refuse randomly deposited.
1978 - Open dumping continuing.
1984 - No change.

2. Site Reference: Eastport # X 13
Site Location: located 2,000 feet to the north.
Site Description: Disturbed Land
1947 - The area surrounding site is only marginally developed; brush and trees predominate which are being cleared from site.
1962 - The surrounding area has developed commercially; loose material in randomly spaced mounds of different sizes and shapes, along with stained soil, two small pits, small dump are detectable on site; these features do not seem to be associated with any nearby businesses or auto junkyard.
1972 - Development has expanded into vacant land in this area including part of the of this site which continues to look "disturbed"; pits area no longer detectable, but land surface here is uneven and manifests strange blotches and mottles; stains persists; what appears to be barrels/drums are located near buildings on north edge of site.
1978 - No information.
1984 - Large building constructed on site, fronting on Strong Avenue; piles and mounds of bulk material stored on remainder of site and appear to be associated with a building along Albany Avenue; vehicles and trailers detectable.

3. Site Reference: Eastport # T 14
Site Location: located 1,300 feet to the north.
Site Description: Above Ground Tank
1947 - Not present.
1962 - One cylindrical, upright, capped tank; no detectable berm; associated with the business district located along highway.
1972 - No change.
1978 - No information.
1984 - No change.

4. Site Reference: Eastport # D 18
Site Location: located 2,100 feet to the east northeast.
Site Description: Dump/Landfill
1947 - Area generally residential; open dumping into stream.
1953 - Dumping terminated, site covered and leveled; stream clearly detectable running through site; small pond present north of site, small wetland east of site along trees.
1962 - One building has been constructed on site; a small part of former dump still detectable.
1972 - A second building has been constructed on site covering former area of dump, landfill, stream, pond and wetland.
1978 - No information.
1984 - No change.

5.1.4 Local Agencies

Freedom of Information requests were submitted to the Town of Southampton. Records received from the Assessor's office indicated that the subject property is presently owned by Sanborn Land LLC. An inspection report received from 1993 from the Fire Marshal indicated that there were several propane storage tanks on the subject property that were not secured in place. An additional Fire Marshal inspection report from 2006 indicated that a gas tank associated with unit #1 was still in place in addition to two other unmarked services were still in place on the subject property. All others were reportedly removed. The Planning and Zoning Department indicated that the subject property is zoned VB - Village Business. The zoning of the subject property and surrounding area is provided in **Figure 4**. Refer to **Appendix I** for information all of the data received from FOIL requests.

6.0 FINDINGS

NP&V has performed a Phase I Environmental Site Assessment for 41 North Phillips Avenue, located on the west side of Phillips Avenue, approximately 170 feet north of Montauk Highway in Speonk. This environmental inspection report, has been conducted in order to provide the prospective purchaser and/or lending institutions with accurate and complete information regarding the subject property, surrounding area, historic uses, agency records and regulations, and additional environmental considerations. Based upon this report, the limitations of this report and the methodology employed, the following statement is provided:

NP&V has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 and USEPA AAI for 41 North Phillips Avenue, located on the west side of Phillips Avenue, approximately 170 feet north of Montauk Highway, Speonk, New York. Any exceptions to, or deletions from, this practice are described in Section 9.0 of this report.

This assessment has identified the following with respect to recognized environmental conditions, controlled recognized environmental conditions, historic recognized environmental conditions and de minimus conditions in connection with the subject property, subject to the methodology and limitations of this report.

Five (5) recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Evidence of three (3) underground storage tanks associated with the three (3) vacant residences was observed during the reconnaissance of the subject property. The age and capacity of these storage tanks is unknown.

2. The main house and occupied residences may contain storage tanks. The structures were not accessed during the reconnaissance of the subject property.

3. There is a propane storage tank located on the exterior of the main residence located in the central portion of the subject property, and a rusted drum located on the exterior of the residence located in the western portion of the subject property.

4. The residences are connected to on-site sanitary systems.

5. The subject property was identified as being located within the Speonk Solvent Plume, with known contamination in groundwater by chlorinated solvents.

No controlled recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

One (1) de minimus condition was noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

1. Miscellaneous debris and litter was observed in several locations throughout the subject property. Although it is not expected to adversely affect the subject property, the debris and littler should be removed and properly disposed of.

No historic recognized environmental conditions were noted on the subject property based on the site reconnaissance, interviews and regulatory agency records review.

7.0 OPINIONS

It is the opinion of the environmental professional who completed this report that this assessment has revealed evidence of five (5) recognized environmental conditions and one (1) de minimus condition in connection with the subject property, subject to the methodology and limitations of this report. As a result, the following recommendations are offered:

1. The soil surrounding the underground fuel oil storage tanks associated with the vacant residences should be sampled to ensure that a prior release has not occurred and the subsurface resources of the subject property have not been impacted.

2. The main house and occupied residence structures should be accessed to examine for evidence of storage tanks. Any underground storage tanks identified should be tested to ensure that the subsurface resources of the subject property have not been impacted.

3. The propane storage tank and drum should be removed and properly disposed of if no longer in use.

4. If no longer in use, the sanitary systems should be properly abandoned in accordance with the Suffolk County Department of Health Services procedures.

5. Soil vapor samples should be collected from the subject property in order to ensure that any future development of the subject property will not be adversely impacted by vapors from the Speonk Solvent Plume.

6. The debris and litter observed throughout the subject property should be removed and properly disposed of.

7. If the buildings are to undergo major renovation or demolition, an Asbestos Survey should be completed in accordance with the New York State Department of Labor Industrial Code 56.

8.0 CONCLUSIONS

This assessment was performed at the Client's request using the methods and procedures consistent with good commercial or customary practice designed to conform with acceptable industry standards.

This report is expressly and exclusively for the sole use and benefit of the Client identified on the first page of this report and is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of NP&V.

The independent conclusions represent NP&V's best professional judgment based on information and data available to the consultant during the course of this assignment. NP&V's evaluations, analyses and opinions are not representations regarding either the design integrity, structural soundness or actual value of the property. Factual information including operations, site conditions and available test data provided by the Client or their representative have been assumed to be correct and complete. The conclusions presented are based on the data provided, observations and conditions that existed on the date of the assessment.

9.0 DEVIATIONS & ADDITIONAL SERVICES

9.1 Deviations

This report was completed in accordance with the standards set forth in the ASTM E 1527-13 and the USEPA AAI. No deviations from these standards were undertaken during the completion of this report.

9.2 Additional Services

A Tier 1 Vapor Encroachment Condition (VEC) Assessment was conducted as part of this Phase I ESA, due to the proximity of several spill incidents. The assessment was conducted in accordance to the methods and procedures, outlined within ASTM E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

For this assessment, under conditions where the direction of groundwater flow can be ascertained, critical search distances are used to determine if a VEC exists. Specifically, the following distances are applied to the Tier I Assessment:

Upgradient Sources
1,760 feet for Chemical of Concern (COC)
520 feet for petroleum hydrocarbons

Cross-gradient Sources
365 feet for COC
165 feet for petroleum hydrocarbon LNAPL sources & 95 feet dissolved petroleum hydrocarbon sources with plume considerations

Down-gradient Sources
100 feet for COC/petroleum hydrocarbon LNAPL sources
30 feet dissolved petroleum hydrocarbon sources

Review of the regulatory agency database report provided for the subject property identified one (1) closed spill incident located in close proximity to the subject property. Since this incident was relatively minor and has been addressed to the satisfaction of the NYSDEC, it is not expected to adversely affect the subsurface resources of the subject property. However, the subject property was identified as being located within the vicinity of the Speonk Solvent Plume, with known chlorinated solvent-contamination in groundwater. Therefore, the subject property may be adversely affected by a VEC. Based on the information reviewed, it is concluded that a VEC cannot be ruled out.

No other additional services were included in this report.

10.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312, and

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the "All Appropriate Inquiries" in conformance with the standards and practices set forth in 40 CFR Part 312.

11/25/15
Date

Charles J. Voorhis, CEP, AICP
Manager Partner

11/25/15
Date

Steven J. McGinn
Partner/Division Manager

11.0 REFERENCES

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FIGURES

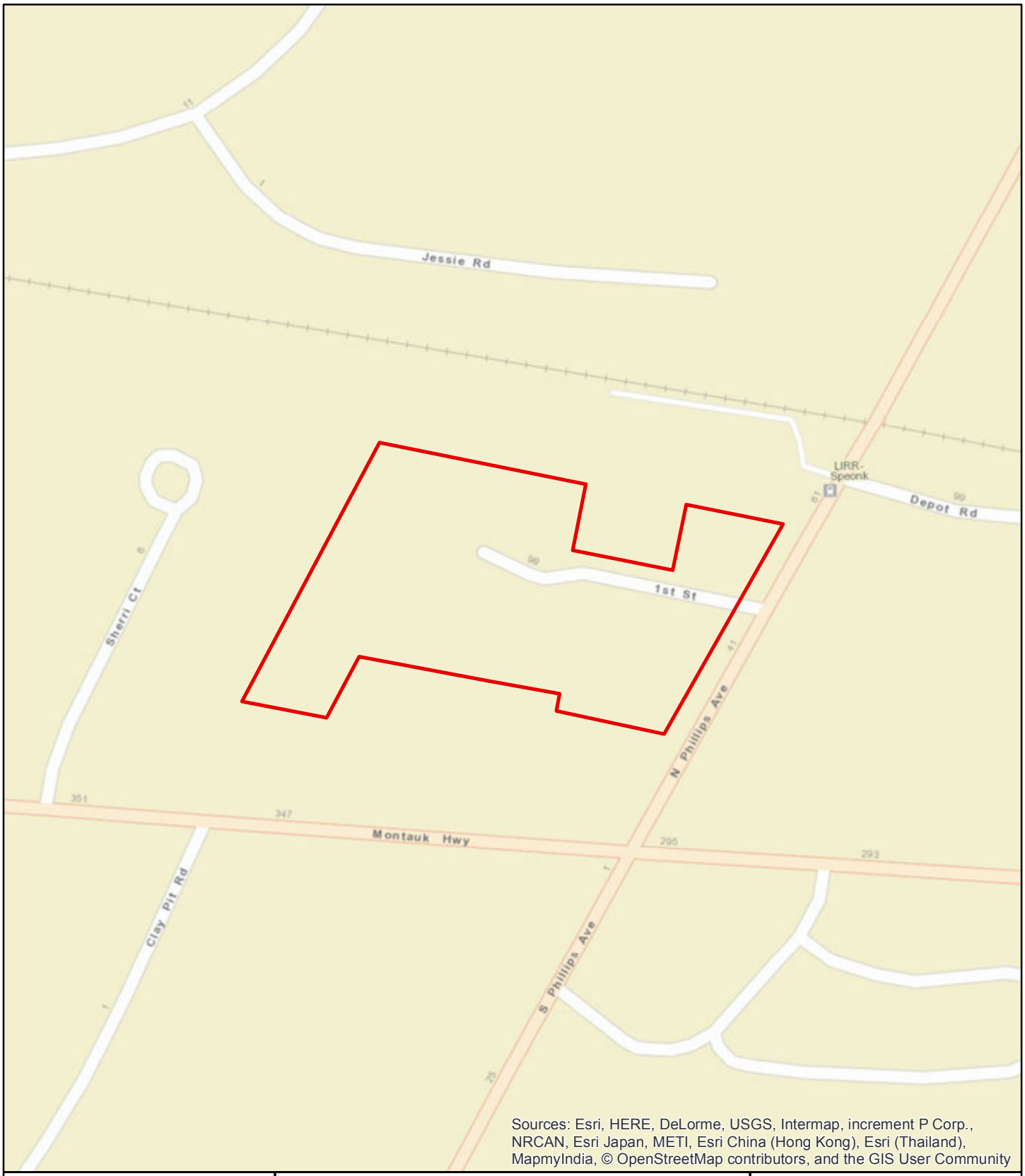

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FIGURE 1
LOCATION

Source: ESRI Web Mapping Service

Scale: 1 inch = 200 feet

N

41 North Phillips Ave
Speonk

Updated Phase I ESA

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FIGURE 2
AERIAL PHOTOGRAPH

Source: NYS Orthophotos, 2013

Scale: 1 inch = 200 feet

N

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FIGURE 3
LAND USE MAP

Source: NYS Orthophotos, 2010
Scale: 1 inch = 200 feet

N

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Speonk

Updated Phase I ESA

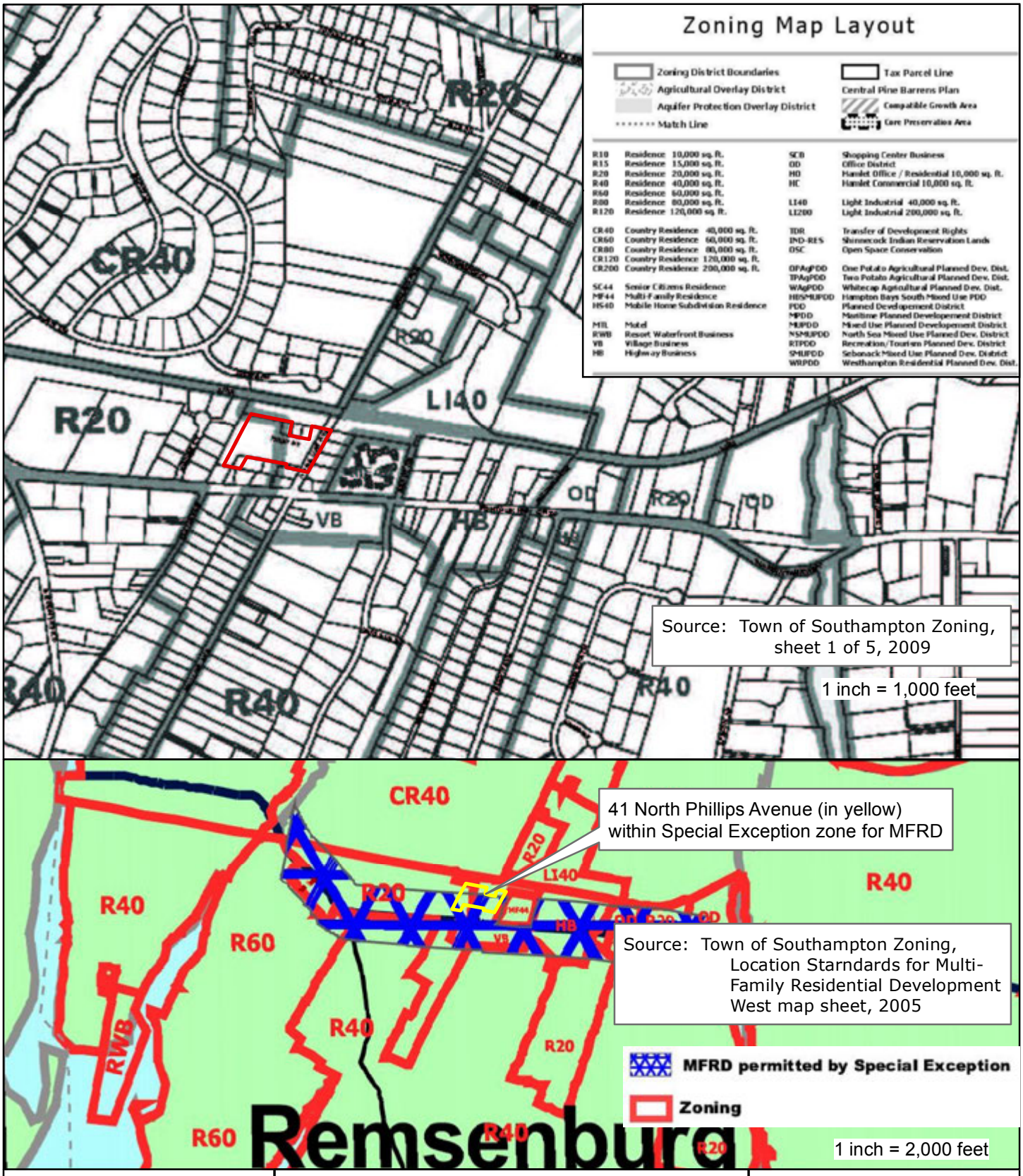

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FIGURE 4
ZONING MAP

see separate sources and scales for each figure

N

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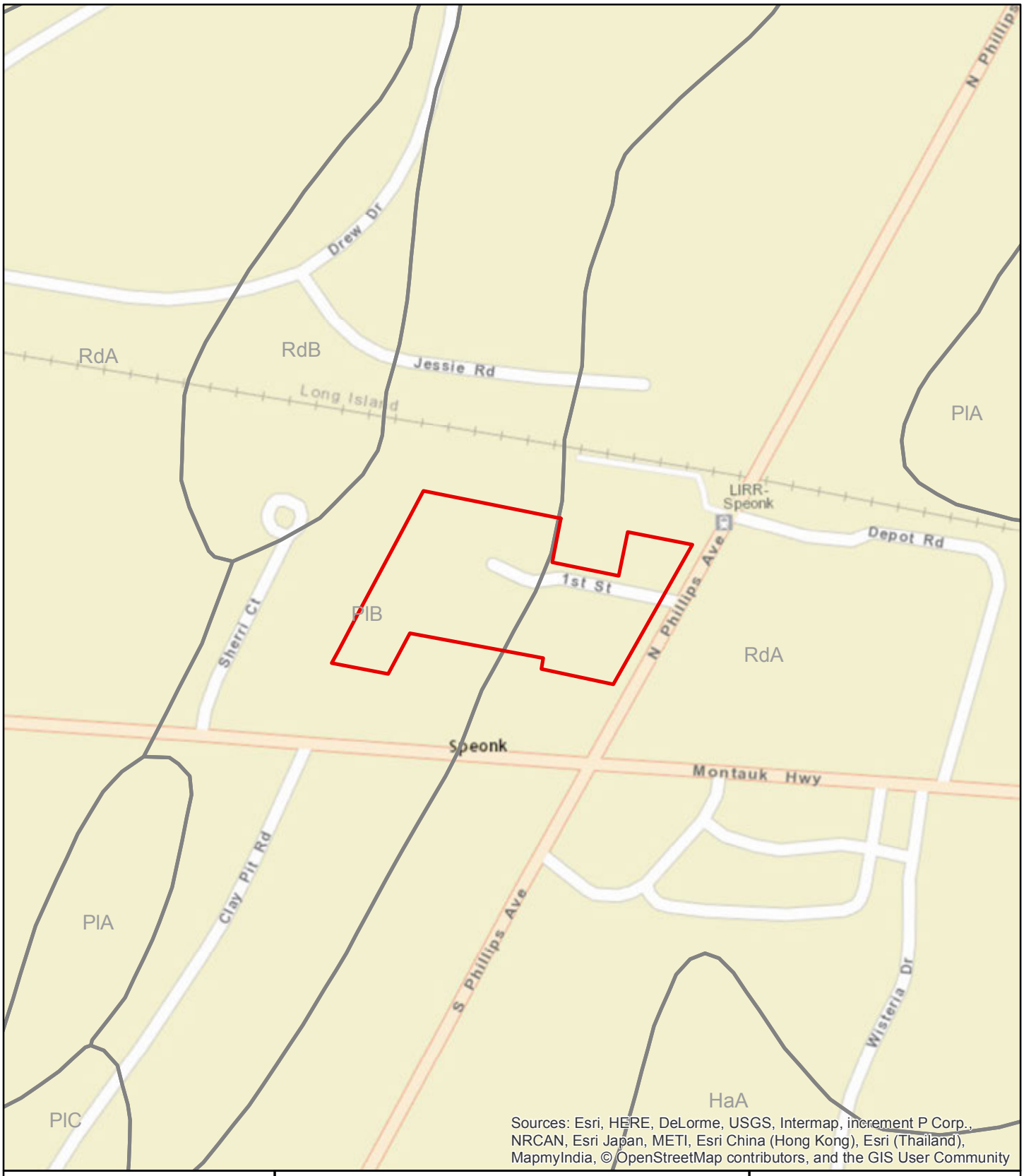

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FIGURE 5
SOIL MAP

Source: ESRI Web Mapping Service, NRCS soil GIS layers
Scale: 1 inch = 300 feet

N

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FIGURE 6
TOPOGRAPHIC MAP

Source: USGS Moriches Quad, 2013

Scale: 1 inch = 500 feet

N

41 North Phillips Ave
Speonk

Updated Phase I ESA

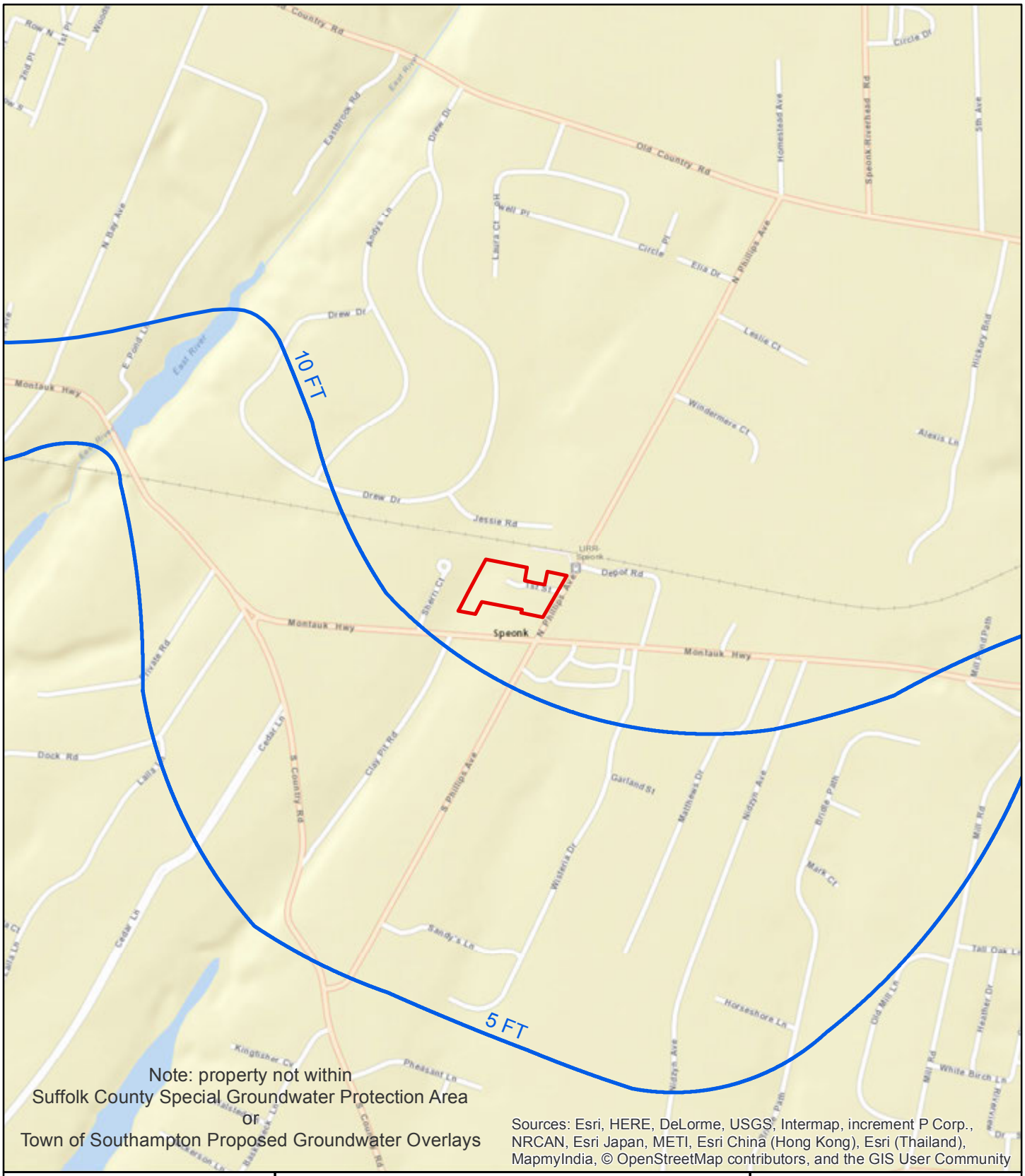

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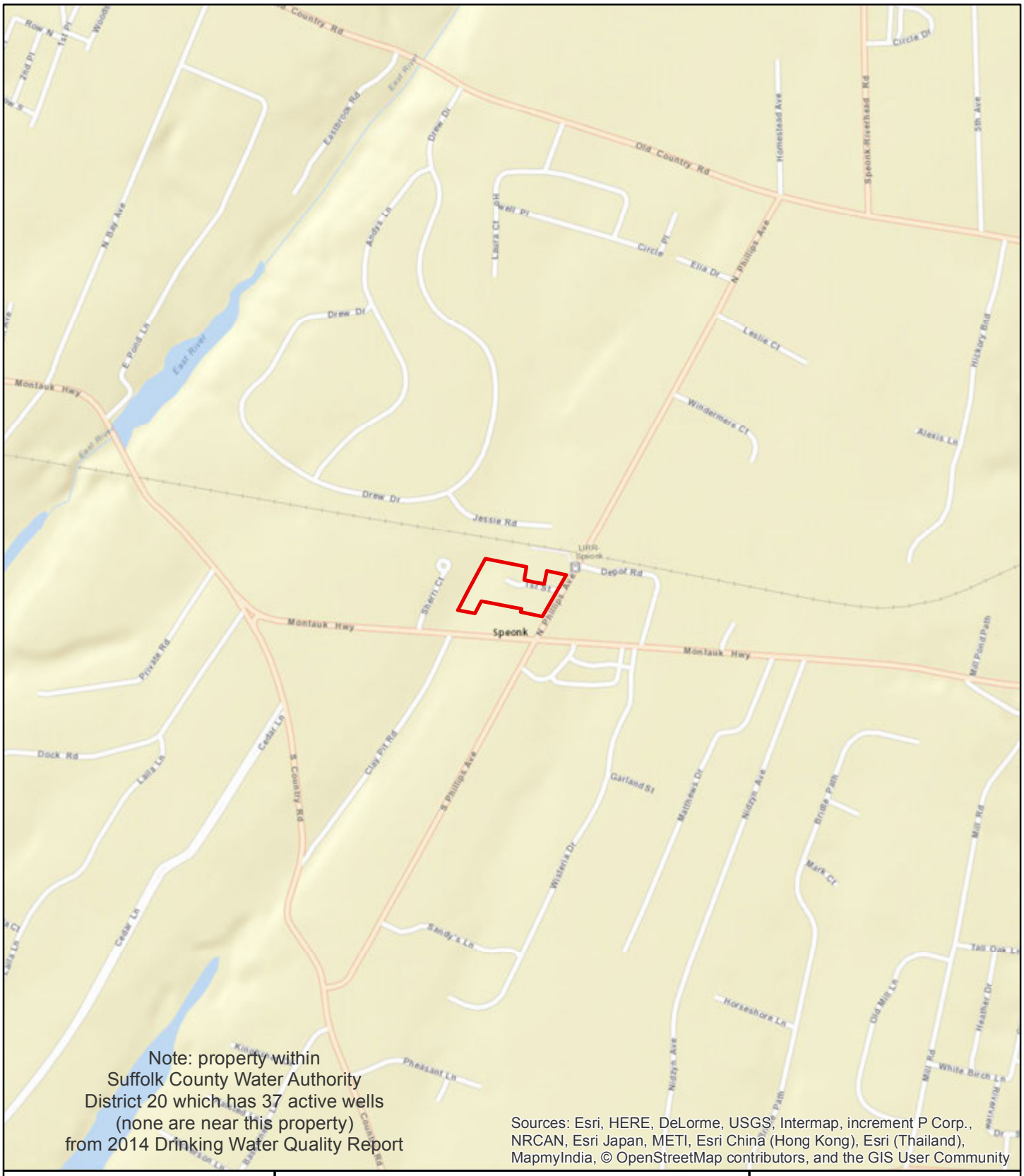
FIGURE 7
WATER TABLE CONTOUR MAP

Source: ESRI Web Mapping Service, USGS Scientific Investigations Map 3270, 2010 data
Scale: 1 inch = 1,000 feet

N

41 North Phillips Ave
Speonk

Updated Phase I ESA



Note: property within
Suffolk County Water Authority
District 20 which has 37 active wells
(none are near this property)
from 2014 Drinking Water Quality Report

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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FIGURE 8
WATER SUPPLY MAP

Source: ESRI Web Mapping Service,
Suffolk SWAP report, 2001
Scale: 1 inch = 1,000 feet

N

41 North Phillips Ave
Speonk

Updated Phase I ESA

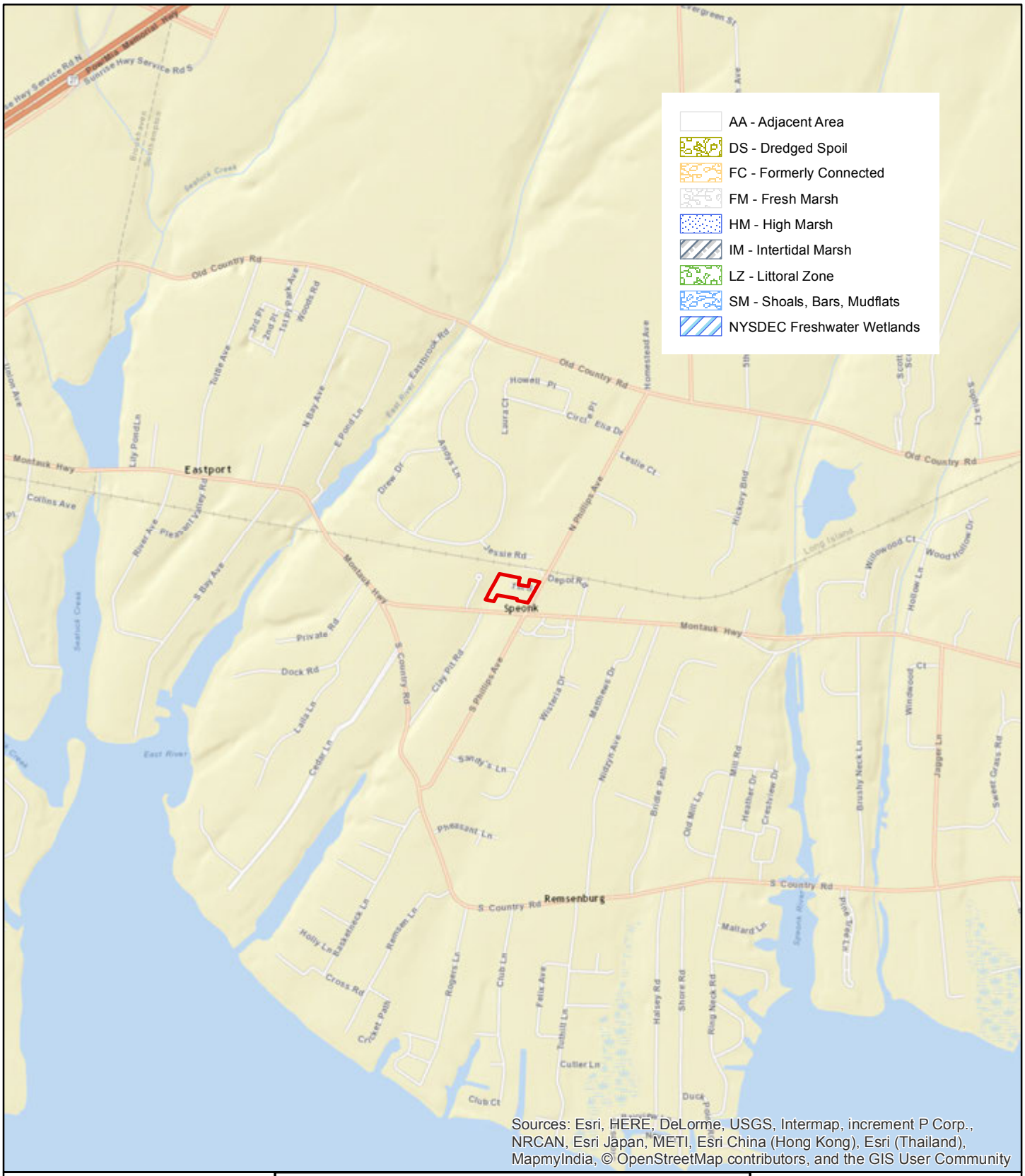

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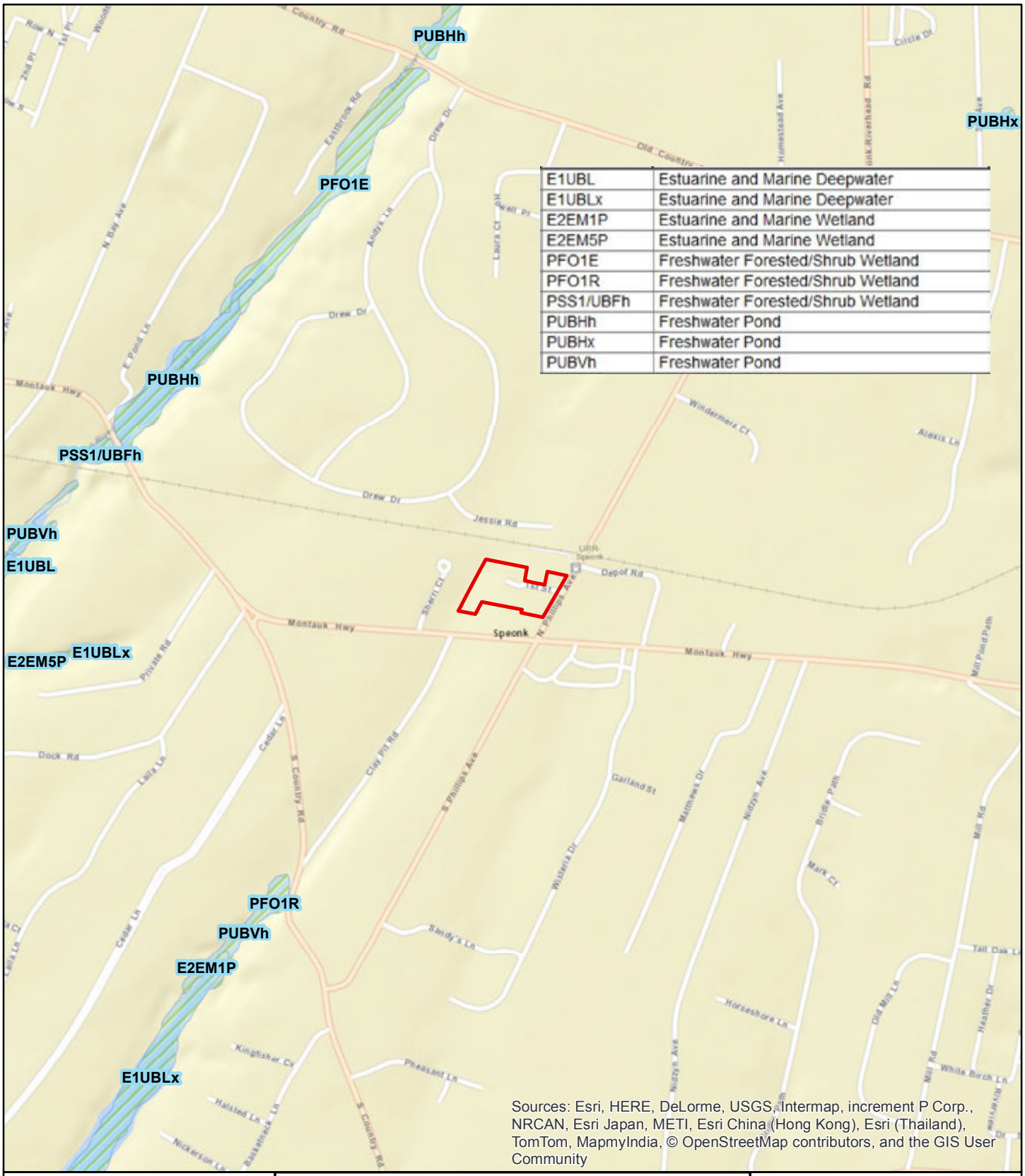
FIGURE 9
NYSDEC
WETLANDS MAP

Source: ESRI Web Mapping Service, NYSDEC Freshwater and Tidal Wetlands Maps
Scale: 1 inch = 2,000 feet

N

41 North Phillips Ave
Speonk

Updated Phase I ESA



E1UBL	Estuarine and Marine Deepwater
E1UBLx	Estuarine and Marine Deepwater
E2EM1P	Estuarine and Marine Wetland
E2EM5P	Estuarine and Marine Wetland
PFO1E	Freshwater Forested/Shrub Wetland
PFO1R	Freshwater Forested/Shrub Wetland
PSS1/UBFh	Freshwater Forested/Shrub Wetland
PUBHh	Freshwater Pond
PUBHx	Freshwater Pond
PUBVh	Freshwater Pond

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FIGURE 10
NATIONAL WETLANDS INVENTORY MAP

Source: ESRI Web Mapping Service, National Wetlands Inventory Map (NWI, USF&WService)
Scale: 1 inch = 1,000 feet

N

41 North Phillips Ave
Speonk

Phase I ESA

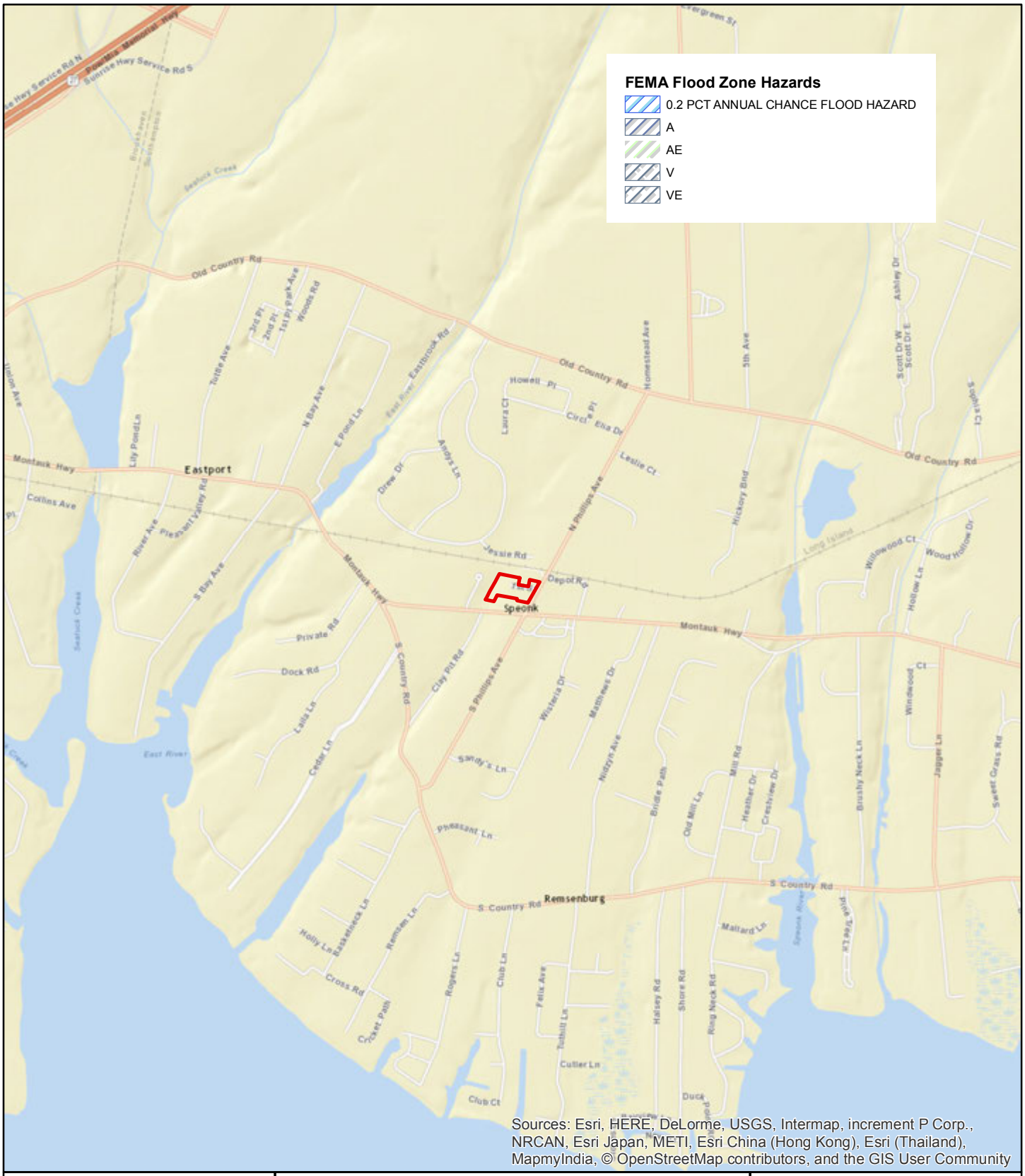

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FIGURE 11
FEMA FLOOD MAP

Source: ESRI Web Mapping Service, FEMA

Scale: 1 inch = 2,000 feet

N

41 North Phillips Ave
Speonk

Update Phase I ESA

APPENDIX E

AERIAL PHOTOGRAPHS

41 North Phillips Ave., Speonk

41 N Phillips Avenue

Eastport, NY 11941

Inquiry Number: 4116619.4

October 27, 2014

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography October 27, 2014

Target Property:

41 N Phillips Avenue

Eastport, NY 11941

Year	***Scale***	***Details***	***Source***
1957	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1957	Jack
1962	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1962	USGS
1966	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1966	USGS
1970	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1970	USGS
1976	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1976	Aero
1980	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1980	USGS
1985	Aerial Photograph. Scale: 1"=500'	Flight Date: January 01, 1985	USGS
1994	Aerial Photograph. Scale: 1"=500'	DOQQ - acquisition dates: April 08, 1994	USGS/DOQQ
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	USDA/NAIP
2008	Aerial Photograph. Scale: 1"=500'	Flight Year: 2008	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2011	Aerial Photograph. Scale: 1"=500'	Flight Year: 2011	USDA/NAIP

SITE
INQUIRY #: 4116619.4
YEAR: 1957
= 500'
N
EDR

INQUIRY #: 4116619.4

YEAR: 1962

= 500'

N

EDR

SITE
INQUIRY #: 4116619.4
YEAR: 1966
= 500'
N
EDR

SITE
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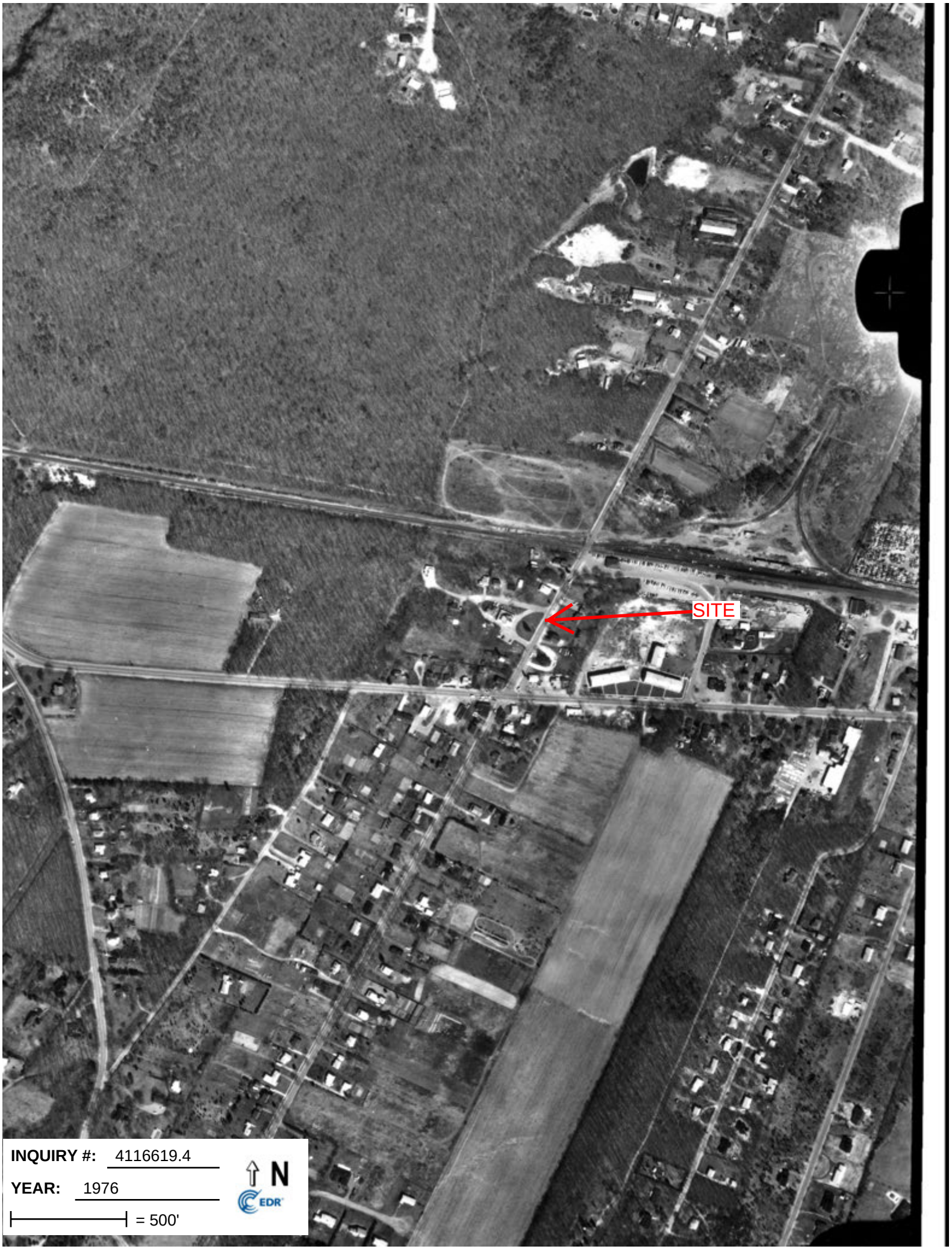
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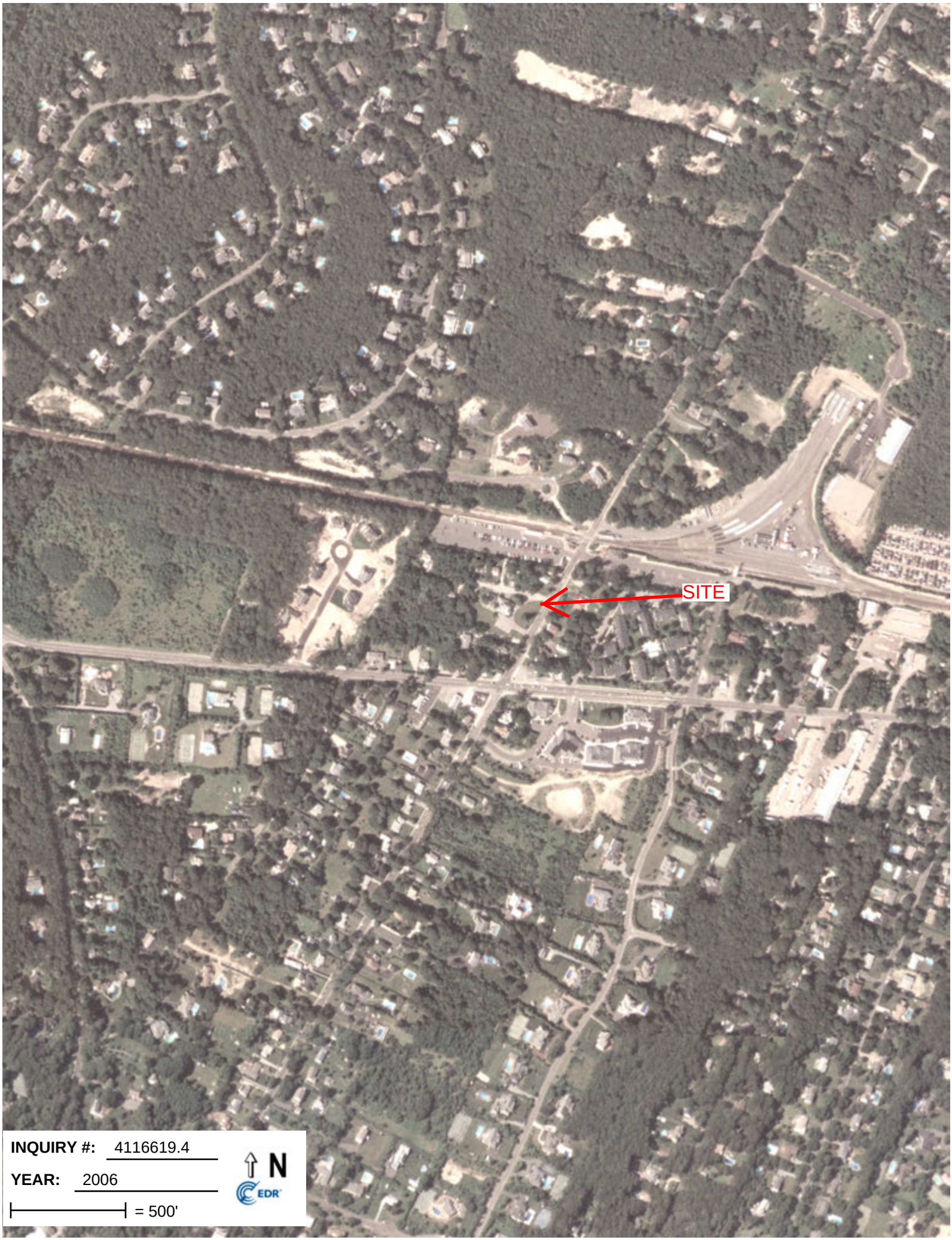
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Appendix A-4
Phase II Environmental Site Assessment

NP&V, LLC

December 30, 2016

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Limited Phase II

Environmental Site Assessment

41 North Phillips Avenue

Speonk, New York

NP&V Job # 14258

December 30, 2016

Limited Phase II

Environmental Site Assessment

41 North Phillips Avenue

THIS DOCUMENT CONTAINS 16 PAGES OF TEXT

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ENVIRONMENTAL • PLANNING • CONSULTING

Limited Phase II

Environmental Site Assessment

41 North Phillips Avenue

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Limited Phase II
Environmental Site Assessment

41 North Phillips Avenue

1.0 INTRODUCTION AND PURPOSE

Nelson, Pope & Voorhis, LLC (NP&V) has been contracted to prepare a Limited Phase II Environmental Site Assessment for the subject property. This report is intended to address recognized environmental conditions that were identified in a Phase I Environmental Site Assessment report prepared by Nelson, Pope & Voorhis, LLC dated November 25, 2015. This Limited Phase II ESA was designed to determine what, if any, impact on-site activities have had upon the environmental quality of the subject property.

The subject property is located in the Hamlet of Speonk, Town of Southampton, County of Suffolk, New York. The subject property consists of a 4.4± acre, irregularly-shaped parcel of developed land, located on the west side of North Phillips Avenue, approximately 170 feet north of Montauk Highway. The property is more particularly described on the Suffolk County Tax Map as District 0900, Section 350, Block 02, Lot 18. The physical address of the property is 41 North Phillips Avenue.

The subject property is developed with one (1) main residence in the central portion of the subject property which is in a deteriorated condition, one (1) residence in the northeast corner of the subject property that is presently occupied, and three (3) vacant residences in the northwest, north-central and west portions of the subject property. In addition, the subject property contains one (1) metal shed in the south-central portion of the subject property that reportedly contains a boat. The main residence, occupied residence and metal shed were not accessible during the reconnaissance of the subject property. The remainder of the subject property consists of landscaped or undeveloped land. The residences consist of wood-framed structures, situated on concrete block foundations that form partial basements and/or crawl spaces. The residences are connected to on-site sanitary systems..

Fuel oil-fired boilers were observed in the basements of the vacant residences located in the north-central and west portions of the subject property. No fuel oil-fired boiler was observed in the basement of the house located in the northwest corner of the subject property. Evidence of three (3) underground storage tanks associated with the vacant residences was observed during the reconnaissance of the subject property, including vent pipes and/or fuel oil fill ports. Specifically, there is an underground fuel oil storage tank located on the southeast corner of the house located in the north-central portion of the subject property, an underground fuel oil storage tank located on the northeast corner of the house located on the west side of the subject property, and an underground storage tank located on the southwest side of the house located in the northwest corner of the subject property. The age and capacity of these storage tanks are unknown. In addition, it is possible that there are existing storage tanks associated with the main residence and the occupied residence, since these structures were not accessed during the reconnaissance of the subject property.

One (1) propane storage tank was observed on the exterior of the main residence located in the central portion of the subject property. In addition, one (1) rusted drum with unknown contents or labels was observed on the west side of the residence located in the western portion of the subject property. There was no evidence of any floor drains, or hazardous materials on the subject property. In addition, there was no evidence of discharge, areas of stressed vegetation, staining, residue of oils or other toxic substances, pools of residue, petroleum or chemical odors, or other such indicators noted during the site reconnaissance.

Based on these findings, the Phase I ESA identified recognized environmental conditions that prompted the performance of this Limited Phase II Environmental Site Assessment. These conditions included:

1. Evidence of three (3) underground storage tanks associated with the three (3) vacant residences was observed during the reconnaissance of the subject property. The age and capacity of these storage tanks is unknown.

2. The main house and occupied residences may contain storage tanks. The structures were not accessed during the reconnaissance of the subject property.

3. There is a propane storage tank located on the exterior of the main residence located in the central portion of the subject property, and a rusted drum located on the exterior of the residence located in the western portion of the subject property.

4. The residences are connected to on-site sanitary systems.

5. The subject property was identified as being located within the Speonk Solvent Plume, with known contamination in groundwater by chlorinated solvents.

This Limited Phase II ESA has been prepared to address these recommendations by completing an investigation of the soil vapors, soils surrounding the underground storage tanks and the soils in the on-site sanitary systems. The laboratory analysis was provided by Long Island Analytical Laboratories, Inc.

The protocol used to direct this investigation is based upon the following documents: 1) the Suffolk County Department of Health Services (SCDHS) SOP 9-95 Pumpout and Soil Cleanup Criteria, 2) the New York State Department of Environmental Conservation (NYSDEC) Policy Document CP-51 Table 3 and 3) the New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The laboratory analysis was provided by Long Island Analytical Laboratories, Inc. The following sections detail the subject property and surrounding area characteristics, sampling program, quality assurance protocol, laboratory analysis methodology and laboratory results.

2.0 GROUND PENETRATING RADAR SURVEY (GPR)

2.1 GPR SURVEY

A remote sensing ground penetrating radar field survey was performed over portions of the planimetric surface of the property. The ground penetrating radar (GPR) used in this process was a GSSI model SIR-3000 with a 400 MHz antenna.

The GPR system consisted of a control unit, control cable and a transducer. The GPR control unit transmits a trigger pulse at a normal repetition rate of 50 KHz. The pulse is then sent to the transmitter electronics in the transducer (antenna) via the control cable where the trigger pulses are transformed into bipolar pulses with higher amplitudes. The transformed pulse will vary in shape and frequency according to the transducer used. The GSSI system is capable of transmitting electromagnetic energy into the subsurface of the earth in the frequency range of 16 MHz to 2000 MHz. In the subsurface, reflections of the pulse occur at boundaries where there is a dielectric contrast (void, steel, soil type). The reflected portion of the signal travels back to the antenna and the control unit and is subsequently shown on the display of the computers color video monitor for interpolation.

A qualified technician specified a coordinate system on the planimetric surface to locate any subsurface dielectric anomalies on the premises. The operator used known knowledge of the subsurface soil composition to calibrate the SIR-3000 system to site specific conditions. Factor settings such as range, gain, number of gain points, and scans per unit, are modified to yield the most accurate data to describe the subsurface conditions.

Upon finding a dielectric anomaly a more specific coordinate system was designed over the area to determine its size, shape and orientation. The data collected during the survey was reviewed by the operator and compared against past experience, technical judgment and prior site knowledge to classify the anomalies.

The GPR survey was utilized to determine the locations of the underground fuel oil storage tanks and to determine if any additional tanks were present on the subject property. This survey identified the four (4) storage tanks located adjacent to the sides of each building on the subject property.

3.0 SAMPLING AND ANALYSIS PROGRAM (SAP)

3.1 SOIL VAPOR SAMPLING

All of the soil vapor and ambient air sampling was conducted using properly decontaminated Summa® canisters supplied by the laboratory and fitted with air flow regulators calibrated for a two (2) hour draw period. One (1) temporary soil vapor probe was installed and a soil vapor as well as ambient air samples were collected on December 7, 2016. All installation and sampling was completed by qualified Nelson, Pope & Voorhis personnel with experience in similar soil vapor sampling projects and hazardous waste sample training. All of the samples were sent directly to the laboratory by the sampling technician to be analyzed by Long Island Analytical Laboratories, Inc. The following sections describe the methods and procedures of the SAP for soil vapor and ambient air sampling.

3.1.1 Soil Vapor Probe Installation

The soil-vapor probes were installed in the east central and west central portion of the subject property. The probe borings were drilled to a depth of ten (10) feet below grade and the well probe was inserted into the borehole. The well probe was constructed with polyethylene tubing which was cut in several locations to promote the flow of any soil vapors which may be present in subsoils. The annular space surrounding the well probe was backfilled with a coarse gravel pack to cover the drilled section of tubing screen and the remaining annular space was filled with modeling clay to seal the well from any outside air intrusion.

3.1.2 Soil Vapor Sample Collection

Following installation, approximately one (1) to three (3) volumes of air were purged from each probe location to ensure the collection of a representative sample of soil vapor as outlined in Section 2.7 of the NYSDOH Guidance Manual.

Summa® canisters fitted with a two (2) hour regulators were used for the withdrawal of the soil vapor samples to ensure a soil vapor collection rate of less than 0.20 L/min. The canisters and regulators were connected to the well probe and soil vapor was extracted via the negative pressure atmosphere within the canister.

3.1.3 Outdoor Ambient Air Sampling

The outdoor ambient air sample was collected using a Summa® Canister as described in the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The Summa® canister was equipped with a regulator valve to fill at a rate which ensures a soil vapor collection rate of less than 0.20 L/min. The outdoor ambient air canister was placed on the south side the main residence in the central portion of the property. The outdoor ambient air sample canister was set at a height of three (3) feet above floor/ground level as described in the NYSDOH Guidance Manual.

3.2 POWER PROBE SOIL PROBES

Three (3) to four (4) soil probes were installed on the accessible sides of the four (4) underground storage tanks on the subject property. A total of thirteen (13) soils probes were installed during the sampling event. **Figure 1** provides a map identifying the location of the above referenced soil probes. The soil probes were installed using a Power Probe sampling apparatus Model 9100, in order to collect soil samples which provide a representation of the subsurface soil at depths that ranged from zero to four (0-4) feet, four to eight (4-8) feet, eight to twelve (8-12) feet and twelve to sixteen (12-16) feet below existing grade. A headspace analysis sample was taken for each of the fifty (50) soil samples collected (3-4 per probe location) and the three (3) samples with the highest headspace readings were sent to a laboratory for analysis.

3.2.1 Soil Probe Installation

The soil probe was installed using a Power Probe hydraulically powered soil probing tool. Mechanized, vehicle mounted soil probe systems apply both static force and hydraulically powered percussion hammers for tool placement. Recovery of large sample volumes was facilitated with a probe-driven sampler. The probe-driven sampler consisted of a dual tube sampling system that has an outer tube that remains in the ground while the inner tube is removed along with the non-reactive plastic tube in which the soil sample has been collected. This dual tube sampling system ensures that the soil sample collected is from the selected sampling depth as the probe was advanced. Discrete samples were secured at the desired depths and were contained within a non-reactive plastic sleeve that lined the hollow probe for subsequent inspection and analysis.

3.3 HAND AUGER SOIL SAMPLING

The six (6) sanitary system leaching pools located throughout the subject property were sampled using a stainless steel hand auger. The soil samples (MHLP-1, MHLP-2, EH-LP, SH-LP, WH-LP and NEH-LP) were collected from the bottom sediment soil of the leaching pools. These samples was collected from the top zero to twelve (0-12) inches of the soil and were analyzed based on the SCDHS parameters for the presence of volatile and semi-volatile organic compounds and metals. **Figure 1** located in the rear of this document provides a location of the samples collected.

3.4 HEADSPACE ANALYSIS

Headspace analysis was performed on the soil samples acquired from each of the soil probe nodes installed along the rear of the existing building in order to provide precursory data regarding hydrocarbon contamination. Results of the analysis were used to adjust the sampling and analysis program to yield the most accurate and representative results. **Table 1** presents the results of the headspace analysis conducted on soil collected from the thirteen (13) probes installed. The following table indicates that no significant hydrocarbon soil-vapor levels were

obtained from any of the samples analyzed. Since none of the samples exhibited any elevated readings, a sample was chosen at random to be sent to the laboratory for analysis to confirm the headspace readings.

TABLE 1
HEADSPACE ANALYSIS

Sample ID	S-N	S-S	S-E	W-N	W-E	W-S	W-W	E-W	E-N	E-S	N-N	N-E	N-W
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Headspace Results													
(0-4')	0.3	0.0	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0	4.4	0.0	0.0
(4'-8')	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(8'-12')	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(12'-16')	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0

Bold and shaded values indicate the samples which were sent to the laboratory for analysis.

3.4.1 Headspace Analysis Procedure

Headspace analysis was performed utilizing a portable Photo Ionization Detection (PID) meter to measure what, if any, hydrocarbon concentrations were present in isolated portions of the secured samples. Headspace analysis was conducted by partially filling a sealable plastic bag with sample aliquot and sealing the top, thereby creating a void. This void is referred to as the sample headspace.

To facilitate the detection of any hydrocarbons contained within the sample headspace, the container was agitated for a period of thirty (30) seconds. The probe of the vapor analyzer was then injected into the headspace to measure the hydrocarbon concentrations present. A Mini Rae Model 2000 Photo Ionization Detection meter was the organic vapor analyzer selected for the headspace analysis. A PID utilizes the principle of photo ionization for detection and measurement of hydrocarbon compounds. A PID does not respond to all compounds similarly; rather, each compound has its own response factor relative to its calibration. For this investigation, the PID was calibrated to isobutylene. Hydrocarbon relative response factors for a PID calibrated to isobutylene are published by the manufacturer.

3.5 LABORATORY SAMPLE LOCATION AND FREQUENCY

The soil samples collected from the site were containerized and labeled for identification purposes. The labels were coded to correspond to the location from which the samples were secured. **Table 1** provides an index of how the samples were coded during labeling. **Figure 1** provides a map of the sample identifications and locations.

TABLE 1

SAMPLE IDENTIFICATION

SAMPLE LOCATION	SAMPLE ID CODE
Soil sample collected from the leaching pool (west) located on the north side of the house in the center of the subject property.	MHLP-1
Soil sample collected from the leaching pool (east) located on the north side of the house in the center of the subject property.	MHLP-2
Soil sample collected from the leaching pool from the house on the east side of the subject property.	EH-LP
Soil sample collected from the leaching pool from the house on the south side of the subject property.	SH-LP
Soil sample collected from the leaching pool from the house on the west side of the subject property.	WH-LP
Soil sample collected from the leaching pool from the house on the northeast side of the subject property.	NEH-LP
Soil sample collected from around the underground fuel oil storage tank located adjacent to the southern house.	Tank S-N 12’-16’
Soil sample collected from around the underground fuel oil storage tank located adjacent to the western house.	Tank W-S 12’-16’
Soil sample collected from around the underground fuel oil storage tank located adjacent to the east central house.	Tank E-W 12’-16’
Soil sample collected from around the underground fuel oil storage tank located adjacent to the northeast house.	Tank N-N 12’-16’
Ambient air sample collected from the south side of the main residence.	LIAL 018/5-16 AA
Soil vapor sample collected from the west central portion of the property.	LIAL 015/7-16 SV-W
Soil vapor sample collected from the east central portion of the property.	LIAL 007/6-16 SV-E

4.0 LABORATORY ANALYSIS

4.1 ANALYTICAL TEST METHODS

All of the soil vapor and soil samples collected from the subject property were transported to a New York State Certified Commercial Laboratory for analysis. The soil samples collected from the vicinity of the underground storage tank were analyzed based on the parameters provided **Table 2** from NYSDEC Policy Document CP-51 for the presence of volatile and semi-volatile organic compounds and metals. The soil samples collected from the sanitary system leaching pools were analyzed for the presence of volatile and semi-volatile organic compounds and metals based on the SCDHS SOP 9-95 parameters. All of the soil vapor and ambient air samples were analyzed for volatile organic compounds via Analytical Method TO-15.

4.2 ANALYTICAL RESULTS

Soil Vapor Results

Review of the analytical results finds that sampling detected the presence of several volatile organic compounds in all of the samples collected.

New York State currently does not have any specific standards for the concentrations of compounds in either ambient air or subsurface vapors and has established air guidance values for only three (3) volatile organic compounds which include methylene chloride, tetrachloroethene and trichloroethene. However the New York State Department of Health (NYSDOH) has issued the *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* **(NYS Department of Health - Center for Environmental Health - Bureau of Environmental Exposure Investigation, October, 2006)** which provides evaluation tools which may be used to evaluate the potential exposure impacts related to elevated levels of volatile organic compounds in soil vapors and ambient air. With regard to this investigation the document provides background air database summary results for a variety of property uses which may be used for comparison with site specific soil vapor and ambient air sampling results. Finally, soil vapor results are also reviewed "as a whole" to identify trends and special variations in the data, as outlined in the manual.

Of the compounds for which the NYSDOH has established guidance values for indoor air only methylene chloride was detected in the sample collected from the east-central portion of the property. The concentration for methylene chloride at this sample location was found to be below the guidance value of 60 ug/m^3.

To complete the assessment of soil vapor and ambient air quality at the property, the analytical results were also compared to the Upper Fence values established in the NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes which was a study conducted between 1997 and 2003 to assess the occurrence of volatile organic chemicals in the indoor air of fuel oil heated homes. This database is the recommended source of comparison recommended for evaluating residential properties in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in New York State. Comparison of the analytical results to the Upper Fence values

found exceedances with regard to detections of Acetone, Benzene, Chloromethane and Methyl Ethyl Ketone. However, to ensure that the potential for vapor intrusion is mitigated, it is recommended that a vapor barrier and/or a passive sub-slab venting system be installed as part of building design.

Table 3 provides a list of those constituents with elevated concentrations and their values. The laboratory analysis sheets (NYS ASPA) as prepared by Long Island Analytical are presented in **Appendix A** of this document.

Tank Sample Results

The laboratory analysis performed on the samples collected from around the underground storage tanks revealed that none of the constituents analyzed were detected above the minimum detection limits (MDL) of the laboratory. As a result, no further sampling is recommended for the underground storage tank. If the tanks are no longer in service, the tanks should be removed in accordance with SCDHS regulations and properly disposed of. The laboratory analysis sheets (NYS ASPA) as prepared by Long Island Analytical Laboratories are presented in **Appendix A** of this document.

Leaching Pool Samples

The laboratory analysis performed on the samples collected from the on-site sanitary system leaching pools associated with the five (5) houses located on the subject property revealed that several of the analyzed constituents exhibited elevated concentrations; however, only one (1) of the metals (mercury) was elevated in excess of the SCDHS guidance values pursuant to SOP 9-95. As a result, SH-LP should be remediated under the auspices of SCDHS personnel. The laboratory analysis sheets (NYS ASPA) as prepared by Long Island Analytical Laboratories are presented in **Appendix A** of this document.

TABLE 2
COMPARISON OF RESULTS FOR VOLATILES, SEMI-VOLATILES AND METALS

Constituents	MHLP-1	MHLP-2	EH-LP	SH-LP	WH-LP	NEH-LP	SCDHS SOP 9-95
Semi-Volatiles	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**
Benzo(b)fluoranthene	ND	ND	ND	ND	1530	ND	3,400
Volatiles	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**
Toluene	ND	ND	ND	ND	ND	331	3,000
Metals	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Barium	146	5.39	25.8	14.3	39.2	ND	4,000
Chromium	6.34	1.94	3.71	ND	8.12	ND	100
Copper	296	10.1	97.7	26.2	267	141	8,500
Lead	58.8	13.0	18.8	8.20	47.2	4.43	2,000
Nickel	9.65	ND	ND	ND	ND	ND	650
Mercury	1.80	0.02	0.06	**3.97**	0.21	0.18	3.7

**Due to its relatively short half-life in the environment, if acetone is the only contaminant of concern in a sample, the primary response should be to determine and eliminate the source of the acetone discharge. The requirement to perform a remediation will be determined on a case-by-case basis.

TABLE 3

SOIL GAS AND AMBIENT AIR SAMPLE RESULTS

Parameters	NYSDOH Upper Fence	NYSDOH Air Guidance Values	AA	SV-W	SV-E
Acetone	115	*NGV*	24	**144**	71.9
Benzene	13	*NGV*	ND	9.87	**24.4**
Chloromethane	4.2	*NGV*	ND	**19.8**	**24.3**
Isopropanol	NL	*NGV*	ND	27.4	4.6
Methylene Chloride	16	***60***	ND	ND	6.15
Methyl Ethyl Ketone (2-Butanone)	16	*NGV*	5.37	**244**	**380**
Toluene	57	*NGV*	ND	ND	7.54

Notes:

NGV - No value provided in NYSDOH Air Guideline Value.
Bold and Shaded - detection exceeds its applicable NYSDOH Air Guidance value. Indoor air results compared with indoor values and outdoor air results compared with outdoor values.
Italic - Detection exceeds its established NYSDOH Air Guideline Value.

5.0 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES (QA/QC)

This sampling protocol was conducted in accordance with USEPA accepted sampling procedures for hazardous waste streams (Municipal Research Laboratory, 1980, Sampling and Sampling Procedures for Hazardous Material Waste Streams, USEPA, Cincinnati, Ohio EPA- 600\280-018) and ASTM Material Sampling Procedures. All samples were collected by or under the auspices of USEPA trained personnel having completed the course Sampling of Hazardous Materials, offered by the Office of Emergency and Remedial Response.

Separate QA/QC measures were implemented for each of the instruments used in the Sampling and Analysis Program. Sampling instruments and investigative equipment included a Power Probe sampling apparatus, stainless steel rods and hand augers, plastic sleeves, polyethylene tubing, Summa™ Canisters and laboratory supplied sample vessels.

All sample vessels were "level A" certified decontaminated containers. Samples were placed into vessels consistent with the analytical parameters. After acquisition, samples were preserved in the field. All containerized samples were refrigerated to 4° C during transport.

A sample represents physical evidence; therefore, an essential part of liability reduction is the proper control of gathered evidence. To establish proper control, the following sample identification and chain-of-custody procedures were followed.

Sample Identification

Sample identification was executed by use of a sample tag, log book and manifest. Documentation provides the following:

1. Project Code
2. Sample Laboratory Number
3. Sample Preservation
4. Instrument Used for Source Soil Grabs
5. Composite Medium Used for Source Soil Grabs
6. Date Sample was Secured from Source Soil
7. Time Sample was Secured from Source Soil
8. Person Who Secured Sample from Source Soil

Chain-of-Custody Procedures

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered under custody if:

It was in a person's possession, or
It was in a person's view, after being in possession, or
It was in a person's possession and they were to lock it up, or
It is in a designated secure area.

When transferring custody, the individuals relinquishing and receiving signed, dated and noted the time on the Chain-of- Custody Form.

Laboratory Custody Procedures

A designated sample custodian accepted custody of the shipped samples and verified that the information on the sample tags matched that on the Chain-of-Custody records. Pertinent information as to shipment, pick-up, courier, etc. was entered in the "remarks" section. The custodian then entered the sample tag data into a bound logbook which was arranged by project code and station number.

The laboratory custodian used the sample tag number or assigned a unique laboratory number to each sample tag and assured that all samples were transferred to the proper analyst or stored in the appropriate source area.

The custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples from the time they were received until the sample was exhausted or returned to the custodian.

All identifying data sheets and laboratory records were retained as part of the permanent site record. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

6.0 SUMMARY AND CONCLUSION

This investigation was completed to address issues raised in a prior Phase I ESA dated November 25, 2015 prepared by Nelson, Pope & Voorhis, LLC. A sampling and analysis program was designed to determine if the underground storage tanks had caused a release that would impact the environmental quality of subsurface soils, if the on-site sanitary systems had been impacted by the existing use of the subject property or if the presence of the off-site groundwater contamination plume had resulted in a release that may have generated environmentally adverse soil vapor conditions. The sampling and analysis plan consisted of soil vapor testing and soil/sediment quality testing using analytical test methods consistent with expected parameters and regulatory action levels and agency soil cleanup objectives. The following presents the results of this investigation.

1. Review of the analytical results finds that sampling detected the presence of several volatile organic compounds in all of the samples collected.

   New York State currently does not have any specific standards for the concentrations of compounds in either ambient air or subsurface vapors and has established air guidance values for only three (3) volatile organic compounds which include methylene chloride, tetrachloroethene and trichloroethene. However the New York State Department of Health (NYSDOH) has issued the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYS Department of Health - Center for Environmental Health - Bureau of Environmental Exposure Investigation, October, 2006) which provides evaluation tools which may be used to evaluate the potential exposure impacts related to elevated levels of volatile organic compounds in soil vapors and ambient air. With regard to this investigation the document provides background air database summary results for a variety of property uses which may be used for comparison with site specific soil vapor and ambient air sampling results. Finally, soil vapor results are also reviewed "as a whole" to identify trends and special variations in the data, as outlined in the manual.

   Of the compounds for which the NYSDOH has established guidance values for indoor air only methylene chloride was detected in the sample collected from the east-central portion of the property. The concentration for methylene chloride at this sample location was found to below the guidance value of 60 ug/m3.

   To complete the assessment of soil vapor and ambient air quality at the property, the analytical results were also compared to the Upper Fence values established in the NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes which was a study conducted between 1997 and 2003 to assess the occurrence of volatile organic chemicals in the indoor air of fuel oil heated homes. This database is the recommended source of comparison recommended for evaluating residential properties in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in New York State. Comparison of the analytical results to the Upper Fence values found exceedances with regard to detections of Acetone, Benzene, Chloromethane and Methyl Ethyl Ketone. However, to ensure that the potential for vapor intrusion is mitigated it is recommended that a vapor barrier and/or a passive sub-slab venting system be installed as part of building design.

2. Ground Penetrating Radar (GPR) was utilized to survey the area of the underground storage tanks in order to locate and orientate the tanks to properly position the soil probes around the tanks. This survey identified the location of the tanks adjacent to each of the four (4) smaller houses on the subject property.

3. The soils surrounding the four (4) underground storage tanks were sampled using a Power Probe sampling apparatus. A total of thirteen (13) probe points were installed around the accessible side of the four (4) tanks. Each sample interval obtained from the probe points were bagged and field screened using a PID meter in order to determine which sample was sent to the laboratory for analysis. Typically, the sample with the highest PID reading from the tank is chosen for lab analysis. However, the sample collected from the down gradient sides of the tanks were chosen since no significantly elevated PID readings were recorded in any of the fifty (50) soil samples collected.

   The laboratory results for the four (4) samples collected around the on-site tanks revealed that no elevated concentrations were detected in the tank samples. Since no concentrations were detected, no prior release is expected to have occurred from any of the underground tanks. If these tanks are no longer in service, the tanks should be removed and properly disposed of in accordance with SCDHS regulations and oversight.

4. The sanitary system leaching pools associated with the five (5) houses located on the subject property were sampled using a stainless steel hand auger in order to determine if the prior and existing uses of the property had adversely impacted the subsoils. The soil samples were transported to a certified laboratory for analysis of volatile and semi-volatile organic compounds and metals. The analytical results revealed that several of the analyzed constituents exhibited elevated concentrations; however, only one (1) of the metals (mercury) was elevated in excess of the SCDHS guidance values pursuant to SOP 9-95. As a result, SH-LP should be remediated under the auspices of SCDHS personnel.

The subject property has been evaluated in accordance with appropriate regulatory agency requirements and in accordance with standard practice for the industry. This Limited Phase II ESA addresses only the specific areas of the site warranting further analysis and can only provide conclusions regarding the subsurface soil quality in those specific areas tested. The Limited Phase II ESA report is limited to the evaluation of on-site conditions at the time of completion of the field sampling program.

12/30/16
Date of Completion

THE ACADEMY OF BOARD CERTIFIED ENVIRONMENTAL PROFESSIONALS
CEP
CHARLES J. VOORHIS
4024

Charles J. Voorhis, CEP, AICP
Project Manager

NELSON POPE & VOORHIS LLC
ENVIRONMENTAL • PLANNING • CONSULTING

7.0 REFERENCES

American Society for Testing and Materials (ASTM), June 2011, E1903-11 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, West Conshohocken, Pennsylvania.

New York State Department of Environmental Conservation (NYSDEC), 1992, Sampling Guidelines and Protocols, Technology Background and Quality Control/Quality Assurance for NYSDEC Spill Response Program, NYSDEC, Albany, New York.

New York State Department of Health (NYSDOH), 2005, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Albany, New York.

New York State Department of Environmental Conservation (NYSDEC), December 2006, 6NYCRR Part 375 Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6, Division of Environmental Remediation, Albany, New York.

FIGURES

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1
SAMPLE LOCATION MAP

Source: base from ESRI wms
Scale: 1 inch = 100 feet

N

41 N Phillips Ave
Speonk

Limited Phase II ESA

APPENDICES

APPENDIX A

LABORATORY DATA SHEETS

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

Laboratory Report

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

LIAL# 6120724

December 12, 2016

Nelson, Pope & Voorhis
Steve McGinn
572 Walt Whitman Road
Melville, NY 11747

Re: 41 N. Phillips Ave Speonk

Dear Steve McGinn,

Enclosed please find the laboratory Analysis Report(s) for sample(s) received on December 07, 2016. Long Island Analytical laboratories analyzed the samples on December 10, 2016 for the following:

SAMPLE ID	ANALYSIS
LIAL 018/5-16 AA	TO-15
LIAL 015/7-16 SV-W	TO-15
LIAL 007/6-16 SV-E	TO-15

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted. Report shall not be reproduced except in full without the written approval of the laboratory. Results related only to items tested. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

Michael Veraldi - Laboratory Director

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 13:00	Sample ID: LIAL 018/5-16 AA
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-01
Matrix: Air	ELAP: #11693

Volatiles Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1-Trichloroethane	71-55-6	1.00	<1.00	ug/m³	
1,1,2,2-Tetrachloroethane	79-34-5	1.00	<1.00	ug/m³	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.00	<1.00	ug/m³	
1,1,2-Trichloroethane	79-00-5	1.00	<1.00	ug/m³	
1,1-Dichloroethane	75-34-3	1.00	<1.00	ug/m³	
1,1-Dichloroethylene	75-35-4	1.00	<1.00	ug/m³	
1,2,4-Trichlorobenzene	120-82-1	1.00	<1.00	ug/m³	
1,2,4-Trimethylbenzene	95-63-6	1.00	<1.00	ug/m³	
1,2-Dibromoethane	106-93-4	1.00	<1.00	ug/m³	
1,2-Dichlorobenzene	95-50-1	1.00	<1.00	ug/m³	
1,2-Dichloroethane	107-06-2	1.00	<1.00	ug/m³	
1,2-Dichloropropane	78-87-5	1.00	<1.00	ug/m³	
1,2-Dichlorotetrafluoroethane	76-14-2	1.00	<1.00	ug/m³	
1,3,5-Trimethylbenzene	108-67-8	1.00	<1.00	ug/m³	
1,3-Butadiene	106-99-0	1.00	<1.00	ug/m³	
1,3-Dichlorobenzene	541-73-1	1.00	<1.00	ug/m³	
1,4-Dichlorobenzene	106-46-7	1.00	<1.00	ug/m³	
1,4-Dioxane	123-91-1	1.00	<1.00	ug/m³	
4-Ethyltoluene	622-96-8	1.00	<1.00	ug/m³	
4-Methyl-2-Pentanone	108-10-1	1.00	<1.00	ug/m³	
Acetone	67-64-1	2.00	24.0	ug/m³	
Acrolein	107-02-8	1.00	<1.00	ug/m³	
Benzene	71-43-2	1.00	<1.00	ug/m³	
Benzyl Chloride	100-44-7	1.00	<1.00	ug/m³	
Bromodichloromethane	75-27-4	1.00	<1.00	ug/m³	
Bromoform	75-25-2	1.00	<1.00	ug/m³	
Bromomethane	74-83-9	1.00	<1.00	ug/m³	
Carbon disulfide	75-15-0	1.00	<1.00	ug/m³	
Carbon Tetrachloride	56-23-5	1.00	<1.00	ug/m³	
Chlorobenzene	108-90-7	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 13:00	Sample ID: LIAL 018/5-16 AA
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-01
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Chloroethane	75-00-3	1.00	<1.00	ug/m³	
Chloroform	67-66-3	1.00	<1.00	ug/m³	
Chloromethane	74-87-3	1.00	<1.00	ug/m³	
cis-1,2-Dichloroethylene	156-59-2	1.00	<1.00	ug/m³	
cis-1,3-Dichloropropylene	10061-01-5	1.00	<1.00	ug/m³	
Cyclohexane	110-82-7	1.00	<1.00	ug/m³	
Dibromochloromethane	124-48-1	1.00	<1.00	ug/m³	
Dichlorodifluoromethane	75-71-8	1.00	<1.00	ug/m³	
Ethanol	64-17-5	1.00	6.50	ug/m³	
Ethyl Acetate	141-78-6	1.00	<1.00	ug/m³	
Ethylbenzene	100-41-4	1.00	<1.00	ug/m³	
Hexachlorobutadiene	87-68-3	1.00	<1.00	ug/m³	
Isopropanol	67-63-0	1.00	<1.00	ug/m³	
m,p-Xylenes	108-38-3/106-42-3	1.00	<1.00	ug/m³	
Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.00	<1.00	ug/m³	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	1.00	5.37	ug/m³	
Methyl Methacrylate	80-62-6	1.00	<1.00	ug/m³	
Methylene Chloride	75-09-2	1.00	<1.00	ug/m³	
Methyl-tert-Butyl Ether	1634-04-4	1.00	<1.00	ug/m³	
Naphthalene	91-20-3	1.00	<1.00	ug/m³	
n-Heptane	142-82-5	1.00	<1.00	ug/m³	
n-Hexane	110-54-3	1.00	<1.00	ug/m³	
o-Xylene	95-47-6	1.00	<1.00	ug/m³	
Propylene	115-07-1	1.00	<1.00	ug/m³	
Styrene	100-42-5	1.00	<1.00	ug/m³	
Tetrachloroethylene	127-18-4	1.00	<1.00	ug/m³	
Tetrahydrofuran	109-99-9	1.00	<1.00	ug/m³	
Toluene	108-88-3	1.00	<1.00	ug/m³	
trans-1,2-Dichloroethylene	156-60-5	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 13:00	Sample ID: LIAL 018/5-16 AA
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-01
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
trans-1,3-Dichloropropylene	10061-02-6	1.00	<1.00	ug/m³	
Trichloroethylene	79-01-6	1.00	<1.00	ug/m³	
Trichlorofluoromethane	75-69-4	1.00	<1.00	ug/m³	
Vinyl acetate	108-05-4	1.00	<1.00	ug/m³	
Vinyl chloride	75-01-4	1.00	<1.00	ug/m³	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
4-Bromofluorobenzene	460-00-4	101	70-130	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Difluorobenzene	540-36-3	97	60-140	
Bromochloromethane	74-97-5	93	60-140	
Chlorobenzene-d5	3114-55-4	101	60-140	

Date Prepared: 12/09/2016

Date Analyzed: 12/10/2016

Preparation Method: TO-15

Analytical Method: TO-15

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:37	Sample ID: LIAL 015/7-16 SV-W
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-02
Matrix: Air	ELAP: #11693

Volatiles Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1-Trichloroethane	71-55-6	1.00	<1.00	ug/m³	
1,1,2,2-Tetrachloroethane	79-34-5	1.00	<1.00	ug/m³	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.00	<1.00	ug/m³	
1,1,2-Trichloroethane	79-00-5	1.00	<1.00	ug/m³	
1,1-Dichloroethane	75-34-3	1.00	<1.00	ug/m³	
1,1-Dichloroethylene	75-35-4	1.00	<1.00	ug/m³	
1,2,4-Trichlorobenzene	120-82-1	1.00	<1.00	ug/m³	
1,2,4-Trimethylbenzene	95-63-6	1.00	<1.00	ug/m³	
1,2-Dibromoethane	106-93-4	1.00	<1.00	ug/m³	
1,2-Dichlorobenzene	95-50-1	1.00	<1.00	ug/m³	
1,2-Dichloroethane	107-06-2	1.00	<1.00	ug/m³	
1,2-Dichloropropane	78-87-5	1.00	<1.00	ug/m³	
1,2-Dichlorotetrafluoroethane	76-14-2	1.00	<1.00	ug/m³	
1,3,5-Trimethylbenzene	108-67-8	1.00	<1.00	ug/m³	
1,3-Butadiene	106-99-0	1.00	<1.00	ug/m³	
1,3-Dichlorobenzene	541-73-1	1.00	<1.00	ug/m³	
1,4-Dichlorobenzene	106-46-7	1.00	<1.00	ug/m³	
1,4-Dioxane	123-91-1	1.00	<1.00	ug/m³	
4-Ethyltoluene	622-96-8	1.00	<1.00	ug/m³	
4-Methyl-2-Pentanone	108-10-1	1.00	<1.00	ug/m³	
Acetone	67-64-1	50.0	144	ug/m³	3.E
Acrolein	107-02-8	1.00	<1.00	ug/m³	
Benzene	71-43-2	1.00	9.87	ug/m³	
Benzyl Chloride	100-44-7	1.00	<1.00	ug/m³	
Bromodichloromethane	75-27-4	1.00	<1.00	ug/m³	
Bromoform	75-25-2	1.00	<1.00	ug/m³	
Bromomethane	74-83-9	1.00	<1.00	ug/m³	
Carbon disulfide	75-15-0	1.00	<1.00	ug/m³	
Carbon Tetrachloride	56-23-5	1.00	<1.00	ug/m³	
Chlorobenzene	108-90-7	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:37	Sample ID: LIAL 015/7-16 SV-W
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-02
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Chloroethane	75-00-3	1.00	<1.00	ug/m³	
Chloroform	67-66-3	1.00	<1.00	ug/m³	
Chloromethane	74-87-3	1.00	19.8	ug/m³	
cis-1,2-Dichloroethylene	156-59-2	1.00	<1.00	ug/m³	
cis-1,3-Dichloropropylene	10061-01-5	1.00	<1.00	ug/m³	
Cyclohexane	110-82-7	1.00	<1.00	ug/m³	
Dibromochloromethane	124-48-1	1.00	<1.00	ug/m³	
Dichlorodifluoromethane	75-71-8	1.00	<1.00	ug/m³	
Ethanol	64-17-5	1.00	27.4	ug/m³	
Ethyl Acetate	141-78-6	1.00	<1.00	ug/m³	
Ethylbenzene	100-41-4	1.00	<1.00	ug/m³	
Hexachlorobutadiene	87-68-3	1.00	<1.00	ug/m³	
Isopropanol	67-63-0	1.00	9.24	ug/m³	
m,p-Xylenes	108-38-3/106-42-3	1.00	<1.00	ug/m³	
Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.00	11.5	ug/m³	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	25.0	244	ug/m³	3.E
Methyl Methacrylate	80-62-6	1.00	<1.00	ug/m³	
Methylene Chloride	75-09-2	1.00	<1.00	ug/m³	
Methyl-tert-Butyl Ether	1634-04-4	1.00	<1.00	ug/m³	
Naphthalene	91-20-3	1.00	<1.00	ug/m³	
n-Heptane	142-82-5	1.00	<1.00	ug/m³	
n-Hexane	110-54-3	1.00	<1.00	ug/m³	
o-Xylene	95-47-6	1.00	<1.00	ug/m³	
Propylene	115-07-1	25.0	190	ug/m³	3.E
Styrene	100-42-5	1.00	<1.00	ug/m³	
Tetrachloroethylene	127-18-4	1.00	<1.00	ug/m³	
Tetrahydrofuran	109-99-9	1.00	<1.00	ug/m³	
Toluene	108-88-3	1.00	<1.00	ug/m³	
trans-1,2-Dichloroethylene	156-60-5	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:37	Sample ID: LIAL 015/7-16 SV-W
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-02
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
trans-1,3-Dichloropropylene	10061-02-6	1.00	<1.00	ug/m³	
Trichloroethylene	79-01-6	1.00	<1.00	ug/m³	
Trichlorofluoromethane	75-69-4	1.00	<1.00	ug/m³	
Vinyl acetate	108-05-4	1.00	<1.00	ug/m³	
Vinyl chloride	75-01-4	1.00	<1.00	ug/m³	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
4-Bromofluorobenzene	460-00-4	103	70-130	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Difluorobenzene	540-36-3	97	60-140	
Bromochloromethane	74-97-5	91	60-140	
Chlorobenzene-d5	3114-55-4	101	60-140	

Date Prepared: 12/09/2016

Date Analyzed: 12/10/2016

Preparation Method: TO-15

Analytical Method: TO-15

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:20	Sample ID: LIAL 007/6-16 SV-E
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-03
Matrix: Air	ELAP: #11693

Volatiles Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1-Trichloroethane	71-55-6	1.00	<1.00	ug/m³	
1,1,2,2-Tetrachloroethane	79-34-5	1.00	<1.00	ug/m³	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.00	<1.00	ug/m³	
1,1,2-Trichloroethane	79-00-5	1.00	<1.00	ug/m³	
1,1-Dichloroethane	75-34-3	1.00	<1.00	ug/m³	
1,1-Dichloroethylene	75-35-4	1.00	<1.00	ug/m³	
1,2,4-Trichlorobenzene	120-82-1	1.00	<1.00	ug/m³	
1,2,4-Trimethylbenzene	95-63-6	1.00	<1.00	ug/m³	
1,2-Dibromoethane	106-93-4	1.00	<1.00	ug/m³	
1,2-Dichlorobenzene	95-50-1	1.00	<1.00	ug/m³	
1,2-Dichloroethane	107-06-2	1.00	<1.00	ug/m³	
1,2-Dichloropropane	78-87-5	1.00	<1.00	ug/m³	
1,2-Dichlorotetrafluoroethane	76-14-2	1.00	<1.00	ug/m³	
1,3,5-Trimethylbenzene	108-67-8	1.00	<1.00	ug/m³	
1,3-Butadiene	106-99-0	1.00	<1.00	ug/m³	
1,3-Dichlorobenzene	541-73-1	1.00	<1.00	ug/m³	
1,4-Dichlorobenzene	106-46-7	1.00	<1.00	ug/m³	
1,4-Dioxane	123-91-1	1.00	<1.00	ug/m³	
4-Ethyltoluene	622-96-8	1.00	<1.00	ug/m³	
4-Methyl-2-Pentanone	108-10-1	1.00	<1.00	ug/m³	
Acetone	67-64-1	50.0	71.9	ug/m³	3.E
Acrolein	107-02-8	1.00	13.8	ug/m³	
Benzene	71-43-2	1.00	24.4	ug/m³	
Benzyl Chloride	100-44-7	1.00	<1.00	ug/m³	
Bromodichloromethane	75-27-4	1.00	<1.00	ug/m³	
Bromoform	75-25-2	1.00	<1.00	ug/m³	
Bromomethane	74-83-9	1.00	<1.00	ug/m³	
Carbon disulfide	75-15-0	1.00	<1.00	ug/m³	
Carbon Tetrachloride	56-23-5	1.00	<1.00	ug/m³	
Chlorobenzene	108-90-7	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:20	Sample ID: LIAL 007/6-16 SV-E
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-03
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Chloroethane	75-00-3	1.00	<1.00	ug/m³	
Chloroform	67-66-3	1.00	<1.00	ug/m³	
Chloromethane	74-87-3	1.00	24.3	ug/m³	
cis-1,2-Dichloroethylene	156-59-2	1.00	<1.00	ug/m³	
cis-1,3-Dichloropropylene	10061-01-5	1.00	<1.00	ug/m³	
Cyclohexane	110-82-7	1.00	<1.00	ug/m³	
Dibromochloromethane	124-48-1	1.00	<1.00	ug/m³	
Dichlorodifluoromethane	75-71-8	1.00	<1.00	ug/m³	
Ethanol	64-17-5	1.00	36.6	ug/m³	
Ethyl Acetate	141-78-6	1.00	<1.00	ug/m³	
Ethylbenzene	100-41-4	1.00	<1.00	ug/m³	
Hexachlorobutadiene	87-68-3	1.00	<1.00	ug/m³	
Isopropanol	67-63-0	1.00	4.60	ug/m³	
m,p-Xylenes	108-38-3/106-42-3	1.00	<1.00	ug/m³	
Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.00	16.8	ug/m³	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	25.0	380	ug/m³	3.E
Methyl Methacrylate	80-62-6	1.00	<1.00	ug/m³	
Methylene Chloride	75-09-2	1.00	6.15	ug/m³	
Methyl-tert-Butyl Ether	1634-04-4	1.00	<1.00	ug/m³	
Naphthalene	91-20-3	1.00	<1.00	ug/m³	
n-Heptane	142-82-5	1.00	<1.00	ug/m³	
n-Hexane	110-54-3	1.00	<1.00	ug/m³	
o-Xylene	95-47-6	1.00	<1.00	ug/m³	
Propylene	115-07-1	25.0	226	ug/m³	3.E
Styrene	100-42-5	1.00	4.64	ug/m³	
Tetrachloroethylene	127-18-4	1.00	<1.00	ug/m³	
Tetrahydrofuran	109-99-9	1.00	<1.00	ug/m³	
Toluene	108-88-3	1.00	7.54	ug/m³	
trans-1,2-Dichloroethylene	156-60-5	1.00	<1.00	ug/m³	

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave Speonk
Date (Time) Collected: 12/07/2016 12:20	Sample ID: LIAL 007/6-16 SV-E
Date (Time) Received: 12/07/2016 16:55	Laboratory ID: 6120724-03
Matrix: Air	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
trans-1,3-Dichloropropylene	10061-02-6	1.00	<1.00	ug/m³	
Trichloroethylene	79-01-6	1.00	<1.00	ug/m³	
Trichlorofluoromethane	75-69-4	1.00	<1.00	ug/m³	
Vinyl acetate	108-05-4	1.00	<1.00	ug/m³	
Vinyl chloride	75-01-4	1.00	<1.00	ug/m³	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
4-Bromofluorobenzene	460-00-4	102	70-130	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Difluorobenzene	540-36-3	98	60-140	
Bromochloromethane	74-97-5	91	60-140	
Chlorobenzene-d5	3114-55-4	101	60-140	

Date Prepared: 12/09/2016

Date Analyzed: 12/10/2016

Preparation Method: TO-15

Analytical Method: TO-15

Data Qualifiers Key Reference:

3.E Compound reported at a dilution factor.
MDL Minimum Detection Limit
LOQ Limit of Quantitation

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"
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www.lialinc.com

Chain of Custody – TO-15

CLIENT	PROJECT	DATE COLLECTED
Nelson, Pope & Voorhis, LLC	41 N. Phillips Ave	12/7/16
CLIENT ADDRESS	**LOCATION**	**TECHNICIAN**
572 Walt Whitman Rd	41 N. Phillip Ave Speonk	Steven J. M'Ginn
CLIENT PHONE	**E-MAIL ADDRESS**	**TURNAROUND TIME: BY / /**
631-427-5665		☒ NORMAL ☐ STAT

6120724

LABORATORY NO. For Laboratory Use Only	CANISTER NO. / REGULATOR NO.	SAMPLE LOCATION	TIME ON	TIME OFF	VACUUM GUAGE START ("Hg)	VACUUM GUAGE END ("Hg)	LEAK DETECTOR ANALYTE	ANALYSIS METHOD
1 6120724-01	LIAL 018 / 5-16	AA	10:54	1:00	29	4		TO-15
2. 02	LIAL 015 / 7-16	SV-W	10:31	12:37	29.5	4		TO-15
3. 03	LIAL 007 / 6-16	SV-E	10:50	12:20	28.5	0		TO-15
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								

COMMENTS 015 -> did not last 2 hours 7-16

LEAK DETECTOR ANALYTES
(1) ISOPROPYL ALCOHOL (2) HELIUM (BY TECHNICIAN IN THE FIELD) (3) OTHER:

RELINQUISHED BY (SIGNATURE)	DATE 12/7/16 TIME 4:55	PRINTED NAME Steven J. M'Ginn	RECEIVED BY (SIGNATURE)	DATE 12/7/16 TIME 4:55	PRINTED NAME Mike D. Voraki
RELINQUISHED BY (SIGNATURE)	DATE TIME	PRINTED NAME	SAMPLE CUSTODIAN	DATE 12-7-16 TIME 5:00	PRINTED NAME Ben Lamberson

WHITE-LAB CANARY-CLIENT

NYSDOH ELAP# 11693

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

Laboratory Report

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

LIAL# 6120723

December 16, 2016

Nelson, Pope & Voorhis
Steve McGinn
572 Walt Whitman Road
Melville, NY 11747

Re: 41 N. Phillips

Dear Steve McGinn,

Enclosed please find the laboratory Analysis Report(s) for sample(s) received on December 07, 2016. Long Island Analytical laboratories analyzed the samples on December 15, 2016 for the following:

SAMPLE ID	ANALYSIS
Tank S-N 12'-16'	CP-51 Table 3 Semi-Volatiles, CP-51 Table 3 Volatiles
Tank W-S 12'-16'	CP-51 Table 3 Semi-Volatiles, CP-51 Table 3 Volatiles
Tank E-W 12'-16'	CP-51 Table 3 Semi-Volatiles, CP-51 Table 3 Volatiles
Tank N-N 12'-16'	CP-51 Table 3 Semi-Volatiles, CP-51 Table 3 Volatiles

Samples received at 2.4 ◦ C

5.L Results may be biased low due to the sample not being collected according to 5035A-L/5035A-H low level specifications.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted. Report shall not be reproduced except in full without the written approval of the laboratory. Results related only to items tested. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

Michael Veraldi - Laboratory Director

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 13:00	Sample ID: Tank S-N 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-01 % Solid:95.60
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,2,4-Trimethylbenzene	95-63-6	10.5	<10.5	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	10.5	<10.5	ug/kg dry	3.A, 5.L
4-Isopropyltoluene	99-87-6	10.5	<10.5	ug/kg dry	3.A, 5.L
Benzene	71-43-2	10.5	<10.5	ug/kg dry	3.A, 5.L
Ethylbenzene	100-41-4	10.5	<10.5	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	10.5	<10.5	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	20.9	<20.9	ug/kg dry	3.A, 4.N, 5.L
Naphthalene	91-20-3	10.5	<10.5	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	10.5	<10.5	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	10.5	<10.5	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	10.5	<10.5	ug/kg dry	3.A, 4.N, 5.L
sec-Butylbenzene	135-98-8	10.5	<10.5	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	10.5	<10.5	ug/kg dry	3.A, 5.L
Toluene	108-88-3	10.5	<10.5	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	122	74.4-131	
4-Bromofluorobenzene	460-00-4	100	82.3-134	
Dibromofluoromethane	1868-53-7	121	79.4-122	
Toluene-d8	2037-26-5	84	85-123	4.D

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	63	50-200	
1,4-Difluorobenzene	540-36-3	69	50-200	
Chlorobenzene-d5	3114-55-4	71	50-200	
Pentafluorobenzene	363-72-4	67	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/12/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 13:00	Sample ID: Tank S-N 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-01 % Solid:95.60
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	157	<157	ug/kg dry	
Acenaphthylene	208-96-8	157	<157	ug/kg dry	
Anthracene	120-12-7	157	<157	ug/kg dry	
Benzo(a)anthracene	56-55-3	157	<157	ug/kg dry	
Benzo(a)pyrene	50-32-8	157	<157	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	157	<157	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	157	<157	ug/kg dry	4.N
Benzo(k)fluoranthene	207-08-9	157	<157	ug/kg dry	
Chrysene	218-01-9	157	<157	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	157	<157	ug/kg dry	4.N
Fluoranthene	206-44-0	157	<157	ug/kg dry	
Fluorene	86-73-7	157	<157	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	157	<157	ug/kg dry	4.N
Phenanthrene	85-01-8	157	<157	ug/kg dry	
Pyrene	129-00-0	157	<157	ug/kg dry	4.K

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	107	34.39-110.73	
Nitrobenzene-d5	4165-60-0	103	31-118.25	
Terphenyl-d14	1718-51-0	111	41.02-106	4.E

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	89	50-200	
Acenaphthene-d10	15067-26-2	94	50-200	
Chrysene-d12	1719-03-5	98	50-200	
Naphthalene-d8	1146-65-2	92	50-200	
Perylene-d12	1520-96-3	107	50-200	
Phenanthrene-d10	1517-22-2	95	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/15/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 09:00	Sample ID: Tank W-S 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-02 % Solid:97.04
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,2,4-Trimethylbenzene	95-63-6	10.3	<10.3	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	10.3	<10.3	ug/kg dry	3.A, 5.L
4-Isopropyltoluene	99-87-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Benzene	71-43-2	10.3	<10.3	ug/kg dry	3.A, 5.L
Ethylbenzene	100-41-4	10.3	<10.3	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	10.3	<10.3	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	20.6	<20.6	ug/kg dry	3.A, 4.N, 5.L
Naphthalene	91-20-3	10.3	<10.3	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	10.3	<10.3	ug/kg dry	5.L, 3.A
n-Propylbenzene	103-65-1	10.3	<10.3	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	10.3	<10.3	ug/kg dry	3.A, 4.N, 5.L
sec-Butylbenzene	135-98-8	10.3	<10.3	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Toluene	108-88-3	10.3	<10.3	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	119	74.4-131	
4-Bromofluorobenzene	460-00-4	99	82.3-134	
Dibromofluoromethane	1868-53-7	121	79.4-122	
Toluene-d8	2037-26-5	85	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	65	50-200	
1,4-Difluorobenzene	540-36-3	70	50-200	
Chlorobenzene-d5	3114-55-4	71	50-200	
Pentafluorobenzene	363-72-4	67	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/12/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 09:00	Sample ID: Tank W-S 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-02 % Solid:97.04
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	155	<155	ug/kg dry	
Acenaphthylene	208-96-8	155	<155	ug/kg dry	
Anthracene	120-12-7	155	<155	ug/kg dry	
Benzo(a)anthracene	56-55-3	155	<155	ug/kg dry	
Benzo(a)pyrene	50-32-8	155	<155	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	155	<155	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	155	<155	ug/kg dry	4.N
Benzo(k)fluoranthene	207-08-9	155	<155	ug/kg dry	
Chrysene	218-01-9	155	<155	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	155	<155	ug/kg dry	4.N
Fluoranthene	206-44-0	155	<155	ug/kg dry	
Fluorene	86-73-7	155	<155	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	155	<155	ug/kg dry	4.N
Phenanthrene	85-01-8	155	<155	ug/kg dry	
Pyrene	129-00-0	155	<155	ug/kg dry	4.K

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	96	34.39-110.73	
Nitrobenzene-d5	4165-60-0	93	31-118.25	
Terphenyl-d14	1718-51-0	96	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	95	50-200	
Acenaphthene-d10	15067-26-2	101	50-200	
Chrysene-d12	1719-03-5	106	50-200	
Naphthalene-d8	1146-65-2	99	50-200	
Perylene-d12	1520-96-3	113	50-200	
Phenanthrene-d10	1517-22-2	103	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/15/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 14:00	Sample ID: Tank E-W 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-03 % Solid:96.80
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,2,4-Trimethylbenzene	95-63-6	10.3	<10.3	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	10.3	<10.3	ug/kg dry	3.A, 5.L
4-Isopropyltoluene	99-87-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Benzene	71-43-2	10.3	<10.3	ug/kg dry	3.A, 5.L
Ethylbenzene	100-41-4	10.3	<10.3	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	10.3	<10.3	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	20.7	<20.7	ug/kg dry	3.A, 4.N, 5.L
Naphthalene	91-20-3	10.3	<10.3	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	10.3	<10.3	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	10.3	<10.3	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	10.3	<10.3	ug/kg dry	3.A, 4.N, 5.L
sec-Butylbenzene	135-98-8	10.3	<10.3	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Toluene	108-88-3	10.3	<10.3	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	121	74.4-131	
4-Bromofluorobenzene	460-00-4	99	82.3-134	
Dibromofluoromethane	1868-53-7	125	79.4-122	4.E
Toluene-d8	2037-26-5	85	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	63	50-200	
1,4-Difluorobenzene	540-36-3	68	50-200	
Chlorobenzene-d5	3114-55-4	70	50-200	
Pentafluorobenzene	363-72-4	65	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 14:00	Sample ID: Tank E-W 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-03 % Solid:96.80
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	155	<155	ug/kg dry	
Acenaphthylene	208-96-8	155	<155	ug/kg dry	
Anthracene	120-12-7	155	<155	ug/kg dry	
Benzo(a)anthracene	56-55-3	155	<155	ug/kg dry	
Benzo(a)pyrene	50-32-8	155	<155	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	155	<155	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	155	<155	ug/kg dry	4.N
Benzo(k)fluoranthene	207-08-9	155	<155	ug/kg dry	
Chrysene	218-01-9	155	<155	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	155	<155	ug/kg dry	4.N
Fluoranthene	206-44-0	155	<155	ug/kg dry	
Fluorene	86-73-7	155	<155	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	155	<155	ug/kg dry	4.N
Phenanthrene	85-01-8	155	<155	ug/kg dry	
Pyrene	129-00-0	155	<155	ug/kg dry	4.K

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	77	34.39-110.73	
Nitrobenzene-d5	4165-60-0	73	31-118.25	
Terphenyl-d14	1718-51-0	74	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	104	50-200	
Acenaphthene-d10	15067-26-2	111	50-200	
Chrysene-d12	1719-03-5	113	50-200	
Naphthalene-d8	1146-65-2	107	50-200	
Perylene-d12	1520-96-3	120	50-200	
Phenanthrene-d10	1517-22-2	112	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/15/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 15:30	Sample ID: Tank N-N 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-04 % Solid:96.97
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,2,4-Trimethylbenzene	95-63-6	10.3	<10.3	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	10.3	<10.3	ug/kg dry	5.L, 3.A
4-Isopropyltoluene	99-87-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Benzene	71-43-2	10.3	<10.3	ug/kg dry	3.A, 5.L
Ethylbenzene	100-41-4	10.3	<10.3	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	10.3	<10.3	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	20.6	<20.6	ug/kg dry	3.A, 4.N, 5.L
Naphthalene	91-20-3	10.3	<10.3	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	10.3	<10.3	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	10.3	<10.3	ug/kg dry	5.L, 3.A
o-Xylene	95-47-6	10.3	<10.3	ug/kg dry	3.A, 4.N, 5.L
sec-Butylbenzene	135-98-8	10.3	<10.3	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	10.3	<10.3	ug/kg dry	3.A, 5.L
Toluene	108-88-3	10.3	<10.3	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	122	74.4-131	
4-Bromofluorobenzene	460-00-4	102	82.3-134	
Dibromofluoromethane	1868-53-7	124	79.4-122	4.E
Toluene-d8	2037-26-5	86	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	62	50-200	
1,4-Difluorobenzene	540-36-3	70	50-200	
Chlorobenzene-d5	3114-55-4	72	50-200	
Pentafluorobenzene	363-72-4	67	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips
Date (Time) Collected: 12/07/2016 15:30	Sample ID: Tank N-N 12'-16'
Date (Time) Received: 12/07/2016 16:35	Laboratory ID: 6120723-04 % Solid:96.97
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	155	<155	ug/kg dry	
Acenaphthylene	208-96-8	155	<155	ug/kg dry	
Anthracene	120-12-7	155	<155	ug/kg dry	
Benzo(a)anthracene	56-55-3	155	<155	ug/kg dry	
Benzo(a)pyrene	50-32-8	155	<155	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	155	<155	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	155	<155	ug/kg dry	4.N
Benzo(k)fluoranthene	207-08-9	155	<155	ug/kg dry	
Chrysene	218-01-9	155	<155	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	155	<155	ug/kg dry	4.N
Fluoranthene	206-44-0	155	<155	ug/kg dry	
Fluorene	86-73-7	155	<155	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	155	<155	ug/kg dry	4.N
Phenanthrene	85-01-8	155	<155	ug/kg dry	
Pyrene	129-00-0	155	<155	ug/kg dry	4.K

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	82	34.39-110.73	
Nitrobenzene-d5	4165-60-0	79	31-118.25	
Terphenyl-d14	1718-51-0	82	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	89	50-200	
Acenaphthene-d10	15067-26-2	93	50-200	
Chrysene-d12	1719-03-5	96	50-200	
Naphthalene-d8	1146-65-2	93	50-200	
Perylene-d12	1520-96-3	97	50-200	
Phenanthrene-d10	1517-22-2	95	50-200	

Date Prepared: 12/12/2016

Date Analyzed: 12/15/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Data Qualifiers Key Reference:

3.A	Reporting limit raised due to matrix interfernce.
4.D	Surrogate recovery has failed low.
4.E	Surrogate recovery has failed high.
4.K	Continuing Calibration Verification (CCV) quality control levels failed high, values are considered to be estimated.
4.N	LCS recovery was below QC acceptance limit.
5.L	Results may be biased low due to the sample not being collected according to 5035A-L/5035A-H low level specifications.
MDL	Minimum Detection Limit
LOQ	Limit of Quantitation

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"
www.lialinc.com
110 Colin Drive • Holbrook, New York 11741 • Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

(13)

CLIENT NAME/ADDRESS
NPV
572 WEST WHITMAN RD.
MELVILLE, NY 11747

CONTACT: STEVE McGOWN
PHONE: (631-427-5165
EMAIL:

SAMPLER (SIGNATURE)
SAMPLER NAME (PRINT): STEVE McGOWN

SAMPLE(S) SEALED: YES / NO
CORRECT CONTAINER(S): YES / NO

6120723

PROJECT LOCATION: 41 N. PLEASANTS

SAMPLES RECEIVED AT: 24 °C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month. Tendering of samples to LIAL for analytical testing constitutes agreement by buyer/sampler to LIAL's Standard terms

LABORATORY ID # (For Laboratory Use Only)	MATRIX	TYPE	pH	RES. CHLORINE	PRES.	DATE	TIME	SAMPLE # LOCATION	ANALYSIS REQUIRED: TABLE 3 (0-5)	# OF CONTAINERS
1. 6120723-01	S	G	–	–	ICE	12/7/16	1:00	TANK S-N 12'-16'	X	2
2. 02	S	G	–	–	ICE	12/7/16	9:00	TANK W-S 12'-16'	X	2
3. 03	S	G	–	–	ICE	12/7/16	2:00	TANK E-W 12'-16'	X	2
4. 04	S	G	–	–	ICE	12/7/16	3:30	TANK N-N 12'-16'	X	2
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										

MATRIX: S=SOIL; SL=SLUDGE; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL, WW=WASTE WATER
TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON
PRES: (1) ICE; (2) HCL; (3) H_2SO_4; (4) NAOH; (5) $NA_2S_2O_3$; (6) HNO_3; (7) OTHER

TURNAROUND REQUIRED: ☑ NORMAL ☐ STAT
BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE / TIME	PRINTED NAME
	12/7/16 3:53	Steven T. McGown		12/7/16 3:53	ERIC ARESEN
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE / TIME	PRINTED NAME
	12/7/16 4:43			12-7-16 435P	RON LAMBERSON

WHITE - OFFICE / CANARY - CLIENT

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

Laboratory Report

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

LIAL# 6120816

December 16, 2016

Nelson, Pope & Voorhis
Steve McGinn
572 Walt Whitman Road
Melville, NY 11747

Re: 41 N. Phillips Ave

Dear Steve McGinn,

Enclosed please find the laboratory Analysis Report(s) for sample(s) received on December 08, 2016. Long Island Analytical laboratories analyzed the samples on December 14, 2016 for the following:

SAMPLE ID	ANALYSIS
MHLP-1	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles
MHLP-2	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles
EH-LP	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles
SH-LP	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles
WH-LP	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles
NEH-LP	SCDH Metals, SCDH Semi-Volatiles, SCDH Volatiles

Samples received at 3.7 ° C

5.L Results may be biased low due to the sample not being collected according to 5035A-L/5035A-H low level specifications.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted. Report shall not be reproduced except in full without the written approval of the laboratory. Results related only to items tested. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

Michael Veraldi - Laboratory Director

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:31	Sample ID: MHLP-1
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-01 % Solid:50.01
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	100	<100	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	100	<100	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	100	<100	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	100	<100	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	100	<100	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	100	<100	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	100	<100	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	100	<100	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	100	<100	ug/kg dry	3.A, 5.L
1,2,3-Trichloropropane	96-18-4	100	<100	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	100	<100	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	100	<100	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	100	<100	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	100	<100	ug/kg dry	3.A, 5.L
1,2-Dibromoethane	106-93-4	100	<100	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	100	<100	ug/kg dry	3.A, 5.L
1,2-Dichloroethane	107-06-2	100	<100	ug/kg dry	3.A, 5.L
1,2-Dichloropropane	78-87-5	100	<100	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	100	<100	ug/kg dry	3.A, 5.L
1,3-Dichlorobenzene	541-73-1	100	<100	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	100	<100	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	100	<100	ug/kg dry	3.A, 4.J, 5.L
1,4-Diethylbenzene	105-05-5	100	<100	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	100	<100	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	100	<100	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	100	<100	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	100	<100	ug/kg dry	2.B, 3.A, 5.L
4-Isopropyltoluene	99-87-6	100	<100	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	200	<200	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	1000	<1000	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:31	Sample ID: MHLP-1
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-01 % Solid:50.01
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	100	<100	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	100	<100	ug/kg dry	3.A, 5.L
Bromochloromethane	74-97-5	100	<100	ug/kg dry	3.A, 5.L
Bromodichloromethane	75-27-4	100	<100	ug/kg dry	3.A, 5.L
Bromoform	75-25-2	100	<100	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	100	<100	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	100	<100	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	100	<100	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	100	<100	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	100	<100	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	100	<100	ug/kg dry	3.A, 5.L
cis-1,3-Dichloropropylene	10061-01-5	100	<100	ug/kg dry	3.A, 5.L
Dibromochloromethane	124-48-1	100	<100	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	100	<100	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	100	<100	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	100	<100	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	100	<100	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	100	<100	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	200	<200	ug/kg dry	3.A, 5.L
Methyl Ethyl Ketone (2-Butanone)	78-93-3	200	<200	ug/kg dry	3.A, 5.L
Methylene Chloride	75-09-2	100	<100	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	100	<100	ug/kg dry	3.A, 5.L
Naphthalene	91-20-3	100	<100	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	100	<100	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	100	<100	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	100	<100	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	100	<100	ug/kg dry	3.A, 5.L
Styrene	100-42-5	100	<100	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	100	<100	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:31	Sample ID: MHLP-1
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-01 % Solid:50.01
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	100	<100	ug/kg dry	3.A, 5.L
Toluene	108-88-3	100	<100	ug/kg dry	3.A, 5.L
trans-1,2-Dichloroethylene	156-60-5	100	<100	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	100	<100	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	100	<100	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	100	<100	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	100	<100	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	116	74.4-131	
4-Bromofluorobenzene	460-00-4	106	82.3-134	
Dibromofluoromethane	1868-53-7	114	79.4-122	
Toluene-d8	2037-26-5	96	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	62	50-200	
1,4-Difluorobenzene	540-36-3	91	50-200	
Chlorobenzene-d5	3114-55-4	84	50-200	
Pentafluorobenzene	363-72-4	91	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:31	Sample ID: MHLP-1
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-01 % Solid:50.01
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	1500	<1500	ug/kg dry	
Anthracene	120-12-7	1500	<1500	ug/kg dry	
Benzo(a)anthracene	56-55-3	1500	<1500	ug/kg dry	
Benzo(a)pyrene	50-32-8	1500	<1500	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	1500	<1500	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	1500	<1500	ug/kg dry	4.J, 4.N
Benzo(k)fluoranthene	207-08-9	1500	<1500	ug/kg dry	
Chrysene	218-01-9	1500	<1500	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	1500	<1500	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	1500	<1500	ug/kg dry	
Fluorene	86-73-7	1500	<1500	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	1500	<1500	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	1500	<1500	ug/kg dry	
Phenanthrene	85-01-8	1500	<1500	ug/kg dry	
Pyrene	129-00-0	1500	<1500	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	45	34.39-110.73	
Nitrobenzene-d5	4165-60-0	43	31-118.25	
Terphenyl-d14	1718-51-0	56	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	95	50-200	
Acenaphthene-d10	15067-26-2	100	50-200	
Chrysene-d12	1719-03-5	92	50-200	
Naphthalene-d8	1146-65-2	97	50-200	
Perylene-d12	1520-96-3	83	50-200	
Phenanthrene-d10	1517-22-2	101	50-200	

Date Prepared: 12/09/2016

Preparation Method: EPA 3545 A

Date Analyzed: 12/13/2016

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:31	Sample ID: MHLP-1
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-01 % Solid:50.01
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	3.02	<3.02	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	3.02	146	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	3.02	<3.02	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	3.02	<3.02	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	3.02	6.34	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	3.02	296	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	3.02	58.8	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	3.02	9.65	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	3.02	<3.02	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	3.02	<3.02	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.28	1.80	mg/kg dry	3.E

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:45	Sample ID: MHLP-2
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-02 % Solid:85.72
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	58.3	<58.3	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	58.3	<58.3	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	58.3	<58.3	ug/kg dry	5.L, 3.A
1,2,3-Trichloropropane	96-18-4	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	58.3	<58.3	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2-Dibromoethane	106-93-4	58.3	<58.3	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	58.3	<58.3	ug/kg dry	3.A, 5.L
1,2-Dichloroethane	107-06-2	58.3	<58.3	ug/kg dry	5.L, 3.A
1,2-Dichloropropane	78-87-5	58.3	<58.3	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	58.3	<58.3	ug/kg dry	3.A, 5.L
1,3-Dichlorobenzene	541-73-1	58.3	<58.3	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	58.3	<58.3	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	58.3	<58.3	ug/kg dry	3.A, 4.J, 5.L
1,4-Diethylbenzene	105-05-5	58.3	<58.3	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	58.3	<58.3	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	58.3	<58.3	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	58.3	<58.3	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	58.3	<58.3	ug/kg dry	2.B, 3.A, 5.L
4-Isopropyltoluene	99-87-6	58.3	<58.3	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	117	<117	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	583	<583	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:45	Sample ID: MHLP-2
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-02 % Solid:85.72
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	58.3	<58.3	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	58.3	<58.3	ug/kg dry	3.A, 5.L
Bromochloromethane	74-97-5	58.3	<58.3	ug/kg dry	5.L, 3.A
Bromodichloromethane	75-27-4	58.3	<58.3	ug/kg dry	3.A, 5.L
Bromoform	75-25-2	58.3	<58.3	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	58.3	<58.3	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	58.3	<58.3	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	58.3	<58.3	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	58.3	<58.3	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	58.3	<58.3	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	58.3	<58.3	ug/kg dry	3.A, 5.L
cis-1,3-Dichloropropylene	10061-01-5	58.3	<58.3	ug/kg dry	5.L, 3.A
Dibromochloromethane	124-48-1	58.3	<58.3	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	58.3	<58.3	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	58.3	<58.3	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	58.3	<58.3	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	58.3	<58.3	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	58.3	<58.3	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	117	<117	ug/kg dry	3.A, 5.L
Methyl Ethyl Ketone (2-Butanone)	78-93-3	117	<117	ug/kg dry	5.L, 3.A
Methylene Chloride	75-09-2	58.3	<58.3	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	58.3	<58.3	ug/kg dry	3.A, 5.L
Naphthalene	91-20-3	58.3	<58.3	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	58.3	<58.3	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	58.3	<58.3	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	58.3	<58.3	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	58.3	<58.3	ug/kg dry	3.A, 5.L
Styrene	100-42-5	58.3	<58.3	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	58.3	<58.3	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:45	Sample ID: MHLP-2
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-02 % Solid:85.72
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	58.3	<58.3	ug/kg dry	3.A, 5.L
Toluene	108-88-3	58.3	<58.3	ug/kg dry	3.A, 5.L
trans-1,2-Dichloroethylene	156-60-5	58.3	<58.3	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	58.3	<58.3	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	58.3	<58.3	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	58.3	<58.3	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	58.3	<58.3	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	116	74.4-131	
4-Bromofluorobenzene	460-00-4	103	82.3-134	
Dibromofluoromethane	1868-53-7	118	79.4-122	
Toluene-d8	2037-26-5	91	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	81	50-200	
1,4-Difluorobenzene	540-36-3	98	50-200	
Chlorobenzene-d5	3114-55-4	100	50-200	
Pentafluorobenzene	363-72-4	95	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:45	Sample ID: MHLP-2
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-02 % Solid:85.72
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	175	<175	ug/kg dry	
Anthracene	120-12-7	175	<175	ug/kg dry	
Benzo(a)anthracene	56-55-3	175	<175	ug/kg dry	
Benzo(a)pyrene	50-32-8	175	<175	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	175	<175	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	175	<175	ug/kg dry	4.J, 4.N
Benzo(k)fluoranthene	207-08-9	175	<175	ug/kg dry	
Chrysene	218-01-9	175	<175	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	175	<175	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	175	<175	ug/kg dry	
Fluorene	86-73-7	175	<175	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	175	<175	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	175	<175	ug/kg dry	
Phenanthrene	85-01-8	175	<175	ug/kg dry	
Pyrene	129-00-0	175	<175	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	46	34.39-110.73	
Nitrobenzene-d5	4165-60-0	47	31-118.25	
Terphenyl-d14	1718-51-0	49	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	112	50-200	
Acenaphthene-d10	15067-26-2	101	50-200	
Chrysene-d12	1719-03-5	87	50-200	
Naphthalene-d8	1146-65-2	105	50-200	
Perylene-d12	1520-96-3	94	50-200	
Phenanthrene-d10	1517-22-2	98	50-200	

Date Prepared: 12/09/2016

Date Analyzed: 12/12/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:45	Sample ID: MHLP-2
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-02 % Solid:85.72
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	1.67	<1.67	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	1.61	5.39	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	1.67	<1.67	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	1.65	<1.65	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	1.67	1.94	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	1.67	10.1	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	1.67	13.0	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	1.67	<1.67	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	1.67	<1.67	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	1.67	<1.67	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.02	0.02	mg/kg dry	

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:51	Sample ID: EH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-03 % Solid:91.91
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	54.4	<54.4	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	54.4	<54.4	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2,3-Trichloropropane	96-18-4	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	54.4	<54.4	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2-Dibromoethane	106-93-4	54.4	<54.4	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2-Dichloroethane	107-06-2	54.4	<54.4	ug/kg dry	3.A, 5.L
1,2-Dichloropropane	78-87-5	54.4	<54.4	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	54.4	<54.4	ug/kg dry	5.L, 3.A
1,3-Dichlorobenzene	541-73-1	54.4	<54.4	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	54.4	<54.4	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	54.4	<54.4	ug/kg dry	3.A, 4.J, 5.L
1,4-Diethylbenzene	105-05-5	54.4	<54.4	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	54.4	<54.4	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	54.4	<54.4	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	54.4	<54.4	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	54.4	<54.4	ug/kg dry	3.A, 5.L, 2.B
4-Isopropyltoluene	99-87-6	54.4	<54.4	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	109	<109	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	544	<544	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:51	Sample ID: EH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-03 % Solid:91.91
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	54.4	<54.4	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	54.4	<54.4	ug/kg dry	3.A, 5.L
Bromochloromethane	74-97-5	54.4	<54.4	ug/kg dry	3.A, 5.L
Bromodichloromethane	75-27-4	54.4	<54.4	ug/kg dry	3.A, 5.L
Bromoform	75-25-2	54.4	<54.4	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	54.4	<54.4	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	54.4	<54.4	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	54.4	<54.4	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	54.4	<54.4	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	54.4	<54.4	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	54.4	<54.4	ug/kg dry	3.A, 5.L
cis-1,3-Dichloropropylene	10061-01-5	54.4	<54.4	ug/kg dry	3.A, 5.L
Dibromochloromethane	124-48-1	54.4	<54.4	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	54.4	<54.4	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	54.4	<54.4	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	54.4	<54.4	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	54.4	<54.4	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	54.4	<54.4	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	109	<109	ug/kg dry	3.A, 5.L
Methyl Ethyl Ketone (2-Butanone)	78-93-3	109	<109	ug/kg dry	3.A, 5.L
Methylene Chloride	75-09-2	54.4	<54.4	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	54.4	<54.4	ug/kg dry	5.L, 3.A
Naphthalene	91-20-3	54.4	<54.4	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	54.4	<54.4	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	54.4	<54.4	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	54.4	<54.4	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	54.4	<54.4	ug/kg dry	3.A, 5.L
Styrene	100-42-5	54.4	<54.4	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	54.4	<54.4	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:51	Sample ID: EH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-03 % Solid:91.91
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	54.4	<54.4	ug/kg dry	5.L, 3.A
Toluene	108-88-3	54.4	<54.4	ug/kg dry	3.A, 5.L
trans-1,2-Dichloroethylene	156-60-5	54.4	<54.4	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	54.4	<54.4	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	54.4	<54.4	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	54.4	<54.4	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	54.4	<54.4	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	116	74.4-131	
4-Bromofluorobenzene	460-00-4	110	82.3-134	
Dibromofluoromethane	1868-53-7	117	79.4-122	
Toluene-d8	2037-26-5	90	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	69	50-200	
1,4-Difluorobenzene	540-36-3	93	50-200	
Chlorobenzene-d5	3114-55-4	93	50-200	
Pentafluorobenzene	363-72-4	91	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:51	Sample ID: EH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-03 % Solid:91.91
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	163	<163	ug/kg dry	
Anthracene	120-12-7	163	<163	ug/kg dry	
Benzo(a)anthracene	56-55-3	163	<163	ug/kg dry	
Benzo(a)pyrene	50-32-8	163	<163	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	163	<163	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	163	<163	ug/kg dry	4.N, 4.J
Benzo(k)fluoranthene	207-08-9	163	<163	ug/kg dry	
Chrysene	218-01-9	163	<163	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	163	<163	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	163	<163	ug/kg dry	
Fluorene	86-73-7	163	<163	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	163	<163	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	163	<163	ug/kg dry	
Phenanthrene	85-01-8	163	<163	ug/kg dry	
Pyrene	129-00-0	163	<163	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	43	34.39-110.73	
Nitrobenzene-d5	4165-60-0	45	31-118.25	
Terphenyl-d14	1718-51-0	45	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	102	50-200	
Acenaphthene-d10	15067-26-2	96	50-200	
Chrysene-d12	1719-03-5	91	50-200	
Naphthalene-d8	1146-65-2	96	50-200	
Perylene-d12	1520-96-3	96	50-200	
Phenanthrene-d10	1517-22-2	96	50-200	

Date Prepared: 12/09/2016

Preparation Method: EPA 3545 A

Date Analyzed: 12/12/2016

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 10:51	Sample ID: EH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-03 % Solid:91.91
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	1.70	25.8	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	1.70	3.71	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	1.70	97.7	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	1.70	18.8	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	1.70	<1.70	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.02	0.06	mg/kg dry	

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:10	Sample ID: SH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-04 % Solid:84.78
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	59.0	<59.0	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	59.0	<59.0	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2,3-Trichloropropane	96-18-4	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	59.0	<59.0	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2-Dibromoethane	106-93-4	59.0	<59.0	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	59.0	<59.0	ug/kg dry	5.L, 3.A
1,2-Dichloroethane	107-06-2	59.0	<59.0	ug/kg dry	3.A, 5.L
1,2-Dichloropropane	78-87-5	59.0	<59.0	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	59.0	<59.0	ug/kg dry	3.A, 5.L
1,3-Dichlorobenzene	541-73-1	59.0	<59.0	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	59.0	<59.0	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	59.0	<59.0	ug/kg dry	3.A, 4.J, 5.L
1,4-Diethylbenzene	105-05-5	59.0	<59.0	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	59.0	<59.0	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	59.0	<59.0	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	59.0	<59.0	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	59.0	<59.0	ug/kg dry	2.B, 3.A, 5.L
4-Isopropyltoluene	99-87-6	59.0	<59.0	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	118	<118	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	590	<590	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:10	Sample ID: SH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-04 % Solid:84.78
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	59.0	<59.0	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	59.0	<59.0	ug/kg dry	5.L, 3.A
Bromochloromethane	74-97-5	59.0	<59.0	ug/kg dry	3.A, 5.L
Bromodichloromethane	75-27-4	59.0	<59.0	ug/kg dry	3.A, 5.L
Bromoform	75-25-2	59.0	<59.0	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	59.0	<59.0	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	59.0	<59.0	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	59.0	<59.0	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	59.0	<59.0	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	59.0	<59.0	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	59.0	<59.0	ug/kg dry	5.L, 3.A
cis-1,3-Dichloropropylene	10061-01-5	59.0	<59.0	ug/kg dry	3.A, 5.L
Dibromochloromethane	124-48-1	59.0	<59.0	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	59.0	<59.0	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	59.0	<59.0	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	59.0	<59.0	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	59.0	<59.0	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	59.0	<59.0	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	118	<118	ug/kg dry	5.L, 3.A
Methyl Ethyl Ketone (2-Butanone)	78-93-3	118	<118	ug/kg dry	3.A, 5.L
Methylene Chloride	75-09-2	59.0	<59.0	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	59.0	<59.0	ug/kg dry	3.A, 5.L
Naphthalene	91-20-3	59.0	<59.0	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	59.0	<59.0	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	59.0	<59.0	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	59.0	<59.0	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	59.0	<59.0	ug/kg dry	3.A, 5.L
Styrene	100-42-5	59.0	<59.0	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	59.0	<59.0	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:10	Sample ID: SH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-04 % Solid:84.78
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	59.0	<59.0	ug/kg dry	3.A, 5.L
Toluene	108-88-3	59.0	<59.0	ug/kg dry	3.A, 5.L
trans-1,2-Dichloroethylene	156-60-5	59.0	<59.0	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	59.0	<59.0	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	59.0	<59.0	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	59.0	<59.0	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	59.0	<59.0	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	118	74.4-131	
4-Bromofluorobenzene	460-00-4	115	82.3-134	
Dibromofluoromethane	1868-53-7	117	79.4-122	
Toluene-d8	2037-26-5	94	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	55	50-200	
1,4-Difluorobenzene	540-36-3	86	50-200	
Chlorobenzene-d5	3114-55-4	82	50-200	
Pentafluorobenzene	363-72-4	86	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:10	Sample ID: SH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-04 % Solid:84.78
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	177	<177	ug/kg dry	
Anthracene	120-12-7	177	<177	ug/kg dry	
Benzo(a)anthracene	56-55-3	177	<177	ug/kg dry	
Benzo(a)pyrene	50-32-8	177	<177	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	177	<177	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	177	<177	ug/kg dry	4.J, 4.N
Benzo(k)fluoranthene	207-08-9	177	<177	ug/kg dry	
Chrysene	218-01-9	177	<177	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	177	<177	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	177	<177	ug/kg dry	
Fluorene	86-73-7	177	<177	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	177	<177	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	177	<177	ug/kg dry	
Phenanthrene	85-01-8	177	<177	ug/kg dry	
Pyrene	129-00-0	177	<177	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	41	34.39-110.73	
Nitrobenzene-d5	4165-60-0	43	31-118.25	
Terphenyl-d14	1718-51-0	46	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	103	50-200	
Acenaphthene-d10	15067-26-2	96	50-200	
Chrysene-d12	1719-03-5	89	50-200	
Naphthalene-d8	1146-65-2	97	50-200	
Perylene-d12	1520-96-3	93	50-200	
Phenanthrene-d10	1517-22-2	96	50-200	

Date Prepared: 12/09/2016

Date Analyzed: 12/12/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:10	Sample ID: SH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-04 % Solid:84.78
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	1.81	14.3	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	1.81	26.2	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	1.81	8.20	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	1.81	<1.81	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.40	3.97	mg/kg dry	3.E

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:26	Sample ID: WH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-05 % Solid:55.86
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	89.5	<89.5	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	89.5	<89.5	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2,3-Trichloropropane	96-18-4	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	89.5	<89.5	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	89.5	<89.5	ug/kg dry	5.L, 3.A
1,2-Dibromoethane	106-93-4	89.5	<89.5	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2-Dichloroethane	107-06-2	89.5	<89.5	ug/kg dry	3.A, 5.L
1,2-Dichloropropane	78-87-5	89.5	<89.5	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	89.5	<89.5	ug/kg dry	3.A, 5.L
1,3-Dichlorobenzene	541-73-1	89.5	<89.5	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	89.5	<89.5	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	89.5	<89.5	ug/kg dry	5.L, 3.A, 4.J
1,4-Diethylbenzene	105-05-5	89.5	<89.5	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	89.5	<89.5	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	89.5	<89.5	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	89.5	<89.5	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	89.5	<89.5	ug/kg dry	2.B, 3.A, 5.L
4-Isopropyltoluene	99-87-6	89.5	<89.5	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	179	<179	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	895	<895	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:26	Sample ID: WH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-05 % Solid:55.86
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	89.5	<89.5	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	89.5	<89.5	ug/kg dry	3.A, 5.L
Bromochloromethane	74-97-5	89.5	<89.5	ug/kg dry	3.A, 5.L
Bromodichloromethane	75-27-4	89.5	<89.5	ug/kg dry	5.L, 3.A
Bromoform	75-25-2	89.5	<89.5	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	89.5	<89.5	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	89.5	<89.5	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	89.5	<89.5	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	89.5	<89.5	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	89.5	<89.5	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	89.5	<89.5	ug/kg dry	3.A, 5.L
cis-1,3-Dichloropropylene	10061-01-5	89.5	<89.5	ug/kg dry	3.A, 5.L
Dibromochloromethane	124-48-1	89.5	<89.5	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	89.5	<89.5	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	89.5	<89.5	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	89.5	<89.5	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	89.5	<89.5	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	89.5	<89.5	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	179	<179	ug/kg dry	3.A, 5.L
Methyl Ethyl Ketone (2-Butanone)	78-93-3	179	<179	ug/kg dry	3.A, 5.L
Methylene Chloride	75-09-2	89.5	<89.5	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	89.5	<89.5	ug/kg dry	3.A, 5.L
Naphthalene	91-20-3	89.5	<89.5	ug/kg dry	3.A, 5.L
n-Butylbenzene	104-51-8	89.5	<89.5	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	89.5	<89.5	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	89.5	<89.5	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	89.5	<89.5	ug/kg dry	3.A, 5.L
Styrene	100-42-5	89.5	<89.5	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	89.5	<89.5	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:26	Sample ID: WH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-05 % Solid:55.86
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	89.5	<89.5	ug/kg dry	3.A, 5.L
Toluene	108-88-3	89.5	<89.5	ug/kg dry	3.A, 5.L
trans-1,2-Dichloroethylene	156-60-5	89.5	<89.5	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	89.5	<89.5	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	89.5	<89.5	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	89.5	<89.5	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	89.5	<89.5	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	117	74.4-131	
4-Bromofluorobenzene	460-00-4	104	82.3-134	
Dibromofluoromethane	1868-53-7	116	79.4-122	
Toluene-d8	2037-26-5	93	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	64	50-200	
1,4-Difluorobenzene	540-36-3	86	50-200	
Chlorobenzene-d5	3114-55-4	83	50-200	
Pentafluorobenzene	363-72-4	84	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:26	Sample ID: WH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-05 % Solid:55.86
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	1340	<1340	ug/kg dry	
Anthracene	120-12-7	1340	<1340	ug/kg dry	
Benzo(a)anthracene	56-55-3	1340	<1340	ug/kg dry	
Benzo(a)pyrene	50-32-8	1340	<1340	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	1340	1530	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	1340	<1340	ug/kg dry	4.J, 4.N
Benzo(k)fluoranthene	207-08-9	1340	<1340	ug/kg dry	
Chrysene	218-01-9	1340	<1340	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	1340	<1340	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	1340	<1340	ug/kg dry	
Fluorene	86-73-7	1340	<1340	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	1340	<1340	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	1340	<1340	ug/kg dry	
Phenanthrene	85-01-8	1340	<1340	ug/kg dry	
Pyrene	129-00-0	1340	<1340	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	38	34.39-110.73	
Nitrobenzene-d5	4165-60-0	39	31-118.25	
Terphenyl-d14	1718-51-0	45	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	87	50-200	
Acenaphthene-d10	15067-26-2	92	50-200	
Chrysene-d12	1719-03-5	88	50-200	
Naphthalene-d8	1146-65-2	90	50-200	
Perylene-d12	1520-96-3	79	50-200	
Phenanthrene-d10	1517-22-2	93	50-200	

Date Prepared: 12/09/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 11:26	Sample ID: WH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-05 % Solid:55.86
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	2.79	39.2	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	2.79	8.12	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	2.79	267	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	2.79	47.2	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	2.79	<2.79	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.03	0.21	mg/kg dry	

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 15:00	Sample ID: NEH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-06 % Solid:67.65
Matrix: Soil	ELAP: #11693

Volatiles Low Level Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
1,1,1,2-Tetrachloroethane	630-20-6	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1,1-Trichloroethane	71-55-6	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1,2,2-Tetrachloroethane	79-34-5	73.9	<73.9	ug/kg dry	3.A, 4.M, 5.L
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1,2-Trichloroethane	79-00-5	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1-Dichloroethane	75-34-3	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1-Dichloroethylene	75-35-4	73.9	<73.9	ug/kg dry	3.A, 5.L
1,1-Dichloropropylene	563-58-6	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2,3-Trichlorobenzene	87-61-6	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2,3-Trichloropropane	96-18-4	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2,4,5-Tetramethylbenzene	95-93-2	73.9	<73.9	ug/kg dry	2.B, 3.A, 5.L
1,2,4-Trichlorobenzene	120-82-1	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2,4-Trimethylbenzene	95-63-6	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2-Dibromo-3-chloropropane	96-12-8	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2-Dibromoethane	106-93-4	73.9	<73.9	ug/kg dry	3.A, 4.M, 5.L
1,2-Dichlorobenzene	95-50-1	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2-Dichloroethane	107-06-2	73.9	<73.9	ug/kg dry	3.A, 5.L
1,2-Dichloropropane	78-87-5	73.9	<73.9	ug/kg dry	3.A, 5.L
1,3,5-Trimethylbenzene	108-67-8	73.9	<73.9	ug/kg dry	3.A, 5.L
1,3-Dichlorobenzene	541-73-1	73.9	<73.9	ug/kg dry	3.A, 5.L
1,3-Dichloropropane	142-28-9	73.9	<73.9	ug/kg dry	3.A, 5.L
1,4-Dichlorobenzene	106-46-7	73.9	<73.9	ug/kg dry	3.A, 4.J, 5.L
1,4-Diethylbenzene	105-05-5	73.9	<73.9	ug/kg dry	2.B, 3.A, 5.L
2,2-Dichloropropane	594-20-7	73.9	<73.9	ug/kg dry	3.A, 5.L
2-Chlorotoluene	95-49-8	73.9	<73.9	ug/kg dry	3.A, 5.L
4-Chlorotoluene	106-43-4	73.9	<73.9	ug/kg dry	3.A, 5.L
4-Ethyltoluene	622-96-8	73.9	<73.9	ug/kg dry	2.B, 3.A, 5.L
4-Isopropyltoluene	99-87-6	73.9	<73.9	ug/kg dry	3.A, 5.L
4-Methyl-2-Pentanone	108-10-1	148	<148	ug/kg dry	3.A, 4.M, 5.L
Acetone	67-64-1	739	<739	ug/kg dry	3.A, 4.M, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 15:00	Sample ID: NEH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-06 % Solid:67.65
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Benzene	71-43-2	73.9	<73.9	ug/kg dry	3.A, 5.L
Bromobenzene	108-86-1	73.9	<73.9	ug/kg dry	3.A, 5.L
Bromochloromethane	74-97-5	73.9	<73.9	ug/kg dry	3.A, 5.L
Bromodichloromethane	75-27-4	73.9	<73.9	ug/kg dry	3.A, 5.L
Bromoform	75-25-2	73.9	<73.9	ug/kg dry	3.A, 5.L
Carbon Tetrachloride	56-23-5	73.9	<73.9	ug/kg dry	3.A, 5.L
Chlorobenzene	108-90-7	73.9	<73.9	ug/kg dry	3.A, 5.L
Chloroethane	75-00-3	73.9	<73.9	ug/kg dry	3.A, 5.L
Chloroform	67-66-3	73.9	<73.9	ug/kg dry	3.A, 5.L
Chloromethane	74-87-3	73.9	<73.9	ug/kg dry	3.A, 5.L
cis-1,2-Dichloroethylene	156-59-2	73.9	<73.9	ug/kg dry	3.A, 5.L
cis-1,3-Dichloropropylene	10061-01-5	73.9	<73.9	ug/kg dry	3.A, 5.L
Dibromochloromethane	124-48-1	73.9	<73.9	ug/kg dry	3.A, 5.L
Dibromomethane	74-95-3	73.9	<73.9	ug/kg dry	3.A, 5.L
Dichlorodifluoromethane	75-71-8	73.9	<73.9	ug/kg dry	3.A, 4.J, 4.N, 5.L
Ethylbenzene	100-41-4	73.9	<73.9	ug/kg dry	3.A, 5.L
Hexachlorobutadiene	87-68-3	73.9	<73.9	ug/kg dry	3.A, 5.L
Isopropylbenzene (Cumene)	98-82-8	73.9	<73.9	ug/kg dry	3.A, 5.L
m,p-Xylenes	108-38-3/106-42-3	148	<148	ug/kg dry	3.A, 5.L
Methyl Ethyl Ketone (2-Butanone)	78-93-3	148	<148	ug/kg dry	3.A, 5.L
Methylene Chloride	75-09-2	73.9	<73.9	ug/kg dry	3.A, 5.L
Methyl-tert-Butyl Ether	1634-04-4	73.9	<73.9	ug/kg dry	3.A, 5.L
Naphthalene	91-20-3	73.9	<73.9	ug/kg dry	5.L, 3.A
n-Butylbenzene	104-51-8	73.9	<73.9	ug/kg dry	3.A, 5.L
n-Propylbenzene	103-65-1	73.9	<73.9	ug/kg dry	3.A, 5.L
o-Xylene	95-47-6	73.9	<73.9	ug/kg dry	3.A, 5.L
sec-Butylbenzene	135-98-8	73.9	<73.9	ug/kg dry	3.A, 5.L
Styrene	100-42-5	73.9	<73.9	ug/kg dry	3.A, 5.L
tert-Butylbenzene	98-06-6	73.9	<73.9	ug/kg dry	3.A, 5.L

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 15:00	Sample ID: NEH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-06 % Solid:67.65
Matrix: Soil	ELAP: #11693

Parameter	CAS No.	LOQ	Result	Units	Flag
Tetrachloroethylene	127-18-4	73.9	<73.9	ug/kg dry	3.A, 5.L
Toluene	108-88-3	73.9	331	ug/kg dry	3.E, 5.L, 3.A
trans-1,2-Dichloroethylene	156-60-5	73.9	<73.9	ug/kg dry	3.A, 5.L
trans-1,3-Dichloropropylene	10061-02-6	73.9	<73.9	ug/kg dry	3.A, 5.L
Trichloroethylene	79-01-6	73.9	<73.9	ug/kg dry	3.A, 5.L
Trichlorofluoromethane	75-69-4	73.9	<73.9	ug/kg dry	3.A, 5.L
Vinyl chloride	75-01-4	73.9	<73.9	ug/kg dry	3.A, 5.L

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
1,2-Dichloroethane-d4	10706-07-0	112	74.4-131	
4-Bromofluorobenzene	460-00-4	104	82.3-134	
Dibromofluoromethane	1868-53-7	110	79.4-122	
Toluene-d8	2037-26-5	92	85-123	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	61	50-200	
1,4-Difluorobenzene	540-36-3	78	50-200	
Chlorobenzene-d5	3114-55-4	76	50-200	
Pentafluorobenzene	363-72-4	79	50-200	

Date Prepared: 12/13/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 5035A-L

Analytical Method: EPA 8260 C

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 15:00	Sample ID: NEH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-06 % Solid:67.65
Matrix: Soil	ELAP: #11693

Semivolatile Analysis

Parameter	CAS No.	LOQ	Result	Units	Flag
Acenaphthene	83-32-9	1110	<1110	ug/kg dry	
Anthracene	120-12-7	1110	<1110	ug/kg dry	
Benzo(a)anthracene	56-55-3	1110	<1110	ug/kg dry	
Benzo(a)pyrene	50-32-8	1110	<1110	ug/kg dry	
Benzo(b)fluoranthene	205-99-2	1110	<1110	ug/kg dry	
Benzo(g,h,i)perylene	191-24-2	1110	<1110	ug/kg dry	4.J, 4.N
Benzo(k)fluoranthene	207-08-9	1110	<1110	ug/kg dry	
Chrysene	218-01-9	1110	<1110	ug/kg dry	
Dibenzo(a,h)anthracene	53-70-3	1110	<1110	ug/kg dry	4.J, 4.N
Fluoranthene	206-44-0	1110	<1110	ug/kg dry	
Fluorene	86-73-7	1110	<1110	ug/kg dry	
Indeno(1,2,3-cd)pyrene	193-39-5	1110	<1110	ug/kg dry	4.J, 4.N
Naphthalene	91-20-3	1110	<1110	ug/kg dry	
Phenanthrene	85-01-8	1110	<1110	ug/kg dry	
Pyrene	129-00-0	1110	<1110	ug/kg dry	

Surrogate	CAS No.	% Recovery	Rec. Limits	Flag
2-Fluorobiphenyl	321-60-8	57	34.39-110.73	
Nitrobenzene-d5	4165-60-0	57	31-118.25	
Terphenyl-d14	1718-51-0	62	41.02-106	

Internal Standard	CAS No.	% Recovery	Rec. Limits	Flag
1,4-Dichlorobenzene-d4	3855-82-1	106	50-200	
Acenaphthene-d10	15067-26-2	110	50-200	
Chrysene-d12	1719-03-5	102	50-200	
Naphthalene-d8	1146-65-2	106	50-200	
Perylene-d12	1520-96-3	100	50-200	
Phenanthrene-d10	1517-22-2	108	50-200	

Date Prepared: 12/09/2016

Date Analyzed: 12/13/2016

Preparation Method: EPA 3545 A

Analytical Method: EPA 8270 D

Client: Nelson, Pope & Voorhis	Client ID: 41 N. Phillips Ave
Date (Time) Collected: 12/08/2016 15:00	Sample ID: NEH-LP
Date (Time) Received: 12/08/2016 16:37	Laboratory ID: 6120816-06 % Solid:67.65
Matrix: Soil	ELAP: #11693

Total Metals Analysis

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Arsenic	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Barium	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Beryllium	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Cadmium	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Chromium	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Copper	12/12/2016	EPA 6010 C	2.17	141	mg/kg dry	
Lead	12/12/2016	EPA 6010 C	2.17	4.43	mg/kg dry	
Nickel	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Selenium	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	
Silver	12/12/2016	EPA 6010 C	2.17	<2.17	mg/kg dry	

Date Prepared: 12/08/2016 Preparation Method: EPA 3050B

Parameter	Date Analyzed	Method	LOQ	Result	Units	Flag
Mercury	12/14/2016	EPA 7471 B	0.02	0.18	mg/kg dry	

Date Prepared: 12/12/2016 Preparation Method: EPA 7471 B

Data Qualifiers Key Reference:

2.B Parameter not certifiable by NELAP.

3.A Reporting limit raised due to matrix interfernce.

3.E Compound reported at a dilution factor.

4.J Continuing Calibration Verification (CCV) quality control levels failed low, values are considered to be estimated.

4.M LCS recovery was above QC acceptance limit.

4.N LCS recovery was below QC acceptance limit.

5.L Results may be biased low due to the sample not being collected according to 5035A-L/5035A-H low level specifications.

MDL Minimum Detection Limit

LOQ Limit of Quantitation

LONG ISLAND ANALYTICAL LABORATORIES INC.
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CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

(14)

CLIENT NAME/ADDRESS: NPV, 572 Walt Whitman Rd, Melville, NY, 11747

CONTACT: Steve McGinn

PHONE: 427-5665

EMAIL:

SAMPLER (SIGNATURE):

SAMPLER NAME (PRINT): Jonathan McGinn

SAMPLE(S) SEALED: YES / NO

CORRECT CONTAINER(S): YES / NO

6120816

PROJECT LOCATION: 41 N. Phillips Ave

SAMPLES RECEIVED AT: 3.7°C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month. Tendering of samples to LIAL for analytical testing constitutes agreement by buyer/sampler to LIAL's Standard terms

LABORATORY ID # (For Laboratory Use Only)	MATRIX	TYPE	pH	RES. CHLORINE	PRES.	DATE	TIME	SAMPLE # LOCATION	ANALYSIS REQUIRED: SOP 7.45	# OF CONTAINERS
1 (6120816-01)	S	G			1	12/8/16	10:31	MHLP-1	X	2
2. 02							10:45	MHLP-2	X	2
3. 03							10:51	EH-LP	X	2
4. 04							11:10	SH-LP	X	2
5. 05							11:20	WH-LP	X	2
6. 06					2		3:00	NEH-LP	X	2
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										

MATRIX: S=SOIL; SL=SLUDGE; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL, WW=WASTE WATER
TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON
PRES: (1) ICE; (2) HCL; (3) H_2SO_4; (4) NAOH; (5) $NA_2S_2O_3$; (6) HNO_3; (7) OTHER

TURNAROUND REQUIRED: ☒ NORMAL ☐ STAT
BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE 12/8/16 TIME 4:00	PRINTED NAME Jonathan McGinn	RECEIVED BY (SIGNATURE)	DATE 12-8-16 TIME 4:00	PRINTED NAME Ben Lamberson
RELINQUISHED BY (SIGNATURE)	DATE TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE 12-8-16 TIME 4:37PM	PRINTED NAME Ben Lamberson

WHITE - OFFICE / CANARY - CLIENT

NYSDOH ELAP# 11693 USEPA# NY01273 CTDOH# PH-0284 NJDEP# NY012 PADEP# 68-2943

Appendix A-5
SONIR Computer Model User's Guide

SONIR MODEL USER'S GUIDE

Simulation of Nitrogen in Recharge (SONIR)
Nelson, Pope & Voorhis, LLC Microcomputer Model

December 12, 2016

INTRODUCTION

SONIR is a microcomputer model developed by Charles J. Voorhis, CEP, AICP for exclusive use by Nelson, Pope & Voorhis, LLC (NP&V) in order to simulate the hydrologic water budget of a site and determine total nitrogen and nitrogen present in recharge in connection with land use projects. The model was developed on the Microsoft Excel Spreadsheet (trademark of Microsoft Products) for IBM (trademark of International Business Machines, Inc.) or compatible Personal Computers capable of running Excel. SONIR has been updated by NP&V to account for updated references and data in keeping with industry standards and environmental changes. NP&V is a professional environmental planning consulting firm with expertise in water resource management and impact assessment, nitrogen budget modeling, watershed management plans, and groundwater, soil and air sampling and environmental monitoring.

Nitrogen has been identified as a source of contamination primarily from sanitary discharge and lawn fertilization. Nitrogen is of concern as a drinking water contaminant, and there is an established health limit of 10 milligrams per liter (mg/l) in drinking water. Nitrogen is also of concern in surface water, as it is a nutrient that when present in high concentrations can cause algal blooms, resulting in biological oxygen demand as algae is biologically decomposed. Depleted oxygen in surface waters causes conditions unfavorable to fish species and can result in extremely undesirable aesthetic impacts, primarily related to odors. Accordingly, it is necessary to understand the concentration of nitrogen recharge as related to a proposed site development.

Utilizing a mass-balance concept, and applying known hydrologic facts and basic assumptions, it is possible to predict the concentration of nitrogen in recharge to the shallow aquifer underlying a given site. This prediction can in turn be used to determine impacts and significance of impacts in consideration of hydrogeologic factors. Similar techniques have been used to simulate nitrogen in recharge as published by the New York State Water Resources Institute, Center for Environmental Research at Cornell University, Ithaca, New York (**Hughes and Pacenka, 1985**). SONIR is intended to provide a more versatile model based upon the BURBS Mass-Balance concept. SONIR allows for use of the model to predict nitrogen impact from many sources including sewage treatment plants, and further allows for determination of a wider variety site recharge components under the hydrologic water budget section. SONIR has more versatility in the input of information, and also provides a printout of each step performed by the model, in order for regulatory agencies and review entities to understand how values are derived.

This text describes in detail the definition of terms, supported by referenced information regarding input of data for the simulation. The concept of determining the concentration of nitrogen in recharge involves a predication of the weight of nitrogen introduced to the site, as compared to the quantity of recharge resulting from precipitation and wastewater water discharge. Losses due to evapotranspiration and runoff must be accounted for in the simulation. The values and relationship associated with these parameters determines the quantity of recharge which enters the site. The prediction is generally annualized due to the availability of average annual hydrologic data; however, data input can be determined on a seasonal basis if information is available.

The model includes four (4) data sheets identified as follows:

Data Input Field - Sheet 1
Site Recharge Computations - Sheet 2
Site Nitrogen Budget - Sheet 3
Nitrogen in Recharge Output Field - Sheet 4

All information required by the model is input in Sheet 1- Data Input Field. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

It should be noted that the simulation is only as accurate as the data which is input into the model. An understanding of hydrologic principles is necessary to determine and justify much of the data inputs used for water budget parameters. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must apply caution in arriving at assumptions in order to ensure justifiable results.

SITE RECHARGE COMPUTATIONS

Overview

SONIR utilizes the basic hydrologic equation for determining the quantity of recharge anticipated by subtracting recharge losses from total precipitation. The quantity of recharge resulting from a given site is determined using the hydrologic budget equation **(Koszalka, 1984; p. 19):**

$$R = P - (E + Q)$$

where:
R = recharge
P = precipitation
E = evapotranspiration
Q = overland runoff

The quantity of recharge must be determined for each type of land use existing on a site, in order to determine the resultant site recharge. Surfaces commonly considered include: impervious surfaces; turfed areas; and natural areas; however, SONIR allows for a variety of land cover types to be considered in the model. In addition, site recharge occurs as a result of irrigation and wastewater discharge. In cases where water is imported to a site via a public water system, this quantity of recharge must be considered as additional water recharged on site. SONIR allows for all of these recharge components to be included in the simulation. Many sites have fresh surface water in the form of lakes and ponds. Precipitation falls upon these surfaces; however, such features generally act as a mechanism for water loss as a result of evaporation. SONIR includes a Water Area Loss component in determining the site Hydrologic Water Budget and in computing recharge nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the hydrologic water budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Area of Site* - The total area of the site (in acres) that is capable of recharging precipitation is entered in this data cell. For sites that include tidal wetlands, the area that is inundated by tidal waters should be excluded, as recharge from these areas should not be considered in the context of nitrogen simulation. For sites that include surface water, the area can be included, provided evaporative water loss from surface water is considered by entering the acreage of surface water in Data Cell 15 noted below.

2. *Precipitation Rate* - Precipitation in the form of rainfall and snowmelt is determined using long-term recorded values from local weather stations. Cornell University maintains the Northeast Regional Climate Center, from which long-term precipitation data for Long Island weather stations is available. Monthly precipitation averages are published for the period 1951-1980 in Thornthwaite and Mather's Climatic Water Budget Method **(Snowden and Pacenka, 1985).** More updated precipitation data from the NOAA National Climatic Data Center for the period 1981 to 2010 was obtained from http://www.currentresults.com/Weather/New-York/average-yearly-precipitation.php. Bridgehampton, NY was 50.1 inches per year; Brookhaven, NY is listed as 49.9 inches/year. Data entry is in inches. The more conservative lower value for Brookhaven, NY was used.

3. *Acreage of Fertilized (SONIR allows multiple categories of fertilizer dependent vegetation to be entered)* - The total area fertilized (in acres) is entered in this Data Cell. This area includes all lawn/turf area that is irrigated and fertilized. If there is no lawn area, a value of zero (0) is entered.

4. *Fraction of Land in Fertilized* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Fertilized by dividing the lawn area by total area.

5. *Evapotranspiration from Fertilized* - Evapotranspiration is the natural water loss attributed to evaporation and plant utilization. Rainwater that is evaporated and transpired by plants is returned to the atmosphere as vapor. There are various methods for determining evapotranspiration, including direct measure and calculation. A commonly recognized method is the Thornthwaite and Mather Climatic Water Budget Method. Evapotranspiration rates for various locations on Long Island have been determined by the U.S. Geological Survey, as documented in: "Ground-Water-Recharge Rates in Nassau and Suffolk Counties, New York" **(Peterson, 1987; p. 10).** The following general rates as a percent of total precipitation are excerpted from that reference:

Location	Soil Type	Vegetation	ET (in)	ET (%)
Bridgehampton	sandy loam	shallow root	21.2	46.6
	silt loam	shallow root	21.4	47.2
LaGuardia	sand	shallow root	24.2	52.9
	clay loam	shallow root	25.4	55.5
	sandy loam	moderate root	26.2	57.2
JFK Airport	sand	shallow root	22.5	53.8
	clay loam	shallow root	23.9	57.3
	sandy loam	moderate root	25.0	60.0
Mineola	sand	shallow root	22.4	47.8
	sand-silt	shallow root	23.8	51.0
	sandy loam	moderate root	25.1	53.7
	sandy loam	orchards	25.5	54.5
Patchogue	fine sand	mature forest	25.5	53.5
Riverhead	sandy loam	shallow root	22.4	49.3
		orchards	24.8	54.7
Setauket	sandy loam	mature forest	26.8	57.9
Upton	silt loam	deep root	23.9	48.4
	sandy loam	moderate root	23.0	46.5

6. *Runoff from Fertilized* - Runoff is the quantity of water that travels overland during a precipitation event. Soil infiltration capacity is the critical factor in determining runoff; however, factors such as slope and vegetation also determine runoff characteristics to a lesser extent on Long Island because of soil conditions. Less urbanized areas of Long Island with characteristically dry soils with groundcover will have a low runoff percentage as a function of total precipitation, as compared to the more urbanized portions of western Long Island. Peterson **(1984; p. 14)** estimates runoff as a percent of total precipitation for Nassau County (2.1 %); Suffolk County (0.7 %), and Long Island in general (1.0 %). If an average precipitation rate of 45 inches per year is assumed, runoff will vary from 0.31 to 0.94 inches. Fertilized areas would be expected to be in the lower end of the range. Judgements of higher and lower runoff can be made on a site-specific basis depending upon slope and groundcover types.

7. *Acreage of Unvegetated* - The total acreage of unvegetated area is entered in this Data Cell. This area includes sand, barren soils, and porous drives and trails. If there is no unvegetated area, a value of zero (0) is used.

8. *Fraction of Land Unvegetated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Unvegetated by dividing the unvegetated area by total area.

9. *Evapotranspiration from Unvegetated* - Evapotranspiration from Unvegetated areas is determined in the same manner as described for Data Cell 5 above.

10. *Runoff from Unvegetated* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to unvegetated areas on a site-specific basis. Runoff in the middle to the higher end of the range (2.1% of precipitation) is expected due to lack of groundcover vegetation.

11. *Acreage of Water (this category could include irrigation ponds and/or other surface water features)* - SONIR considers evaporation from surface water in the computation of site recharge. Surface water, particularly groundwater fed lakes and ponds are a source of water loss in the water budget. The quantity of fresh surface water (in acres) is entered in this Data Cell.

12. *Fraction of Land in Water* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Water on the site by dividing the water area by total area.

13. *Evaporation from Water* - Surface water features will cause evaporation of water in excess of normal evapotranspiration as documented by **Warren et al, 1968,** Hydrology of Brookhaven National Laboratory and Vicinity Suffolk County, New York. It is estimated that the upper limit of evaporation from a large free-water surface is approximately 30.00 inches per year **(Warren et al, 1968; p. 26).** This value is entered in Data Cell 17 as the most accurate approximation.

14. *Makeup Water* - SONIR allows for consideration of the impact of man-made lakes on site recharge. Lakes are generally lined with an impermeable material. Evaporation occurs from the surface of the lake at a rate of 30.00 inches per year. In order to maintain a constant water level, an on-site well is generally installed to provide make-up water to the lake or pond. The quantity of make-up water is equivalent to the quantity of evaporation, given the fact that the function of the well is to replace water that is evaporated. Therefore, for cases where make-up water is used to maintain a constant water level, a value of 30.00 inches per year is entered in Data Cell 18.

15. *Acreage of Natural* - The total quantity of natural area (in acres) is entered in this Data Cell. This area includes naturally vegetated areas such as woodland, meadow, etc. If there is no natural area, a value of zero (0) is entered.

16. *Fraction of Land Natural* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Natural by dividing the natural area by total area.

17. *Evapotranspiration from Natural* - Evapotranspiration from Natural areas is determined in the same manner as described for Data Cell 5 above.

18. *Runoff from Natural* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to natural areas on a site specific basis. Generally lower values in the range of 0.7 % of precipitation are expected due to groundcover and canopy vegetation.

19. *Acreage of Impervious* - The total area of impervious surface (in acres) is entered in this Data Cell. This area includes paved driveways, parking areas, roofs, roads, etc. If there are no impervious surfaces, a value of zero (0) is entered.

20. *Fraction of Land Impervious* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Impervious by dividing the impervious area by total area.

21. *Evaporation from Impervious* - Impervious surfaces will allow water to evaporate, particularly during summer months. There is no vegetation; therefore there is no transpiration by plants. Evaporation from Impervious is estimated to be approximately 10 % of total precipitation **(Hughes and Porter, 1983; p. 10).** This value accounts for evaporation from parking lots and other surfaces during summer months, averaged over the entire year. This indicates that recharge/runoff would comprise the remaining 90% of precipitation. This assumption coincides with most drainage computations required by Code Subdivision Regulations for determined leaching pool capacity.

22. *Runoff from Impervious* - The approximation of Evaporation from Impervious would indicate that recharge/runoff would comprise the remaining 90 % of precipitation, as there are no other losses from impervious surfaces. In consideration of paved areas, runoff is not transported off the site or to surface water as a loss. Runoff is diverted to leaching pools and allowed to re-enter the hydrologic system beneath a given site. Therefore, in terms of site recharge computations, the value for Runoff from Impervious is zero (0).

23. *Acreage of Other Area* - This is a general category which can be used to include additional groundcover types in the simulation. Acreage of Other Area is entered (in acres). This Data Cell can be used to include site recharge considerations from a portion of the site that has different hydrologic properties as a placeholder to customize data input/analysis.

24. *Fraction of Land in Other Area* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Other Area by dividing the land in other area by total area.

25. *Evapotranspiration from Other Area* - Evapotranspiration from Other areas is determined in the same manner as described for Data Cell 5 above. Value can be varied depending upon the hydrologic properties of the groundcover type.

26. *Runoff from Other Area* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to Other Areas on a site-specific basis. Value can be varied depending upon the hydrologic properties of the groundcover type.

27. *Acreage of Land Irrigated* – Use of water for irrigation purposes is an additional site recharge component not considered in any of the Data Cells above. The quantity of land irrigated on a given site is entered in this Data Cell (in acres).

28. *Fraction of Land Irrigated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Irrigated by dividing the Land Irrigated area by total area.

29. *Irrigation Rate* - The rate of irrigation must be entered in this Data Cell (in inches). Hughes and Porter **(1983; p. 19)** indicated that lawn irrigation is estimated to be about 5.5 inches per year; however, many sources recommend that irrigation be used to supplement natural rainfall to ensure that at least 1 inch of water is applied per week (http://www.gardening.cornell.edu/homegardening/scene7866.html). Assuming a growing season after spring when rainfall is more abundant and summer is hotter with typically less rainfall than spring, a 24 week period from May through October is used, with an irrigation rate of 1 inch per week. This value (24 inches) is entered in Data Cell 29 as the most accurate approximation.

30. *Number of Dwellings* - The number of dwellings is entered in this Data Cell in order to allow for computation of wastewater disposal from residential use. Wastewater imported to a site, or even withdrawn from on-site wells and recharged through sanitary effluent is an additional recharge component that must be considered. If the project is for a commercial use or utilizes a denitrification system, the number of dwellings should not be entered in the Data Entry Field, as the wastewater flow will include recharge and nitrogen components.

31. *Water Use per Dwelling* - The water use should correspond to the total site non-irrigation water use, divided by the number of units.

32. *Wastewater Design Flow (units)* - No entry need be made in this Data Cell. SONIR will compute the Wastewater Design Flow by multiplying the Number of Dwellings by the Water Use per Dwelling.

33. *Wastewater Design Flow* - SONIR permits the consideration of recharge and nitrogen input based on wastewater design flow if this is more appropriate than a determination based on number of units. This could include residential wastewater flow (e.g., combined units and clubhouse), commercial projects, denitrification systems and sewage treatment plants. SCDHS design flow factors are typically used to determine wastewater design flow. Once computed, the anticipated wastewater flow is entered in this Data Cell.

34. *Adjusted Wastewater Design Flow* – If units or space are not occupied on a year-round basis, or if for some other reason a flow adjustment is warranted, this cell is used to establish this flow reduction.

Site Recharge Computations - Sheet 2

Once data entry is complete for Site Recharge Parameters, SONIR will complete a series of detailed Water Budget computations for the overall site. The following describes the computations that are performed by the model:

A. *Fertilizer Area Recharge* - Fertilizer Area Recharge is determined by use of the basic Hydrologic Budget Equation [R = P - (E + Q)] as defined previously. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Lawn Area to determine the component of Lawn Area Recharge in overall site recharge.

B. *Unvegetated Area Recharge* - Unvegetated Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Unvegetated Area to determine the component of Unvegetated Area Recharge in overall site recharge.

C. *Water Area Loss* - The Hydrologic Budget Equation is modified to consider Water Area Loss. This is particularly useful in water quantity stressed areas of Long Island. If runoff (Q) is considered be zero (0), then lake storage/recharge without make-up water would be Precipitation minus Evaporation (P - E). The resultant quantity of lake storage/recharge is then reduced by the amount of make-up water (M). The final quantity of loss is then multiplied by that portion of the site occupied by water to determine the component of water loss as related to the overall site water budget.

D. *Natural Area Recharge* - Natural Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Natural Area to determine the component of Natural Area Recharge in overall site recharge. This area can also include land that is revegetated to natural conditions.

E. *Impervious Area Recharge* - Impervious area recharge is also determined using the Hydrologic Budget Equation; however, the value for runoff is zero (0) due to the fact that runoff is controlled by conveyance to on site leaching facilities or is allowed to runoff into depressions where runoff is recharged on site.

F. *Other Area Recharge* - Other Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Other Area to determine the component of Other Area Recharge in overall site recharge.

G. *Irrigation Recharge* - Irrigation recharge is an additional recharge component artificially added on sites where irrigation occurs. This quantity is determined in the same manner as

the Hydrologic Water Budget except that the irrigation rate (in inches) is substituted for precipitation. The resultant recharge is multiplied by the area of the site that is irrigated, in order to determine the Irrigation Recharge in overall site recharge. For golf course sites where evapotranspiration is monitored, irrigation can be used to replace plant water loss due to evapotranspiration. In these cases, plant uptake of irrigation water is 100% and no irrigation recharge is expected thus requiring irrigation recharge to be zeroed out.

H. *Wastewater Recharge* - Wastewater is also a recharge component artificially added to a site. SONIR annualizes the wastewater design flow and assumes it is applied over the entire by multiplying Wastewater Design Flow by the Area of the Site, resulting in a per foot measure of wastewater over the site. This is converted to inches to be included in overall site recharge.

Once the eight (8) series of Site Recharge Computations are complete, SONIR totals each individual component to determine Total Site Recharge. The sum of these recharge contributions, is that quantity of water that is expected to enter the site on an annual basis due to precipitation, after the development is completed. This value is important in determining the concentration of nitrogen in recharge, and is important as a means of determining hydrologic impacts of a project in terms of changes to site recharge.

SITE NITROGEN BUDGET

Overview

The total nitrogen released on a given site must be determined in order to provide a means of simulating nitrogen in recharge. Nitrogen sources include: sanitary nitrogen; fertilizer nitrogen; pet waste nitrogen; precipitation nitrogen; and water supply nitrogen (wastewater and irrigation). The total of these quantities represents total site nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the nitrogen budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Persons per Dwelling* - The number of persons per dwelling is a demographic multiplier used in the determination of human population of a site. The Rutgers University, Center for Urban Policy Research (CUPR) publishes data for household population. Conservative averages of 1.50, 1.67, and 2.31 persons per dwelling for the studio, one-bedroom, and two-bedroom units, respectively, are used for this analysis.

2. *Nitrogen per Person per Year* - Annual nitrogen per person is a function of nitrogen bearing waste in wastewater. For residential land use the population of the development

is determined and the nitrogen generated is assumed to be 10 pounds per capita per year **(Hughes and Porter, 1983; p. 8).**

3. *Sanitary Nitrogen Leaching Rate* - For normal residential systems, Porter and Hughes report that 50% of the nitrogen entering the system is converted to gaseous nitrogen and the remainder leaches into the soil **(Porter and Hughes, 1983; p. 14).**

4. *Area of Land Fertilized 1* - The area of land fertilized is input in Data Cell 4. This value may correspond to the Acreage of Lawn and/or the Acreage of Land Irrigated, but is not necessarily the same value. This entry should be determined on a site-specific basis.

5. *Fertilizer Application Rate 1* - Fertilizer nitrogen is determined by a fertilizer application rate over a specified area of the site. The fertilizer application rates vary depending upon the type of use. The following table indicates the rate of fertilization as a function of use as excerpted from the Non-Point Source Management Handbook **(Koppelman, 1984; Chapter 5, p.6):**

Residential (contract)	1.5 lbs/1000 sq ft
Residential (unmanaged)	2.3 lbs/1000 sq ft
Commercial	3.5 lbs/1000 sq ft
Golf Course	3.5 lbs/1000 sq ft
Sod Farms	4.0 lbs/1000 sq ft
Recreational Lands	0.2 lbs/1000 sq ft

If a golf course has an Integrated Turf Health Management Plan (ITHM), then the ITHM should be consulted for application rates. In addition, a commercial landscaping firm has been interviewed to determine trends in commercial fertilizer application. Various fertilizer formulations are used including 10-6-4, 16-4-8 and 20-10-5 (nitrogen-phosphate-potash) depending upon season. Heavier nitrogen application rates are generally used in the spring. Fertilizer used is 50% organic nitrogen. This is applied in a dry form approximately 2-3 times per year, and a 50-pound bag is applied over approximately 16,000 square feet. Based on this rate if 20- 10-5 nitrogen were applied in the spring, and 16-4-8 were applied during summer and fall, this would result in an application rate of 1.5-2.1 pounds per 1000 square feet. The high of this range is a conservative value based on three applications of relatively high nitrogen fertilizer. Judgment must be used to determine the application rates per above and further review of references as appropriate or for specific instances.

6. *Fertilizer Nitrogen Leaching Rate 1* - Nitrogen applied as fertilizer is subject to plant uptake (20 to 80%; 50% on average) and storage in thatch and soils (36 to 47%), thereby reducing the total amount of nitrogen leached. The percentage of plant uptake and storage are based on studies cited in the LIRPB's Special Groundwater Protection Area Plan. Those studies estimated a conservative nitrogen leaching rate of 14%. Further work by the Cornell University School of Integrative Plant Science, Horticulture Section was consulted as well as references from A. Martin Petrovic, Ph.D. at Cornell University. References specifically note that nitrogen leaching from turfgrass ranges were generally

less than 10% **(1990, Petrovic, A.M.).** Further review of references from this source finds a useful comparison of turfgrass fertilizer leaching rates from various land cover types including golf courses and lawns. When considering four (4) field studies of golf course fertilizer nitrogen leaching, the leaching rates ranged from 0.02% to 13.2% and averaged 3%. When considering field studies for lawn nitrogen leaching rates, the average was 9.61% **(2008, Petrovic, A.M.)**. The purpose of the document was to advise the Massachusetts Estuary Program on appropriate turfgrass leaching rates for the Pleasant Bay Region on Cape Cod.[1] A previously used leaching rate of 20% was found to be excessive by a factor of 2. Though lawn and golf course leaching rates were not substantially different, results reported identified lawns as having a higher leaching average leaching rate based on field studies. Local conditions should be considered in terms of the level of detail needed for nitrogen budget analysis. For conservative analysis recommended values are 10% for turf under golf management and 15% for general lawn turf.

7. *Area of Land Fertilized 2* - More than one fertilizer nitrogen input is provided in order allow consideration of mixed use and/or golf course projects where land is fertilized at different rates.

8. *Fertilizer Application Rate 2* - Fertilizer Application Rates for this entry can be determined based upon Data Cell 5 above.

9. *Fertilizer Nitrogen Leaching Rate 2* - Fertilizer Nitrogen Leaching Rates can be determined based upon Data Cell 6 above.

10. *Pet Waste Application Rate* - Pet Waste Nitrogen results from the excretion of domestic pets in the outside environment. There is relatively little definitive information concerning this nitrogen source; however, several references were located and are analyzed herein. The 208 Study provides a table of nitrogen concentration in manure for various animals, not including dogs or cats. Total nitrogen values in the range of 0.30-0.43 lbs/day/1000 lbs live weight are reported for cattle, sheep and horses **(Koppelman, 1978; Animal Waste report p. 3).** It is assumed that dogs constitute the major source of animal waste that would be present in the yards of residential developments. Cat waste would be significantly less due to the lesser live weight of cats and the fact that many cat owners dispose of cat waste in solid waste by using an indoor litter box. If an average of 0.35 lbs of nitrogen is assumed for dogs, and an average of 25 pounds live weight is assumed per dog, then the total annual nitrogen per pet would be 3.19 lbs/year. The only other reference located that approximates nitrogen in pet waste is Land Use and Ground-Water Quality in the Pine Barrens of Southampton **(Hughes and Porter, 1983; p. 10).** This reference assumed an application rate of 6.5 lbs/acre of nitrogen. Pet waste was assumed to be deposited evenly over all turf. This assumption was not correlated to population density or pet density, but only to turfed acreage. In comparison of the two values, the per pet value corresponds to approximately 2 turfed acres. For the purpose of

[1] Hydrogeologic conditions on Cape Cod are similar to Long Island due to glacial origin, bays and estuaries.

this model, the value of 3.19 lbs/pet/year is considered to be the most justifiable value for pet waste and is entered in this Data Cell.

11. *Pet Waste Nitrogen Leaching Rate* - Pet waste is also subject to a leaching rate factor. Pet waste is generally found to be a minor contributor of nitrogen in an overall nitrogen budget. A conservative leaching rate of 50% of the nitrogen applied to the ground is assumed to be removed through N reduction processes.

12. *Area of Land Irrigated* - No entry need be made in this Data Cell. This value is the same as Data Cell 27 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.

13. *Irrigation Rate* - No entry need be made in this Data Cell. This value is the same as Data Cell 29 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.

14. *Irrigation Nitrogen Leaching Rate* - Hughes and Porter **(1983; p. 10)** states "plant uptake and gaseous losses are assumed to remove at least 85% of the nitrogen entering in precipitation." Irrigation nitrogen would be expected to be subject to the same losses as applied to fertilizer leaching; therefore, a leaching rate in the range of 5-10% can be assumed and entered in this Data Cell.

15 *Nitrogen in Precipitation* - Groundwater nitrogen is partially derived from rainwater. Nitrate-nitrogen concentrations in precipitation have been reported to be on the order of 1-2 mg/l in Nassau and Suffolk Counties **(SCDHS, 1987; p. 6-4)**, with some evidence of decrease since preparation of the SCCWRMP. A conservative value of 0.75 mg/l was used.

16. *Precipitation Nitrogen Leaching Rate* – A slightly higher nitrogen leaching rate may be appropriate for precipitation which falls generally on natural as well as turfed surfaces. While turfgrass leaching has been extensively documented and found to reduce leaching as a result of plant uptake and thatch/root zone processes, natural areas in sandy soils may result in less uptake. A factor of 15% is applied to precipitation nitrogen as based on Hughes and Porter) **(1983; p. 10)**.

17. *Nitrogen in Water Supply* - The concentration of Nitrogen in Water Supply determines the quantity of nitrogen that enters the site as a result of irrigation nitrogen and wastewater flow. Local water supply data should be utilized if available, otherwise a value of between 1 and 2 mg/l could be utilized.

18. *Nitrogen in Commercial/STP Flow* - This data entry allows SONIR to compute the quantity of nitrogen resulting from commercial discharge, denitrification systems and/or sewage treatment plants. Total nitrogen in community wastewater is identified as having a total nitrogen concentration of 20 mg/l in weak effluent; 40 mg/l in medium strength effluent, and 85 mg/l in strong effluent **(Metcalf & Eddy, Inc, 1991).** It is recommended

that a value of 50 mg/l be used for total nitrogen concentration in sanitary systems. Properly functioning denitrification systems and sewage treatment plants are capable of reducing total nitrogen to less than 10 mg/l in accordance with discharge limitations. A value of 10 mg/l can be entered in this data cell for such systems or other applicable value dependent on specific treatment efficiencies. The SONIR model computes the number of pounds of nitrogen in sanitary discharge as a function of concentration. The absolute nitrogen is utilized in the model; however, it must recognized that from the discharge point, nitrogen is nitrified through conversion of ammonia to nitrate in the leaching area beneath the discharge point. Further, natural transformation in the form of denitrification occurs as a result of bacteria. This causes release of nitrogen gas and may account for further reduction of 50% or more subsequent to discharge **(Canter and Knox, 1979; pp. 77-78; Hughes and Porter, 1983; p. 14).** As a result SONIR is conservative in predicting the concentration of nitrogen in recharge, and when natural denitrification of sanitary effluent is considered, actual concentration would be less.

Site Nitrogen Budget - Sheet 2

Once data entry is complete for Nitrogen Budget Parameters, SONIR will complete a series of detailed computations to determine the individual component of nitrogen from each source and the total nitrogen for the overall site and use. The following describes the computations that are performed by the model:

A. *Sanitary Nitrogen - Residential* - SONIR establishes the site population using the number of units on the site, and the demographic multiplier. The nitrogen load factor is then applied and reduced by the leaching rate, resulting in the total residential nitrogen component. If the project is for a commercial use or residential sanitary wastewater flow is used to determine nitrogen from residential, then the resultant value should be zero (0).

B. *Pet Waste Nitrogen* - The pet waste nitrogen was determined on a per pet basis; however, the number of pets for a given residential project must be determined. In order to correlate the number of pets to human population, a ratio was determined using information contained in the 208 Study, wherein it was estimated that there is 1 dog per 5 residents in suburban areas and 1 dog per 7 residents in urban areas **(Koppelman, 1978; Animal Waste Report, pp. 6).** This results in an average number of dogs based upon of 17% of the human population. Accordingly, this multiplier is used based upon the population of a land use project in order to estimate the nitrogen waste from pets. The pet waste nitrogen is subject to reduction as a function of the leaching rate, leading to the total pet waste nitrogen in pounds.

C. *Sanitary Nitrogen (Commercial/STP)* - SONIR utilizes the Commercial/STP Flow that is converted to liters and multiplied by the nitrogen concentration in waste.

This provides a weight of nitrogen in milligrams, which is converted to pounds for the total nitrogen from this component.

D. *Water Supply Nitrogen* - SONIR utilizes the residential wastewater design flow to compute the weight of nitrogen contributed from the water supply. The method of calculation is the same as Sanitary Nitrogen (Commercial/STP). For commercial projects, this value is accounted for in the Commercial/STP Flow.

E. *Fertilizer Nitrogen 1* - This calculation utilizes data entry from the Area of Land Fertilized 1, in the Data Input Field, to determine the weight of fertilizer nitrogen applied to the area. The area is multiplied by the application rate and reduced by the leaching rate documented previously to arrive at total weight.

F. *Fertilizer Nitrogen 2* - If fertilization rates vary, the Area of Land Fertilized 2, is utilized to determine nitrogen from this source.

G. *Precipitation Nitrogen* - Nitrogen in precipitation is considered by determining the liters of Natural Recharge entering the site, multiplied by the concentration of nitrogen in precipitation. SONIR uses the sum of natural recharge components from the Site Recharge Computations to establish the natural recharge. A precipitation nitrogen leaching rate of 15% is utilized as referenced above.

H. *Irrigation Nitrogen* - Although a very small component, the Irrigation Nitrogen is determined using the Irrigation Recharge R(irr) computed in the Site Recharge Computations, over the irrigated area of the site to produce a volume of irrigation recharge. The Irrigation Recharge value is used in order to account for reduction of recharge due to evapotranspiration, since this component is only intended to determine nitrogen leaching into soil as a result of irrigation nitrogen in the water supply. This value is converted to liters and multiplied by the concentration of nitrogen in irrigation water supply. The Irrigation Nitrogen Leaching Rate (expected to the same as for precipitation) is applied to the weight to determine the total nitrogen from this source.

Once the eight (8) series of Site Nitrogen Budget computations are complete, SONIR totals each individual component to determine the Total Site Nitrogen. This value is used in determining the weight per volume ratio of nitrogen in recharge as computed in Sheet 4 of the SONIR model.

FINAL COMPUTATIONS, SUMMARY AND MITIGATION

SONIR utilizes data generated in Sheets 2 and 3 to compute a mass/volume ratio for nitrogen in recharge. Nitrogen in recharge is converted from pounds to milligrams in order to provide units compatible for mass/volume concentration. Likewise, the quantity of site recharge is applied over the site in order to determine an overall volume number for site recharge. This is then converted to liters. The final computation divides the total weight of nitrogen in milligrams, by

the total volume of recharge in liters, to arrive at the Nitrogen in Recharge ratio in milligrams per liter (mg/l). This concentration represents the Final Concentration of Nitrogen in Recharge, which is highlighted on Sheet 4.

Sheet 4 also provides a site recharge summary in order to compare recharge between natural conditions, a proposed project and/or alternatives. Total Site Recharge is presented in both inches, and as a volume in cubic feet/year, gallons/year and million gallons/year (MGY). The final sheet also summarizes the Conversions Used in SONIR. Conversions are standard conversion multipliers as found in standard engineering references.

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SONIR is a valuable tool allowing for versatile determination of site recharge as determined from many components of site recharge. SONIR determines the weight of nitrogen applied to a site from a variety of sources as well. SONIR is a fully referenced model utilizing basic hydrologic and engineering principals, in a simulation of nitrogen in recharge. Input data should be carefully justified in order to achieve best results. SONIR can be used effectively in comparing land use alternatives and relative impact upon groundwater due to nitrogen. By running the model for Existing Conditions, Proposed Project conditions and/or alternative land uses, comparison of impacts can be made and mitigation can be evaluated for consideration in land use decision-making. Questions, comments or suggestions concerning this model should be addressed to: Nelson, Pope & Voorhis, LLC, 572 Walt Whitman Road, Melville, New York 11747.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

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Appendix A-6
SONIR Model Results, Existing Conditions

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

SHEET 1

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT — **Existing Conditions**

Speonk Commons

DATA INPUT FIELD

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	4.28	acres
2	Precipitation Rate	49.90	inches
3	Acreage of Landscaping	1.70	acres
4	Fraction of Land in above	0.397	fraction
5	Evapotranspiration from above	23.00	inches
6	Runoff from above	0.35	inches
7	Acreage of Unfertilized Landscape	1.70	acres
8	Fraction of above	0.397	fraction
9	Evapotranspiration from above	23.90	inches
10	Runoff from above	0.35	inches
11	Acreage of Unvegetated/Dirt Roads	0.00	acres
12	Fraction of above	0.000	fraction
13	Evapotranspiration from above	21.20	inches
14	Runoff from above	1.05	inches
15	Acreage of Water/Ponds/Wetlands	0.00	acres
16	Fraction of Site in above	0.000	fraction
17	Evaporation from above	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural/Natural Reveg	2.13	acres
20	Fraction of above	0.498	fraction
21	Evapotranspiration from above	23.00	inches
22	Runoff from above	0.35	inches
23	Acreage of Impervious/Paved/Bldgs	0.45	acres
24	Fraction of Land in above	0.105	fraction
25	Evapotrans. from above	4.99	inches
26	Runoff from Impervious	0.00	inches
23	Acreage of Wetlands	0.00	acres
24	Fraction of Land in above	0.000	fraction
25	Evapotrans. from above	30.00	inches
26	Runoff from above	0.00	inches
27	Acreage of Land Irrigated	0.00	acres
28	Fraction of Land Irrigated	0.000	fraction
29	Irrigation Rate	24.00	inches
30	Number of Dwellings	1	units
31	Water Use per Dwelling	300	gal/day
32	Wastewater Design Flow (units)	0	gal/day
33	Wastewater Design Flow (total)	300	gal/day
34	Adjusted WW Design Flow (total)	300	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	2.50	persons
2	Nitrogen per Person per Year	10.0	lbs
3	a. Sanitary Nitrogen Leaching Rate	50%	percent
3	b. Treated Sanitary Nitrogen Leaching Rate	90%	percent
4	Fertilized Land (Golf Rough/Res/Golf Landsc.)	0.00	acres
5	Fertilizer Application Rate (for above)	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate (for above)	15%	percent
7	Fertilized Land (Greens/Tees/Fairways)	1.70	acres
8	Fertilizer Application Rate (for above)	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate (for above)	15%	percent
10	Pet Waste Application Rate	3.19	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	50%	percent
12	Area of Land Irrigated	0.00	acres
13	Irrigation Rate	24.00	inches
14	Irrigation Nitrogen Leaching Rate	15%	percent
15	Nitrogen in Precipitation	0.75	mg/l
16	Precipitation Nitrogen Leaching Rate	15%	percent
17	Nitrogen in Water Supply	2.00	mg/l
18	Nitrogen in Sanitary Flow -1	50.00	mg/l
19	Nitrogen in Sanitary Flow -2	19.00	mg/l

C	*Comments*
1)	Please refer to SONIR User Manual for data input instructions.

Developed Area	2.45	41%
Natural/Unvegetated/Revegetated Area	588.55	9842%
Total Acreage Check	5.98	100%

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

Speonk Commons

SITE RECHARGE COMPUTATIONS

A	*Landscaping*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.397	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.00	inches
4	Q = Runoff Rate	0.35	inches
5	R(a) = P - (E + Q)	26.55	inches
6	R(A) = R(a) x A	10.55	inches

B	*Unfertilized Landscape*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.397	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.90	inches
4	Q = Runoff Rate	0.35	inches
5	R(b) = P - (E + Q)	25.65	inches
6	R(B) = R(b) x A	10.19	inches

C	*Unvegetated/Dirt Roads*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	21.20	inches
4	Q = Runoff Rate	1.05	inches
5	R(c) = P - (E + Q)	27.65	inches
6	R(C) = R(c) x A	0.00	inches

D	*Water/Ponds*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(d) = {P - (E+Q)} - M	19.90	inches
7	R(D) = R(d) x A	0.00	inches

E	*Natural/Natural Revegetation*		
1	A = Fraction of Land in Cover Type	0.498	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.00	inches
4	Q = Runoff Rate	0.35	inches
5	R(e) = P - (E + Q)	26.55	inches
6	R(E) = R(e) x A	13.21	inches

F	*Impervous/Paved/Roads*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.105	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	4.99	inches
4	Q = Runoff Rate	0.00	inches
5	R(f) = P - (E + Q)	44.91	inches
6	R(F) = R(f) x A	4.72	inches

F	*Rain Gardens/Wetlands*		
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(g) = P - (E + Q)	19.90	inches
6	R(G) = R(g) x A	0.00	inches

H	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.000	fraction
2	I = Irrigation Rate	24.00	inches
3	E = Evaptranspiration Rate	20.54	inches
4	Q = Runoff Rate	0.35	inches
5	R(h) = I - (E + Q)	3.11	inches
6	R(H) = R(H) x A	0.00	inches

I	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	300	gal/day
2	WDF = Wastewater Design Flow	14,640	cu ft/yr
3	A = Area of Site	186,437	sq ft
4	R(j) = WDF/A	0.08	feet
5	R(I) = Wastewater Recharge	0.94	inches

J	*Runoff Recharge*		
1	Q(A) = Runoff from Rough/Landscaped	0.139	inches
2	Q(B) = Runoff from Tees/Fairways	0.139	inches
3	Q(C) = Runoff from Unvegetated	0.000	inches
4	Q(E) = Runoff from Natural	0.174	inches
5	Q(H) = Runoff from Rain Gardens	0.000	inches
6	Q(I) = Runoff from Irrigation	0.00	inches
7	Q(tot) = Q(A)+Q(B)+Q(C)+Q(E)+Q(H)+Q(I)	0.45	inches

Total Site Recharge		
R(T) =	R(A)+R(B)+R(C)+R(D)+R(E)+R(F)+R(G)+R(H)+R(I)+R(J)+Q(tot)	
R(T) =	**40.06**	**inches**

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

Speonk Commons

SITE NITROGEN BUDGET

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	2.50	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	10	lbs
6	N = (total; pre loss/removal)	0	lbs
7	LR = Leaching Rate	50%	percent
8	N(S) = P x N x LR	0.00	lbs
9	N = loss/removed	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	3.19	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.23	lbs
5	LR = Leaching Rate	50%	percent
6	N(P) = N(p) x LR	0.11	lbs
7	N = (loss/removed)	0.11	lbs

C	*Sanitary Nitrogen (Wastewater Design Flow)*		
1	CF = Commercial/STP Flow	300	gal/day
2	CF = Commercial/STP Flow	414,458	liters/yr
3	N = Nitrogen (1)	50.00	mg/l
4	N = Nitrogen (1)	45.69	lbs
5	N =Nitrogen (2)	50.00	mg/l
6	N = Nitrogen (2)	45.69	lbs
7	LR = Leaching Rate	50%	percent
8	N(S) = CF x N x LR	10,361,438	milligrams
9	N(S) = Sanitary Nitrogen	22.85	lbs
10	N = loss/removed	22.85	lbs

D	*Water Supply Nitrogen (other than wastewater, if applicable)*		
1	WDF = Wastewater Design Flow	0	gal/day
2	WDF = Wastewater Design Flow	0	liters/yr
3	N = Nitrogen in Water Supply	2.00	mg/l
4	N(WW) = WDF x N	0	milligrams
5	N(WW) = Wastewater Nitrogen	0.00	lbs

E	*Fertilized Landscaping*		
1	A = Area of Land Fertilized 1	0	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	N(T) = Nitrogen (total applied)	0.00	lbs
4	LR = Leaching Rate	15%	percent
5	N(F1) = A x AR x LR	0.00	lbs
6	N = loss/removed	0.00	lbs

F	*Unfertilized Landscape*		
1	A = Area of Land Fertilized 2	74,052	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	N(T) = Nitrogen (total applied)	0.00	lbs
4	LR = Leaching Rate	15%	percent
5	N(F2) = A x AR x LR	0.00	lbs
6	N = loss/removed	0.00	lbs

G	*Precipitation Nitrogen (existing condition)*		
1	R(n) = Natural Recharge (feet)	1.10	feet
2	A = Area of Site (sq ft)	186,437	sq ft
3	R(N) = R(n) x A	205,287	cu ft
4	R(N) = Natural Recharge (liters)	5,813,738	liters
5	N = Nitrogen in Precipitation	0.75	mg/l
6	N(T) = Nitrogen (total)	10	lbs
7	LR = Leaching Rate	15%	percent
8	N(ppt) = R(N) x N x LR	654,045.52	milligrams
10	N(irr) = Irrigation Nitrogen	1.44	lbs
9	N = loss/removed	8.17	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	0.00	inches
2	R = Irrigation Rate (feet)	0.00	feet
3	A = Area of Land Irrigated	0	sq ft
4	R(I) = R(irr) x A	0	cu ft
5	R(I) = Site Precipitation (liters)	0	liters
6	N = Nitrogen in Water Supply	2.00	mg/l
7	N(T) = Nitrogen (total applied)	0.00	lbs
8	LR = Leaching Rate	15%	percent
9	N(irr) = R(I) x N x LR	0	milligrams
10	N(irr) = Irrigation Nitrogen	0.00	lbs
11	N = loss/removed	0.00	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	**24.40**	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT **Existing Conditions**

Speonk Commons

FINAL COMPUTATIONS

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	24.40	lbs
2	N = Total Nitrogen (milligrams)	11,078,562	milligrams
3	R(T) = Total Recharge (inches)	40.06	inches
4	R(T) = Total Recharge (feet)	3.34	feet
5	A = Area of Site	186,437	sq ft
6	R = R(T) x A	622,435	cu ft
7	R = Site Recharge Volume	17,627,349	liters
9	NR = N/R	0.63	mg/l

CONCENTRATION OF NITROGEN IN RECHARGE **0.63**

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	40.06	inches/yr
2	R = Site Recharge Volume	622,435	cu ft/yr
3	R = Site Recharge Volume	4,656,135	gal/yr
4	R = Site Recharge Volume	4.66	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Appendix A-7
SONIR Model Results, Proposed Project

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT **Proposed Project**

Speonk Commons

DATA INPUT FIELD

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	4.28	acres
2	Precipitation Rate	49.90	inches
3	Acreage of Landscaping	2.55	acres
4	Fraction of Land in above	0.596	fraction
5	Evapotranspiration from above	23.00	inches
6	Runoff from above	0.35	inches
7	Acreage of Unfertilized Landscape	0.00	acres
8	Fraction of above	0.000	fraction
9	Evapotranspiration from above	23.90	inches
10	Runoff from above	0.35	inches
11	Acreage of Unvegetated/Dirt Roads	0.00	acres
12	Fraction of above	0.000	fraction
13	Evapotranspiration from above	21.20	inches
14	Runoff from above	1.05	inches
15	Acreage of Water/Ponds/Wetlands	0.00	acres
16	Fraction of Site in above	0.000	fraction
17	Evaporation from above	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural/Natural Reveg	0.00	acres
20	Fraction of above	0.000	fraction
21	Evapotranspiration from above	23.00	inches
22	Runoff from above	0.35	inches
23	Acreage of Impervious/Paved/Bldgs	1.73	acres
24	Fraction of Land in above	0.404	fraction
25	Evapotrans. from above	4.99	inches
26	Runoff from Impervious	0.00	inches
23	Acreage of Wetlands	0.00	acres
24	Fraction of Land in above	0.000	fraction
25	Evapotrans. from above	30.00	inches
26	Runoff from above	0.00	inches
27	Acreage of Land Irrigated	2.55	acres
28	Fraction of Land Irrigated	0.596	fraction
29	Irrigation Rate	24.00	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	300	gal/day
32	Wastewater Design Flow (units)	0	gal/day
33	Wastewater Design Flow (total)	8,538	gal/day
34	Adjusted WW Design Flow (total)	8,538	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	2.50	persons
2	Nitrogen per Person per Year	10.0	lbs
3	a. Sanitary Nitrogen Leaching Rate	50%	percent
3	b. Treated Sanitary Nitrogen Leaching Rate	90%	percent
4	Fertilized Land (Golf Rough/Res/Golf Landsc.)	2.55	acres
5	Fertilizer Application Rate (for above)	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate (for above)	15%	percent
7	Fertilized Land (Greens/Tees/Fairways)	0.00	acres
8	Fertilizer Application Rate (for above)	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate (for above)	15%	percent
10	Pet Waste Application Rate	3.19	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	50%	percent
12	Area of Land Irrigated	2.55	acres
13	Irrigation Rate	24.00	inches
14	Irrigation Nitrogen Leaching Rate	15%	percent
15	Nitrogen in Precipitation	0.75	mg/l
16	Precipitation Nitrogen Leaching Rate	15%	percent
17	Nitrogen in Water Supply	2.00	mg/l
18	Nitrogen in Sanitary Flow -1	10.00	mg/l
19	Nitrogen in Sanitary Flow -2	10.00	mg/l

C	*Comments*
1)	Please refer to SONIR User Manual for data input instructions.

Developed Area	2.88	67%
Natural/Unvegetated/Revegetated Area	588.12	13741%
Total Acreage Check	4.28	100%

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

Speonk Commons

SITE RECHARGE COMPUTATIONS

A	*Landscaping*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.596	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.00	inches
4	Q = Runoff Rate	0.35	inches
5	R(a) = P - (E + Q)	26.55	inches
6	R(A) = R(a) x A	15.82	inches

B	*Unfertilized Landscape*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.90	inches
4	Q = Runoff Rate	0.35	inches
5	R(b) = P - (E + Q)	25.65	inches
6	R(B) = R(b) x A	0.00	inches

C	*Unvegetated/Dirt Roads*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	21.20	inches
4	Q = Runoff Rate	1.05	inches
5	R(c) = P - (E + Q)	27.65	inches
6	R(C) = R(c) x A	0.00	inches

D	*Water/Ponds*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(d) = {P - (E+Q)} - M	19.90	inches
7	R(D) = R(d) x A	0.00	inches

E	*Natural/Natural Revegetation*		
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	23.00	inches
4	Q = Runoff Rate	0.35	inches
5	R(e) = P - (E + Q)	26.55	inches
6	R(E) = R(e) x A	0.00	inches

F	*Impervous/Paved/Roads*	*Value*	*Units*
1	A = Fraction of Land in Cover Type	0.404	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	4.99	inches
4	Q = Runoff Rate	0.00	inches
5	R(f) = P - (E + Q)	44.91	inches
6	R(F) = R(f) x A	18.15	inches

F	*Rain Gardens/Wetlands*		
1	A = Fraction of Land in Cover Type	0.000	fraction
2	P = Precipitation Rate	49.90	inches
3	E = Evapotranspiration Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(g) = P - (E + Q)	19.90	inches
6	R(G) = R(g) x A	0.00	inches

H	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.596	fraction
2	I = Irrigation Rate	24.00	inches
3	E = Evaptranspiration Rate	20.54	inches
4	Q = Runoff Rate	0.35	inches
5	R(h) = I - (E + Q)	3.11	inches
6	R(H) = R(H) x A	1.85	inches

I	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	8,538	gal/day
2	WDF = Wastewater Design Flow	416,659	cu ft/yr
3	A = Area of Site	186,437	sq ft
4	R(j) = WDF/A	2.23	feet
5	R(I) = Wastewater Recharge	26.82	inches

J	*Runoff Recharge*		
1	Q(A) = Runoff from Rough/Landscaped	0.208	inches
2	Q(B) = Runoff from Tees/Fairways	0.000	inches
3	Q(C) = Runoff from Unvegetated	0.000	inches
4	Q(E) = Runoff from Natural	0.000	inches
5	Q(H) = Runoff from Rain Gardens	0.000	inches
6	Q(I) = Runoff from Irrigation	0.21	inches
7	Q(tot) = Q(A)+Q(B)+Q(C)+Q(E)+Q(H)+Q(I)	0.42	inches

Total Site Recharge		
R(T) =	R(A)+R(B)+R(C)+R(D)+R(E)+R(F)+R(G)+R(H)+R(I)+R(J)+Q(tot)	
R(T) =	**63.06**	**inches**

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

SHEET 3

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

Speonk Commons

SITE NITROGEN BUDGET

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	2.50	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	10	lbs
6	N = (total; pre loss/removal)	0	lbs
7	LR = Leaching Rate	50%	percent
8	N(S) = P x N x LR	0.00	lbs
9	N = loss/removed	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	3.19	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	50%	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N = (loss/removed)	0.00	lbs

C	*Sanitary Nitrogen (Wastewater Design Flow)*		
1	CF = Commercial/STP Flow	8,538	gal/day
2	CF = Commercial/STP Flow	11,795,460	liters/yr
3	N = Nitrogen (1)	10.00	mg/l
4	N = Nitrogen (1)	260.09	lbs
5	N =Nitrogen (2)	10.00	mg/l
6	N = Nitrogen (2)	260.09	lbs
7	LR = Leaching Rate	50%	percent
8	N(S) = CF x N x LR	58,977,302	milligrams
9	N(S) = Sanitary Nitrogen	130.04	lbs
10	N = loss/removed	130.04	lbs

D	*Water Supply Nitrogen (other than wastewater, if applicable)*		
1	WDF = Wastewater Design Flow	0	gal/day
2	WDF = Wastewater Design Flow	0	liters/yr
3	N = Nitrogen in Water Supply	2.00	mg/l
4	N(WW) = WDF x N	0	milligrams
5	N(WW) = Wastewater Nitrogen	0.00	lbs

E	*Fertilized Landscaping*		
1	A = Area of Land Fertilized 1	111,078	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	N(T) = Nitrogen (total applied)	255.48	lbs
4	LR = Leaching Rate	15%	percent
5	N(F1) = A x AR x LR	38.32	lbs
6	N = loss/removed	217.16	lbs

F	*Unfertilized Landscape*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	N(T) = Nitrogen (total applied)	0.00	lbs
4	LR = Leaching Rate	15%	percent
5	N(F2) = A x AR x LR	0.00	lbs
6	N = loss/removed	0.00	lbs

G	*Precipitation Nitrogen (existing condition)*		
1	R(n) = Natural Recharge (feet)	0.00	feet
2	A = Area of Site (sq ft)	186,437	sq ft
3	R(N) = R(n) x A	0	cu ft
4	R(N) = Natural Recharge (liters)	0	liters
5	N = Nitrogen in Precipitation	0.75	mg/l
6	N(T) = Nitrogen (total)	0	lbs
7	LR = Leaching Rate	15%	percent
8	N(ppt) = R(N) x N x LR	0.00	milligrams
10	N(irr) = Irrigation Nitrogen	0.00	lbs
9	N = loss/removed	0.00	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.85	inches
2	R = Irrigation Rate (feet)	0.15	feet
3	A = Area of Land Irrigated	111,078	sq ft
4	R(I) = R(irr) x A	17,155	cu ft
5	R(I) = Site Precipitation (liters)	485,841	liters
6	N = Nitrogen in Water Supply	2.00	mg/l
7	N(T) = Nitrogen (total applied)	2.14	lbs
8	LR = Leaching Rate	15%	percent
9	N(irr) = R(I) x N x LR	145,752	milligrams
10	N(irr) = Irrigation Nitrogen	0.32	lbs
11	N = loss/removed	1.82	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	**168.69**	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT **Proposed Project**
Speonk Commons

FINAL COMPUTATIONS

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	168.69	lbs
2	N = Total Nitrogen (milligrams)	76,584,464	milligrams
3	R(T) = Total Recharge (inches)	63.06	inches
4	R(T) = Total Recharge (feet)	5.25	feet
5	A = Area of Site	186,437	sq ft
6	R = R(T) x A	979,716	cu ft
7	R = Site Recharge Volume	27,745,566	liters
9	NR = N/R	2.76	mg/l

CONCENTRATION OF NITROGEN IN RECHARGE **2.76**

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	63.06	inches/yr
2	R = Site Recharge Volume	979,716	cu ft/yr
3	R = Site Recharge Volume	7,328,788	gal/yr
4	R = Site Recharge Volume	7.33	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Appendix A-8
NYS Breeding Bird Atlas Data

NYS Breeding Bird Atlas

Block 6852D

2000-2005

Navigation Tools
Perform Another Search
Show All Records
Sort by Field Card Order
Sort by Taxonomic Order
View 1985 Data

Block 6852D Summary	
Total Species:	78
Possible:	16
Probable:	26
Confirmed:	36

Click on column heading to sort by that category.

List of Species Breeding in Atlas Block 6852D

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Canada Goose	*Branta canadensis*	FL	6/22/2002	Game Species
Mute Swan	*Cygnus olor*	FL	6/1/2002	Protected
Wood Duck	*Aix sponsa*	X1	5/14/2004	Game Species
Mallard	*Anas platyrhynchos*	FL	6/1/2002	Game Species
Northern Bobwhite	*Colinus virginianus*	T2	6/22/2002	Game Species
Ring-necked Pheasant	*Phasianus colchicus*	T2	5/14/2004	Game Species
Wild Turkey	*Meleagris gallopavo*	T2	4/25/2004	Game Species
Great Egret	*Ardea alba*	X1	6/14/2003	Protected
Black-crowned Night-Heron	*Nycticorax nycticorax*	X1	7/14/2003	Protected
Northern Harrier	*Circus cyaneus*	X1	3/29/2003	Threatened
Cooper's Hawk	*Accipiter cooperii*	X1	3/6/2005	Protected-Special Concern

Red-tailed Hawk	*Buteo jamaicensis*	T2	6/29/2003	Protected
American Kestrel	*Falco sparverius*	X1	6/25/2002	Protected
Killdeer	*Charadrius vociferus*	FL	6/1/2002	Protected
Spotted Sandpiper	*Actitis macularius*	X1	5/14/2004	Protected
Willet	*Tringa semipalmata*	X1	6/14/2003	Protected
Rock Pigeon	*Columba livia*	NY	6/29/2003	Unprotected
Mourning Dove	*Zenaida macroura*	FL	6/8/2003	Protected
Yellow-billed Cuckoo	*Coccyzus americanus*	S2	5/31/2003	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	X1	5/31/2003	Protected
Eastern Screech-Owl	*Megascops asio*	X1	2/2/2003	Protected
Great Horned Owl	*Bubo virginianus*	T2	2/2/2003	Protected
Whip-poor-will	*Caprimulgus vociferus*	T2	6/23/2003	Protected-Special Concern
Chimney Swift	*Chaetura pelagica*	X1	6/12/2004	Protected
Belted Kingfisher	*Megaceryle alcyon*	T2	6/22/2002	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	T2	6/14/2003	Protected
Downy Woodpecker	*Picoides pubescens*	FL	6/1/2002	Protected
Hairy Woodpecker	*Picoides villosus*	P2	6/1/2002	Protected
Northern Flicker	*Colaptes auratus*	FL	6/22/2002	Protected
Eastern Wood-Pewee	*Contopus virens*	T2	6/25/2003	Protected
Willow Flycatcher	*Empidonax traillii*	T2	6/22/2002	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	T2	6/22/2002	Protected
Eastern Kingbird	*Tyrannus tyrannus*	FL	7/25/2004	Protected
Red-eyed Vireo	*Vireo olivaceus*	T2	6/22/2002	Protected
Blue Jay	*Cyanocitta cristata*	FY	6/29/2003	Protected
American Crow	*Corvus brachyrhynchos*	FY	6/1/2002	Game Species
Fish Crow	*Corvus ossifragus*	T2	5/15/2003	Protected

Purple Martin	*Progne subis*	ON	5/14/2004	Protected
Tree Swallow	*Tachycineta bicolor*	NY	7/7/2001	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	T2	5/14/2004	Protected
Barn Swallow	*Hirundo rustica*	FY	6/21/2003	Protected
Black-capped Chickadee	*Poecile atricapillus*	FL	6/1/2002	Protected
Tufted Titmouse	*Baeolophus bicolor*	FL	6/29/2003	Protected
Carolina Wren	*Thryothorus ludovicianus*	T2	6/1/2002	Protected
House Wren	*Troglodytes aedon*	NY	6/21/2003	Protected
Blue-gray Gnatcatcher	*Polioptila caerulea*	X1	8/3/2003	Protected
Eastern Bluebird	*Sialia sialis*	ON	5/15/2003	Protected
American Robin	*Turdus migratorius*	FY	6/22/2002	Protected
Gray Catbird	*Dumetella carolinensis*	FY	6/1/2002	Protected
Northern Mockingbird	*Mimus polyglottos*	FY	6/1/2002	Protected
Brown Thrasher	*Toxostoma rufum*	T2	5/3/2003	Protected
European Starling	*Sturnus vulgaris*	NY	6/8/2003	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	T2	6/22/2002	Protected
Blue-winged Warbler	*Vermivora pinus*	FY	6/8/2003	Protected
Yellow Warbler	*Dendroica petechia*	NY	6/21/2003	Protected
Pine Warbler	*Dendroica pinus*	T2	6/14/2003	Protected
Prairie Warbler	*Dendroica discolor*	T2	6/8/2003	Protected
Black-and-white Warbler	*Mniotilta varia*	X1	5/15/2003	Protected
Common Yellowthroat	*Geothlypis trichas*	NY	6/29/2003	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	FL	6/21/2003	Protected
Chipping Sparrow	*Spizella passerina*	NY	6/21/2003	Protected
Field Sparrow	*Spizella pusilla*	NY	6/21/2003	Protected

Vesper Sparrow	*Pooecetes gramineus*	X1	6/22/2002	Protected-Special Concern
Savannah Sparrow	*Passerculus sandwichensis*	X1	5/15/2003	Protected
Grasshopper Sparrow	*Ammodramus savannarum*	T2	5/15/2003	Protected-Special Concern
Song Sparrow	*Melospiza melodia*	FY	6/8/2003	Protected
Scarlet Tanager	*Piranga olivacea*	T2	6/8/2003	Protected
Northern Cardinal	*Cardinalis cardinalis*	FL	6/14/2003	Protected
Blue Grosbeak	*Passerina caerulea*	T2	6/14/2003	Protected
Indigo Bunting	*Passerina cyanea*	X1	6/14/2003	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	NY	6/21/2003	Protected
Common Grackle	*Quiscalus quiscula*	FY	6/1/2002	Protected
Brown-headed Cowbird	*Molothrus ater*	FL	6/29/2003	Protected
Orchard Oriole	*Icterus spurius*	FY	6/21/2003	Protected
Baltimore Oriole	*Icterus galbula*	FY	6/21/2003	Protected
House Finch	*Carpodacus mexicanus*	T2	5/3/2003	Protected
American Goldfinch	*Spinus tristis*	T2	6/29/2003	Protected
House Sparrow	*Passer domesticus*	ON	6/1/2002	Unprotected

Current Date: 12/2/2016

Appendix A-9
POWER Model

PROJECTION OF WILDLIFE ECOLOGICAL RESPONSE (POWER)

NELSON, POPE & VOORHIS, LLC, MICROCOMPUTER MODEL

SPECIES LIST

INTRODUCTION

This appendix has been included to present the results of a computer model used to investigate the various wildlife species which can be expected to be found on the site considering the habitats established. This model was developed by and for the use of Nelson, Pope & Voorhis, LLC using available information and references for the various species. The model utilizes Excel spreadsheets to identify wildlife species commonly found in various Long Island habitats, based upon thorough research of available literature. The habitats investigated consisted of Pine Barren, Successional Woodland, Successional Shrubland, Successional Field, Wooded Swamp, and Terrestrial Cultural (agricultural). Some of the species listed in this model would not be expected on the property given the surrounding development, but are present in similar habitats.

The first column identifies the common name of the species, presented with the main common name in alphabetical order (for example: red-tailed hawk would come before blue jay). The scientific name of particular species is in the second column. The third column shows the legal status of the species, of which there are four possible entries (Endangered, Threatened, Special Concern and Local Concern). The fourth column indicates the seasons during which the species might be expected to be present and the fifth column, of particular importance to the environmental setting, contains information on frequency of the species in the habitat (abundant, common, rare and non expected); the species activity in the habitat (nesting, hunting and resting). References are provided with the reference list provided at the end of the appendix. The printout contained in this appendix, coupled with the discussions provided in the main body of the report, provides significant information of the wildlife found, or expected to be found on site.

Successional Woodland Species - Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	References
Birds				
American crow	Corvus brachyrhynchos	=	extremely adaptable; omnivorous	4 11
American kestrel	Falco sparverius	-	adaptable; prefers open areas and parks; will nest near humans	4 17
American redstart	Setophaga ruticilla	-	urbanization and agriculture have negative effects	4 19
American robin	Turdus migratorius	=	very adaptable; abundant in parks; nests in man-made structures	4 7
American woodcock	Philhela minor	-	prefers moist woodland and thicket near open fields	4 30
barn swallow	Hirundo rustica	+	nests almost entirely on buildings	4 15
black capped chickadee	Parus atricapillus	=	abundant around parks, urban and suburban areas	4 11
black-and-white warbler	Mniotilta varia	-	builds nests under shrubs and/or trees	4 18
blue jay	Cyanocitta cristatta	=	extremely adaptable to human activity and other stresses	4 10
blue-winged warbler	Vermivora pinus	-	primarily abandoned and overgrown field, and thickets	4 14
brown creeper	Certhia familiaris	-	prefers predominantly deciduous wooded areas	4 9
brown thrasher	Toxostoma rufum	=	common in parks,suburban areas, wooded edges, dry open areas	4 9
brown-headed cowbird	Molothrus ater	=	lays eggs in other bird's nests; some stay during winter	4 6
Carolina wren	Thryothorus ludovicianus	=	associated with woodland thickets and brushy areas, often near water	4 9
cedar waxwing	Bombycilla cedrorum	+	prefers open woodlands, orchards and residential areas	4 23 32
chestnut-sided warbler	Dendroica pensylvanica	-	prefers first growth woods, with some open brush area	4 19
common flicker	Colaptus auratus	=	abundant around parks, suburban and urban areas	4 14
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 6
Cooper's hawk	Accipiter cooperii	-	needs extensive woodland	4 17
downy woodpecker	Picoides pubescens	=	found in parks and suburban areas	4 14
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
Eastern wood-peewee	Contopus virens	=	prefers suburban areas, parks and villages with shade trees	4 15
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
fox sparrow	Passerella iliaca	-	boreal species, winters here in edge, thickets, brushy areas	20 21
golden-crowned kinglet	Regulus satrapa	-	prefers spruce vegetation; no atlas sightings on Long Island	4 7
gray catbird	Dumetella carolinensis	=	abundant around parks, urban and suburban areas	4 9
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 17
hairy woodpecker	Picoides villosus	=	found mainly in deciduous forests	4 14
hermit thrush	Catharus guttatus	=	not common on Long Island; when present, prefers pine barrens	4 7
house finch	Carpodacus mexicanus	+	nests almost entirely on buildings; considered a pest species	4 20
house sparrow	Passer domesticus	+	prefers buildings, urban, suburban, gardens; considered a pest	4 20
house wren	Troglodytes aedon	=	found in suburban areas and gardens; nests in crevices of buildings	4 9
long-eared owl	Asio otus	-	nocturnal; prefers dense forested areas near water	4 17
mourning dove	Zenaida macroura	=	abundant around parks, urban and suburban areas	4 8
Northern (dark-eyed) junco	Junco hyemalis	-	prefers forested area with elevation >300 meters; no LI atlas record	4 21
Northern mockingbird	Mimus polyglottos	+	prefers to nest near humans	4 9

Common Name	Scientific Name	Adapt.	Comments	References
red-bellied woodpecker	Melanerpes carolinus	=	prefers forest openings; mostly found on Long Island north shore	4 14
red-eyed vireo	Vireo olivaceus	=	found in parks and suburban areas with shade trees and undergrowth	4 23
red-tailed hawk	Buteo jamaicensis	-	needs 100 foot radius undisturbed area for nest	4 16
rock dove	Columba livia	+	nests almost entirely on buildings; considered a pest species	4 8
rose-breasted grosbeak	Pheucticus ludovicianus	=	mainly found on north shore	4 20
ruby-crowned kinglet	Regulus calendula	-	occurs as non-breeding species; present during migration	4 7
ruffed grouse	Bonasa umbellus	-	prefers dense cover, thick woods; avoids humans	4 8
rufous-sided towhee	Pipilo erythrophthalmus	-	may be present year round on Long Island	4 20
sharp-shinned hawk	Accipiter striatus	-	avoids humans; nests in heavily forested areas	4 16
song sparrow	Melospiza melodia	=	common to most habitats except deep forest, open field and marsh	4 22
whip-poor-will	Caprimulgus vociferous	-	nocturnal; prefers open woods with adjacent fields	4 12
white-throated sparrow	Zonotrichia albicollis	-	prefers brushy areas and thick undergrowth	4 22
wood thrush	Hylocichla mustelina	=	prefers vacant wood (trees >40 feet); may adapt of wooded suburban	4 7
yellow-bellied sapsucker	Sphyrapicus varius	=	nests in tree cavity; found in parks, yards and gardens	14
yellow-billed cuckoo	Coccyzus americanus	-	avoids heavy urban areas; prefers wooded open or edges for nests	4 12
Mammals				
big-brown bat	Eptesicus fuscus	+	roosts in structures; found throughout LI; hunts over water	1 29
hoary bat	Lasiurus borealis	=	roosts in trees, sometimes found in parks	45
Keen's bat	Myotis keenii	+	roosts in buildings, crevices and bark; more common on eastern LI	1 29
little-brown bat	Myotis lucifugus	+	roosts in buildings and man made structures; hunts over water	1 29
red bat	Lasiurus borealis	-	feeds in marsh area; nests within 1000 yards of marsh in trees	1 29
silver-haired bat	Lasionycteris noctivagans	-	prefers wooded areas near water, primarily during summer months	1 29
Eastern chipmunk	Tamis striatus	=	prefers open woods, thickets, and rocky areas	1 29
Eastern cottontail	Sylvilagus floridanus	=	will adapt to suburban areas, if there is sufficient cover	1 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 25 29
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
Eastern mole	Scalopus aquaticus	=	tunnels underground	1 29
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, woods, marsh and coastal areas	1 29
racoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
masked shrew	Sorex cinereus	=	tunnels underground; common in wood and wet habitats	1 29
short-tailed shrew	Blarina breuicauda	=	tunnels underground; abundant in a variety of habitats	1 29
striped skunk	Mephitis mephitis	=	prefers mixed wood & brush within 2 miles of water; not expected on LI	1 29
Eastern gray squirrel	Sciurus carolinensis	=	found in parks, urban and suburban areas; very adaptable	1 29
meadow vole	Microtus pennsylvanicus	=	tunnels underground; prefers open woodland	29 45
pine vole	Microtus pinetorum	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29

Common Name	Scientific Name	Adapt.	Comments	References
woodchuck	Marmota monax	-	appears primarily in scrub woods and brushy areas; not common on LI	1 29
Herptiles				
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern hognose snake	Heterodon platyrhinos	=	sandy soil and sunny roadside; feeds on herptiles and insects	38
eastern milk snake	Lampropettis d. triangulum	=	occupies a variety of habitats	38 39

Appendix A-10
NYS Natural Heritage Program Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

January 05, 2017

Rusty Schmidt
Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747

Re: Proposed development, 41 North Phillips Avenue, Speonk
Town/City: Southampton. County: Suffolk.

Dear Rusty Schmidt:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1629

The following rare plants and rare animals have historical records at your project site, or in its vicinity.

The following rare plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*
Birds			
Sedge Wren	*Cistothorus platensis*	Threatened	Vulnerable in NYS
Breeding			
1932-06-08: Speonk.			9094
Vascular Plants			
Collins' Sedge	*Carex collinsii*	Endangered	Critically Imperiled in NYS
1927-07-07: Speonk. Shade wet *Sphagnum* swamp.			516
White Milkweed	*Asclepias variegata*	Endangered	Critically Imperiled in NYS
1945-07-25: Speonk. Dry woods.			5543

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

APPENDIX B

COMMUNITY SERVICES-RELATED CORRESPONDENCE

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

Remsenburg-Speonk Union Free School District (UFSD)
11 Mill Pond Road
PO Box 900
Remsenburg, NY 11960-0900
attn.: Ronald M. Masera, Superintendent

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Superintendent Masera:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

The 38 apartments are distributed as 12 studio units, 14 one-bedroom units, and 12 two-bedroom units. We estimate that a total of 4 school-age children would reside at the facility, when fully-occupied.

I am writing to obtain information in regard to Remsenburg-Speonk UFSD facilities and conditions that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- Current enrollments of each school in the Remsenburg-Speonk UFSD, for Special Education and for General Education students;
- The current per-student estimate of district expenditures for both Special Education and General Education students; and
- Any information regarding enrollment, facility or fiscal conditions of concern to the Remsenburg-Speonk UFSD.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

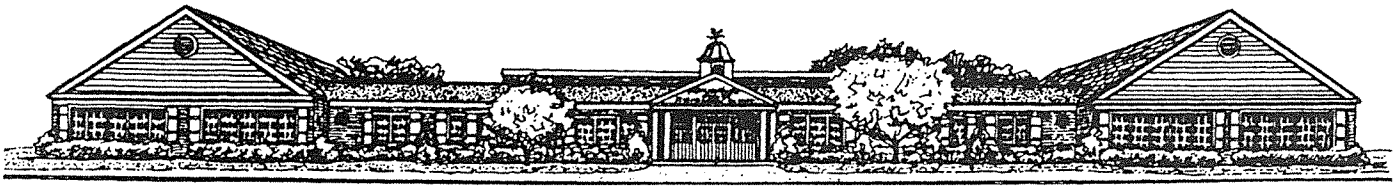
FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF



Remsenburg - Speonk U.F.S.D.

11 Mill Road • P.O. Box 900 • Remsenburg, New York 11960 • (631) 325-0203
Fax (631) 325-8439 • www.rsufsd.org

RECEIVED
DEC 19 2016
NELSON POPE

RMM:1173
December 15, 2016

Mr. Phil Malicki
Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747

Dear Mr. Malicki,

Thank you for your recent correspondence with regard to the Speonk Commons Change of Zoning Application. On behalf of the Remsenburg-Speonk Union Free School District (RSUFSD), I appreciate your desire to seek feedback from us concerning the potential impact this project may have on our school. Therefore, we are pleased to provide you with this data.

First, you inquire as to the enrollment of each school within the RSUFSD. Please be advised that the District is a stand-alone kindergarten through sixth grade school district with only one building, which presently is educating approximately 138 students for the 2016-17 school year. Of these, approximately 18 percent are serviced through our Special Education department. It is important to note that the District is also responsible for the education of all school-age children in grades 7-12 that reside within our district. These students have a choice of attending the Eastport-South Manor (ESM) or Westhampton Beach (WHB) school districts. At present, approximately 9% of our students attend ESM and 91% attend WHB. In each case, and for every student, the RSUFSD and its community are responsible for secondary tuition payment to these receiving Districts, as well as transportation costs. Therefore, additional enrollment projections include, 168 students who attend either WHB Middle School and High School or ESM Jr-Sr High School. Approximately 16 percent of these students receive Special Education services.

Second, you inquire into the cost of educating students in the RSUFSD. According to the NY State Education Department's 2014-15 School Report Card Fiscal Supplement, the cost of educating elementary students at Remsenburg-Speonk Elementary School is $19,538 per year for general education and $82,922 for our students who receive Special Education services. The per-student cost of grades 7-12 tuition varies by district, with WHB General Education tuition costing in excess of $21,000/student and ESM costing $9,767/student during the 2015-16 school year. In that same fiscal year our students receiving Special Education services were educated at a cost of $64,320.00 and $50,317.00 at WHB and ESM respectively.

Finally, you inquire as to any additional enrollment, fiscal or facility conditions of concern for the District, of which there are several. In your correspondence you indicate this project will include 38 apartments distributed as 12 studio units, 14 one-bedroom units, and 12 two-bedroom units. You also indicate that, when fully occupied, it is estimated that four school-age children will reside at the facility. It should be noted that in December of 2015 the District was promised that it would receive a demographic study indicating the anticipated impact on school enrollment due to this project. At the time we were told it would be available in January of 2016. As of this writing, no such report has been supplied to the school.

However, a school impact study completed by SES Study Team, LLC in 2014 examined the impact of a similar workforce-housing proposal in the Wainscott Common School District. This report was based on a 49 unit apartment complex. The researchers found in this example that the impact to the Wainscott School would be

approximately 46 students, K-12. Although eleven less units are being proposed at Speonk Commons, the SES study estimated an impact that is in stark contrast to your conservative estimate of 4 students for this proposed 38 unit complex. Based upon the Wainscott study it seems more likely that the Speonk Commons project would result in an increase in excess of 30 school–age children to RSUFSD.

Due to the unique nature of the Remsenburg-Speonk UFSD's tuition structure and lack of other revenue sources, the District is particularly vulnerable to budgetary fluctuations resulting from the number of students it must tuition to receiving districts. The RSUFSD's budget is heavily funded, (over 90%), by local tax levy. This leaves the District budget particularly susceptible to these fluctuations, which can make it a challenge to fund when our levy is capped at or below 2%. As you may be aware, for the fourth consecutive year due to CPI projections we anticipate our allowable tax levy cap will be set below 2%. For the RSUFSD, that means that the addition of just three or four tuition students may be equivalent to our entire allowable levy increase. Under these circumstances the District will be forced to begin to cut program. The community has once already been in a position wherein it narrowly supported a budget vote to pierce the tax levy cap. However, it is unlikely that any community would support this on a regular basis.

At present the District is in serious need for a full roof replacement. The replacement project currently is being planned and will take several years to complete. This is being funded through our capital and repair reserves over time, as a bond proposal is an unlikely option. In the past eight years the District has seen two such attempts go down in failure. It is clear that any additional stressors to our budget in the form of unexpected increases in tuition may stand to jeopardize the district's ability to fund this necessary capital project.

In summary, the RSUFSD is a Blue Ribbon School that is accustomed to delivering a high-quality education to its students while honoring fiscally responsible budgeting practices. Our community benefits from the fine reputation of our school district. It is clear that given a large influx of students to the school without some remuneration to keep the District whole, the quality of education we provide for our students will suffer. Given the existing tax-cap law it is becoming increasing difficult to fund schools, especially those with increasing enrollment among their students for whom they must pay tuition. These costs are beyond our control, and the addition of students without an increase in revenue will place a tremendous financial burden on the District.

Once again I thank you for allowing us to weigh in on this important project which stands to significantly impact our District. If you require additional information or clarification, we stand ready to assist you.

Yours truly,

Ronald M. Masera, Ed.D
Superintendent of Schools

cc Mr. Jay Schneiderman, Southampton Town Supervisor
Ms. Christine Scalera, Councilperson
Mr. Stan Glinka, Councilperson
Ms. Julie Lofstad, Councilperson
Mr. John Bouvier, Councilperson
Mr. Curtis Highsmith, Jr. Executive Director, Housing Authority

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www.nelsonpopevoorhis.com

November 28, 2016

Mr. David Gallo
Georgica Green Ventures, LLC
50 Jericho Quadrangle, Suite 200
Jericho, NY 11753

Re: Speonk Commons
School Age Children Generation/Comparison

Dear Mr. Gallo:

At your request, we have projected the number of school age children that would be introduced from the proposed Speonk Commons development and compared same to the number of school age children that could be generated from an "existing nonconforming" project, as well as an "as-of-right" project.

As overview, the hamlet of Speonk is serviced by one (1) school district: the Remsenburg-Speonk UFSD. According to the U.S. Census Bureau, as of 2011[1], 100.0% of all school-aged children residing within the boundaries of the Remsenburg-Speonk UFSD attended public schools. The district is currently comprised of one (1) elementary school. The Remsenburg-Speonk Elementary School serves children enrolled in Kindergarten through sixth grade. It also offers a pre-kindergarten program, although the pre-schoolers attending the program are not counted toward the school district's total enrollment figures. It is noted that students in the Remsenburg-Speonk UFSD may attend middle and high schools located in two adjoining school districts: the Eastport-South Manor CSD, or the Westhampton Beach UFSD. In addition to servicing students from the Remsenburg-Speonk UFSD, these school districts also receive students from other sending districts including the East Moriches and East Quogue school districts.

The cumulative enrollment within the Remsenburg-Speonk elementary school has fluctuated over the past ten (10) years since the 2006-07 academic year, decreasing to a low of 153 students in the 2013-14 year. Enrollment has generally decreased in size, declining from 193 students in the 2006-07 year to 159 students in the 2015-16 year, for a decrease of 34 students over this time period. **Table 1** shows these trends.

[1] 2011 U.S. Census Bureau American Community Survey.

TABLE 1
ENROLLMENT TRENDS: 2006-07 – 2014-15
Remsenburg-Speonk Elementary School

Academic Year	Student Enrollment
2006-07	193
2007-08	194
2008-09	186
2009-10	191
2010-11	177
2011-12	188
2012-13	172
2013-14	153
2014-15	158
2015-16	**159**
Change: 2005-06 - 2014-15	**(34)**

Source: New York State Education Department
Note: NYSED publishes annual enrollment data for the district for the elementary school only.

To estimate school age children, the Rutgers University Center for Urban Policy Research publication entitled "Residential Demographic Multipliers — Estimates of the Occupants of New Housing" (2006) is recognized as the industry standard. The Rutgers study recognizes housing type, housing size, housing price, and housing tenure as four variables that are associated with "statistically significant differences" in school-age children ("SAC"). Based on these values, the Rutgers study provides a SAC multiplier that would estimate the number of SAC that would be generated from new construction of single-family detached homes, single-family attached homes, owned apartment units, rented apartment units, and mobile homes. The Rutgers study, which provides data for all 50 states and the District of Columbia from the 2000 census, estimates values using a residential price inflation index available from the Federal Housing Finance Board. It is recognized in this study, among others, that multi-family housing (housing that has 4 or more units) generates fewer SAC than single-family detached homes with the same number of bedrooms and that the number of students increases with an increase in bedrooms for the same housing type.

We have utilized the SAC multipliers from the Rutgers study to estimate SAC from three development scenarios: the existing non-conforming use, as-of-right use, and the proposed project, "Speonk Commons." We have specifically utilized SAC multipliers applicable to New York State.

Existing Non-Conforming Use

The site presently includes 15 dwelling units, of which five (5) consist of single-family detached dwellings, and one building contains ten (10) multifamily dwelling units. The single family dwellings consist of three 2-bedroom units, and two 3-bedroom units. Of the multifamily units, eight are 1-bedroom units, and two are 2-bedroom units. The total number of bedrooms at present is 24 for the existing non-conforming condition.

We have reviewed the provisions of the Town of Southampton Code, Chapter 330, Zoning, and specifically Section 330-115, which regulates the continuance of uses which may not comply with the bulk and/or use regulations of the applicable zoning district. As discussed above, the existing non-conforming use contains 15 dwelling units with 24 total bedrooms. Rehabilitation of the existing structures will be required, which is allowed under present town code. It is our understanding that the multifamily units may be reconstructed with the same number of bedrooms, and that the single family dwellings may be reconstructed with a different interior layout than exists at present, including additional bedrooms. Based on the assumption that the single-family detached dwellings are reconstructed with four bedrooms, the as-of-right scenario could theoretically generate nine (9) students (rounded to the nearest whole number) based on the parameters set forth in **Table 2** below.

TABLE 2
STUDENT GENERATION – EXISTING THEORETICAL NONCONFORMING SCENARIO

Type of Dwelling	Number of Bedrooms	Number of Units	Gross Monthly Rent (MF) or Market Value (SF)	School Age Children Multiplier	School Age Children
Single Family (SF)	4	5	> $329,500	1.05	5.25
Multifamily (MF)	1	8	$500-1,000	0.30	2.40
Multifamily (MF)	2	2	$750-$1,100	0.51	1.02
Total	32	15			8.67

Source: Rutgers University, Center for Urban Policy Research; Analysis by Nelson, Pope & Voorhis, LLC.

As-of-Right Use

We have reviewed the provisions of the Town of Southampton Code, Chapter 330, Zoning, and specifically Section 330-115, which regulates the continuance of uses which may not comply with the bulk and/or use regulations of the applicable zoning district. The zone petition for the subject property indicates that the project site could accommodate five (5) single family detached dwellings, and 10 apartments. Ten (10) apartments could be constructed in association with the nonresidential uses which would be constructed in the portion of the property zoned "VB". For purposes of the analysis, we examined the option of constructing ten accessory apartments in the VB zone – although we note that a single family homeowner could petition to construct an accessory apartment in the future. Based on the assumption that the single-family detached dwellings are reconstructed with four bedrooms, the as-of-right scenario could theoretically generate twelve (12) students (rounded to the nearest whole number) based on the parameters set forth in **Table 3** below.

As per Section 330-158 of the Town of Southampton Code, apartments may be located in a VB Village Business District. Apartments must be located on the second floor, and shall have no more than two (2) bedrooms. Only one apartment is permitted for each office or retail shop, but no more

than two per building, except additional units may be constructed at the discretion of the Planning Board, to provide some number of units of affordable housing for moderate income families. The total number of apartment units allowed shall be based on one apartment unit per 1,250 square feet of business, office or retail shop.

TABLE 3
STUDENT GENERATION – AS-OF-RIGHT USE

Type of Dwelling	Number of Bedrooms	Number of Units	Gross Monthly Rent (MF) or Market Value (SF)	School Age Children Multiplier	School Age Children
Single Family (SF)	5	5	$329,500-$748,500	1.51	7.55
Multifamily (MF)	1	5*	$500-$1,000	0.30	1.50
Multifamily (MF)	2	5*	$750-$1,100	0.51	2.55
Total	----	15	----	----	11.6

* Nonresidential zone only.
Source: Rutgers University, Center for Urban Policy Research; Analysis by Nelson, Pope & Voorhis, LLC.

Speonk Commons
The proposed project would introduce 38 dwelling units consisting of 12 studios, 14 one-bedroom dwellings, and 12 two-bedroom dwellings. Further, we also considered an interpretation of Section 330-108 of the Town Zoning Code, which would result in only one person (presumably an adult) residing in the studio units. Based on that premise, and the price points provided in the table, we estimate that the proposed project would generate approximately four (4) students (rounded to the nearest whole number), based on the parameters set forth in **Table 4** below.

TABLE 4
STUDENT GENERATION – PROPOSED PROJECT

Type of Dwelling	Number of Bedrooms	Number of Units	Gross Monthly Rent (MF) or Market Value (SF)	School Age Children Multiplier	School Age Children
Multifamily (MF)	0	12	>$1,000	0	0
Multifamily (MF)	1	14	>$1,000	0.08	1.12
Multifamily (MF)	2	12	>$1,100	0.23	2.76
Total	----	38	----	----	3.88

Source: Rutgers University, Center for Urban Policy Research; Analysis by Nelson, Pope & Voorhis, LLC.

Thus, under the above scenarios, the proposed development would generate a number of students that is less than the existing nonconforming scenario because of the mix of housing types and

bedrooms in each. As shown, when the number of bedrooms are increased in the single-family dwellings in the existing nonconforming scenario as allowed under Town Code, the number of students further exceeds that of the proposed project.

The fiscal effects of the proposed project and other scenarios, including the existing non-conforming scenario, will be detailed at such time that an application is submitted and the SEQRA process commences. Should you require any additional information, please do not hesitate to contact us.

Sincerely,

NELSON, POPE & VOORHIS. LLC

Bonnie Franson

Bonnie Franson, AICP CEP
Associate Environmental Planner

cc: Charles J. Voorhis, CEP, AICP

NELSON, POPE & VOORHIS, LLC
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572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

Town of Southampton Police Department (SPD)
110 Old Riverhead Road
Hampton Bays, New York 11946
attn: Robert Pearce, Chief of Police

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Chief Pearce:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

I am writing to obtain information on SPD facilities, services, and capabilities that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- Precinct in which the project site is located;
- Location of the stationhouse; and
- Patrol sector assigned to the site.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

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572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

Eastport Fire Department
PO Box 158
Eastport, New York 11941
attn: Mark Yakaboski, Chief of Department

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Chief Yakaboski:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

I am writing to obtain information on the facilities, services, and capabilities of the Eastport Fire Department that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- The location of the substation(s) which would serve the site;
- A listing of the major pieces of firefighting equipment at each facility;
- The number of firefighters assigned to each facility;
- Indicate any specialized firefighting capabilities of the Department;
- Indicate whether the firefighters are volunteers or full-time;
- If the Department also provides ambulance services,
  - the location of the ambulance substation(s) which would serve the site;
  - the number of emergency medical technicians (EMTs) assigned to each facility;
  - indicate any specialized emergency medical capabilities; and
  - indicate whether the EMTs are volunteers or full-time.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

BOARD OF COMMISSIONERS
EASTPORT FIRE DISTRICT
21 UNION AVE. P.O. BOX 353
EASTPORT, NY 11941-0353

RECEIVED
DEC 09 2016

BOARD OF COMMISSIONERS
RANDY CRENNAN, CHAIRMAN
PAUL MASSEY
THOMAS COLLINS
WALTER POMASANOFF
KEITH KOSTUK

RICHARD ALLEN, SECRETARY
FRANCIS MAZURA, TREASURER
WILLIAM GLASS, ATTORNEY
PHONE; 631-325-0610
PHONE: 631-325-0464
FAX: 631-325-8007

December 6, 2016

Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747-2188
Attention: Phil Malicki, Senior Environmental Planner

Reference: Speonk Commons

Dear Mr. Malicki:

In reference to the above project, please find the following answers, per your request.

1. Headquarters of the Eastport Fire Department is located at 21 Union Ave., Eastport, NY 11941, which would serve the location. Approximately 1 mile from the site.

2. Fire fighting apparatus: 2-1500 gallon per minute pumpers, 1-3000 gallon Tank truck, with 1500 g.p.m. fire pump, 1-Heavy Rescue Truck, 1-Brush fire fighting vehicle, 5-support vehicles.

3. There are 104 members of the fire department. Being "volunteer" you never know how many would be available to respond. We do have an "automatic mutual aid" plan for structure fires with our neighboring fire departments, between the hours of 8 AM and 6PM, Monday to Friday.

4. Specialize firefighting: 45 members are "Class A" fire firefighters, meaning that they have the required training to enter burning buildings. All members are CPR trained, we have 10 Emergency Medical Technicians, and 1 Critical Care Technician, although we do not provide medical transportation.

5. As stated in #3, firefighters are Volunteer.

6. Department ***does not*** provide ambulance services. For this location, ambulance Service is provided by the **Westhampton War Memorial Ambulance.** Any information for ambulance service would have to be provided by them.

Please feel free to contact the fire district for any additional information.

Yours truly,

Richard W. Allen, Secretary
Eastport Fire District

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

December 12, 2016

Westhampton War Memorial Ambulance Association Inc.
3 Hazelwood Drive
Westhampton Beach, New York 11978
Attn.: Eric Kehl, Chief

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Chief Kehl:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (4,380 square feet) and second floor residences, and the other will have a ground floor community space (3,178 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

I am writing to obtain information on the facilities, services, and capabilities of the Westhampton War Memorial Ambulance Corps, Inc. that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- The location of the ambulance station(s) which would serve the site;
- A listing of the major pieces of emergency equipment at each facility;
- The number of personnel assigned to each facility;
- Indicate whether the personnel are volunteers or full-time;
- Indicate the number of emergency medical technicians (EMTs) assigned to each facility; and
- Indicate any specialized emergency response capabilities of the Corps.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

WESTHAMPTON WAR MEMORIAL AMBULANCE ASSOCIATION, INC.
3 HAZELWOOD AVENUE, WESTHAMPTON BEACH, NY 11978 • (631) 288-1760 • FAX (631) 288-1898
Email: wwmaa@aol.com

RECEIVED
PM DEC 22 2016 AM
NELSON & POPE

Velson Pope and Voorhis, LLC
572 Walt Whitman Road
Melville NY 11747
Attn: Phil Malicki

Dear Mr. Malicki,

I am writing in reference to your questions you submitted to me about the Speonk Commons. Westhampton War Memorial Ambulance Association is an Advanced Life Support (ALS) volunteer ambulance company, located at 3 Hazelwood Avenue Westhampton Beach. The organization responds to approximately 1,200 alarms per year. The association has over 50 members, 42 of which are NYS Licensed EMT's, CC's or Paramedics. In addition to our volunteer's we have a paid paramedic on duty 24 hours a day 7 days a week. We have 3 ambulances and two first responder cars located at our headquarters, with one of those first responder cars dedicated as an ALS car for the duty paramedic.

I hope this letter answers any questions that you may have had. Should you have any further questions please do not hesitate to contact us either in writing or by calling the office at 631-288-1760.

Sincerely,

Eric Kehl
Chief, Westhampton Ambulance

NELSON, POPE & VOORHIS, LLC
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572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

Suffolk County Water Authority (SCWA)
FOIL Request
PO Box 38
Oakdale, NY 11769
attn.: Kim Kennedy

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Ms. Kennedy:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing. Assuming the wastewater flow design rates of the Suffolk County Department of Health Services, it is anticipated that the project will consume about 9,000 gallons of water daily.

I am writing to obtain information on water supply facilities that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- The locations of the wells nearest the subject site;
- The aquifer from which the above wells pump;
- The locations and sizes of the SCWA distribution system pipes that may be used to supply the site;
- A copy of the district's 2015 Expanded Data Package; and
- A Letter of Water Availability for the project.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

SUFFOLK COUNTY WATER AUTHORITY

Timothy J. Hopkins
General Counsel

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0236
Fax (631) 563-0370

RECEIVED
pm DEC 19 2016
NELSON POPE

December 15, 2016

Phil Malicki, AICP
Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747

RE: Request - Speonk Commons Project, SCWA Facilities Located Within 1 Mile of Project.

Dear Mr. Malicki:

Pursuant to your request, please be advised that the Suffolk County Water Authority does not have a public supply well field located within a 1 mile radius of the subject site.

SCWA's Old Country Road facility is nearest to your project site at 6,700 ft (see map). These wells utilize the upper glacial aquifer.

Enclosed is the Suffolk County Water Authority Water Distribution Map that indicates the SCWA infrastructure installed in the depicted area as of the date listed thereon. The map does not indicate the presence of easements, occupied or unoccupied, or facilities owned by SCWA customers.

It is the responsibility of an operator to arrange to have services "marked-out" before commencing excavation.

Public and private hydrant data should be field or survey verified. Any questions regarding the data should be directed to James Touchet, GIS Manager, at 631-218-1190.

Letters of Water Availability are obtained through our New Service Department. They may be reached by calling 631-218-1148.

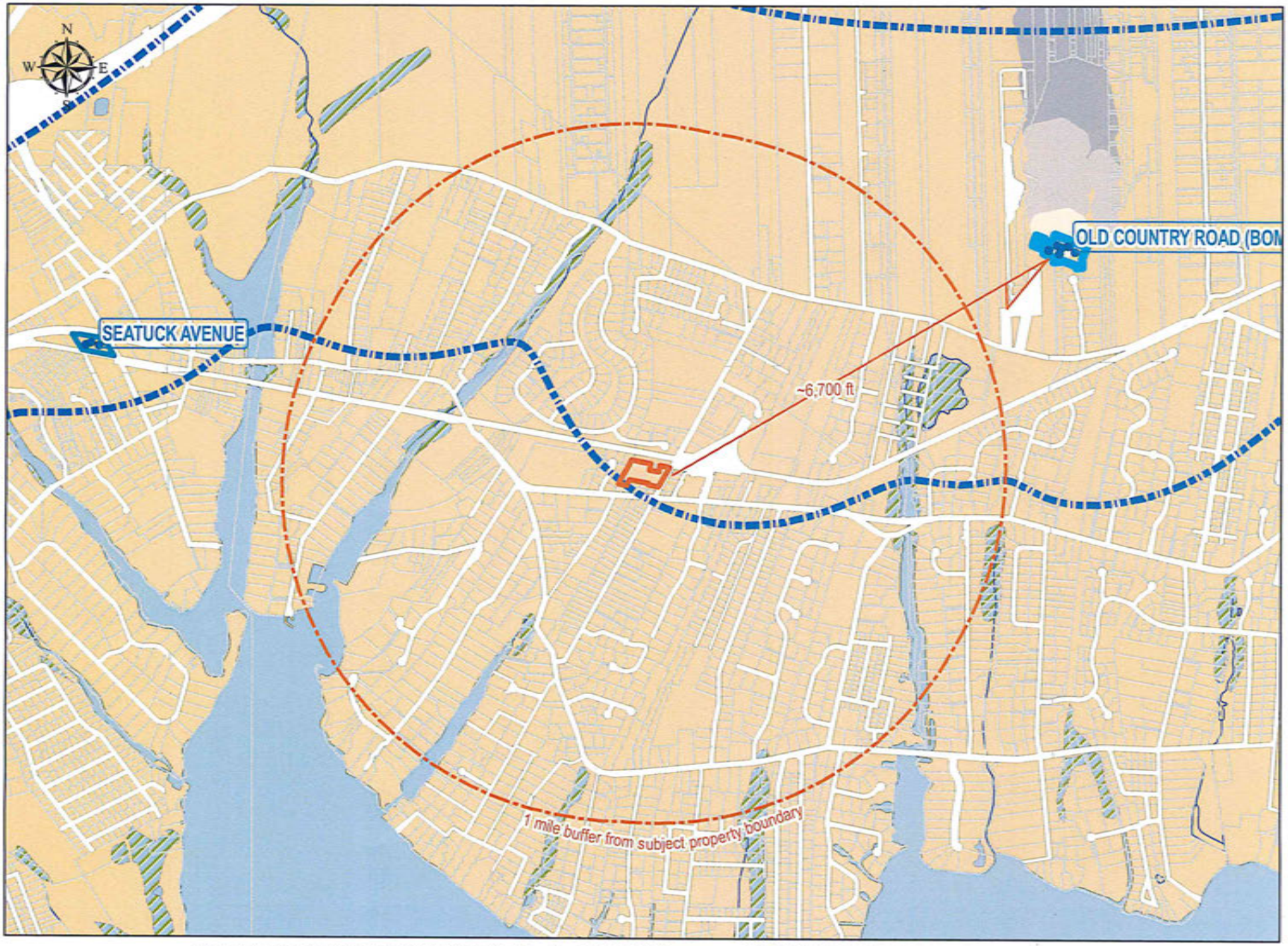
Please include the Authority as a interested party in the SEQRA coordination process. Environmental Assessment Forms and Environmental Impact Statements along with site plans may be sent to the undersigned.

If you have any questions on this matter, I may be reached at 631-563-0375.

Very truly yours,

Kimberly Kennedy
Assistant to General Counsel

enc.

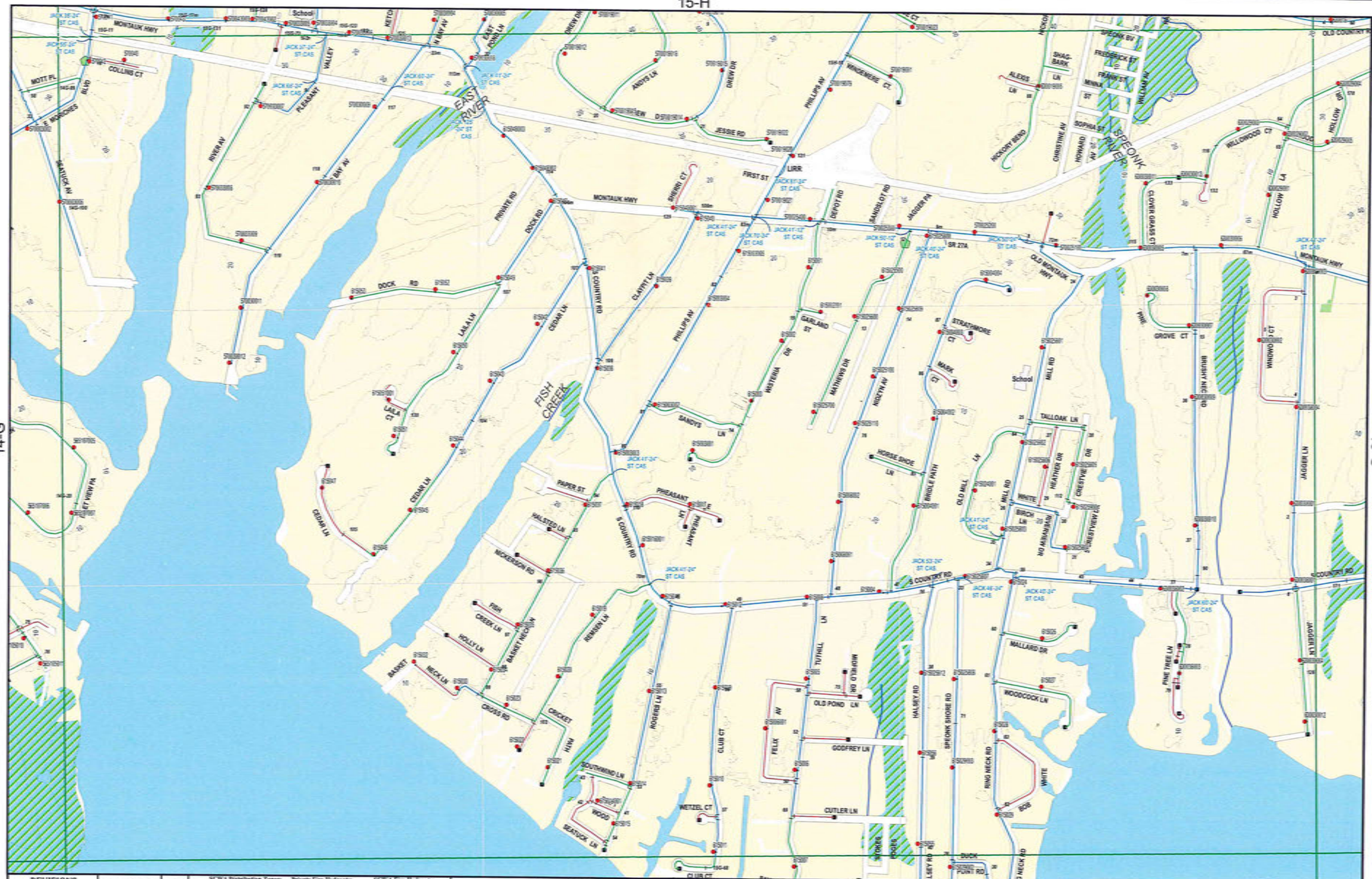


Map produced by SCWA GIS/JT 2016_1214, Project Tracking # 2016-81. "K:\arc_map_mxds\FOIL\2016-81\2016_81_N_Phillips_Ave_Speonk_1.mxd"

0 0.25 0.5 1 1.5 Miles

15-H

14-G



16-G

15-F

REVISIONS			
DATE	BY		
February 28, 2009	GIS	August 25, 2011	GIS
July 28, 2010	GIS	January 10, 2013	GIS
June 13, 2011 (Interrupt)	GIS	February 4, 2014	GIS
		February 4, 2015	GIS
		February 3, 2016	GIS

SCWA Distribution Zones:
- Not Served
- Low Zone
- Intermediate Zone
- High Zone
- Very High Zone

Private Fire Hydrants:
- SCWA-maintained private hydrant (all zones)
- requires FLOW test
- private hyd SCWA main

SCWA Fire Hydrants:
- LOW ZONE
- INTERMEDIATE ZONE
- HIGH ZONE
- VERY HIGH ZONE
- SCWA Sampling Stations

SUFFOLK COUNTY WATER AUTHORITY
CONSTRUCTION MAINTENANCE DEPARTMENT
4060 SUNRISE HIGHWAY
OAKDALE, NY 11769

LEGEND
4" or Smaller
6"
8"
10"
12"
16"
>16"
VC valve closed
Valve sketch page #; New-off with "m", see "Misc Map"
1,000 ft

APPROVED:
Chief Executive Officer
Deputy CEO Operations

SUFFOLK COUNTY WATER AUTHORITY
WATER DISTRICT
EASTPORT / REMSENBURG / SPEONK / WESTHAMPTON
TOWN OF BROOKHAVEN & SOUTHAMPTON

LOW ZONE

August 26, 2016a | 15-G

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

Town of Southampton
Department of Municipal Works
116 Hampton Road
Southampton, NY 11968
attn.: Christine Fetten, Director

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Director Fetten:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

Based on the uses and yields proposed, we estimate that the project will generate about 650 pounds of solid waste daily.

I am writing to obtain information in regard to Town solid waste removal and disposal facilities and characteristics that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- Confirm whether the Town would or would not provide solid waste removal service to this private project;
- The names and locations of disposal/handling facilities where the solid wastes could be taken;
- If available, the current rates of disposal/handling at each facility; and
- Information on any recycling facilities or programs offered by the Town.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

Phil Malicki

From: Christine Fetten <cfetten@southamptontownny.gov>
Sent: Monday, December 05, 2016 7:33 PM
To: Phil Malicki
Cc: John LaRosa; Karen Suskevich
Subject: Speonk Commons

Good morning Mr. Malicki,

I am in receipt of your letter dated November 28 regarding the change of zone application and expanded EAF for the above referenced site located at 41 North Phillips Avenue.
In regard to your inquiry of Solid Waste Removeal and Disposal Facilties please find the following answers to your questions.

1. Confirm whether the Town would or would not provide solid waste removal service to this private project. The Town does not provide waste removal services for either residential or private projects.
2. The closest two Town Transfer Stations that are open and available to residential self haulers only are located as follows:
    a. 66 Old Country Road in Westhampton
    b. TOS municipal complex located at Jackson Avenue in Hampton Bays.
3. The Town operates a Pay as You Throw (PAYT) program in which residents buy green Town bags at local hardware stores and supermarkets. They place their non recyclable residential garbage in the bag and separately recycle paper, cardboard, and comingled containers (plastic bottles, glass bottles and metal cans) and there is no charge for the recycling.
4. Current rates are found on the Town website. http://www.southamptontownny.gov/216/Waste-Management
5. For additional information on recycling facilities and materials disposal/recycling please review the webpage information.

If you have any additional questions, please feel free to let me know.
Thank you,
Christine

Christine Fetten, P.E.
Director of Municipal Works
Town of Southampton
116 Hampton Road
Southampton, New York 11968
Telephone: 631-702-1750
cfetten@southamptontownny.gov

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ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

PSE&G Long Island
Customer Order Fulfillment Department
175 East Old Country Road
Hicksville, NY 11801
attn.: Carolyn Macklin, Manager

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Ms. Macklin:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

The project is expected to use electricity; however, an estimate as to the amount of such usage is not presently available.

I am writing to obtain information on PSE&G electricity facilities, services, and capabilities that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- The location and capacity of the electric lines serving the site or area; and
- Confirmation that PSE&G can and would serve the project with electricity.

If you have any additional information or comments which would be pertinent, please include them. Finally, if you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

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ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620

November 28, 2016

National Grid
25 Hub Drive
Melville, NY 11747
attn: Valarie Hunter Account Representative

Re: Speonk Commons
Change of Zone Application
Expanded EAF
NPV #14258

Dear Ms. Hunter:

Nelson, Pope & Voorhis, LLC is preparing an Expanded Environmental Assessment Form (EEAF) for the above-referenced proposal for the 4.28-acre project site (see attached **Figure 1-1**). The project involves demolishing the six vacant residential structures at 41 North Phillips Avenue, and replacing them with six, two-story buildings, of which four will be entirely residential, one will have ground floor commercial spaces (2,807 square feet) and second floor residences, and the other will have a ground floor community space (3,303 square feet) with second floor residences. There will be a total of 38 residences, all of which will be rental units set aside for "workforce" housing.

The project may use natural gas as a heating source; however, it is premature to make such a decision at the present time, so that an estimate as to the amount of such usage is not presently available.

I am writing to obtain information on natural gas facilities, services, and capabilities that may be pertinent to the project, to be included in the EEAF. Specifically, I am requesting the following:

- A map or text description of the location(s) and sizes of the nearest natural gas lines in the vicinity; and
- A letter confirming that natural gas service can and would be provided to the project.

If you have any additional information or comments that would be pertinent, please include them. Finally, if you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Phil Malicki

Phil Malicki, CEP, AICP, LEED® AP
Senior Environmental Planner

NELSON, POPE & VOORHIS LLC
ENVIRONMENTAL • PLANNING • CONSULTING

FIGURE 1-1
LOCATION MAP

Source: NYS Orthophotography, 2013
Scale: 1 inch = 500 feet

N

Speonk Commons
Change of Zone

Expanded EAF

APPENDIX C

TRAFFIC-RELATED DOCUMENTS

Appendix C-1
Traffic Impact Study

N&P, LLP

February 2016

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

TRAFFIC IMPACT STUDY

SPEONK COMMONS

Hamlet of Remsenburg-Speonk
Town of Southampton, New York

February 2016

N & P JOB NO. 14258

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2188 . (631)427-5665 . FAX(631)427-5620 . www.nelsonpope.com

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Appendix A: Existing Traffic Volume

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PURPOSE OF REPORT

Nelson & Pope has investigated the potential traffic impacts associated with the proposed residential/retail development to be located on the west side of North Phillips Avenue approximately 160 feet north of Montauk Highway in Remsenberg-Speonk in the Town of Southampton, New York. The proposed development will be comprised of 50 residential condominium/townhouse units and 2,304 SF of retail. Access to the proposed development will be provided via one full movement driveway on North Phillips Avenue.

This report summarizes the results of a detailed investigation of the traffic impacts of the proposed development by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that the development will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network.

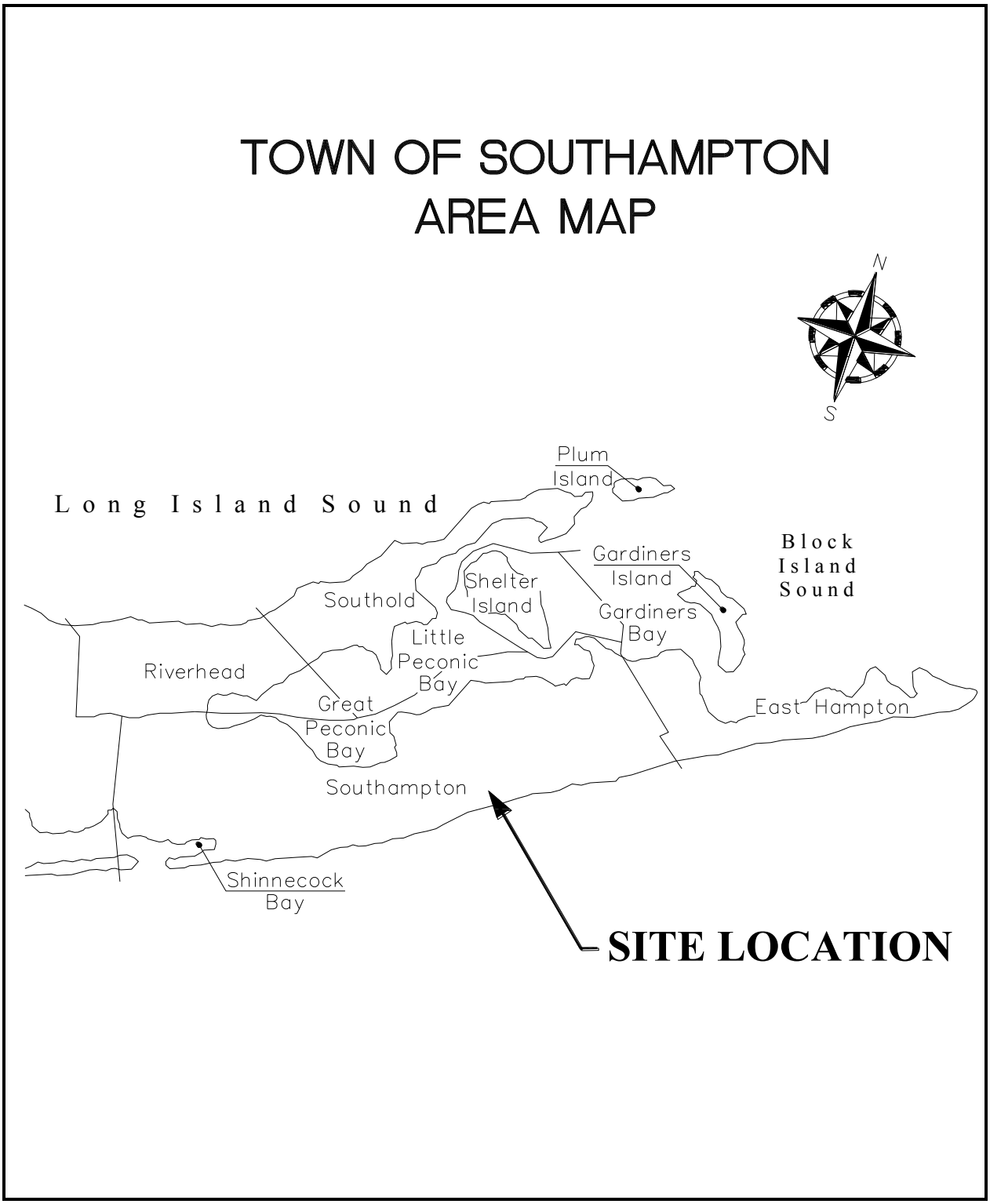
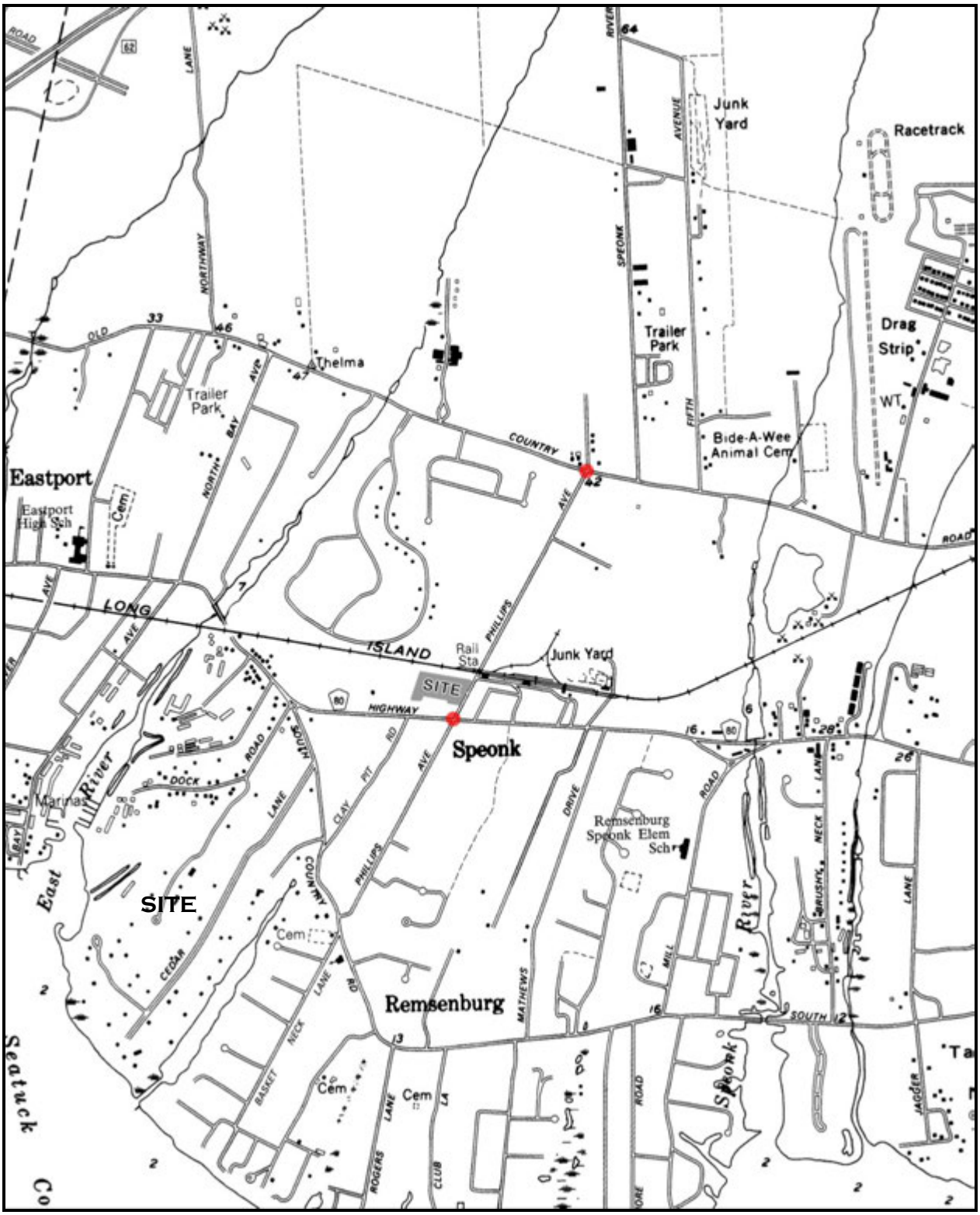


Figure 1: Area Map



SOURCE: USGS EASTPORT 1991

● STUDY INTERSECTIONS

Figure 2: Location Map

STUDY METHODOLOGY

The study assesses the traffic impact associated with the proposed residential/retail development and identifies mitigation measures if necessary. In executing the scope of work, the following steps were undertaken:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing driveways and intersections along with signing, signal timings, phasing and cycle lengths.
- Turning movement volume counts were conducted during the weekday AM, (7-9 AM), PM (4-6PM) and Saturday Midday (11AM-2PM) peak periods at the intersection of North/South Phillips Avenue and Montauk Highway (CR 80) and North Phillips Avenue/Homestead Avenue at Old Country Road.
- Hourly traffic volumes collected on Montauk Highway (CR 80), North Phillips Avenue and Old Country Road were obtained from the New York State Department of Transportation (NYSDOT).
- Accident data for the study intersections and roadways in the vicinity of the site were obtained from NYSDOT.
- An annual growth factor, obtained from the NYSDOT, was applied to the existing volumes to estimate the increase in background traffic that would occur in 2017 (Ambient Traffic Volumes).
- The Town of Southampton Planning Department was contacted to obtain information on other planned developments that might impact traffic flow in the study area.
- Traffic volumes from the other planned projects in the study area were added to the Ambient Traffic Volumes to generate the 2017 No Build Volumes.
- Estimates of traffic that would be generated by the proposed development were prepared utilizing trip generation data published by the Institute of Transportation Engineers (ITE) publication, *Trip Generation, Ninth Edition*. The site-generated traffic volumes were

assigned to the adjacent street system based upon the anticipated directional trip distribution forecasted by Nelson & Pope.

- The 2017 Build Condition volumes for the proposed development were developed by adding the site generated traffic volumes to the 2017 No Build Condition volumes.

- Capacity analyses were performed at the study intersections identified above for the Existing Condition, No Build Condition and Build Condition for weekday AM, PM and Saturday midday peak hours. Capacity analyses were also conducted at the site driveway for the Build Condition during the weekday AM, PM and Saturday midday peak hours.

- The results of the analyses for the 2017 No Build Condition and 2017 Build Condition were compared to identify any significant impact associated with the proposed residential/retail development.

EXISTING CONDITION

Land Use

As previously discussed, the site consists of a 4.3 acre parcel of land on the west side of North Phillips Avenue approximately 160 feet north of Montauk Highway in Remsenburg-Speonk located in the Town of Southampton, New York. The surrounding properties in the vicinity of the site consist of a mix of agricultural, residential and commercial uses.

Roadway Conditions

Montauk Highway (CR 80) is defined as a minor arterial roadway under the jurisdiction of the Suffolk County Department of Public Works with a general east/west orientation. In the vicinity of the site, Montauk Highway provides one lane per travel direction with shoulders and curbs. This section of roadway is relatively flat and straight with a posted speed limit of 40 mph and carries an average annual daily traffic (AADT) volume of approximately 11,200 vehicles per day (source: NYSDOT Traffic Volume Report 2011). The land uses along Montauk Highway in the vicinity of the site are a mix of residential, commercial and vacant lands.

Old Country Road is defined as a minor arterial roadway under the jurisdiction of the Town of Southampton with a general east/west orientation. This roadway extends east from Montauk Highway in the vicinity of Moriches-Riverhead Road (Eastport) to Montauk Highway in the vicinity of Mill Road (Westhampton) and provides one travel lane per direction. The posted speed limit is 40 mph and carries an average annual daily traffic (AADT) volume of approximately 5,940 vehicles per day (source: NYSDOT Traffic Volume Report 2013). The land uses along Old Country Road are a mix of agricultural, residential and commercial.

North Phillips Avenue is a collector roadway under the jurisdiction of the Town of Southampton with a general north/south orientation. North Phillips Avenue provides one travel lane in each direction and extends north from Montauk Highway (a continuation of South Phillips Avenue, which extends north from South Country Road) with its northern terminus at Old Country Road. The posted speed limit is 30 mph and carries an average annual daily traffic (AADT) volume of

approximately 2,450 vehicles per day (source: NYSDOT Traffic Volume Report 2013). The land uses along North Phillips Avenue are predominantly.

Table 1 summarizes the lane configurations and traffic controls at the study intersections.

Table 1: Intersection Geometry

Intersection	Approach	Lane Designation*	Traffic Control
Montauk Highway (CR 80) at N/S Phillips Avenue	EB WB NB SB	L-TR L-TR LTR LTR	Two-Phase Traffic Signal
Old Country Road at N Phillips Avenue/Homestead Avenue	EB WB NB SB	LTR LTR LTR LTR	Stop Sign – NB/SB

** L = Left turn lane; T = through lane; R = Right turn lane*

Traffic Volume Data

Turning movement counts were collected at the intersection of Montauk Highway at N/S Phillips Avenue and Old Country Road at North Phillips Avenue/Homestead Avenue on Thursday, November 12, 2015 from 7-9AM and from 4 -6 PM and on Saturday November 14, 2015 from 11AM to 2PM. The volume data was tabulated to identify the peak hours at the intersection. The existing intersection peak hour volumes are shown on Figures 3, 4 and 5 and detailed data is contained in Appendix A.

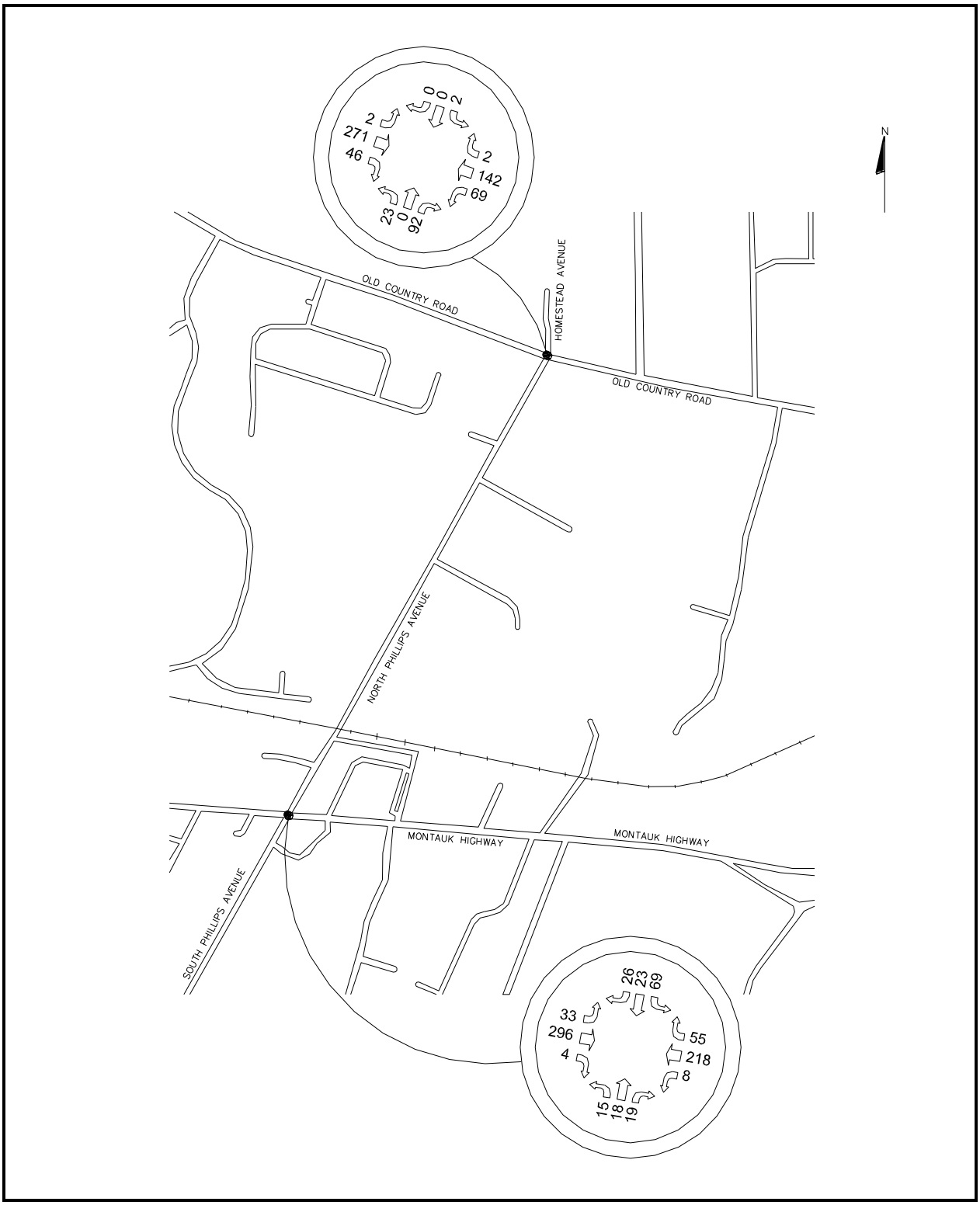


Figure 3: 2015 AM Peak Hour Traffic Volumes

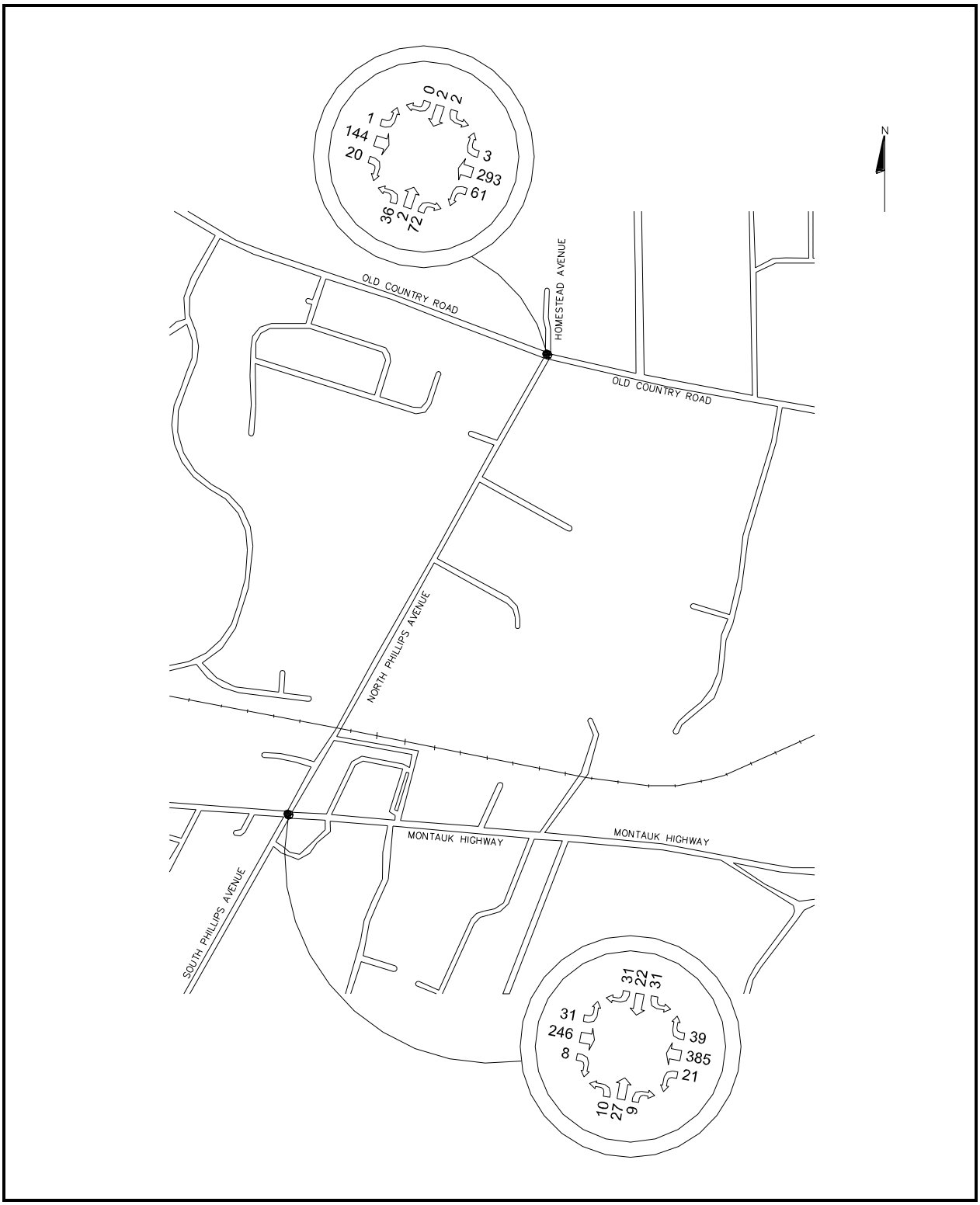


Figure 4: 2015 PM Peak Hour Traffic Volumes

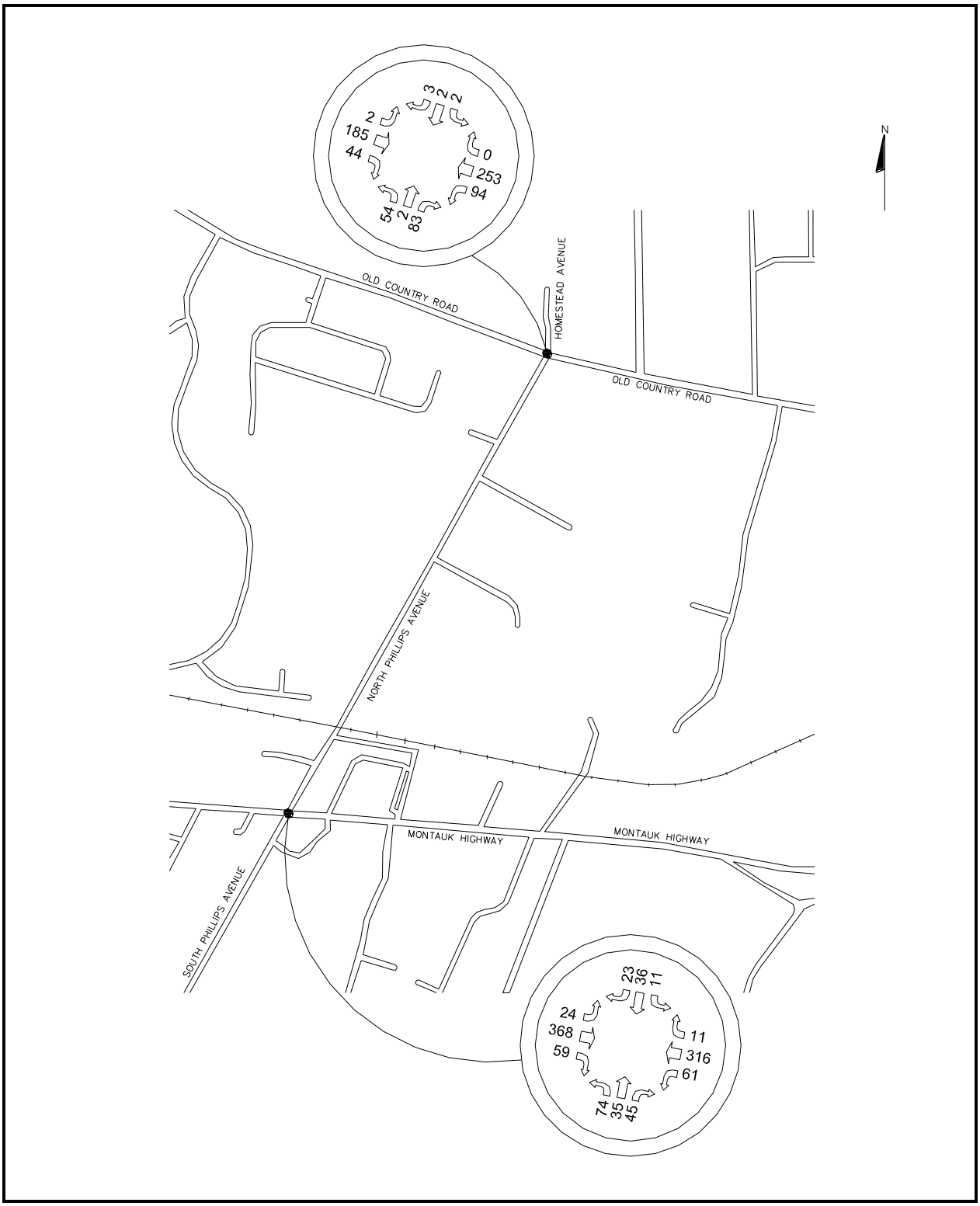


Figure 5: 2015 Saturday Midday Peak Hour Traffic Volumes

Accident History

Accident data for the sections of roadways and intersections in the vicinity of the site was obtained from the NYSDOT. The NYSDOT provided the most recent data available (from September 2012 to August 2015). The available data was reviewed and summarized in the following tables.

Table 2: Accident Summary by Severity

Location	Accident Severity			
	Fatality	Injury	Property Damage	TOTAL
Montauk Highway at North/South Phillips Avenue	-	4	1	5
North/South Phillips Avenue between Montauk Highway and 1st Street	-	-	-	-
1st Street at North Phillips Avenue	-	-	-	-
North/South Phillips Avenue between 1st Street and Depot Road	-	-	-	-
Depot Road at North Phillips Avenue	-	-	1	1
North/South Phillips Avenue between Depot Road and Windmere Court	-	-	-	-
Windmere Court at North Phillips Avenue	-	-	1	1
North/South Phillips Avenue between Windmere Court and Leslie Court	-	-	-	-
Leslie Court at North Phillips Avenue	-	-	-	-
North/South Phillips Avenue between Leslie Court and Elia Drive	-	-	-	-
Elia Drive at North Phillips Avenue	-	-	-	-
North/South Phillips Avenue between Elia Drive and Old Country Road	-	-	-	-
Old Country Road at North Phillips Avenue/Homestead Avenue	-	-	3	3
Total	0 *0%*	4 *40%*	6 *60%*	10 *100%*

Table 2 indicates a total of 10 accidents occurred at or in the vicinity of the study area during the analysis period. The majority of accidents, 60%, involved property damage only.

Table 3: Accident Summary by Type of Collision

Location	Accident Type											
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/ Bicycle	Overtk	Side swipe	Backing	Other/ Unknown	Total
Montauk Highway at North/South Phillips Ave	3	-	-	-	-	-	-	-	1	1	-	5
North/South Phillips Ave between Montauk Hwy and 1st St	-	-	-	-	-	-	-	-	-	-	-	-
1st Street at North Phillips Avenue	-	-	-	-	-	-	-	-	-	-	-	-
North/South Phillips Avenue between 1st Street and Depot Road	-	-	-	-	-	-	-	-	-	-	-	-
Depot Road at North Phillips Avenue	-	-	-	-	-	1	-	-	-	-	-	1
North/South Phillips Ave between Depot Road and Windmere Court	-	-	-	-	-	-	-	-	-	-	-	-
Windmere Court at North Phillips Avenue	1	-	-	-	-	-	-	-	-	-	-	1
North/South Phillips Ave between Windmere Court and Leslie Court	-	-	-	-	-	-	-	-	-	-	-	-
Leslie Court at North Phillips Avenue	-	-	-	-	-	-	-	-	-	-	-	-
North/South Phillips Ave between Leslie Court and Elia Drive	-	-	-	-	-	-	-	-	-	-	-	-
Elia Drive at North Phillips Avenue	-	-	-	-	-	-	-	-	-	-	-	-
North/South Phillips Ave between Elia Drive and Old Country Road	-	-	-	-	-	-	-	-	-	-	-	-
Old Country Road at North Phillips Ave/ Homestead Ave	1	1	-	1	-	-	-	-	-	-	-	3
Total	4 *40%*	1 *10%*	0 *0%*	1 *10%*	0 *0%*	1 *10%*	0 *0%*	0 *0%*	1 *10%*	1 *10%*	0 *0%*	10 *100%*

A review of Table 3 indicates that a majority of the reported or known accidents involved right angle accidents at 40%. The incidence of right angle accidents is mainly attributed to the

disregard for traffic control devices. Other contributing factors were failure to yield right of way and driver inexperience.

LEVEL OF SERVICE DESCRIPTION

While traffic volumes provide an important measure of activity on the adjacent roadway network, evaluating how well that network accommodates those volumes is also important. Therefore, a comparison of peak hour traffic volumes with available roadway capacity is prepared. Capacity, by definition, represents the maximum number of vehicles that can be accommodated given the constraints of roadway geometry, traffic characteristics and controls. Intersections primarily control capacity in roadway networks, since conflicts exist at these points between through, crossing and turning traffic. Because of these conflicts, congestion is most likely to occur at intersections. Therefore, intersections are studied most often when determining the quality of traffic flow.

In order to identify the operational characteristics of the study intersections, LOS and capacity analyses and arterial network analyses for the study intersections were performed using *SYNCHRO Version 9* Software. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersections ultimate capacity. *SYNCHRO* also implements the methods of the 2010 Highway Capacity Manual (HCM) for Urban Streets, Signalized intersections, and unsignalized intersections for determining intersection capacity analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining LOS for many transportation facilities and modes including signalized and unsignalized intersections.

An intersection's LOS (LOS) describes its quality of traffic flow. It ranges in grade from LOS "A" (relatively congestion-free) to LOS "F" (very congested). The LOS definition, as well as the threshold values for each level, varies according to whether the intersection is controlled by a signal or a stop sign. A brief description is given here and a more detailed definition is found in Appendix D.

The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity for each approach represents the maximum rate of flow (for the subject approach) which may pass through the intersection under prevailing traffic, roadway and signal conditions. The LOS of a signalized intersection is evaluated on the basis of average control-delay measured in seconds per vehicle (sec/veh). The control-delay is calculated using an equation that combines the stopped-delay with the vehicle acceleration/deceleration delay that is caused by the signalized intersection. At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal "green time", turning percentages, truck volumes, etc. However, delay cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the LOS "F" range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement experience a long red time; or progressive movements for a particular lane is poor.

The flow at a two-way stop-controlled (TWSC) intersection is gauged in terms of LOS and capacity. The capacity of a stop-controlled leg is based on the distribution of gaps in the major street traffic, driver judgment in selecting a gap, and the follow-up time required by each driver in a queue. The LOS for a TWSC intersection is determined by the control-delay, and is defined for each movement rather than for the overall intersection. As with signalized intersections, HCS quantifies only the average control-delay, which is a function of the approach and the degree of saturation for any particular minor movement.

EXISTING CONDITION

The peak hour traffic volumes depicted in Figures 3, 4 and 5, were used to determine the existing capacity and LOS of the study intersections. Tables 4 contains the LOS summary for the Existing Condition calculated through the Synchro software described previously. The detailed analysis worksheets are in Appendix E.

Table 4: Existing Condition LOS Summary – Signalized Intersection

			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Intersection	**Approach**	**Movement**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Montauk Highway (CR 80) at North/South Phillips Avenue	EB	L	A	6.6	A	5.0	A	7.5
		TR	A	8.4	A	4.9	B	10.9
	WB	L	A	6.2	A	4.9	A	8.6
		TR	A	7.7	A	6.0	A	9.5
	NB	LTR	B	17.4	B	17.5	C	24.7
	SB	LTR	C	22.7	B	15.0	B	13.6
	Overall		B	10.9	A	7.2	B	12.9

Notes: LOS = Level of Service, Delay = seconds/vehicle

Table 5: Existing Condition LOS Summary – Unsignalized Intersection

			AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Intersection	**Approach**	**Movement**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Old Country Road at North Phillips Avenue/ Homestead Avenue	EB	LTR	A	0.1	A	0.0	A	0.1
	WB	LTR	A	3.4	A	1.8	A	2.7
	NB	LTR	B	14.9	B	13.8	C	16.8
	SB	LTR	C	21.8	C	17.3	C	15.4

Notes: LOS = Level of Service, Delay = seconds/vehicle

Montauk Highway (CR 80) at N/S Phillips Avenue

N/S Phillips Avenue intersects Montauk Highway (CR 80) to form a four-leg intersection controlled by a two phase traffic signal running free at all times. The northbound South Phillips Avenue approach provides one lane for all turning movements and the southbound North Phillips Avenue approach also provides one lane for all turning movements. The eastbound and westbound Montauk Highway approaches both provide one exclusive left-turn lane and a shared through/right-turn lane. The level of service analyses indicates that the intersection currently operate at overall LOS B during the weekday AM and Saturday midday peak hours and at LOS A

during the PM peak hour. During all peak periods, all individual traffic movements operate at LOS C or better.

Old Country Road at N Phillips Avenue/Homestead Avenue

The northbound (North Phillips Avenue) stop controlled approach of this unsignalized intersection currently operates at LOS B during the weekday AM and PM peak hours and at LOS C during the Saturday midday peak hour. The southbound (Homestead Avenue) stop controlled approach currently operates at LOS C during the weekday AM and PM peak hours as well as the Saturday Midday peak hour. The eastbound approach operates at LOS A during the weekday AM and PM peak hours as well as the Saturday Midday peak hour. The westbound approach operates at LOS A during the weekday AM and PM peak hours as well as the Saturday Midday peak hour.

NO BUILD CONDITION

The No Build Condition represents traffic conditions expected at the study intersections in the future year 2017 without the construction of the proposed project. The No Build Condition traffic volumes are estimated based on two factors as follows:

- Increases in traffic due to general population growth and developments outside of the immediate project area. This traffic increase is referred to as ambient growth.
- Other planned projects located near the project site that may affect traffic levels and patterns at the study intersections in this report.

Traffic Growth

A 1.9% annual growth factor was obtained from the New York State Department of Transportation (NYSDOT) Long Island Transportation Plan 2000 Study (LITP2000) for the Town of Southampton. The existing traffic volumes were increased by this factor for a period of 2 years to project volumes to the year 2017.

Other Planned Projects

"Other Planned Projects" is a term that refers to developments located near the project site that are currently under construction or in the planning stages. Traffic generated by these projects may significantly influence the operations of the study intersections and would not be represented

in the field data collected. The Town of Southampton was contacted to obtain information on any planned projects in the area. At the time this study was conducted, it was determined that there was one significant planned project in the vicinity of the proposed project and is as follows:

- 9 Lot Subdivision – proposed for the property located at 85 North Phillips Avenue consisting of 9 single family homes.

The trip generation estimates for the proposed project were prepared utilizing data contained within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition* and were distributed through the study intersections based on existing travel patterns. The No Build condition volumes for the weekday AM, weekday PM and Saturday midday peak hours are illustrated in Figures 6, 7 and 8. The traffic anticipated to be generated by the other planned project is contained in figures located in Appendix B.

Table 6: Other Planned Developments - Site Generated Trips

Planned Developments	Peak Hour	Peak Hour Trips		
		Entering	Exiting	Total
9 Lot Subdivision (ITE LUC 210 – Single Family Homes)	AM	4	12	16
	PM	8	4	12
	Saturday Midday	9	8	17

Source: Trip Generation, 9th Edition, published by ITE

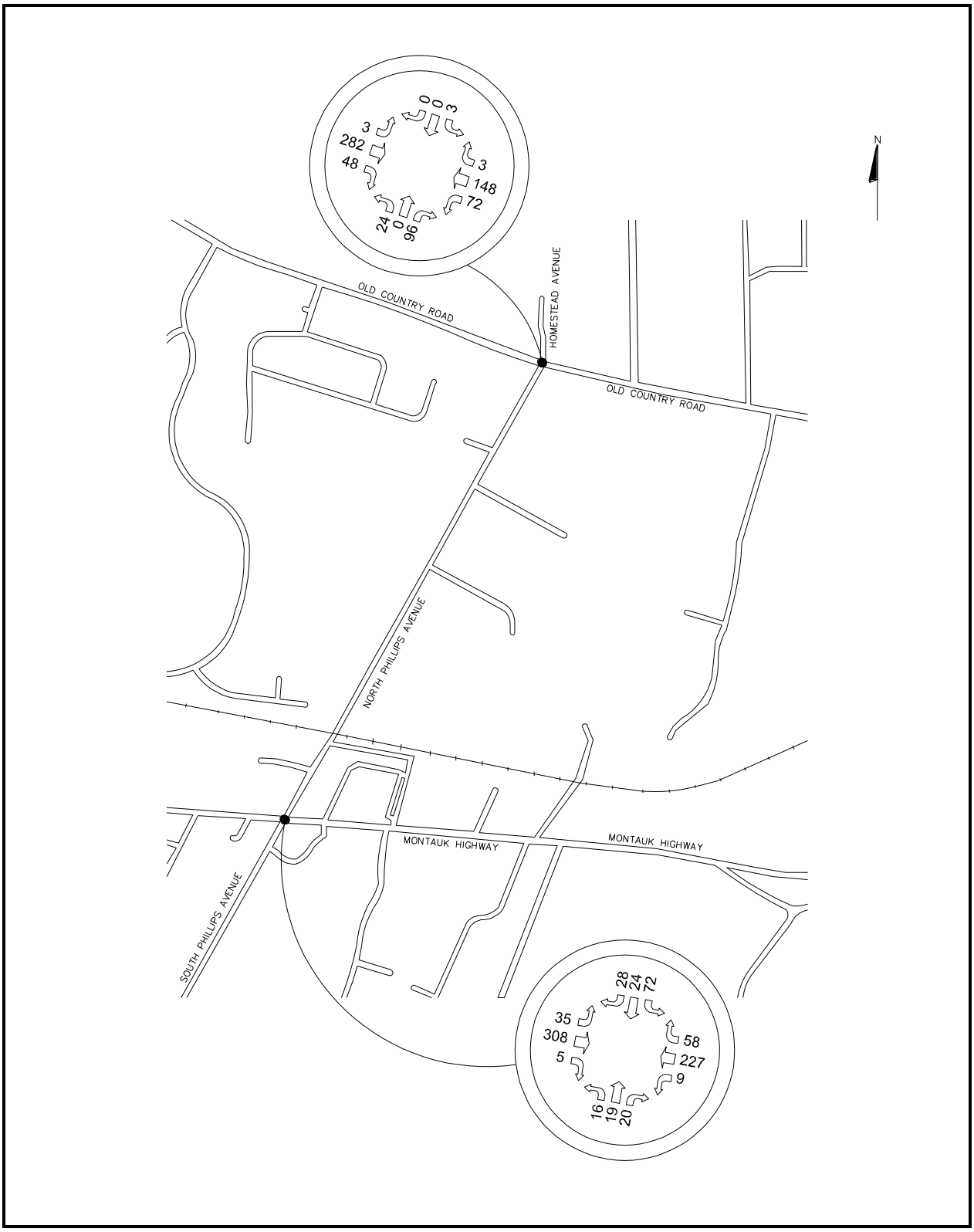


Figure 6: 2017 AM Peak Hour No Build Traffic Volumes

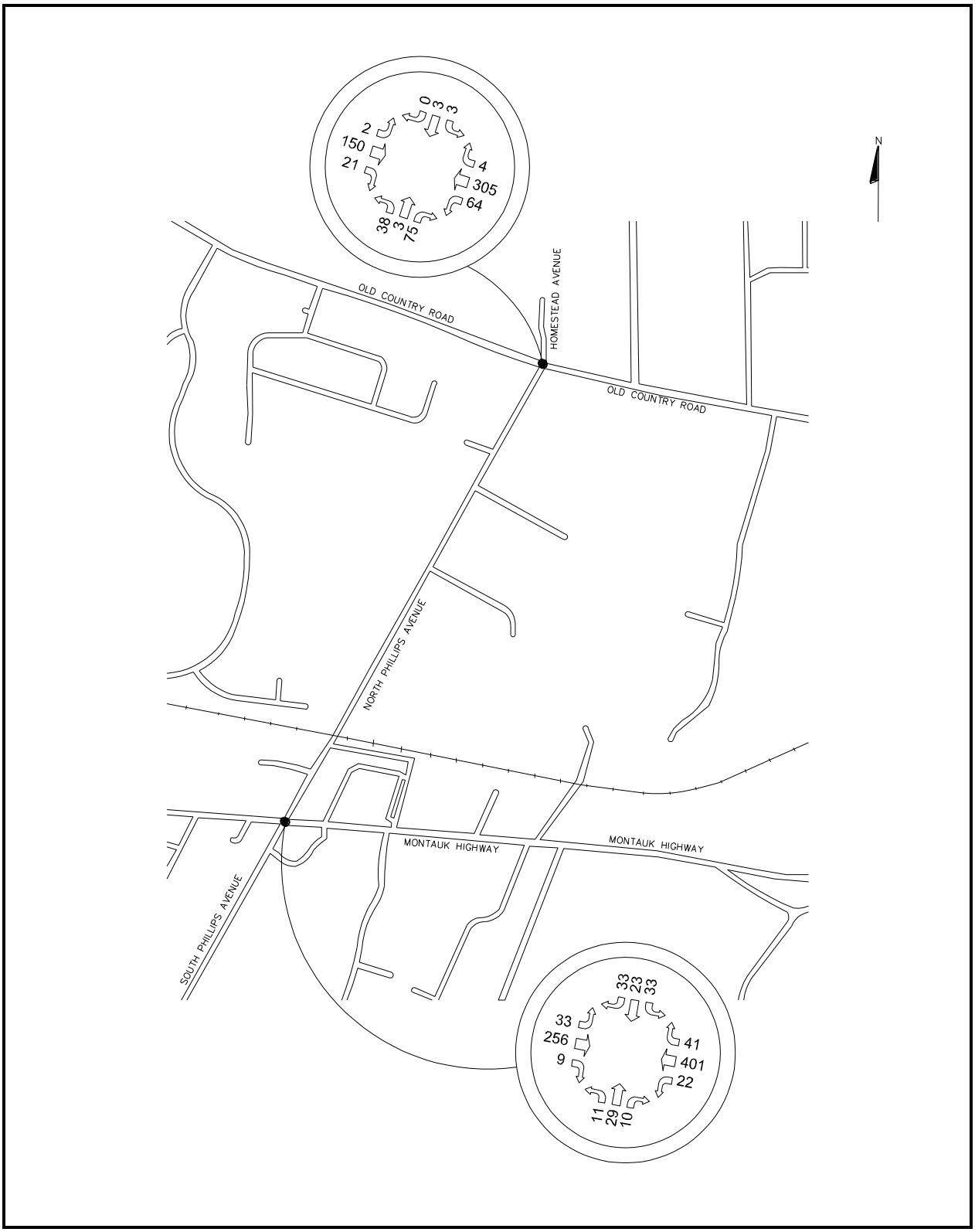


Figure 7: 2017 PM Peak Hour No Build Traffic Volumes

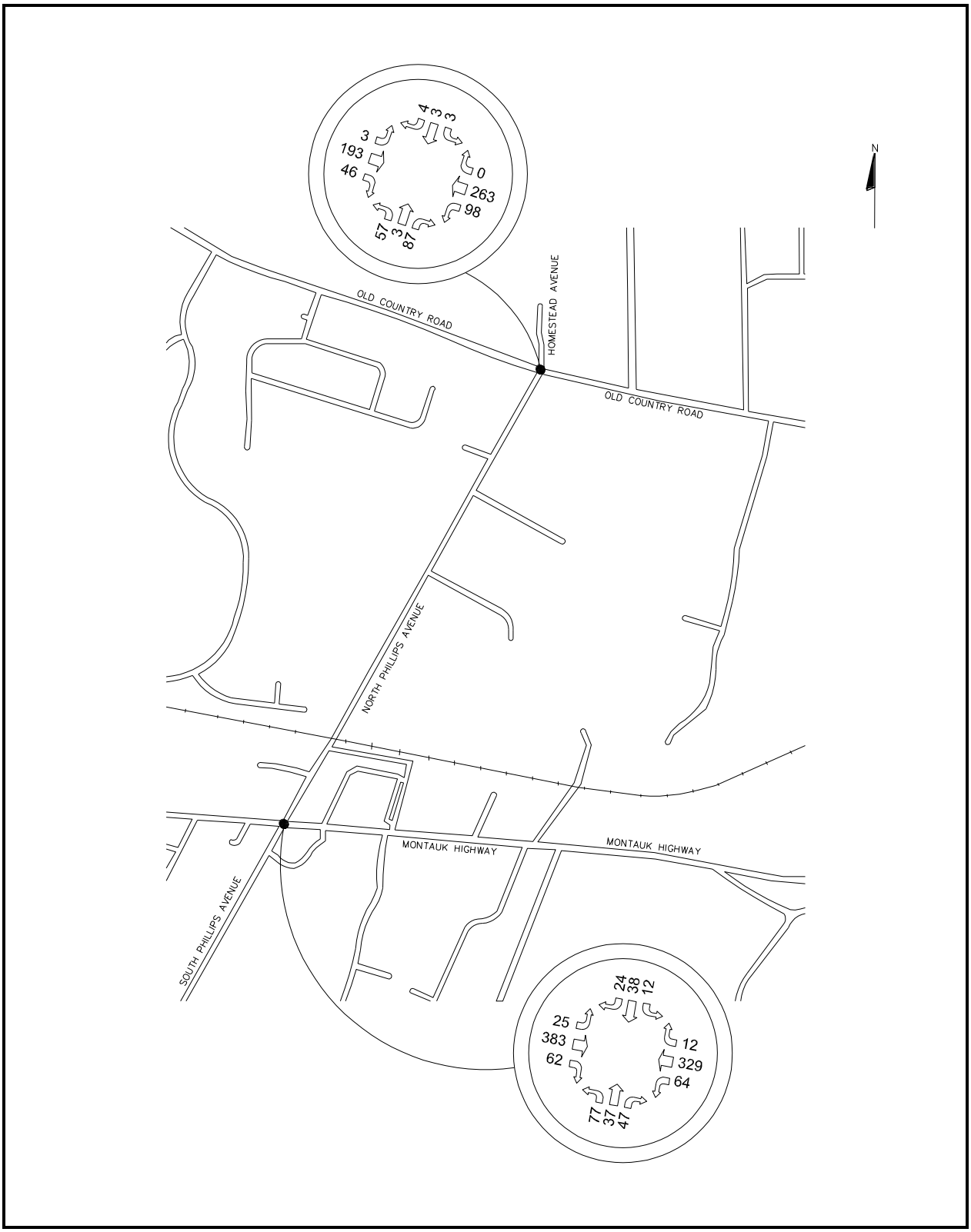


Figure 8: 2017 Saturday Midday Peak Hour No Build Traffic Volumes

PROPOSED DEVELOPMENT

Site Access

As depicted on the site plan prepared by Nelson & Pope, access to the site will be provided via one full movement driveway on North Phillips Avenue.

Trip Generation

In order to identify the potential impacts the proposed project may have on the adjacent street system, it is necessary to estimate the magnitude of traffic volume generated during the peak hours and to estimate the directional distribution of the site traffic when entering and exiting the subject property. The trip generation estimates for the proposed development were prepared utilizing data within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition*. This publication sets forth trip generation data obtained by traffic counts conducted at sites throughout the country. The Land Use Codes within the ITE trip generation manual corresponding to the proposed uses are Land Use Code (LUC) 230 Residential Condominium/Townhouse and LUC 820 Shopping Center. The following Table summarizes the trip generation estimates for the proposed development. Appendix B contains the trip generation worksheets.

Table 7: Trip Generation (Proposed Project)

Time Period	Distribution	Condo/Townhouse 50 Units (LUC 230)	2,304 SF Shopping Center (LUC 820)	Total
Weekday AM Peak Hour	Enter	5	1	6
	Exit	25	1	26
	Total	**30**	**2**	**32**
Weekday AM Peak Hour	Enter	23	4	27
	Exit	11	5	16
	Total	**34**	**9**	**43**
Saturday Midday Peak Hour	Enter	31	6	37
	Exit	26	5	31
	Total	**57**	**11**	**68**

Source: Trip Generation,9th Edition, published by ITE

From the review of Table 7 above, it is anticipated that the proposed development will generate 32 trips during the weekday AM peak hour (6 entering, 26 exiting), 43 trips during the weekday PM peak hour (27 entering and 16 exiting) and 68 trips during the Saturday midday peak hour

(37 entering and 31 exiting). A detailed trip generation calculation worksheet for the proposed development is included in Appendix C of this report.

Trip Distribution and Assignment

The volume of site traffic that would travel through the study intersections during peak hours was distributed and assigned to each movement based on the existing roadway and travel patterns. The nature of the proposed land use and its associated travel patterns were considered as well. Figure 9 presents the trip distribution for site-generated traffic and Figures10, 11 and 12 depict the site generated volumes for the weekday AM, PM and Saturday midday peak hours. The site generated volumes were then added to the corresponding No Build Condition volumes resulting in the Build Condition volumes shown in Figures 13, 14 and 15.

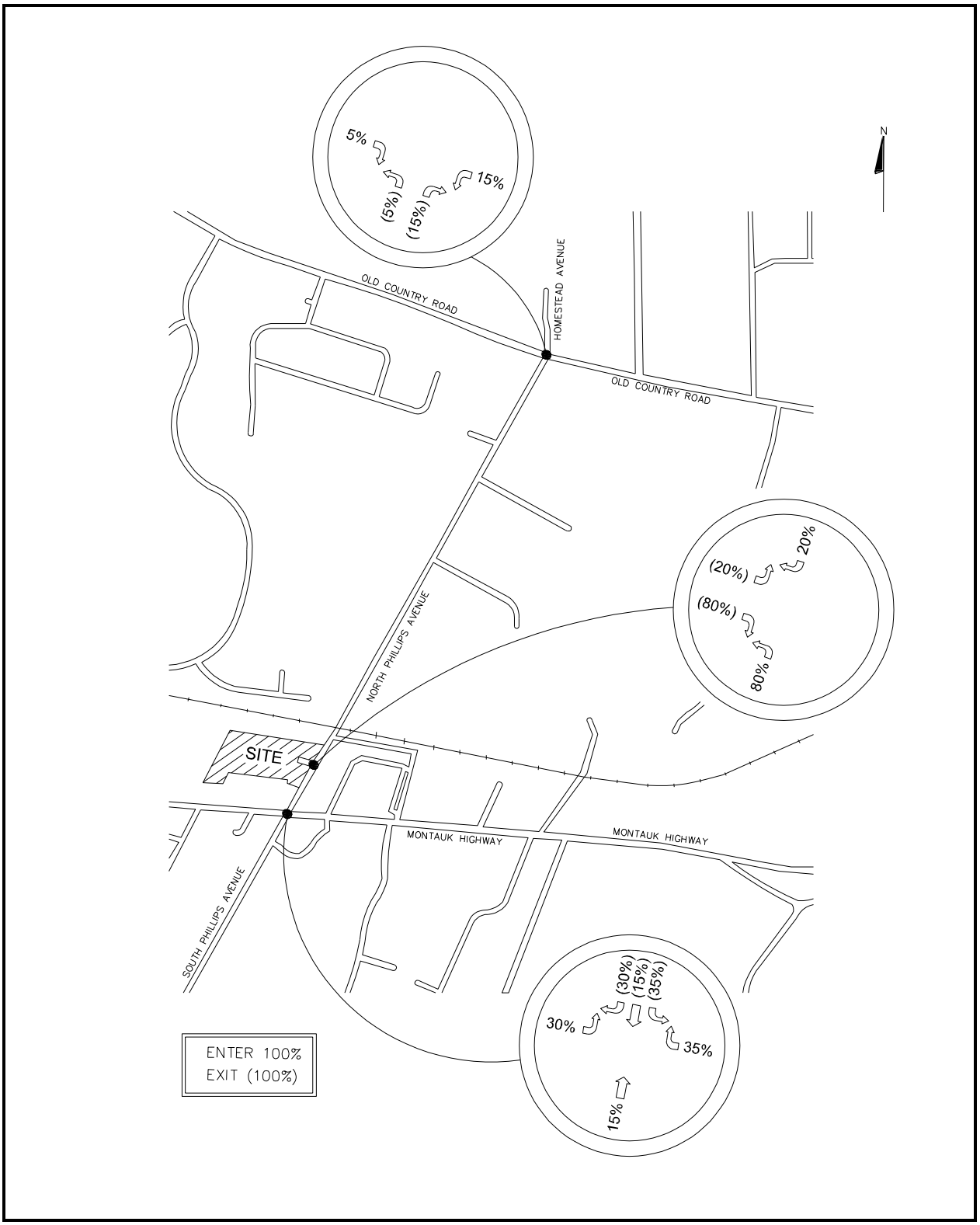


Figure 9: Site Generated Trip Distribution

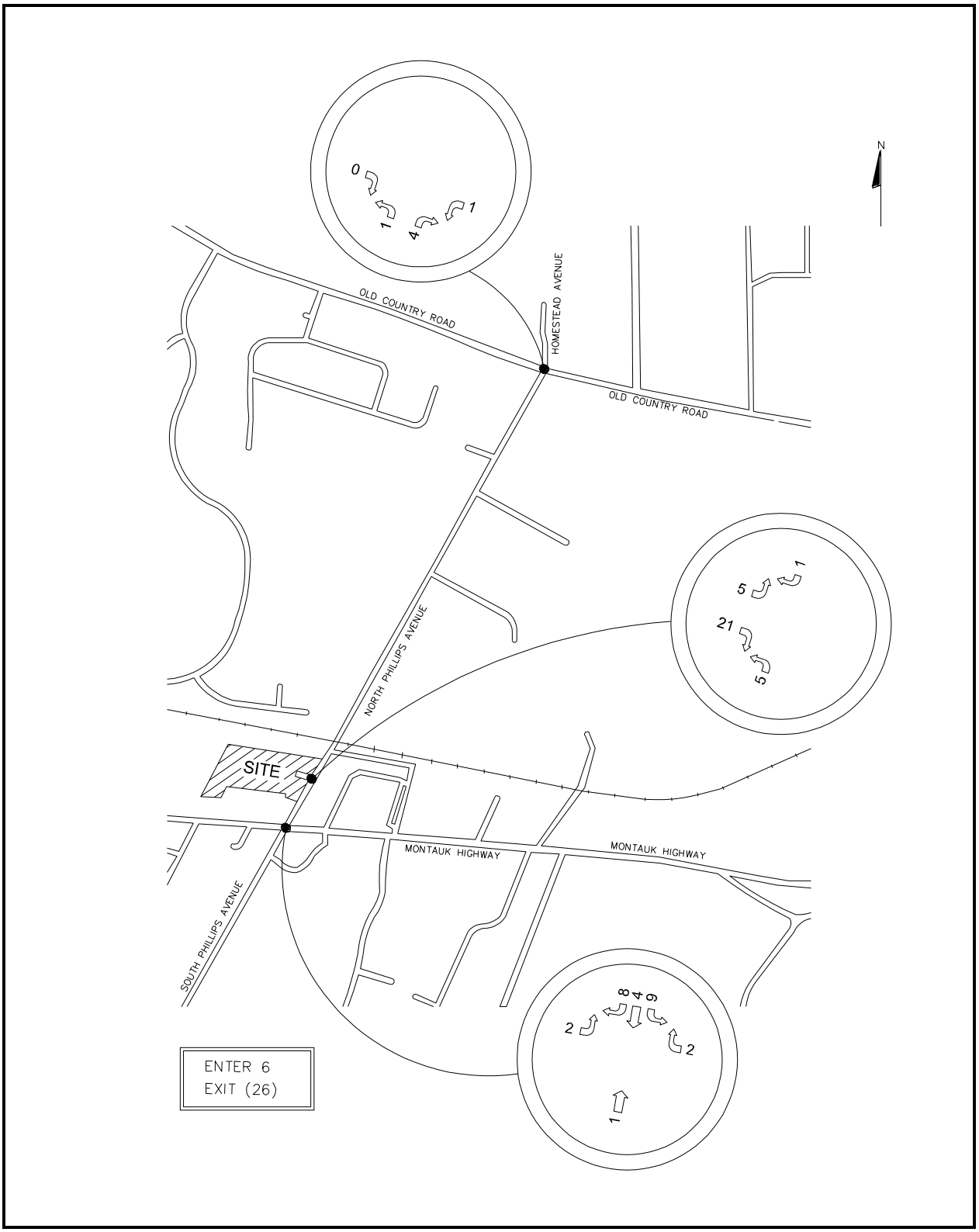


Figure 10: Site Generated Weekday AM Traffic Volumes

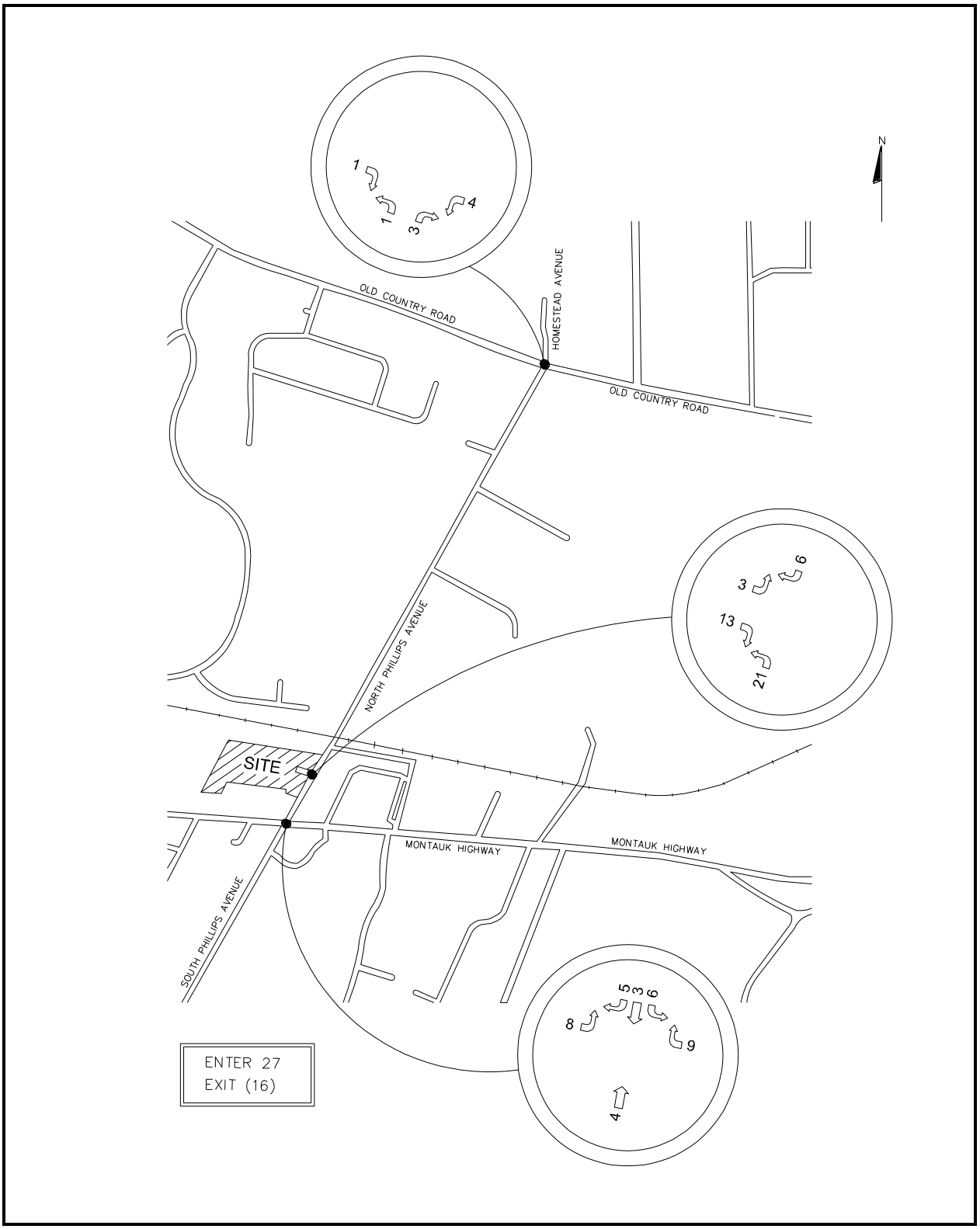


Figure 11: Site Generated Weekday PM Traffic Volumes

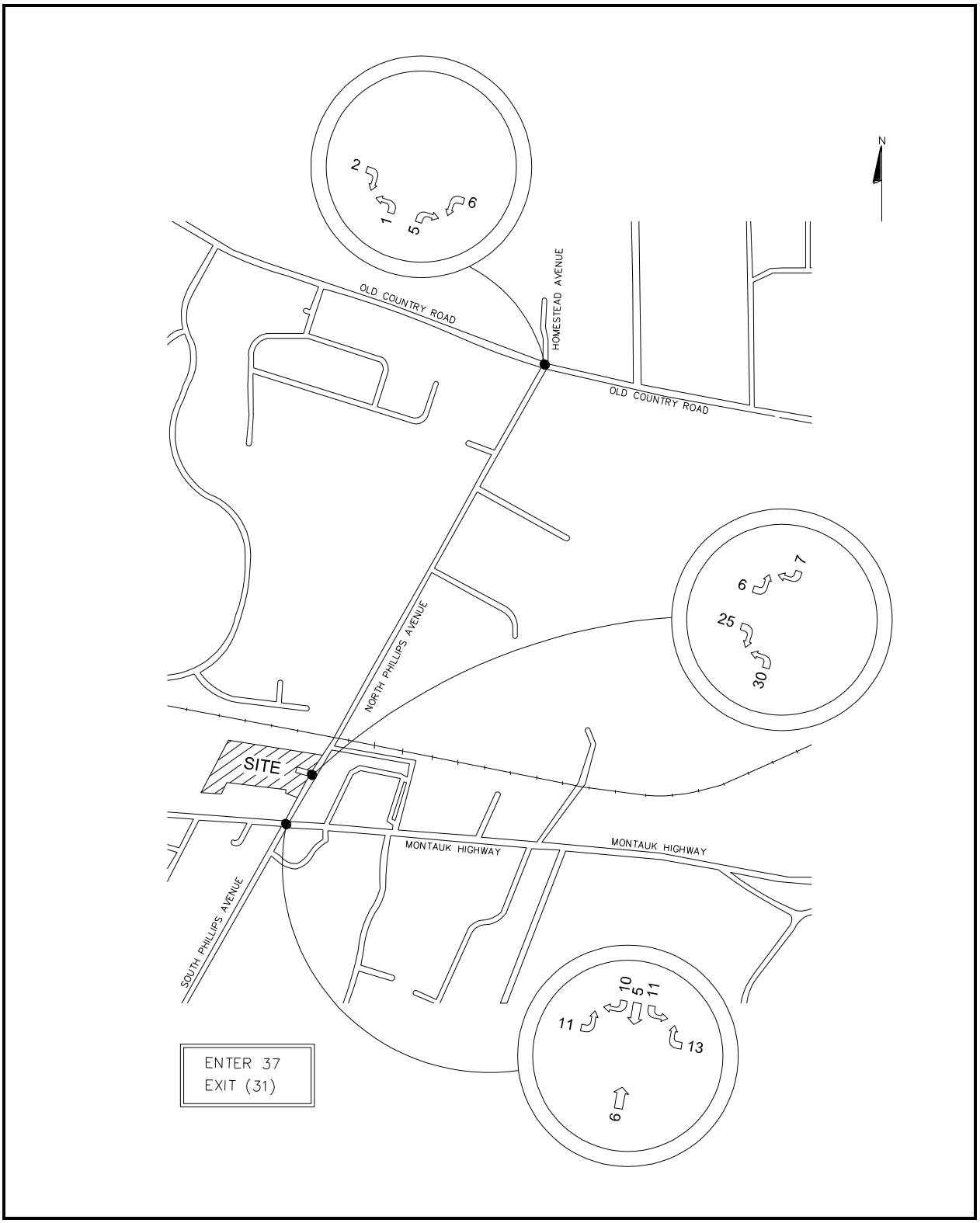


Figure 12: Site Generated Saturday Midday Traffic Volumes

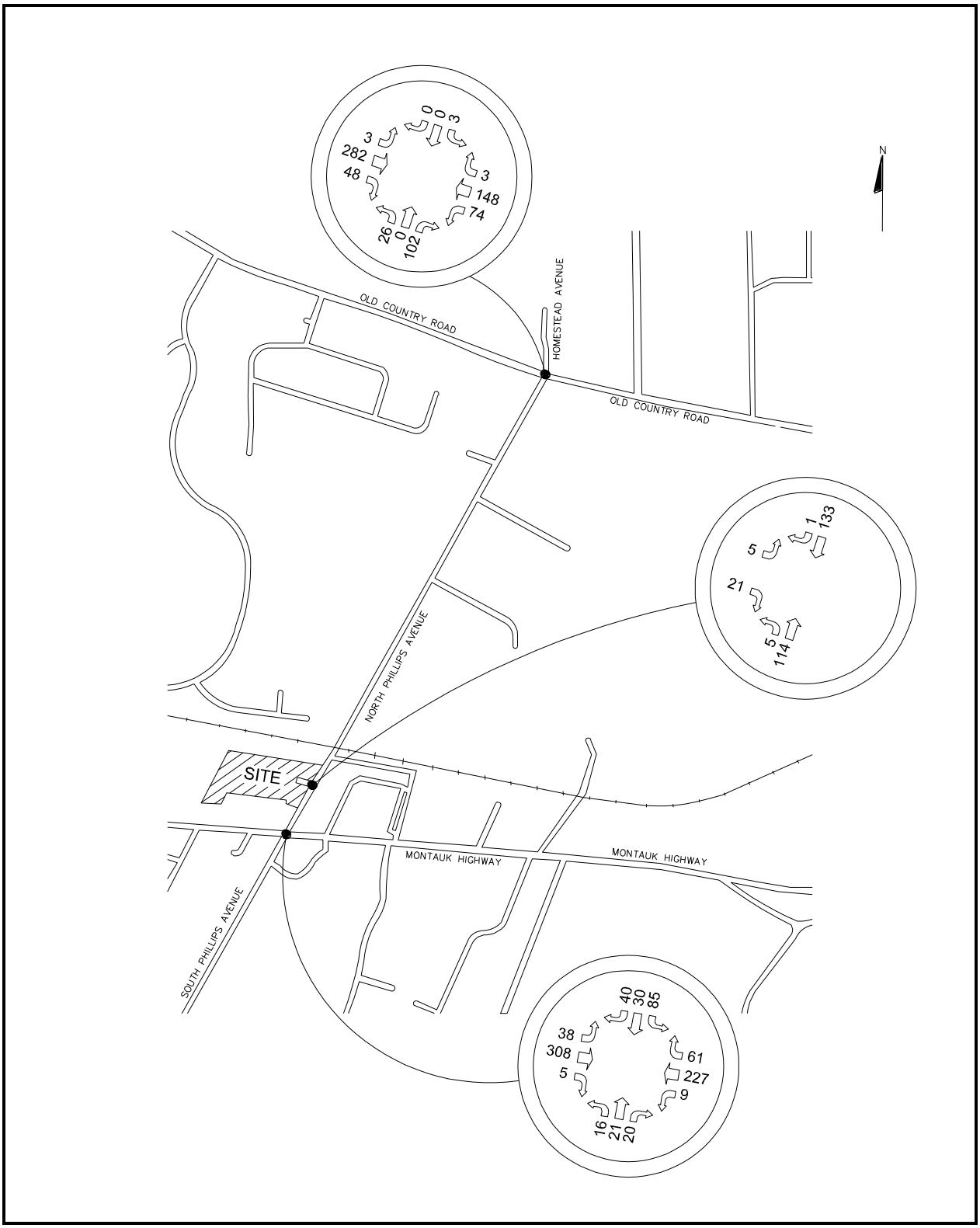


Figure 13: 2017 Build Weekday AM Traffic Volumes

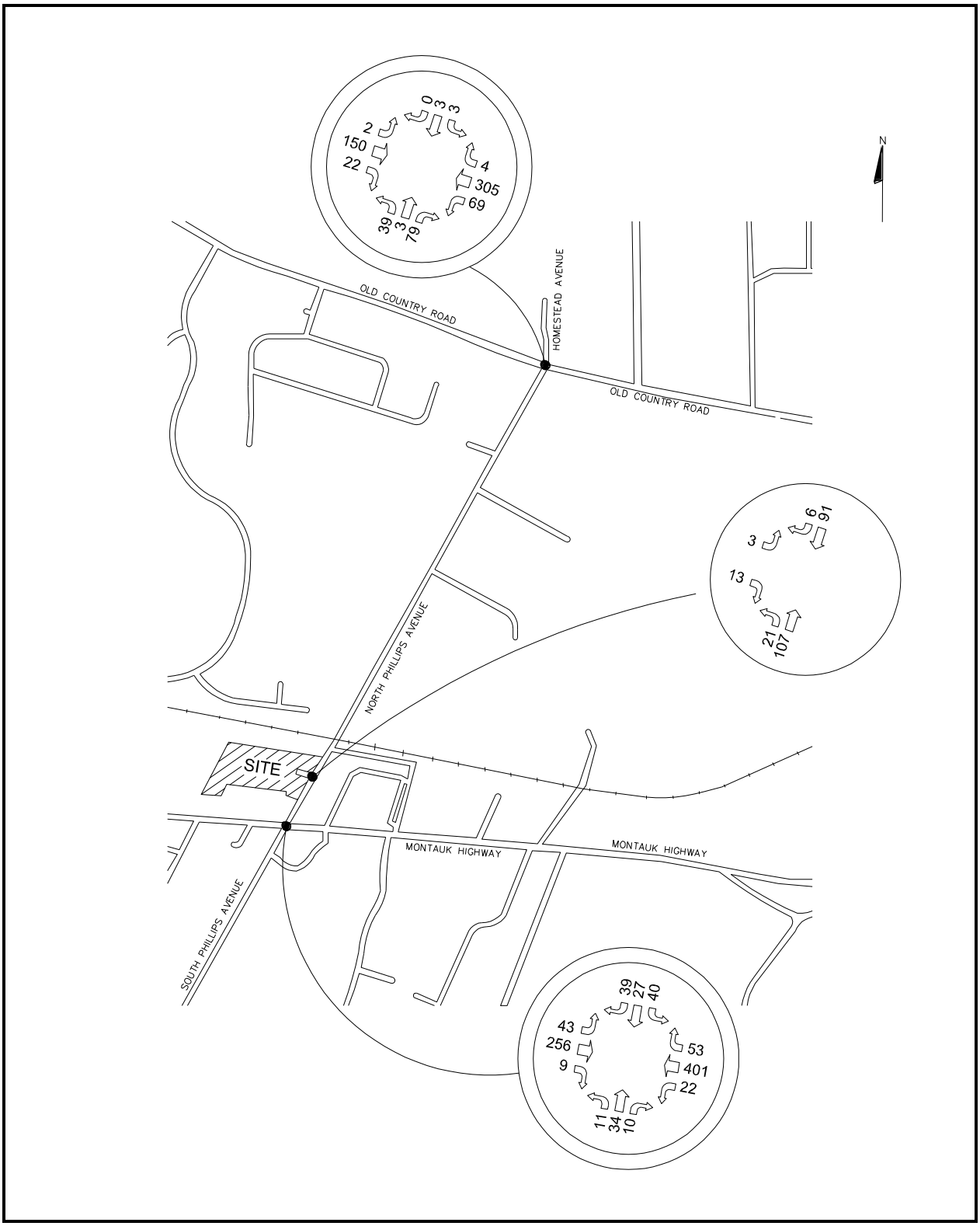


Figure 14: 2017 Build Weekday PM Traffic Volumes

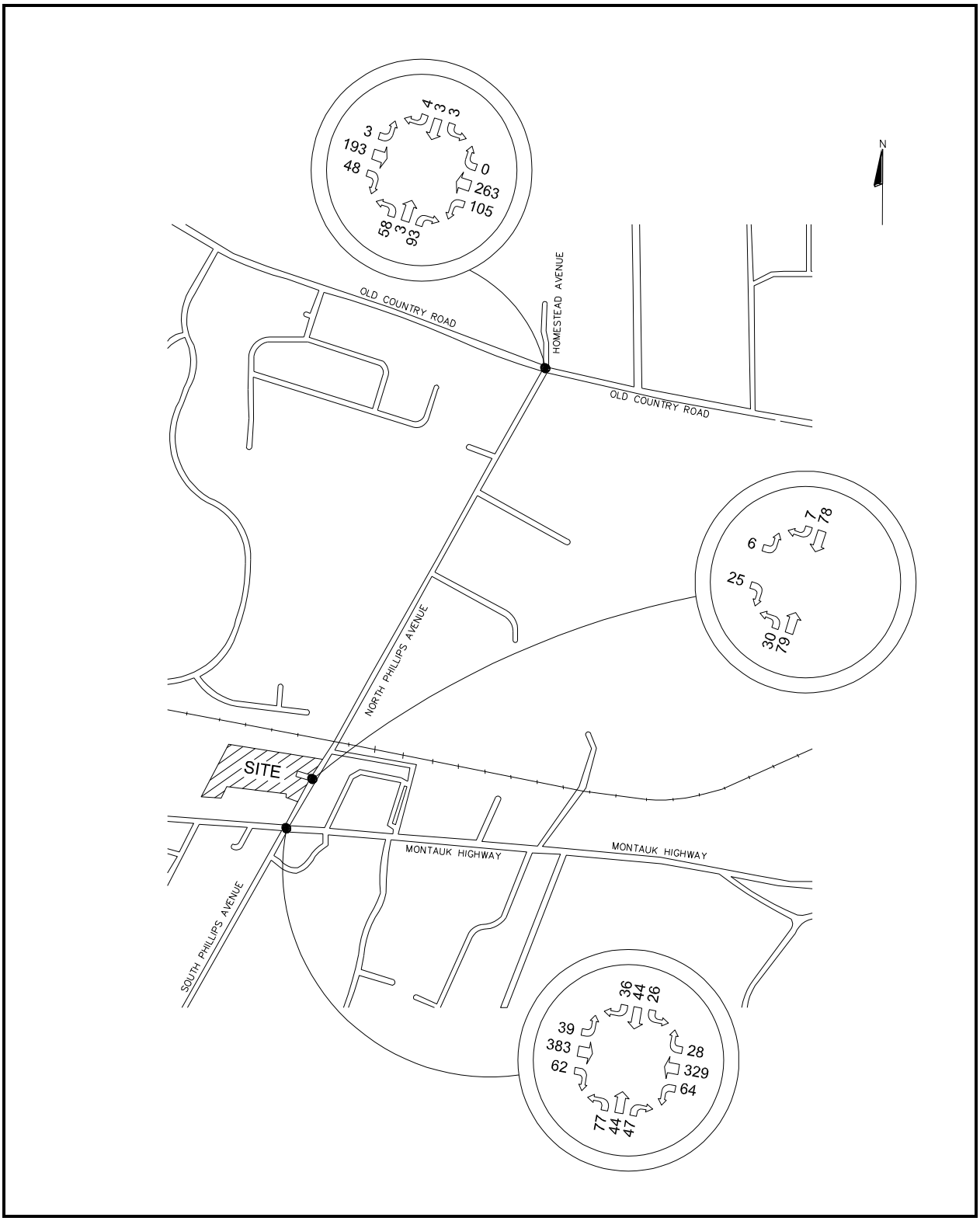


Figure 15: 2017 Build Saturday Midday Traffic Volumes

TRAFFIC IMPACT ANALYSIS

As stated previously, the intersection capacity and level-of-service (LOS) analyses were based on the procedures and guidelines presented in the *Highway Capacity Manual (2010)*, published by the *Transportation Research Board*. The Synchro Version 9 software was used to analyze the study intersections and provide a LOS measurement of the intersection operations. The six classes of LOS, ranging from LOS A (excellent) to F (worst), are defined in Appendix E.

Table 8 illustrates the LOS summaries for the study intersections.

Table 8: LOS Summary – Signalized Intersection

Intersection		Approach	Movement	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
				LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Montauk Highway (CR 80) at North/South Phillips Avenue	No Build	EB	L	A	7.2	A	5.5	A	7.8
			TR	A	9.3	A	5.9	B	11.6
		WB	L	A	6.7	A	5.1	A	9.2
			TR	A	8.5	A	7.4	A	10.0
		NB	LTR	B	16.4	B	18.4	C	25.5
		SB	LTR	C	22.8	B	16.1	B	14.6
		Overall		B	11.6	A	8.4	B	13.5
	Build	EB	L	A	7.8	A	6.0	A	8.4
			TR	B	10.0	A	6.2	B	12.1
		WB	L	A	7.2	A	5.4	A	9.7
			TR	A	9.2	A	7.9	B	10.6
		NB	LTR	B	16.0	B	18.1	C	24.0
		SB	LTR	C	23.7	B	17.3	B	15.8
		Overall		B	12.6	A	9.0	B	13.5

Notes: LOS = Level of Service, Delay = seconds/vehicle

Table 9: LOS Summary – Unsignalized Intersection

Intersection		Approach	Movement	AM Peak Hour LOS	AM Peak Hour Delay (sec.)	PM Peak Hour LOS	PM Peak Hour Delay (sec.)	Saturday Midday Peak Hour LOS	Saturday Midday Peak Hour Delay (sec.)
Old Country Road at North Phillips Avenue/ Homestead Avenue	No Build	EB	LTR	A	0.1	A	0.1	A	0.1
		WB	LTR	A	3.5	A	1.8	A	2.8
		NB	LTR	C	15.7	B	14.5	C	18.4
		SB	LTR	C	23.5	C	18.3	C	16.7
	Build	EB	LTR	A	0.1	A	0.1	A	0.1
		WB	LTR	A	3.5	A	1.9	A	3.0
		NB	LTR	C	15.9	B	14.7	C	19.0
		SB	LTR	C	23.9	C	18.7	C	17.2
N Phillips Avenue at Site Access	Build	EB	LR	A	9.5	A	9.1	A	9.3
		NB	LT	A	0.4	A	1.1	A	2.0

Montauk Highway (CR 80) at North/South Phillips Avenue

During the No Build Condition, the intersection of North/South Phillips Avenue and Montauk Highway (CR 80) will operate at overall LOS B during the weekday AM and Saturday midday peak hours and at LOS A during the weekday PM peak hour. After the completion of the proposed project, this intersection will continue to operate at No Build LOS conditions during the analyzed peak hours with minor increases in levels of service and delay. Therefore, no mitigation measures are required at this location.

Old Country Road at North Phillips Avenue/Homestead Avenue

During the No Build Condition, the northbound (North Phillips Avenue) stop controlled approach of this unsignalized intersection will operate at LOS C during the weekday AM and Saturday Midday peak hours and at LOS B during the weekday PM Peak hour. The southbound (Homestead Avenue) stop controlled approach will operate at LOS C during the weekday AM and PM peak hours as well as the Saturday Midday peak hour. The eastbound and westbound approaches (Old Country Road) will operate at LOS A during the weekday AM and PM peak hours and the Saturday midday peak hour. After completion of the project all approaches will continue to operate at No Build LOS with minor increase in delay.

Site Driveway and North Phillips Avenue

After the completion of the project, the site driveway will operate at LOS A during the weekday AM and PM peak hours and the Saturday midday peak hours.

CONCLUSION

Nelson & Pope has investigated the potential traffic impacts associated with the proposed residential/retail development to be located on the west side of North Phillips Avenue approximately 160 feet north of Montauk Highway in Remsenberg-Speonk in the Town of Southampton, New York. The following is a summary of this investigation and the findings thereof:

1. The following intersections were included in this study:
   - Montauk Highway (CR 80) at N/S Phillips Avenue
   - Old Country Road at North Phillips Avenue/Homestead Avenue
2. Existing traffic volumes were collected in November 2015 during the weekday AM and PM peak hours and during the Saturday midday peak hours.
3. Future No Build traffic volumes were determined by applying a 1.9% annual growth factor to the seasonal volumes and then adding the traffic generated by the other planned developments in the vicinity of the site.
4. The trip generation for the proposed project was prepared utilizing trip generation data published by the Institute of Transportation Engineers (ITE) publication, *Trip Generation, Ninth Edition*.
5. The proposed development is projected to generate 32 trips (6 entering and 26 exiting) during the weekday AM peak hour, 43 trips during the weekday PM peak hour (27 entering, 16 exiting) and 68 trips during the Saturday midday peak hour (37 entering, 31 exiting)
6. The site-generated traffic was distributed to the study intersections and incorporated into the Build Condition.
7. As depicted on the site plan, access to the site will be provided via one full movement driveway to be located on North Phillips Avenue.

8. After the completion of the project, the signalized intersection of Montauk Highway (CR 80) at N/S Phillips Avenue will continue to operate at No Build levels of service conditions during the analyzed peak periods.
9. After the completion of the project, the site driveway will operate at LOS A during the weekday AM and PM peak hours and during the Saturday midday peak hour.

Based on the results of the Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Nelson & Pope that, constructing the proposed residential/retail development will not result in significant traffic impacts in the study area.

SPEONK COMMONS

Hamlet of Remsenburg-Speonk

TOWN OF SOUTHAMPTON

APPENDIX

February 2016

N&P JOB NO. 14258

Appendix A: Existing Traffic Volumes

NELSON & POPE

572 Walt Whitman Road
Melville, NY, 11747

File Name : 1-MONTAUK_HY_AT_N._PHILLIPS_AV_11-12-15_275788_11-12-2015
Site Code :
Start Date : 11/12/2015
Page No : 1

Groups Printed- Lights - Buses - Trucks

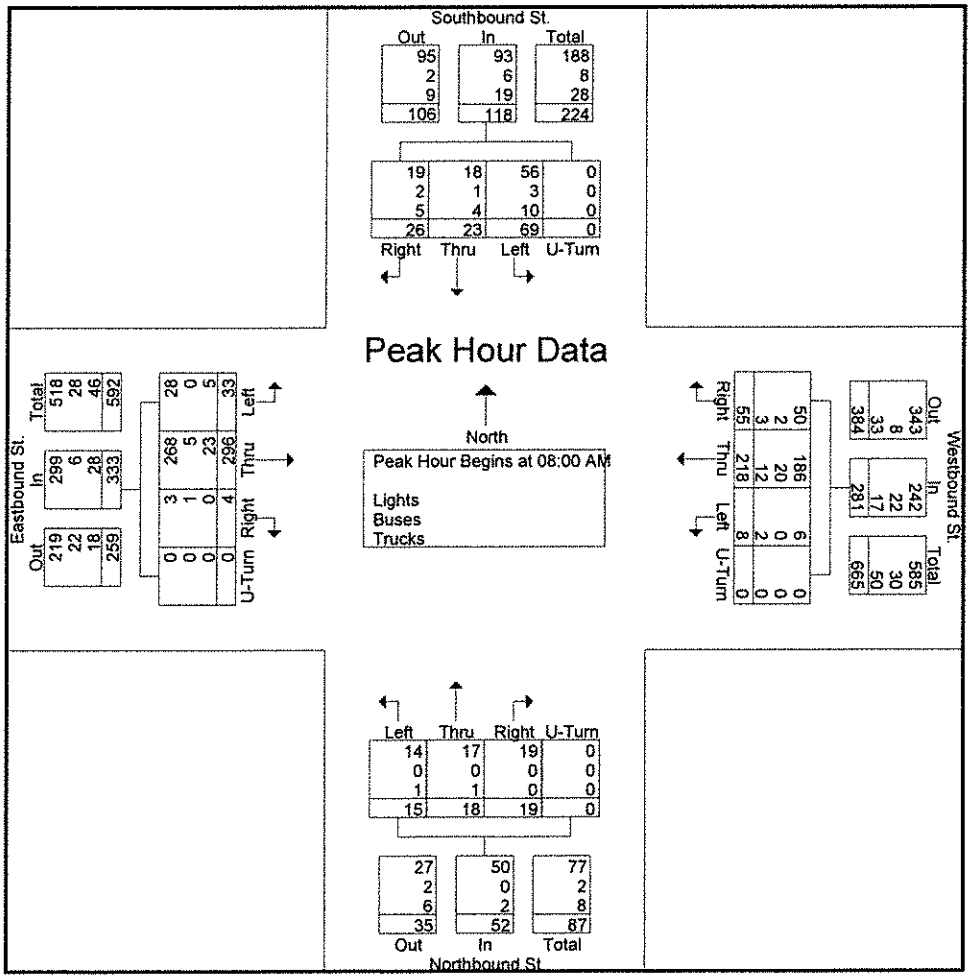
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
07:00 AM	10	96	4	0	110	2	43	14	0	59	9	6	3	0	18	1	6	9	0	16	203
07:15 AM	9	73	2	0	84	1	49	12	0	62	10	3	5	0	18	3	4	8	0	15	179
07:30 AM	5	80	5	0	90	1	41	21	0	63	9	2	2	0	13	2	6	1	0	9	175
07:45 AM	7	102	4	0	113	9	28	9	0	46	17	12	14	0	43	6	5	5	0	16	218
Total	31	351	15	0	397	13	161	56	0	230	45	23	24	0	92	12	21	23	0	56	775
08:00 AM	12	60	1	0	73	1	41	9	0	51	17	8	7	0	32	7	4	5	0	16	172
08:15 AM	5	74	1	0	80	2	50	17	0	69	11	3	6	0	20	2	3	4	0	9	178
08:30 AM	7	73	1	0	81	2	62	16	0	80	18	7	5	0	30	3	6	7	0	16	207
08:45 AM	9	89	1	0	99	3	65	13	0	81	23	5	8	0	36	3	5	3	0	11	227
Total	33	296	4	0	333	8	218	55	0	281	69	23	26	0	118	15	18	19	0	52	784
04:00 PM	10	57	2	0	69	9	105	12	0	126	6	4	13	0	23	4	7	6	0	17	235
04:15 PM	9	75	0	0	84	4	86	5	0	95	12	4	7	0	23	3	8	1	0	12	214
04:30 PM	3	54	4	0	61	3	99	7	0	109	6	6	6	0	18	3	6	1	0	10	198
04:45 PM	9	60	2	0	71	5	95	15	0	115	7	8	5	0	20	0	6	1	0	7	213
Total	31	246	8	0	285	21	385	39	0	445	31	22	31	0	84	10	27	9	0	46	860
05:00 PM	4	53	3	1	61	2	105	14	0	121	10	8	7	0	25	2	3	0	0	5	212
05:15 PM	4	50	1	0	55	3	83	11	0	97	12	3	6	0	21	6	0	2	0	8	181
05:30 PM	4	49	2	0	55	0	88	8	0	96	8	3	4	0	15	0	4	0	0	4	170
05:45 PM	6	52	1	0	59	1	73	7	0	81	14	1	2	0	17	1	2	1	0	4	161
Total	18	204	7	1	230	6	349	40	0	395	44	15	19	0	78	9	9	3	0	21	724
Grand Total	113	1097	34	1	1245	48	1113	190	0	1351	189	83	100	0	372	46	75	54	0	175	3143
Apprch %	9.1	88.1	2.7	0.1		3.6	82.4	14.1	0		50.8	22.3	26.9	0		26.3	42.9	30.9	0		
Total %	3.6	34.9	1.1	0	39.6	1.5	35.4	6	0	43	6	2.6	3.2	0	11.8	1.5	2.4	1.7	0	5.6	
Lights	105	1037	32	1	1175	46	1041	179	0	1266	172	76	88	0	336	43	71	53	0	167	2944
% Lights	92.9	94.5	94.1	100	94.4	95.8	93.5	94.2	0	93.7	91	91.6	88	0	90.3	93.5	94.7	98.1	0	95.4	93.7
Buses	1	17	1	0	19	0	41	3	0	44	3	1	3	0	7	0	0	0	0	0	70
% Buses	0.9	1.5	2.9	0	1.5	0	3.7	1.6	0	3.3	1.6	1.2	3	0	1.9	0	0	0	0	0	2.2
Trucks	7	43	1	0	51	2	31	8	0	41	14	6	9	0	29	3	4	1	0	8	129
% Trucks	6.2	3.9	2.9	0	4.1	4.2	2.8	4.2	0	3	7.4	7.2	9	0	7.8	6.5	5.3	1.9	0	4.6	4.1

NELSON & POPE

572 Walt Whitman Road
Melville, NY, 11747

File Name : 1-MONTAUK_HY_AT_N._PHILLIPS_AV_11-12-15_275788_11-12-2015
Site Code :
Start Date : 11/12/2015
Page No : 2

	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	12	60	1	0	73	1	41	9	0	51	17	8	7	0	32	7	4	5	0	16	172
08:15 AM	5	74	1	0	80	2	50	17	0	69	11	3	6	0	20	2	3	4	0	9	178
08:30 AM	7	73	1	0	81	2	62	16	0	80	18	7	5	0	30	3	6	7	0	16	207
08:45 AM	9	89	1	0	99	3	65	13	0	81	23	5	8	0	36	3	5	3	0	11	227
Total Volume	33	296	4	0	333	8	218	55	0	281	69	23	26	0	118	15	18	19	0	52	784
% App. Total	9.9	88.9	1.2	0		2.8	77.6	19.6	0		58.5	19.5	22	0		28.8	34.6	36.5	0		
PHF	.688	.831	1.00	.000	.841	.667	.838	.809	.000	.867	.750	.719	.813	.000	.819	.536	.750	.679	.000	.813	.863
Lights	28	268	3	0	299	6	186	50	0	242	56	18	19	0	93	14	17	19	0	50	684
% Lights	84.8	90.5	75.0	0	89.8	75.0	85.3	90.9	0	86.1	81.2	78.3	73.1	0	78.8	93.3	94.4	100	0	96.2	87.2
Buses	0	5	1	0	6	0	20	2	0	22	3	1	2	0	6	0	0	0	0	0	34
% Buses	0	1.7	25.0	0	1.8	0	9.2	3.6	0	7.8	4.3	4.3	7.7	0	5.1	0	0	0	0	0	4.3
Trucks	5	23	0	0	28	2	12	3	0	17	10	4	5	0	19	1	1	0	0	2	66
% Trucks	15.2	7.8	0	0	8.4	25.0	5.5	5.5	0	6.0	14.5	17.4	19.2	0	16.1	6.7	5.6	0	0	3.8	8.4



NELSON & POPE

572 Walt Whitman Road
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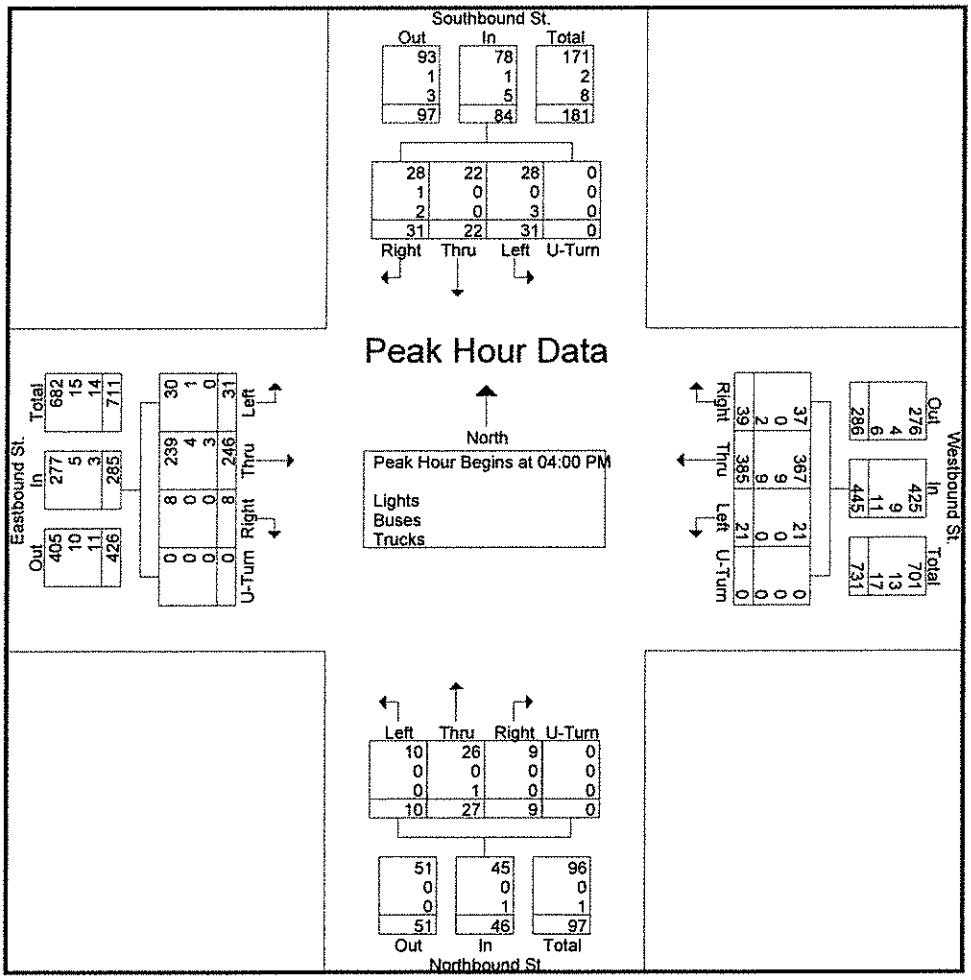
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**10**	57	2	0	69	**9**	**105**	12	0	**126**	6	4	**13**	0	**23**	**4**	7	**6**	0	**17**	**235**
04:15 PM	9	**75**	0	0	**84**	4	86	5	0	95	**12**	4	7	0	23	3	**8**	1	0	12	214
04:30 PM	3	54	**4**	0	61	3	99	7	0	109	6	6	6	0	18	3	6	1	0	10	198
04:45 PM	9	60	2	0	71	5	95	**15**	0	115	7	**8**	5	0	20	0	6	1	0	7	213
Total Volume	31	246	8	0	285	21	385	39	0	445	31	22	31	0	84	10	27	9	0	46	860
% App. Total	10.9	86.3	2.8	0		4.7	86.5	8.8	0		36.9	26.2	36.9	0		21.7	58.7	19.6	0		
PHF	.775	.820	.500	.000	.848	.583	.917	.650	.000	.883	.646	.688	.596	.000	.913	.625	.844	.375	.000	.676	.915
Lights	30	239	8	0	277	21	367	37	0	425	28	22	28	0	78	10	26	9	0	45	825
% Lights	96.8	97.2	100	0	97.2	100	95.3	94.9	0	95.5	90.3	100	90.3	0	92.9	100	96.3	100	0	97.8	95.9
Buses	1	4	0	0	5	0	9	0	0	9	0	0	1	0	1	0	0	0	0	0	15
% Buses	3.2	1.6	0	0	1.8	0	2.3	0	0	2.0	0	0	3.2	0	1.2	0	0	0	0	0	1.7
Trucks	0	3	0	0	3	0	9	2	0	11	3	0	2	0	5	0	1	0	0	1	20
% Trucks	0	1.2	0	0	1.1	0	2.3	5.1	0	2.5	9.7	0	6.5	0	6.0	0	3.7	0	0	2.2	2.3



NELSON & POPE

572 Walt Whitman Road
Melville, NY, 11747

File Name : 1-MONTAUK_HY_AT_N.PHILLIPS_AV_11-14-15_275789_11-14-2015
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Groups Printed- Lights - Buses - Trucks

	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
11:00 AM	3	63	12	0	78	13	62	2	0	77	2	7	4	0	13	7	3	8	0	18	186
11:15 AM	2	54	13	0	69	8	76	2	0	86	6	10	2	0	18	22	3	11	0	36	209
11:30 AM	5	71	18	0	94	10	75	2	0	87	1	3	3	0	7	14	7	7	0	28	216
11:45 AM	2	89	19	0	110	15	67	2	0	84	0	5	6	1	12	23	10	13	0	46	252
Total	12	277	62	0	351	46	280	8	0	334	9	25	15	1	50	66	23	39	0	128	863
12:00 PM	7	71	12	0	90	13	64	2	0	79	4	6	5	0	15	15	4	11	0	30	214
12:15 PM	6	76	12	0	94	15	78	3	0	96	2	6	4	0	12	16	10	8	0	34	236
12:30 PM	6	86	8	1	101	10	67	2	0	79	3	14	5	0	22	10	6	7	0	23	225
12:45 PM	6	65	10	0	81	11	77	1	0	89	4	6	4	0	14	10	2	10	0	22	206
Total	25	298	42	1	366	49	286	8	0	343	13	32	18	0	63	51	22	36	0	109	881
01:00 PM	3	78	9	0	90	8	70	4	0	82	3	6	3	0	12	12	7	9	0	28	212
01:15 PM	7	70	14	0	91	5	71	2	0	78	5	6	4	0	15	15	6	2	0	23	207
01:30 PM	3	46	14	0	63	6	60	3	0	69	3	11	4	0	18	5	7	3	0	15	165
01:45 PM	5	65	13	0	83	5	64	3	0	72	2	4	2	0	8	18	3	6	0	27	190
Total	18	259	50	0	327	24	265	12	0	301	13	27	13	0	53	50	23	20	0	93	774
Grand Total	55	834	154	1	1044	119	831	28	0	978	35	84	46	1	166	167	68	95	0	330	2518
Apprch %	5.3	79.9	14.8	0.1		12.2	85	2.9	0		21.1	50.6	27.7	0.6		50.6	20.6	28.8	0		
Total %	2.2	33.1	6.1	0	41.5	4.7	33	1.1	0	38.8	1.4	3.3	1.8	0	6.6	6.6	2.7	3.8	0	13.1	
Lights	54	810	147	1	1012	116	817	26	0	959	34	80	46	1	161	161	65	94	0	320	2452
% Lights	98.2	97.1	95.5	100	96.9	97.5	98.3	92.9	0	98.1	97.1	95.2	100	100	97	96.4	95.6	98.9	0	97	97.4
Buses	0	2	0	0	2	0	4	1	0	5	0	0	0	0	0	0	0	1	0	1	8
% Buses	0	0.2	0	0	0.2	0	0.5	3.6	0	0.5	0	0	0	0	0	0	0	1.1	0	0.3	0.3
Trucks	1	22	7	0	30	3	10	1	0	14	1	4	0	0	5	6	3	0	0	9	58
% Trucks	1.8	2.6	4.5	0	2.9	2.5	1.2	3.6	0	1.4	2.9	4.8	0	0	3	3.6	4.4	0	0	2.7	2.3

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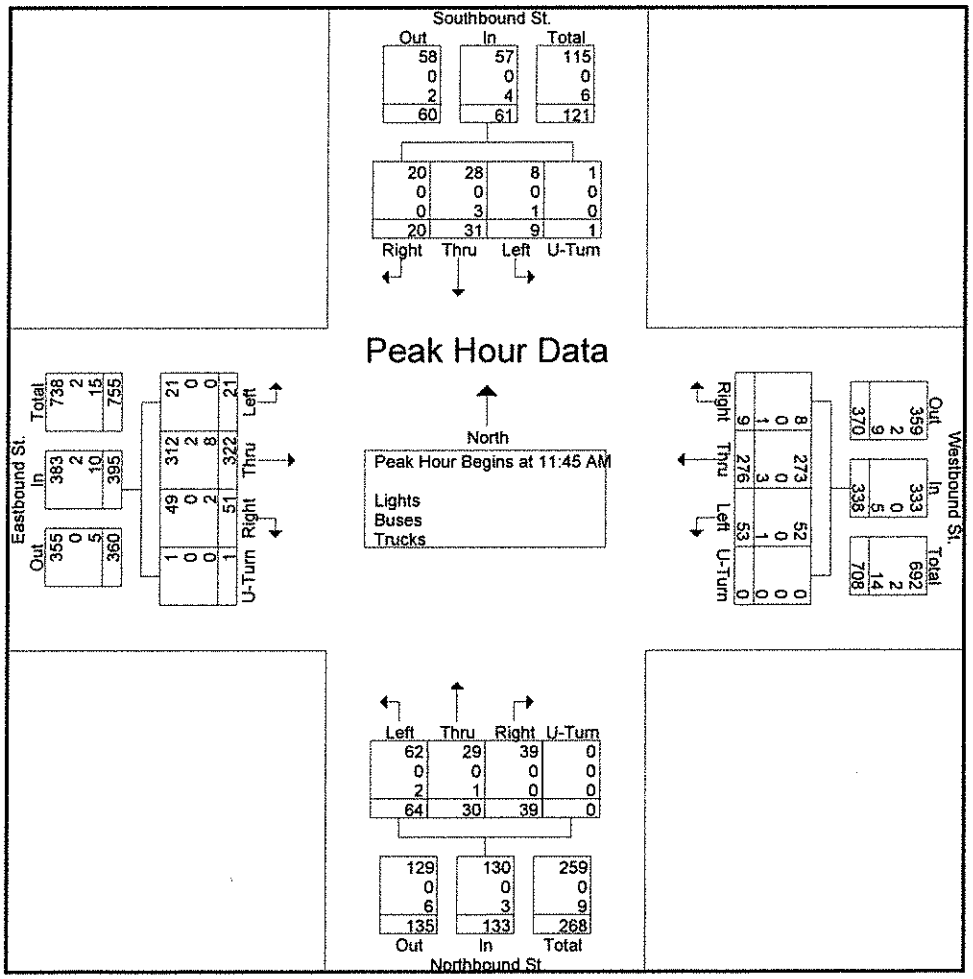
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	2	**89**	**19**	0	**110**	**15**	67	2	0	84	0	5	**6**	**1**	12	**23**	**10**	**13**	0	**46**	**252**
12:00 PM	**7**	71	12	0	90	13	64	2	0	79	**4**	6	5	0	15	15	4	11	0	30	214
12:15 PM	6	76	12	0	94	15	**78**	**3**	0	**96**	2	6	4	0	12	16	10	8	0	34	236
12:30 PM	6	86	8	**1**	101	10	67	2	0	79	3	**14**	5	0	**22**	10	6	7	0	23	225
Total Volume	21	322	51	1	395	53	276	9	0	338	9	31	20	1	61	64	30	39	0	133	927
% App. Total	5.3	81.5	12.9	0.3		15.7	81.7	2.7	0		14.8	50.8	32.8	1.6		48.1	22.6	29.3	0		
PHF	.750	.904	.671	.250	.898	.883	.885	.750	.000	.880	.563	.554	.833	.250	.693	.696	.750	.750	.000	.723	.920
Lights	21	312	49	1	383	52	273	8	0	333	8	28	20	1	57	62	29	39	0	130	903
% Lights	100	96.9	96.1	100	97.0	98.1	98.9	88.9	0	98.5	88.9	90.3	100	100	93.4	96.9	96.7	100	0	97.7	97.4
Buses	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Buses	0	0.6	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Trucks	0	8	2	0	10	1	3	1	0	5	1	3	0	0	4	2	1	0	0	3	22
% Trucks	0	2.5	3.9	0	2.5	1.9	1.1	11.1	0	1.5	11.1	9.7	0	0	6.6	3.1	3.3	0	0	2.3	2.4



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572 Walt Whitman Road
Melville, NY, 11747

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Groups Printed- Lights - Buses - Trucks

	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
07:00 AM	0	91	18	0	109	14	26	0	0	40	1	0	0	0	1	4	0	16	0	20	170
07:15 AM	0	50	15	0	65	15	35	0	0	50	0	0	1	0	1	4	0	10	0	14	130
07:30 AM	0	52	6	0	58	13	32	0	0	45	0	0	0	0	0	3	0	27	0	30	133
07:45 AM	2	101	16	0	119	19	37	0	0	56	1	0	0	0	1	7	0	24	0	31	207
Total	2	294	55	0	351	61	130	0	0	191	2	0	1	0	3	18	0	77	0	95	640
08:00 AM	0	74	12	0	86	24	35	0	0	59	1	0	0	0	1	6	0	18	0	24	170
08:15 AM	0	53	9	0	62	8	35	0	0	43	0	0	0	0	0	7	0	24	0	31	136
08:30 AM	0	43	9	0	52	18	35	2	0	55	0	0	0	0	0	3	0	26	0	29	136
08:45 AM	0	56	15	0	71	18	31	0	0	49	3	1	0	0	4	6	0	20	0	26	150
Total	0	226	45	0	271	68	136	2	0	206	4	1	0	0	5	22	0	88	0	110	592
04:00 PM	0	41	6	0	47	14	93	0	0	107	0	0	0	0	0	13	0	26	0	39	193
04:15 PM	1	32	5	0	38	15	67	1	0	83	1	0	0	0	1	7	1	21	0	29	151
04:30 PM	0	35	6	0	41	13	74	0	0	87	0	1	0	0	1	7	0	8	0	15	144
04:45 PM	0	36	3	0	39	19	59	2	0	80	1	1	0	0	2	9	1	17	0	27	148
Total	1	144	20	0	165	61	293	3	0	357	2	2	0	0	4	36	2	72	0	110	636
05:00 PM	0	31	3	0	34	23	83	0	0	106	1	0	0	0	1	11	0	21	0	32	173
05:15 PM	1	28	6	0	35	18	62	0	0	80	0	0	0	0	0	6	0	11	0	17	132
05:30 PM	0	26	2	0	28	9	41	0	0	50	0	0	0	0	0	5	0	12	0	17	95
05:45 PM	0	30	9	1	40	14	37	0	0	51	0	0	0	0	0	5	0	8	0	13	104
Total	1	115	20	1	137	64	223	0	0	287	1	0	0	0	1	27	0	52	0	79	504
Grand Total	4	779	140	1	924	254	782	5	0	1041	9	3	1	0	13	103	2	289	0	394	2372
Apprch %	0.4	84.3	15.2	0.1		24.4	75.1	0.5	0		69.2	23.1	7.7	0		26.1	0.5	73.4	0		
Total %	0.2	32.8	5.9	0	39	10.7	33	0.2	0	43.9	0.4	0.1	0	0	0.5	4.3	0.1	12.2	0	16.6	
Lights	4	734	127	1	866	228	736	5	0	969	9	3	1	0	13	93	2	264	0	359	2207
% Lights	100	94.2	90.7	100	93.7	89.8	94.1	100	0	93.1	100	100	100	0	100	90.3	100	91.3	0	91.1	93
Buses	0	7	7	0	14	5	9	0	0	14	0	0	0	0	0	2	0	6	0	8	36
% Buses	0	0.9	5	0	1.5	2	1.2	0	0	1.3	0	0	0	0	0	1.9	0	2.1	0	2	1.5
Trucks	0	38	6	0	44	21	37	0	0	58	0	0	0	0	0	8	0	19	0	27	129
% Trucks	0	4.9	4.3	0	4.8	8.3	4.7	0	0	5.6	0	0	0	0	0	7.8	0	6.6	0	6.9	5.4

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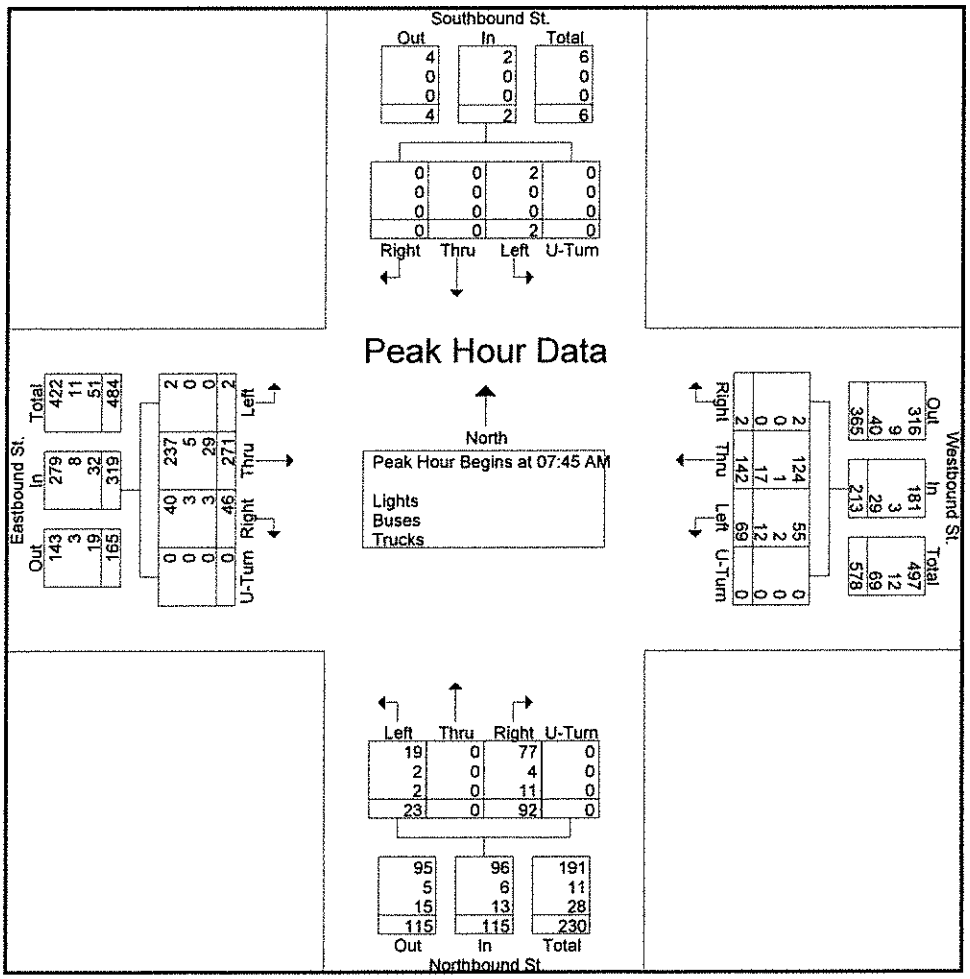
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**2**	**101**	**16**	0	**119**	19	**37**	0	0	56	**1**	0	0	0	**1**	**7**	0	24	0	**31**	**207**
08:00 AM	0	74	12	0	86	**24**	35	0	0	**59**	1	0	0	0	1	6	0	18	0	24	170
08:15 AM	0	53	9	0	62	8	35	0	0	43	0	0	0	0	0	7	0	24	0	31	136
08:30 AM	0	43	9	0	52	18	35	**2**	0	55	0	0	0	0	0	3	0	**26**	0	29	136
Total Volume	2	271	46	0	319	69	142	2	0	213	2	0	0	0	2	23	0	92	0	115	649
% App. Total	0.6	85	14.4	0		32.4	66.7	0.9	0		100	0	0	0		20	0	80	0		
PHF	.250	.671	.719	.000	.670	.719	.959	.250	.000	.903	.500	.000	.000	.000	.500	.821	.000	.885	.000	.927	.784
Lights	2	237	40	0	279	55	124	2	0	181	2	0	0	0	2	19	0	77	0	96	558
% Lights	100	87.5	87.0	0	87.5	79.7	87.3	100	0	85.0	100	0	0	0	100	82.6	0	83.7	0	83.5	86.0
Buses	0	5	3	0	8	2	1	0	0	3	0	0	0	0	0	2	0	4	0	6	17
% Buses	0	1.8	6.5	0	2.5	2.9	0.7	0	0	1.4	0	0	0	0	0	8.7	0	4.3	0	5.2	2.6
Trucks	0	29	3	0	32	12	17	0	0	29	0	0	0	0	0	2	0	11	0	13	74
% Trucks	0	10.7	6.5	0	10.0	17.4	12.0	0	0	13.6	0	0	0	0	0	8.7	0	12.0	0	11.3	11.4



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572 Walt Whitman Road
Melville, NY, 11747

File Name : 2-OLD_COUNTRY_RD_AT_N._PHILLIPS_AV_11-12-15_275786_11-12-2015
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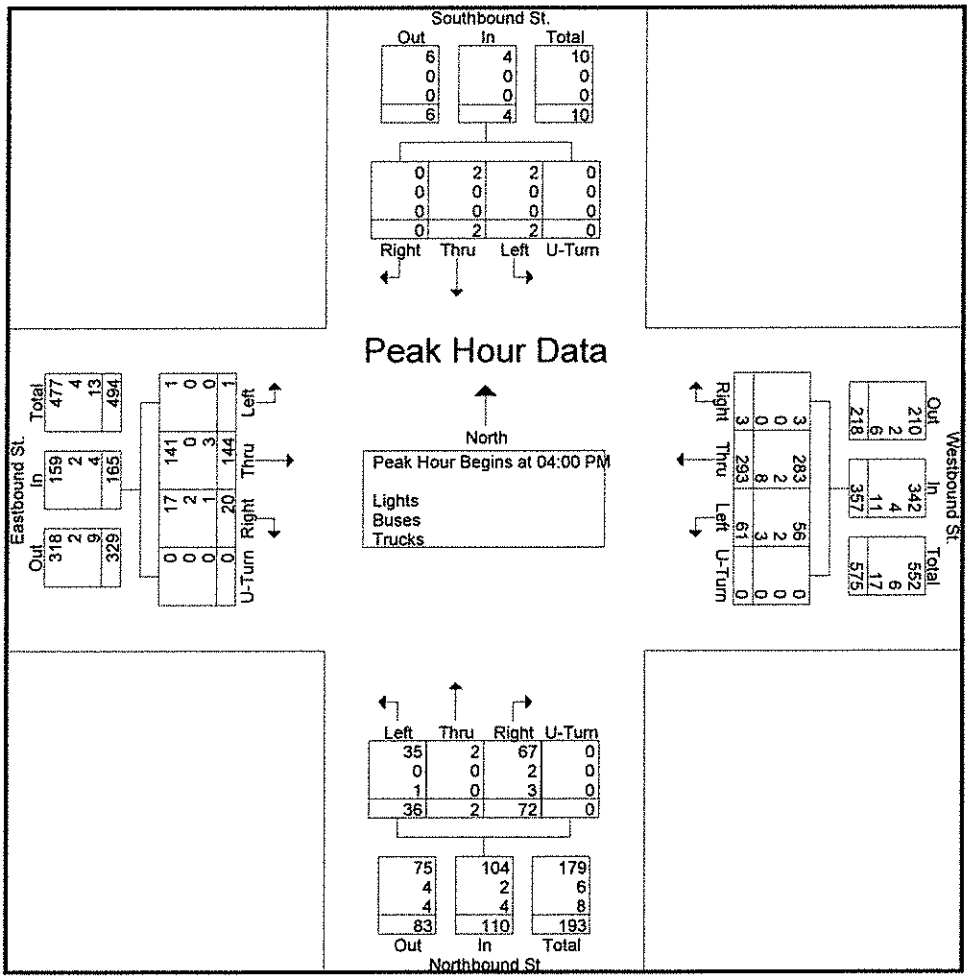
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**41**	**6**	0	**47**	14	**93**	0	0	**107**	0	0	0	0	0	**13**	0	**26**	0	**39**	**193**
04:15 PM	**1**	32	5	0	38	15	67	1	0	83	**1**	0	0	0	1	7	**1**	21	0	29	151
04:30 PM	0	35	6	0	41	13	74	0	0	87	0	**1**	0	0	1	7	0	8	0	15	144
04:45 PM	0	36	3	0	39	**19**	59	**2**	0	80	1	1	0	0	**2**	9	1	17	0	27	148
Total Volume	1	144	20	0	165	61	293	3	0	357	2	2	0	0	4	36	2	72	0	110	636
% App. Total	0.6	87.3	12.1	0		17.1	82.1	0.8	0		50	50	0	0		32.7	1.8	65.5	0		
PHF	.250	.878	.833	.000	.878	.803	.788	.375	.000	.834	.500	.500	.000	.000	.500	.692	.500	.692	.000	.705	.824
Lights	1	141	17	0	159	56	283	3	0	342	2	2	0	0	4	35	2	67	0	104	609
% Lights	100	97.9	85.0	0	96.4	91.8	96.6	100	0	95.8	100	100	0	0	100	97.2	100	93.1	0	94.5	95.8
Buses	0	0	2	0	2	2	2	0	0	4	0	0	0	0	0	0	0	2	0	2	8
% Buses	0	0	10.0	0	1.2	3.3	0.7	0	0	1.1	0	0	0	0	0	0	0	2.8	0	1.8	1.3
Trucks	0	3	1	0	4	3	8	0	0	11	0	0	0	0	0	1	0	3	0	4	19
% Trucks	0	2.1	5.0	0	2.4	4.9	2.7	0	0	3.1	0	0	0	0	0	2.8	0	4.2	0	3.6	3.0



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572 Walt Whitman Road
Melville, NY, 11747

File Name : 2-OLD_COUNTRY_RD_AT_N._PIHILLIPS_AV_11-14-15_275787_11-14-2015
Site Code :
Start Date : 11/14/2015
Page No : 1

Groups Printed- Lights - Buses - Trucks

	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
11:00 AM	0	46	11	0	57	8	43	0	0	51	0	0	0	0	0	5	0	23	0	28	136
11:15 AM	0	37	11	0	48	19	52	0	0	71	1	0	0	0	1	12	0	15	0	27	147
11:30 AM	0	44	8	0	52	17	69	0	0	86	0	0	0	0	0	12	0	14	0	26	164
11:45 AM	0	43	5	0	48	26	32	0	0	58	0	0	0	0	0	12	1	25	0	38	144
Total	0	170	35	0	205	70	196	0	0	266	1	0	0	0	1	41	1	77	0	119	591
12:00 PM	1	38	14	0	53	20	68	0	0	88	0	1	2	0	3	11	0	18	0	29	173
12:15 PM	0	40	4	0	44	21	48	0	0	69	1	0	0	0	1	9	0	24	0	33	147
12:30 PM	0	35	6	0	41	13	50	0	0	63	0	0	0	0	0	13	0	20	0	33	137
12:45 PM	0	40	7	0	47	14	58	0	0	72	0	0	0	0	0	7	0	29	0	36	155
Total	1	153	31	0	185	68	224	0	0	292	1	1	2	0	4	40	0	91	0	131	612
01:00 PM	0	35	5	0	40	23	42	0	0	65	0	0	0	0	0	5	0	17	0	22	127
01:15 PM	0	35	10	0	45	10	46	0	0	56	0	0	0	0	0	4	1	15	0	20	121
01:30 PM	0	37	6	0	43	12	79	0	0	91	0	0	0	0	0	6	0	21	0	27	161
01:45 PM	0	38	9	0	47	18	49	0	0	67	0	0	1	0	1	9	0	14	0	23	138
Total	0	145	30	0	175	63	216	0	0	279	0	0	1	0	1	24	1	67	0	92	547
Grand Total	1	468	96	0	565	201	636	0	0	837	2	1	3	0	6	105	2	235	0	342	1750
Apprch %	0.2	82.8	17	0		24	76	0	0		33.3	16.7	50	0		30.7	0.6	68.7	0		
Total %	0.1	26.7	5.5	0	32.3	11.5	36.3	0	0	47.8	0.1	0.1	0.2	0	0.3	6	0.1	13.4	0	19.5	
Lights	1	453	91	0	545	197	616	0	0	813	2	1	3	0	6	98	2	226	0	326	1690
% Lights	100	96.8	94.8	0	96.5	98	96.9	0	0	97.1	100	100	100	0	100	93.3	100	96.2	0	95.3	96.6
Buses	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
% Buses	0	0.4	0	0	0.4	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.2
Trucks	0	13	5	0	18	4	19	0	0	23	0	0	0	0	0	7	0	9	0	16	57
% Trucks	0	2.8	5.2	0	3.2	2	3	0	0	2.7	0	0	0	0	0	6.7	0	3.8	0	4.7	3.3

NELSON & POPE

572 Walt Whitman Road
Melville, NY, 11747

File Name : 2-OLD_COUNTRY_RD_AT_N._PIHILLIPS_AV_11-14-15_275787_11-14-2015
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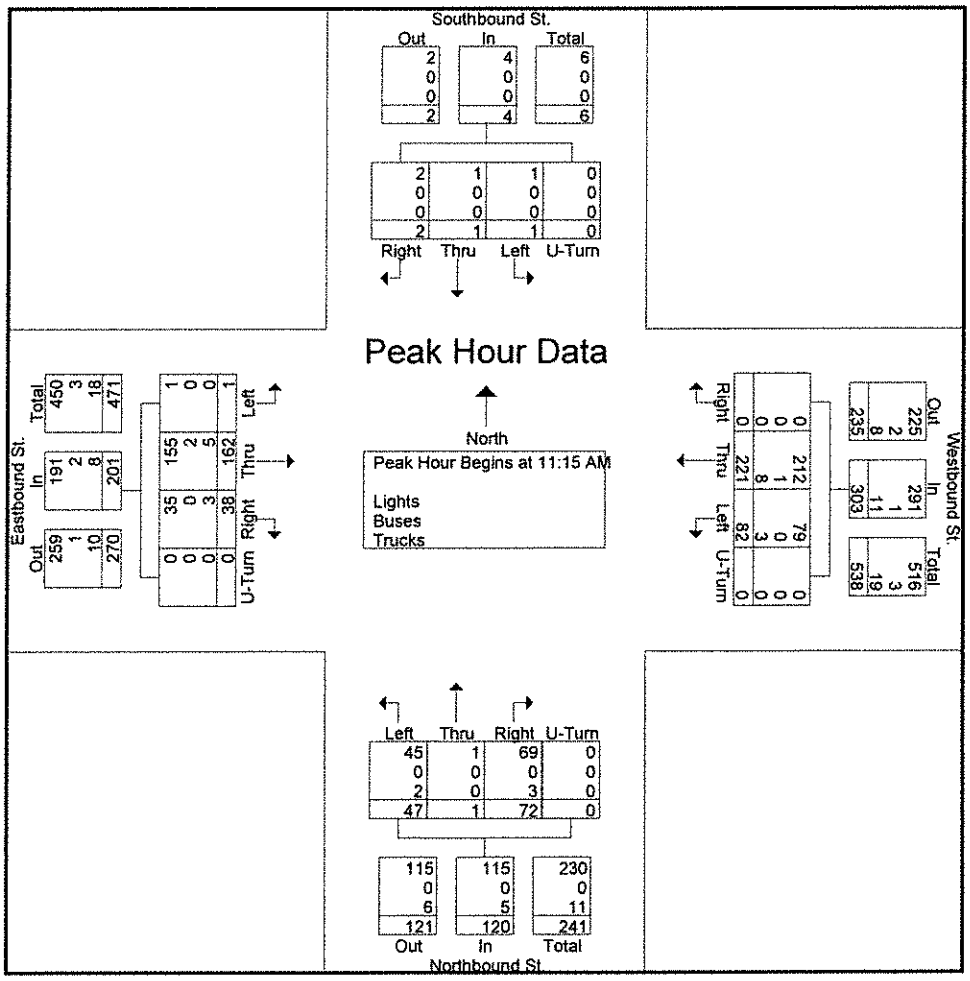
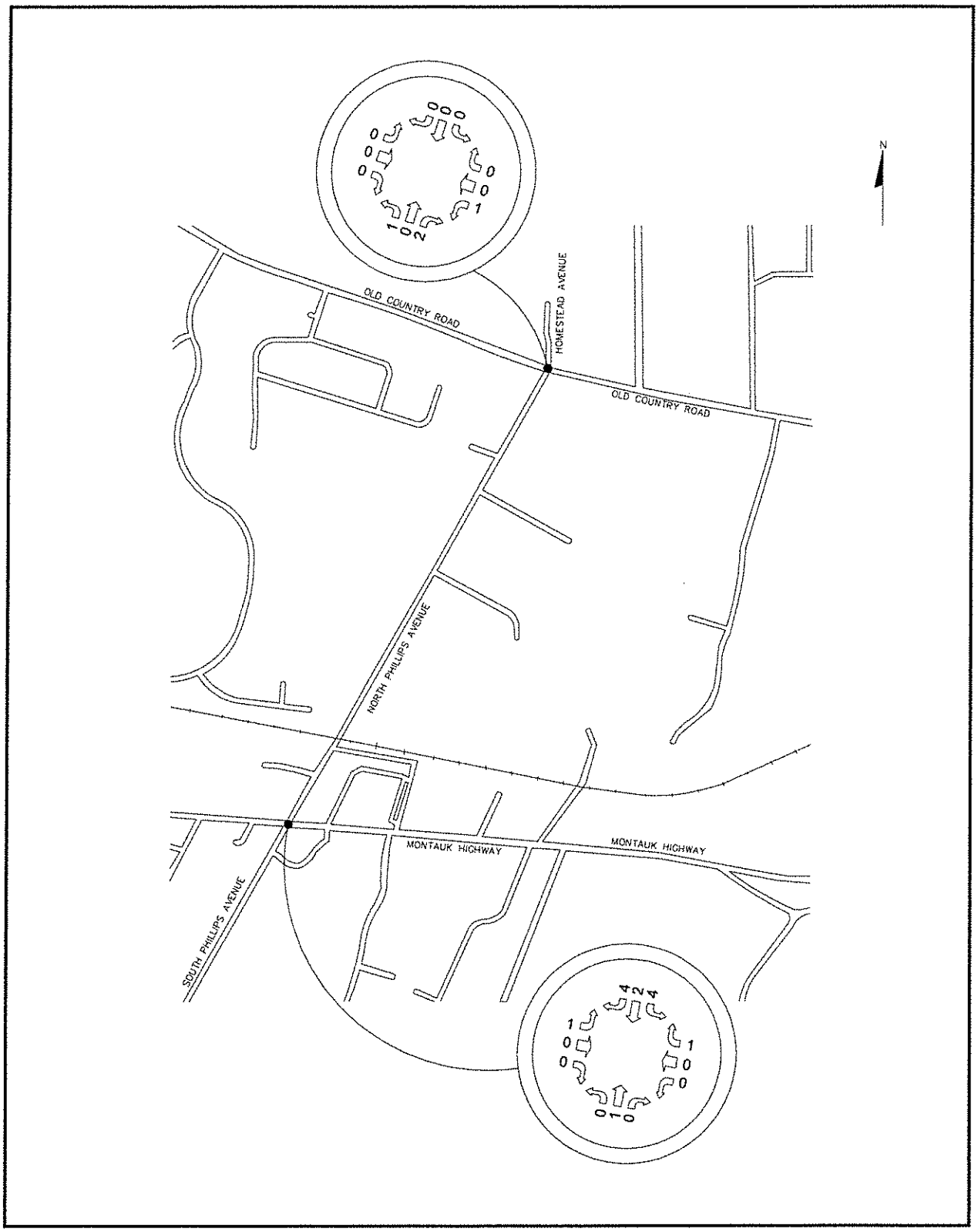
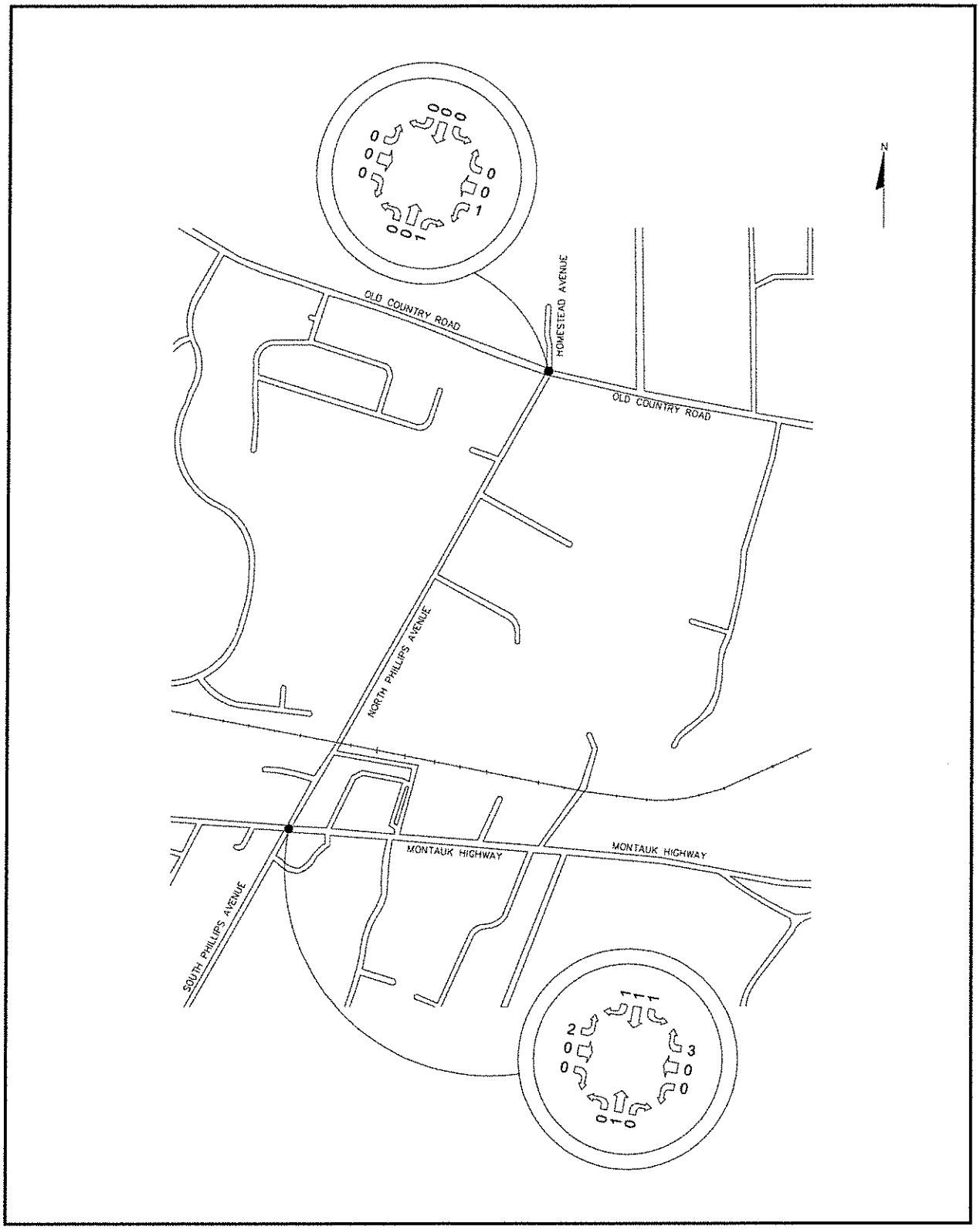
	Eastbound St. Eastbound					Westbound St. Westbound					Southbound St. Southbound					Northbound St. Northbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:15 AM																					
11:15 AM	0	37	11	0	48	19	52	0	0	71	1	0	0	0	1	12	0	15	0	27	147
11:30 AM	0	44	8	0	52	17	69	0	0	86	0	0	0	0	0	12	0	14	0	26	164
11:45 AM	0	43	5	0	48	26	32	0	0	58	0	0	0	0	0	12	1	25	0	38	144
12:00 PM	1	38	14	0	53	20	68	0	0	88	0	1	2	0	3	11	0	18	0	29	173
Total Volume	1	162	38	0	201	82	221	0	0	303	1	1	2	0	4	47	1	72	0	120	628
% App. Total	0.5	80.6	18.9	0		27.1	72.9	0	0		25	25	50	0		39.2	0.8	60	0		
PHF	.250	.920	.679	.000	.948	.788	.801	.000	.000	.861	.250	.250	.250	.000	.333	.979	.250	.720	.000	.789	.908
Lights	1	155	35	0	191	79	212	0	0	291	1	1	2	0	4	45	1	69	0	115	601
% Lights	100	95.7	92.1	0	95.0	96.3	95.9	0	0	96.0	100	100	100	0	100	95.7	100	95.8	0	95.8	95.7
Buses	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
% Buses	0	1.2	0	0	1.0	0	0.5	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.5
Trucks	0	5	3	0	8	3	8	0	0	11	0	0	0	0	0	2	0	3	0	5	24
% Trucks	0	3.1	7.9	0	4.0	3.7	3.6	0	0	3.6	0	0	0	0	0	4.3	0	4.2	0	4.2	3.8



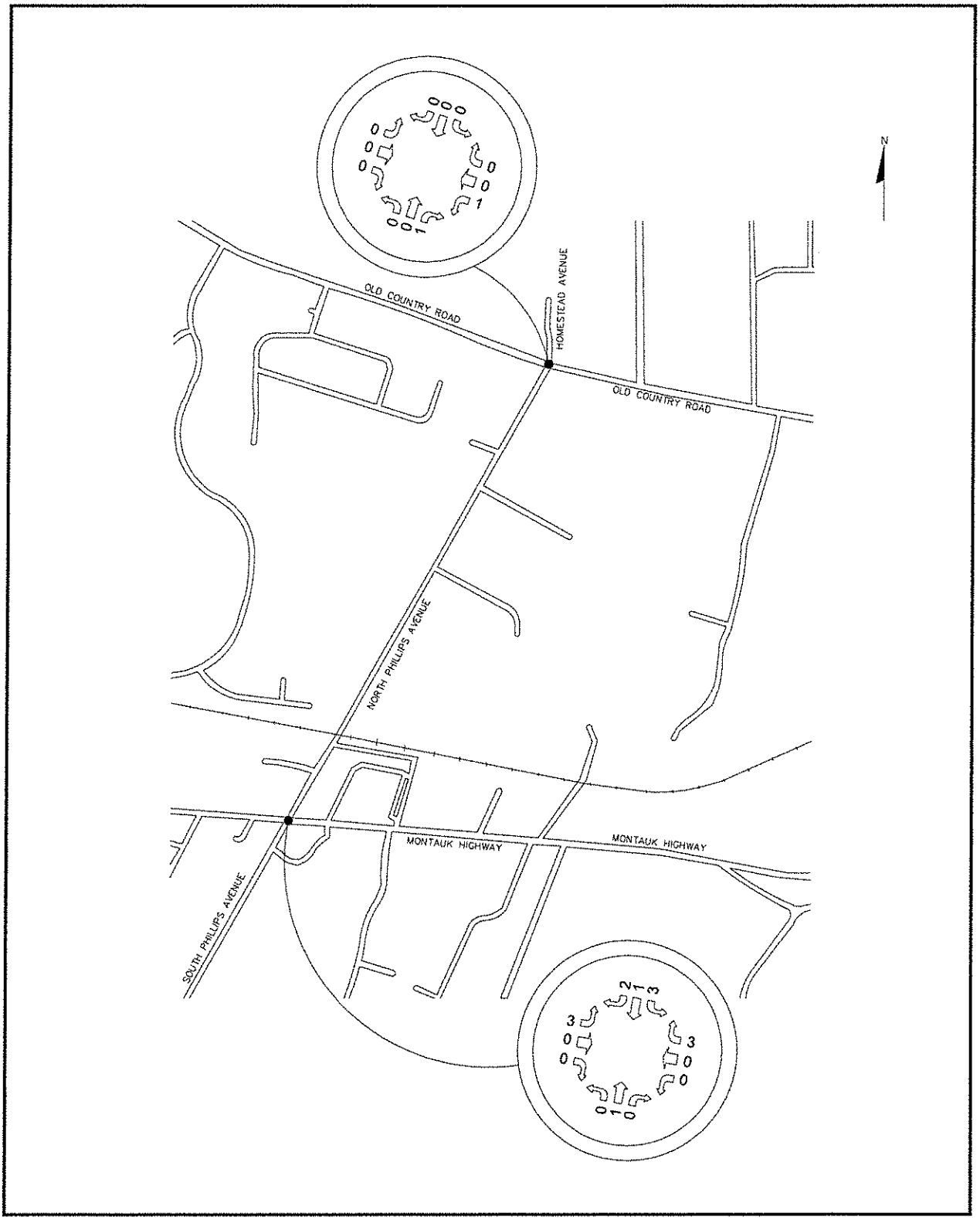
Appendix B: Other Planned Projects



Other Planned Projects AM Volumes



Other Planned Projects PM Volumes



Other Planned Projects Saturday Volumes

Appendix C: Trip Generation

Detailed Land Use Data

For 50 Dwelling Units of CONDO 1

(230) Residential Condominium/Townhouse

Project: Speonk Commons

Open Date: 1/14/2016

Analysis Date: 1/14/2016

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday AM Peak Hour of Adjacent Street Traffic	30	0	0.44	0.15	1.61	0.69	213	17	83	True	Ln(T) = 0.80 Ln(X) + 0.26	0.76
Source : Trip Generation Manual 9th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	34	0	0.52	0.18	1.24	0.75	205	67	33	True	Ln(T) = 0.82 Ln(X) + 0.32	0.8
Source : Trip Generation Manual 9th Edition												
Saturday Peak Hour of Generator	57	0	0.47	0.14	0.93	0.71	228	54	46	True	T = 0.29(X) + 42.63	0.84
Source : Trip Generation Manual 9th Edition												

Detailed Land Use Data

For 2.3 Gross Leasable Area 1000 SF of CENTERSHOPPING 1

(820) Shopping Center

Project: Speonk Commons

Open Date: 1/14/2016

Analysis Date: 1/14/2016

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday AM Peak Hour of Adjacent Street Traffic Source : Trip Generation Manual 9th Edition	2	0	0.96	0.1	9.05	1.31	310	62	38	False	Ln(T) = 0.61 Ln(X) + 2.24	0.56
Weekday PM Peak Hour of Adjacent Street Traffic Source : Trip Generation Manual 9th Edition	9	3	3.71	0.68	29.27	2.74	376	48	52	False	Ln(T) = 0.67 Ln(X) + 3.31	0.81
Saturday Peak Hour of Generator Source : Trip Generation Manual 9th Edition	11	0	4.82	1.46	18.32	3.1	458	52	48	False	Ln(T) = 0.65 Ln(X) + 3.78	0.83

Detailed Land Use Data

For 9 Dwelling Units of SFHOUSE 1

(210) Single-Family Detached Housing

Project: Speonk Commons OPP

Open Date: 1/14/2016

Analysis Date: 1/14/2016

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday AM Peak Hour of Adjacent Street Traffic Source : Trip Generation Manual 9th Edition	16	0	0.75	0.33	2.27	0.9	194	25	75	True	T = 0.70(X) + 9.74	0.89
Weekday PM Peak Hour of Adjacent Street Traffic Source : Trip Generation Manual 9th Edition	12	0	1	0.42	2.98	1.05	207	63	37	True	Ln(T) = 0.90 Ln(X) + 0.51	0.91
Saturday Peak Hour of Generator Source : Trip Generation Manual 9th Edition	17	0	0.93	0.5	1.75	0.99	215	54	46	True	T = 0.89(X) + 8.77	0.91

Appendix D: Level of Service Definitions

LEVEL OF SERVICE: SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The levels of service range between level of service A (relatively congestion-free) and level of service F (congested).

The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents at an intersection. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road. The portion of the total delay attributed to the control facility is called the control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Control delay may also be referred to as signal delay for signalized intersections.

Level of service criteria for signalized intersections is determined in terms of the average control delay per vehicle. The following average control delays are used to determine approach levels of service:

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio*	
	≤1.0	>1.0
≤ 10	A	F
> 10 – 20	B	F
> 20-35	C	F
> 35-55	D	F
> 55 – 80	E	F
> 80	F	F

Note: *For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

Level of Service A describes operations with very low control delay. This occurs when progression is extremely favorable; most vehicles arrive during the green phase and do not stop at all. Short traffic signal cycles may contribute to low delay.

Level of Service B generally occurs with good progression and/or short traffic signal cycle lengths. More vehicles stop than for level of service A, causing higher average delays.

Level of Service C has higher delays than level of service B. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures, where motorists are required to wait through an entire signal cycle, may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

Level of Service D At this level, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume-to-capacity ratios. The proportion of stopping vehicles increases. Individual cycle failures are noticeable.

Level of Service E is considered the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures occur frequently.

Level of Service F is considered unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may occur at volume to capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

LEVEL OF SERVICE: TWO WAY STOP CONTROLLED INTERSECTIONS

The quality of traffic service at a two-way stop controlled, or "TWSC," intersection is measured according to the level of service and capacity of individual legs. The level of service ranges from LOS A to LOS F, just as with signalized intersections.

The right of way at the TWSC intersection is controlled by stop signs on two opposing legs of an intersection (on one leg of a "T"-type intersection). The capacity of a controlled leg is based on the distribution of gaps in the major street traffic flow, driver judgment in selecting a gap through which to execute the desired maneuver and the follow up time required by each driver in a queue.

The level of service for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during conditions with ideal geometry and in the absence of incidents, control, and traffic. This program only quantifies that portion of the total delay attributed to traffic control measures, either traffic signals or stop signs. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Average control delay for any particular minor movement is a function of the approach and the degree of saturation.

The expectation is that TWSC intersections are designed to carry smaller traffic volumes than signalized intersections. Therefore, the delay threshold times are lower for the same LOS grades. The following average control delays are used to determine approach levels of service:

Level of Service A	$\leq$ 10 seconds per vehicle
Level of Service B	> 10 and $\leq$ 15 seconds per vehicle
Level of Service C	> 15 and $\leq$ 25 seconds per vehicle
Level of Service D	> 25 and $\leq$ 35 seconds per vehicle
Level of Service E	> 35 and $\leq$ 50 seconds per vehicle
Level of Service F	> 50 seconds per vehicle

Appendix E: Capacity Analysis/Level of Service Worksheets

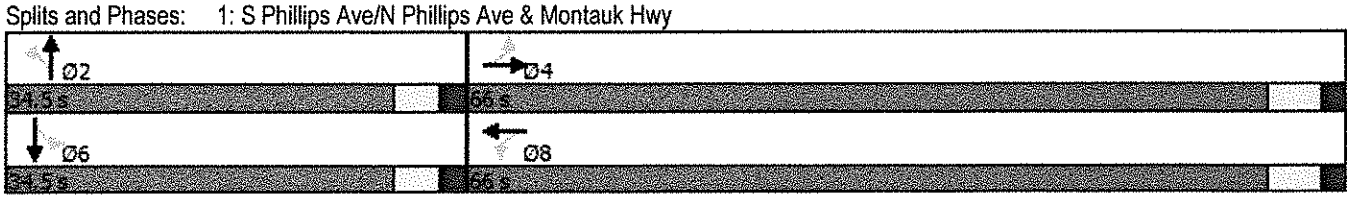
Existing Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	33	296	8	218	15	18	69	23
Future Volume (vph)	33	296	8	218	15	18	69	23
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	27.5	27.5	27.5	27.5		8.9		10.2
Actuated g/C Ratio	0.56	0.56	0.56	0.56		0.18		0.21
v/c Ratio	0.08	0.38	0.02	0.36		0.23		0.54
Control Delay	6.6	8.4	6.2	7.7		17.4		22.7
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	6.6	8.4	6.2	7.7		17.4		22.7
LOS	A	A	A	A		B		C
Approach Delay		8.2		7.6		17.4		22.7
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 49.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 49.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	271	46	69	142	2	23	0	93	2	0	0
Future Volume (Veh/h)	2	271	46	69	142	2	23	0	93	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.90	0.90	0.90	0.93	0.93	0.93	0.50	0.50	0.50
Hourly flow rate (vph)	3	404	69	77	158	2	25	0	100	4	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	160			473			758	758	438	858	792	159
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	160			473			758	758	438	858	792	159
tC, single (s)	4.1			4.3			7.3	6.5	6.4	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			92			91	100	83	98	100	100
cM capacity (veh/h)	1432			1001			287	312	590	218	298	892

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	476	237	125	4
Volume Left	3	77	25	4
Volume Right	69	2	100	0
cSH	1432	1001	487	218
Volume to Capacity	0.00	0.08	0.26	0.02
Queue Length 95th (ft)	0	6	25	1
Control Delay (s)	0.1	3.4	14.9	21.8
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	3.4	14.9	21.8
Approach LOS			B	C

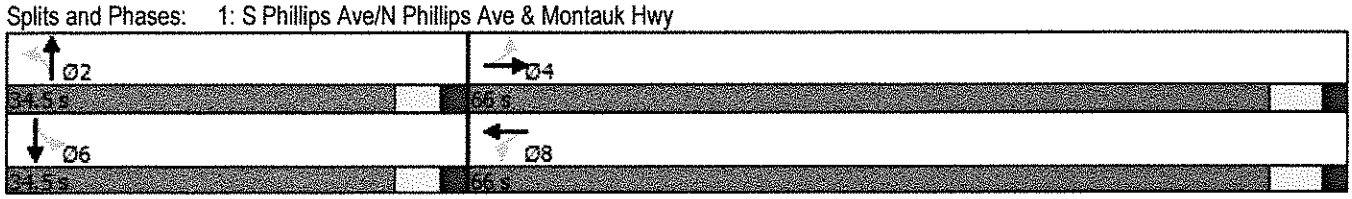
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	31	246	21	385	10	27	31	22
Future Volume (vph)	31	246	21	385	10	27	31	22
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	31.1	31.1	31.1	31.1		7.4		7.4
Actuated g/C Ratio	0.74	0.74	0.74	0.74		0.18		0.18
v/c Ratio	0.06	0.23	0.03	0.38		0.24		0.33
Control Delay	5.0	4.9	4.9	6.0		17.5		15.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	5.0	4.9	4.9	6.0		17.5		15.0
LOS	A	A	A	A		B		B
Approach Delay		4.9		5.9		17.5		15.0
Approach LOS		A		A		B		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 42.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 7.2 Intersection LOS: A
Intersection Capacity Utilization 43.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	144	20	61	293	3	36	2	72	2	2	0
Future Volume (Veh/h)	1	144	20	61	293	3	36	2	72	2	2	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.71	0.71	0.71	0.50	0.50	0.50
Hourly flow rate (vph)	1	164	23	73	353	4	51	3	101	4	4	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	357			187			680	680	176	781	690	355
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	357			187			680	680	176	781	690	355
tC, single (s)	4.1			4.2			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			95			85	99	88	98	99	100
cM capacity (veh/h)	1213			1352			345	355	855	264	350	693

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	188	430	155	8
Volume Left	1	73	51	4
Volume Right	23	4	101	0
cSH	1213	1352	565	301
Volume to Capacity	0.00	0.05	0.27	0.03
Queue Length 95th (ft)	0	4	28	2
Control Delay (s)	0.0	1.8	13.8	17.3
Lane LOS	A	A	B	C
Approach Delay (s)	0.0	1.8	13.8	17.3
Approach LOS			B	C

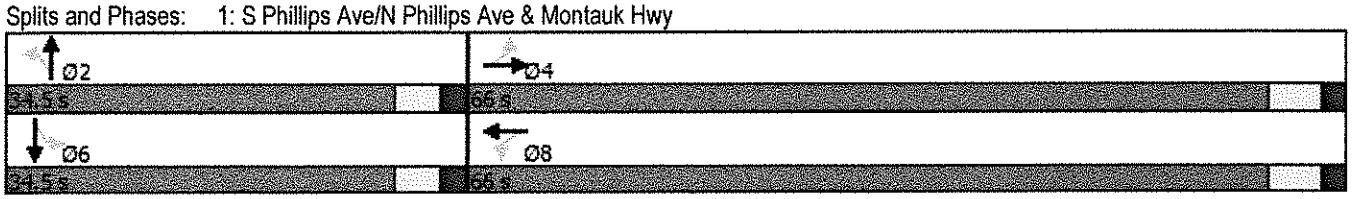
Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	24	368	61	316	74	35	11	36
Future Volume (vph)	24	368	61	316	74	35	11	36
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	25.9	25.9	25.9	25.9		12.4		11.9
Actuated g/C Ratio	0.52	0.52	0.52	0.52		0.25		0.24
v/c Ratio	0.05	0.52	0.17	0.40		0.61		0.25
Control Delay	7.5	10.9	8.6	9.5		24.7		13.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.5	10.9	8.6	9.5		24.7		13.6
LOS	A	B	A	A		C		B
Approach Delay		10.7		9.4		24.7		13.6
Approach LOS		B		A		C		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 49.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 73.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	185	44	94	253	0	54	2	83	2	2	3
Future Volume (Veh/h)	2	185	44	94	253	0	54	2	83	2	2	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.79	0.79	0.79	0.33	0.33	0.33
Hourly flow rate (vph)	2	195	46	109	294	0	68	3	105	6	6	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	294			241			746	734	218	840	757	294
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294			241			746	734	218	840	757	294
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			77	99	87	97	98	99
cM capacity (veh/h)	1279			1314			298	320	817	232	311	750

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	243	403	176	21
Volume Left	2	109	68	6
Volume Right	46	0	105	9
cSH	1279	1314	481	367
Volume to Capacity	0.00	0.08	0.37	0.06
Queue Length 95th (ft)	0	7	42	5
Control Delay (s)	0.1	2.7	16.8	15.4
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	2.7	16.8	15.4
Approach LOS			C	C

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

No Build Capacity Analyses

Timings
1: S Phillips Ave/N Phillips Ave & Montauk Hwy

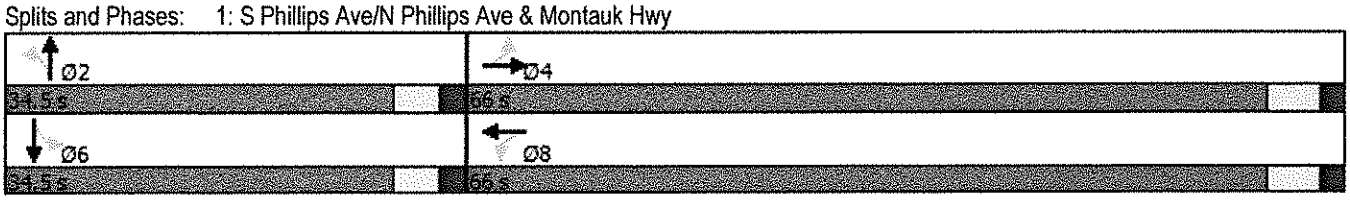
2/1/2016

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	36	308	9	227	16	20	76	26
Future Volume (vph)	36	308	9	227	16	20	76	26
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	25.6	25.6	25.6	25.6		10.0		10.7
Actuated g/C Ratio	0.54	0.54	0.54	0.54		0.21		0.22
v/c Ratio	0.09	0.42	0.02	0.39		0.22		0.57
Control Delay	7.2	9.3	6.7	8.5		16.4		22.8
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.2	9.3	6.7	8.5		16.4		22.8
LOS	A	A	A	A		B		C
Approach Delay		9.1		8.4		16.4		22.8
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 47.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 11.6 — Intersection LOS: B
Intersection Capacity Utilization 53.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	282	48	73	148	3	25	0	98	3	0	0
Future Volume (Veh/h)	3	282	48	73	148	3	25	0	98	3	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.90	0.90	0.90	0.93	0.93	0.93	0.50	0.50	0.50
Hourly flow rate (vph)	4	421	72	81	164	3	27	0	105	6	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	167			493			792	794	457	898	828	166
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	167			493			792	794	457	898	828	166
tC, single (s)	4.1			4.3			7.3	6.5	6.4	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			92			90	100	82	97	100	100
cM capacity (veh/h)	1423			984			271	296	576	201	282	884

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	497	248	132	6
Volume Left	4	81	27	6
Volume Right	72	3	105	0
cSH	1423	984	468	201
Volume to Capacity	0.00	0.08	0.28	0.03
Queue Length 95th (ft)	0	7	29	2
Control Delay (s)	0.1	3.5	15.7	23.5
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	3.5	15.7	23.5
Approach LOS			C	C

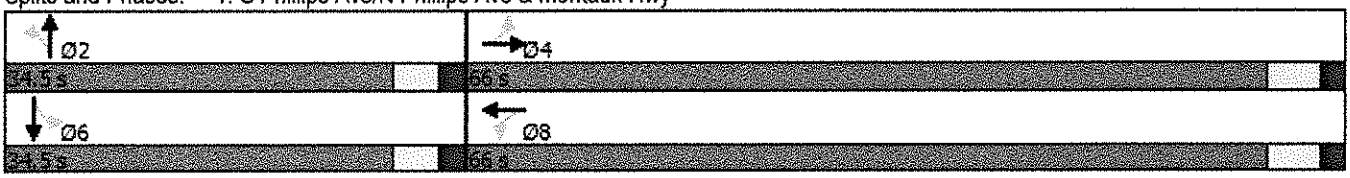
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	35	256	22	401	11	30	34	24
Future Volume (vph)	35	256	22	401	11	30	34	24
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	29.1	29.1	29.1	29.1		7.6		7.6
Actuated g/C Ratio	0.65	0.65	0.65	0.65		0.17		0.17
v/c Ratio	0.08	0.27	0.04	0.45		0.27		0.37
Control Delay	5.5	5.9	5.1	7.4		18.4		16.1
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	5.5	5.9	5.1	7.4		18.4		16.1
LOS	A	A	A	A		B		B
Approach Delay		5.8		7.3		18.4		16.1
Approach LOS		A		A		B		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 44.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 8.4 Intersection LOS: A
Intersection Capacity Utilization 47.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	150	21	65	305	4	38	3	76	3	3	0
Future Volume (Veh/h)	2	150	21	65	305	4	38	3	76	3	3	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.71	0.71	0.71	0.50	0.50	0.50
Hourly flow rate (vph)	2	170	24	78	367	5	54	4	107	6	6	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	372			194			714	714	182	820	724	370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	372			194			714	714	182	820	724	370
tC, single (s)	4.1			4.2			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			94			83	99	87	98	98	100
cM capacity (veh/h)	1198			1344			325	338	848	245	334	681

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	196	450	165	12
Volume Left	2	78	54	6
Volume Right	24	5	107	0
cSH	1198	1344	542	282
Volume to Capacity	0.00	0.06	0.30	0.04
Queue Length 95th (ft)	0	5	32	3
Control Delay (s)	0.1	1.8	14.5	18.3
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	1.8	14.5	18.3
Approach LOS			B	C

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Timings
1: S Phillips Ave/N Phillips Ave & Montauk Hwy

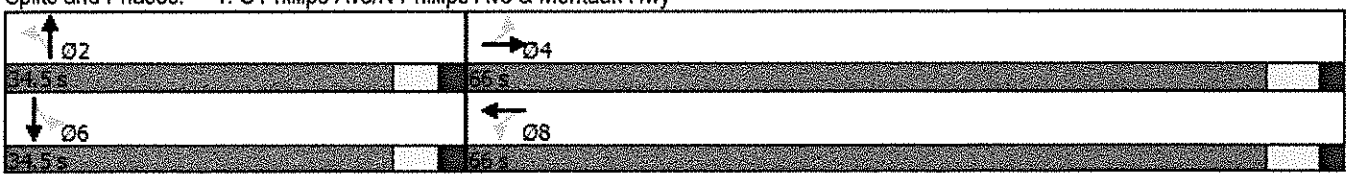
2/1/2016

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	28	383	64	329	77	38	15	39
Future Volume (vph)	28	383	64	329	77	38	15	39
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	26.4	26.4	26.4	26.4		13.0		12.4
Actuated g/C Ratio	0.52	0.52	0.52	0.52		0.25		0.24
v/c Ratio	0.06	0.55	0.19	0.42		0.63		0.29
Control Delay	7.8	11.6	9.2	10.0		25.5		14.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.8	11.6	9.2	10.0		25.5		14.6
LOS	A	B	A	A		C		B
Approach Delay		11.3		9.8		25.5		14.6
Approach LOS		B		A		C		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 51
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 13.5 — Intersection LOS: B
Intersection Capacity Utilization 75.1% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	193	46	99	263	0	57	3	88	3	3	4
Future Volume (Veh/h)	3	193	46	99	263	0	57	3	88	3	3	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.79	0.79	0.79	0.33	0.33	0.33
Hourly flow rate (vph)	3	203	48	115	306	0	72	4	111	9	9	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	306			251			786	769	227	882	793	306
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	306			251			786	769	227	882	793	306
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			74	99	86	96	97	98
cM capacity (veh/h)	1266			1303			275	304	807	214	294	739

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	254	421	187	30
Volume Left	3	115	72	9
Volume Right	48	0	111	12
cSH	1266	1303	454	337
Volume to Capacity	0.00	0.09	0.41	0.09
Queue Length 95th (ft)	0	7	50	7
Control Delay (s)	0.1	2.8	18.4	16.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	2.8	18.4	16.7
Approach LOS			C	C

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Build Capacity Analyses

Timings
1: S Phillips Ave/N Phillips Ave & Montauk Hwy

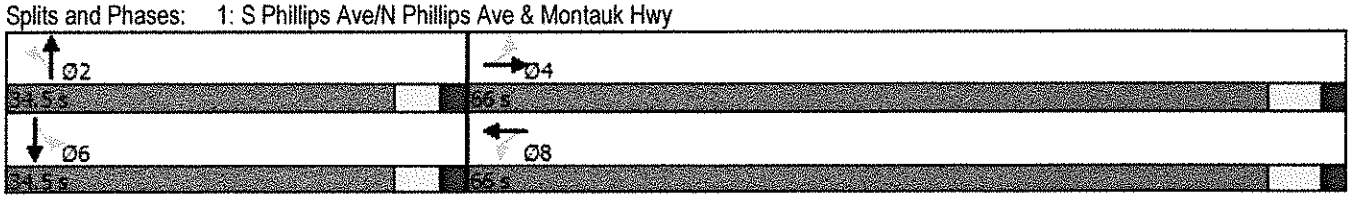
2/1/2016

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	38	308	9	227	16	21	85	30
Future Volume (vph)	38	308	9	227	16	21	85	30
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	25.1	25.1	25.1	25.1		10.6		11.7
Actuated g/C Ratio	0.52	0.52	0.52	0.52		0.22		0.24
v/c Ratio	0.10	0.43	0.02	0.40		0.21		0.61
Control Delay	7.8	10.0	7.2	9.2		16.0		23.7
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.8	10.0	7.2	9.2		16.0		23.7
LOS	A	B	A	A		B		C
Approach Delay		9.8		9.1		16.0		23.7
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 48.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 12.6 — Intersection LOS: B
Intersection Capacity Utilization 56.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	282	48	74	148	3	26	0	102	3	0	0
Future Volume (Veh/h)	3	282	48	74	148	3	26	0	102	3	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.90	0.90	0.90	0.93	0.93	0.93	0.50	0.50	0.50
Hourly flow rate (vph)	4	421	72	82	164	3	28	0	110	6	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	167			493			794	796	457	904	830	166
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	167			493			794	796	457	904	830	166
tC, single (s)	4.1			4.3			7.3	6.5	6.4	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			92			90	100	81	97	100	100
cM capacity (veh/h)	1423			984			270	294	576	196	281	884

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	497	249	138	6
Volume Left	4	82	28	6
Volume Right	72	3	110	0
cSH	1423	984	468	196
Volume to Capacity	0.00	0.08	0.29	0.03
Queue Length 95th (ft)	0	7	30	2
Control Delay (s)	0.1	3.5	15.9	23.9
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	3.5	15.9	23.9
Approach LOS			C	C

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	21	5	114	133	1
Future Volume (Veh/h)	5	21	5	114	133	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.93	0.82	0.90
Hourly flow rate (vph)	6	23	6	123	162	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400		
pX, platoon unblocked						
vC, conflicting volume	298	162	163			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	298	162	163			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	100			
cM capacity (veh/h)	691	882	1416			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	29	129	163
Volume Left	6	6	0
Volume Right	23	0	1
cSH	834	1416	1700
Volume to Capacity	0.03	0.00	0.10
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.5	0.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.5	0.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	20.1%	ICU Level of Service	A
Analysis Period (min)	15		

Timings
1: S Phillips Ave/N Phillips Ave & Montauk Hwy

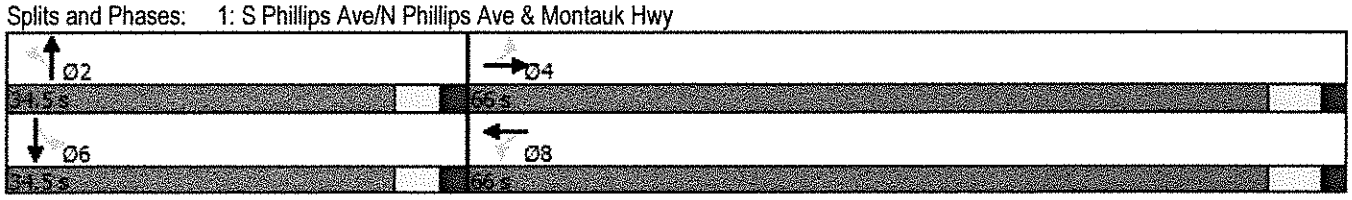
2/1/2016

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	43	256	22	401	11	34	40	27
Future Volume (vph)	43	256	22	401	11	34	40	27
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	29.2	29.2	29.2	29.2		8.1		8.1
Actuated g/C Ratio	0.64	0.64	0.64	0.64		0.18		0.18
v/c Ratio	0.10	0.27	0.04	0.47		0.28		0.41
Control Delay	6.0	6.2	5.4	7.9		18.1		17.3
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	6.0	6.2	5.4	7.9		18.1		17.3
LOS	A	A	A	A		B		B
Approach Delay		6.2		7.8		18.1		17.3
Approach LOS		A		A		B		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 45.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 9.0 — Intersection LOS: A
Intersection Capacity Utilization 56.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	150	22	69	305	4	39	3	79	3	3	0
Future Volume (Veh/h)	2	150	22	69	305	4	39	3	79	3	3	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.71	0.71	0.71	0.50	0.50	0.50
Hourly flow rate (vph)	2	170	25	83	367	5	55	4	111	6	6	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	372			195			725	724	182	835	734	370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	372			195			725	724	182	835	734	370
tC, single (s)	4.1			4.2			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			94			83	99	87	97	98	100
cM capacity (veh/h)	1198			1343			318	332	847	237	327	681

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	197	455	170	12
Volume Left	2	83	55	6
Volume Right	25	5	111	0
cSH	1198	1343	538	275
Volume to Capacity	0.00	0.06	0.32	0.04
Queue Length 95th (ft)	0	5	34	3
Control Delay (s)	0.1	1.9	14.7	18.7
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	1.9	14.7	18.7
Approach LOS			B	C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	13	21	107	91	6
Future Volume (Veh/h)	3	13	21	107	91	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.71	0.91	0.90
Hourly flow rate (vph)	3	14	23	151	100	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400		
pX, platoon unblocked						
vC, conflicting volume	300	104	107			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	300	104	107			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	98			
cM capacity (veh/h)	680	951	1484			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	17	174	107
Volume Left	3	23	0
Volume Right	14	0	7
cSH	889	1484	1700
Volume to Capacity	0.02	0.02	0.06
Queue Length 95th (ft)	1	1	0
Control Delay (s)	9.1	1.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	1.1	0.0
Approach LOS	A		

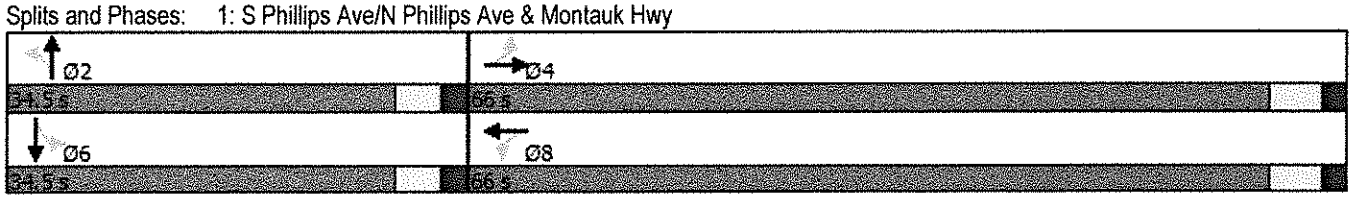
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	39	383	64	329	77	44	26	44
Future Volume (vph)	39	383	64	329	77	44	26	44
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	25.0	25.0	25.0	25.0	6.0	6.0	6.0	6.0
Minimum Split (s)	31.0	31.0	31.0	31.0	26.5	26.5	23.5	23.5
Total Split (s)	66.0	66.0	66.0	66.0	34.5	34.5	34.5	34.5
Total Split (%)	65.7%	65.7%	65.7%	65.7%	34.3%	34.3%	34.3%	34.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	26.5	26.5	26.5	26.5		13.8		13.1
Actuated g/C Ratio	0.51	0.51	0.51	0.51		0.27		0.25
v/c Ratio	0.09	0.55	0.19	0.44		0.60		0.37
Control Delay	8.4	12.1	9.7	10.6		24.0		15.8
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	8.4	12.1	9.7	10.6		24.0		15.8
LOS	A	B	A	B		C		B
Approach Delay		11.9		10.5		24.0		15.8
Approach LOS		B		B		C		B

Intersection Summary

Cycle Length: 100.5
Actuated Cycle Length: 51.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 75.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: S Phillips Ave/N Phillips Ave & Montauk Hwy



HCM Unsignalized Intersection Capacity Analysis
2: N Phillips Ave/Homestead Ave & Old Country Rd

2/1/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	193	48	105	263	0	58	3	93	3	3	4
Future Volume (Veh/h)	3	193	48	105	263	0	58	3	93	3	3	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.79	0.79	0.79	0.33	0.33	0.33
Hourly flow rate (vph)	3	203	51	122	306	0	73	4	118	9	9	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	306			254			801	784	228	904	810	306
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	306			254			801	784	228	904	810	306
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			73	99	85	96	97	98
cM capacity (veh/h)	1266			1300			267	296	806	203	286	739

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	257	428	195	30
Volume Left	3	122	73	9
Volume Right	51	0	118	12
cSH	1266	1300	450	326
Volume to Capacity	0.00	0.09	0.43	0.09
Queue Length 95th (ft)	0	8	54	8
Control Delay (s)	0.1	3.0	19.0	17.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	3.0	19.0	17.2
Approach LOS			C	C

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	25	30	79	78	7
Future Volume (Veh/h)	6	25	30	79	78	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.79	0.69	0.90
Hourly flow rate (vph)	7	28	33	100	113	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400		
pX, platoon unblocked						
vC, conflicting volume	283	117	121			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283	117	121			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	98			
cM capacity (veh/h)	691	935	1467			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	35	133	121
Volume Left	7	33	0
Volume Right	28	0	8
cSH	873	1467	1700
Volume to Capacity	0.04	0.02	0.07
Queue Length 95th (ft)	3	2	0
Control Delay (s)	9.3	2.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	2.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix C-2
Traffic Engineer Letter

N&P, LLP

December 9, 2016

NELSON & POPE
ENGINEERS & SURVEYORS
VICTOR BERT, P.E. • JOSEPH R. EPIFANIA, P.E. • ROBERT G. NELSON JR., P.E. • THOMAS F. LEMBO, P.E.
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December 9, 2016

Mr. Chic Voorhis, CEP, AICP
Nelson Pope & Voorhis
572 Walt Whitman Road
Melville, New York 11747

Re: Speonk Commons
North Phillips Ave, Remsenberg-Speonk
Trip Generation

Dear Mr. Voorhis,

Based on the revisions to the proposed uses of the above mentioned project, we have prepared a trip generation comparison for the original and currently proposed residential/retail development. The original project was for 50 condominium/townhouse units and 2,304 SF of retail space. The applicant has revised the project to now include 38 condominium/townhouse units and 4,380 SF of retail space. The following supplemental information is provided for your review:

Trip Generation

We have performed a trip generation comparison for the originally proposed and currently proposed condominium/townhouse and retail uses. The trip generation estimates were prepared utilizing data within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition*. The Land Use Codes within the ITE trip generation manual corresponding to the proposed uses are Land Use Code (LUC) 230, Condominium/Townhouse and LUC 820, Shopping Center. The following Table summarizes the trip generation comparison of the uses.

Table 1: Trip Generation Comparison

		Originally Proposed			Currently Proposed		
Time Period	Distribution	Condo/Townhouse 50 Units (ITE LUC 230)	Shopping Center 2,304 SF (LUC 820)	TOTAL	Condo/Townhouse 38 Units (LUC 230)	Shopping Center 4,380 SF (LUC 820)	TOTAL
Weekday AM Peak Hour	Enter	5	1	6	4	2	6
	Exit	25	1	26	20	2	22
	Total	**30**	**2**	**32**	**24**	**4**	**28**
Weekday PM Peak Hour	Enter	23	4	27	18	8	26
	Exit	11	5	16	9	8	17
	Total	**34**	**9**	**43**	**27**	**16**	**43**
Saturday Midday Peak Hour	Enter	31	6	37	29	11	40
	Exit	26	5	31	25	10	35
	Total	**57**	**11**	**68**	**54**	**21**	**75**

Source: Trip Generation, 9th Edition, published by ITE

Upon review of the table above it can be seen that there is minimal difference in the number of trips anticipated to be generated by the originally proposed uses and the revised uses. During the AM peak period, the currently proposed configuration is anticipated to generate 4 less trips than the original proposal (same number of entering vehicles and 4 fewer exiting vehicles). During the PM peak period the currently proposed configuration is anticipated to generate the same number of trips as the original proposal (one additional entering vehicle and one fewer exiting vehicle). During the Saturday midday peak period the current proposal is anticipated to generate 7 more trips than the original proposal (3 additional entering trips and 4 additional exiting trips). It is our opinion that any variation of anticipated trips between the original and current proposal will have an imperceptible impact on the operation of the study intersection as all movements of the study intersection are anticipated to operate at LOS C or better during the previously completed build analysis during all peak periods. It should be noted that ITE equations were utilized for the condominium component of the project, which provides the most conservative results. Actual trip generation may be lower.

Therefore, from an traffic operation perspective, it is our professional opinion that the newly proposed 38 condominium/townhouse units and 4,380 SF of retail will not have an adverse impact on area traffic and safety conditions and it is not necessary to revise the submitted traffic impact study associated with this application.

JGP
Attachments

Respectfully,
NELSON & POPE

Joseph G. Pecora P.E. P.T.O.E.

Joseph G. Pecora, P.E, PTOE.
Division Head – Traffic Engineering

APPENDIX D

CULTURAL RESOURCES-RELATED DOCUMENTS

Appendix D-1
Letter Addressing Potential Impacts of Project

NYS OPRHP

December 9, 2015

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

NEW YORK STATE OF OPPORTUNITY.
Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

December 09, 2015

Mr. MATTHEW ARDITO
Project Manager
Georgica Green Ventures, LLC
50 Jericho Quadrangle, Suite 200
Jericho, NY 11753

Re: HTF
Speonk Commons
Flat area housing six buildings
41 North Phillips Avenue, Southampton, NY 11972
15PR06877

Dear Mr. ARDITO:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, the New York SHPO has determined that no historic properties will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont

Deputy Commissioner for Historic Preservation

Appendix D-2
Phase I Archaeological Investigation

Tracker Archaeology Services, Inc.

December 2016

Phase I Archaeological Investigation at 41 North Phillips Ave. for a proposed subdivision in Speonk, Town of Southampton, Suffolk County, New York

December 2016

Prepared for:
Nelson, Pope & Voorhis LLC, Melville, New York

Alfred G. Cammisa, M.A.
with Alexander Padilla (CAD)

884

MANAGEMENT SUMMARY

PR#:
None known

Involved agencies:
Town of Southampton
NYSDEC

Phase:
Phase IA & IB

Location:
Speonk
Town of Southampton
Suffolk County

Survey Area:
Length: about 580 feet (177 meters) east-west
Width: about 300 feet (91) north-south
Acres Surveyed: 4 acres (1.6 hectares) including buildings, parking areas, and driveways

USGS:
Eastport, NY

Survey overview:
ST no. & interval: 57 ST's at 50 feet (15m) intervals.
Size of freshly plowed area: na
Surface survey transect interval: na

Results:
No prehistoric or historic remains

Structures:
No. Of buildings/structures/cemeteries in project area: five, 20th century dwellings with associated barn/ garage, metal garage, concrete structure and driveways
No. Of buildings/structures/cemeteries adjacent to project area: multiple residences
No. Of previously determined NR listed or eligible buildings/structures/cemeteries/districts: none
No. Of identified eligible buildings/structures/cemeteries/districts: none

Authors:
Alfred G. Cammisa, M.A./RPA
Alexander Padilla, B.A. (CAD)

Date of Report:
Report completed December, 2016

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Photo 2 Looking from rear dwelling into wooded area
Photo 3 Looking at the rear dwelling
Photo 4 Looking toward barn/garage and gravel area

INTRODUCTION

Between May 5 and 24, 2015, TRACKER Archaeology, Inc. conducted a Phase IA documentary study and a Phase IB archaeological survey at 41 North Phillips Ave. for a proposed subdivision in Speonk, Southampton Township, Suffolk County, New York.

The purpose of the documentary was to determine the prehistoric and historic potential of the property for the recovery of archaeological remains. The Phase IA research was implemented by a review of the original and current environmental data, archaeological site files, other archival literature, maps, documents, and interviews.The prehistoric and historic site file search was conducted utilizing the resources of the New York State Historic Preservation Office-Field Services Bureau in Waterford, New York. Various historic web sites may have been visited to review any pertinent site information.

The purpose of the Phase IB survey was to recover physical evidence for the presence or absence of archaeological sites on the property. This was accomplished through subsurface testing and surface reconnaissance.

The project area consists of the entire property of about 4 acres. The property is located at 41 North Phillips Avenue. It is bordered to the east by North Phillips Avenue and on the remaining sides by other properties.

The study was completed by TRACKER Archaeology, Inc. of Monroe, New York. Prehistoric and historic research was conducted by the P.I., Alfred G. Cammisa, M.A. Field work was conducted by field director Alexander D'Amico, M.A. and field technician Alfred T. Cammisa. Report preparation was conducted by Alfred G. Cammisa with Alexander Padilla (CAD).

The work was performed for Nelson, Pope & Voorhis LLC, Melville, New York.

ENVIRONMENT

Geology

The project area is located in the southeast portion of New York State in the south part of Suffolk County. This portion of New York lies within the Atlantic Coastal Plains Physiographic Province. The coastal plain slopes gently eastward and is actually a strip of recently emerged sea bottom. The soils in this region consist of sand, clay and marl (a mixture of clay, finely fragmented shell and calcite). This region of Suffolk County lies on, a glacial outwash plain south of the Ronkonkoma Moraine (Schuberth 1968: map 14, 184-186; Soren and Jensen 1974).

Soils and Topography

Soils on the project area consisted of:

Name	Soil Horizon Depth in (cm)	Color	Texture Inclusion	Slope %	Drainage	Landform
Plymouth	A=0-4 (0-10) B=4-10 (-26)	10YR3/2 10 YR5/4	LoSa	3-8	well	outwash plains & moraines

Name	Soil Horizon Depth in (cm)	Color	Texture Inclusion	Slope %	Drainage	Landform
Riverhead	Ap=0-12in (0-30cm) B=12-27 (-69)	10YR4/2 7.5YR5/6	LoSa	0-3	well	outwash plains

(Warner et al 1975:map# 71; pg. 77-78, 81-82).

KEY:
Shade: Lt=Light, Dk=Dark, V=Very
Color: Br=Brown, Blk=Black, Gry=Gray, Gbr=Gray Brown, StBr=Strong Brown, Rbr=Red Brown, Ybr= Yellow Brown
Soils: Si=Silt, Lo=Loam, Sa=Sand, Cl=Clay
Other: Sh=shale, M=Mottle, Gr=Gravelly, Cb=cobbles, /=or

The elevations on the project area are approximately 20 to 30 feet above mean sea level.

Hydrology
An intermittent drainage is depicted on the County Spoil Survey flowing south through the project area and draining south into a tidal inlet, about 2900 feet away, and shortly after into Moriches Bay. It is also about 3300 feet east of East River, another tidal inlet draining into the bay.

Vegetation
The predominate forest community inhabiting the Coastal Plain in this vicinity (Cape Cod to the Carolinas) was the Northern Pine-Oak Forest. These forests are maintained largely by the effects of frequent fires. Were it not for these fires which the pine species have adapted to, these forests would slowly turn Mesic, dominated by oak, hickory and red maple. Northern Pine-Oak forests occur on sandy or otherwise poor soils that are overly dry. They generally have lower species diversity than bottomland forests (Kricher 1968:16-17). The reason the forest soils and surfaces are so dry in this moist region is due to the excessive drainage of overly sandy soils on the coastal plain.

At the time of the Phase IB survey, the project area consisted of a previously developed property with buildings, gravel driveways and parking areas and a small wooded area.

PREHISTORIC POTENTIAL

A prehistoric site file search was conducted at the New York State Historic Preservation Office (NYSHPO). The search included a 1 mile radius around the study area. The following sites were recorded:

NYSM Sites	NYSHPO Sites	Distance from APE ft(m)	Site Description
5524	10309.000050	1523 (464) & 1185 (370) (2 locations)	Mystery Hill: Transitional, Middle Woodland with Orient & Levanna points.
5525	10309.000051	2920 (890) & 1185 (370) (2 locations)	Fish Creek: Late Woodland with Bowmans Brook-like sherds, netsinkers, etc.

An Indian trail was recorded very close to present day Montauk Highway which tended to connect the various tidal creeks in this area. Although the trail was recorded for the Contact Period, it most likely existed during the prior prehistoric period.

Assessing the known environmental and prehistoric data, the following points can be summarized:

-An intermittent drainage is depicted on the County Spoil Survey flowing south through the project area and draining south into a tidal inlet, about 2900 feet away, and shortly after into Moriches Bay. It is also about 3300 feet east of East River, another tidal inlet draining into the bay.

-The parcel is situated on level terrain with well drained soils, on a natural peninsula of sorts, with long tidal inlets on either side to east and west. The property had been previously developed.

-Prehistoric sites are located in the vicinity of the project area in somewhat similar terrain and proximity to the same drainage.

-An Indian trail passes in the vicinity of the study area.

In our opinion, the study area has a higher than average potential for the recovery of prehistoric sites on any intact soils. The type of site encountered could be a procurement site from the Woodland or Archaic periods.

HISTORIC POTENTIAL

Contact Period (Seventeenth Century)
At the time of European contact and settlement, the study area and surrounding territory appeared to be occupied by the Speonk people which were probably a sub-tribe or village of the large Shinnecock tribe. An Indian trail was recorded very close to present day Montauk Highway (Route 27A) near the project corridor (Stone nd:map).

The native inhabitants were seasonally migratory maritime hunter/gatherers. There were probably between 400 to 500 Shinnecocks by the early part of the century. They generally lived in small villages of about 50 people. Population density at the time of European contact was higher than most hunter/gatherer societies and more typical of maritime hunter/gatherers. Summer villages were usually located along the south shore where fish and shellfish were exploited along the ocean, bays and inlets. Shore whaling was also an important part of the local economy. Winter camps were usually located along the

more protected fresh water streams which drained into the bays. Hunting deer and other forest dwelling game was important during this season (Haves in Stone 1983:331; Morris 1998:H150)).

Although the Native Americans of Long Island also grew corn, horticulture did not appear to be as important to the economy as non-island (upstate) groups. Horticulture here may have been practiced as an extension of gathering along coastal routes (Cammisa et al 2012).

Eighteenth Century

The Shinnecocks dissatisfaction with being dispossessed and fenced out of their hunting and gathering territory, led to the Shinnecock Hills being leased back to the Indians in 1703 for a thousand years. This 3600 acre tract was the original "reservation" (Stone 1983:1, 130).

As early as 1712, the (salt) meadows along the south shore at Speonk/Remsenburg were leased to cattle owners from Southampton (village). Eventually the cattlemen found it more convenient to build small houses near the meadows to tend the herds. Most of the early settlers came from Southampton and Bridgehampton in the 1740's. Speonk (which occupies the same peninsula with Remsenburg) may mean “a high place” in Algonkian (Morris 1998:H151).

Wigwams were recorded along the aforementioned Indian trail, one was on the west bank of the East River and the other on west bank of the Speonk River. They were still in existence during the 18th century by Reverend Horton in the 1740's. (Stone 1993:6).

Between 1700 and 1750 offshore whaling was a fast growing industry. Seven companies were engaged in this work in Southampton. They had try works along the beaches at Sagaponack, Mecox, Wickapogue, Southampton, Shinnecock Point, Quogue, and Ketcheponack (West Hampton). Indians had taught the European-Americans and often worked along with them. By the second half of the century, the whalers were traveling further out from shore to catch their whales (Halsey 1940:104, 108).

By 1761 a post rider brought mail from New York to Southampton once a week. The trip took five days. The rider stopped off in New York, Brooklyn, Jamaica, Smithtown, Suffolk Court House, Southold, Shelter Island, Hog Neck (New Haven), Sag Harbor, East Hampton, Southampton and then went back to New York. A stagecoach line was established a few years later (Halsey 1940:112).

The Southampton patent Town map shows present day Montauk Highway. The property is in the Speonk division of 1738, or on or near Speonk Neck (Figure 3).

Nineteenth Century

The 1836 Colton map shows the settlement along Montauk Highway, Main Street, and South Country Road (Main Street). No roads are depicted between South Country and Montauk roads here (Figure 4).

The 1858 Chace map shows Old Country Road/Main Street. North Phillips Avenue is not depicted yet (Figure 5).

In 1859, the original 3600 acre Indian reservation was reduced to the 800 acre Shinnecock Reservation of today. This appeared to be associated with plans for the Long Island Railroad to purchase the right-of-way through Shinnecock Hills (Stone 1983:1-2, 130).

The 1873 Beers map shows Montauk Highway, Main-South Country Road, and Old Country Road. North Phillips Road appears depicted south of the railroad tracks but not north of the tracks. The O. Dayton structure is shown on or adjacent to the project area(Figure 6).

Nearby Eastport became the unofficial capital of Long Island duck farming on Long Island soon after the introduction of the Pekin duck (from China) in 1873. The first commercial farms sprang up along the streams leading to Seatuck Cove and Moriches Bay (Bleyer 1998:H146).

The 1896 Hyde atlas shows the W. Fordham building on or adjacent to the project property where the Dayton structure was (Figure 7).

Twentieth Century
By 1900, 29 duck farms dotted the Eastport area. This dropped to 15 duck farms by the late 1940's when Long Island produced 6.5 million ducks going to market. Population pressures and associated pollution problems in the 1960's and early 1970's put most of the duck farms out of business (Bleyer 1998:H146).

The 1904 USGS shows the aforementioned structure on or adjacent to the project property (Figure 8).

An historic site file search was conducted at the New York State Historic Preservation Office. The site file search included a 1 mile radius around the study area. The following historic sites were recorded:

-No sites are recorded within 1 mile.

Assessing the known environmental and historic data, we can summarize the following:

-An intermittent drainage is depicted on the County Spoil Survey flowing south through the project area and draining south into a tidal inlet, about 2900 feet away, and shortly after into Moriches Bay. It is also about 3300 feet east of East River, another tidal inlet draining into the bay.

-The parcel is situated on level terrain with well drained soils, on a natural peninsula of sorts, with long tidal inlets on either side to east and west. The property had been previously developed.

-An Indian trail passes in the vicinity of the study area. An historic wigwam/village was situated along the trail not far from the project area.

-No historic archaeological sites were reported in the vicinity.

-A historic map documented structure (MDS) is depicted on or adjacent to the project area.

In our opinion the project parcel has a high potential for the recovery of Euro-American sites and a moderate potential for native American sites on any intact soils.

FIELD METHODS

Walkover
Covered ground terrain was reconnoitered at 15 meter intervals to observe for any above ground features, such as berms, rock configurations, or depressions, which might be evidence for a prehistoric or historic site. Photographs were taken of the project area.

Shovel Testing
Shovel tests were excavated at 15 meter intervals across the project area. Each shovel test measured about 30 to 40 cm. in diameter and was dug into the underlying subsoil (B horizon) 10 to 20 cm. when possible. All soils were screened through 1/4 inch wire mesh and observed for artifacts. All shovel tests (ST's) were mapped on the project area map at this time. Soils stratigraphy was recorded according to texture and color. Soil color was matched against the Munsell color chart for soils. Notes on STP stratigraphy and other information was transcribed in on a field form and in a notebook.

`FIELD RESULTS

Field testing of the project area included the excavation of 57 shovel tests (ST's) across the project area at 15 meter intervals. No prehistoric artifacts or features were encountered. No historic artifacts or features were encountered. Multiple twentieth century structures were on the property and included 4 dwellings with concrete foundations, and associated barn/garage, metal garage, concrete building, and gravel driveways and parking areas.

Stratigraphy
Stratigraphy across the project area included the following:

-O horizon - 1 to 5 cm. thick of root mat, leaf litter, and humus.
-A horizon - 14 to 25 cm. thick of 10YR4/3, brown loamy sand.
-B horizon - 10 to 20 cm. dug into of 10YR5/6, yellow brown loamy sand.

CONCLUSIONS AND RECOMMENDATIONS

Based upon soil type, topography, distance to water, an Indian foot trail, and prehistoric sites, the property is seen as having an above average potential for the recovery of prehistoric archaeological sites on intact soils.

Based upon similar environmental characteristics, and proximity to Indian trails, wigwams, and historic map documented structures, the property is seen as having a high potential for Euro-American sites and a moderate potential for the recovery native American historic sites on intact soils.

During the Phase IB archaeological field survey, 57 ST's were excavated. No historic or prehistoric artifacts or features were encountered. The property was previous twentieth century residential development. No further archaeological work is recommended.

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APPENDIX 1

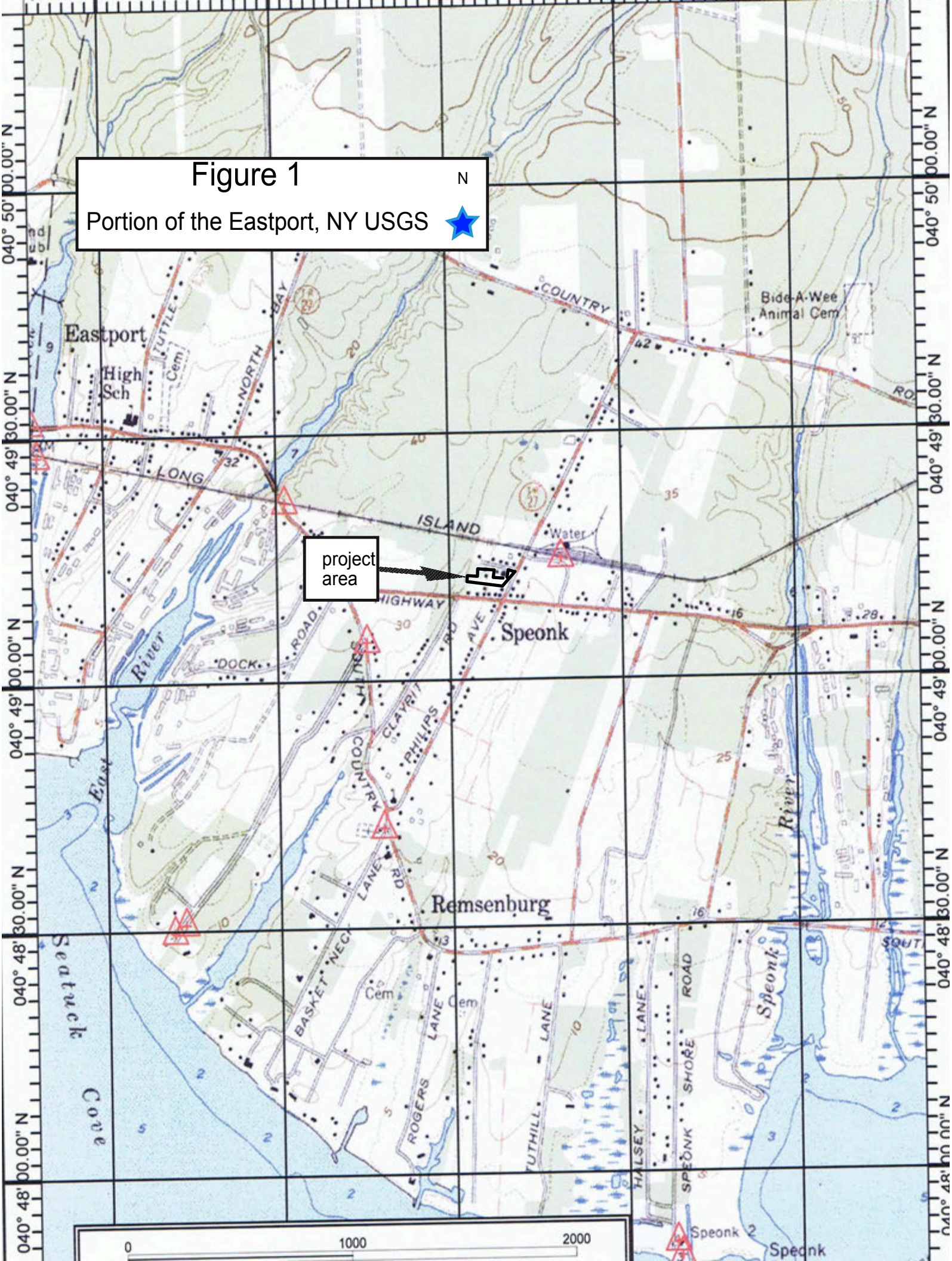
Figure 1
N
Portion of the Eastport, NY USGS
project area
Eastport
High Sch
TUTTLE
Cem
NORTH
BAY
COUNTRY
Bide-A-Wee Animal Cem
LONG
ISLAND
Water
HIGHWAY
Speonk
DOCK
ROAD
East River
COUNTRY
CLAYPIT
PHILLIPS
RD
AVE
Remsenburg
BASKET NECK
LANE
RD
Cem
ROGERS
LANE
Cem
TUTHILL
LANE
HALSEY
LANE
SPEONK
SHORE
ROAD
Speonk River
Seatuck Cove
Speonk 2
Speonk
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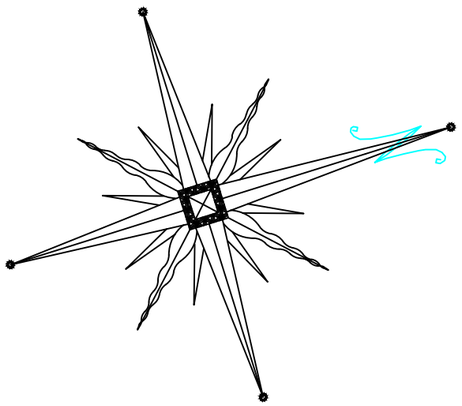
040° 49' 00" N
040° 48' 30" N
040° 48' 00" N



SCALE: 1 INCH = 100 FEET

200' 150' 100' 50' 0 100' 200'

FIGURE 2: LOCATION OF SHOVEL TESTS

- PHOTO ANGLE
- NEGATIVE SHOVEL TEST

PROJECT NAME: 42 NORTH PHILLIPS AVE

TRACKER
Archaeology Services, Inc.
Tracking the Footsteps of the Ancestors

Figure 3

Portion of the Town patent map

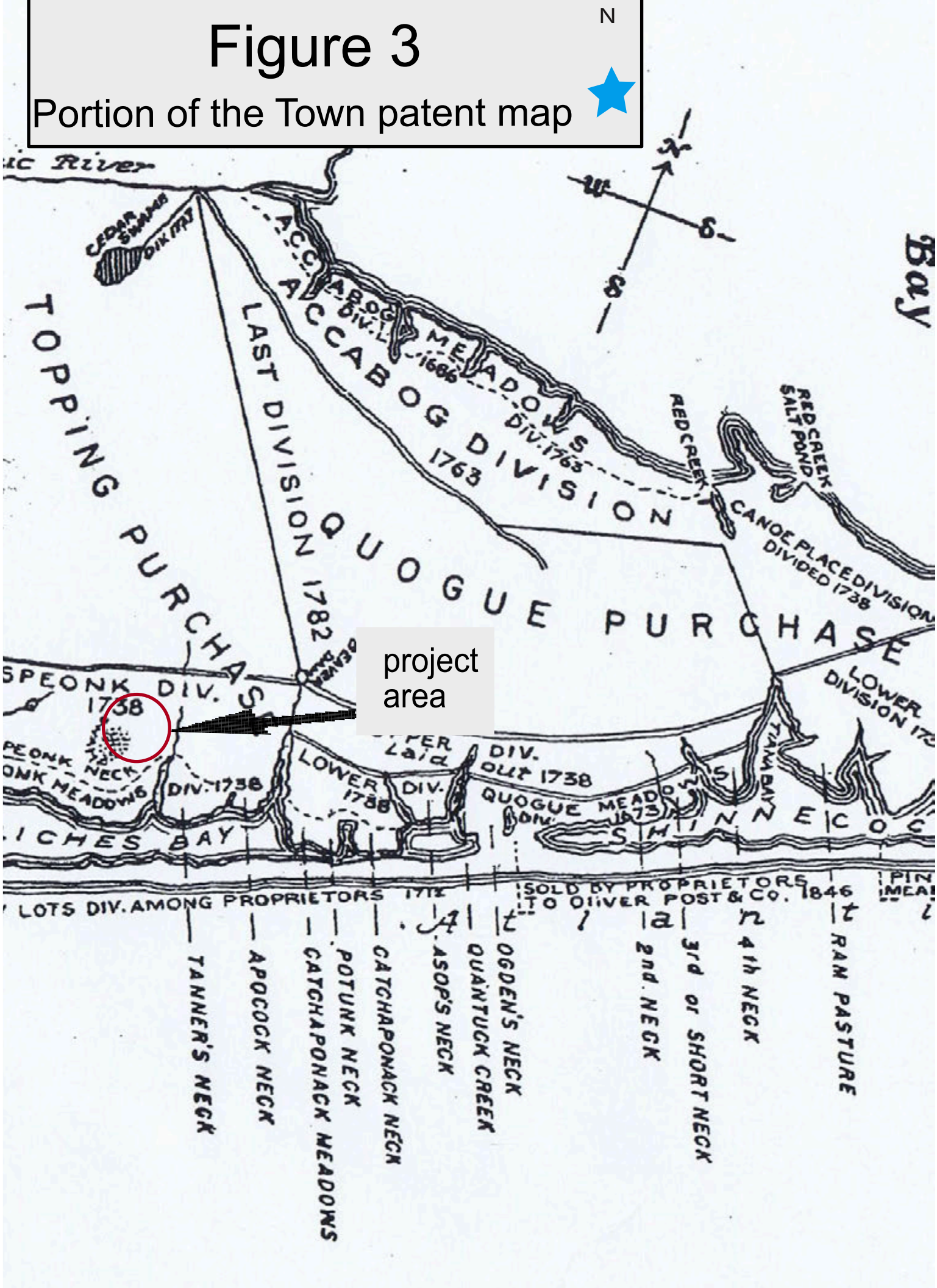


Figure 4

N

Portion of the 1836 Colton map

Figure 5

Portion of the 1858 Chace map

N

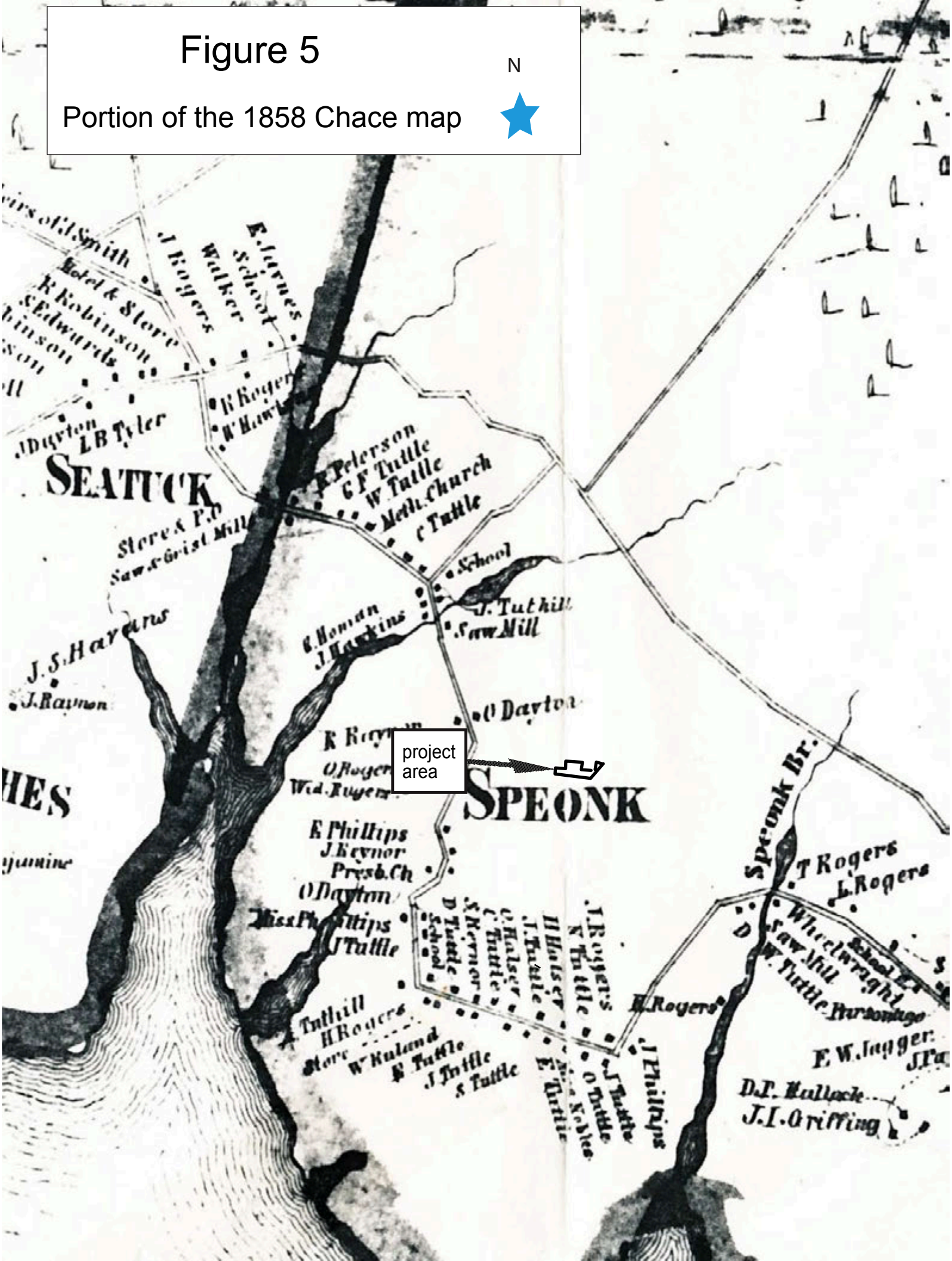


Figure 6

Portion of the 1873 Beers atlas

N

Figure 7

Portion of the 1896 Hyde atlas

N

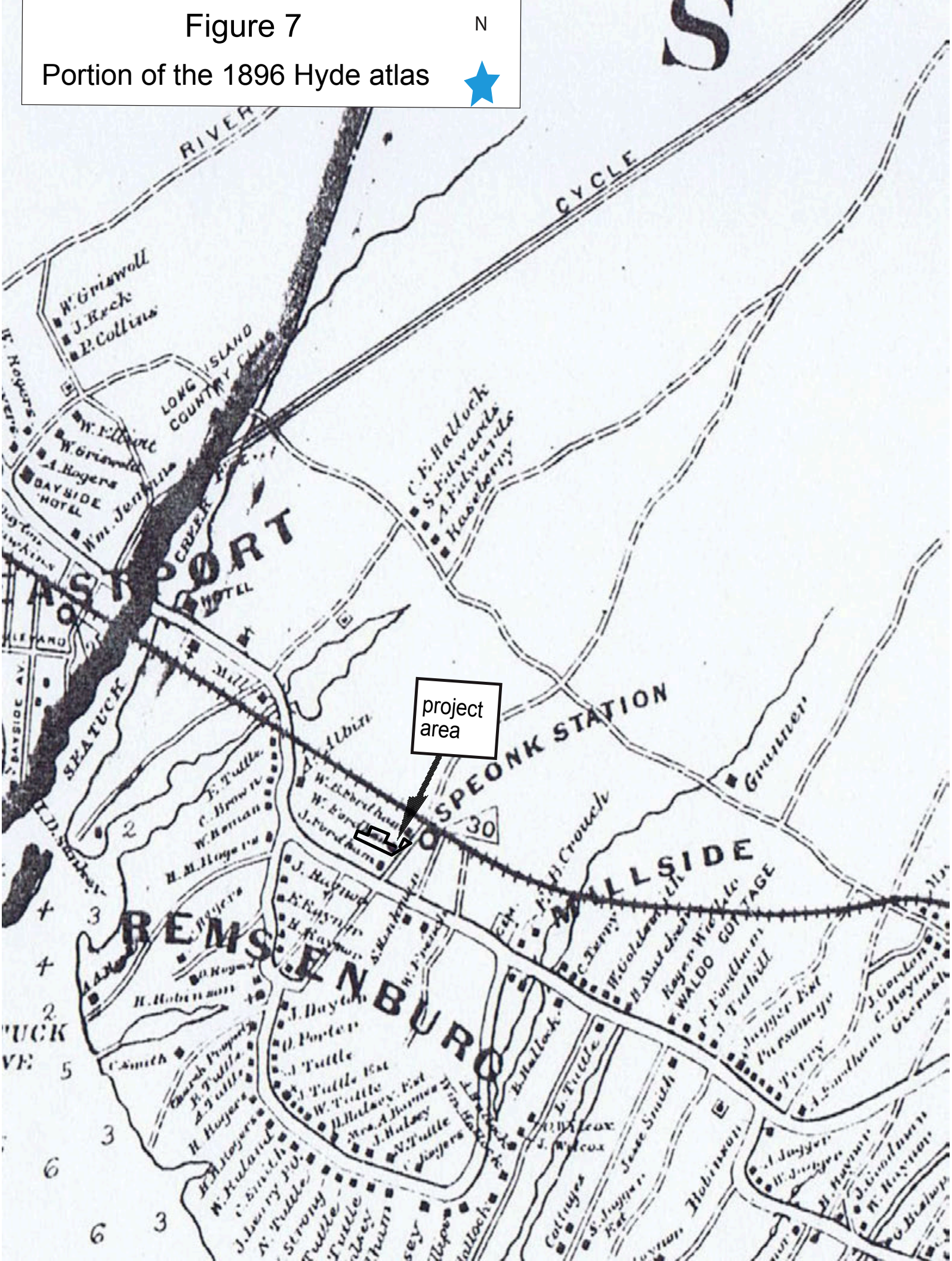


Figure 8

Portion of the 1904 USGS

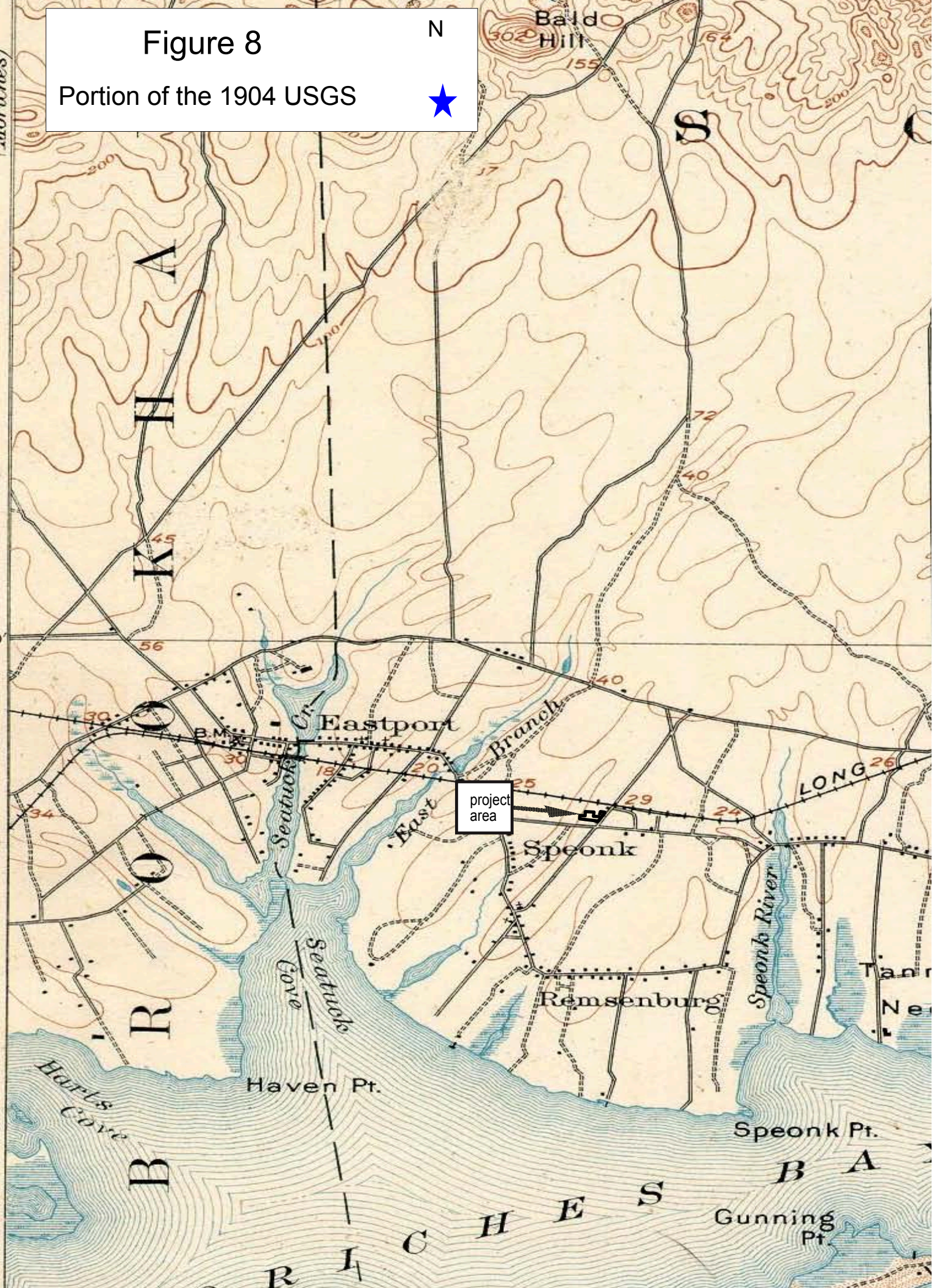


Figure 9

Portion of the County Soil Survey

N

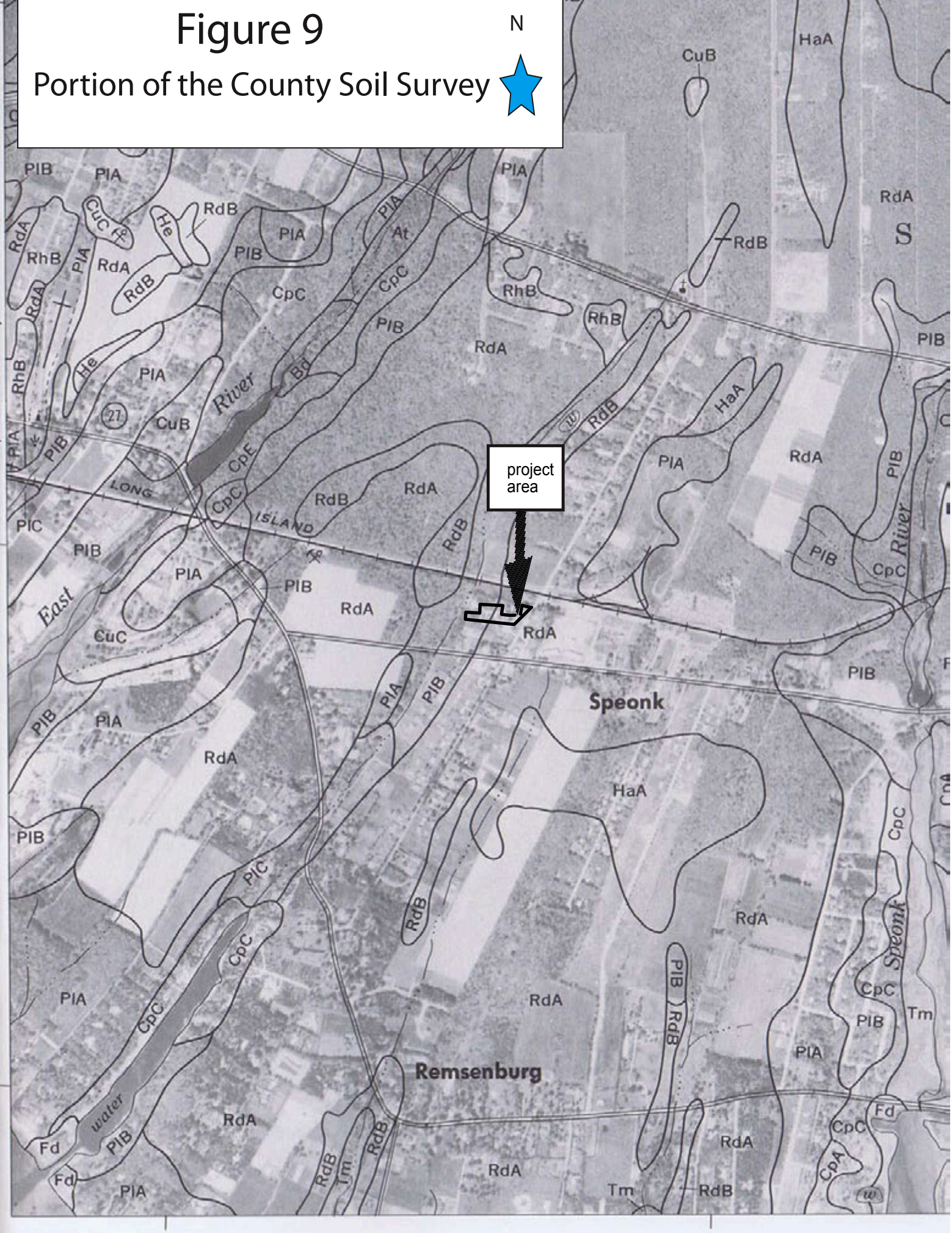


Photo 1

Looking at largest dwelling from driveway

Photo 2

Looking from rear dwelling into wooded area

Photo 3

Looking at the rear dwelling

Photo 4

Looking toward barn/garage and gravel area

APPENDIX 2

SHOVEL TESTS

STP	LV	DEPTH(CM)	TEXTURE	COLOR	HOR	COMMENT
1	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-27	LoSa	10YR4/3	A	NCM
	3	27-38	LoSa	10YR5/6	B	NCM
2	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-24	LoSa	10YR4/3	A	NCM
	3	24-36	LoSa	10YR5/6	B	NCM
3	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-24	LoSa	10YR4/3	A	NCM
	3	24-35	LoSa	10YR5/6	B	NCM
4	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-22	LoSa	10YR4/3	A	NCM
	3	22-35	LoSa	10YR5/6	B	NCM
5	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-35	LoSa	10YR5/6	B	NCM
6	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-22	LoSa	10YR4/3	A	NCM
	3	22-36	LoSa	10YR5/6	B	NCM
7	1	0-5	rootmat,leaves,humus		A/O	NCM
	2	5-22	LoSa	10YR4/3	A	NCM
	3	22-32	LoSa	10YR5/6	B	NCM
8	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-22	LoSa	10YR4/3	A	NCM
	3	22-32	LoSa	10YR5/6	B	NCM
9	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-19	LoSa	10YR4/3	A	NCM
	3	19-30	LoSa	10YR5/6	B	NCM
10	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-18	LoSa	10YR4/3	A	NCM
	3	18-28	LoSa	10YR5/6	B	NCM
11	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-17	LoSa	10YR4/3	A	NCM
	3	17-28	LoSa	10YR5/6	B	NCM
12	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-21	LoSa	10YR4/3	A	NCM
	3	21-33	LoSa	10YR5/6	B	NCM
13	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-23	LoSa	10YR4/3	A	NCM
	3	23-35	LoSa	10YR5/6	B	NCM

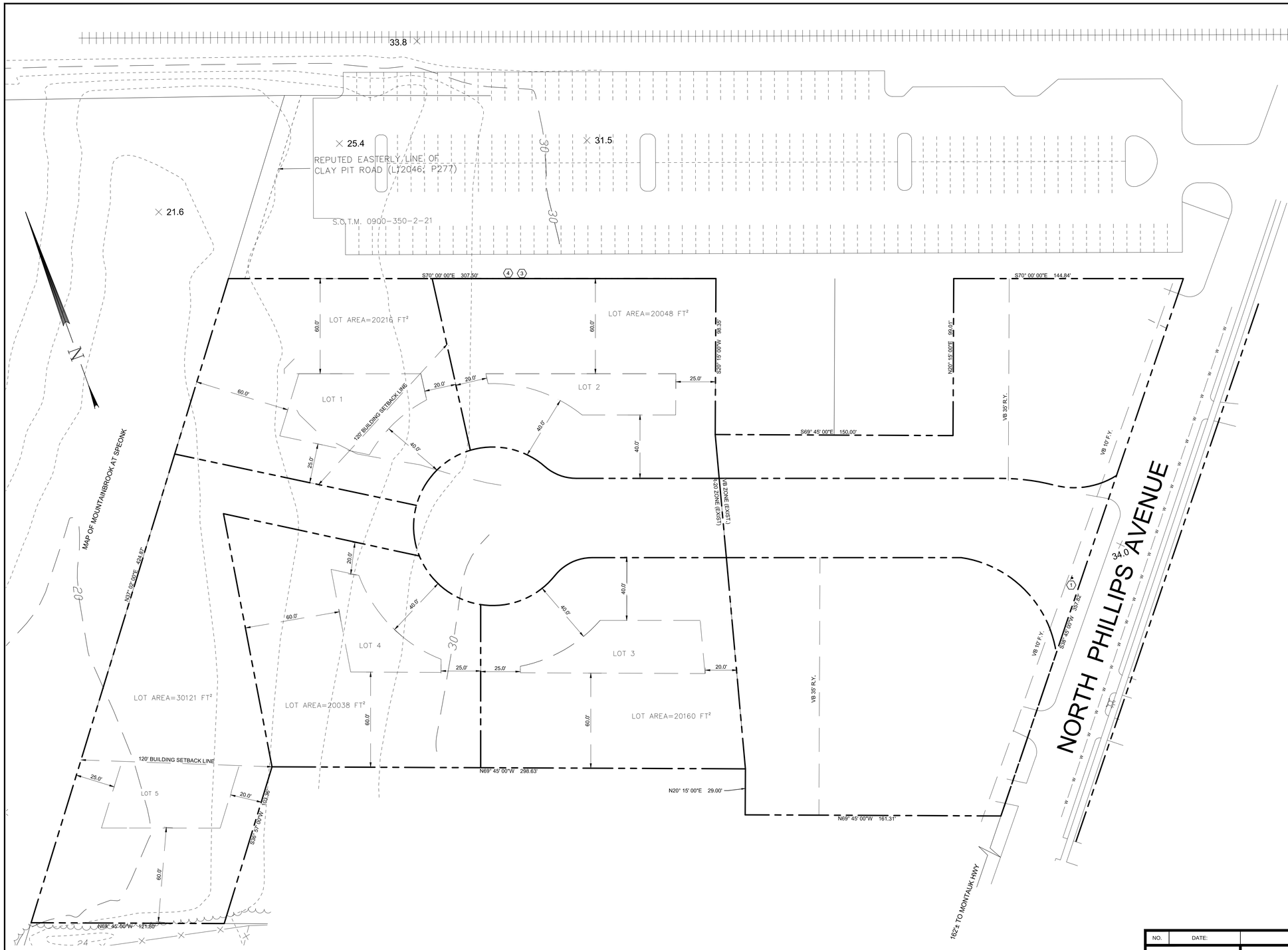
14	1	0-1	rootmat,leaves,humus		A/O	NCM
	2	1-23	LoSa	10YR4/3	A	NCM
	3	25-35	LoSa	10YR5/6	B	NCM
15	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-19	LoSa	10YR4/3	A	NCM
	3	19-29	LoSa	10YR5/6	B	NCM
16	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-20	LoSa	10YR4/3	A	NCM
	3	20-35	LoSa	10YR5/6	B	NCM
17	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-18	LoSa	10YR4/3	A	NCM
	3	18-28	LoSa	10YR5/6	B	NCM
18	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-19	LoSa	10YR4/3	A	NCM
	3	19-30	LoSa	10YR5/6	B	NCM
19	1	0-1	rootmat,leaves,humus		A/O	NCM
	2	1-17	LoSa	10YR4/3	A	NCM
	3	17-30	LoSa	10YR5/6	B	NCM
20	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-36	LoSa	10YR5/6	B	NCM
21	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-25	LoSa	10YR4/3-5/6	A	NCM
	3	25-38	LoSa	10YR5/6	B	NCM
22	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-30	LoSa	10YR5/6	B	NCM
23	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-22	LoSa	10YR4/3	A	NCM
	3	22-32	LoSa	10YR5/6	B	NCM
24	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/6	B	NCM
25	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-22	LoSa	10YR4/3	A	NCM
	3	32-33	LoSa	10YR5/6	B	NCM
26	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-22	LoSa	10YR4/3	A	NCM
	3	22-33	LoSa	10YR5/6	B	NCM

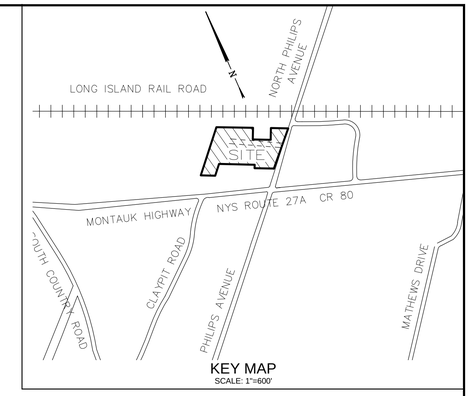
27	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/6	B	NCM
28	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-18	LoSa	10YR4/3	A	NCM
	3	18-29	LoSa	10YR5/6	B	NCM
29	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-21	LoSa	10YR4/3	A	NCM
	3	21-32	LoSa	10YR5/6	B	NCM
30	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-21	LoSa	10YR4/3	A	NCM
	3	21-32	LoSa	10YR5/6	B	NCM
31	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-31	LoSa	10YR5/6	B	NCM
32	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-31	LoSa	10YR5/6	B	NCM
33	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-21	LoSa	10YR4/3	A	NCM
	3	21-32	LoSa	10YR5/6	B	NCM
34	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-22	LoSa	10YR4/3	A	NCM
	3	22-33	LoSa	10YR5/6	B	NCM
35	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-18	LoSa	10YR4/3	A	NCM
	3	18-30	LoSa	10YR5/6	B	NCM
36	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-22	LoSa	10YR4/3	A	NCM
	3	22-33	LoSa	10YR5/6	B	NCM
37	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-21	LoSa	10YR4/3	A	NCM
	3	21-33	LoSa	10YR5/6	B	NCM
38	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-21	LoSa	10YR4/3	A	NCM
	3	21-36	LoSa	10YR5/6	B	NCM
39	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-21	LoSa	10YR4/3	A	NCM
	3	21-32	LoSa	10YR5/6	B	NCM

40	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-26	LoSa	10YR4/3	A	NCM
	3	26-37	LoSa	10YR5/6	B	NCM
41	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-31	LoSa	10YR5/6	B	NCM
42	1	0-1	rootmat,leaves,humus		A/O	NCM
	2	1-15	LoSa	10YR4/3	A	NCM
	3	15-25	LoSa	10YR5/6	B	NCM
43	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-20	LoSa	10YR4/3	A	NCM
	3	20-30	LoSa	10YR5/6	B	NCM
44	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-34	LoSa	10YR5/6	B	NCM
45	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/6	B	NCM
46	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-18	LoSa	10YR4/3	A	NCM
	3	18-28	LoSa	10YR5/6	B	NCM
47	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-22	LoSa	10YR4/3	A	NCM
	3	22-32	LoSa	10YR5/6	B	NCM
48	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-21	LoSa	10YR4/3	A	NCM
	3	21-33	LoSa	10YR5/6	B	NCM
49	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/6	B	NCM
50	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-24	LoSa	10YR4/3	A	NCM
	3	24-34	LoSa	10YR5/6	B	NCM
51	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-24	LoSa	10YR4/3	A	NCM
	3	24-34	LoSa	10YR5/6	B	NCM
52	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-22	LoSa	10YR4/3	A	NCM
	3	22-33	LoSa	10YR5/6	B	NCM

53	1	0-2	rootmat,leaves,humus		A/O	NCM
	2	2-21	LoSa	10YR4/3	A	NCM
	3	21-34	LoSa	10YR5/6	B	NCM
54	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-18	LoSa	10YR4/3	A	NCM
	3	18-30	LoSa	10YR5/6	B	NCM
55	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-24	LoSa	10YR4/3	A	NCM
	3	24-34	LoSa	10YR5/6	B	NCM
56	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/6	B	NCM
57	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-25	LoSa	10YR4/3	A	NCM
	3	25-37	LoSa	10YR5/6	B	NCM

PLANS





GRAPHIC SCALE

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(IN FEET)

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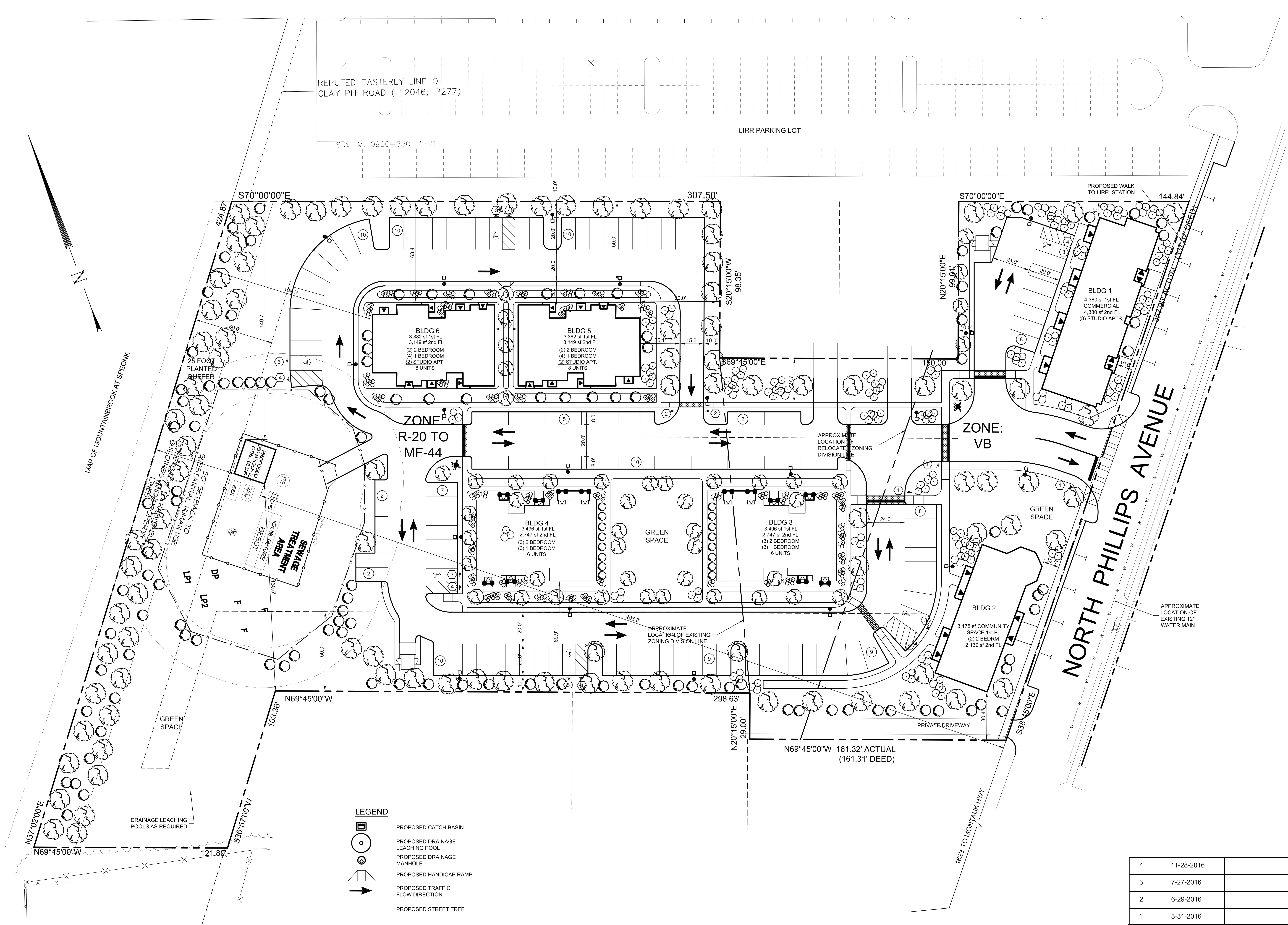
NO.	DATE:	REVISIONS:	BY:

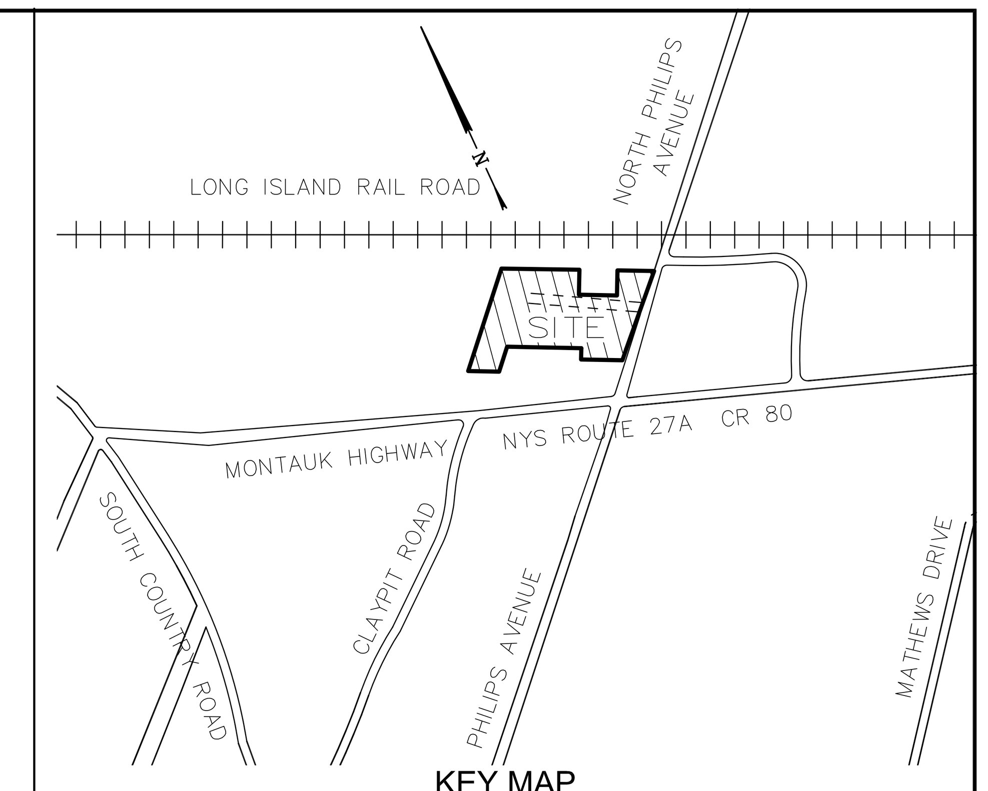
P.E. SEAL AND SIGNATURE

YIELD MAP
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	12/01/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1





KEY MAP
SCALE: 1"=600'

SITE DATA

TOTAL SITE AREA	186,405 SF ± (4.279 ACRES)
TAX MAP NUMBER:	0900-350-02-18
CURRENT ZONE:	R-20 & VB (VILLAGE BUSINESS)
- PROPOSED REZONE TO MF-44 & VB	
FIRE DISTRICT:	EASTPORT
SCHOOL DISTRICT:	REMSENBURG-SPEONK UFSD
WATER DISTRICT:	SCWA

ZONING ANALYSIS

(BASED ON MF-44 MULTIFAMILY RESIDENCE & VB VILLAGE BUSINESS)

	REQ'D/ALLOWED MF-44	PROVIDED MF-44	REQ'D/ALLOWED VB	PROVIDED VB
LOT AREA				
MINIMUM (SF)	44,000 SF	142,653 SF	NONE	43,752 SF
MIN. PER DWELLING UNIT (1)	11,000 SF	-	NONE	-
MAX. # OF UNITS W/ 330-8 APPLICABLE	41	28	10	10
LOT COVERAGE				
MAX. COVERAGE BY MAIN & ACCESSORY BLDGS (%)	20%	9.99%	70%	17.27%
MIN. LOT WIDTH	200'	> 200'	20'	>20'
MAX. HEIGHT				
STORIES	2	2	2	2
FEET	32'	32'	35'	35'
YARDS (PRINCIPLE BUILDING)				
MIN. FRONT	50'	N/A	10'	10'
MIN. SIDE FOR 1	50'	50'	NONE	10'/30.4'
MIN. SIDE FOR BOTH	100'	134.1'	15'	40.4'
MIN. REAR	50'	104.5'	35'	N/A
YARDS (ACCESSORY BUILDING EXCEPT FENCES AND RET. WALLS)				
MIN. DIST. FROM STREET	60'	493.8'	20'	N/A
MIN. DIST. FROM SIDE AND REAR LOT LINES	20'	S-130.5/ R-51.7'	35' (REAR ONLY)	N/A

(1) 12 UNITS / ACRE MAX. PURSUANT TO TOWN CODE 330-8: INCREASE RESIDENTIAL DENSITY TO ESTABLISH LOW - AND LOWER - MIDDLE - INCOME HOUSING INVENTORY: 4.279 ACRES x 12 UNITS / ACRE = 51.35 = 51 UNITS MAXIMUM (BASED UPON OVERALL SITE AREA) - 38 UNITS PROPOSED

*PARKING CALCULATIONS

REQUIRED

4,380 SF RETAIL	1 STALL / 150 SF	= 29.2
MULTI-FAMILY - (12) STUDIOS	1.5 STALLS / EA	= 18
MULTI-FAMILY - (14) 1-BEDROOMS	1.75 STALLS / EA	= 24.5
MULTI-FAMILY - (12) 2-BEDROOMS	2 STALLS / EA	= 24
	TOTAL STALLS REQUIRED	= 95.7 = 96

PROVIDED
102 PAVED STALLS ON SITE (INCL. 7 HC STALLS)
12 STALLS ON STREET
114 TOTAL PROVIDED

UNIT COUNT

BUILDING	# UNIT TYPE	TOTAL UNITS	1ST FLOOR	2ND FLOOR	TOTAL
1	COMMERCIAL 1st, 8 - 0BR 2nd	8	4,380	4,380	8,760
2	COMMERCIAL 1st, 2 - 2BR 2nd	2	3,178	2,139	5,317
3	3 - 1BR, 3 - 2BR	6	3,496	2,747	6,243
4	3 - 1BR, 3- 2BR	6	3,496	2,747	6,243
5	2 - 0BR, 4 - 1BR, 2 - 2BR	8	3,382	3,149	6,531
6	2 - 0BR, 4 - 1BR, 2 - 2BR	8	3,382	3,149	6,531
		38	21,314	18,311	39,625
	ACCESSORY BUILDING (STP)		495		
	TOTAL FOOTPRINT		21,809		

ACCESSIBILITY:

(20) VISITABLE UNITS (5-STUDIO, 9-ONE BEDROOM, 6-TWO BEDROOM)
(5) FULLY ACCESSIBLE/ADAPTED UNITS (1-STUDIO, 2-ONE BEDROOM, 2-TWO BEDROOM)
(2) HEARING/VISUALLY IMPAIRED ADAPTED UNITS (1-ONE BEDROOM, 1-TWO BEDROOM)

NOTE:

1. METES AND BOUNDS SHOWN ARE PER DEED.

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE LEACHING POOL
- PROPOSED DRAINAGE MANHOLE
- PROPOSED HANDICAP RAMP
- PROPOSED TRAFFIC FLOW DIRECTION
- PROPOSED STREET TREE
- PROPOSED SIGN
- PROPOSED HANDICAP STALL AND ACCESS AISLE
- PROPOSED LIGHT POLE
- PROPOSED SAN. MANHOLE
- (S) PROPOSED SAN. MAIN
- PROPOSED WATER MAIN
- W EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

SIGN LEGEND

SIGN	SYMBOL	SIZE
STOP	1	30"x30"
DO NOT ENTER	2	30"x30"
RESERVED PARKING / VAN ACCESSIBLE	3	12"x18"
NO PARKING ANY TIME	4	12"x18"

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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NO.	DATE:	REVISIONS:	BY:
4	11-28-2016	38 UNIT CONCEPT	MJR
3	7-27-2016	UNIT COUNTS	LN
2	6-29-2016	ALT. ENTRY ANGLE/LOCATION	LN
1	3-31-2016	RE ZONE AND BUILDING RE-CONFIG	LN

PROGRESS PRINT

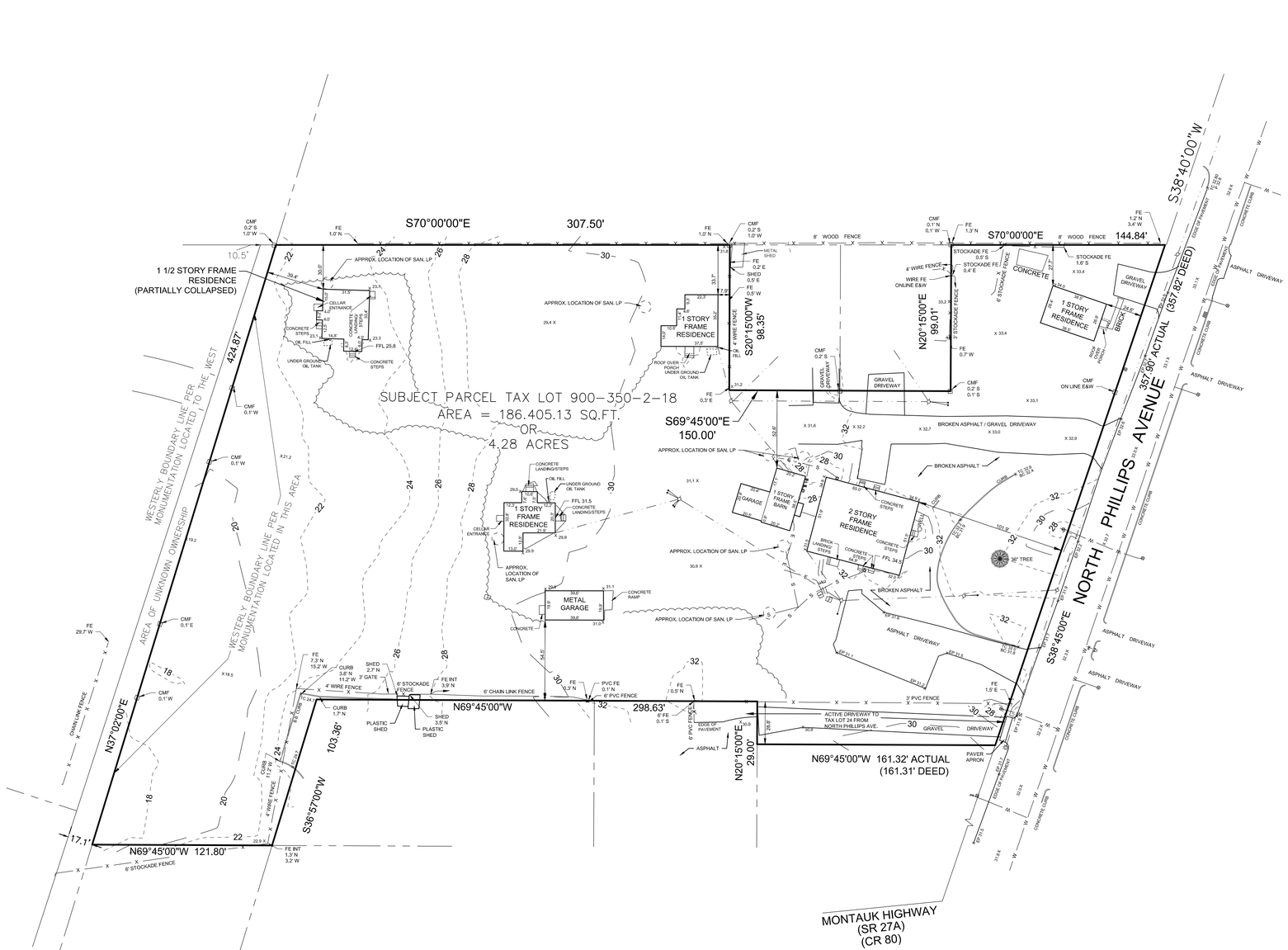
P.E. SEAL AND SIGNATURE

CONCEPTUAL PLAN
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	11/11/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1

12/8/2016 3:00:55 PM



NOTES:

ELEVATIONS REFERENCE NORTH AMERICAN VERTICAL DATUM 88

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TITLE REPORT NOT PROVIDED FOR PREPARATION OF SURVEY.

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LEGEND

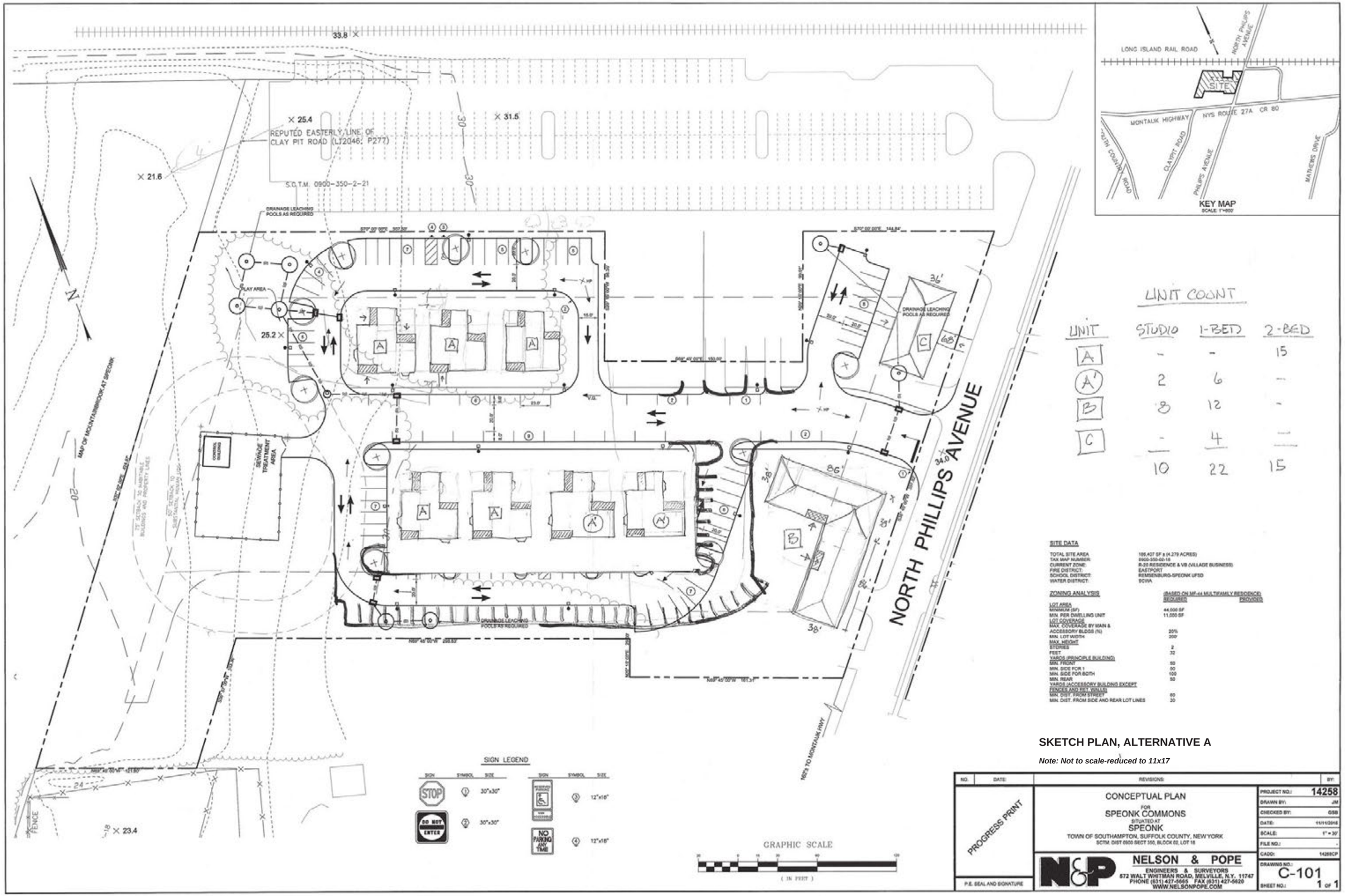
- MONUMENT FOUND
- ELECTRIC PANEL
- OVERHEAD WIRE
- UTILITY POLE
- LIGHT POLE
- GUY
- HYDRANT
- WATER VALVE
- WATER METER
- E — UNDERGROUND ELECTRIC LINE
- S — SANITARY PIPE
- W — WATER MAIN/PIPE
- SANITARY CLEAN OUT
- SANITARY VENT
- EDGE OF WOODS
- CATCH BASIN

REVISIONS	
DATE	ITEM

BOUNDARY AND TOPOGRAPHIC SURVEY
OF
PROPERTY
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
S.C.T.M. DISTRICT 0900 SECTION 350.00 BLOCK 02.00 LOT 018.000

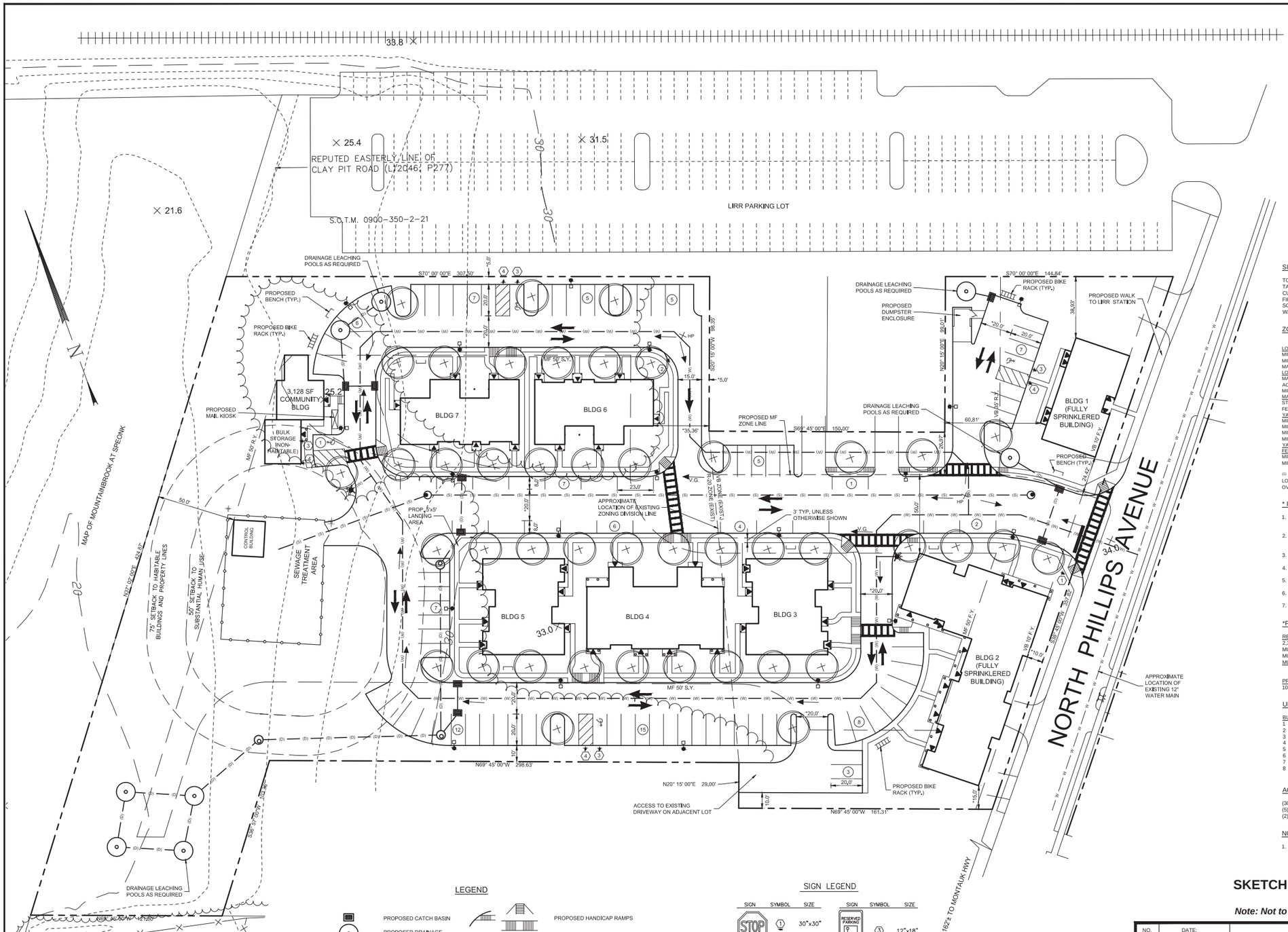
NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

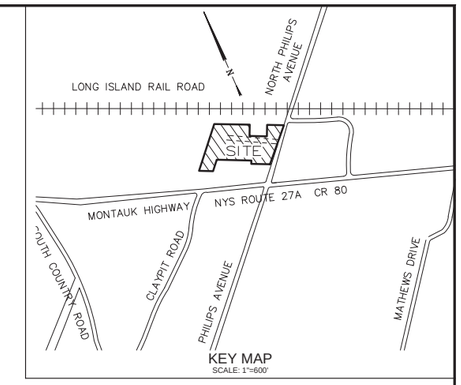
DRAWN BY:	PF	CADD No.:	14258_S	SCALE: 1"=40'	SHEET NO.: 1 OF 1
CHECKED BY:	JSS	FILE NO.:	900-350-		
DATE:	4-16-16	PROJECT NO.:	N15X189		



SKETCH PLAN, ALTERNATIVE A

Note: Not to scale-reduced to 11x17





KEY MAP
SCALE: 1"=600'

SITE DATA

TOTAL SITE AREA	186,407 SF ± (4.279 ACRES)
TAX MAP NUMBER:	0900-350-02-18
CURRENT ZONE:	R-20 RESIDENCE & VB (VILLAGE BUSINESS)
FIRE DISTRICT:	EASTPORT
SCHOOL DISTRICT:	REMSENBURG-SPEONK UFSD
WATER DISTRICT:	SCWA

ZONING ANALYSIS

(BASED ON MF-44 MULTIFAMILY RESIDENCE & VB VILLAGE BUSINESS)

	REQ'D/ALLOWED MF-44	PROVIDED MF-44	REQ'D/ALLOWED VB	PROVIDED VB
LOT AREA				
MINIMUM (SF)	44,000 SF	166,350 SF	NONE	20,057 SF
MIN. PER DWELLING UNIT [1]	11,000 SF	-	NONE	-
MAX. # OF UNITS W/ 330-8 APPLICABLE	46	46	2	*4
LOT COVERAGE				
MAX. COVERAGE BY MAIN & ACCESSORY BLDGS (%)	20%	14.52%	70%	8.16%
MIN. LOT WIDTH	200'	> 200'	20'	26.97'
MAX. HEIGHT				
STORIES	2	2	2	2
FEET	32'	32'	35'	35'
YARDS (PRINCIPLE BUILDING)				
MIN. FRONT	50'	*10'	10'	10'
MIN. SIDE FOR 1	50'	*15'	NONE	24.42'
MIN. SIDE FOR BOTH	100'	65'	15'	63.35'
MIN. REAR	50'	50'	35'	60.81'
YARDS (ACCESSORY BUILDING EXCEPT FENCES AND RET. WALLS)				
MIN. DIST. FROM STREET	60'	> 60'	20'	N/A
MIN. DIST. FROM SIDE AND REAR LOT LINES	20'	50' (STP)	35' (REAR ONLY)	N/A

[1] 12 UNITS / ACRE MAX. PURSUANT TO TOWN CODE 330-8: INCREASE RESIDENTIAL DENSITY TO ESTABLISH LOW - AND LOWER - MIDDLE - INCOME HOUSING INVENTORY: 4.279 ACRES x 12 UNITS / ACRE = 51 UNITS MAXIMUM (BASED UPON OVERALL SITE AREA)

* INDICATED VARIANCES

1. 10' FRONT YARD SETBACK SHOWN FOR PROPOSED MF UNITS ON CURRENTLY ZONED VB PROPERTY; 50' REQUIRED FOR MF ZONE (10' REQUIRED FOR VB ZONE).
2. 15' SIDE YARD SETBACK SHOWN FOR PROPOSED MF UNITS ON CURRENTLY ZONED VB PROPERTY; 50' REQUIRED FOR MF ZONE.
3. 50' SIDE YARD SETBACK TO VB ZONE REQUIRED FOR BUILDING #6; 35.36' PROVIDED.
4. 20' WIDE DRIVE AISLES SHOWN; 24' REQUIRED.
5. PARKING AND DRIVE AISLE 5' FROM NORTHERLY PROPERTY LINE; 10' REQUIRED.
6. FOUR (4) RESIDENTIAL UNITS PROPOSED ABOVE VB RETAIL; MAXIMUM OF TWO (2) ALLOWED.
7. FOUR (4) PARKING STALLS.

*PARKING CALCULATIONS

REQUIRED

2,304 SF RETAIL	1 STALL / 150 SF	=	16
MULTI-FAMILY - 10 STUDIO	1.5 STALLS / UNIT	=	15
MULTI-FAMILY - 25 1-BEDROOMS	1.75 STALLS / UNIT	=	44
MULTI-FAMILY - 15 2-BEDROOMS	2 STALLS / UNIT	=	30
	TOTAL STALLS REQUIRED	=	105

PROVIDED
101 PAVED STALLS (INCL. 4 HC STALLS)

UNIT COUNT

BUILDING	# UNIT TYPE	TOTAL UNITS	1ST FLOOR	2ND FLOOR	TOTAL
1	2 - COMMERCIAL, 4 - 0BR	4	2,304	2,200	4,832
2	4 - 0BR, 7 - 1BR, 5 - 2BR	16	6,255	5,260	11,959
3	4 - 1BR, 2 - 2BR	6	2,474	2,326	5,054
4	2 - 1BR, 4 - 2BR	6	3,646	1,604	5,426
5	4 - 1BR, 2 - 2BR	6	2,474	2,326	5,054
6	1 - 0BR, 4 - 1BR, 1 - 2BR	6	2,490	1,759	4,459
7	1 - 0BR, 4 - 1BR, 1 - 2BR	6	2,490	1,759	4,459
8	RECREATION	-	1,636	1,492	3,128
		50			

ACCESSIBILITY:

(30) VISITABLE UNITS (2-STUDIO, 14-ONE BEDROOM, 14-TWO BEDROOM)
(5) FULLY ACCESSIBLE/ADAPTED UNITS (1-STUDIO, 2-ONE BEDROOM, 2-TWO BEDROOM)
(2) HEARING/VISUALLY IMPAIRED ADAPTED UNITS (1-ONE BEDROOM, 1-TWO BEDROOM)

NOTE:

1. METES AND BOUNDS SHOWN ARE PER DEED.

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE LEACHING POOL
- PROPOSED DRAINAGE MANHOLE
- PROPOSED SAN. MANHOLE
- PROPOSED SAN. MAIN
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED HANDICAP RAMPS
- PROPOSED TRAFFIC FLOW DIRECTION
- PROPOSED STREET TREE
- PROPOSED SIGN
- PROPOSED HANDICAP STALL AND ACCESS AISLE
- PROPOSED LIGHT POLE
- PROPOSED BENCH
- PROPOSED BIKE RACK

SIGN LEGEND

SIGN	SYMBOL	SIZE
STOP	1	30"x30"
DO NOT ENTER	2	30"x30"
RESERVED PARKING / VAN ACCESSIBLE	3	12"x18"
NO PARKING ANY TIME	4	12"x18"

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

SKETCH PLAN, ALTERNATIVE B

Note: Not to scale-reduced to 11x17

NO.	DATE:	REVISIONS:	BY:

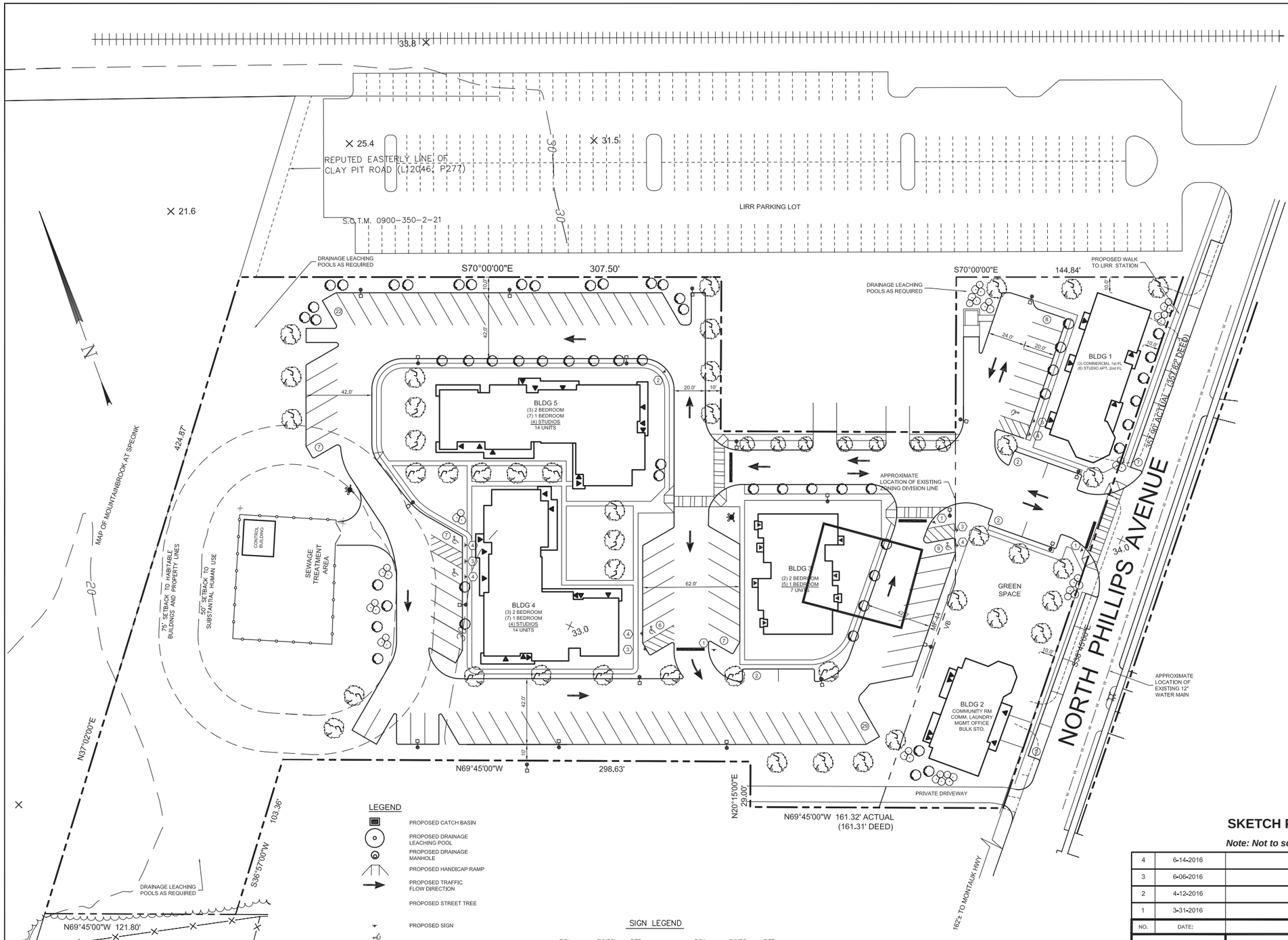
P.E. SEAL AND SIGNATURE

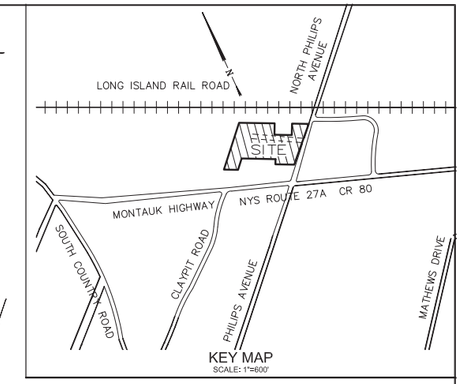
SCHEMATIC SITE PLAN
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	12/01/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, PROFESSIONAL ENGINEERING AND LAND SURVEYING, SECTION 7209 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND SPECIFIC DESCRIPTION OF THE ALTERATION.





SITE DATA

TOTAL SITE AREA	186,405 SF ± (4.279 ACRES)
TAX MAP NUMBER:	0900-350-02-18
CURRENT ZONE:	MF-44 & VB (VILLAGE BUSINESS)
FIRE DISTRICT:	EASTPORT
SCHOOL DISTRICT:	REMSENBURG-SPEONK UFSD
WATER DISTRICT:	SCWA

ZONING ANALYSIS

(BASED ON MF-44 MULTIFAMILY RESIDENCE & VB VILLAGE BUSINESS)

	REQ'D/ALLOWED MF-44	PROVIDED MF-44	REQ'D/ALLOWED VB	PROVIDED VB
LOT AREA				
MINIMUM (SF)	44,000 SF	150,644 SF	NONE	30,944 SF
MIN. PER DWELLING UNIT [1]	11,000 SF	-	NONE	-
MAX. # OF UNITS W/ 330-8 APPLICABLE	46	45	2	*10
LOT COVERAGE				
MAX. COVERAGE BY MAIN & ACCESSORY BLDGS (%)	20%	10.29%	70%	18.21%
MIN. LOT WIDTH	200'	> 200'	20'	>20'
MAX. HEIGHT				
STORIES	2	2	2	2
FEET	32'	32'	35'	35'
YARDS (PRINCIPLE BUILDING)				
MIN. FRONT	50'	*10'	10'	10'
MIN. SIDE FOR 1	50'	*15'	NONE	24.42'
MIN. SIDE FOR BOTH	100'	65'	15'	63.35'
MIN. REAR	50'	50'	35'	60.81'
YARDS (ACCESSORY BUILDING EXCEPT FENCES AND RET. WALLS)				
MIN. DIST. FROM STREET	60'	> 60'	20'	N/A
MIN. DIST. FROM SIDE AND REAR LOT LINES	20'	50' (STP)	35' (REAR ONLY)	N/A

[1] 12 UNITS / ACRE MAX. PURSUANT TO TOWN CODE 330-8: INCREASE RESIDENTIAL DENSITY TO ESTABLISH LOW - AND LOWER - MIDDLE - INCOME HOUSING INVENTORY: 4.169 ACRES x 12 UNITS / ACRE = 50 UNITS MAXIMUM (BASED UPON OVERALL SITE AREA)

*PARKING CALCULATIONS

REQUIRED

3,564 SF RETAIL	1 STALL / 150 SF	=	23.76
MULTI-FAMILY - (18) STUDIOS	1.5 STALLS / EA	=	27
MULTI-FAMILY - (17) 1-BEDROOMS	1.75 STALLS / EA	=	29.75
MULTI-FAMILY - (10) 2-BEDROOMS	2 STALLS / EA	=	20
	TOTAL STALLS REQUIRED	=	100.51= 101

PROVIDED
101 PAVED STALLS (INCL. 5 HC STALLS)

UNIT COUNT

BUILDING	# UNIT TYPE	TOTAL UNITS	1ST FLOOR	2ND FLOOR	TOTAL
1	3 - COMMERCIAL, 6 - 0BR	6	3,548	3,450	6,998
2	1 - OFC, 1-COMNTY,1- STO, 4-0BR	4	2,087	2,147	4,234
3	5 - 1BR, 2 - 2BR	7	3,535	3,010	6,545
4	4 - 0BR, 6 - 1BR, 4 - 2BR	14	5,770	5,680	11,450
5	4 - 0BR, 6 - 1BR, 4 - 2BR	14	5,747	5,650	11,397

ACCESSIBILITY:

(30) VISITABLE UNITS (2-STUDIO, 14-ONE BEDROOM, 14-TWO BEDROOM)
(5) FULLY ACCESSIBLE/ADAPTED UNITS (1-STUDIO, 2-ONE BEDROOM, 2-TWO BEDROOM)
(2) HEARING/VISUALLY IMPAIRED ADAPTED UNITS (1-ONE BEDROOM, 1-TWO BEDROOM)

NOTE:

1. METES AND BOUNDS SHOWN ARE PER DEED.

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE LEACHING POOL
- PROPOSED DRAINAGE MANHOLE
- PROPOSED HANDICAP RAMP
- PROPOSED TRAFFIC FLOW DIRECTION
- PROPOSED STREET TREE
- PROPOSED SIGN
- PROPOSED HANDICAP STALL AND ACCESS AISLE
- PROPOSED LIGHT POLE
- PROPOSED SAN. MANHOLE
- (S) PROPOSED SAN. MAIN
- PROPOSED WATER MAIN
- W EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

SIGN LEGEND

SIGN	SYMBOL	SIZE
STOP	1	30"x30"
DO NOT ENTER	2	30"x30"
RESERVED PARKING / VAN ACCESSIBLE	3	12"x18"
NO PARKING ANY TIME	4	12"x18"

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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SKETCH PLAN, ALTERNATIVE C

Note: Not to scale, reduced to 11x17

NO.	DATE:	REVISIONS:	BY:
4	6-14-2016	STREET PARKING	LN
3	6-06-2016	SURVEY UPDATE	LN
2	4-12-2016	TRAFFIC FLOW DIRECTION	LN
1	3-31-2016	RE ZONE AND BUILDING RE-CONFIG	LN

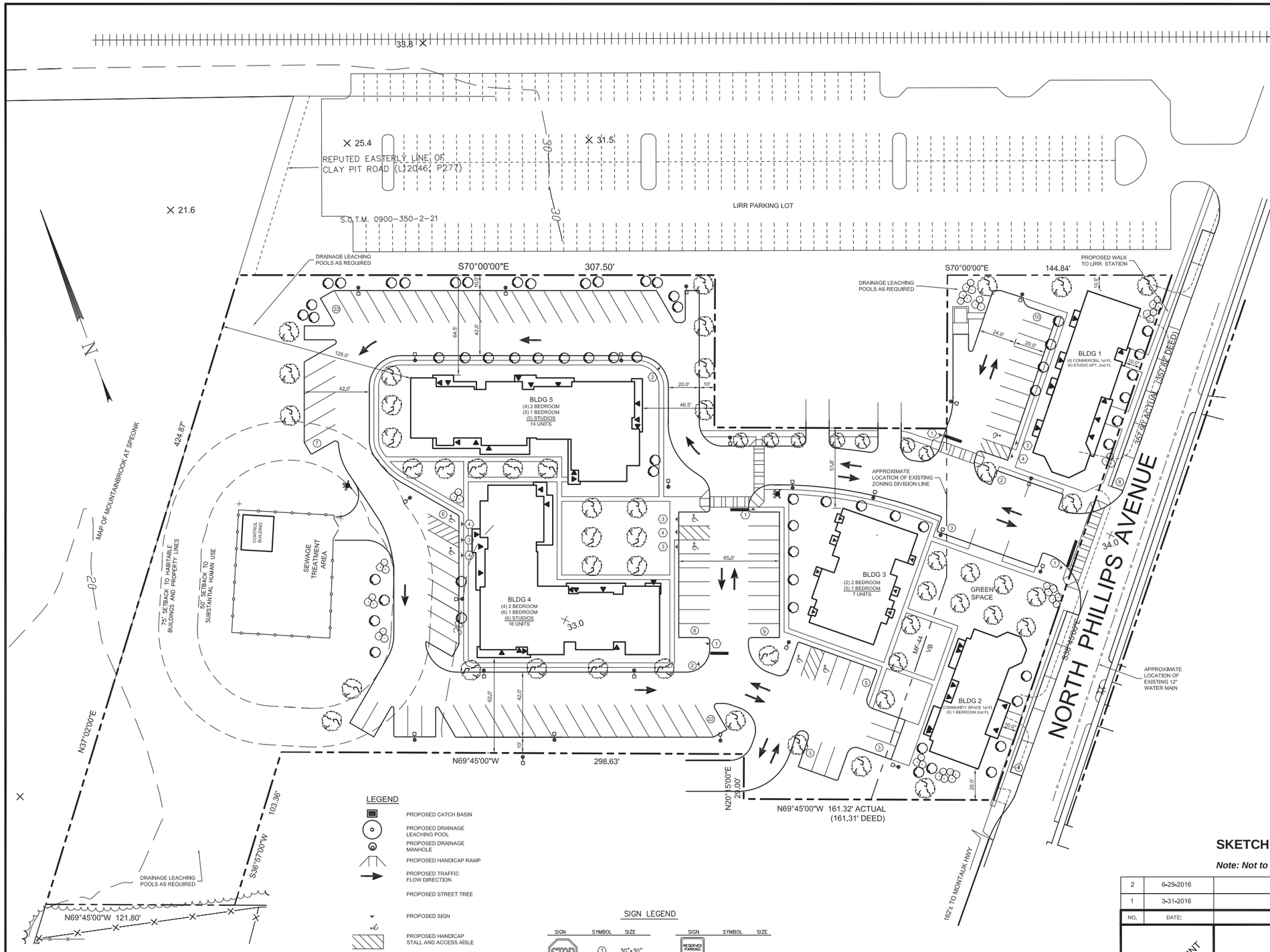
PROGRESS PRINT

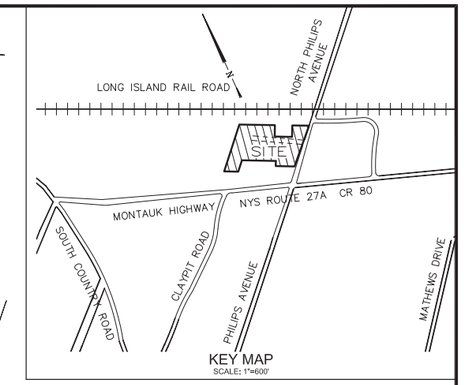
P.E. SEAL AND SIGNATURE

CONCEPTUAL PLAN
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
WWW.NELSONPOPE.COM

PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	11/11/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1





SITE DATA

TOTAL SITE AREA	186,405 SF ± (4,279 ACRES)
TAX MAP NUMBER:	0900-350/02-18
CURRENT ZONE:	R-20 & VB (VILLAGE BUSINESS)
• PROPOSED REZONE TO MF-44 & VB	
FIRE DISTRICT:	EASTPORT
SCHOOL DISTRICT:	REMSENBURG-SPEONK UFSD
WATER DISTRICT:	SCWA

ZONING ANALYSIS

(BASED ON MF-44 MULTIFAMILY RESIDENCE & VB VILLAGE BUSINESS)

	REQ'D/ALLOWED MF-44	PROVIDED MF-44	REQ'D/ALLOWED VB	PROVIDED VB
LOT AREA				
MINIMUM (SF)	44,000 SF	153,166 SF	NONE	33,239 SF
MIN. PER DWELLING UNIT (1)	11,000 SF	-	NONE	-
MAX. # OF UNITS W/ 330-8 APPLICABLE	46	45	2	*10
LOT COVERAGE				
MAX. COVERAGE BY MAIN & ACCESSORY BLDGS (%)	20%	10.82%	70%	20.5%
MIN. LOT WIDTH	200'	> 200'	20'	>20'
MAX. HEIGHT				
STORIES	2	2	2	2
FEET	32'	32'	35'	35'
YARDS (PRINCIPLE BUILDING)				
MIN. FRONT	50'	*10'	10'	10'
MIN. SIDE FOR 1	50'	NA	NONE	10'
MIN. SIDE FOR BOTH	100'	113.8'	15'	30'
MIN. REAR	50'	128'	35'	NA
YARDS (ACCESSORY BUILDING EXCEPT FENCES AND RET. WALLS)				
MIN. DIST. FROM STREET	60'	> 60'	20'	N/A
MIN. DIST. FROM SIDE AND REAR LOT LINES	20'	50' (STP)	35' (REAR ONLY)	N/A

(1) 12 UNITS / ACRE MAX. PURSUANT TO TOWN CODE 330-8: INCREASE RESIDENTIAL DENSITY TO ESTABLISH LOW - AND LOWER - MIDDLE - INCOME HOUSING INVENTORY: 4.279 ACRES x 12 UNITS / ACRE = 51.35 = 51 UNITS MAXIMUM (BASED UPON OVERALL SITE AREA)

*PARKING CALCULATIONS

REQUIRED

3,882 SF RETAIL	1 STALL / 150 SF	=	25.88
MULTI-FAMILY - (19) STUDIOS	1.5 STALLS / EA	=	28.5
MULTI-FAMILY - (22) 1-BEDROOMS	1.75 STALLS / EA	=	38.5
MULTI-FAMILY - (10) 2-BEDROOMS	2 STALLS / EA	=	20
	TOTAL STALLS REQUIRED	=	112.88 = 113

PROVIDED
103 PAVED STALLS ON SITE (INCL. 7 HC STALLS)
13 STALLS ON STREET
116 TOTAL PROVIDED

UNIT COUNT

BUILDING	# UNIT TYPE	TOTAL UNITS	1ST FLOOR	2ND FLOOR	TOTAL
1	8 - COMMERCIAL, 8 - 0BR	8	3,882	3,650	7,532
2	6 - COMMERCIAL, 6 - 1BR	6	2,932	2,880	4,234
3	5 - 1BR, 2 - 2BR	7	3,535	3,010	6,545
4	6 - 0BR, 6 - 1BR, 4 - 2BR	16	6,530	6,420	12,950
5	5 - 0BR, 5 - 1BR, 4 - 2BR	14	6,047	5,950	11,997

ACCESSIBILITY:

(20) VISITABLE UNITS (5-STUDIO, 9-ONE BEDROOM, 6-TWO BEDROOM)
(6) FULLY ACCESSBLE/ADAPTED UNITS (1-STUDIO, 2-ONE BEDROOM, 2-TWO BEDROOM)
(2) HEARING/VISUALLY IMPAIRED ADAPTED UNITS (1-ONE BEDROOM, 1-TWO BEDROOM)

NOTE:

1. METES AND BOUNDS SHOWN ARE PER DEED.

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE LEACHING POOL
- PROPOSED DRAINAGE MANHOLE
- PROPOSED HANDICAP RAMP
- PROPOSED TRAFFIC FLOW DIRECTION
- PROPOSED STREET TREE
- PROPOSED SIGN
- PROPOSED HANDICAP STALL AND ACCESS AISLE
- PROPOSED LIGHT POLE
- PROPOSED SAN. MANHOLE
- (S) PROPOSED SAN. MAIN
- PROPOSED WATER MAIN
- W EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

SIGN LEGEND

SIGN	SYMBOL	SIZE
STOP	1	30"x30"
DO NOT ENTER	2	30"x30"
RESERVED PARKING / VAN ACCESSIBLE	3	12"x18"
NO PARKING ANY TIME	4	12"x18"

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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SKETCH PLAN, ALTERNATIVE D

Note: Not to scale, reduced to 11x17

NO.	DATE:	REVISIONS:	BY:
2	6-29-2016	ALT. ENTRY ANGLE/LOCATION	LN
1	3-31-2016	RE ZONE AND BUILDING RE-CONFIG	LN

PROGRESS PRINT

P.E. SEAL AND SIGNATURE

CONCEPTUAL PLAN
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
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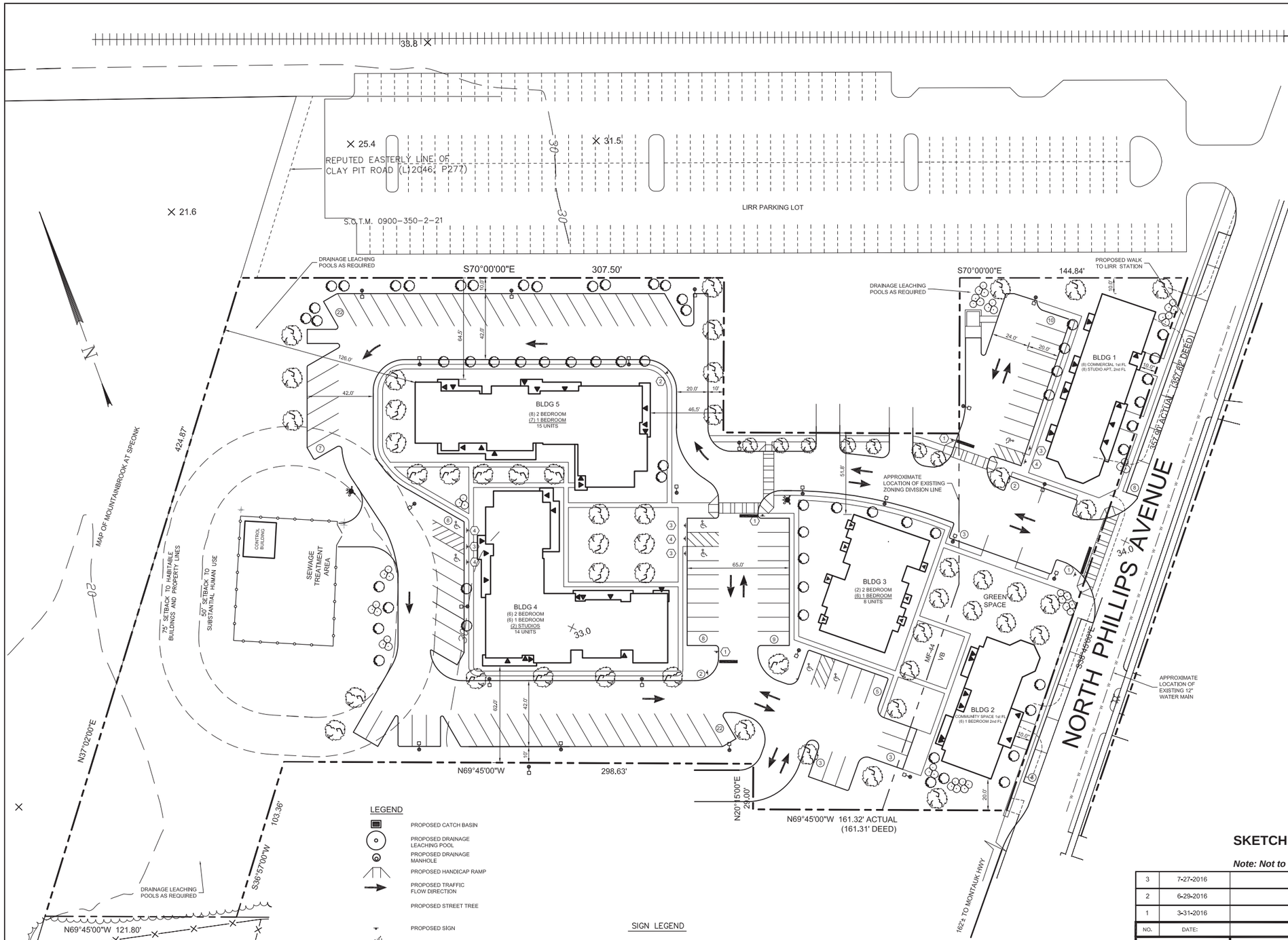
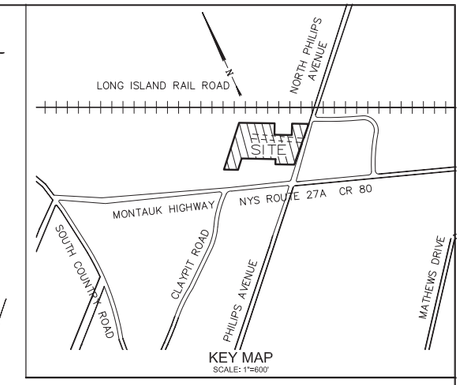
PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	11/11/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1





SITE DATA

TOTAL SITE AREA	186,405 SF ± (4.279 ACRES)
TAX MAP NUMBER:	0900-350-02-18
CURRENT ZONE:	R-20 & VB (VILLAGE BUSINESS)
- PROPOSED REZONE TO MF-44 & VB	
FIRE DISTRICT:	EASTPORT
SCHOOL DISTRICT:	REMSENBURG-SPEONK UFSD
WATER DISTRICT:	SCWA

ZONING ANALYSIS

(BASED ON MF-44 MULTIFAMILY RESIDENCE & VB VILLAGE BUSINESS)

	REQ'D/ALLOWED MF-44	PROVIDED MF-44	REQ'D/ALLOWED VB	PROVIDED VB
LOT AREA				
MINIMUM (SF)	44,000 SF	153,166 SF	NONE	33,239 SF
MIN. PER DWELLING UNIT [1]	11,000 SF	-	NONE	-
MAX. # OF UNITS W/ 330-8 APPLICABLE	46	45	2	*10
LOT COVERAGE				
MAX. COVERAGE BY MAIN & ACCESSORY BLDGS (%)	20%	10.82%	70%	20.5%
MIN. LOT WIDTH	200'	> 200'	20'	>20'
MAX. HEIGHT				
STORIES	2	2	2	2
FEET	32'	32'	35'	35'
YARDS (PRINCIPLE BUILDING)				
MIN. FRONT	50'	*10'	10'	10'
MIN. SIDE FOR 1	50'	NA	NONE	10'
MIN. SIDE FOR BOTH	100'	113.8'	15'	30'
MIN. REAR	50'	128'	35'	NA
YARDS (ACCESSORY BUILDING EXCEPT FENCES AND RET. WALLS)				
MIN. DIST. FROM STREET	60'	> 60'	20'	N/A
MIN. DIST. FROM SIDE AND REAR LOT LINES	20'	50' (STP)	35' (REAR ONLY)	N/A

[1] 12 UNITS / ACRE MAX. PURSUANT TO TOWN CODE 330-8: INCREASE RESIDENTIAL DENSITY TO ESTABLISH LOW - AND LOWER - MIDDLE - INCOME HOUSING INVENTORY: 4.279 ACRES x 12 UNITS / ACRE = 51.35 = 51 UNITS MAXIMUM (BASED UPON OVERALL SITE AREA)

*PARKING CALCULATIONS

REQUIRED

3,882 SF RETAIL	1 STALL / 150 SF	=	25.88
MULTI-FAMILY - (19) STUDIOS	1.5 STALLS / EA	=	28.5
MULTI-FAMILY - (22) 1-BEDROOMS	1.75 STALLS / EA	=	38.5
MULTI-FAMILY - (10) 2-BEDROOMS	2 STALLS / EA	=	20
	TOTAL STALLS REQUIRED	=	112.88 = 113

PROVIDED
103 PAVED STALLS ON SITE (INCL. 7 HC STALLS)
13 STALLS ON STREET
116 TOTAL PROVIDED

UNIT COUNT

BUILDING	# UNIT TYPE	TOTAL UNITS	1ST FLOOR	2ND FLOOR	TOTAL
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ACCESSIBILITY:

(20) VISITABLE UNITS (5-STUDIO, 9-ONE BEDROOM, 6-TWO BEDROOM)
(5) FULLY ACCESSIBLE/ADAPTED UNITS (1-STUDIO, 2-ONE BEDROOM, 2-TWO BEDROOM)
(2) HEARING/VISUALLY IMPAIRED ADAPTED UNITS (1-ONE BEDROOM, 1-TWO BEDROOM)

NOTE:

1. METES AND BOUNDS SHOWN ARE PER DEED.

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE LEACHING POOL
- PROPOSED DRAINAGE MANHOLE
- PROPOSED HANDICAP RAMP
- PROPOSED TRAFFIC FLOW DIRECTION
- PROPOSED STREET TREE
- PROPOSED SIGN
- PROPOSED HANDICAP STALL AND ACCESS AISLE
- PROPOSED LIGHT POLE
- PROPOSED SAN. MANHOLE
- (S) PROPOSED SAN. MAIN
- PROPOSED WATER MAIN
- W EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

SIGN LEGEND

SIGN	SYMBOL	SIZE
STOP	1	30"x30"
DO NOT ENTER	2	30"x30"
RESERVED PARKING / VAN ACCESSIBLE	3	12"x18"
NO PARKING ANY TIME	4	12"x18"

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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SKETCH PLAN, ALTERNATIVE E

Note: Not to scale, reduced to 11x17

NO.	DATE:	REVISIONS:	BY:
3	7-27-2016	UNIT COUNTS	LN
2	6-29-2016	ALT. ENTRY ANGLE/LOCATION	LN
1	3-31-2016	RE ZONE AND BUILDING RE-CONFIG	LN

PROGRESS PRINT

P.E. SEAL AND SIGNATURE

CONCEPTUAL PLAN
FOR
SPEONK COMMONS
SITUATED AT
SPEONK
TOWN OF SOUTHAMPTON, SUFFOLK COUNTY, NEW YORK
SCTM: DIST 0900 SECT 350, BLOCK 02, LOT 18

NELSON & POPE
ENGINEERS & SURVEYORS
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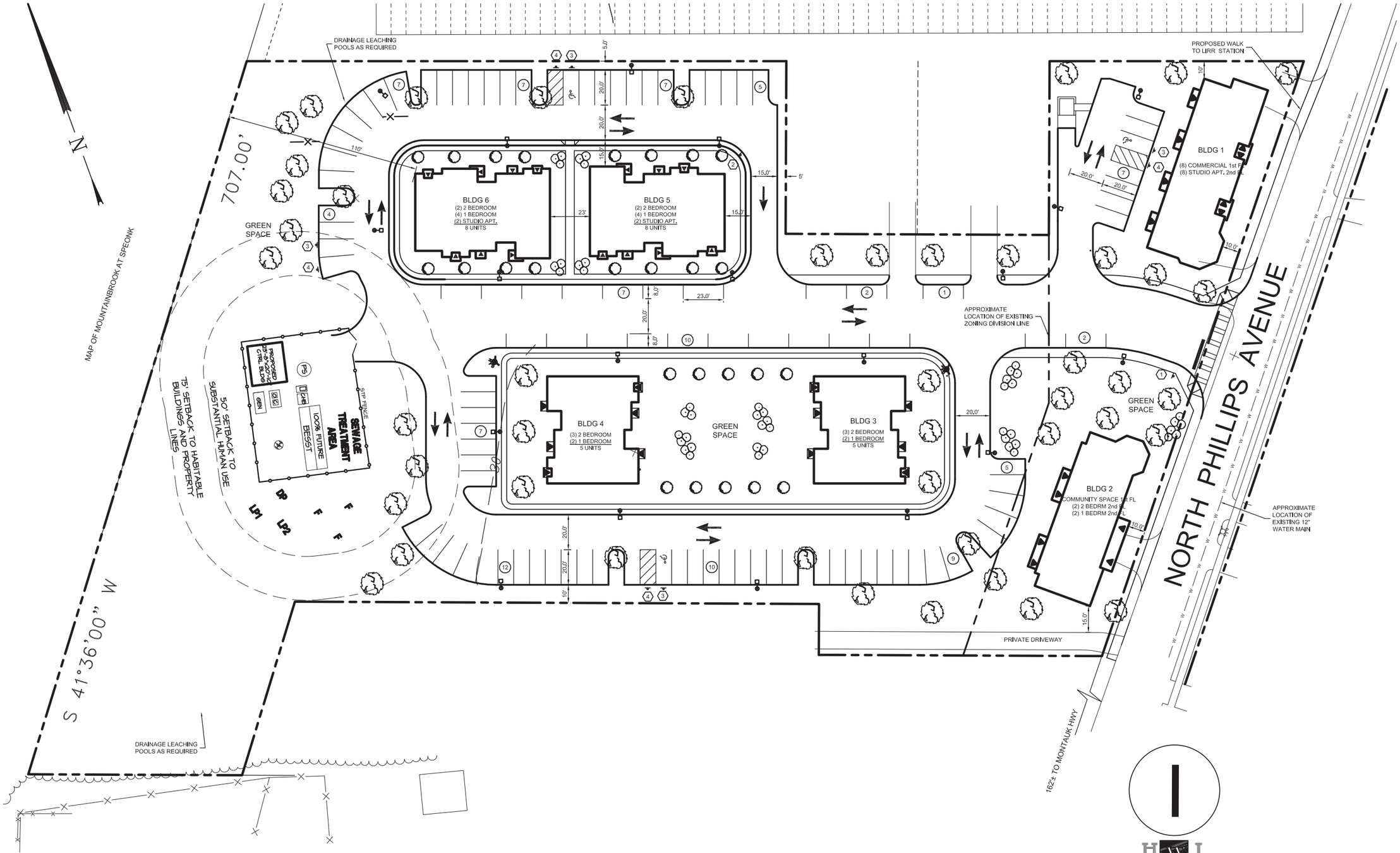
PROJECT NO.:	14258
DRAWN BY:	JM
CHECKED BY:	GSB
DATE:	11/11/2015
SCALE:	1" = 30'
FILE NO.:	-
CADD:	14258CP
DRAWING NO.:	C-101
SHEET NO.:	1 OF 1

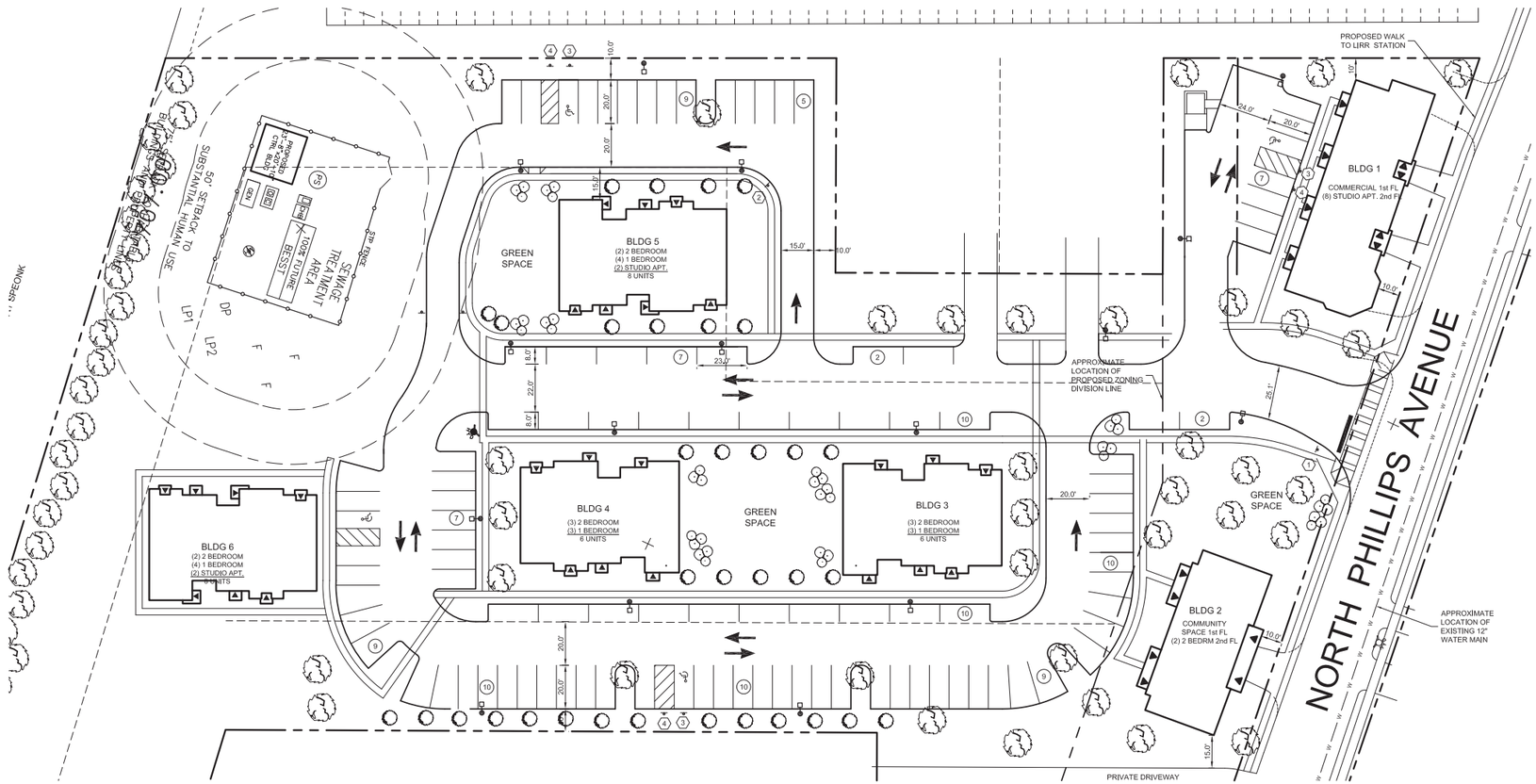


11-04-16

Note: Not to scale, reduced to 11x17

SKETCH PLAN, ALTERNATIVE F

11/4/2016 3:41:54 PM



SKETCH PLAN, ALTERNATIVE G

Note: Not to scale-reduced to 11x17