EXPANDED ENVIRONMENTAL ASSESSMENT FORM (EAF)

Venezia Square

Site Plan Application

Hamlet of Wading River, Town of Riverhead, NY

NPV No.06180

Prepared for Submission to:

Riverhead Town Planning Board
c/o Town Planning Department
201 Howell Avenue
Riverhead, New York 11901
Contact: Jefferson V. Murphree, AICP, Building & Planning Administrator
Phone: (631) 727-3200

Prepared by:

NELSON POPE VOORHIS
environmental • land use • planning

70 Maxess Road
Melville, NY 11747
Contact: Charles J. Voorhis, CEP, AICP; Principal
Phil Malicki, CEP, AICP LEED AP; Senior Environmental Planner
office: 631.427.5665 | cvoorhis@nelsonpopevoorhis.com

December 1, 2022

EXPANDED ENVIRONMENTAL ASSESSMENT FORM

VENEZIA SQUARE

Site Plan Application

NYS Route 25A, opposite Dogwood Drive
SCTM: 0600-73-1-1.4 & 1.16 to 1.19

Hamlet of Wading River, Town of Riverhead
Suffolk County, New York

Prepared for:

Venezia Corp./Joseph Vento
15 Seville Lane
Stony Brook, NY 11790
Contact: Mr. Joseph Vento
(631) 941-0456

For Submission to:

Riverhead Town Planning Board
c/o Town Planning Department
201 Howell Avenue
Riverhead, New York 11901
Contact: Jefferson V. Murphree, AICP; Building & Planning Administrator
(631) 727-3200

Prepared by:

(Traffic Engineering)
Schneider Engineering, PLLC
1 Comac Loop, Suite 14B3
Ronkonkoma, New York 11779
Contact: Steve Schneider, PE
(631) 698-6200

(Environmental Analysis and Planning)
Nelson, Pope & Voorhis, LLC
70 Maxess Road
Melville, New York 11747
Contact: Charles Voorhis, CEP, AICP; Principal
Phil Malicki; CEP, AICP, LEED® AP; Senior Environmental Planner
(631) 427-5665

(Cultural Resources)
Tracker Archaeology Services
62 Pickerel Road
Monroe, New York 10950
Contact: Alfred Cammisa, MA, RPA
(845) 783-4082

(Civil Engineering)
Bohler Engineering
2929 Expressway Drive North
Hauppauge, New York 11749
Contact: Robert A. Lauro, Manager

TABLE OF CONTENTS

TABLES

FIGURES

(in separate section following text)

6 Central Pine Barrens, CGA Map
7 Water Table Contour Map
8 Slope Map
9 Cultural Resources Sensitivity Map
10 NYSDEC Freshwater Wetlands Map
11 National Wetlands Inventory Map

APPENDICES:

A **SEQRA Staff Report**, Jeffrey Seeman, CEP; Environmental Planner, *January 7, 2016*

B **Conformance to CPB Standards and/or Guidelines**
- B-1 Conformance to Town Pine Barrens Standards
- B-2 Conformance to CPB CLUP Standards and Guidelines for Land Use

C **Cultural Resources-Related Documents**
- C-1 Archaeological Investigation, Phase I, Tracker Archaeological Services, Inc., *July 2016*
- C-2 No-Effect Letter, SHPO, *February 15, 2017*

D **NYS Natural Heritage Program Correspondence**

E **Updated Traffic Impact Study**, Schneider Engineering, PLLC, *December 2018*

F **Revised Traffic Impact Study**, Schneider Engineering, PLLC, *May 10, 2022*

PLANS:

(In pouches at the back of this document)

Boundary & Topographic Survey, Control Point Associates, Inc., *revised 1-18-16*

Site Plan, Bohler Engineering, *revised 11/18/15*

1.0 INTRODUCTION

This document is an Expanded Environmental Assessment Form (EEAF) that has been prepared in response to the Town Planning Department Staff Report (see **Appendix A**) on a pending site plan application for a proposed commercial development known as "Venezia Square" (hereafter, the "proposed project"). The purpose of this EEAF is to provide the Riverhead Town Planning Board (hereafter, "the Board"), the entity having discretionary jurisdiction over the site plan application, with information necessary to support the Determination of Significance that the Board is required to prepare, under the New York State (NYS) Environmental Quality Review Act (SEQRA).

The site of the proposed project is located on the south side of Sound Avenue (NYS Route 25A), approximately 780 feet west of Wading River Road, in the hamlet of Wading River, Suffolk County, New York (see **Figures 1a and 1b,** *located immediately following the text portion of this document*). The property is comprised of 6.34 acres of successional field. The site was cleared of natural vegetation in the past for farming and has been undergoing successional revegetation for a number of years. The site is not characteristic of native pine barrens habitat (see **Figure 2**) as the site habitat is characterized as an overgrown successional field.

The subject property is surrounded by vacant, commercial and residential uses. Residential uses are generally located to the south, commercial uses to the west, north and east along Sound Avenue (NYS Route 25A) and farmland abuts the property to the east. As shown in **Figure 3**, abutting the site to the west is a funeral home (in the Town of Brookhaven); land to the north across Sound Avenue (NYS Route 25A) is a mix of vacant and commercial uses (i.e., at the northeast corner of the intersection of Dogwood Dr. is a dentist's office, for which a site plan application was submitted for an addition). Toward the northeast there is vacant wooded land, an automotive garage, and a small shopping center with various uses including another dental office and a Subway sandwich shop); to the east is vacant, naturally-vegetated land and farmed land (on the Mays Farm parcel, for which a site plan has been submitted for two buildings, one to be built initially for office use, including a veterinary office, and a future building for office/retail), and to the south are single-family residences and farmland.

The subject property is zoned Business CR, which matches that of abutting properties and much of the area, particularly along the Sound Avenue (NYS Route 25A) commercial corridor (see **Figure 4**). Additionally, R-80 Residence zoning and development is located immediately south of the subject property and to the north, beyond the Business CR-zoned land along the Sound Avenue (NYS Route 25A) commercial corridor. Zoning in the vicinity also includes sites zoned in the SC-Shopping Center, VC-Village Center, and IN-Institutional districts.

As shown in the **Boundary & Topographic Survey** (*in a pouch at the back of this document*), the project site consists of five tax lots (as designated in the Suffolk County Tax Map; see **Table 1**):

TABLE 1
TAX LOTS

District	Section	Block	Lot(s)
0600	73	1	1.4
			1.16
			1.17
			1.18
			1.19

This document is organized to address each of issues specified in the Town Staff Report. This format provides the Town Planning Board with information that is responsive to staff comments pertaining to potential environmental impacts of the proposed action and facilitates staff and Town review and use of this EEAF as a decision-making document.

This EEAF ensures that the Board has sufficient information to take a "hard look" at the proposed project prior to issuing its Determination of Significance pursuant to Title 6, New York Code of Rules & Regulations (6 NYCRR), Part 617, which administers the SEQRA review process.

2.0 DESCRIPTION OF THE PROPOSED PROJECT

As depicted on the **Site Plan** (*in a pouch at the back of this document*), the proposed project conforms to all of the bulk and setback requirements of the Town Code, as well as to the requirements of Central Pine Barrens (CPB) Comprehensive Land Use Plan (CLUP). As a result, no variances, special exceptions or special permits are needed to implement the project and pending Town review and confirmation of consistency with the project with the Town's Pine Barrens Overlay District [Article XLI; Chapter 301; §301-197 A. (1) through (16)], no separate review by the Central Pine Barrens Joint Planning & Policy Commission is needed (CPBJPPC).

The proposed commercial development will include five (5) one-story buildings, with sizes varying from 4,000 square feet (SF) to 10,000 SF. Specifically, there will be a 6,000 SF building for two "take-out" restaurants (1,500 SF/16 seats each) and a 3,000 SF/84 seat "sit-down" restaurant; a 4,000 SF bank (with drive-thru service; and three 10,000 SF retail buildings. Thus, the total floor area of the project is 40,000 SF. With an additional 855 SF in the project's outdoor sign and other small structures, the total building coverage of the site is 40,855 SF.

The site has been designed so that the developed area will occupy the northern and central portions of the site, so that the southerly and easterly portions, abutting vacant lands, would remain undisturbed and naturally-vegetated. Such an arrangement will maximize the contiguity of natural vegetation, for aesthetic and habitat benefits.

The five structures are arranged so the bank will be located in the center of the site's developed area, with the other four structures arrayed around it; these latter four buildings will be oriented so that their front facades will face inward, toward the bank. In this way, the focus of the overall development would stress internal aesthetics and walkability with a sense of place through inclusion of a sitting area with a water feature planned for the area adjacent to the bank but open to all site patrons. Sidewalks, crosswalks and pedestrian ramps along all buildings fronts will enable safe movement within the site; these will also connect to sidewalks to be installed along the south side of Sound Avenue (NYS Route 25A).

Approximately 0.94 acres of the site will be covered with buildings, another 2.32 acres will be paved surfaces, and new landscaping will cover 0.84 acres; the remaining 2.24 acres of the site will be retained naturally-vegetated land.

One combined vehicle access into and exit from the site is planned, off Sound Avenue (NYS Route 25A) opposite Dogwood Drive, which will have been created as a four-way intersection controlled by a new traffic signal. The eastern portion of the site will be provided with a right turn/exit only, configured to direct exiting vehicles in the eastbound direction on Sound Avenue (NYS Route 25A). This exit will be controlled by a Stop sign. At the developed area's eastern boundary, a parking area aisle is designed so as to be available for conversion to an internal access to the undeveloped land abutting to the east, should this land be developed in the future. This is consistent with Town of Riverhead planning goals to reduce curb cuts on Sound Avenue (NYS Route 25A), provide

interconnected parking and ultimately create a through road from the subject site east to Wading River Road.

A minimum of 186 parking spaces are required by Town Code for the uses and yields proposed; the project will provide 186 parking spaces, in conformance with this requirement. Storm water drainage features will be provided to capture, store and recharge runoff generated by impervious surfaces.

The property is located in Groundwater Management Zone III, wherein the maximum allowed sanitary wastewater generation is 300 gallons per day (gpd)/acre, if an on-site septic system is used. For the 6.34-acre subject site, this means that, if septic systems are desired, the total wastewater generation of the project may not exceed 1,902 gpd. Based on the uses and yields proposed, and the applicable standards of the Suffolk County Sanitary Code (SCSC) Article 6 for wastewater system design, the proposed project will generate a total of 1,320 gallons of sanitary wastewater daily (gpd; see **Table 2**). Thus, septic systems would be allowed under SCSC Article 6, and will be used; each of the five proposed buildings will be provided with a separate septic system. Note that the above 1,320 gpd represents only one part of the overall domestic water use value of the project; according to SCSC Article 6, the total domestic flow of the project (i.e., the total amount of water used in the structures for combined sanitary and other purposes), will be 2,040 gpd. This value represents the amount of water conveyed to the project's treatment systems.

TABLE 2
ANTICIPATED WATER USE/WASTEWATER GENERATION
Proposed Project

Project Component	**Yield**	**Sanitary Flow** (per SCSC Article 6)	**Sanitary Flow** (gpd)	**Total Flow** (per SCSC Article 6)	**Total Flow** (gpd)
Take Out Restaurant	1,500 SF/16 seats	0.03 gpd/SF	45	0.15 gpd/SF	225
Take out Restaurant	1,500 SF/16 seats	0.03 gpd/SF	45	0.15 gpd/SF	225
Restaurant	3,000 SF/84 seats	0.03 gpd/SF	90	0.15 gpd/SF	450
Bank	4,000 SF	0.06 gpd/SF	240	0.06 gpd/SF	240
Retail	10,000 SF	0.03 gpd/SF	300	0.03 gpd/SF	300
Retail	10,000 SF	0.03 gpd/SF	300	0.03 gpd/SF	300
Retail	10,000 SF	0.03 gpd/SF	300	0.03 gpd/SF	300
Totals	---	---	*1,320*		*2,040*
Landscape Irrigation	0.84 acres (max.)	---	---	---	0/2,433*
TOTALS	**---**	**---**	**1,320**	**---**	**2,040/4,473**

* Indicates range in irrigation demand over the course of a calendar year; averages 2,433 gpd during the 5-month irrigation season, and 0 gpd outside of irrigation season.

Finally, assuming an irrigation rate of 16 inches over the irrigation season, an irrigation season of five months duration (mid-April to mid-September assumed), and 0.84 acres of landscaped area, it

is calculated that irrigation demand will vary from 0 gpd outside of the irrigation season to 2,433 gpd during the 150-day irrigation season.

Based on the above discussion of water use, the project's total demand on the Riverhead Water District will average 4,473 gpd from mid-April to mid-September, and decrease to an average of 2,040 gpd from mid-September to mid-April.

A natural buffer will be located between the backs of the two southern retail structures and the southern property line. This buffer will vary in depth from 104 feet to 243 feet. Along the western side of the site, a 36-foot deep buffer of natural vegetation will be retained between the property line and the internal access roadway. For the eastern side, a buffer of natural vegetation varying between 30 feet and 121 feet will be retained. Landscaping will be installed along the site's northern boundary abutting Sound Avenue (NYS Route 25A); this area will feature a landscaped buffer between 38 feet and 55 feet in depth.

3.0 ANALYSIS OF POTENTIAL IMPACTS

3.1 Critical Environmental Area: SGPA

A "Special Groundwater Protection Area" (SGPA) is defined in the NYS Environmental Conservation Law (ECL) as:

> A recharge watershed area within a designated sole source aquifer area contained within counties having a population of one million or more which is particularly important for the maintenance of large volumes of high quality groundwater for long periods of time. For the purposes of this article, each "special groundwater protection area" shall be classified as a critical area of environmental concern as used under article eight of this chapter (Section 55-0107 ECL Article 55).

In response to this legislation, the SGPA Plan was prepared by the Long Island Regional Planning Board in 1992 to study land use and groundwater quality within the several SGPAs designated on Long Island. The subject site was designated within the Central Suffolk SGPA (North) sector, and is recommended for Commercial Use (see **Figure 5**). The SGPA Plan makes general recommendations that are applicable to all of the identified SGPA, as well as specific recommendations for development within each SGPA. Where restrictions of the CPB CLUP, as promulgated under the Long Island Pine Barrens Protection Act, duplicate those of the SGPA Plan, the former supersedes those of the latter. The plan is useful for historical context but it is recognized that groundwater protection can be achieved through development that conforms to current sanitary and stormwater management standards as well as recommendations of the SGPA Plan.

The following is that portion of the “Opportunities” segment of the SGPA Plan that discusses issues of concern in the Central Suffolk SGPA (North) sector pertaining to the subject site.

> The northeast sector of the Central Suffolk SGPA contains a continuous belt of farmland that extends from Wading River on the west to the Riverhead-Southold town boundary on the east, and from Route 25 on the south to Sound Avenue on the north. With selective acquisitions that belt could be linked with the farm areas in western Southold. Over 3,000 acres of productive agricultural land have been protected from development, primarily through the Suffolk County Farmland Development Rights Program. There is an opportunity to expand the Farm Preserve through continued purchase of development rights, albeit on a reduced scale, and through the transfer of development rights to sites outside the SGPA. The use of mandatory clustering with the reservation of at least half of the property for agriculture or open space could allow further expansion of the protected area at minimal cost. Such clustering could preserve half of the farmland while allowing development that meets Health Department regulations to occur on the remainder.
>
> It would be most desirable to transfer the development rights of properties that are surrounded by protected farmland to areas north of Sound Avenue or around the hamlet of

Riverhead. Admittedly, farming activities have been a source of groundwater contamination, however, there is an opportunity to employ modern best management practices that reduce the reliance on agricultural chemicals and lessen the threat to groundwater.

The acquisition of selected woodland and other non-farm parcels could facilitate watershed preservation and wellhead protection. Purchase of the unused portion of Camp Wauwepex in Wading River could protect pine barrens land and provide a well site that would be preferable to the proposed Wading River Road site in the middle of the farmland. A few smaller acquisitions in the Town of Riverhead could enhance the already partially protected Peconic River corridor.

Most of the commercial development in Riverhead is outside or at the periphery of the SGPA, and could be confined to present locations. There are some commercial services located at the end of the Expressway, and the edge of the Wading River business district is in the SGPA. There are also small business areas in Jamesport and Aquebogue, and a few neighborhood or highway commercial establishments on Sound Avenue, Middle Road and Route 25. In western Southold, there is extensive commercial development south of the railroad tracks in Mattituck and a small cluster of commercial development south of the railroad tracks in Mattituck and a small cluster of commercial buildings on Aldrich Land and Route 25 in Laurel. The siting of new business development at locations outside the SGPA or within the boundaries of existing commercial areas within the SGPA could help to maintain the integrity of the agricultural and open space lands that protect the groundwater and surface waters in this sector.

Specific SGPA Plan recommendations for the Central Suffolk SGPA (North) sector include the following:

- Suffolk County, together with the Towns of Riverhead and Southold should expand the existing agricultural preserve. The County should continue to acquire development rights under its Farmland Preservation Program.
- The Town of Riverhead should amend its zoning to require a five-acre minimum lot size for all farmland located within the SGPA. At the same time, it should provide for the transfer of development rights to non-farm sites outside the SGPA at one dwelling unit per two acres.
- The Town of Riverhead should require clustering of development on those parcels where TDR [transfer of development rights] is not feasible. The County and the Town of Southold should use a combination of selective acquisition, TDR and mandatory clustering to assemble and protect a 200+ acre watershed preserve in the vicinity of Laurel Lake. Such a preserve would comprise both woodlands and portions of farm parcels.
- The Towns of Riverhead and Southold should review their zoning ordinances and amend them as necessary to preclude the expansion of commercial activities beyond the limits of those SGPA areas where such activities currently exist.

The proposed project will conform to the Commercial Use recommended for the subject property in the SGPA Plan.

The project will eliminate the potential for a renewal of farming on the project site. However, such activity ceased on the site a number of years ago, which would presumably have reflected the farmer's response to conditions no longer conducive to farming on this small parcel of land.

The elimination of farming on the subject site would also end the use of any agricultural chemicals (e.g., pesticides, herbicides, fungicides) on the site, which incrementally reduce impacts to groundwater quality in the area. The proposed 0.84 acres of landscaped area is small, conforms to the CPB CLUP and Town Code §301-197 A.(9), and will require minimal maintenance.

The subject site is located along the northern boundary of the SGPA, where analysis indicates that the water recharged on the subject site will flow northward, away from the SGPA.

The site is located at the periphery of the Wading River business district [within the Sound Avenue (NYS Route 25A) commercial corridor], and is on land zoned for commercial use. This would suggest that the Town Board has determined that, assuming that the requirements of the Town Zoning Code, CLUP and SCSC Article 6 are met, the location would be appropriate for commercial use.

3.2 Critical Environmental Area: Central Pine Barrens

The Long Island Pine Barrens Act of 1993 divided the Long Island Pine Barrens into two geographic areas, the entire CPB of about 100,000 acres, and within this larger area is the smaller 52,500-acre Core Preservation Area (CPA). Areas not contained within the CPA are referred to as the Compatible Growth Area (CGA) and comprise approximately 47,500 aces. As shown in **Figure 6**, the subject site is in the CGA. As a result, under NYS ECL 57-0123(2)(a) and Section 4.5.4 of the CPB CLUP, the project is subject to conformance with the CPB CLUP. The Town of Riverhead adopted the Town Pine Barrens Overlay District [Article XLI; Chapter 301; §301-197 A. (1) through (16)], which establishes standards or development in the CGA of the CPB. If the project is not a Development of Regional Significance, and the applicable Pine Barrens standards are adhered to, then no separate review by the CPBJPPC is needed. The applicant has reviewed the applicable Town standards in the Pine Barrens Overlay District and it is believed that the project is consistent with all applicable standards (see **Appendix B-1**).

In addition, **Appendix B-2** presents each of standards and guidelines of the CPB CLUP for development within the CGA, with accompanying descriptions/discussions of whether and how the proposed project conforms to each. The table demonstrates that the proposed project is in conformance with and consistent with the Standards and Guidelines of the CPB CLUP as well as the Town Pine Barrens Overlay District.

Finally, the updated Traffic Impact Study (TIS) for the project (see **Appendix E**) determined that the proposed project, with mitigation at the intersection of NYS Route 25A and Wading River-Manor Road, would not result insignificant adverse impacts to traffic conditions:

> The capacity analysis results demonstrate that the addition of Venezia Square will impact the NYS Route 25A and Wading River Manor Road intersection LOS at the Midday and Saturday peak periods, lowering each from a C to a D and an E to an F, respectively. However, if the signal timing is changed, the LOS at these peak periods can be a C and a D, respectively. To further help improve traffic conditions and the LOS, we recommend installing a right-turn lane at the eastbound approach. Overall, the addition of Venezia Square will not significantly impact traffic conditions.

The significance of this potential impact is that, under CLUP Section 4.5.5.1, *"A development project resulting in a traffic impact which would reduce service by two (2) levels below existing conditions or to a level of service of D or below"* would constitute a Development of Regional Significance (DRS), requiring a Hardship application and review by the CPBJPPC. In response, the Applicant had a revised analysis prepared to establish whether the intersection in question would still experience the same reduction in LOS if the mitigation described in the TIS were not implemented. This revised analysis (see **Appendix F**) states:

> Schneider Engineering, PLLC has prepared this report to serve as an updated version of the Traffic Impact Study we had submitted in December 2018 for the Venezia Square project. The location of this project is on NY-25A across from Dog Wood Drive, Wading River, New York.
>
> In a letter from the Town of Riverhead Planning Department dated February 15, 2022 to Nelson, Pope & Voorhis, LLC, concern was expressed regarding the Level-of-Service (LOS) impact at the intersection of NYS 25A and Wading River Manor Road. The 2018 existing conditions capacity analysis identified the overall LOS as operating at LOS C during the peak midday, PM and Saturday conditions. The future build scenario with mitigation measures identified the overall LOS reducing from a C to a D during the PM peak hour and Saturday peak hour. The Town's concern is that the proposed development would result in a traffic impact which would reduce service to a level D or below.
>
> In this report we prepared [a new] LOS analysis at the intersection with new turning movement counts (2022) and [new] background traffic growth from other proposed developments in the immediate vicinity. Our finding is that under a conservative analysis, the future no build scenario will have an overall LOS C during the peak midday and PM conditions and LOS D during the Saturday condition. In the build scenario service levels will not be reduced from the no build scenario. Therefore, the proposed development will not result in a traffic impact that reduces service levels.

The above-described revised traffic impact analysis indicates that the proposed project does not qualify as a DRS under the CLUP, so that no Hardship submission to the CPBJPPC is necessary or warranted.

3.3 Proximity to Cultural Areas

As shown in **Figure 9**, the site lies within a NYS-designated archaeologically sensitive area, which suggests that cultural resources (e.g., surface or subsurface pre-historic era or historic era cultural remains) may be present. As a result, the applicant has elected to complete a full Phase I Archaeological Investigation of the site and vicinity, to determine the presence and location of such resources and, if found, to estimate the potential for impacts. That document is presented herein in **Appendix C-1**. The following has been taken from the Phase I Archaeological Investigation.

INTRODUCTION

Between July 7 and 20, 2016, TRACKER Archaeology, Inc. conducted a Phase IA documentary study and Phase IB archaeological testing and reconnaissance at the proposed Venezia Square subdivision, in Wading River, Township of Riverhead, Suffolk County, New York.

The purpose of the documentary study was to determine the prehistoric and historic potential of the project area for the recovery of archaeological remains. This was accomplished by a review of the original and current environmental data, archaeological site files, other archival literature, maps, and documents.

A prehistoric and historic site file search was conducted utilizing the resources of the New York State Historic Preservation Office [NYSHPO] in Waterford, New York. Various historic and archaeology web sites were visited to review any pertinent site information.

The purpose of the Phase IB field survey was to determine the presence or absence of archaeological sites on the property. This was accomplished through subsurface testing and ground surface reconnaissance.

The project area (APE [area of potential effect]) consists of the about 4.5 acres from the approximate 6-acre property. The property is located on the south side of Port Jefferson-Riverhead Road (NYS Route 25A, Sound Avenue) at the intersection of Dogwood Drive. It is bound to the north by Port Jefferson-Riverhead Road (NYS Route 25A, Sound Avenue) and to the remaining sides by other private properties.

CONCLUSIONS AND RECOMMENDATIONS

Based upon topographic characteristics and distance to known prehistoric sites and Indian trails, the property was assessed as having a higher than average potential for encountering prehistoric sites. Based upon topographic characteristics and distance to historic map

documented structures, reported wigwams, and Indian trails, the property was assessed as having a moderate potential for encountering historic aboriginal sites.

During the course of the Phase IB archaeological field survey, 79 ST [shovel test] holes were excavated. No prehistoric or historic sites were encountered. No historic sites were encountered. No further work is recommended.

The Phase I Archaeological Investigation concludes that there are no cultural (i.e., prehistoric or historic era) resources on the project site, so that there could be no impact on such resources associated with the proposed project.

Appendix C-2 contains correspondence from the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) that states:

We have reviewed the report entitled "Phase I Archaeological Investigation at the Venezia Subdivision, Wading Rover, Town of Riverhead, Suffolk County, New York" (July 2016). No archaeological resources were identified and no additional archaeological work is necessary.

We have no concerns regarding the project's potential to impact historic architectural resources. Therefore, it is OPRHP's opinion that the project will have No Impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

3.4 Proximity to Threatened and Endangered Species

Figures 10 and 11 depict the presence and proximity of freshwater wetlands to the subject site, for wetlands designated by the NYS Department of Environmental Conservation (NYSDEC) and the National Wetlands Inventory (NWI), respectively. As can be seen, there is only one surface water body in the vicinity; it is named Deep Pond (designated by the NYSDEC as freshwater wetland W-1), and is located about 3,800 feet to the southeast of the site.

The property is presently comprised of 6.34 acres of successional old field previously utilized for farming practices. The site was cleared of natural vegetation by virtue of its past use as farmland; no significant vegetation or habitats are present on the subject property. Information on the potential presence of rare, threatened, endangered or special concern species that may inhabit or use the subject site was solicited from the NYS Natural Heritage Program (NYSNHP); the response is provided in **Appendix D**. The endangered Tiger Salamander was identified as being present approximately 1/3 mile from the project site. The species would have no association with the site due to the following:

- The species travels upland from vernal ponds typically in the range of 535 feet, but sometimes just over 1,000 feet. The location (1/3 mile away) is more than 1,700 feet from the subject site and as a result, migration to the property is not expected.

- There is intervening development south of the site between the Tiger Salamander breeding pond and the subject site.
- The site does not contain suitable upland sandy soil, pine barrens habitat for mole habits of the Tiger Salamander.

As a result, no impact is expected with respect to the Tiger Salamander.

Finally, it should be noted that not all of the site's existing natural habitat will be removed; an estimated 2.24 acres of successional old field vegetation (35.3% of the site, in conformance with the CLUP Standard), will remain. This will enable the site to continue to support wildlife and plant life.

3.5 Clearing

The Town Pine Barrens Overlay District, §301-197 A. (8) and the CPB CLUP allows, for development of a commercial use, a maximum of 65% of the site to be cleared. As noted above, the subject site is presently fully covered by successional field vegetation. Thus, the clearing standard would permit clearing of up to 4.12 acres of this natural vegetation. As shown on the **Site Plan**, the proposed project seeks to clear 4.10 acres of land, which is 64.6% of the total site. Thus, the proposed project conforms to the clearance standard of the CPB CLUP.

3.6 Parking Sufficiency

As shown in the **Site Plan**, a total of at least 186 parking spaces are required by Town Code Section 108-60A. **Table 3** presents the individual minimum parking requirements for each of the three commercial use types proposed:

TABLE 3
PARKING REQUIREMENTS

Commercial Use Proposed	**Commercial Yield Proposed**	**Parking Space Rate** (per Town Code, minimum)	**Parking Spaces Required** (minimum)
Bank	4,000 SF	1 space/150 SF	27
Retail (total)	30,000 SF	1 space/250 SF	120
Restaurants (total)	116 seats	1 space/3 seats	39
Total Parking	**---**	**---**	**186 spaces**

The **Site Plan** shows that the project will provide a total of 186 parking spaces, in conformance with the Town Code.

3.7 Traffic Impacts

The following discussion and analysis of the traffic-related aspects of the project has been taken from the TIS prepared for the project, by Schneider Engineering, PLLC of Ronkonkoma, New York. The entire revised TIS is contained herein, as **Appendix E**.

Existing Conditions

The area surrounding the subject development site contains a mixture of commercial uses and undeveloped land parcels. The western perimeter of the site borders Alexander Rothwell Funeral Home. The eastern and southern perimeter of the site borders on undeveloped land parcels. The northern perimeter of the site borders NYS Route 25A.

NYS Route 25A is a two-lane state highway (one lane in each direction) serving eastbound and westbound traffic. It is classified as a Principal Urban Arterial (FC-14) and is under the jurisdiction of the NYSDOT. At and near the proposed site, the lanes on the highway are approximately 12 feet in width in each direction with paved shoulders at approximately 8 feet in width. The posted speed limit in the vicinity of the site is 45 mph for both directions.

Dogwood Drive, on the north side of NYS Route 25A and across from the proposed site, is a two-lane local roadway serving northbound and southbound traffic that forms the northern leg of a three-legged T-intersection with NYS Route 25A. It intersects NYS Route 25A with a slight skew and traffic is STOP controlled on the side street. Traffic on NYS Route 25A at that intersection is not controlled. While it is not marked as a two-lane approach, the roadway is flared at the intersection and allows ample room for the queuing of vehicles turning left and right. The roadway serves commercial and residential properties located near NYS Route 25A. It is under Town of Riverhead Jurisdiction. The road is approximately 30 feet wide although there is no centerline marking installed. Sidewalk is present only on the departure lane adjacent to the Astoria Bank. The posted speed limit is 30 mph for both directions.

The intersection of NYS Route 25A and Wading River Manor Road is a four-way signalized intersection, with NYS Route 25A running east and west and Wading River Manor Road running north and south. The speed limit on Wading River Manor Road is 30 mph. Each of the four approaches has an exclusive left-turn lane and a shared through and right turn lane. Surrounding the intersection are commercial-use buildings such as McDonald's, Speedway, BNB Bank, Greek Island Diner, Little Bay Realty, Phil's Restaurant, and more along NYS Route 25A. The intersection is controlled by a multiphase semi-actuated uncoordinated signal with the following phasing:

- Eastbound and westbound protected left turns
- East-west through movements with permitted left turns
- North-south protected left turns
- North-south through movements with permitted left turns

2018 Existing Conditions Traffic Volumes

Peak periods for the proposed site, as it is classified as a Shopping Center (Land Use 820) by ITE in its Trip Generation Manual, are expected to be 11:00AM-1:00PM and 4:00PM-6:00PM during the week and 11:00AM-2:00PM on weekends. Turning movement counts were collected for these times on dates Thursday, October 18, 2018 and Sunday, October 28, 2018 at the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. The Sunday counts were taken because of very poor weather conditions on Saturday and will be used as Saturday peak volumes. The difference effects are expected to be negligible to our analysis due to the urban nature of the area. The turning movement count data are presented in Appendix A [of **Appendix E**].

Since the traffic counts were conducted in October, a seasonal factor was applied to the recorded peak hour traffic to account for the summer months when traffic in the area increases. A factor of 1.23 was applied to the midday and PM peak hour traffic, and a factor of 1.19 was applied to the Saturday peak hour traffic. The 2017 NYSDOT seasonal adjustment factors that were used can be found in Appendix B [of **Appendix E**].

At the intersection of NYS 25A and Dogwood Drive, the traffic volume data revealed that the midday peak period occurred at 12:30PM, the PM peak period occurred at 5:30PM, and the Saturday peak period occurred at 1:30PM. The peak hour traffic volumes for NYS 25A and Dogwood Drive are depicted in Figure 4 [of **Appendix E**].

At the intersection of NYS Route 25A and Wading River Manor Road, the traffic volume data revealed that the midday peak period occurred at 12:45PM, the PM peak period occurred at 5:15PM, and the Saturday peak period occurred at 12:30PM. The peak hour traffic volumes for NYS 25A and Wading River Manor Road are also depicted in Figure 4 [of **Appendix E**].

2018 Existing Conditions Capacity Analysis

The existing conditions capacity analysis results are illustrated in **Table 4** for intersections NYS Route 25A and Dogwood Drive and NYS Route 25A and Wading River Manor Road. The capacity analysis reports for the existing conditions are presented in Appendix C [of **Appendix E**].

TABLE 4
2018 EXISTING CONDITIONS CAPACITY ANALYSIS

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	SB	RL	23.8	C	48.6	E	25.5	D
NYS Route 25A & Wading River Manor Road	EB	L	10.4	B	13.6	B	12.4	B
		TR	18.8	B	19.8	B	28.2	C
		Approach	17.8	B	19.1	B	26.8	C
	WB	L	13.6	B	13.3	B	19.8	B
		TR	16.0	B	18.8	B	17.3	B
		Approach	15.7	B	18.0	B	17.7	B
	NB	L	45.7	D	48.4	D	44.1	D
		TR	56.2	E	57.0	E	61.0	E
		Approach	51.5	D	53.1	D	53.7	D
	SB	L	43.9	D	44.3	D	46.7	D
		TR	54.7	D	52.6	D	55.6	E
		Approach	50.4	D	49.4	D	51.9	D
	Overall		**28.5**	**C**	**29.0**	**C**	**34.0**	**C**

2020 No Build Conditions

In order to examine the effects of the proposed development on the surrounding roadway network, first the existing condition traffic volumes must be projected for the year in which the project is anticipated to be completed. Based on the NYSDOT *Long Island Transportation Plan (LITP)*, the traffic volumes were projected by applying an annual growth rate of 1.7% annually to account for normal background traffic growth. Therefore, a total growth rate of 3.4% was utilized (1.7% x 2 years) for developing the background growth for the estimated time of completion (ETC) of Venezia Square in 2020.

In addition to normal background growth, we examined traffic associated with other nearby projects presently under development or planned for the near future. The Planning Departments at the Towns of Brookhaven and Riverhead identified several projects containing new development or the expansion of existing developments. The projects and their descriptions are listed as follows:

- **Central Square** – is located along the south side of Route 25A, approximately a quarter mile to the east of the intersection of Wading River Manor Road and Route 25A. The proposed development is comprised of a restaurant, 14,076 SF of retail space, a 4,250 SF bank with drive thru and 28,962 SF of professional office space.
- **6333 Realty Group** – is located adjoining Venezia Square on the east. This proposed development comprises of 6,960 SF of Medical Offices and 1,120 SF of General Office.

- **6336 Route 25A** – is located on the northeast corner of Route 25A and Dogwood Drive. This proposed development includes a proposed 1,212 SF addition to an existing medical office building for the purpose of providing a 15-seat take-out restaurant.
- **Hamlet Professional Offices** – is located on the north side of NYS Route 25A, east of Wading River Manor Road. This proposed development will consist of 5 office buildings for use as professional offices with a gross floor area of 31,181 SF.
- **Real Life Church of Wading River** – is located approximately 315 FT north of the intersection of Route 25A and Dogwood Drive. The proposed development includes a proposed 2,952 SF expansion to the existing 2,533 SF church, which will include approximately 1,220 SF of office area in the basement of the church, 1,323 SF of meeting rooms in the basement, and 409 SF of sanctuary space to include 205 seats.

The other planned development traffic volumes are illustrated in Figure 5 [of **Appendix E**]. To obtain the 2020 No Build traffic volumes at the study intersections, the trips anticipated to be generated by the other planned developments in the vicinity of Venezia Square were added to the resulting volumes inflated by the background growth factor. The 2020 No Build traffic volumes are illustrated in Figure 6 [of **Appendix E**].

2020 No Build Capacity Analysis

The anticipated future no build conditions capacity analysis results are illustrated in **Table 5** for the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. The capacity analysis reports for the future no build conditions are included in Appendix D [of **Appendix E**].

TABLE 5
2020 FUTURE NO BUILD CONDITIONS CAPACITY ANALYSIS

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	SB	RL	36.3	E	147.3	F	66.2	F
NYS Route 25A & Wading River Manor Road	EB	L	14.4	B	28.7	C	19.7	B
		TR	28.4	C	34.9	C	84.1	F
		Approach	26.7	C	34.2	C	77.9	E
	WB	L	21.0	C	25.9	C	41.2	D
		TR	21.6	C	38.7	C	27.8	C
		Approach	21.6	C	36.7	D	29.9	C
	NB	L	41.8	D	46.3	D	77.7	E
		TR	62.9	E	65.7	E	64.9	E
		Approach	53.8	D	57.0	E	70.3	E
	SB	L	45.5	D	41.9	D	108.7	F
		TR	50.2	D	49.0	D	56.7	E
		Approach	48.1	D	46.0	D	79.8	E
	Overall		**33.5**	**C**	**40.6**	**D**	**63.6**	**E**

Venezia Square Trip Generation

The proposed development is a 37,000 SF shopping center consisting of a bank with three drive thru windows (4,000 SF), three retail buildings (10,000 SF for two of those buildings and 7,000 SF for one), two fast food restaurants (1,500 SF each), and an 84-seat sit-down restaurant (3,000 SF). In order to assess its potential impact on future traffic conditions, the total traffic generated by the new facility was estimated for each analysis period. The trip generation was based on data from the ITE Trip Generation Manual, 9th Edition, where Shopping Center (Land Use Code 820) was selected as most appropriate for the proposed development based on the description in the manual. We decided to use a component size of 40,000 SF to be conservative and account for additional traffic using the cross-access from the adjoining eastern property, 6333 Realty Group.

The trip generation calculations are presented in **Table 6**.

TABLE 6
VENEZIA SQUARE SITE GENERATED TRIPS

Project Component	Size	Midday Peak Hour		PM Peak Hour		Saturday Peak Hour	
ITE #820 Shopping Center	40,000 SF	Trips = EXP(0.67*LN (X/1,000) +3.31)		Trips=EXP(0.67*(X/1,000) +3.31)		Trips=EXP(0.67*LN(X/1,000) +3.78)	
		Entering 48% 158	Exiting 52% 166	Entering 48% 158	Exiting 52% 166	Entering 52% 252	Exiting 48% 231
		Total = 324		**Total = 324**		**Total = 483**	

Pass-by trips involve traffic already on the road making an unplanned stop at the particular land use. According to ITE's Trip Generation Handbook, 3rd Edition, there is a pass-by credit associated with the shopping center land use. ITE recommended an average pass-by percentage of 34% during the PM peak hour and 26% during the Saturday peak hour. We applied the recommended PM Peak hour 34% pass-by rate to the traffic generated during the midday and PM peak hour traffic and the recommended 26% pass-by rate to the Saturday peak hour.

The new versus pass-by generated trips are presented in **Table 7**.

TABLE 7
NEW vs. PASS-BY SITE GENERATED TRIPS

	Midday Peak Hour		PM Peak Hour		Saturday Peak Hour	
	Enter	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
New	104	112	104	112	186	165
Pass-by	54	54	54	54	66	66
Total	**158**	**166**	**158**	**166**	**252**	**231**

2020 Build Condition Traffic Volumes

The site generated traffic volumes were added to the 2020 No Build condition traffic volumes at the intersections NYS Route 25A with Dogwood Drive and Wading River Road, and the site's right-turn out only driveway to establish the 2020 Build Condition traffic volumes. This condition represents the anticipated traffic volumes that will occur in the build-out year and includes background growth, other development growth, and site generated traffic. The 2020 Build Condition traffic volumes are presented in Figure 8 [of **Appendix E**].

2020 Build Condition Capacity Analysis

The anticipated future build conditions capacity analysis results are found in **Table 8** for the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. A capacity analysis was also performed for the site's right turn out only driveway 360± feet east of the site's main drive. The capacity analysis reports for the future build conditions are included in Appendix E [of **Appendix E**].

TABLE 8
FUTURE WITH BUILD CONDITIONS CAPACITY ANALYSIS

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	EB	L	6.6	A	32.9	C	12.3	B
		TR	12.7	B	20.8	C	31.8	C
		Approach	12.5	B	21.2	C	31.4	C
	WB	L	9.5	A	20.9	C	33.5	C
		TR	9.4	A	35.3	D	14.5	B
		Approach	9.4	A	34.5	C	16.4	B
	NB	L	49.3	D	49.6	D	52.7	D
		TR	47.3	D	48.5	D	47.2	D
		Approach	48.6	D	49.2	D	50.8	D
	SB	TLR	47.3	D	47.6	D	45.6	D
	Overall		**14.3**	**B**	**29.6**	**C**	**26.2**	**C**
Venezia Square Right Turn Out Exit	NB	R	18.6	C	24.7	C	25.8	D

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
& NYS Route 25A								
NYS Route 25A & Wading River Manor Road	EB	L	15.7	B	38.3	D	23.1	C
		TR	33.5	C	46.5	D	128.9	F
		Approach	31.4	C	45.5	D	118.8	F
	WB	L	25.0	C	38.7	D	41.2	D
		TR	23.4	C	53.0	D	32.3	C
		Approach	23.6	C	50.9	D	33.6	C
	NB	L	46.4	D	54.2	D	136.4	F
		TR	62.8	E	65.7	E	64.8	E
		Approach	55.3	E	60.3	E	97.6	F
	SB	L	45.5	D	41.9	D	108.4	F
		TR	51.3	D	49.2	D	60.7	E
		Approach	48.8	D	46.2	D	81.4	F
	Overall		**36.0**	**D**	**50.3**	**D**	**85.3**	**F**

Since the worst conditions occur on Saturday where the LOS for the intersection at NYS Route 25A and Wading River Manor Road becomes an F, we recommend changing the signal timing of the light following the capacity analysis reports in Appendix [of **Appendix E**] in order to result in better and more acceptable LOS as shown in **Table 9**.

TABLE 9
FUTURE WITH BUILD CONDITIONS CAPACITY ANALYSIS WITH MITIGATION MEASURES

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Wading River Manor Road	EB	L	14.7	B	38.0	D	18.5	B
		TR	28.8	C	34.8	C	67.8	F
		Approach	27.1	C	35.2	D	63.0	E
	WB	L	22.0	C	33.8	C	61.1	E
		TR	21.9	C	41.8	D	25.3	C
		Approach	21.9	C	40.6	D	30.5	C
	NB	L	49.3	D	56.8	E	69.3	E
		TR	54.9	D	54.0	D	53.9	D
		Approach	52.3	D	55.4	E	61.2	E
	SB	L	47.1	D	43.3	D	68.8	E
		TR	51.8	D	50.5	D	53.3	D
		Approach	49.7	D	47.4	D	60.2	E
	Overall		**33.4**	**C**	**42.1**	**D**	**53.1**	**D**

Conclusions

This updated traffic impact study was performed to investigate the potential impacts from traffic associated with Venezia Square, a 40,000 SF proposed shopping center, located along NYS Route 25A adjacent to the Alexander-Rothwell Funeral Home in Wading River, Riverhead. The intersections examined in this study were NYS Route 25A with Dogwood Drive and NYS Route 25A with Wading River Manor Road. Presently, the site is vacant. The estimated time of completion (ETC) of the project is 2020.

Existing traffic volume counts were taken in October, and the appropriate seasonal factors were applied to account for the area's busier season. Traffic volumes were then projected to the project year of completion using conservative background growth rates of 1.7% per annum in addition to adding site generated trips from new or expanded development in the area. These projections were used to perform capacity analysis to estimate the likely future traffic conditions with, and without, the proposed development. The results were compared to determine the difference in traffic conditions and if this difference would result in any appreciable impact on the surrounding roadway network.

The capacity analysis results demonstrate that the addition of Venezia Square will impact the NYS Route 25A and Wading River Manor Road intersection LOS at the Midday and Saturday peak periods, lowering each from a C to a D and an E to an F, respectively. However, if the signal timing is changed, the LOS at these peak periods can be a C and a D, respectively. To further help improve traffic conditions and the LOS, we recommend installing a right-turn lane at the eastbound approach. Overall, the addition of Venezia Square will not significantly impact traffic conditions.

The accident history review examined all of the accidents that occurred at the study intersections and surrounding roadway segments for the most recently available three year period. The analysis revealed that there is a pattern of rear-end accidents occurring at both intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. General countermeasures for rear-end accidents can be found in Table 10. Additionally, a handful of deer-crossing related accidents occur in this area each year, but these accidents are unrelated to the roadway design. The to-be installed signalized light at Dogwood Drive with NYS Route 25A is expected to relieve the frequency of rear-end accidents occurring at this location.

As noted in **Section 3.2**, the updated TIS of December 2018 was revised in May 2022 in response to a Town Planning Department inquiry as to whether the intersection of NYS 25A and Wading River Manor Road would experience the same reduction in LOS if the mitigation described in the updated TIS were not implemented. The revised analysis (see **Appendix F**) indicates that, with new turning movement counts and considering updated background traffic growth, the future no build scenario will have an overall LOS C during the peak midday and PM conditions and LOS D during the Saturday condition. In the build scenario, service levels will not

be reduced from the no build scenario. Therefore, the proposed development will not result in a traffic impact that reduces service levels.

3.8 Cumulative Impacts

This subsection analyzes the impacts of the other projects in the area whose impacts, in conjunction with those of the proposed project, may cumulatively result in impacts that are significantly greater than the individual impacts that would occur from each project.

Based on the revised TIS (as determined by the Towns of Riverhead and Brookhaven planning departments for that study), there are two (2) other development project pending in the vicinity of the subject site:

- **Central Square** - is located along the south side of NYS Route 25A, approximately a quarter mile to the east of the intersection of Wading River Manor Road and NYS Route 25A. The proposed development is comprised of a restaurant, 14,076 SF of retail space, a 4,250 SF bank with drive thru and 28,962 SF of professional office space.

- **Real Life Church of Wading River** - is located approximately 315 feet north of the intersection of NYS Route 25A and Dogwood Drive. The proposed development includes a proposed 2,952 SF expansion to the existing 2,533 SF church, which will include approximately 1,220 SF of office area in the basement of the church, 1,323 SF of meeting rooms in the basement, and 409 SF of sanctuary space to include 208 seats.

The following briefly describes and discusses potential cumulative impacts that may be expected.

- It should be noted that each of these proposals would be constructed independently of the other, on separate time schedules. As a result, the construction-related impacts anticipated from each proposal may not occur simultaneously with the other project, which would mitigate the potential cumulative construction-related impacts.
- Temporary increases in the potential for fugitive dust and construction-related traffic and noise impacts would be expected for any proposal. However, as these impacts would be temporary in nature, no significant cumulative construction impacts are expected.
- In total, these proposals would involve some disturbance to local geological resources, primarily as a result of excavations for building foundations and utility connections. The area is relatively flat, so extensive volumes of soil are not expected from site grading operations.
- Each of these applications will conform to the requirements of SCSC Article 6, ensuring that significant adverse impacts to groundwater quality do not occur, either separately or cumulatively

- There are no freshwater wetlands in the vicinity of these proposals, so no impacts to surface water bodies are expected, as each development site will have to conform to Town requirements for on-site retention of stormwater runoff.
- As the proposal sites are either already developed or do not have significant ecological resources, no adverse cumulative impacts to ecological resources are expected, from habitat loss, removal of significant natural vegetation, or eradication of significant flora or fauna.
- New uses are anticipated to occupy buildings that would conform to height, bulk and setback requirements of their respective zonings, unless special permits or variances are requested. For each of these five proposals, the applicable Town entity would be responsible to determine the degree of conformance to, among other parameters, the patterns of land uses and zoning in the area, the applicable zoning requirements, and the recommendations of the Town Land Use Plan, the SGPA, the CPB CLUP, and any other applicable plans. As a result, development of each of these sites would have to demonstrate conform to a range of established land use and development controls, thereby minimizing the potential for adverse impacts to the use, zoning and planning environment in the area.
- Each of the proposals under consideration here are relatively small in scale, so that the anticipated traffic-related impacts of each on the local roadway network would also be relatively small. Cumulatively, however, these small impacts may result in a large impact on the operation of local intersections, necessitating improvements such as signal timing changes, new signal installations, road striping, roadside drainage systems, road lighting, turning lanes or road widenings. However, the revised TIS that was prepared for the proposed project (see **Appendix F**) included the two other development proposals in its analysis, so that the cumulative traffic-related impacts of all three proposals has been addressed. That analysis concluded that no significant adverse impacts to traffic conditions would occur.
- While these applications would combine to increase the demand upon local community services (e.g., schools, fire and police protection, public water supply, solid waste handling, etc.), these service demand increases would be incremental in nature, and would not introduce any new service needs. On the other hand, each of these services will receive an increase in funds from the tax revenues generated from the developments, which would offset at least a portion of the increased expenditures made necessary by these new developments, enabling these service providers to continue to have sufficient capability to provide services.
- As each of these projects would change the use and appearance of their sites, there will be a cumulative impact on the visual resources and character of the community. However, the area is already significantly developed with uses of a type similar to those of these five proposals.

In general, while some impacts are anticipated from these projects, based on the forgoing considerations, it is the applicant's opinion that impacts would not cumulatively be significant. Ultimately the involved agencies will review each application on its own merits, will weigh the

potential cumulative impacts outlined herein, and will render a decision on the significance of impacts and appropriateness of each project.

4.0 SUMMARY & CONCLUSIONS

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 Expanded EAF. The criteria are as follows:

- the 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 **Section 3.0** of this document.

4.1 Summary

Critical Environmental Area: SGPA

- The proposed project will conform to the Commercial Use recommended for the subject property in the SGPA Plan.
- The project will eliminate the potential for a renewal of farming on the project site. However, such activity ceased on the site a number of years ago, which would presumably have reflected the farmer's response to conditions no longer conducive to farming on this small parcel of land.
- The elimination of farming on the subject site would also end the use of any agricultural chemicals (e.g., pesticides, herbicides, fungicides) on the site, which incrementally reduce impacts to groundwater quality in the area. The proposed 0.84 acres of landscaped area is small, conforms to the CPB CLUP and Town Code §301-197 A.(9), and will require minimal maintenance.
- The subject site is located along the northern boundary of the SGPA, where analysis indicates that the water recharged on the subject site will flow northward, away from the SGPA.
- The site is on the periphery of the Wading River business district (within the Sound Avenue/NYS Route 25A commercial corridor), and is on land zoned for commercial use. This would suggest that the Town Board has determined that, assuming that the requirements of the Town Zoning Code, the Town Pine Barrens Overlay District, the CLUP and SCSC Article 6 are met, the location would be appropriate for commercial use.

Critical Environmental Area: Central Pine Barrens

- The tables in **Appendix B** presents each of standards and guidelines of the Town Pine Barrens Overlay District and the CPB CLUP for development within the CGA, with accompanying

descriptions/discussions of whether and how the proposed project conforms to each. The tables **(Appendices B-1 and B-2**) demonstrate that the proposed project is in conformance with and consistent with the Town Pine Barrens Overlay District and the Standards and Guidelines of the CPB CLUP.

- The revised TIS indicates that the intersection of NYS Route 25A and Wading River-Manor Road will not experience any decline in LOS, so that the project would not qualify as a DRS under CLUP, and no Hardship review by the CPBJPPC would be necessary or warranted.

Proximity to Cultural Areas

- The Phase I Archaeological Investigation concludes that there are no cultural (i.e., prehistoric or historic era) resources on the project site, so that there could be no impact on such resources associated with the proposed project.
- **Appendix C-2** contains correspondence from the NYS OPRHP that states:
  - We have reviewed the report entitled "Phase I Archaeological Investigation at the Venezia Subdivision, Wading Rover, Town of Riverhead, Suffolk County, New York" (July 2016). No archaeological resources were identified and no additional archaeological work is necessary.
  - We have no concerns regarding the project's potential to impact historic architectural resources. Therefore, it is OPRHP's opinion that the project will have No Impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

Proximity to Threatened and Endangered Species

- The endangered Tiger Salamander was identified by the NYS NHP as being present in ponds approximately 1/3 mile from the project site. The species would have no association with the site due to the following:
  - The species travels upland from vernal ponds typically in the range of 535 feet, but sometimes just over 1,000 feet. The location (1/3 mile away) is more than 1,700 feet from the subject site and as a result, migration to the property is not expected.
  - There is intervening development south of the site between the Tiger Salamander breeding pond and the subject site.
  - The site does not contain suitable upland sandy soil, pine barrens habitat for mole habits of the Tiger Salamander.
- As a result, no impact is expected with respect to the Tiger Salamander.
- It should be noted that not all of the site's existing vegetation will be removed; an estimated 2.24 acres of successional old field vegetation (35.3% of the site, in conformance with the Town and CLUP Standard), will remain. This will enable the site to continue to support wildlife and plant life.

Clearing

- The Town Pine Barrens Overlay District and the CPB CLUP allow, for development of a commercial use, a maximum of 65% of the site to be cleared. The subject site is presently fully covered by successional farm field vegetation. Thus, the clearing standard would

permit clearing of up to 4.12 acres of this natural vegetation. As shown on the **Site Plan**, the proposed project seeks to clear 4.10 acres of land, which is 64.6% of the total site. Thus, the proposed project conforms to the clearance standard of the Town Pine Barrens Overlay District and the CPB CLUP.

Parking Sufficiency

- As shown in the **Site Plan**, a total of at least 186 parking spaces are required by Town Code Section 108-60A. The **Site Plan** shows that the project will provide a total of 186 parking spaces, in conformance with the Town Code.

Traffic Impacts

- An updated TIS (2018) and a revised TIS (2022) were prepared to investigate the traffic and transportation impacts of the proposed project. Traffic volumes anticipated to be generated by the project were calculated using established background growth rates and allowances for new or expanded development in the area. These projections were used to perform capacity analyses to estimate the likely future traffic conditions with, and without, the proposed development. The results were compared to determine the difference in traffic conditions and if this difference would result in any appreciable impact on the surrounding roadway network. The results demonstrate that the proposed development will not have any appreciable impact on the surrounding roadway network.

Cumulative Impacts

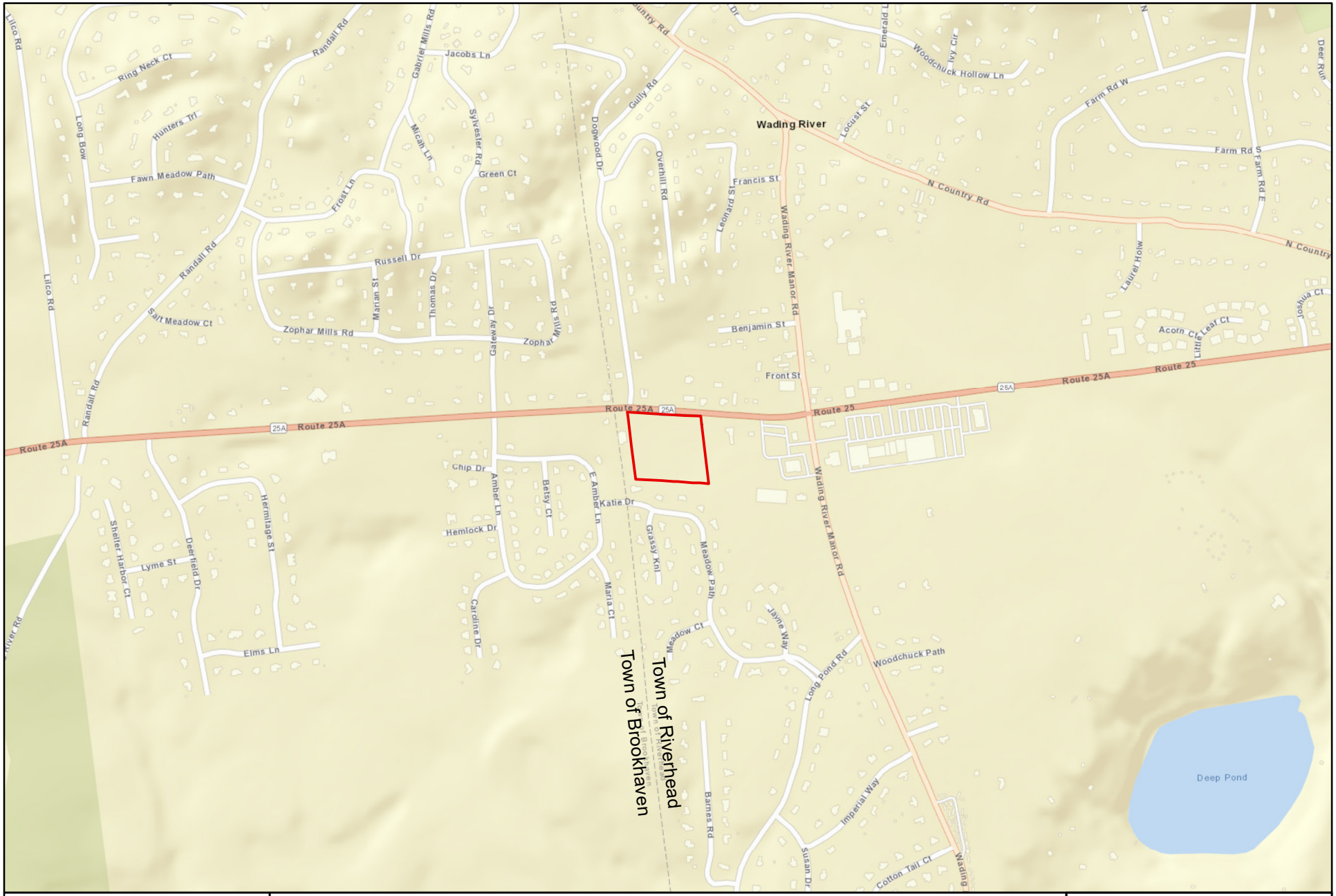
- In general, while some impacts are anticipated from the three projects evaluated, based on the forgoing considerations, it is the applicant's opinion that impacts would not cumulatively be significant. Ultimately the involved agencies will review each application on its own merits, will weigh the potential cumulative impacts outlined herein, and will render a decision on the significance of impacts and appropriateness of each project.

4.2 Conclusions

The environmental review process is a balancing process, wherein the potential adverse impacts of the proposed project are weighed against its merits, to give reviewing entities sufficient information and analysis to render an informed decision to approve or deny the application. The analyses in this document (and summarized in **Section 4.1** above) support a conclusion that the potential adverse impacts of the proposed project will not be significant and will, in any case, be geographically localized.

This report has been structured to provide additional information on the issues specified in the Town Planning Department memo, which reflects the concerns of the Town planning and environmental staff acting on behalf of the Town Board. The impact discussions and analyses herein are to be used to determine the environmental significance of the proposed project. Therefore, based on the contents of 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.

FIGURES



NPV

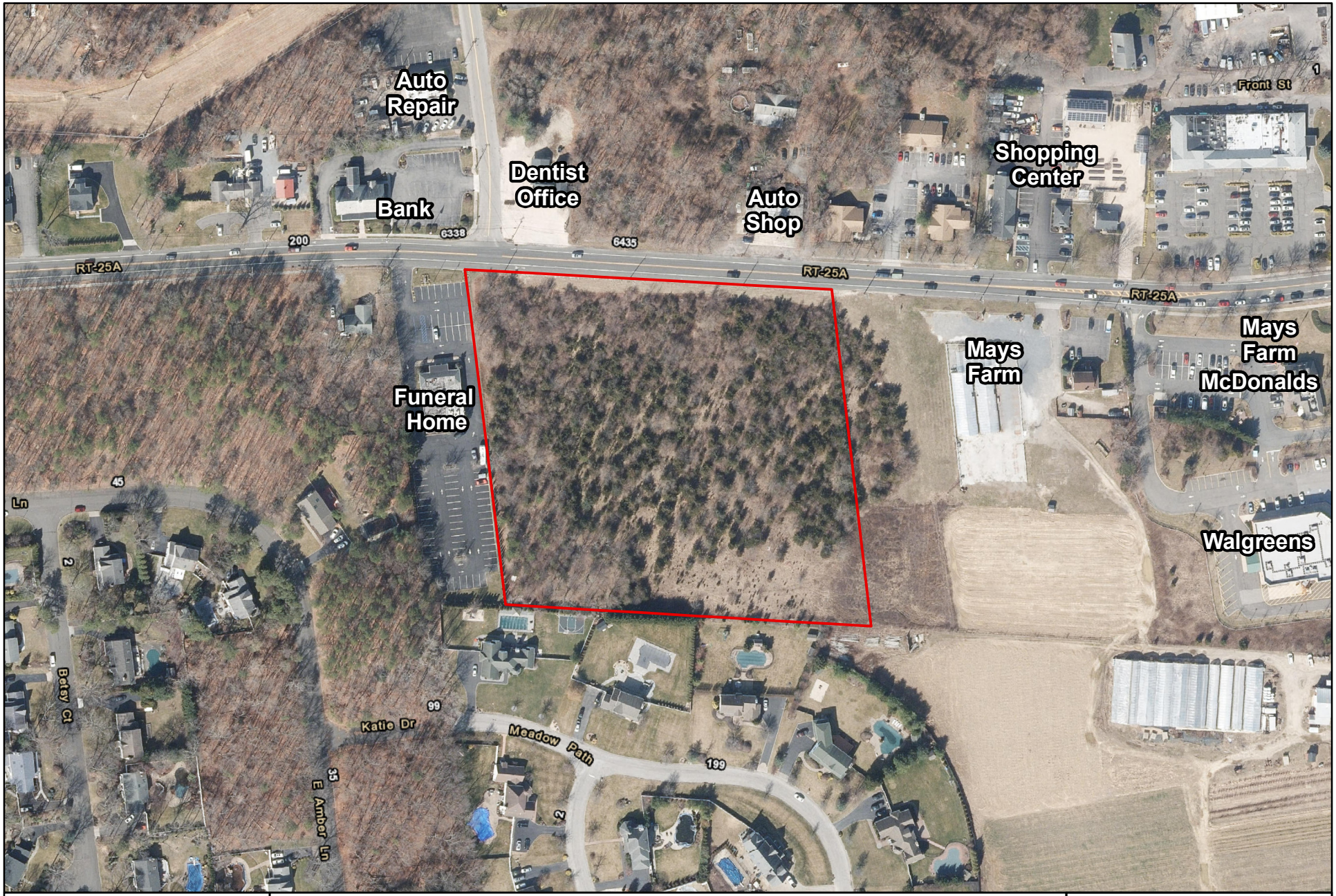
FIGURE 1a
LOCATION MAP, REGIONAL

Source: ESRI WMS

Scale: 1 inch = 1,000 feet

N

Venezia Square
Wading River
Site Plan Application
Expanded EAF



NPV

FIGURE 1b
LOCATION MAP, LOCAL

Source: NYS Orthophotography, 2020

Scale: 1 inch = 200 feet

N

Venezia Square
Wading River
Site Plan Application
Expanded EAF

NPV

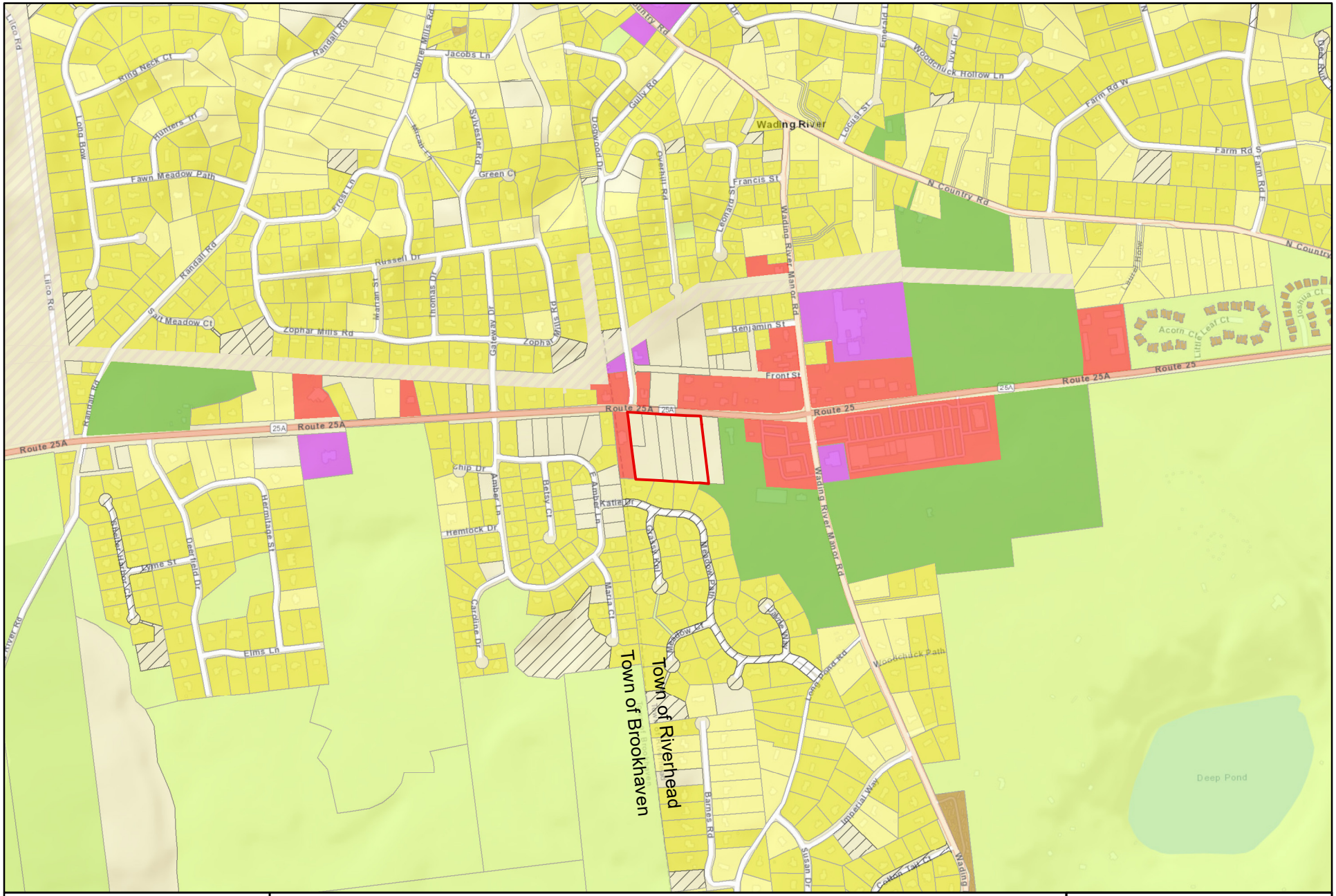
FIGURE 2
EXISTING CONDITIONS

Source: NYS Orthophotographyk, 2020

Scale: 1 inch = 100 feet

N

Venezia Square
Wading River
Site Plan Application
Expanded EAF



NPV

FIGURE 3
LAND USE MAP

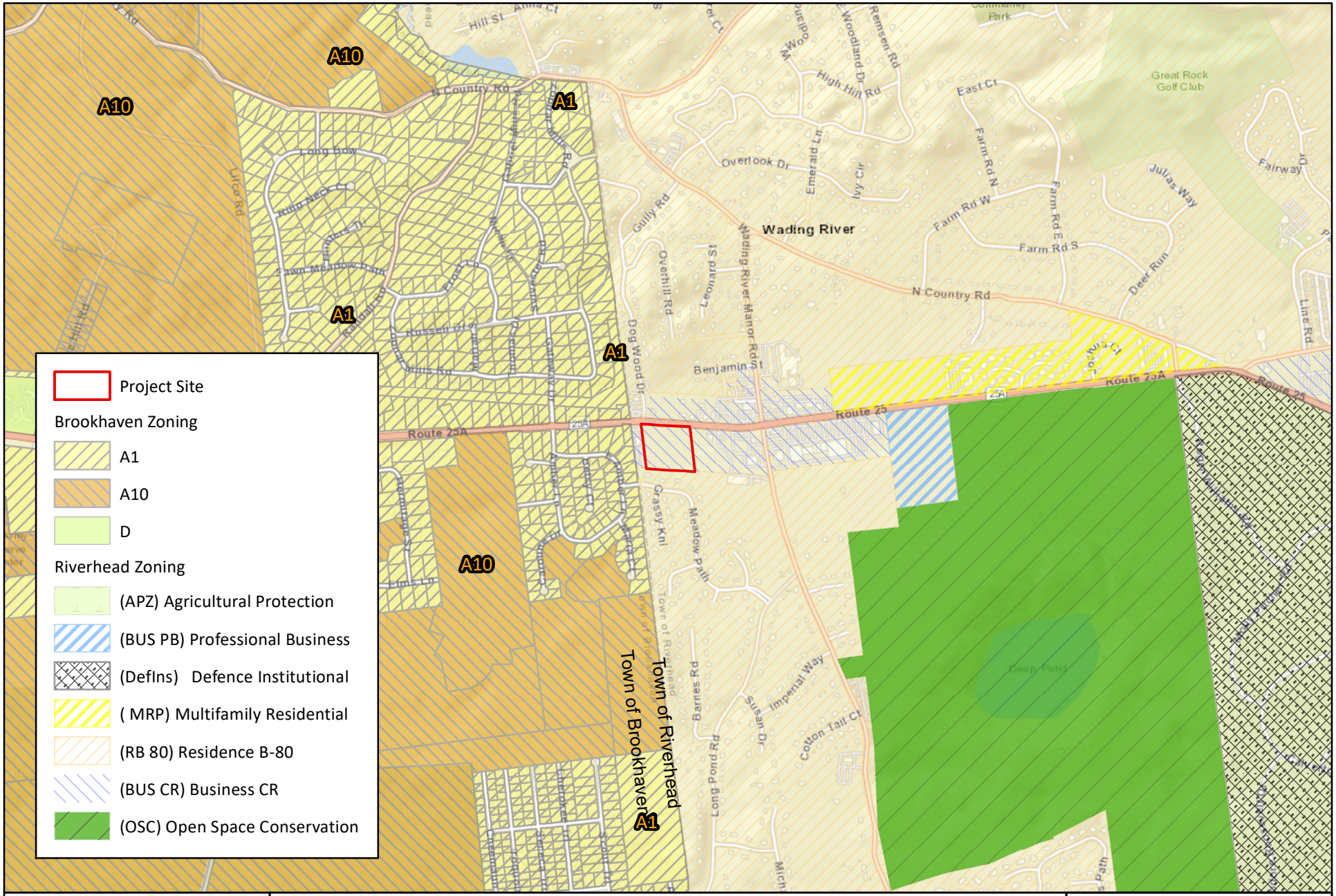
Source: ESRI WMS; Suffolk County LU, 2016

Scale: 1 inch = 1,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 4
ZONING MAP

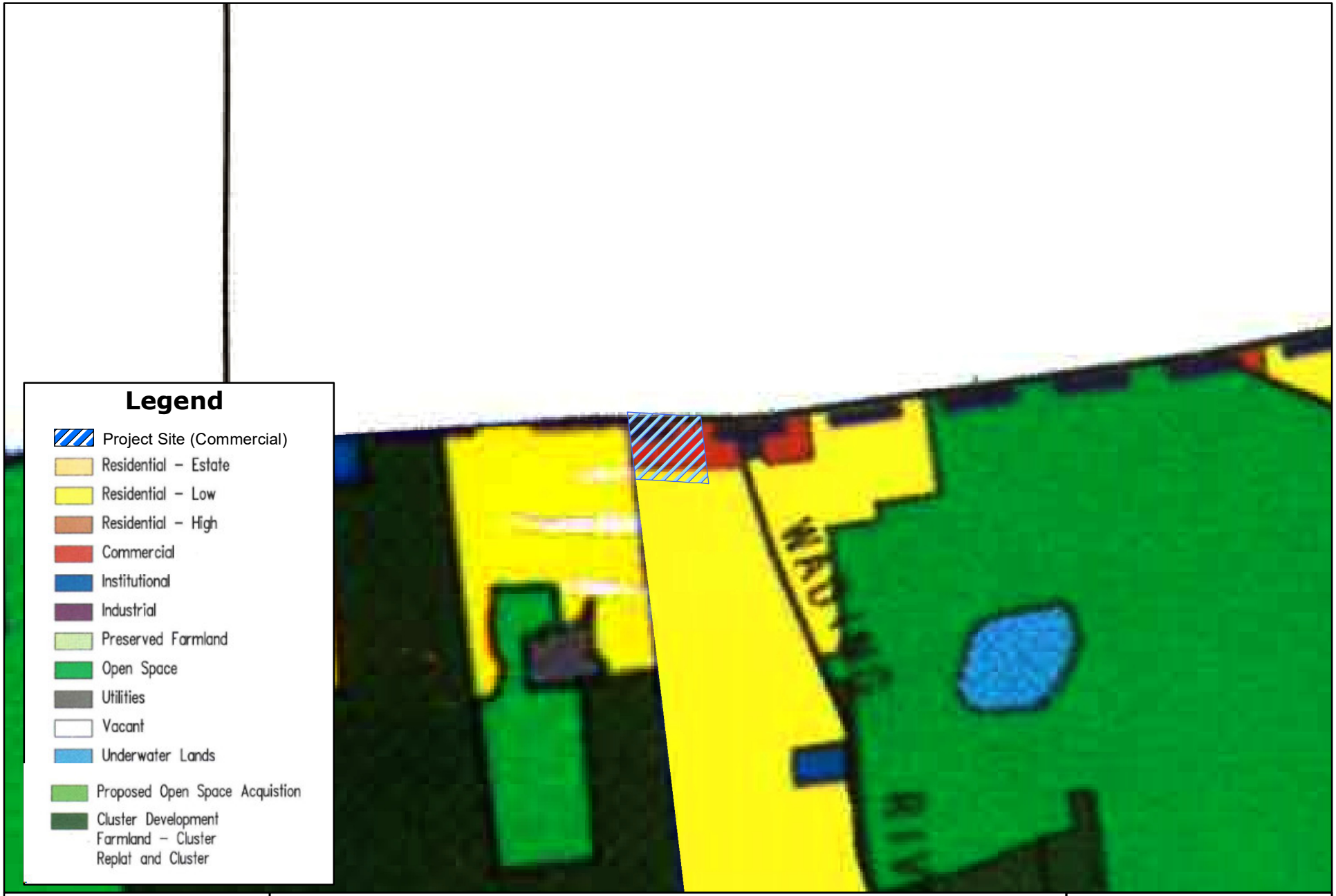
Source: ESRI WMS; Town of Riverhead, Town of Brookhaven Zoning

Scale: 1 inch = 1,500 feet

N

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 5

SGRA PLAN, RECOMMENDED LAND USE MAP

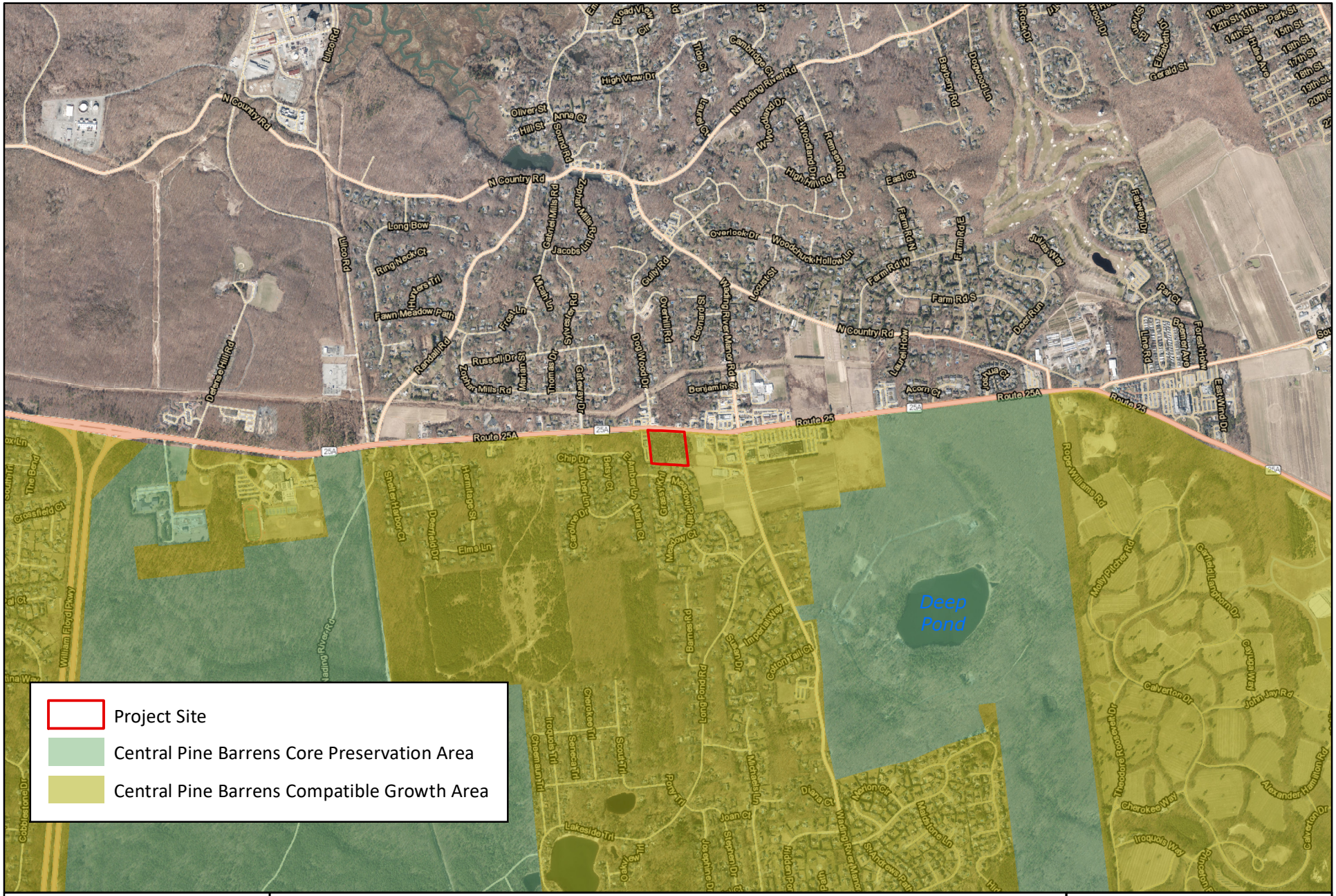
Source: Long Island Comprehensive Special Groundwater Protection Area Plan, Long Island Regional Planning Board, 1992

Scale: 1 inch = 1,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 6
CENTRAL PINE BARRENS, CGA MAP

Source: NYS Orthophotography, 2020; Suffolk County data

Scale: 1 inch = 2,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF

NPV

FIGURE 7
WATER TABLE CONTOUR MAP

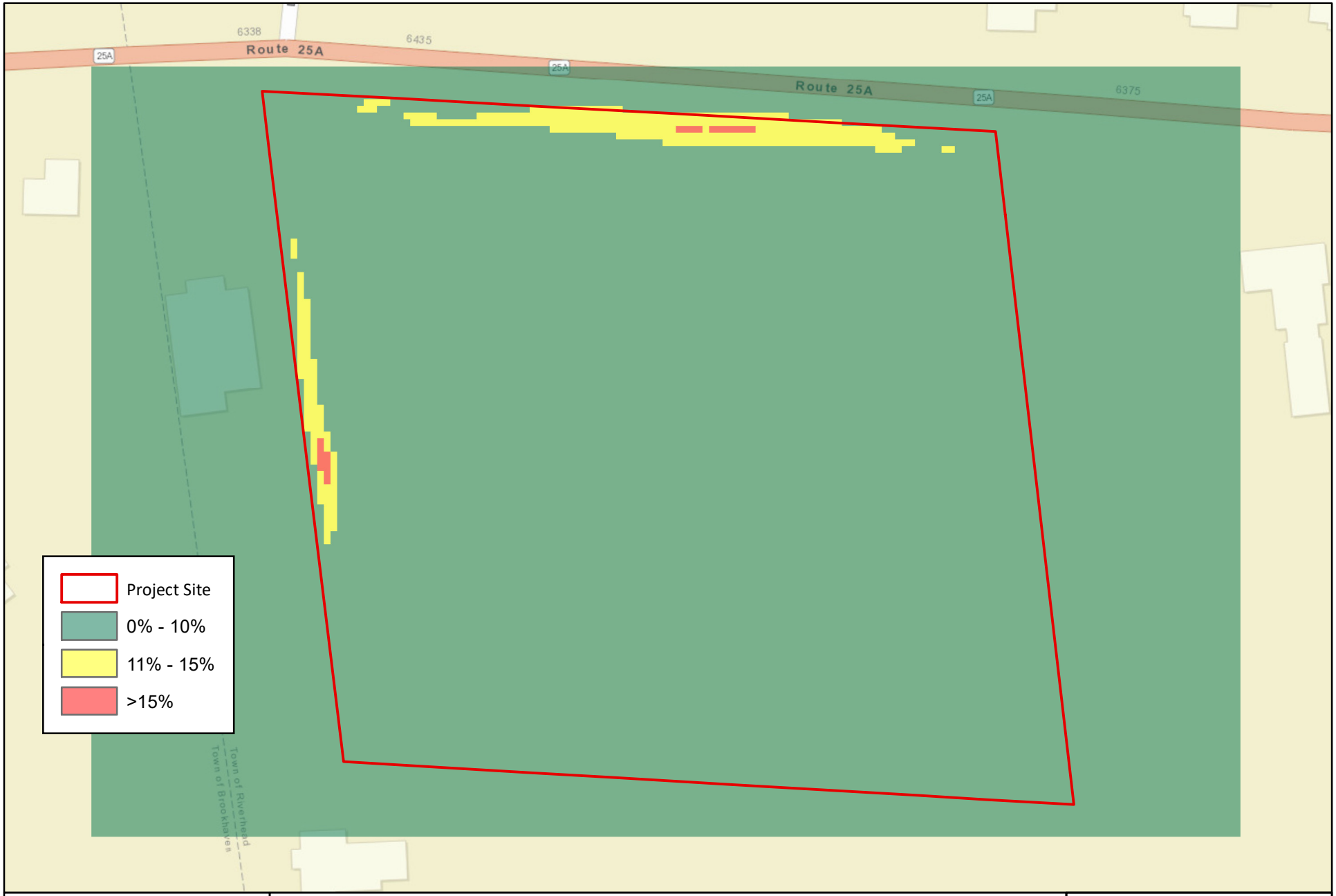
Source: NYS Orthophotography, 2020; USGS SIM 3398, 2016 data

Scale: 1 inch = 2,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 8
SLOPE MAP

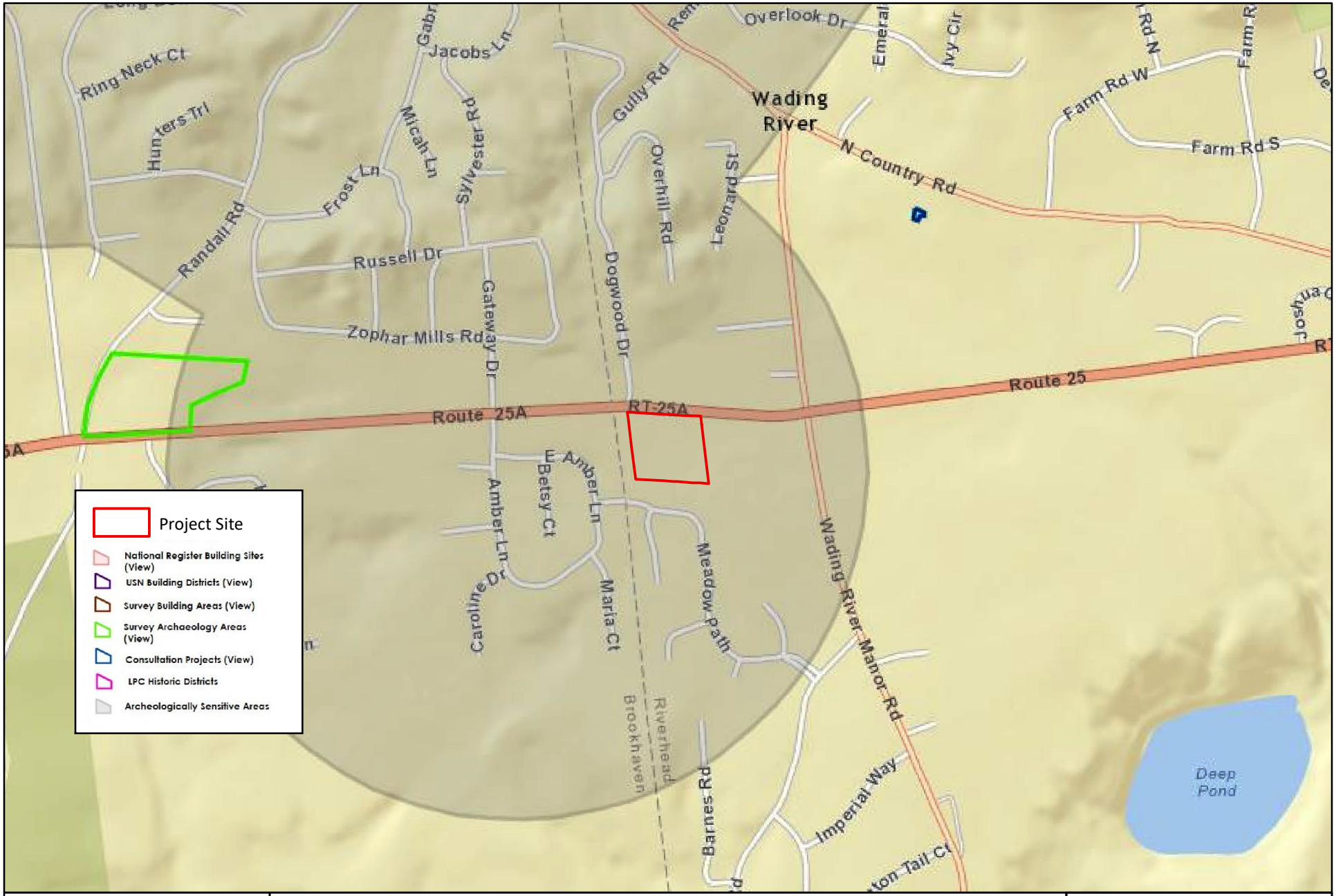
Source: ESRI WMS; Slope calculated from FEMA LiDAR, 2006

Scale: 1 inch = 100 feet

N

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 9
CULTURAL RESOURCES SENSITIVITY MAP

Source: ESRI WMS; NYS Cultural Resourses Information System (CRIS)

Scale: 1 inch = 1,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF

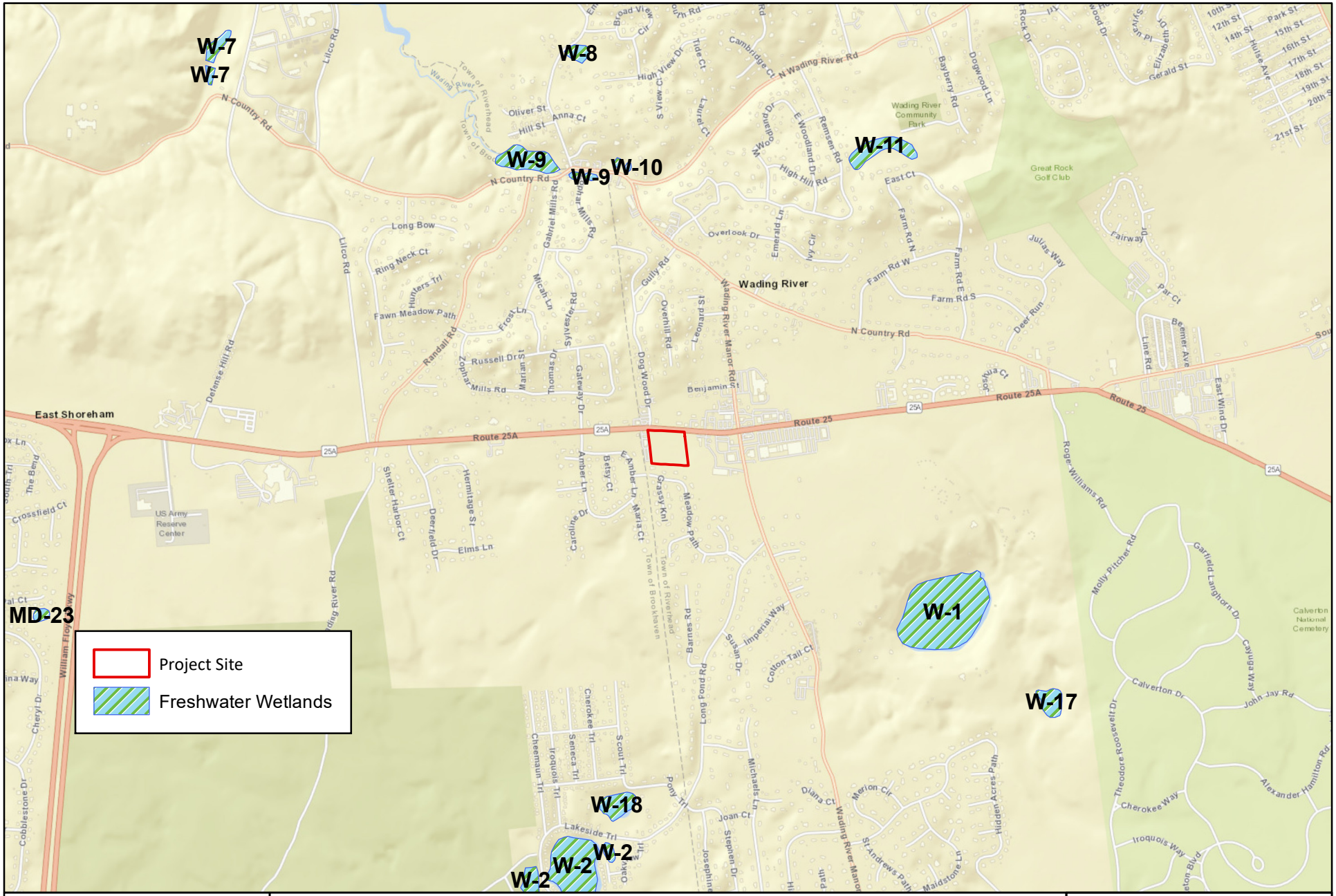


FIGURE 10
NYSDEC FRESHWATER WETLANDS MAP

Source: ESRI WMS; NYSDEC

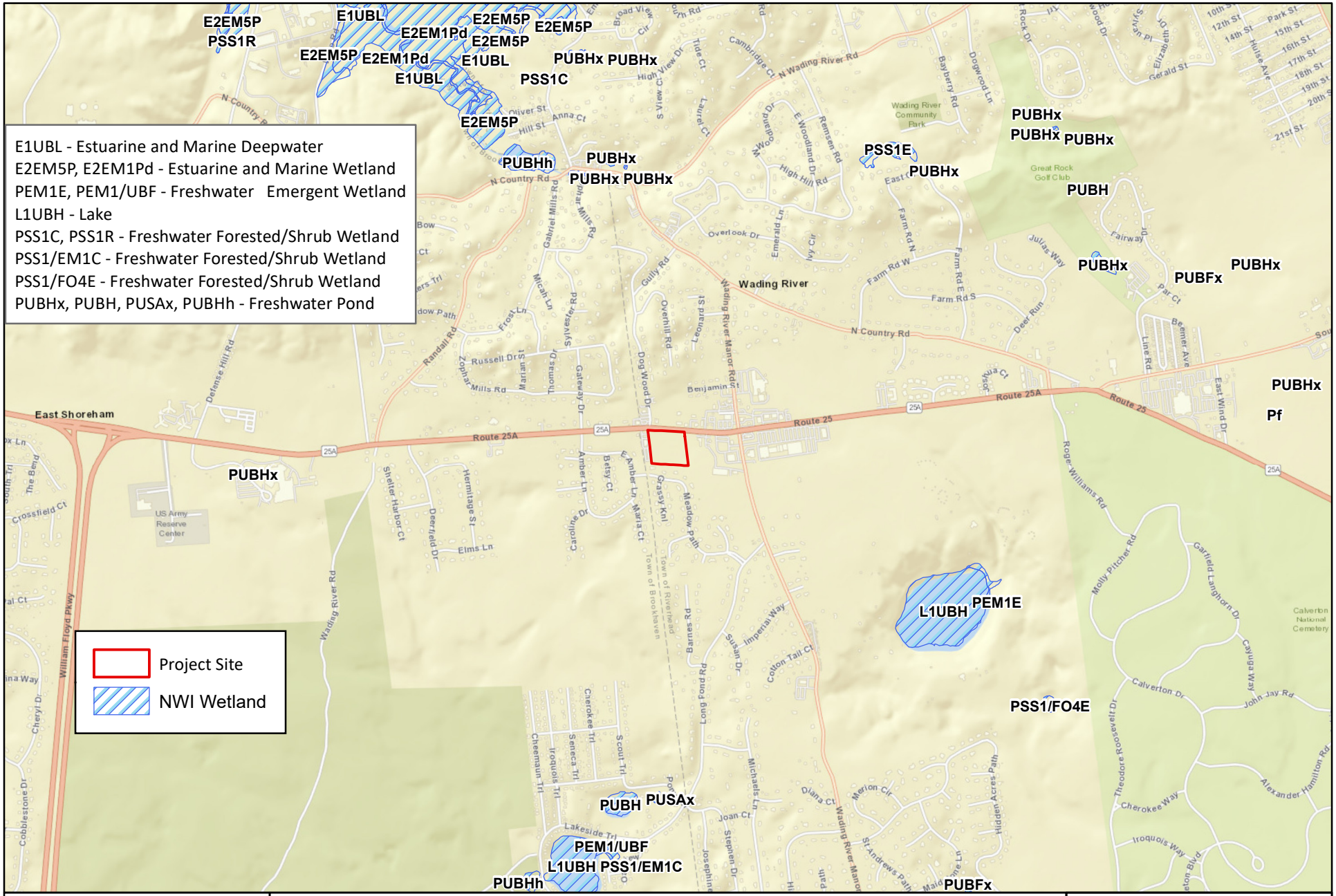
Scale: 1 inch = 2,000 feet

N

NPV

Venezia Square
Site Plan Application

Expanded EAF



NPV

FIGURE 11
NATIONAL WETLANDS INVENTORY MAP

Source: ESRI WMS; USFWS National Wetlands Inventory

Scale: 1 inch = 2,000 feet

N

Venezia Square
Site Plan Application

Expanded EAF

APPENDICES

APPENDIX A
SEQRA STAFF REPORT

Jeffrey Seeman, CEP; Environmental Planner
January 7, 2016

NPV

TOWN OF RIVERHEAD
PLANNING DEPARTMENT

200 HOWELL AVENUE, RIVERHEAD, NEW YORK 11901-2596
(631) 727-3200, FAX (631) 727-9101

Jefferson V. Murphree, AICP
Town Building and Planning Administrator
Ext. 239

Jeffrey Seeman
Environmental Planner
Ext. 207

Karin Gluth
Planner
Ext. 206

Jaime Ritter
Account Clerk Typist
Clerk to the CAC
Clerk to the ARB
Ext. 267

Kim E. Fuentes
Secretary to the Planning Board
Secretary to the Zoning Board of Appeals
Ext. 240

SEQRA Staff Report

Date: January 7, 2016

To: Stan Carey, Chairman Riverhead Planning Board

From: Jeffrey Seeman, CEP, Environmental Planner

Subject: SEQRA Evaluation and Review: Venezia Square, LLC c/o Northwind Group

---

Application: The applicant seeks to develop five (5) commercial buildings totaling 40,000 SF in floor area and associated site improvements on a vacant, 6.34 acre site. The buildings will be used as retail stores, a bank, and a restaurant. Existing natural area will remain along the western, southern and eastern property lines. Two curb cuts are proposed along the northern property line in the right of way of NYS Route 25A. A 204 stall parking field is proposed. The buildings will connect to an existing water main, located on 25A. Stormwater control devices include leaching pools and sanitary disposal will be provided by sanitary leaching pools.

The site is located within the Central Pine Barrens "Compatible Growth Area" (CGA) with CPB restrictions placed on site clearing and areas of fertilized dependent vegetation.

Site Location: Port Jefferson- Riverhead Road (NYS Route 25 A, Wading River, Town of Riverhead, NY SCTM # 600-73-1-1.4 and 1.16-1.19

Plans/Information Submitted: Plans reviewed were prepared by Bohler Engineering (Sheets C-1 through C-13), last dated December 8, 2009 and a Short Environmental Assessment Form (SEAF) Part 1, dated February 5, 2015 and signed by Joseph Vento. A site plan application was received on April 10, 2015 for conversion of several contiguous parcels of vacant land (with one partially farmed) in Wading River into a commercial center with 30,000 sq. ft. of retail (in three 10,000 sq. ft. buildings), a 4,000 sq. ft. bank with a drive-through, a 3,000 sq. ft., 84 seat restaurant, and two 1,500 sq. ft. take-out spaces (seating not specified).

The site, zoned Business CR, is 276,249 sq. ft. (6.342 acres) on the south side of Port Jefferson-Riverhead Rd. (Route 25A) several parcels west of the intersection with Wading River Rd. The western portion is across from Dogwood Dr. to the north. The site is within the Central Pine Barrens Compatible Growth Area.

The surrounding uses include a funeral home (in Brookhaven Town) to the west, single-family residences and farmland to the south, and vacant and farmed land to the east on a parcel for which a site plan has been submitted for two buildings, one to be built initially for office use, including a veterinary office, and a future building for office/retail.

Across Route 25A at the northeast corner of the intersection of Dogwood Dr. is a dentist's office, for which a site plan application was submitted for an addition. Going east there is vacant wooded land, an automotive garage, and a small shopping center with various uses including another dental office and a Subway sandwich shop.

It should be noted that a site plan application was previously submitted for this property in 2011, but the application was considered incomplete because required items were not submitted. The application was ultimately returned due to the time elapsed. A new application was submitted on October 30, 2014, but the application was not complete until February 9, 2015.

The revised site plan reviewed, last dated September 18, 2008, prepared by Joseph A. Deal, P. E., shows a "potential cross access" to the east and an area labeled "natural area to remain undisturbed" that includes a portion of a corn field.

It should be noted that the plan under review is from 2008 and has not been updated to include a code change increasing the amount of square footage per parking stall for retail use, from 200 sq. ft. per stall to 250 sq. ft. per stall. This change was a recommendation of the 2012 Wading River Corridor Study.

Planning staff is conducting a review of the site plan application.

SEQRA: Staff recommends the Planning Board act as lead agency, and staff advises the Planning Board a coordinated review with involved agencies may take place. The application's SEAF was reviewed by staff on October 22, 2015. The use of the SEAF has some limitation on staff's ability to comprehensively review potential for impacts. The applicant has provided a copy of the Environmental Assessment Form Mapper (EAFM), a screening tool to aid in the review process. The EAFM identified the following items recommended for the lead agency to consider: Critical Environmental Area: Central Pine Barrens, Special Groundwater Protection Area, Proximity to Archeological Site(s) and Threatened and Endangered Species.

The EAFM does not automatically and conclusively affirm the aforementioned conditions exist, but is used as a tool for review and SEQRA determination.

Staff recommends the applicant provide more detail to explore the potential for impact to the items listed form the EAFM and the following staff concerns:

1. Critical Environmental Area: Central Pine Barrens, Special Groundwater Protection Area

2. Proximity to Archeological Site(s)
3. Threatened and Endangered Species
4. Proposed clearing limits that may exceed the land use restrictions set forth under the CRA of the CPB.
5. Justification of parking calculations and the required number of stalls.
6. Traffic generated by the proposed project and impacts upon area development.
7. Cumulative impacts (community character, purpose and need, waste water disposal, etc.) potentially generated by additional land development within this area of Wading River.

Based on the information provided to date, the project is categorized as an Unlisted Action as it is below the SEQRA threshold of a Type I. The additional information required to comply with the goal of SEQRA and "take a hard look" directs staff to recommend a Supplemental Narrative Statement be prepared by the applicant. Staff recommends the applicant and lead agency representatives of the Planning Department schedule a meeting to scope the requirements, methods of study for the Supplemental Narrative Statement.

Cc:
Jefferson V. Murphree, AICP, Town Building and Planning Administrator
Karin Gluth, Planner, Riverhead Town Planning Department
Kim Fuentes, Secretary to the Planning Board
William Duffy, Attorney to the Planning Board
Vincent Gaudiello, PE, Raynor Group

APPENDIX B
CONFORMANCE TO CPB STANDARDS AND/OR GUIDELINES

APPENDIX B-1
Conformance to Town Pine Barrens Standards

NPV

Table B-1
CONFORMANCE TO TOWN PINE BARRENS STANDARDS

Standard (S)/Guideline (G)		Explanation and Document Page Reference *(Attach additional sheets if necessary)*
301-197. A. (1)	All development subject to the provisions of Article 6 of the SCSC shall meet the applicable requirements of the SCDHS.	The proposed project will conform to SCSC Article 6 requirements for the treatment, handling and disposal of its sanitary wastewater. All wastewater will be treated and recharged to groundwater through facilities conforming to SCSC Article 6 requirements. Appropriate County approvals and permits will be obtained. The proposed project will not exceed SCSC Article 6 allowable flow. Based on the measures incorporated into the project that would tend to minimize potential nitrogen impacts to groundwater (i.e., conformance to SCSC Article 6, and limiting the acreage of fertilized landscaping to less than 15% of the site), the project is expected to generate an overall nitrogen concentration in recharge of less than 2.5 mg/l.
301-197. A. (2)	As determined by the State of New York or the County of Suffolk, any new public or private sewage treatment plant discharge shall be outside of the CPA and shall be located north of the groundwater divide, as defined by the SCDHS, as site conditions permit.	The proposed project will conform to SCSC Article 6 requirements; based on its standards, septic systems would be allowed for the proposed project, so that no STP is necessary. It is acknowledged that the project's effluent will be recharged within the CGA. However, the project will operate under the jurisdiction of the SCDHS and in conformance with SCSC Article 6, thereby assuring that no impact to underlying groundwater quality will occur. Review of the orientation of the water table contours (see **Figure 7**) indicates that groundwater flows toward the north, away from the Central Pine Barrens. This implies that water recharged on this site does not (and would not in the future) flow into the CGA or the CPA, where it could otherwise adversely impact groundwater in this critical region.
301-197. A. (3)	All development shall comply with the provisions of Articles 7 and 12 of the SCSC.	These regulations concern water pollution control (Article 7) and storage of hazardous or toxic materials associated with industrial use (Article 12). The proposed project is consistent with SCSC Article 7 in that it will not store or use hazardous or toxic materials in excess of the quantities allowed. As the proposed project is not an industrial operation, SCSC Article 12 is not applicable. It is acknowledged that the proposed project will include the use, storage and handling of various chemicals (e.g., landscaping fertilizers, pesticides, etc., and cleaning agents for retail, office & restaurant maintenance, etc.). However, the project will provide for proper facilities for these substances, as well as procedures for their application by trained and certified personnel, as well as procedures for cleanup and disposal, in conformance with pertinent County and State regulations and professional standards.
301-197. A. (4)	All development involving significant discharges to groundwater and located proximate to public water supply wells shall require measures to mitigate impacts upon water quality as required under Article 17 of the NYS ECL. The SCDHS's guidelines for private wells should be used for private wellhead protection.	This standard restricts activities that could degrade the public water supply within a 200-foot radius of a public supply well. However, no public water supply wellfields are located within 200 feet of the project site, and the proposed project will not have a "significant discharge" such that it would have the potential to impact public water supply. The subject property slopes downward slightly from northwest to southeast. The highest elevation of 125 feet above mean sea level (asl) is encountered at the northwest corner of the property while the lowest elevation is in the eastern portion. The elevation of groundwater beneath the subject property is approximately 35 feet asl, depending on meteorological conditions associated with the water year. Therefore, the depth to groundwater is approximately 93 feet. Test holes installed in 2006 by McDonald Geoscience to a depth of 17 feet did not encounter water. Therefore, sufficient vertical separation between the water table and the bottoms of the proposed leaching pools will be maintained to ensure proper performance of the on-site septic systems. The septic systems will be subject to the review and approval of the SCDHS. Review of the orientation of the water table contours (see **Figure 7**) indicates that groundwater flows toward the north, away from the Central Pine Barrens. This implies that water recharged on this site does not (and would not in the future) flow into the CGA or the CPA, where it could otherwise adversely impact groundwater in this critical region. The proposed project is in accordance with SCSC Articles 6 and 7, and all sanitary recharge will flow in a northerly direction (see **Figure 7**). As a result, sanitary recharge will flow in a direction away from that portion of the Riverhead Water District that would include public water supply wellfields, so that no impact to any such wellfield's cone of depression would occur.
301-197. A. (5)	Development proposals for sites containing or abutting freshwater wetlands shall be separated by a nondisturbance buffer area which shall be in accordance with Article 24 of the NYS ECL, the WSRR Act (the Rivers Act) and Chapter 295, Wetlands, of the Code of the Town of Riverhead, whichever is most restrictive. Distances shall be measured horizontally from the wetland edge	N/A; there are no areas of designated or suspected Town-regulated freshwater wetlands on the project site or in the immediate vicinity; no impacts to this resource are expected, and no buffers are necessary or proposed.

	as mapped by the NYSDEC, field delineation or local ordinance. Stricter buffer areas may be established for wetlands as appropriate. Buffer areas shall be delineated on development plans with conditions imposed to assure the preservation of the freshwater wetland resource. Said conditions shall be set forth in a declaration of covenants, conservation easement or similar instrument.	
301-197. A. (6)	Development proposals for sites within the regulated area of the NY WSRR Act shall conform to the standards of the Act. Variances from the Act shall meet all requirements imposed by the State of New York in order to be deemed to have met the requirements of this standard. Additional relief from the Town of Riverhead ZBA shall not be required.	N/A; the project site is not located within or adjacent to any WSRR boundary.
301-197. A. (7)	All stormwater generated by development shall be recharged on site unless surplus capacity exists in an off-site drainage system. In the review of development plans, the Town Board shall encourage the use of natural recharge areas or drainage system design which result in minimal disturbance of native vegetation with the use of natural swales and depressions as an alternative to excavated recharge basins where feasible. Development plans should include the use of ponds only if such ponds are designed to retain stormwater and are not merely constructed for aesthetic purposes. Adequate measures should be employed to control soil erosion and stormwater runoff during construction, as per guidelines promulgated by the NYSDEC.	There are no natural surface areas on or proximate to the proposed development area that could be used as part of the project's drainage system. In lieu of such features, the proposed project will utilize a combination of slopes on paved surfaces, catch basins and leaching pools to retain all runoff within the property for on-site recharge in a drainage system designed in conformance with Town requirements. The project's drainage system will not utilize a man-made pond. No runoff from developed surfaces will be allowed to exit the site, based on the stringent retention and design requirements of the Town. The project's drainage system will be subject to the review and approval of the Town engineering staff and the project will comply with SPDES GP 0-15-002 for stormwater project notification and preparation of a SWPPP (if applicable). The proposed stormwater design conforms to the intent of this standard. An erosion & sediment control plan will be prepared for the proposed project to ensure that impacts from soil erosion during and/or after the construction period do not occur.
301-197. A. (8)	Clearing	---
(a)	The proposed disturbance to natural vegetation, combined with previously disturbed areas, shall conform to the following clearing standards: **Zoning Use District** — **Maximum Clearing** (percentage) RB80 — 53% APZ — 53% Ind A — 65% Ind C — 65% BUS CR — 65% EPCAL, LI, PIP, CO & PRP Districts — see map in Dept. of Planning	The project site is zoned Business CR, wherein the maximum allowed clearing is 65% which, for the 6.34-acre site, is 4.12 acres (conversely, a minimum of 35% of the site, or 2.22 acres, would have to be retained in its existing, naturally-vegetated state. The proposed project will clear 4.10 acres, or 64.62% of the site, and retain 2.24 acres (35.3%) of the site. As a result, the project will conform to this standard.
(b)	The applicable clearing percentage shall be calculated over the area of the entire parcel, including but not limited to public highways, roadways, building sites, parking areas, drainage structures and recharge areas. Development plans shall delineate the existing naturally vegetated areas, shall calculate those portions of the site that are already cleared due to previous activities and shall contain calculations for the amount of disturbance of native vegetation and indicate the clearing limits thereof.	The clearing percentage has been calculated over the entire property. The **Site Plan** for the proposed project delineates the site's existing natural areas and presents calculations of existing and anticipated natural areas.
(c)	To the extent that a portion of a site includes CPA property, and for the purpose of calculating the clearing limits, the site shall be construed to be the combined CPA and CGA portions. However, the CPA portion may not be cleared without a hardship exemption.	N/A; no portion of the project site is within the CPA.
(d)	A map of the Pine Barrens Overlay District within the fence line of the former Grumman facility now known as "EPCAL" shall be adopted designating those areas of EPCAL where clearing is prohibited. The areas where clearing is prohibited shall constitute 35% of the overall site. Those areas contained on said map where land clearing is not prohibited may be cleared. The map may be modified from time to time by local law of the Town Board.	N/A; no portion of the project site is within the EPCAL site.

(e)	Land subdivision maps and site plans outside of the EPCAL site shall also be designed to encourage the preservation of large unbroken blocks that provide for contiguous open spaces to be established when adjacent parcels are developed. Applications for subdivision and site plan shall contain calculations for clearing, and these limits shall become part of the filed map or approved drawings. Nonnative vegetation species to be avoided are contained in Figure 5-2 of the CPB CLUP.	N/A; no portion of the project site is within the EPCAL site. It is noted that, generally, this standard concerns preservation of natural vegetation in large unbroken blocks to establish open spaces contiguous to on-site and, if possible, off-site property. The project will retain the entire southern third of the property in such a condition, which reflects the character of the abutting land to which it will be contiguous, thereby forming an open space continuum as intended by this standard.
301-197. A. (9)	Development projects shall place no more than 15% of the entire site in fertilizer-dependent vegetation. Development designs shall consider native planting suggestions made part of the plan.	No more than 15% of a project site shall be established in fertilizer-dependent vegetation. As the project site is a total of 6.34 acres in size, up to 0.95 acres of landscaping that requires fertilization may be planted on this site. Based on the **Site Plan**, a total of 0.84 acres of landscaping area proposed. In the unlikely event that all of these 0.84 landscaped acres are fertilized, the project will conform to this standard on fertilized acreage. Final site plans will ensure that less than 15% of the site is established in fertilizer-dependent vegetation. None of the non-native species listed in Figure 5-2 of the CLUP will be used as part of the project's final site plan landscape design plans. More than 35% of the site will remain in its current vegetated state. Landscaping will primarily include grass species and typical shrub/tree plantings in the vicinity of the building. Landscaping will consider the species listed in Figure 5-2 of the CLUP to the maximum extent practicable.
301-197. A. (10)	Development which will have a significant negative impact upon a habitat essential to those species identified on the New York State maintained lists as rare, threatened or of special concern, or upon the communities classified by the New York State Natural Heritage Program as G1, G2 or G3 or as S1, S2 or S3 or upon any federal listed endangered or threatened species, appropriate mitigation measures, as determined by the state, county or local government agency, shall be imposed to protect such species.	The property is presently comprised of 6.34 acres of successional old field previously utilized for farming practices. The site was cleared of natural vegetation by virtue of its past use as farmland; no significant vegetation or habitats are present on the subject property. Information on the potential presence of rare, threatened, endangered or special concern species that may inhabit or use the subject site was solicited from the NYS Natural Heritage Program (NYSNHP); the response is provided in **Appendix D**. The endangered Tiger Salamander was identified as being present in ponds approximately ¼ mile from the project site. The species would have no association with the site due to the following: • The species travels upland from vernal ponds typically in the range of 535 feet, but sometimes just over 1,000 feet. The location (1/3 mile away) is more than 1,700 feet from the subject site and as a result, migration to the property is not expected. • There is intervening development south of the site between the Tiger Salamander breeding pond and the subject site. • The site does not contain suitable upland sandy soil, pine barrens habitat for mole habits of the Tiger Salamander. As a result, no impact is expected with respect to the Tiger Salamander. Finally, it should be noted that not all of the site's existing natural habitat will be removed; an estimated 2.24 acres of successional old field vegetation (35.3% of the site) will remain. This will enable the site to continue to support wildlife and plant life.
301-197. A. (11)	Development projects shall minimize disturbance of the natural grade and/or natural vegetation where slopes exceed 10%. Construction in areas with slopes exceeding 10% may be approved if the site design incorporates adequate soil stabilization and erosion control measures so as to mitigate negative environmental impacts. Where applicable, nondisturbance buffers shall be placed on those portions of the site where slopes exceed 10%. Development plans shall include a slope analysis depicting existing slopes in the ranges of 0% to 10%, 11% to 15% and 15% or greater. Erosion and sediment control plans and details of retaining walls and erosion control structures shall be required for construction in areas where slopes exceed 15% and for roads and	A slope interval map has been prepared depicting slope intervals of 0-10%, 10-15% and greater than 15% (see **Figure 8**). As shown, there are only small areas of acres of steep slopes (i.e., in excess of 10% and 15%) on the subject site, and these are located along the northern and the western property lines, in areas of the site that will not be disturbed. As only small areas of slopes in excess of 10% are found on the subject sited, no use of retaining walls for the project's parking areas or buildings is foreseen. The site plan to be reviewed by the Town Planning Board will include site grading and drainage. All grading is subject to Town engineering review and is typical of the developed portions of a commercial site with minimal topographic relief. An Erosion & Sediment Control Plan will be prepared as part of the site plan application for the project. Erosion prevention measures to be taken during construction may include: use of groundcovers (vegetative or artificial), drainage diversions, soil traps, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements. Soil removed during grading and excavation will be used as backfill (if it displays acceptable bearing capacity and leaching characteristics) to produce acceptable slopes for construction. The proposed stormwater design conforms to the intent of this standard. The potential for erosion during construction or after construction is completed will be controlled by implementing a SWPPP, which will include engineered Erosion Control Plans within the Site Plan review. Applicable Town of Riverhead standards and

	driveways traversing slopes of 10%.	construction practices specified by the appropriate Town agencies will be followed. Conformance to the Town Code and to the requirements of NYSDEC SPDES review of stormwater control measures may be necessary, to be consistent with Phase II stormwater permitting requirements for construction sites in excess of 1-acre (the SPDES GP-0-15-002 permit; hereafter, the General Permit), if applicable.
301-197. A. (12)	In order to provide for orderly development and the efficient provision of infrastructure, applications for development projects depicting either open space or reserve areas shall specify the conditions of ownership and the use of such lands, and such conditions shall be set forth in the deed of dedication, declaration of covenants, conservation easement or similar instrument.	N/A; the proposed project does not include any dedications of land for public open space purposes. The 2.24 acres of retained naturally-vegetated land on-site will remain in private ownership, to be preserved under binding covenant. The Applicant will participate in the preparation of a covenant to permanently protect the naturally-vegetated portion of the site, to remain under private ownership if required. Otherwise, the approved site plan is binding and will ensure preservation of the remaining natural areas on the site.
301-197. A. (13)	Where applicable, the use of a planned residential development or use of cluster design pursuant to Article LIV, Cluster Development, of this chapter shall be encouraged to preserve open space. Further, the use of planned industrial park development pursuant to the provisions of Article LIII, Subdivision Regulations, of this chapter shall be encouraged to preserve open spaces.	While the proposed project does not specifically incorporate clustering of the structures, the portion of the site to be developed has preferentially been located in the northern and central parts of the site, to minimize the area developed and thereby meet this standard.
301-197. A. (14)	Any existing, expanded or new activity involving agricultural production or horticulture shall comply with best management practices as set forth in the plan, as may be amended from time to time.	N/A; the project is commercial in nature, and does not include any agricultural or horticultural components.
301-197. A. (15)	Development plans shall indicate established recreational and educational trails and trail corridors, active recreational sites, scenic corridors, roads, vistas and viewpoints, sites of historical or cultural significance, including historic districts, sites on the State or National Registers of Historic Places and historic structures listed on the State or National Registers of Historic Places, or recognized by local law or statute, sensitive archeological sites as identified by the New York State Historic Preservation Officer or the New York State Museum, within 500 feet of the proposed development, and shall provide adequate measures to protect such natural resources. The use of existing natural buffers or the restoration of degraded buffer areas, the use of signs or other man-made structures, consistent in style and scale with the community character, or other similar measures shall be taken to protect roadside areas as well as scenic and recreational resources.	N/A; the Archaeological Investigation prepared for the project site (see **Appendix C-1**) does not indicate the presence of any cultural resources. Further, in **Appendix C-2**, the NYS OPRHP confirms that no impact to cultural resources is anticipated from the proposed project. Site inspections have not revealed the existence of any recreational or educational trails or trail corridors, or active recreation sites, on the project site. The Archaeological Investigation did not reveal the presence of any cultural resources on the subject site. In consideration of the above, it may be concluded that the proposed project will not impact any scenic, historic or cultural resources. Project design will retain buffers of natural vegetation along the site's southern and western boundaries, which will reduce potential adverse visual impacts for observers in these directions. Due to the commercial nature of the project, the small size of the site, and the presence and proximity of other, complementary commercial sites to the north and the east, it is not feasible to retain buffers of natural vegetation in these directions as well. It is noteworthy that the decision to maintain natural buffers to the south and to the west (by placing the developed area in the northern portion of the property) reflects the applicant's decision to maximize protection of aesthetics for observers in these directions (where development is less prevalent), as opposed to the north and the east, where development already exists. The northern setback area will be landscaped appropriately, using species approved in the CLUP, Figure 5-2. The project's buildings and amenities will employ an attractive architectural treatment and complementary landscape design that would be consistent with the aesthetics of the area and congruent with the surrounding land uses. The project's developed area has been located so as to provide for the maximum practicable retention of natural vegetation as buffers to the more sensitive receptors (i.e., to the south and to the west), recognizing that the existing pattern of development along NYS Route 25A (to the east and north) precludes protection of scenic resources along this commercial corridor. Finally, plantings of landscape species around and within the developed area will add to the buffering effect of natural vegetation, reducing the potential adverse impact on scenic resources and community character.
301-197. A. (16)	All commercial or industrial development shall comply with the applicable provisions of the SCSC and all other applicable federal, state or local laws.	The proposed project complies with all applicable requirements of the SCSC, including Articles 6, 7 and 12, as well as with all applicable requirements of the SCDHS. The project has been designed to comply with the applicable bulk and setback requirements of the Town Code for the CR Business zone.

APPENDIX B-2
Conformance to CLUP Standards and Guidelines for Land Use

NPV

Table B-2
CONFORMANCE TO CPB CLUP STANDARDS AND GUIDELINES FOR LAND USE

Standard (S)/Guideline (G)			Explanation and Document Page Reference *(Attach additional sheets if necessary)*
5.3.3.1 Nitrate-nitrogen			
S 5.3.3.1.1	SCSC Article 6 compliance	All development proposals subject to SCSC Article 6 shall meet all applicable requirements of the SCDHS. Projects which require variances from the provisions of Article 6 shall meet all requirements of the SCDHS Board of Review in order to be deemed to have met the requirements of this standard.	The proposed project will conform to SCSC Article 6 requirements for the treatment, handling and disposal of its sanitary wastewater. All wastewater will be treated and recharged to groundwater through facilities conforming to SCSC Article 6 requirements. Appropriate County approvals and permits will be obtained. The proposed project will not exceed SCSC Article 6 allowable flow.
S 5.3.3.1.2	STP discharge	Where deemed practical by the County or State, sewage treatment plant discharge shall be outside and downgradient of the CPB. Denitrification systems that are approved by the NYSDEC or the SCDHS may be used in lieu of an STP.	The proposed project will conform to SCSC Article 6 requirements; based on its standards, septic systems would be allowed for the proposed project, so that no STP is necessary. It is acknowledged that the project's effluent will be recharged within the CGA. However, the project will operate under the jurisdiction of the SCDHS and in conformance with SCSC Article 6, thereby assuring that no impact to underlying groundwater quality will occur.
G 5.3.3.1.3	Nitrate-nitrogen goal	A more protective goal of two and one half (2.5) ppm may be achieved for new projects through an average residential density of one (1) unit per two (2) acres (or its commercial or industrial equivalent), through clustering, or through other mechanisms to protect surface water quality for projects in the vicinity of ponds and wetlands.	Based on the measures incorporated into the project that would tend to minimize potential nitrogen impacts to groundwater (i.e., conformance to SCSC Article 6, and limiting the acreage of fertilized landscaping to less than 15% of the site), the project is expected to generate an overall nitrogen concentration in recharge of less than 2.5 mg/l.
5.3.3.2 Other chemical contaminants of concern			
S 5.3.3.2.1	SCSC Articles 7 & 12 compliance	All development projects must comply with the provisions of SCSC Articles 7 and 12, including any provisions for variances or waivers if needed, and all applicable state laws and regulations in order to ensure that all necessary water resource and wastewater management infrastructure shall be in place prior to, or as part of, the commencement of construction.	These regulations concern water pollution control (Article 7) and storage of hazardous or toxic materials associated with industrial use (Article 12). The proposed project is consistent with SCSC Article 7 in that it will not store or use hazardous or toxic materials in excess of the quantities allowed. As the proposed project is not an industrial operation, SCSC Article 12 is not applicable. It is acknowledged that the proposed project will include the use, storage and handling of various chemicals (e.g., landscaping fertilizers, pesticides, etc., and cleaning agents for retail, office & restaurant maintenance, etc.). However, the project will provide for proper facilities for these substances, as well as procedures for their application by trained and certified personnel, as well as procedures for cleanup and disposal, in conformance with pertinent County and State regulations and professional standards.
5.3.3.3 Wellhead protection			
S 5.3.3.3.1	Significant discharges and public supply well locations	The location of nearby public supply wells shall be considered in all applications involving significant discharges to groundwater, as required under the NYS ECL Article 17.	This standard restricts activities that could degrade the public water supply within a 200-foot radius of a public supply well. However, no public water supply wellfields are located within 200 feet of the project site, and the proposed project will not have a "significant discharge" such that it would have the potential to impact public water supply. The subject property slopes downward slightly from northwest to southeast (see **Boundary & Topographic Survey**). The highest elevation of 125 feet above mean sea level (asl) is encountered at the northwest corner of the property while the lowest elevation is in the eastern portion. The elevation of groundwater beneath the subject property is approximately 35 feet asl, depending on meteorological conditions associated with the water year. Therefore, the depth to groundwater is approximately 93 feet. Test holes installed in 2006 by McDonald Geoscience to a depth of 17 feet did not encounter water. Therefore, sufficient vertical separation between the water table and the bottoms of the proposed leaching pools will be maintained to ensure proper performance of the on-site septic systems. The septic systems will be subject to the review and approval of the SCDHS. Review of the orientation of the water table contours (see **Figure 7**) indicates that groundwater flows toward the north, away from the Central Pine Barrens. This implies that water recharged on this site does not (and would not in the future) flow into the CGA or the CPA, where it could otherwise adversely impact groundwater in this critical region.

G 5.3.3.3.2	Private well protection	The SCDHS guidelines for private wells should be used for wellhead protection.	The project will conform to SCSC Articles 6 and 7; sanitary recharge will flow to the north (see **Figure 7**), so sanitary recharge will flow away from that portion of the Riverhead Water District that would include public water supply wellfields, so that no impact to any such wellfield's cone of depression would occur.
5.3.3.4 Wetlands and surface waters			
S 5.3.3.4.1	Nondisturbance buffers	Development proposals for sites containing or abutting freshwater or tidal wetlands or surface waters must be separated by a nondisturbance buffer area which shall be no less than that required by the New York State Tidal Wetland, Freshwater Wetland, or WSRR Act or local ordinance. Distances shall be measured horizontally from the wetland edge as mapped by the NYSDEC, field delineation or local ordinance. Projects which require variances or exceptions from these state laws, local ordinances and associated regulations, shall meet all requirements imposed in a permit by the NYSDEC or a municipality in order to be deemed to have met the requirements of this standard.	N/A; there are no areas of designated or suspected Town-regulated freshwater wetlands on the project site or in the immediate vicinity; no impacts to this resource are expected.
S 5.3.3.4.2	Buffer delineations, covenants and conservation easements	Buffer areas shall be delineated on the site plan, and covenants and/or conservation easements, pursuant to the NYS ECL and local ordinances, shall be imposed to protect these areas as deemed necessary.	N/A; there are no areas of designated or suspected Town-regulated freshwater wetlands on the project site or in the immediate vicinity, so that no buffers are necessary or proposed.
S 5.3.3.4.3	WSRR Act compliance	Development shall conform to the provisions of the NYS WSRR Act, where applicable. Projects which require variances or exceptions under the NYS WSRR Act shall meet all requirements imposed by the NYSDEC in order to be deemed to have met the requirements of this standard.	N/A; the project site is not located within or adjacent to any WSRR boundary.
G 5.3.3.4.4	Additional nondisturbance buffers	Stricter nondisturbance buffer areas may be established for wetlands as appropriate.	N/A; there are no areas of designated or suspected Town-regulated freshwater wetlands on the project site or in the immediate vicinity, so that no buffers are necessary or proposed.
5.3.3.5 Stormwater runoff			
S 5.3.3.5.1	Stormwater recharge	Development projects must provide that all stormwater runoff originating from development on the property is recharged on-site unless surplus capacity exists in an off-site drainage system.	Runoff from developed surfaces will be retained on-site and recharged in a drainage system conforming to Town requirements. This system will use sloped paved surfaces, catch basins and leaching pools to retain all runoff within the property for on-site recharge. No runoff from developed surfaces will be allowed to exit the site, based on the stringent retention and design requirements of the Town. The project's drainage system will be subject to the review and approval of the Town engineering staff and the project will comply with SPDES GP 0-15-002 for stormwater project notification and preparation of a SWPPP (if applicable). The proposed stormwater design conforms to the intent of this standard.
G 5.3.3.5.2	Natural recharge and drainage	Natural recharge areas and/or drainage system designs that cause minimal disturbance of native vegetation should be employed, where practical, in lieu of recharge basins or ponds that would require removal of significant areas of native vegetation.	There are no natural recharge areas on or near the proposed development area that could be used in the project's drainage system. In lieu of such features, the project will utilize a combination of slopes on paved surfaces, catch basins and leaching pools to retain all runoff within the property for on-site recharge.
G 5.3.3.5.3	Ponds	Ponds should only be created if they are to accommodate stormwater runoff, not solely for aesthetic purposes.	N/A; the project's drainage system will not utilize a man-made pond.
G 5.3.3.5.4	Natural topography in lieu of recharge basins	The use of natural swales and depressions should be permitted and encouraged instead of excavated recharge basins, whenever feasible	N/A; the project does not include any recharge basins, and no natural topographic low points or swales are available to be utilized for stormwater runoff detention or recharge.
G 5.3.3.5.5	Soil erosion and stormwater runoff control during construction	During construction, the standards and guidelines promulgated by the NYSDEC pursuant to state law, which are designed to prevent soil erosion and control stormwater runoff, should be adhered to.	An erosion & sediment control plan will be prepared for the proposed project to ensure that impacts from soil erosion during and/or after the construction period do not occur. Additionally, if applicable, a SPDES GP 0-15-002 permit will be obtained prior to the onset of construction of the proposed project, and the project will comply with its requirements. The project will be subject to Town drainage requirements, engineering review, implementation of erosion control measures during construction, and measures to ensure that off-site sediment transport does not occur. The site is relatively flat and existing topography is not expected to result in off-site sedimentation.

5.3.3.6 Natural vegetation and plant habitat			
S 5.3.3.6.1	Vegetation Clearance Limits	The clearance of natural vegetation shall be strictly limited. Site plans, surveys and subdivision maps shall delineate the existing naturally vegetated areas and calculate those portions of the site that are already cleared due to previous activities. Areas of the site proposed to be cleared combined with previously cleared areas shall not exceed the percentages in Figure 5-1 [of the CLUP]. These percentages shall be taken over the total site and shall include, but not be limited to, roads, building sites and drainage structures. The clearance standard that would be applied to a project site if developed under the existing residential zoning category may be applied if the proposal involves multi-family units, attached housing, clustering or modified lot designs. Site plans, surveys and subdivision maps shall be delineated with a clearing limit line and calculations for clearing to demonstrate compliance with this standard. To the extent that a portion of a site includes CPA property, and for the purpose of calculating the clearance limits, the site shall be construed to be the combined CPA and CGA portions. However, the CPA portion may not be cleared except in accordance with Section 5.2 of the CLUP.	Under the clearance standards listed in Figure 5-1 of the CLUP, the maximum allowed clearance for the subject site is 65%, or 4.12 acres (conversely, a minimum of 35% of the site, or 2.22 acres, would have to be retained in its existing, naturally-vegetated state. The proposed project clear 4.10 acres, or 64.62% of the site, and retain 2.24 acres (35.3%) of the site. As a result, the project will conform to this standard.
S 5.3.3.6.2	Unfragmented open space	Subdivision and site design shall support preservation of natural vegetation in large unbroken blocks that allow contiguous open spaces to be established when adjacent parcels are developed. Subdivision and site designs should also be configured in such a way so as to prioritize the preservation of native pine barrens vegetation to the maximum extent practicable. For the purpose of this paragraph, native pine barrens vegetation shall include pitch pines and various species of oak trees, understory and ground cover plants such as blueberry, wintergreen, bearberry and bracken fern, grasses and sedges such as little bluestem, Pennsylvania sedge and indian grass as well as those ecological communities listed in sections 5.6 and 5.7 in Chapter 5, Volume 2 of the CLUP. It is recognized that the preservation of nonnative but ecologically important habitats may be consistent with the intent and goals of the plan when such action would result in the creation of large contiguous natural open space areas and or the protection of rare, threatened or endangered species or their habitat.	This standard concerns preservation of natural vegetation in large unbroken blocks to establish open spaces contiguous to on-site and, if possible, off-site property. The project will retain the entire southern third of the property in such a condition, which reflects the character of the abutting land to which it will be contiguous, thereby forming an open space continuum as intended by this standard.
S 5.3.3.6.3	Fertilizer dependent vegetation limit	No more than 15% of an entire development project site shall be established in fertilizer-dependant vegetation including formalized turf areas. Generally, nonnative species require fertilization; therefore, planting of such nonnative species shall be limited to the maximum extent practicable. The use of the nonnative plants in Figure 5-2 [of the CLUP] is specifically not recommended.	No more than 15% of a project site shall be established in fertilizer-dependent vegetation. As the project site is a total of 6.34 acres in size, up to 0.95 acres of landscaping that requires fertilization may be planted on this site. Based on the **Site Plan**, a total of 0.84 acres of landscaping area proposed. In the unlikely event that all of these 0.84 landscaped acres are fertilized, this will conform to the CLUP standard on fertilized acreage. Final site plans will ensure that less than 15% of the site is established in fertilizer-dependent vegetation. None of the non-native species listed in Figure 5-2 of the CLUP will be used as part of the project's final site plan landscape design plans.
S 5.3.3.6.4	Native Plantings	Development designs shall consider the native planting suggestions in Figure 5-2 [of the CLUP].	More than 35% of the site will remain in its current vegetated state. Landscaping will primarily include grass species and typical shrub/tree plantings in the vicinity of the building. Landscaping will consider the species listed in Figure 5-2 of the CLUP to the maximum extent practicable.
5.3.3.7 Species and communities of special concern			
S 5.3.3.7.1	Special Species and	Where a significant negative impact upon a habitat essential to those species identified on the	The property is presently comprised of 6.34 acres of successional old field previously utilized for farming

	Ecological Communities	New York State maintained lists as rare, threatened, endangered or of special concern, or upon natural communities classified by the New York Natural Heritage Program as G1, G2, G3 or S1, S2 or S3, or on any federally listed endangered or threatened species is proposed, appropriate mitigation measures as determined by the appropriate state, county or local government agency shall be taken to protect these species.	practices. The site was cleared of natural vegetation by virtue of its past use as farmland; no significant vegetation or habitats are present on the subject property. Information on the potential presence of rare, threatened, endangered or special concern species that may inhabit or use the subject site was solicited from the NYS Natural Heritage Program (NYSNHP); the response is provided in **Appendix D**. The endangered Tiger Salamander was identified as being present in ponds approximately 1/3 mile from the project site. The species would have no association with the site due to the following: • The species travels upland from vernal ponds typically in the range of 535 feet, but sometimes just over 1,000 feet. The location (1/3 mile away) is more than 1,700 feet from the subject site and as a result, migration to the property is not expected. • There is intervening development south of the site between the Tiger Salamander breeding pond and the subject site. • The site does not contain suitable upland sandy soil, pine barrens habitat for mole habits of the Tiger Salamander. As a result, no impact is expected with respect to the Tiger Salamander. Finally, it should be noted that not all of the site's existing natural habitat will be removed; an estimated 2.24 acres of successional old field vegetation (35.3% of the site, in conformance with the CLUP Standard 5.3.3.6.1), will remain. This will enable the site to continue to support wildlife and plant life.
5.3.3.8 Soils			
G 5.3.3.8.1	Clearing envelopes	Clearing envelopes should be placed upon lots within a subdivision so as to maximize the placement of those envelopes on slopes less than ten percent (10%).	N/A; this Guideline refers to establishment of clearing envelopes for lots within a subdivision; as the proposed project does not include a subdivision, this guideline does not strictly apply. Additionally, as the subject site was previously cleared and graded for use as agricultural fields, no natural slopes (whether in excess of 10% or not) remain on it.
G 5.3.3.8.2	Stabilization and erosion control	Construction of homes, roadways and private driveways on slopes greater than ten percent (10%) may be approved if technical review shows that sufficient care has been taken in the design of stabilization measures, erosion control practices and structures so as to mitigate negative environmental impacts.	N/A; this Guideline refers to implementing erosion control measures associated with development of individual homes; as the proposed project is commercial in nature and does not include a subdivision, this guideline does not strictly apply. Nevertheless, an Erosion & Sediment Control Plan will be prepared as part of the site plan application for the project. Erosion prevention measures to be taken during construction may include: use of groundcovers (vegetative or artificial), drainage diversions, soil traps, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements. Soil removed during grading and excavation will be used as backfill (if it displays acceptable bearing capacity and leaching characteristics) to produce acceptable slopes for construction. The proposed stormwater design conforms to the intent of this standard. Applicable Town of Riverhead standards and construction practices specified by the appropriate Town agencies will be followed. Conformance to the Town Code and to the requirements of NYSDEC SPDES review of stormwater control measures may be necessary, to be consistent with Phase II stormwater permitting requirements for construction sites in excess of 1-acre (the SPDES GP-0-15-002 permit; hereafter, the General Permit), if applicable.
G 5.3.3.8.3	Slope analysis	Project review is facilitated if submissions contain a slope analysis showing slopes in the ranges 0-10%, 11-15% and 15% and greater. In areas with steep slopes, slope analysis maps should be required. This can be satisfied with cross hatching or shading on the site plan for the appropriate areas.	A slope interval map has been prepared depicting slope intervals of 0-10%, 10-15% and greater than 15% (see **Figure 8**). As shown, there are only small areas of acres of steep slopes (i.e., in excess of 10% and 15%) on the subject site, and these are located along the northern and the western property lines, in areas of the site that will not be disturbed.
G 5.3.3.8.4	Erosion and sediment control plans	Erosion and sediment control plans should be required in areas of fifteen percent (15%) or greater slopes.	N/A; only small areas of slopes in excess of 15% are found on the project site. The potential for erosion to occur during construction or after construction is completed will be controlled by implementing a

			SWPPP, which will include engineered Erosion Control Plans within the Site Plan review.
G 5.3.3.8.5	Placement of roadways	Roads and driveways should be designed to minimize the traversing of slopes greater than ten percent (10%) and to minimize cuts and fills.	N/A; only small areas of slopes in excess of 10% are found on the project site.
G 5.3.3.8.6	Retaining walls and control structures	Details of retaining walls and erosion control structures should be provided for roads and driveways which traverse slopes greater than ten percent (10%).	N/A; only small areas of slopes in excess of 10% are found on the subject sited, so no use of retaining walls for the project's parking areas or buildings is foreseen. The site plan to be reviewed by the Town Planning Board will include site grading and drainage. All grading is subject to Town engineering review and is typical of the developed portions of a commercial site with minimal topographic relief.
5.3.3.9 Coordinated design for open space management			
S 5.3.3.9.1	Receiving entity for open space dedications	Applications must specify the entity to which dedicated open space will be transferred.	N/A; the proposed project does not include any dedications of land for public open space purposes. The 2.24 acres of retained naturally-vegetated land on-site will remain in private ownership, to be preserved under binding covenant.
G 5.3.3.9.2	Clustering	Municipalities are strongly urged to maximize the use of the clustering technique where its usage would enhance adjacent open space or provide contiguous open space connections with adjacent open space parcels.	While the proposed project does not specifically incorporate clustering of the structures, these portion of the site to be developed has preferentially been located in the northern and central parts of the site, to minimize the area developed and thereby meet the CLUP Clearing Standard.
G 5.3.3.9.3	Protection of dedicated open space	Proposed open space should be protected with covenants, conservation easements or dedications that specify proper restrictions on its use and contingencies for its future management.	The Applicant will participate in the preparation of a covenant to permanently protect the naturally-vegetated portion of the site, to remain under private ownership if required. Otherwise, the approved site plan is binding and will ensure preservation of the remaining natural areas on the site.
5.3.3.10 Agriculture and horticulture			
G 5.3.3.10.1	BMPs	Any existing, expanded, or new activity involving agriculture or horticulture in the CGA should comply with best management practices as defined herein and relevant requirements including local law. BMPs are, for purposes of this CLUP, the same practices stated in the most recent version of *Controlling Agricultural Nonpoint Source Water Pollution in New York State* (Bureau of Technical Services and Research, Division of Water, NYSDEC, 1991 and as later amended).	N/A; the project is commercial in nature, and does not include any agricultural or horticultural components.
5.3.3.11 Scenic, historic and cultural resources			
G 5.3.3.11.1	Cultural resource consideration	Development proposals should account for, review, and provide protection measures for: 1. Established recreational and educational trails and trail corridors, including but not limited to those trail corridors inventoried elsewhere in this Plan. 2. Active recreation sites, including existing sites and those proposed as part of a development. 3. Scenic corridors, roads, vistas and viewpoints located in CRAs, and along the LIE, Sunrise Highway, County Road 111 and William Floyd Parkway. 4. Sites of historical or cultural significance, including historic districts, sites on the State or National Registers of Historic Places, and historic structures listed on the State or National Registers of Historic Places, or recognized by local municipal law or statute. 5. Sensitive archaeological areas as identified by the NYSHPO or the New York State Museum.	Site inspections have not revealed the existence of any recreational or educational trails or trail corridors, or active recreation sites, on the project site. The Archaeological Investigation prepared for the proposed project did not reveal the presence of any cultural resources on the subject site. In consideration of the above, it may be concluded that the proposed project will not impact any scenic, historic or cultural resources.
G 5.3.3.11.2	Inclusion of cultural resources in application	Development proposals should note established recreation and educational trails and trail corridors; active recreation sites; scenic corridors, roads, vistas and viewpoints located in CRAs and undisturbed portions of the roadsides of the LIE, Sunrise Highway, County Road 111 and William Floyd Parkway; sites on the State or National Register of Historic Places, and historic structures and landmarks recognized by municipal law or statute, or listed on the State or National Registers of Historic Places; and sensitive archaeological areas as identified by the NYSHPO or the New York State Museum within a five hundred (500) foot radius of the outside perimeter of the project site, including any project parcels which are physically separate from the bulk of the proposed development area.	N/A; the Archaeological Investigation prepared for the project site (see **Appendix C-1**) does not indicate the presence of any cultural resources. Further, in **Appendix C-2**, the NYS OPRHP confirms that no impact to cultural resources is anticipated from the proposed project.

		A development proposal may be disapproved or altered if the local municipality determines that the development proposal, in its current form, may have a significant negative impact on any of the above resources.	
G 5.3.3.11.3	Protection of scenic and recreational resources	Protection measures for scenic and recreational resources should include, but not be limited to, retention of visually shielding natural buffers, replacement of degraded or removed natural visual buffers using native species, use of signs which are in keeping in both style and scale with the community character, and similar measures.	Project design will retain buffers of natural vegetation along the site's southern and western boundaries, which will reduce potential adverse visual impacts for observers in these directions. Due to the commercial nature of the project, the small size of the site, and the presence and proximity of other, complementary commercial sites to the north and the east, it is not feasible to retain buffers of natural vegetation in these directions as well. It is noteworthy that the decision to maintain natural buffers to the south and to the west (by placing the developed area in the northern portion of the property) reflects the applicant's decision to maximize protection of aesthetics for observers in these directions (where development is less prevalent), as opposed to the north and the east, where development already exists. The northern setback area will be landscaped appropriately, using species approved in the CLUP, Figure 5-2. The project's buildings and amenities will employ an attractive architectural treatment and complementary landscape design that would be consistent with the aesthetics of the area and congruent with the surrounding land uses.
G 5.3.3.11.4	Roadside design and management	Undisturbed portions of the roadside should be maintained in a manner that protects the scenic features of these areas. Clearing (including that for aisles, driveways, access and parking) is not precluded within these roadside areas, provided that appropriate buffers are maintained, and that manmade structures meet standards consistent with the character of the area.	The project's developed area has been located so as to provide for the maximum practicable retention of natural vegetation as buffers to the more sensitive receptors (i.e., to the south and to the west), recognizing that the existing pattern of development along NYS Route 25A (to the east and north) precludes protection of scenic resources along this commercial corridor. Finally, plantings of landscape species around and within the developed area will add to the buffering effect of natural vegetation, reducing the potential adverse impact on scenic resources and community character.
5.3.3.12 Commercial and industrial development			
S 5.3.3.12.1	Commercial and industrial compliance with SCSC	All commercial and industrial development applications shall comply with the provisions of the SCSC as applied by the SCDHS, and all other applicable federal, state or local laws. Projects which require variances from the provisions of the SCSC shall meet all requirements of the SCDHS Board of Review in order to be deemed to have met the requirements of this standard.	The proposed project complies with all applicable requirements of the SCSC, including Articles 6, 7 and 12, as well as with all applicable requirements of the SCDHS. The project has been designed to comply with the applicable bulk and setback requirements of the Town Code for the CR Business zone.

APPENDIX C
CULTURAL RESOURCES-RELATED DOCUMENTS

APPENDIX C-1
Archaeological Investigation, Phase I

Tracker Archaeological Services, Inc.
July 2016

NPV

Phase I Archaeological Investigations at the Venezia Square subdivision Wading River, Town of Riverhead, Suffolk County, New York

July 2016

Prepared for:
Nelson Pope & Voorhis, LLC, Melville, New York

Alfred G. Cammisa, RPA
Alexander Padilla (CAD)

868

MANAGEMENT SUMMARY

PR#:
not known

Involved agencies:
Town of Riverhead

Phase:
Phase IA & IB

Location:
Wading River
Town of Riverhead
Suffolk County

Survey Area:
Length: about 400 feet (122m) north-south
Width: about 540 feet (165m) east-west.
Acres Surveyed: approximately 4.5 acres (1.8 hectares)

USGS:
Wading River, NY

Survey overview:
ST no. & interval: 79 ST's at 50-25 ft (15-7.5m) intervals
Size of freshly plowed area: na
Surface survey transect interval: na

Results:
No prehistoric or historic remains

Strucutres:
No. Of buildings/structures/cemeteries in project area: none
No. Of buildings/structures/cemeteries adjacent to project area: 2
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 July 2016

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PHOTOGRAPHS

INTRODUCTION

Between July 7 and 20, 2016, TRACKER Archaeology, Inc. conducted a Phase IA documentary study and Phase IB archaeological testing and reconnaissance at the proposed Venezia Square subdivision, in Wading River, Township of Riverhead, Suffolk County, New York.

The purpose of the documentary study was to determine the prehistoric and historic potential of the project area for the recovery of archaeological remains. This was accomplished by a review of the original and current environmental data, archaeological site files, other archival literature, maps, and documents.

A prehistoric and historic site file search was conducted utilizing the resources of the New York State Historic Preservation Office in Waterford, New York. Various historic and archaeology web sites were visited to review any pertinent site information.

The purpose of the Phase IB field survey was to determine the presence or absence of archaeological sites on the property. This was accomplished through subsurface testing and ground surface reconnaissance.

The project area (APE) consists of the about 4.5 acres from the approximate 6 acre property. The property is located on the south side of Port Jefferson-Riverhead Road (SR 25A-Sound Avenue) at the intersection of Dogwood Drive. It is bound to the north by Port Jefferson-Riverhead Road (SR 25A-Sound Avenue) and to the remaining sides by other private properties.

The study was conducted by TRACKER Archaeology, Inc. of Monroe, New York. Prehistoric and historic research was conducted by Alfred G. Cammisa, M.A.. Phase IB field work was conducted by field director, Edward Tassinari, B.A. and field technician Conner Winters, B.A. Report preparation by Alfred G. Cammisa and Alexander Padilla, B.A.

The work was performed for Nelson Pope & Voorhis, LLC, Melville, New York

ENVIRONMENT

Geology

The study area is located in the southeast portion of New York State, in the northeastern part of Suffolk County. This portion of New York lies in the Atlantic Coastal Plains Physiographic Province. The coastal plains slopes gently eastward and is actually a strip of recently emerged sea bottom. The soils in this region consist largely of sand, clay and marl (a mixture of clay, finely fragmented shell and calcite). The project area lies on an outwash plain south of the Harbor Hill Moraine (Schuberth 1968: cover map, 9, 184-186; Jensen and Soren 1974; Sirkin 1995: 45).

Soils and Topography

Soils in the study area consist primarily of:

Name	Soil Horizon Depth cm(in)	Color	Texture Inclusion	Slope %	Drainage	Landform
Haven loam	A 0-3in(0-7) B 3-10(7-25) B2 10-19(25-48)	10YR4/2 7.5YR4/4 7.5YR5/6	Lo	0-2	well	outwash plains
Riverhead	A=0-12 (0-30) B=12-27 (-69)	10YR4/3 7.5YR5/6	SaLo	0-3 & 3-8	well	moraines & outwash plains

(Warner 1975: map#26, pg. 71, 81-83).

Elevations on the property are approximately 110 feet above mean sea level.

Hydrology
The property is about 3928 feet southeast of Wading River and 3749 feet northwest of Deep Pond. Wading River drains north into the Long Island Sound.

Vegetation
The predominant forest community inhabiting the Atlantic Coastal Plain Physiographic province in this vicinity (Cape Cod to the Carolinas) was the Northern Pine-Oak Forest. Northern Pine-Oak Forests occur on sandy, or otherwise poor soils that are overly dry. These forests are maintained largely by the effects of frequent fires. The Northern Pine-Oak Forest is actually a unique part of the Oak-Hickory Forest that never quite becomes dominated by oak and hickories due to the combination of dry, sandy soil and resulting frequent fires. Were it not for the fires which the pine species have adapted to, these forests would slowly changes to mesic, dominated by oak, hickory and red maple. The Atlantic Coastal Plains are all Xeric (dry forest). They generally have lower species diversity than bottomland forests (Kricher 1988: 16-17, 65-66).

At the time of the Phase IB survey, the property consisted of a heavily overgrown wooded parcel along the road with an open weedy field with scattered hardwood and softwood further from the road.

PREHISTORIC POTENTIAL

A prehistoric site file search was conducted utilizing the resources of the New York State Historic Preservation Office - Field Services Bureau (NYSHPO). The site file search included a 1 mile radius around the study area. The following sites were recorded:

NYSM Site	NYSHPO Site	Distance from APE ft(m)	Site Type
	10302.000021	571 (174)	Kurovics Farm: Early Archaic to Transitional, Late Woodland with numerous points (from a pot-hunter collection-plowed fleids)
4880		3968 (1210)	ACP: large shell middens

NYSM Site	NYSHPO Site	Distance from APE ft(m)	Site Type
5587		1 mile	Split Rock: orient points., flakes, some 2oth century

Indian trails were recorded in the vicinity. One appeared to parallel the Wading River south to the Peconic following the drainage ponds. Although the trails were recorded during the Contact Period, they undoubtedly existed prior to European settlement (Stone nd: map).

Assessing the known environmental and prehistoric archaeological data, we can summarize the following points.

-The property is about 3928 feet southeast of Wading River and 3749 feet northwest of Deep Pond. Wading River drains north into the Long Island Sound.

-The project area contains well drained soils on level to moderately sloping terrain.

-Prehistoric sites have been recorded in the vicinity.

-Indian trails were in the vicinity of the project property.

In our opinion, the study area has a higher than average potential for the recovery of prehistoric sites. The type of site encountered could be a small procurement/processing camp from the Archaic or Woodland prehistoric periods.

HISTORIC POTENTIAL

Contact Period (Seventeenth Century)
At the time of European contact and settlement, the study area was possibly occupied by the Pahquahkossit people. These people were probably a branch or village of the larger Yennocock tribe (Stone nd: map; Stone-Levine 1980: 161). Indian trails were recorded in the vicinity. Indian trails were recorded in the vicinity. One appeared to parallel the Wading River south to the Peconic following the drainage ponds (Stone nd:map).

Ross (1903:1010) mentions that Aquebogue was the site of an Indian village of considerable size with a strange temple and graves which were desecrated in 1879. Lower Aquebogue is situated east of Aquebogue proper and is now known as Jamesport (Bayles 1962:300).

Eighteenth Century
Native American wigwams were still being used and reported during this time. Wigwams were reported in the 1740's by Reverand Horton who may have lived in them, along the aforementioned Indianfoot trail, nearby the project area (see above). The term “wigwam” may refer to 1 dwelling or a small hamlet/village of dwellings.

Population growth was slow during this century with the addition of only 4 or 5 dwellings. Several mills were established along the Peconic River and included a grist mill, a fulling mill, and a saw mill and later a woolen factory and a planning and moulding mill. These were located at Upper Mills about a mile from the village and within the general vicinity of the study area (Bayles 1982: 11; Thompson 1918:275).

Cordwood, used as fuel, was an early thriving industry in the Town. A pine-oak forest, particularly on the sandy soils along the southern part of the Town, provided the natural resource (Thompson 1918: 273-274).

By the end of the Revolution, agriculture in Riverhead was at a low point. People went to Coram or Middle Island to buy grain (Bailey 1949: 200).

Nineteenth Century

By 1800 Riverhead farmers began to use "bunkers" (fish) as fertilizer to assist in soil fertility. Judge Woodhull first used wood ashes as fertilizer in 1825 which was later copied by other farmers. As a result of the use of fertilizers during this century, farm land in Riverhead proved more productive. Although there were less farms in the southern part of the Town, a prosperous community of farmers developed along the northern portion of Riverhead. Cranberries were raised in marshes which abounded in the western part of Town while small fruits, garden vegetables and root crops were more commonly grown in the eastern part of the town (Bayles 1982:1; Bailey 1949:200).

Before 1825 mail was delivered to Riverhead by horseback. By about 1825, mail was brought in by a 1 horse wagon and later on by stagecoach. The route was along the Middle Country Road from Jamaica. The Long Island Rail Road was operating by 1844 and at this time mail was transported via this means of transport (Bailey 1949:198)

The 1836 Colton map does not show Port Jefferson-Riverhead Road (SR 25A-Sound Avenue but does show Deep Pond. One possible structures is depicted near the project parcel (Figure 3).

The 1858 Chace map also does not show Port Jefferson-Riverhead Road (SR 25A-Sound Avenue but does show Deep Pond. No structures are nearby the project area (Figure 4).

The 1896 Hyde atlas appears to depict what could be the new road (25A/Sound Ave./Pt. JeffersonRiverhead Rd.) nearby but not finished. No structures are on or immediately adjacent to the project area (Figure 5).

Nearby Calverton was a farming community carved out of wetlands where cranberries were the main cash crop. This business hit its peak around the turn of the century (www.eastlongisland.com).

Twentieth Century

The 1903 USGS shows what appears to be a portion of the current Rt. 25A/Sound Ave./Port Jefferson-Riverhead Rd. However, no structures are near the project area (Figure 6).

Riverhead village's development was gradual. By the early part of this century the village had approximately 70 dwellings (Thompson 1918: 275).

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

NYSM Site	NYSHPO Site	Distance from APE ft(m)	Site Type
	10302.000023	796 (243)	FT A Kurovics Homestead & Farm Buildings Site: field stone foundation w/ concrete, Nassau Brick chimney flue, cellar beneath main house section, ca 1930

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

-The property is about 3928 feet southeast of Wading River and 3749 feet northwest of Deep Pond. Wading River drains north into the Long Island Sound.

-The project area contains well drained soils on level to moderately sloping terrain.

-Indian trails were near the project property. Contact Period wigwams/villages were situated in the vicinity along the trail.

-An historic site was reported nearby the project area.

-No historic map documented structures were on or adjacent to the project area.

In our opinion, the study area has a moderate potential for the recovery of aboriginal historic sites. There is a low potential for European-American sites.

FIELD METHODS

Walkover-Reconnaissance

Any exposed ground surfaces (70 to 100 percent visibility) were subjected to a close quarters walkover, at 3 to 5 meter intervals, to observe for artifacts. Covered ground terrain was reconnoitered at about 15-7.5 meter (50ft), or less, intervals to observe for any above ground features, such as berms, depression, or rock configurations, which could be evidence for a prehistoric or historic site. Photographs were taken of the project area.

Shovel Testing

Shovel tests (ST's) were excavated at about 15 to 7.5 meter (50ft) intervals. Each ST 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. Shovel tests were flagged in the field. All ST's were mapped on the project area map at this time.

Soil stratigraphy was recorded according to texture and color. Soil color was matched against the Munsell color chart for soils. Notes were transcribed in a notebook and on pre-printed field forms.

FIELD RESULTS

Field testing of the project area included the excavation of 79 ST's at 50 to 25 foot intervals. No prehistoric artifacts or features were encountered. No historic artifacts or features were encountered.

Stratigraphy
Stratigraphy across the project area included the following:

-A/O horizon - 2 to 10 cm. of leaf litter, root mat, and humus.

-A horizon - 3 to 8 cm. thick of 10YR 4/3 brown loamy sand.

-B horizon - 10 to 20 cm. dug into of 10YR5/4 yellow brown loamy sand.

CONCLUSIONS AND RECOMMENDATIONS

Based upon topographic characteristics and distance to known prehistoric sites and Indian trails, the property was assessed as having a higher than average potential for encountering prehistoric sites.

Based upon topographic characteristics and distance to historic map documented structures, reported wigwams, and Indian trails, the property was assessed as having a moderate potential for encountering historic aboriginal sites.

During the course of the Phase IB archaeological field survey, 79 ST's were excavated. No prehistoric or historic sites were encountered. No historic sites were encountered. No further work is recommended.

BIBLIOGRAPHY

Bailey, Paul
1949 *Long Island - A History of Two Great Counties, Nassau and Suffolk, Volume 1. Lewis Historical Publishing Company, Inc., New York.*

Bayles, Richard M.
1962 *Historical and Descriptive Sketches of Suffolk County. Empire State Historical Publication XVIII, New York.*

Cammisa, Alfred G & Alexander Padilla
2012 *Phase I Archaeological Investigations at the proposed Hampton Jitney facility Calverton, Town of Riverhead, Suffolk County, New York*. Tracker Archeology Inc .report# 737, MS on file with author.

Halsey, Abigail Fithian
1940 *In Old Southampton.* Columbia University Press, New York.

Hazelton, Henry Isham
1925 *The Boroughs of Brooklyn, Queens, Counties of Nassau and Suffolk, Long Island, New York, 1609-1924,* Volume *2. Lewis Historical Publishing Company, Inc. New York.*

Kricher, John C. and Gordon Morison
1988 *The Peterson Field Guide Series: Eastern Forest of North America. Houghton Mifflin Company, Boston.*

Little, Elbert L.
1984 *The Aubudon Society Field Guide To North American Trees: Eastern Region.* Alfred A. Knopf, New York.

Pelletreau, William
1882 Southampton, in *History of Suffolk County, New York, 1683-1882. W.W. Munsell and Company, New York.*

Schuberth, Christopher
1968 *The Geology of New York City and Environs.* New York:*Natural History Press.*

Sirkin, Les
1995 *Eastern Long Island Geology with Field Trips.* Book and Tackle Shop, RI.

Stone, Gaynell
1993 *Readings in Long Island Archaeology and Ethnohistory, Volume 3, The History and Archaeology of the Montauk.* Suffolk County Archaeological Association.

1983 *Readings in Long Island Archaeology and Ethnohistory, The Shinnecock Indians - A Culture History,* Volume 6. *Suffolk County Archaeological Association.*

Stone-Levine, Gaynell
1980 *Readings in Long Island Archaeology and Ethnohistory, Languages and Lore of the Long Island Indians,* Volume *4. Suffolk County Archaeological Association.*

Tooker, William Wallace
1962 *The Indian Place Names on Long Island and islands adjacent, with their probable significations.* Ira J. Friedman, New York.

Warner, John W. Jr.; W.E. Hana; R.J. Landry; J.P. Wulforst; J.A. Neeley; R.L. Holmes; and C.E. Rice
1975 *Soil Survey of Suffolk County, New York.* U.LoSd. *Department of Agriculture, Soil Conservation Service in Cooperation with Cornell Agricultural Experimental Station.*

<u>Maps</u>
Chace, Jay
1858 *Map of Suffolk County, Long Island, New York. Philadelphia: John Douglas.*

Colton, J.H.
1836 *Map Of Long Island with the Environs of New York and the Southern Part of Connecticut.* J.H. Colton and *Company.*

Hyde and Company
1896 *Map of Long Island.* Brooklyn, New York: Hyde & Company.

Jensen, H.M. and J. Soren
1974 *Hydrogeologoy of Suffolk County, Long Island, New York. United States Geologic Survey, Washington, D.C.*

Stone, Gaynell
not dated *Map of Native Long Island.* Long Island Culture History Lab and Museum-Suffolk County Archaeological Association.

United States Geological Survey
1956 *Riverhead, New York quadrangle,* 7.5 minute series map.

1903 *Moriches, NY* quadrangle, 15 minute series map.

APPENDIX 1

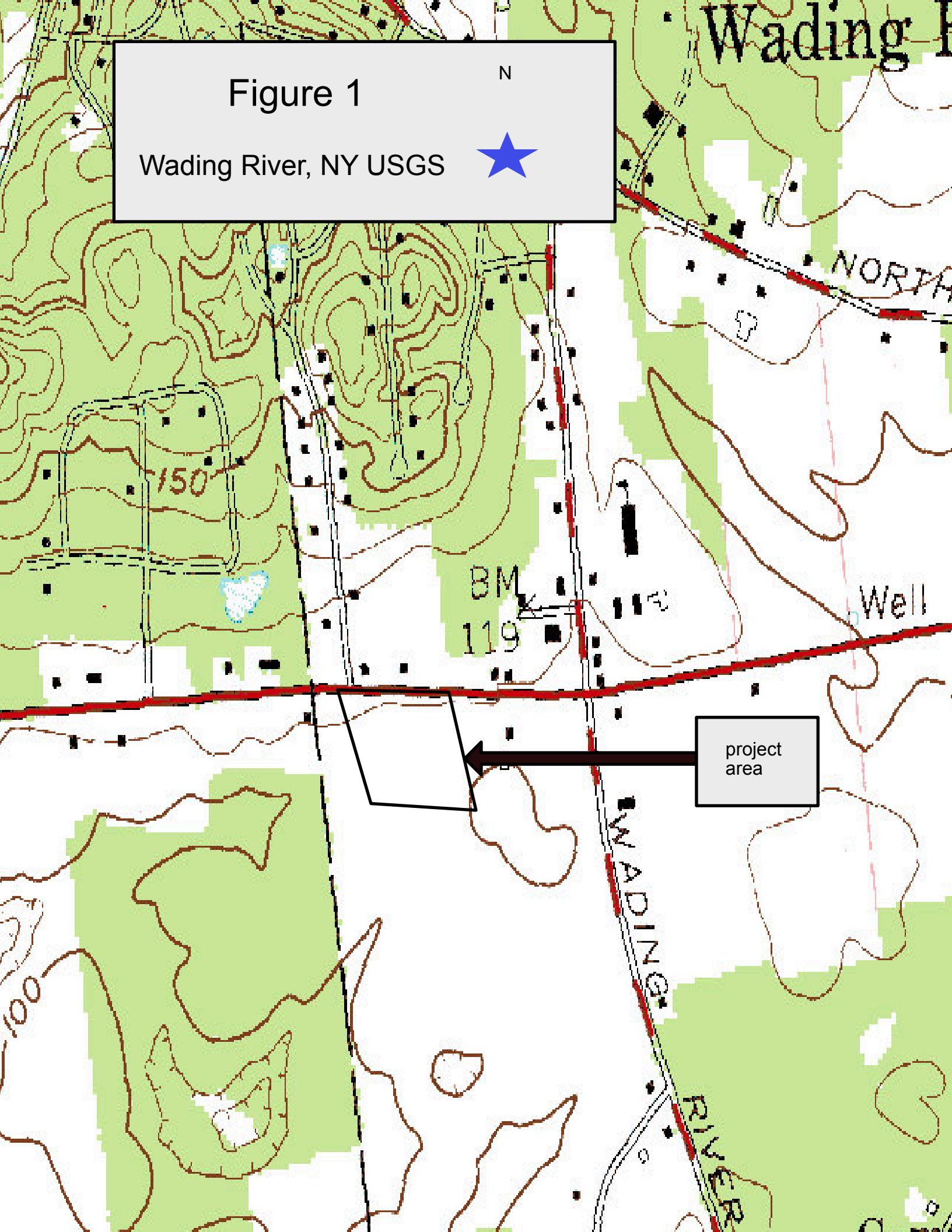


Figure 1
Wading River, NY USGS
N
Wading R
NORTH
150
BM
119
Well
project
area
WADING
RIVER
100

SCALE: 1 INCH = 70 FEET

140' 105' 70' 35' 0 70' 140'

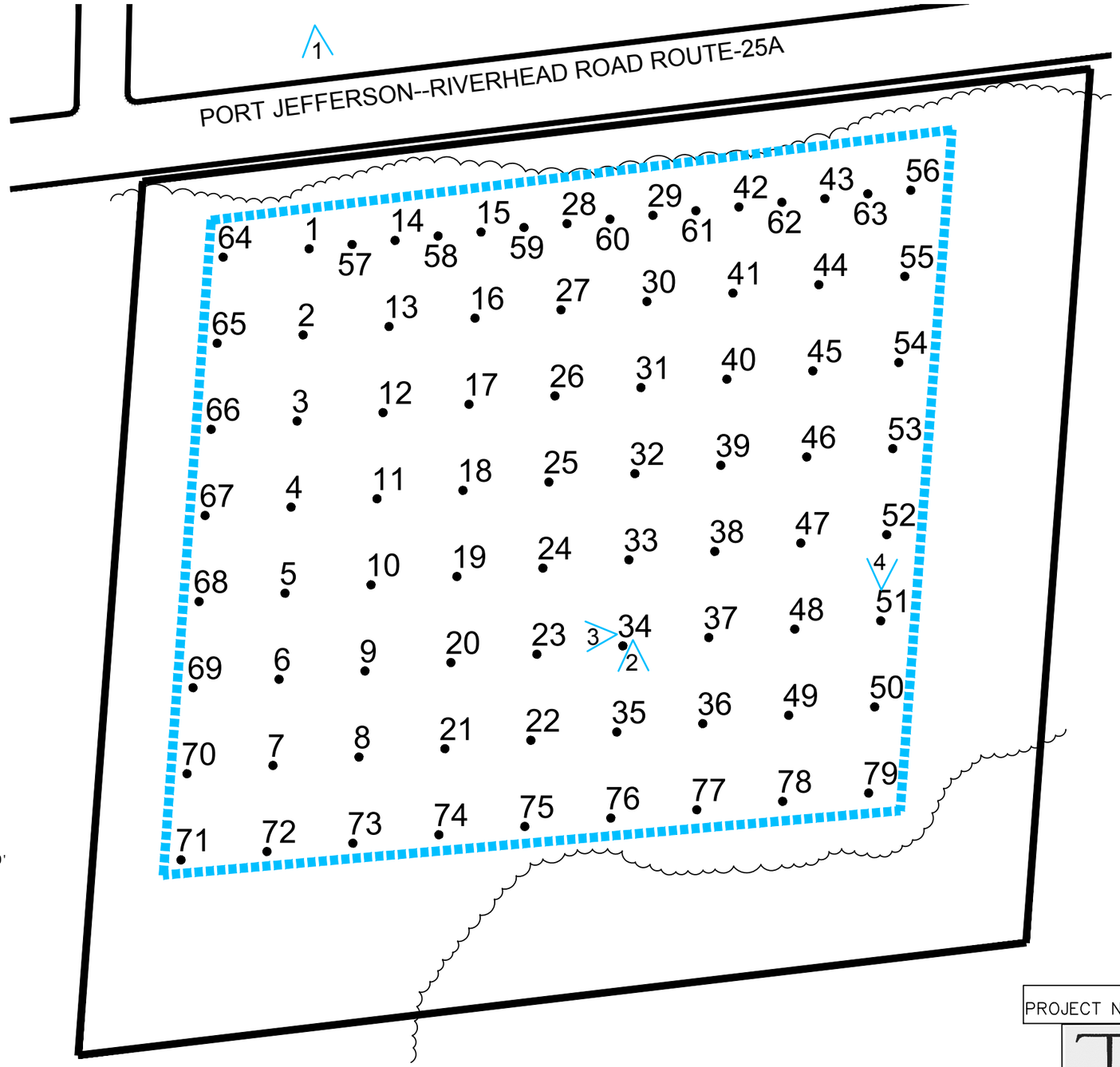


FIGURE 2: LOCATION OF SHOVEL TESTS

PHOTO ANGLE

NEGATIVE SHOVEL TEST

PROJECT AREA LIMITS(A.P.E.)

PROJECT NAME: VENEZIA

TRACKER
Archaeology Services, Inc.
Tracking the Footsteps of the Ancestors

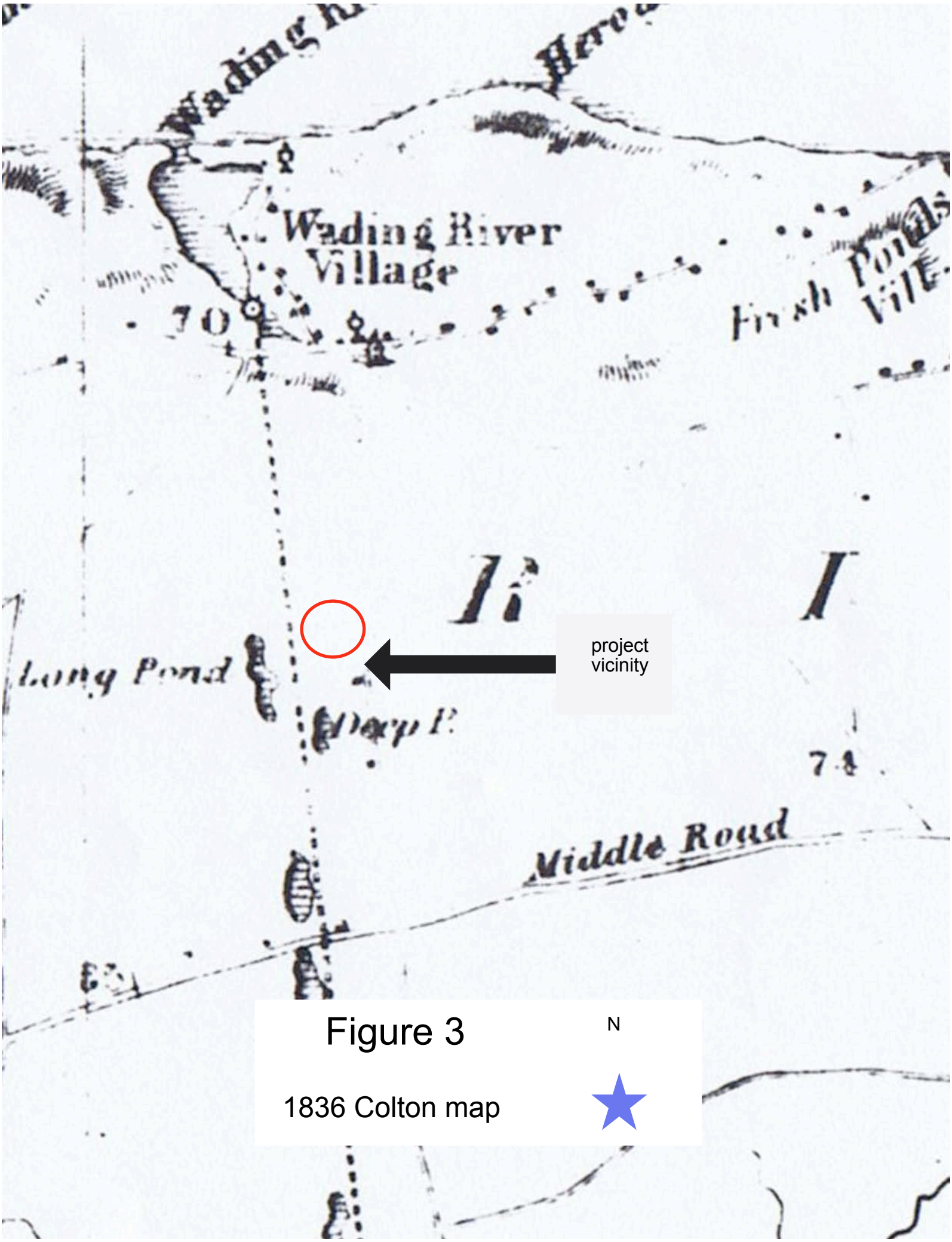


Figure 3

1836 Colton map

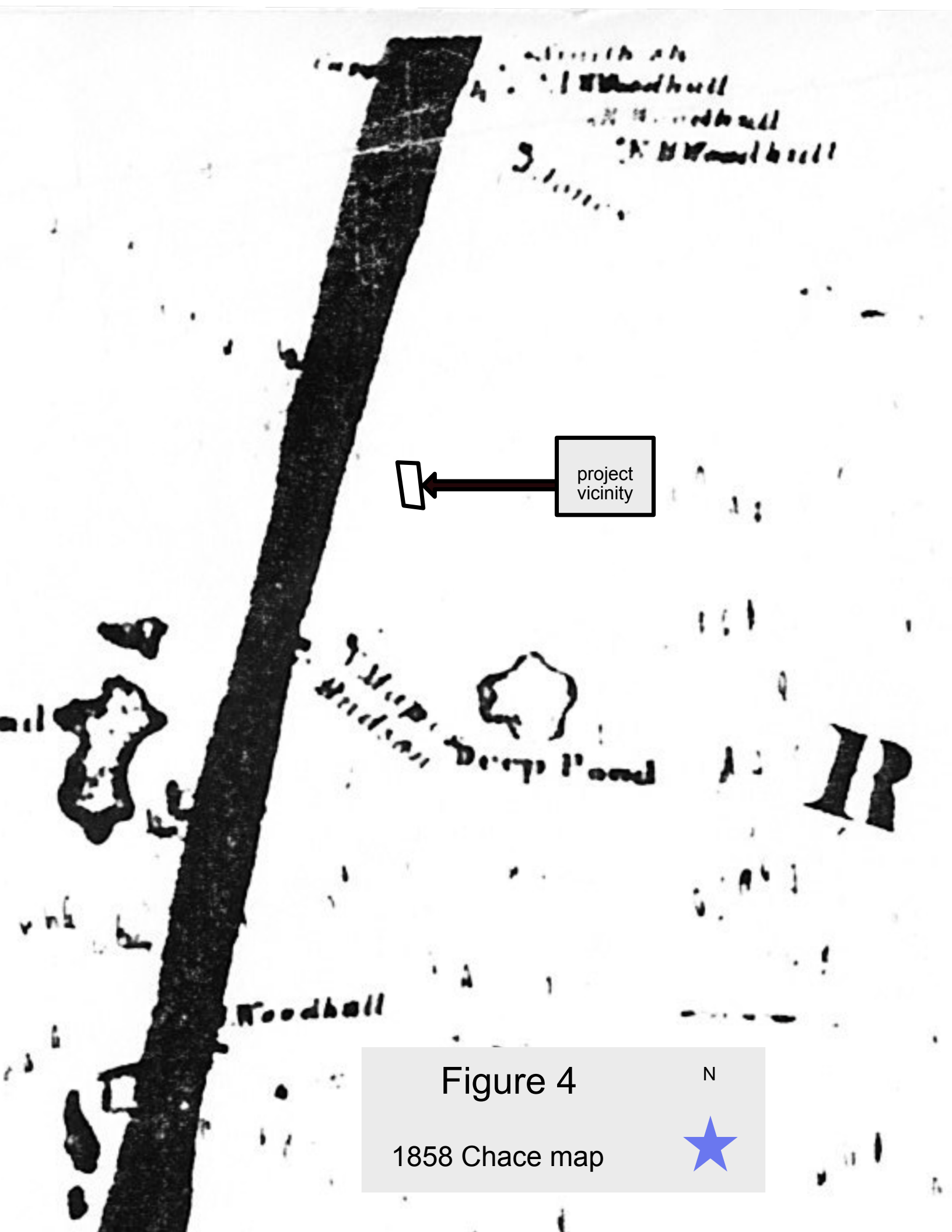


Figure 4

1858 Chace map

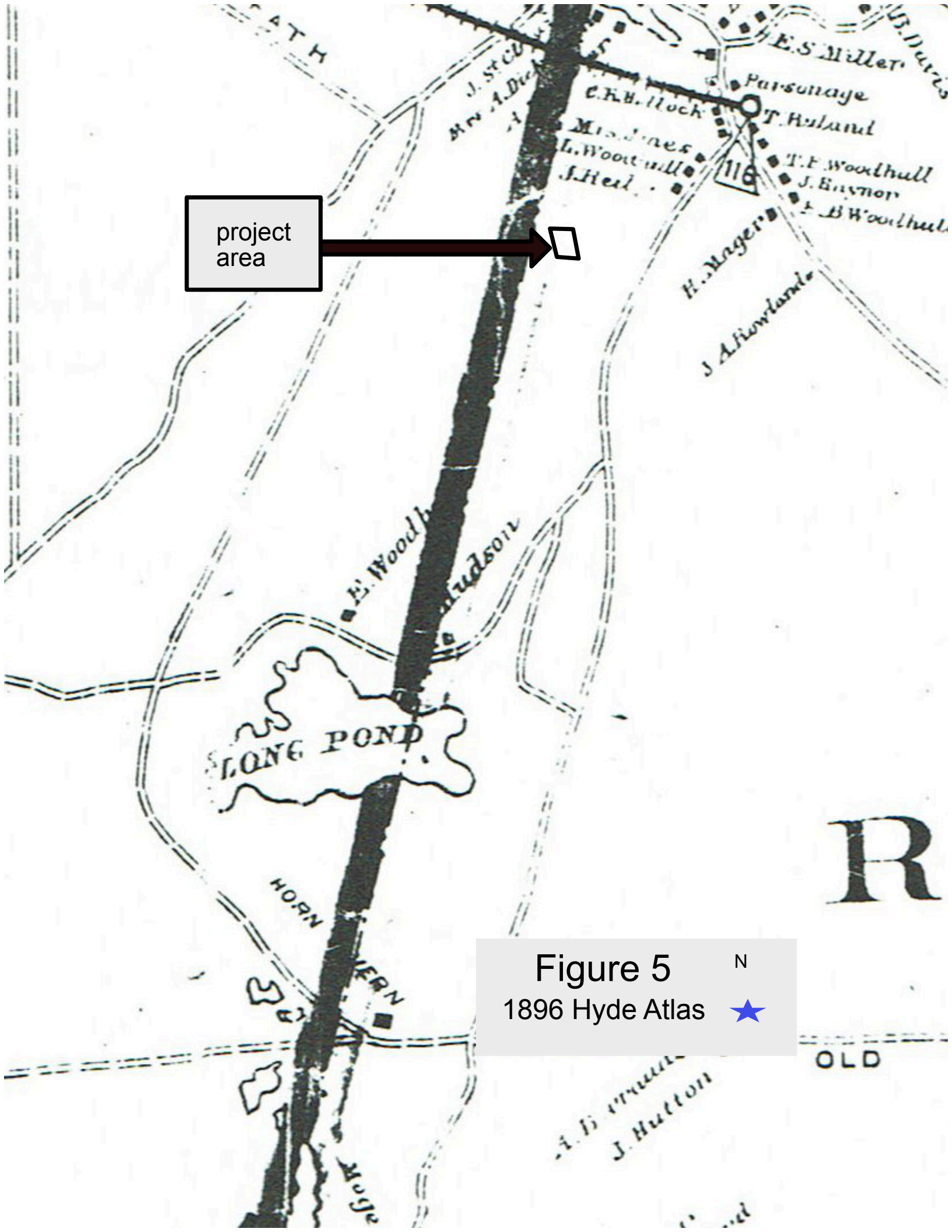


Figure 5

1896 Hyde Atlas

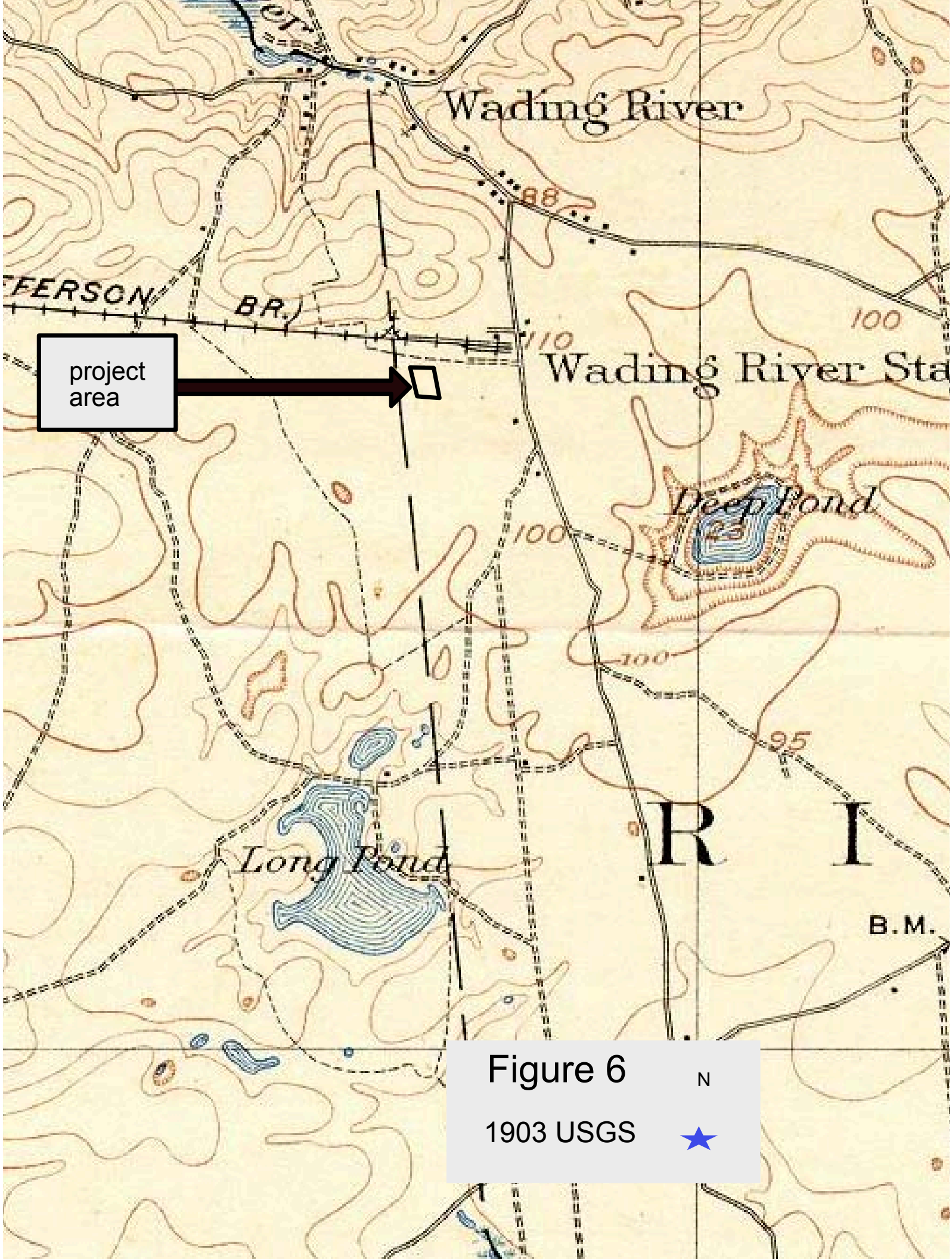


Figure 6

1903 USGS

N

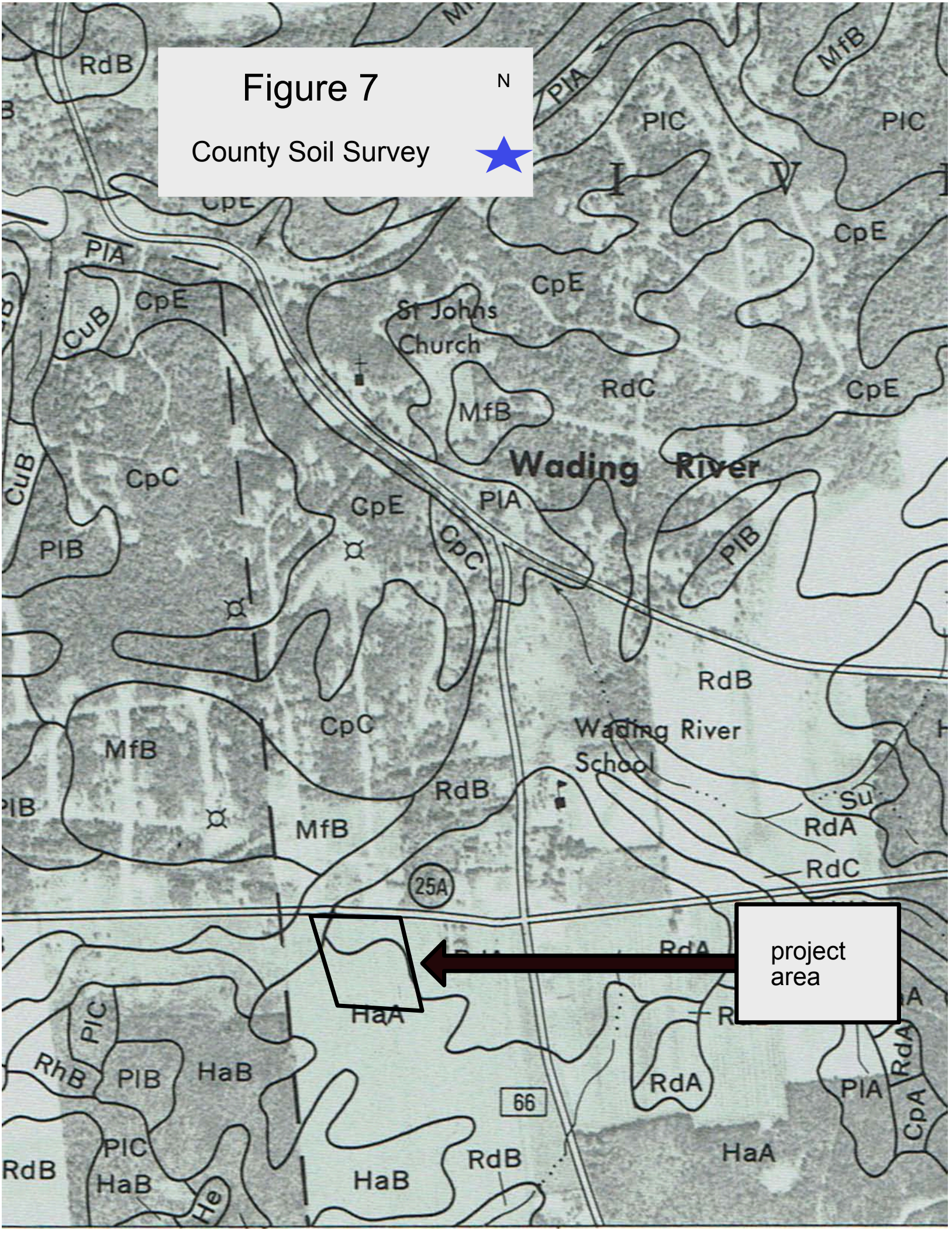


Figure 7
County Soil Survey
N
project area
RdB
PIA
PIC
MfB
CpE
CuB
St Johns Church
RdC
Wading River
PIB
CpC
Wading River School
Su
RdA
25A
HaA
RhB
HaB
66
He

Photo 1

Looking at the project area from the road


Photo 2
Looking south from near ST 34

Photo 3

Looking west from near ST 34


Photo 4
Looking north from near ST 51

APPENDIX 2

SHOVEL TESTS

STP	LV	DEPTH(CM)	TEXTURE	COLOR	HOR	COMMENT
1	1	0-5	rootmat,leaves,humus		A/O	NCM
	2	5-13	LoSa	10YR4/3	A	NCM
	3	13-23	LoSa	10YR5/4	B	NCM
2	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-12	LoSa	10YR4/3	A	NCM
	3	12-23	LoSa	10YR5/4	B	NCM
3	1	0-5	rootmat,leaves,humus		A/O	NCM
	2	5-13	LoSa	10YR4/3	A	NCM
	3	13-23	LoSa	10YR5/4	B	NCM
4	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-14	LoSa	10YR4/3	A	NCM
	3	14-33	LoSa	10YR5/4	B	NCM
5	1	0-4	rootmat,leaves,humus		A/O	NCM
	2	4-10	LoSa	10YR4/3	A	NCM
	3	10-30	LoSa	10YR5/4	B	NCM
6	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-16	LoSa	10YR4/3	A	NCM
	3	16-33	LoSa	10YR5/4	B	NCM
7	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
8	1	0-11	rootmat,leaves,humus		A/O	NCM
	2	11-18	LoSa	10YR4/3	A	NCM
	3	18-38	LoSa	10YR5/4	B	NCM
9	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-12	LoSa	10YR4/3	A	NCM
	3	12-33	LoSa	10YR5/4	B	NCM
10	1	0-10	rootmat,leaves,humus		A/O	NCM
	2	10-14	LoSa	10YR4/3	A	NCM
	3	14-33	LoSa	10YR5/4	B	NCM
11	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-14	LoSa	10YR4/3	A	NCM
	3	14-34	LoSa	10YR5/4	B	NCM
12	1	0-10	rootmat,leaves,humus		A/O	NCM
	2	10-18	LoSa	10YR4/3	A	NCM
	3	18-35	LoSa	10YR5/4	B	NCM
13	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-16	LoSa	10YR4/3	A	NCM
	3	16-35	LoSa	10YR5/4	B	NCM

14	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
15	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
16	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-12	LoSa	10YR4/3	A	NCM
	3	22-32	LoSa	10YR5/4	B	NCM
17	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
18	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-14	LoSa	10YR4/3	A	NCM
	3	14-34	LoSa	10YR5/4	B	NCM
19	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
20	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
21	1	0-3	rootmat,leaves,humus		A/O	NCM
	2	3-23	LoSa	10YR4/3	A	NCM
	3	23-34	LoSa	10YR5/4	B	NCM
22	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
23	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-11	LoSa	10YR4/3	A	NCM
	3	11-31	LoSa	10YR5/4	B	NCM
24	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
25	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
26	1	0-5	rootmat,leaves,humus		A/O	NCM
	2	5-13	LoSa	10YR4/3	A	NCM
	3	23-33	LoSa	10YR5/4	B	NCM

27	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
28	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
29	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
30	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
31	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-16	LoSa	10YR4/3	A	NCM
	3	16-36	LoSa	10YR5/4	B	NCM
32	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
33	1	0-5	rootmat,leaves,humus		A/O	NCM
	2	5-17	LoSa	10YR4/3	A	NCM
	3	17-38	LoSa	10YR5/4	B	NCM
34	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-14	LoSa	10YR4/3	A	NCM
	3	14-34	LoSa	10YR5/4	B	NCM
35	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
36	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
37	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-13	LoSa	10YR4/3	A	NCM
	3	13-31	LoSa	10YR5/4	B	NCM
38	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-17	LoSa	10YR4/3	A	NCM
	3	17-30	LoSa	10YR5/4	B	NCM
39	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM

40	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
41	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
42	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-10	LoSa	10YR4/3	A	NCM
	3	10-30	LoSa	10YR5/4	B	NCM
43	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
44	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-16	LoSa	10YR4/3	A	NCM
	3	16-31	LoSa	10YR5/4	B	NCM
45	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
46	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-12	LoSa	10YR4/3	A	NCM
	3	12-32	LoSa	10YR5/4	B	NCM
47	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
48	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
49	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
50	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-30	LoSa	10YR5/4	B	NCM
51	1	0-8	rootmat,leaves,humus,		A/O	NCM
	2	8-15	LoSa	10YR4/3	A	NCM
	3	15-30	LoSa	10YR5/4	B	NCM
52	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM

53	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
54	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-16	LoSa	10YR4/3	A	NCM
	3	16-35	LoSa	10YR5/4	B	NCM
55	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-11	LoSa	10YR4/3	A	NCM
	3	11-31	LoSa	10YR5/4	B	NCM
56	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
57	1	0-10	rootmat,leaves,humus		A/O	NCM
	2	10-19	LoSa	10YR4/3	A	NCM
	3	19-33	LoSa	10YR5/4	B	NCM
58	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
59	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-11	LoSa	10YR4/3	A	NCM
	3	11-22	LoSa	10YR5/4	B	NCM
60	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-12	LoSa	10YR4/3	A	NCM
	3	12-32	LoSa	10YR5/4	B	NCM
61	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-14	LoSa	10YR4/3	A	NCM
	3	14-32	LoSa	10YR5/4	B	NCM
62	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
63	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-17	LoSa	10YR4/3	A	NCM
	3	17-37	LoSa	10YR5/4	B	NCM
64	1	0-7	rootmat,leaves,humus		A/O	NCM
	2	7-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
65	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-12	LoSa	10YR4/3	A	NCM
	3	12-32	LoSa	10YR5/4	B	NCM
66	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM

	3	15-35	LoSa	10YR5/4	B	NCM
67	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
68	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-16	LoSa	10YR4/3	A	NCM
	3	16-30	LoSa	10YR5/4	B	NCM
69	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-16	LoSa	10YR4/3	A	NCM
	3	16-30	LoSa	10YR5/4	B	NCM
70	1	0-8	rootmat,leaves,humus		A/O	NCM
	2	8-11	LoSa	10YR4/3	A	NCM
	3	11-31	LoSa	10YR5/4	B	NCM
71	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-33	LoSa	10YR5/4	B	NCM
72	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
73	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
74	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
75	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
76	1	0-9	rootmat,leaves,humus		A/O	NCM
	2	9-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM
77	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-14	LoSa	10YR4/3	A	NCM
	3	14-34	LoSa	10YR5/4	B	NCM
78	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-13	LoSa	10YR4/3	A	NCM
	3	13-33	LoSa	10YR5/4	B	NCM
79	1	0-6	rootmat,leaves,humus		A/O	NCM
	2	6-15	LoSa	10YR4/3	A	NCM
	3	15-35	LoSa	10YR5/4	B	NCM

APPENDIX C-2
No-Effect Letter

SHPO
February 15, 2017

NPV

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

February 15, 2017

Mr. Phillip Malicki
Senior Environmental Planner
NP&V, LLC
572 Walt Whitman Road
Melville, NY 11747

Re: DEC
Venezia Square Commercial Development
Route 25A, Riverhead, NY
17PR00875

Dear Mr. Malicki:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

We have reviewed the report entitled "Phase I Archaeological Investigation at the Venezia Subdivision, Wading Rover, Town of Riverhead, Suffolk County, New York" (July 2016). No archaeological resources were identified and no additional archaeological work is necessary.

We have no concerns regarding the project's potential to impact historic architectural resources. Therefore, it is OPRHP's opinion that the project will have No Impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions, I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

APPENDIX D
NYS NATURAL HERITAGE PROGRAM CORRESPONDENCE

From:	Hannah Emouna
To:	NaturalHeritage@dec.ny.gov
Cc:	Phil Malicki
Subject:	Information Request
Date:	Wednesday, July 27, 2016 1:21:45 PM

To Whom it May Concern,

My firm has been retained by the owners of the referenced property to prepare an Expanded Environmental Assessment Form for a proposed commercial development on a vacant property identified as SCTM # 0600-73-1-1.4 & 1.16 through 1.19. The site of the proposed project is located on the south side of Sound Avenue (New York State [NYS] Route 25A), approximately 780 feet west of Wading River Road, in the hamlet of Wading River, Suffolk County, New York (40.943480,-72.845913).

It would be beneficial to consult the Natural heritage Program files for any information you may have regarding the unique habitats, and/or species of vegetation and wildlife. Please provide any information you may have on this specific site or other unique ecological features within the vicinity. Your attention to this request would be greatly appreciated. Please do not hesitate to call if you have any questions regarding this correspondence.
Thank you.

Hannah Emouna
Environmental Scientist

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 Walt Whitman Road
Melville, NY 11747
ph: (631) 427-5665 ext. 220
fax: (631) 427-5620
hemouna@nelsonpopevoorhis.com
www.nelsonpopevoorhis.com

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

September 01, 2016

Hannah Emouna
Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747

Re: Commercial development, south side of Sound Avenue (NYS Route 25A), Wading River
Town/City: Riverhead. County: Suffolk.

Dear Hannah Emouna:

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

1077

The following state-listed animals have been documented in the vicinity of your project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, contact the Permits staff at the NYSDEC Region 1 Office. For information about potential impacts of your project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Wildlife Manager.

A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

The following species have been documented within 0.3 mile of the project site.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Amphibians				
Tiger Salamander	*Ambystoma tigrinum*	Endangered		8317

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 listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

APPENDIX E
UPDATED TRAFFIC IMPACT STUDY

Schneider Engineering, PLLC
December 2018

NPV

Schneider Engineering, PLLC

Civil Engineering: Traffic • Municipal • Accident Investigations
Steven Schneider, P.E.
Principal

VENEZIA SQUARE II

UPDATED TRAFFIC IMPACT STUDY

December 2018

1 Comac Loop • Suite 1B4 • Ronkonkoma, NY 11779 • 631 698-6200 • Fax 631 698-6299

www.schneiderengineering.com New York • New Jersey • Florida

Table of Content

APPENDIX

Figures

Tables

1. Introduction

This updated Traffic Impact Study (TIS) was prepared to examine the potential impacts from traffic associated with Venezia Square, a proposed shopping center, at intersections NYS Route 25A with Dogwood Drive and NYS Route 25A with Wading River Manor Road. This updated TIS was expanded to reflect seasonal traffic counts for the peak summer/autumn season and also include the effects of all projects identified by the Planning Departments at the Towns of Brookhaven and Riverhead containing new development or the expansion of existing developments within the vicinity of Venezia Square. These projects are listed as follows:

- Central Square
- 6333 Reality Group
- 6336 Route 25A
- Hamlet Professional Offices
- Real Life Church of Wading River

The proposed development is a 37,000 SF shopping center consisting of a bank with three drive thru windows (4,000 SF), three retail buildings (10,000 SF for two of those buildings and 7,000 SF for one), two fast food restaurants (1,500 SF each), and an 84-seat sit-down restaurant (3,000 SF). According to its use, it is classified as a Shopping Center (Land Use 820) by ITE[1] in its Trip Generation Manual[2]. Site access will be provided by a full access signalized driveway located directly across from Dogwood Drive and a right-turn out only driveway at the eastern end of the parcel.

The proposed development is located in the Town of Riverhead, Suffolk County, New York, and is situated on the south side of NYS Route 25A (Port Jefferson-Riverhead Road), opposing Dogwood Drive. It is east of, and adjacent to, the Alexander-Rothwell Funeral Home. The site location is shown in Figure 1, Figure 2, and Figure 3. The site consists of five vacant lots located along NYS Route 25A. Combined, the 5-lot parcel contains 6.3 acres. The five lots have 552.5 feet of frontage on NYS Route 25A.

[1] Institute of Transportation Engineers
[2] Trip Generation Manual, 9th Edition, Institute of Transportation Engineers

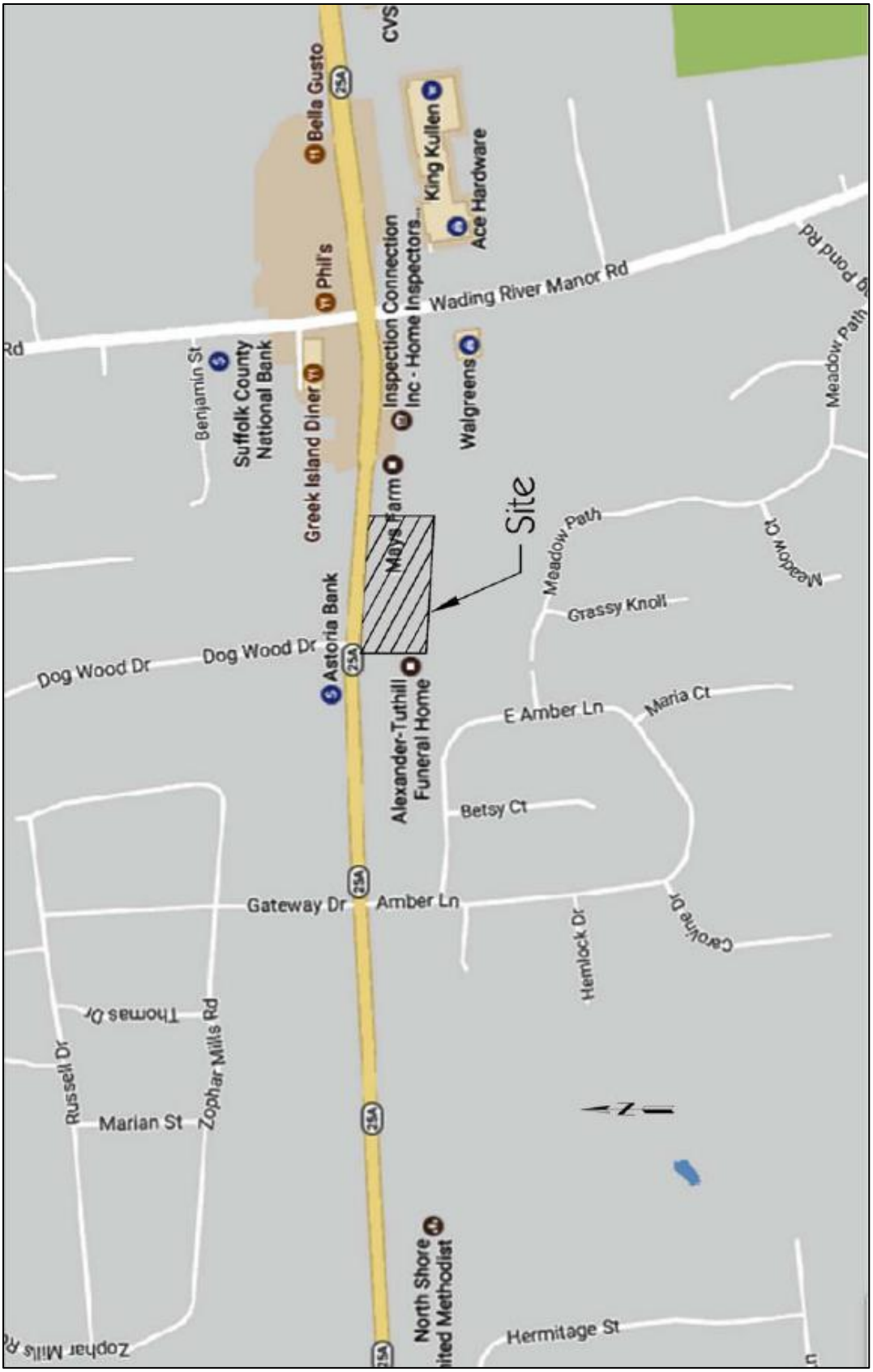


Figure 1: Map of Venezia Square Site Area

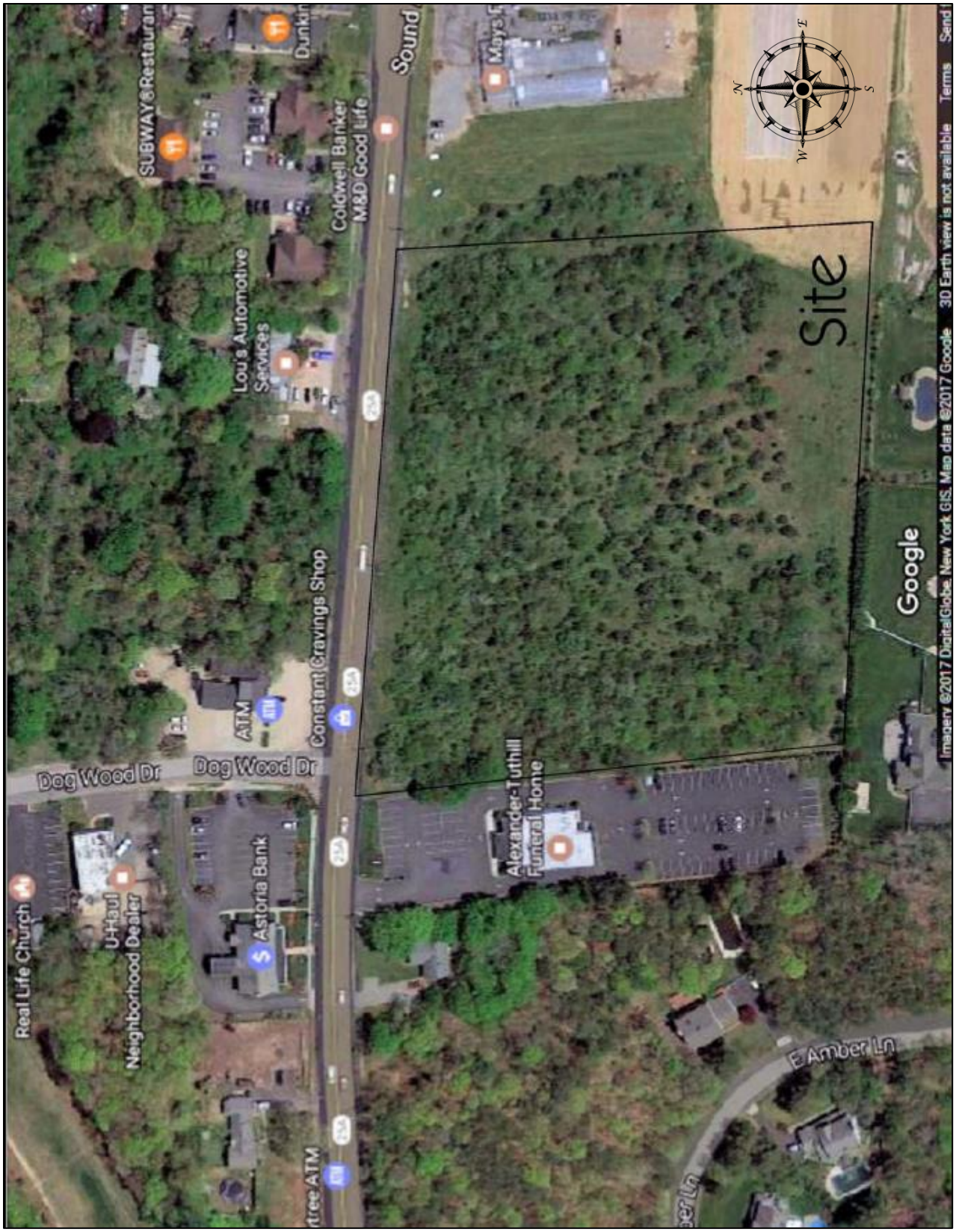


Figure 2: Aerial View of Venezia Square Site Area

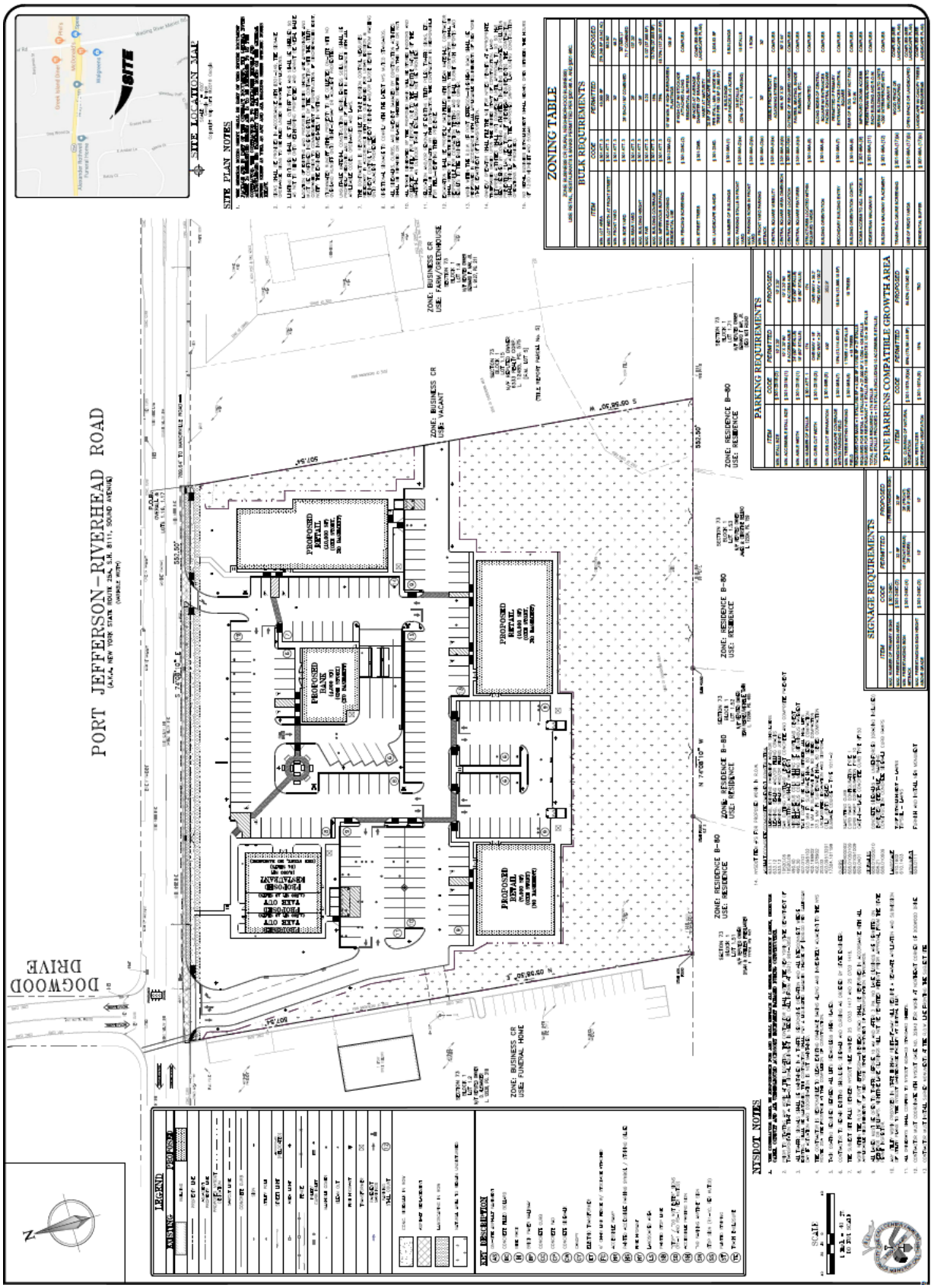


Figure 3: Venezia Square Site Plan

2. Study Approach and Methodology

This study was prepared following the recommended practices of the nationwide standard ITE and New York State Department of Transportation (NYSDOT) to collect field data on roadway and traffic conditions, estimate and assign traffic volumes for the new facility, assess the potential roadway impacts of the fully built development at an Estimated Time of Completion (ETC) of 2020, and review accident data for the most recent three-year period for the study area.

Turning movement counts were collected on Thursday, October 18, 2018 and Sunday, October 28, 2018 at the study intersections of NYS 25A with Dogwood Drive and Wading River Manor Road to serve as a baseline for the projection of future traffic conditions. Sunday counts were taken because of very poor weather conditions on Saturday, and will reflect as Saturday peak volumes. We also took the Sunday counts because we wanted to complete our counts before the Halloween peak period. The difference effects are expected to be negligible to our analysis due to the urban nature of the area. As seasonal peak traffic occurs in summer and autumn, our counts should accurately reflect peak traffic scenarios but will have applied a seasonal peak factor to account for the summer months. This data was developed into Existing, No Build, and, when coupled with site trip generation volumes, Build condition traffic volumes which were used to perform intersection capacity analyses.

Highway capacity analyses were performed utilizing HCS7, version 7.5. The software application was developed by the University of Florida in conjunction with the Federal Highway Administration. The software faithfully duplicates the methods and computations found in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis* published by the Transportation Research Board. This manual is the industry standard by which all highway analysis is done.

The unsignalized module of HCS7 was used to determine the LOS of NYS Route 25A with Dogwood Drive for existing conditions, NYS Route 25A with Dogwood Drive for future traffic conditions without the proposed development, and for the right-turn only exit of the proposed site for future traffic conditions. The signalized module of HCS7 was used to determine the LOS of NYS Route 25A with Wading River Manor Road for all conditions and NYS Route 25A with Dogwood Drive for future traffic conditions when it is signalized in conjunction with the construction of the proposed Venezia Square development.

Table 1 presents the LOS criteria for signalized intersections. Table 2 presents the LOS criteria for the unsignalized intersections. Caution should be used in the interpretation of these criteria. They are stated in general terms, without specific numeric values. It is therefore not possible to compare an unsignalized intersection with a signalized one in terms of specific delay values without collecting delay data directly at the site.

Table 1: Level of Service Criteria for *Signalized* Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free flow
B	>10 – 20	Stable flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (congested and queues fail to clear)

Table 2: Level of Service Criteria for *Unsignalized* Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

The following more explicitly describes the definitions used for LOS at signalized intersections, the accepted industry standard method in determining intersectional effectiveness:

- **Level of Service A**: Describes operations with very low control delay, i.e., less than 10 seconds per vehicle. This level of service occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
- **Level of Service B**: Describes operations with control delay in the range of 10-20 seconds per vehicle. This generally occurs with good progression, short cycle lengths, or both. More vehicles stop than for LOS A, causing higher levels of average delay.
- **Level of Service C**: Describes operations with delay in the range of 20-35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- **Level of Service D**: Describes operations with delay in the range of 35-55 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c[3] ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
- **Level of Service E**: Describes operations with delay in the range of 55-80 seconds per vehicle. This is considered by many agencies to be the limit of the acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
- **Level of Service F**: Describes operations with delay in excess of 80 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

[3] Volume to Capacity

3. Highway Capacity Analysis: Existing Conditions

3.1 Existing Conditions

The area surrounding the subject development site contains a mixture of commercial uses and undeveloped land parcels. The western perimeter of the site borders Alexander Rothwell Funeral Home. The eastern and southern perimeter of the site borders on undeveloped land parcels. The northern perimeter of the site borders NYS Route 25A.

NYS Route 25A is a two-lane state highway (one lane in each direction) serving eastbound and westbound traffic. It is classified as a Principal Urban Arterial (FC-14) and is under the jurisdiction of the NYSDOT. At and near the proposed site, the lanes on the highway are approximately 12 feet in width in each direction with paved shoulders at approximately 8 feet in width. The posted speed limit in the vicinity of the site is 45 mph for both directions.

Dogwood Drive, on the north side of NYS Route 25A and across from the proposed site, is a two-lane local roadway serving northbound and southbound traffic that forms the northern leg of a three-legged T-intersection with NYS Route 25A. It intersects NYS Route 25A with a slight skew and traffic is STOP controlled on the side street. Traffic on NYS Route 25A at that intersection is not controlled. While it is not marked as a two-lane approach, the roadway is flared at the intersection and allows ample room for the queuing of vehicles turning left and right. The roadway serves commercial and residential properties located near NYS Route 25A. It is under Town of Riverhead Jurisdiction. The road is approximately 30 feet wide although there is no centerline marking installed. Sidewalk is present only on the departure lane adjacent to the Astoria Bank. The posted speed limit is 30 mph for both directions.

The intersection of NYS Route 25A and Wading River Manor Road is a four-way signalized intersection, with NYS Route 25A running east and west and Wading River Manor Road running north and south. The speed limit on Wading River Manor Road is 30 mph. Each of the four approaches has an exclusive left-turn lane and a shared through and right turn lane. Surrounding the intersection are commercial-use buildings such as McDonald's, Speedway, BNB Bank, Greek Island Diner, Little Bay Realty, Phil's Restaurant, and more along NYS Route 25A. The intersection is controlled by a multiphase semi-actuated uncoordinated signal with the following phasing:

- Eastbound and westbound protected left turns
- East-west through movements with permitted left turns
- North-south protected left turns
- North-south through movements with permitted left turns

3.2 2018 Existing Conditions Traffic Volumes

Peak periods for the proposed site, as it is classified as a Shopping Center (Land Use 820) by ITE in its Trip Generation Manual, are expected to be 11:00AM-1:00PM and 4:00PM-6:00PM during the week and 11:00AM-2:00PM on weekends. Turning movement counts were collected for these times on dates Thursday, October 18, 2018 and Sunday, October 28, 2018 at the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. The Sunday counts were taken because of very poor weather conditions on Saturday and will be used as Saturday peak volumes. The difference effects are expected to be negligible to our analysis due to the urban nature of the area. The turning movement count data are presented in Appendix A.

Since the traffic counts were conducted in October, a seasonal factor was applied to the recorded peak hour traffic to account for the summer months when traffic in the area increases. A factor of 1.23 was applied to the midday and PM peak hour traffic, and a factor of 1.19 was applied to the Saturday peak hour traffic. The 2017 NYSDOT seasonal adjustment factors that were used can be found in Appendix B.

At the intersection of NYS 25A and Dogwood Drive, the traffic volume data revealed that the midday peak period occurred at 12:30PM, the PM peak period occurred at 5:30PM, and the Saturday peak period occurred at 1:30PM. The peak hour traffic volumes for NYS 25A and Dogwood Drive are depicted in Figure 4.

At the intersection of NYS Route 25A and Wading River Manor Road, the traffic volume data revealed that the midday peak period occurred at 12:45PM, the PM peak period occurred at 5:15PM, and the Saturday peak period occurred at 12:30PM. The peak hour traffic volumes for NYS 25A and Wading River Manor Road are also depicted in Figure 4.

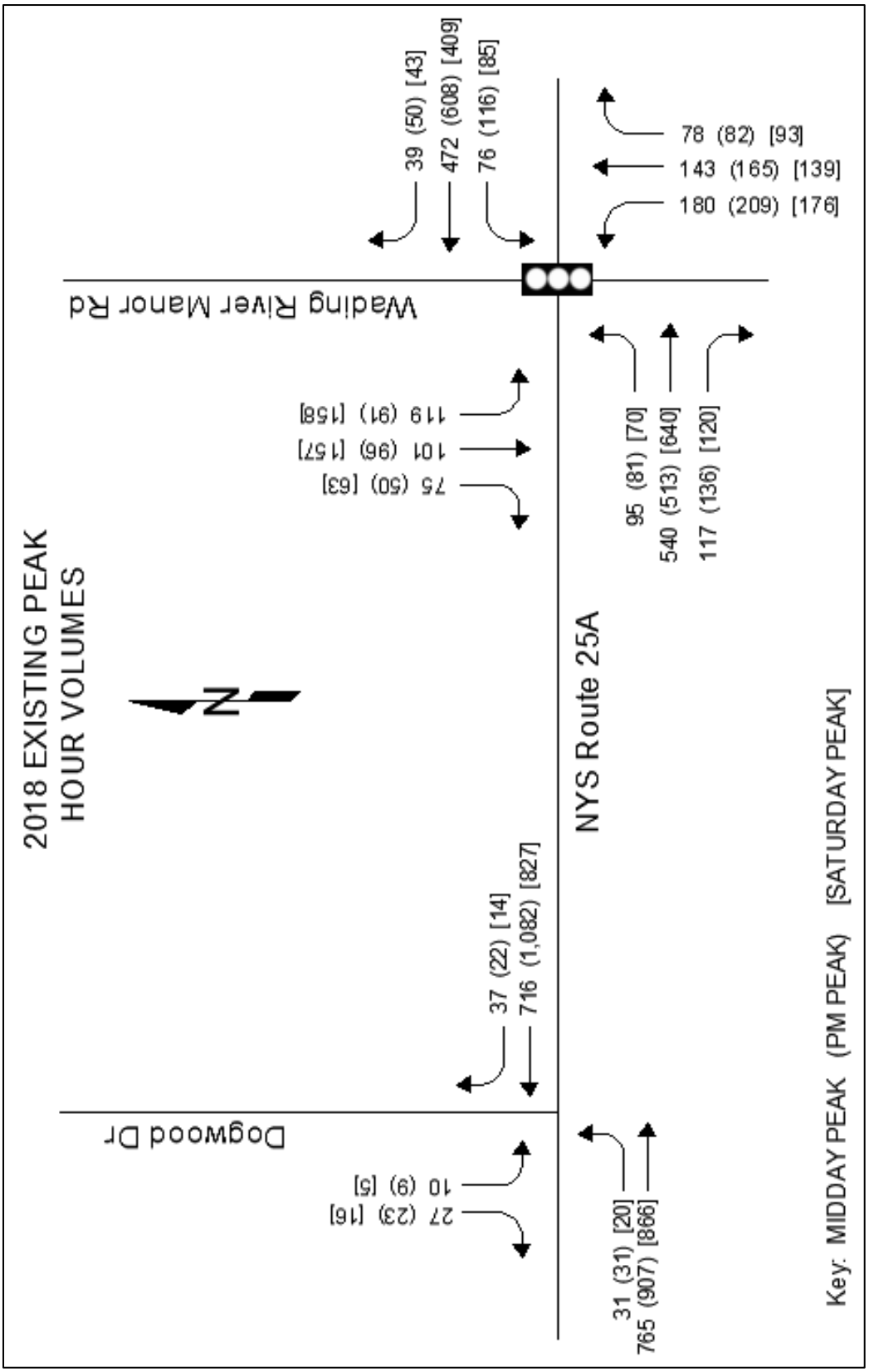


Figure 4: 2018 Existing Peak Hour Volumes with Applied Seasonal Factors

3.3 2018 Existing Conditions Capacity Analysis

The existing conditions capacity analysis results are illustrated in Table 3 for intersections NYS Route 25A and Dogwood Drive and NYS Route 25A and Wading River Manor Road. The capacity analysis reports for the existing conditions are presented in Appendix C.

Table 3: 2018 Existing Conditions Capacity Analysis

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	SB	RL	23.8	C	48.6	E	25.5	D
NYS Route 25A & Wading River Manor Road	EB	L	10.4	B	13.6	B	12.4	B
		TR	18.8	B	19.8	B	28.2	C
		Approach	17.8	B	19.1	B	26.8	C
	WB	L	13.6	B	13.3	B	19.8	B
		TR	16.0	B	18.8	B	17.3	B
		Approach	15.7	B	18.0	B	17.7	B
	NB	L	45.7	D	48.4	D	44.1	D
		TR	56.2	E	57.0	E	61.0	E
		Approach	51.5	D	53.1	D	53.7	D
	SB	L	43.9	D	44.3	D	46.7	D
		TR	54.7	D	52.6	D	55.6	E
		Approach	50.4	D	49.4	D	51.9	D
	Overall		**28.5**	**C**	**29.0**	**C**	**34.0**	**C**

4. Highway Capacity Analysis: Future No Build Conditions

4.1 2020 No Build Conditions

In order to examine the effects of the proposed development on the surrounding roadway network, first the existing condition traffic volumes must be projected for the year in which the project is anticipated to be completed. Based on the NYSDOT *Long Island Transportation Plan (LITP)*, the traffic volumes were projected by applying an annual growth rate of 1.7% annually to account for normal background traffic growth. Therefore, a total growth rate of 3.4% was utilized (1.7% x 2 years) for developing the background growth for the estimated time of completion (ETC) of Venezia Square in 2020.

In addition to normal background growth, we examined traffic associated with other nearby projects presently under development or planned for the near future. The Planning Departments at the Towns of Brookhaven and Riverhead identified several projects containing new development or the expansion of existing developments. The projects and their descriptions are listed as follows:

- **Central Square** – is located along the south side of Route 25A, approximately a quarter mile to the east of the intersection of Wading River Manor Road and Route 25A. The proposed development is comprised of a restaurant, 14,076 SF of retail space, a 4,250 SF bank with drive thru and 28,962 SF of professional office space is estimated to generate 318 trips (141 Entering, 177 Exiting) during the midday peak hour, 318 trips (141 Entering, 177 Exiting) during the PM peak hour, and 305 trips (162 Entering, 143 Exiting) during the Saturday midday peak hour.
- **6333 Realty Group** – is located adjoining Venezia Square on the east. This proposed development comprises of 6,960 SF of Medical Offices and 1,120 SF of General Office and is estimated to generate 113 trips (57 Entering, 56 Exiting) during the midday peak hour, 160 trips (77 Entering, 83 Exiting) during the PM peak hour, and 208 trips (108 Entering, 100 Exiting) during the Saturday midday peak hour.
- **6336 Route 25A** – is located on the northeast corner of Route 25A and Dogwood Drive. This proposed development includes a proposed 1,212 SF addition to an existing medical office building for the purpose of providing a 15-seat take-out restaurant. The proposed take-out restaurant is estimated to generate 23 trips (12 Entering, 11 Exiting) during the midday peak hour, 25 trips (12 Entering, 13 Exiting) during the PM peak hour, and 36 trips (18 Entering, 18 Exiting) during the Saturday midday peak hour.
- **Hamlet Professional Offices** – is located on the north side of NYS Route 25A, east of Wading River Manor Road. This proposed development will consist of 5 office buildings for use as professional offices with a gross floor area of 31,181 SF. The proposed development is expected to generate 75 trips (59 Entering, 16 Exiting) during the midday peak hour, 112 trips (31 Entering, 81 Exiting) during the PM peak hour, and 114 trips (65 Entering, 49 Exiting) during the Saturday midday peak hour.
- **Real Life Church of Wading River** – is located approximately 315 FT north of the intersection of Route 25A and Dogwood Drive. The proposed development includes a proposed 2,952 SF expansion to the existing 2,533 SF church, which will include approximately 1,220 SF of office area in the basement of the church, 1,323 SF of meeting rooms in the basement, and 409 SF of sanctuary space to include 205 seats. The proposed new church space is expected to generate 27 trips (14 Entering, 13 Exiting) during the midday peak hour, 12 trips (7 Entering, 5 Exiting) during the PM peak hour, and 31 trips (22 Entering, 9 Exiting) during the Saturday midday peak hour.

The other planned development traffic volumes are illustrated in Figure 5. To obtain the 2020 No Build traffic volumes at the study intersections, the trips anticipated to be generated by the other planned developments in the vicinity of Venezia Square were added to the resulting volumes inflated by the background growth factor. The 2020 No Build traffic volumes are illustrated in Figure 6.

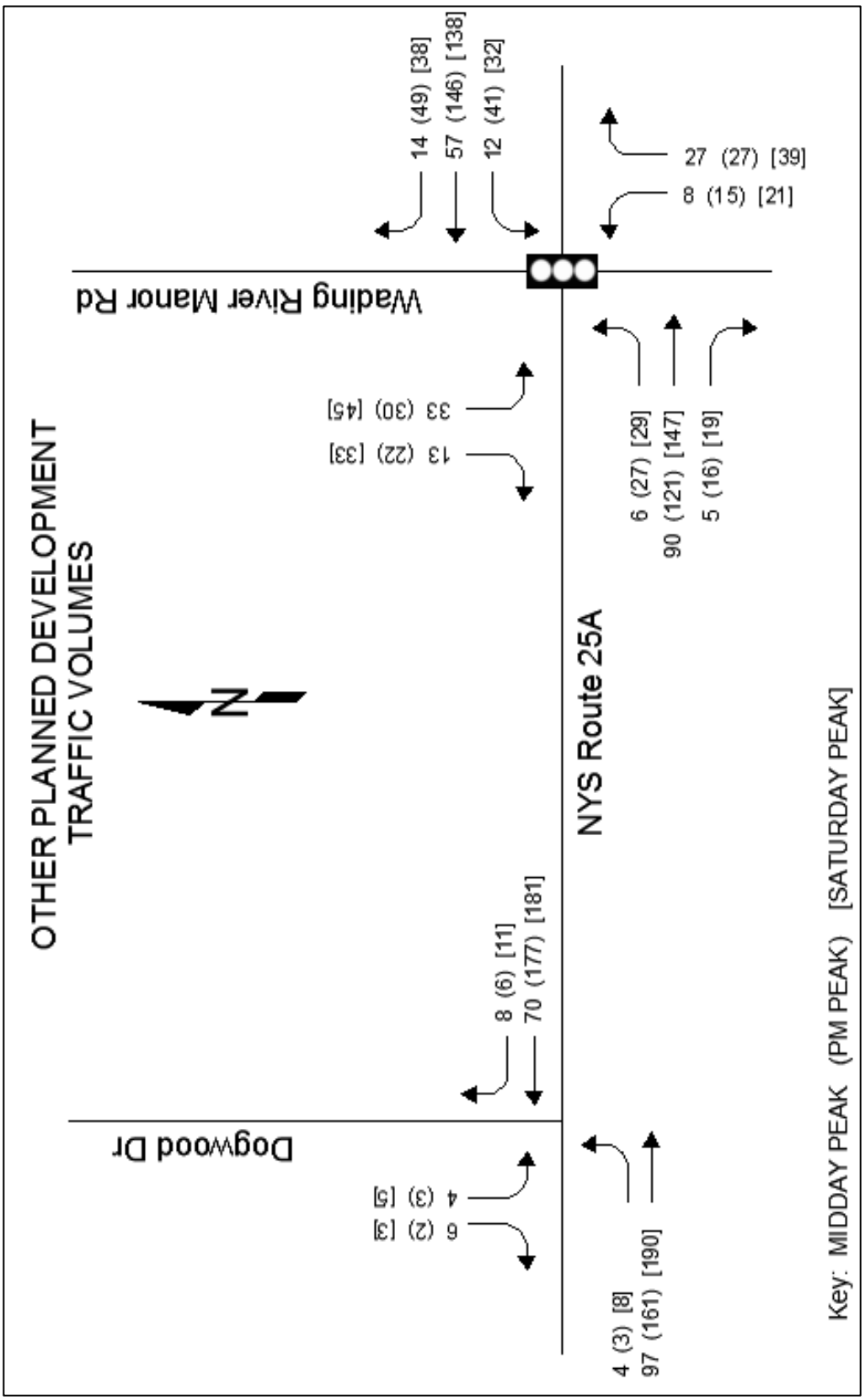


Figure 5: Other Planned Development Traffic Volumes

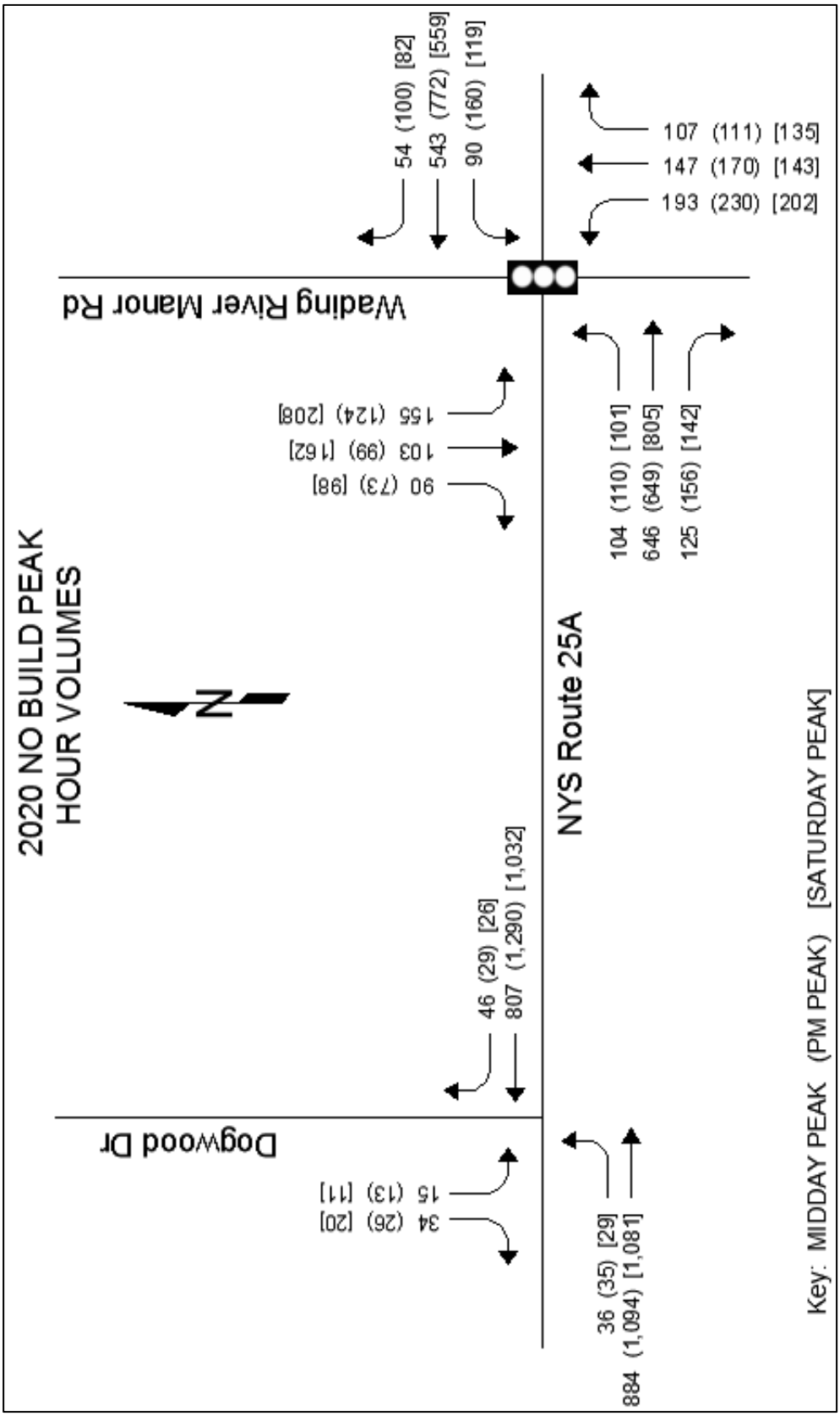


Figure 6: 2020 No Build Peak Hour Volumes

4.2 2020 No Build Capacity Analysis

The anticipated future no build conditions capacity analysis results are illustrated in Table 4 for the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. The capacity analysis reports for the future no build conditions are included in Appendix D.

Table 4: 2020 Future No Build Conditions Capacity Analysis

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	SB	RL	36.3	E	147.3	F	66.2	F
NYS Route 25A & Wading River Manor Road	EB	L	14.4	B	28.7	C	19.7	B
		TR	28.4	C	34.9	C	84.1	F
		Approach	26.7	C	34.2	C	77.9	E
	WB	L	21.0	C	25.9	C	41.2	D
		TR	21.6	C	38.7	C	27.8	C
		Approach	21.6	C	36.7	D	29.9	C
	NB	L	41.8	D	46.3	D	77.7	E
		TR	62.9	E	65.7	E	64.9	E
		Approach	53.8	D	57.0	E	70.3	E
	SB	L	45.5	D	41.9	D	108.7	F
		TR	50.2	D	49.0	D	56.7	E
		Approach	48.1	D	46.0	D	79.8	E
	Overall		**33.5**	**C**	**40.6**	**D**	**63.6**	**E**

5. Highway Capacity Analysis: Future with Build Conditions

5.1 Venezia Square Trip Generation

The proposed development is a 37,000 SF shopping center consisting of a bank with three drive thru windows (4,000 SF), three retail buildings (10,000 SF for two of those buildings and 7,000 SF for one), two fast food restaurants (1,500 SF each), and an 84-seat sit-down restaurant (3,000 SF). In order to assess its potential impact on future traffic conditions, the total traffic generated by the new facility was estimated for each analysis period. The trip generation was based on data from the ITE Trip Generation Manual, 9th Edition, where Shopping Center (Land Use Code 820) was selected as most appropriate for the proposed development based on the description in the manual. We decided to use a component size of 40,000 SF to be conservative and account for additional traffic using the cross-access from the adjoining eastern property, 6333 Realty Group.

The trip generation calculations are presented in Table 5.

Table 5: Venezia Square Site Generated Trips

Project Component	Component Size (X)	Midday Peak Hour		PM Peak Hour		Saturday Peak Hour	
VENEZIA SQUARE ITE #820 Shopping Center	40,000 SF	Trips=EXP(0.67*LN(X/1,000)+3.31)		Trips=EXP(0.67*LN(X/1,000)+3.31)		Trips=EXP(0.67*LN(X/1,000)+3.78)	
		Entering 48% 158	Exiting 52% 166	Entering 48% 158	Exiting 52% 166	Entering 52% 252	Exiting 48% 231
		Total = 324		**Total = 324**		**Total = 483**	

Pass-by trips involve traffic already on the road making an unplanned stop at the particular land use. According to ITE's Trip Generation Handbook, 3rd Edition, there is a pass-by credit associated with the shopping center land use. ITE recommended an average pass-by percentage of 34% during the PM peak hour and 26% during the Saturday peak hour. We applied the recommended PM Peak hour 34% pass-by rate to the traffic generated during the midday and PM peak hour traffic and the recommended 26% pass-by rate to the Saturday peak hour.

The new versus pass-by generated trips are presented in Table 6.

Table 6: New vs. Pass-by Site Generated Trips

	Midday Peak		PM Peak		Saturday Peak	
	Enter	Exit	Enter	Exit	Enter	Exit
New	104	112	104	112	186	165
Pass-by	54	54	54	54	66	66
Total	**158**	**166**	**158**	**166**	**252**	**231**

5.2 Trip Distribution

The site generated traffic was distributed to the site driveways and surrounding roadway network based on the distribution pattern of the existing turning movement counts for each study period, the location and configuration of the site driveways, and the placement of residence buildings and parking lots on the site plan.

At the intersection of NYS Route 25A with Dogwood Drive, the traffic distribution during the midday peak period shows 50% of the site traffic coming from the west, 47% coming from the east, and the remaining 3% coming from Dogwood Drive. The traffic distribution during the PM peak period shows 45% of the site traffic coming from the west, 53% coming from the east, and the remaining 2% coming from Dogwood Drive. The traffic distribution during the Saturday peak period shows 51% of the site traffic coming from the west, 48% coming from the east, and the remaining 1% coming from Dogwood Drive.

At the intersection of NYS Route 25A with Wading Manor Road, the traffic distribution during the midday peak period shows 37% of the site traffic coming from the west, 29% coming from the east, 14% coming from the north, and 20% coming from the south. The traffic distribution during the PM peak period shows 33% of the site traffic coming from the west, 35% coming from the east, 11% coming from the north, and 21% coming from the south. The traffic distribution during the Saturday peak period shows 39% of the site traffic coming from the west, 25% coming from the east, 17% coming from the north, and 19% coming from the south.

Figure 7 depicts the Venezia Square site generated and distributed traffic volumes.

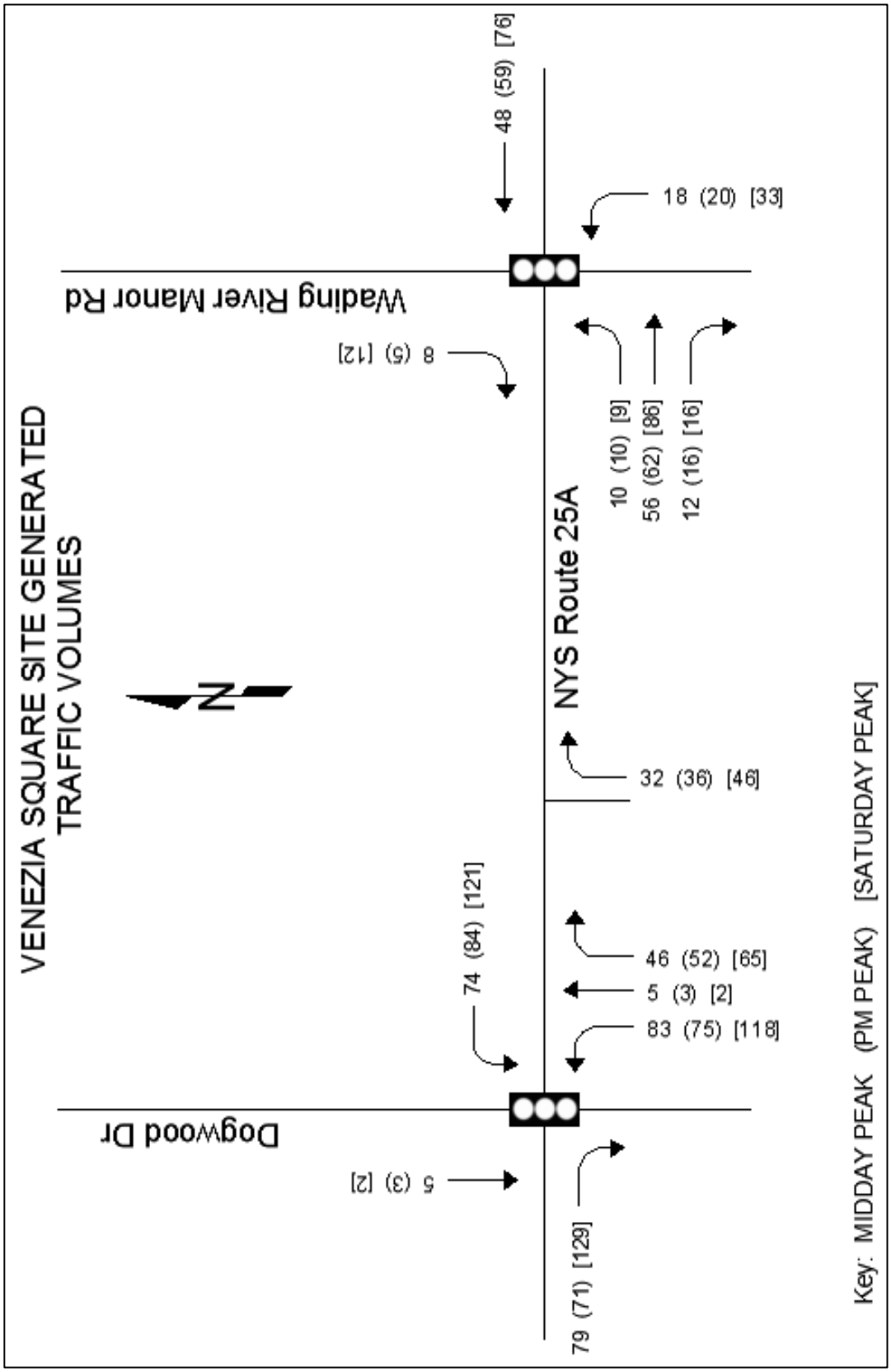


Figure 7: Venezia Square Site Generated Traffic Volumes

5.3 2020 Build Condition Traffic Volumes

The site generated traffic volumes were added to the 2020 No Build condition traffic volumes at the intersections NYS Route 25A with Dogwood Drive and Wading River Road, and the site's right-turn out only driveway to establish the 2020 Build Condition traffic volumes. This condition represents the anticipated traffic volumes that will occur in the build-out year and includes background growth, other development growth, and site generated traffic. The 2020 Build Condition traffic volumes are presented in Figure 8.

5.4 2020 Build Condition Capacity Analysis

The anticipated future build conditions capacity analysis results are found in Table 7 for the intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. A capacity analysis was also performed for the site's right turn out only driveway 360± feet east of the site's main drive. The capacity analysis reports for the future build conditions are included in Appendix E.

Table 7: Future with Build Conditions Capacity Analysis

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Dogwood Drive	EB	L	6.6	A	32.9	C	12.3	B
		TR	12.7	B	20.8	C	31.8	C
		Approach	12.5	B	21.2	C	31.4	C
	WB	L	9.5	A	20.9	C	33.5	C
		TR	9.4	A	35.3	D	14.5	B
		Approach	9.4	A	34.5	C	16.4	B
	NB	TL	49.3	D	49.6	D	52.7	D
		R	47.3	D	48.5	D	47.2	D
		Approach	48.6	D	49.2	D	50.8	D
	SB	TLR	47.3	D	47.6	D	45.6	D
	Overall		**14.3**	**B**	**29.6**	**C**	**26.2**	**C**
Venezia Square Right Turn Out Exit & NYS Route 25A	NB	R	18.6	C	24.7	C	25.8	D
NYS Route 25A & Wading River Manor Road	EB	L	15.7	B	38.3	D	23.1	C
		TR	33.5	C	46.5	D	128.9	F
		Approach	31.4	C	45.5	D	118.8	F
	WB	L	25.0	C	38.7	D	41.2	D
		TR	23.4	C	53.0	D	32.3	C
		Approach	23.6	C	50.9	D	33.6	C
	NB	L	46.4	D	54.2	D	136.4	F
		TR	62.8	E	65.7	E	64.8	E
		Approach	55.3	E	60.3	E	97.6	F
	SB	L	45.5	D	41.9	D	108.4	F
		TR	51.3	D	49.2	D	60.7	E
		Approach	48.8	D	46.2	D	81.4	F
	Overall		**36.0**	**D**	**50.3**	**D**	**85.3**	**F**

Since the worst conditions occur on Saturday where the LOS for the intersection at NYS Route 25A and Wading River Manor Road becomes an F, we recommend changing the signal timing of the light following the capacity analysis reports in Appendix F in order to result in better and more acceptable LOS as shown in Table 8.

Table 8: Future with Build Conditions Capacity Analysis with Mitigation Measures

Intersection	Movement	Lane Group	Midday		PM		Saturday	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
NYS Route 25A & Wading River Manor Road	EB	L	14.7	B	38.0	D	18.5	B
		TR	28.8	C	34.8	C	67.8	F
		Approach	27.1	C	35.2	D	63.0	E
	WB	L	22.0	C	33.8	C	61.1	E
		TR	21.9	C	41.8	D	25.3	C
		Approach	21.9	C	40.6	D	30.5	C
	NB	L	49.3	D	56.8	E	69.3	E
		TR	54.9	D	54.0	D	53.9	D
		Approach	52.3	D	55.4	E	61.2	E
	SB	L	47.1	D	43.3	D	68.8	E
		TR	51.8	D	50.5	D	53.3	D
		Approach	49.7	D	47.4	D	60.2	E
	Overall		**33.4**	**C**	**42.1**	**D**	**53.1**	**D**

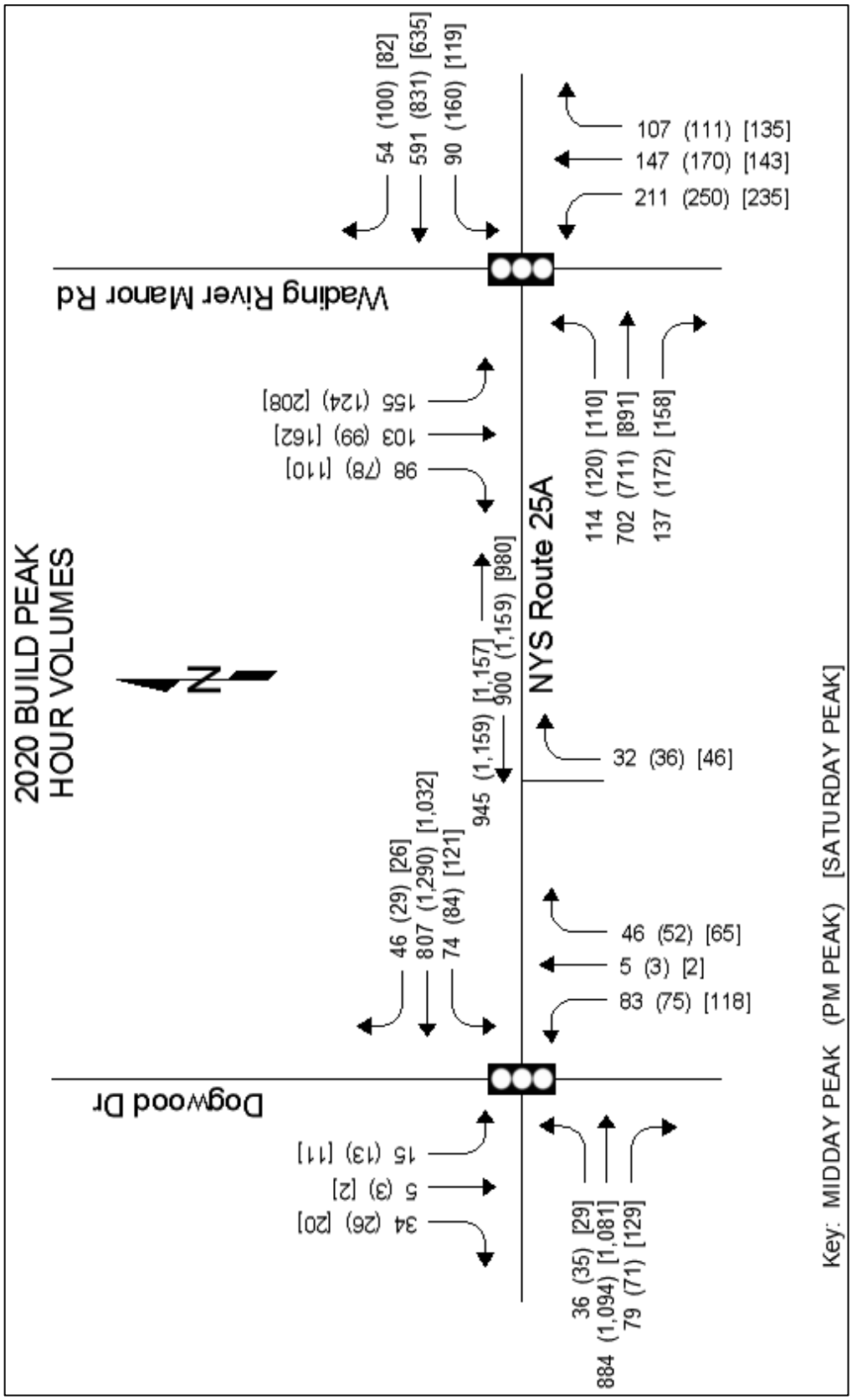


Figure 8: 2020 Build Peak Hour Volumes

6. Site Access, Circulation and Parking

As noted earlier, the proposed development will have two driveways: one located on either side of the site along NYS Route 25A. The primary driveway is situated opposite of Dogwood Drive and allows for full entering and exiting access. The primary driveway is to be 36 FT wide with two exit lanes. One of the exit lanes will be a left-thru lane and the other a right-turn lane. The site's other driveway consists of a single 16 FT lane. This driveway is restricted to exiting right turns only with no other movement permitted.

All parking with the exception of six parking spaces located adjacent to the proposed bank will be oriented at 90°. The six parking spaces located adjacent to the proposed bank will be oriented at 60° in order to promote one-way circulation around the bank.

From the site plans, all parking code requirements are being met. Figure 9 shows these parking code requirements.

PARKING REQUIREMENTS

ITEM	CODE	PERMITTED	PROPOSED
MIN. STALL SIZE	§ 301-231E.(2)	10' X 20'	10' X 20'
MIN. ACCESSIBLE STALL SIZE	§ 301-231M.(1)	10' X 20' W/ 8' ACCESS AISLE	10' X 20' W/ 8' ACCESS AISLE
MIN. AISLE WIDTH	§ 301-231E.(1)	24' (90° STALLS) 18' (60° STALLS)	24' (90° STALLS) 18' (60° STALLS)
MIN. NUMBER OF STALLS	§ 301 ATT. 1	174	174
MIN. CURB CUT WIDTH	§ 301-231E.(3)	ONE-WAY = 16' TWO WAY = 24'	ONE-WAY = 38.2' TWO WAY = 100.2'
MIN. CURB CUT SEPARATION	§ 301-98B.(5)	400'	352.9'
MIN. LANDSCAPE COVERAGE WITHIN PARKING FIELD	§ 301-98B.(7)	15% (13,114.63 SF)	16.81% (13,866.18 SF)
MIN. TREES WITHIN PARKING FIELD	§ 301-98B.(8)	1 TREE / 10 STALLS = 18 TREES	19 TREES

REQUIRED FOR BANK = 1 STALL/150 SF = 4,000 SF X 1/150 SF = 27 STALLS
REQUIRED FOR RETAIL = 1 STALL/250 SF = 27,000 SF X 1/250 = 108 STALLS
REQUIRED FOR RESTAURANT = 1 STALL/3 SEATS = 116 SEATS X 1/3 = 39 STALLS
TOTAL STALLS REQUIRED = 174 STALLS
TOTAL STALLS PROVIDED = 174 STALLS (INCLUDING 10 ACCESSIBLE STALLS)

Figure 9: Site Plan Parking Requirements

7. Accident History

An accident history analysis was conducted to examine the nature of accidents occurring at the study intersections and adjoining road segments to assess how the additional traffic from the proposed development might affect any existing patterns or accident rates. The Accident Verbal Description Reports (VDRs) for the most recent available three-year time period were obtained from the NYSDOT Accident Location Information System (ALIS) records and used for our analysis.

The accident history data relative to this study incorporates the portion of NYS Route 25A with Dogwood Drive and Wading River Manor Road. Table 9 illustrates a summary of the accident data at these intersections for the most recent available three-year time period, May 12, 2015 through June 24, 2018.

Table 9: Accident Data Summary

Intersection/ Segment	Accident Severity					Accident Type												
	Fatality	Injury	Property Damage Only	Non-Reportable	**Total**	Rear-End	Overtaking	Right Angle	Left Turn	Right Turn	Fixed Object	Head On	Side-Swipe	Pedestrian	Bicycle	Parked Vehicle	Backing	Animals' Action	Other/Unknown
NYS 25A with Dogwood Drive	0	6	6	0	**12**	6	0	1	0	0	0	0	1	0	0	0	0	3	1
NYS 25A with Wading River Manor Road	0	20	65	0	**85**	41	8	14	4	3	1	0	1	0	1	2	2	2	6

At NYS 25A and Dogwood Drive, during the three-year study period a total of 12 accidents were reported to have occurred. There were no fatalities, 6 accidents resulted in personal injury, 6 accidents resulted in property damage, and no accidents were classified as non-reportable. The accident type with the highest incident rate was rear-end collisions (6 accidents – 50%). The accident type with the second highest incident rate was animals' actions (3 accidents – 25%) which were all related to deer-crossings. The intersection of NYS 25A and Dogwood Drive is not a high accident location, as there are less than 5 reportable accidents in a 12-month period. Additionally, the installation of a light at this intersection as planned is expected to decrease the number of accidents at this location.

At NYS 25A and Wading River Manor Road, during the three-year study period a total of 85 accidents were reported to have occurred. There were no fatalities, 20 accidents resulted in personal injury, 65 accidents resulted in property damage, and no accidents were classified as non-reportable. The accident type with the highest incident rate was rear-end collisions (41 accidents – 48%). The accident type with the second highest incident rate was right angle collisions (14 accidents – 16%). The intersection of NYS 25A and Wading River Manor Road is a high accident location.

Being that rear-end accidents are the most frequent accident type at both intersections, it is important to look at probable causation and countermeasures. Table 10 depicts probable causes for rear end accidents at unsignalized intersections and signalized intersections and corresponding general countermeasures.

Table 10: Probable Causation and General Countermeasures for Rear-End Accidents

Accident Pattern	Probable Cause	General Countermeasures
Rear-end collisions at unsignalized intersections	Pedestrian crossing roadway	Improve crosswalk markings and/or signs Illuminate crosswalk Relocate crosswalk
	Driver not aware of intersection	Install/improve warning signs Install overhead flashing beacon
	Slippery surface	Overlay pavement (friction course) Chip and seal or slurry seal approaches Groove pavement Provide adequate drainage and/or crown Reduce speed limit on approaches Use "SLIPPERY WHEN WET" sign
	Large volume of vehicles turning	Increase curb radii Construct left-turn or right-turn lanes Prohibit turns
Rear-end collisions at signalized intersections	Poor visibility of traffic signals	Remove sight obstructions Install/improve advance warning devices Install 12-inch signal lenses Install signal visors and/or back plates Install additional/overhead signals Reduce speed limits on approaches
	Inadequate traffic signal timing	Adjust yellow change interval Provide all-red clearance interval Adjust phase time and cycle time Install multi-dial controller Install traffic-actuated signal Adjust minimum green or extension time Provide/improve signal progression
	Pedestrians crossing roadway	Improve crosswalk markings/signs Provide pedestrian "WALK" phases Improve/install lighting at crosswalks
	Slippery surface	Overlay pavement (friction course) Chip and seal or slurry seal approaches Groove pavement Provide adequate drainage and/or crown Reduce speed limit on approaches Use "SLIPPERY WHEN WET" sign
	Unwarranted signals	Remove signals
	Large volume of vehicles turning	Increase curb radii Construct left-turn or right-turn lanes Prohibit turns

8. Conclusions

This updated traffic impact study was performed to investigate the potential impacts from traffic associated with Venezia Square, a 40,000 SF proposed shopping center, located along NYS Route 25A adjacent to the Alexander-Rothwell Funeral Home in Wading River, Riverhead. The intersections examined in this study were NYS Route 25A with Dogwood Drive and NYS Route 25A with Wading River Manor Road. Presently, the site is vacant. The estimated time of completion (ETC) of the project is 2020.

Existing traffic volume counts were taken in October, and the appropriate seasonal factors were applied to account for the area's busier season. Traffic volumes were then projected to the project year of completion using conservative background growth rates of 1.7% per annum in addition to adding site generated trips from new or expanded development in the area. These projections were used to perform capacity analysis to estimate the likely future traffic conditions with, and without, the proposed development. The results were compared to determine the difference in traffic conditions and if this difference would result in any appreciable impact on the surrounding roadway network.

The capacity analysis results demonstrate that the addition of Venezia Square will impact the NYS Route 25A and Wading River Manor Road intersection LOS at the Midday and Saturday peak periods, lowering each from a C to a D and an E to an F, respectively. However, if the signal timing is changed, the LOS at these peak periods can be a C and a D, respectively. To further help improve traffic conditions and the LOS, we recommend installing a right-turn lane at the eastbound approach. Overall the addition of Venezia Square will not significantly impact traffic conditions.

The accident history review examined all of the accidents that occurred at the study intersections and surrounding roadway segments for the most recently available three-year period. The analysis revealed that there is a pattern of rear-end accidents occurring at both intersections of NYS Route 25A with Dogwood Drive and Wading River Manor Road. General countermeasures for rear-end accidents can be found in Table 10. Additionally, a handful of deer-crossing related accidents occur in this area each year, but these accidents are unrelated to the roadway design. The to-be installed signalized light at Dogwood Drive with NYS Route 25A is expected to relieve the frequency of rear-end accidents occurring at this location.

APPENDIX A:
Turning Movement Counts

Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 1
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

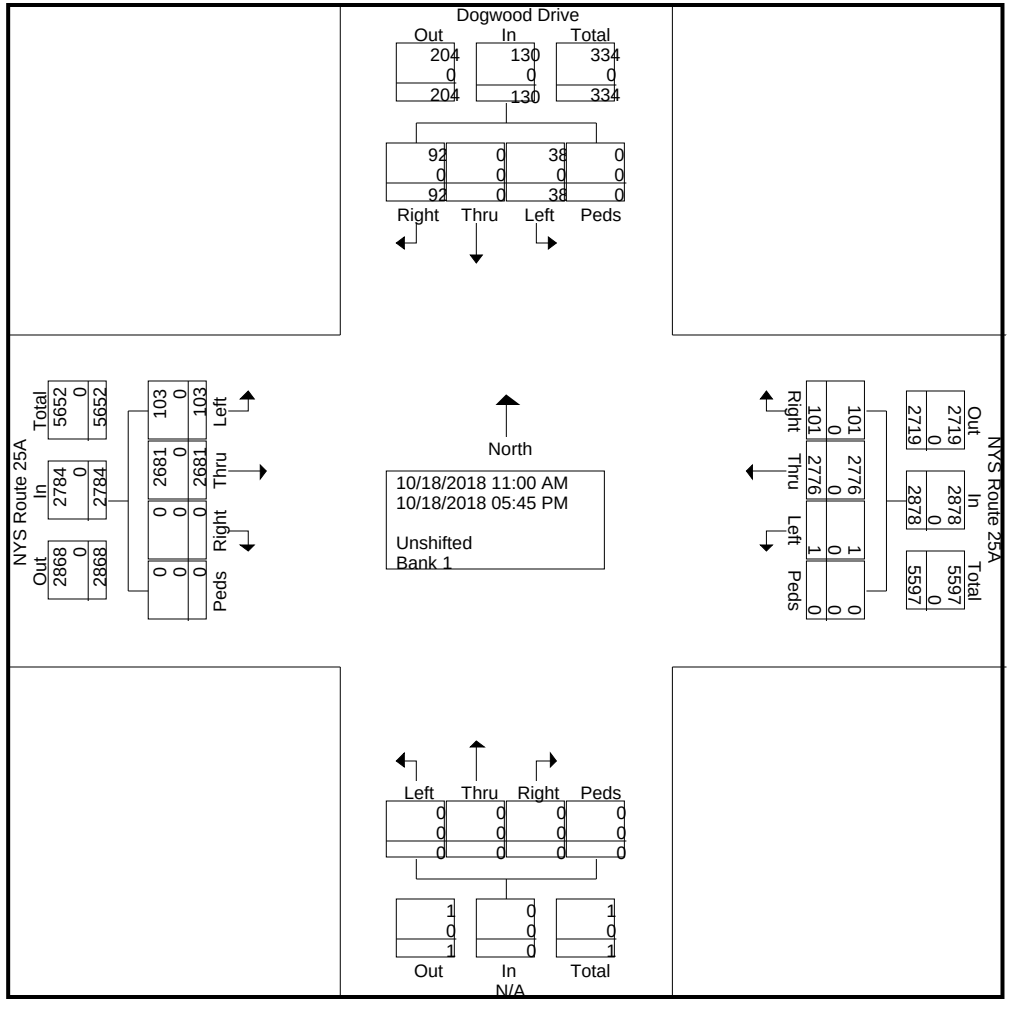
	Dogwood Drive From North					NYS Route 25A From East					N/A From South					NYS Route 25A From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	14	0	4	0	18	7	110	0	0	117	0	0	0	0	0	0	128	3	0	131	266
11:15 AM	2	0	2	0	4	8	136	0	0	144	0	0	0	0	0	0	144	6	0	150	298
11:30 AM	7	0	6	0	13	7	120	0	0	127	0	0	0	0	0	0	148	6	0	154	294
11:45 AM	5	0	2	0	7	8	133	0	0	141	0	0	0	0	0	0	178	7	0	185	333
Total	28	0	14	0	42	30	499	0	0	529	0	0	0	0	0	0	598	22	0	620	1191
12:00 PM	5	0	4	0	9	9	155	0	0	164	0	0	0	0	0	0	155	3	0	158	331
12:15 PM	3	0	0	0	3	6	141	0	0	147	0	0	0	0	0	0	153	7	0	160	310
12:30 PM	8	0	3	0	11	10	144	0	0	154	0	0	0	0	0	0	166	9	0	175	340
12:45 PM	6	0	1	0	7	5	142	1	0	148	0	0	0	0	0	0	148	6	0	154	309
Total	22	0	8	0	30	30	582	1	0	613	0	0	0	0	0	0	622	25	0	647	1290
*** BREAK ***																					
04:00 PM	8	0	4	0	12	7	195	0	0	202	0	0	0	0	0	0	173	4	0	177	391
04:15 PM	4	0	0	0	4	6	213	0	0	219	0	0	0	0	0	0	181	8	0	189	412
04:30 PM	4	0	2	0	6	5	195	0	0	200	0	0	0	0	0	0	165	7	0	172	378
04:45 PM	7	0	3	0	10	5	212	0	0	217	0	0	0	0	0	0	204	11	0	215	442
Total	23	0	9	0	32	23	815	0	0	838	0	0	0	0	0	0	723	30	0	753	1623
05:00 PM	4	0	2	0	6	4	217	0	0	221	0	0	0	0	0	0	185	10	0	195	422
05:15 PM	3	0	2	0	5	2	224	0	0	226	0	0	0	0	0	0	176	5	0	181	412
05:30 PM	11	0	2	0	13	5	222	0	0	227	0	0	0	0	0	0	211	4	0	215	455
05:45 PM	1	0	1	0	2	7	217	0	0	224	0	0	0	0	0	0	166	7	0	173	399
Total	19	0	7	0	26	18	880	0	0	898	0	0	0	0	0	0	738	26	0	764	1688
Grand Total	92	0	38	0	130	101	2776	1	0	2878	0	0	0	0	0	0	2681	103	0	2784	5792
Apprch %	70.8	0	29.2	0		3.5	96.5	0	0		0	0	0	0		0	96.3	3.7	0		
Total %	1.6	0	0.7	0	2.2	1.7	47.9	0	0	49.7	0	0	0	0	0	0	46.3	1.8	0	48.1	
Unshifted	92	0	38	0	130	101	2776	1	0	2878	0	0	0	0	0	0	2681	103	0	2784	5792
% Unshifted	100	0	100	0	100	100	100	100	0	100	0	0	0	0	0	0	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 1
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 2

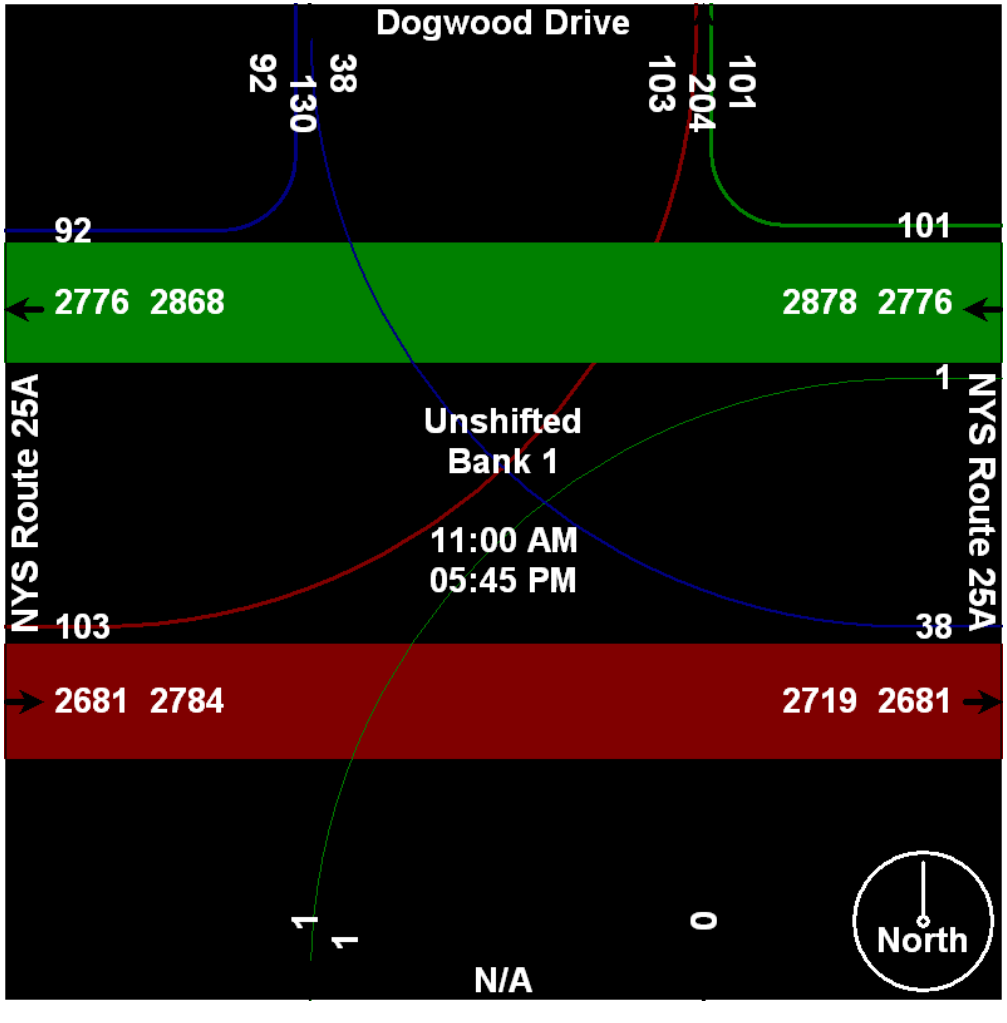


Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

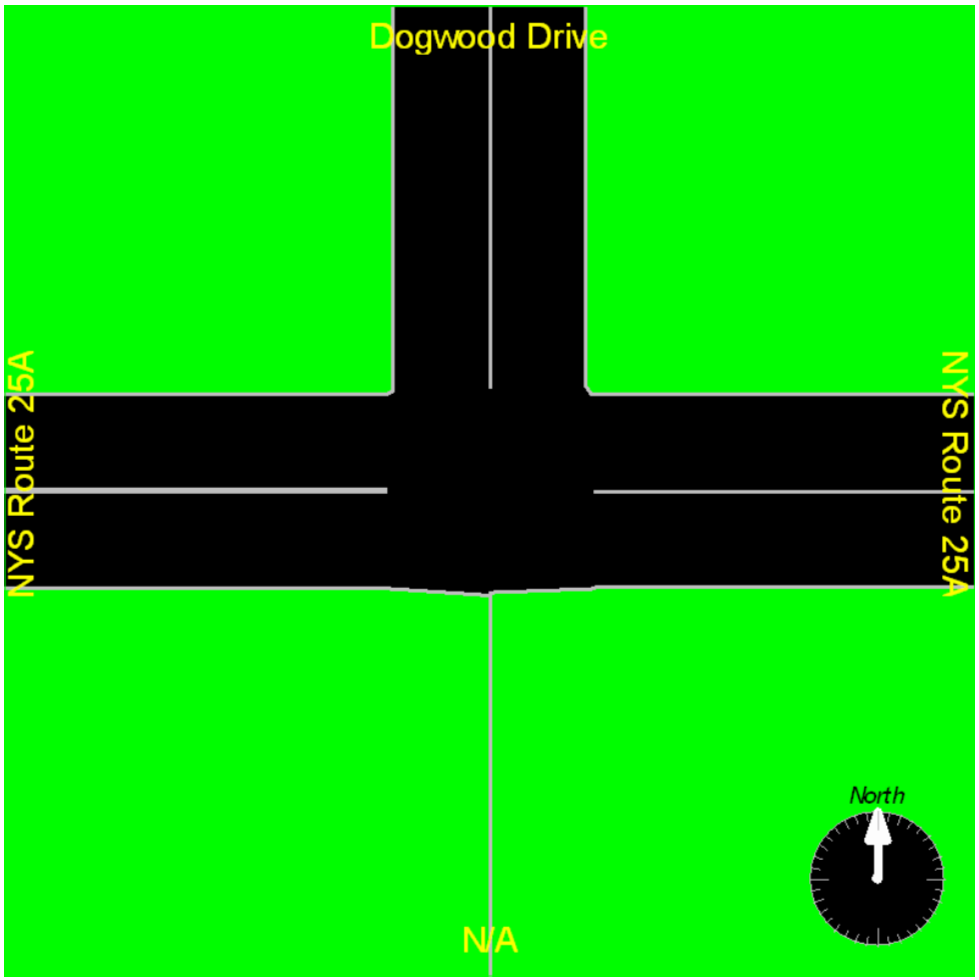
File Name : Venezia Intersection 1
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 3



Schneider Engineering
1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 1
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 4



Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Count
Saturday Peak

File Name : Venezia Intersection 1 Saturday
Site Code : 18-040T
Start Date : 10/28/2018
Page No : 1

Groups Printed- Unshifted - Bank 1

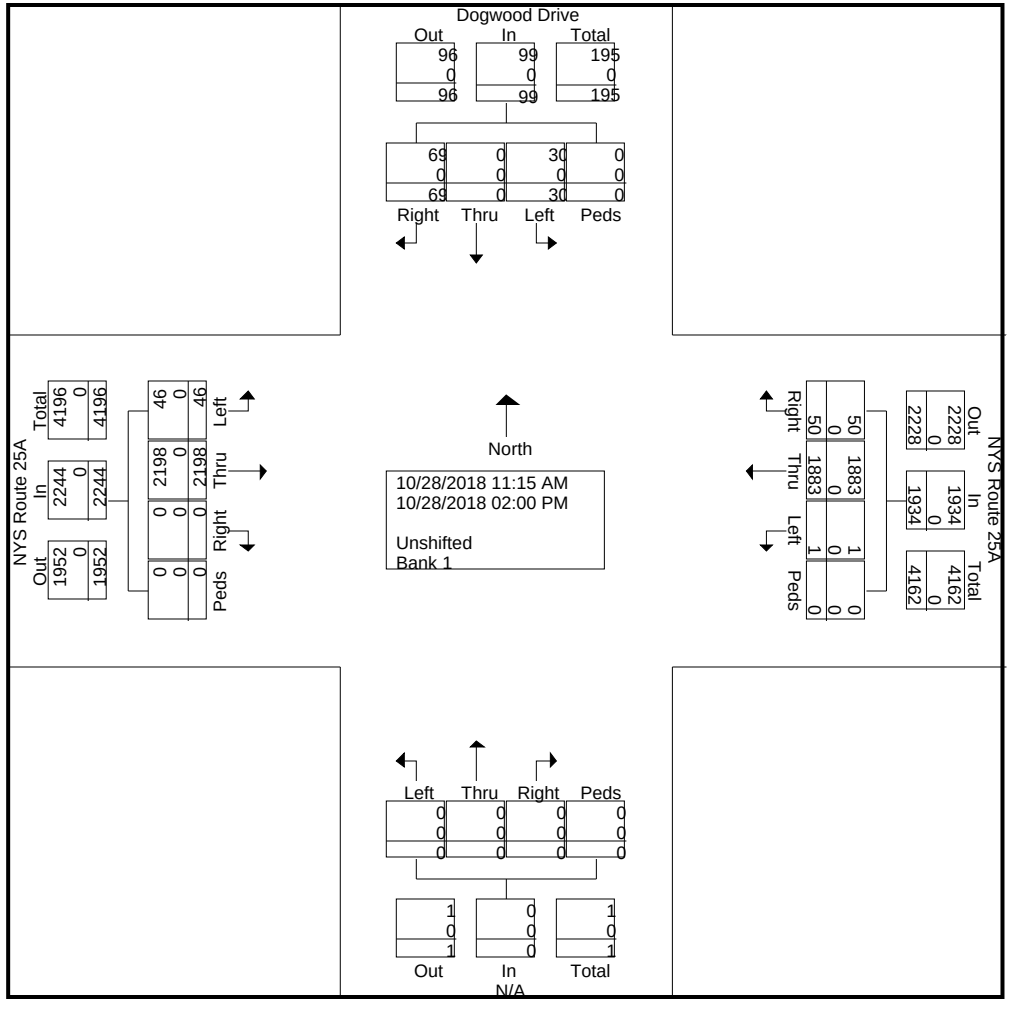
	Dogwood Drive From North					NYS Route 25A From East					N/A From South					NYS Route 25A From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:15 AM	4	0	2	0	6	4	133	0	0	137	0	0	0	0	0	0	183	3	0	186	329
11:30 AM	7	0	1	0	8	4	134	0	0	138	0	0	0	0	0	0	163	0	0	163	309
11:45 AM	16	0	13	0	29	11	121	0	0	132	0	0	0	0	0	0	208	9	0	217	378
Total	27	0	16	0	43	19	388	0	0	407	0	0	0	0	0	0	554	12	0	566	1016
12:00 PM	9	0	2	0	11	2	142	0	0	144	0	0	0	0	0	0	172	3	0	175	330
12:15 PM	12	0	6	0	18	3	166	0	0	169	0	0	0	0	0	0	189	6	0	195	382
12:30 PM	1	0	0	0	1	4	146	0	0	150	0	0	0	0	0	0	192	2	0	194	345
12:45 PM	5	0	2	0	7	4	194	0	0	198	0	0	0	0	0	0	168	2	0	170	375
Total	27	0	10	0	37	13	648	0	0	661	0	0	0	0	0	0	721	13	0	734	1432
01:00 PM	0	0	0	0	0	2	143	0	0	145	0	0	0	0	0	0	173	2	0	175	320
01:15 PM	8	0	1	0	9	3	190	0	0	193	0	0	0	0	0	0	173	6	0	179	381
01:30 PM	1	0	1	0	2	3	182	0	0	185	0	0	0	0	0	0	193	6	0	199	386
01:45 PM	4	0	2	0	6	4	180	0	0	184	0	0	0	0	0	0	189	3	0	192	382
Total	13	0	4	0	17	12	695	0	0	707	0	0	0	0	0	0	728	17	0	745	1469
02:00 PM	2	0	0	0	2	6	152	1	0	159	0	0	0	0	0	0	195	4	0	199	360
Grand Total	69	0	30	0	99	50	1883	1	0	1934	0	0	0	0	0	0	2198	46	0	2244	4277
Apprch %	69.7	0	30.3	0		2.6	97.4	0.1	0		0	0	0	0		0	98	2	0		
Total %	1.6	0	0.7	0	2.3	1.2	44	0	0	45.2	0	0	0	0	0	0	51.4	1.1	0	52.5	
Unshifted	69	0	30	0	99	50	1883	1	0	1934	0	0	0	0	0	0	2198	46	0	2244	4277
% Unshifted	100	0	100	0	100	100	100	100	0	100	0	0	0	0	0	0	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Count
Saturday Peak

File Name : Venezia Intersection 1 Saturday
Site Code : 18-040T
Start Date : 10/28/2018

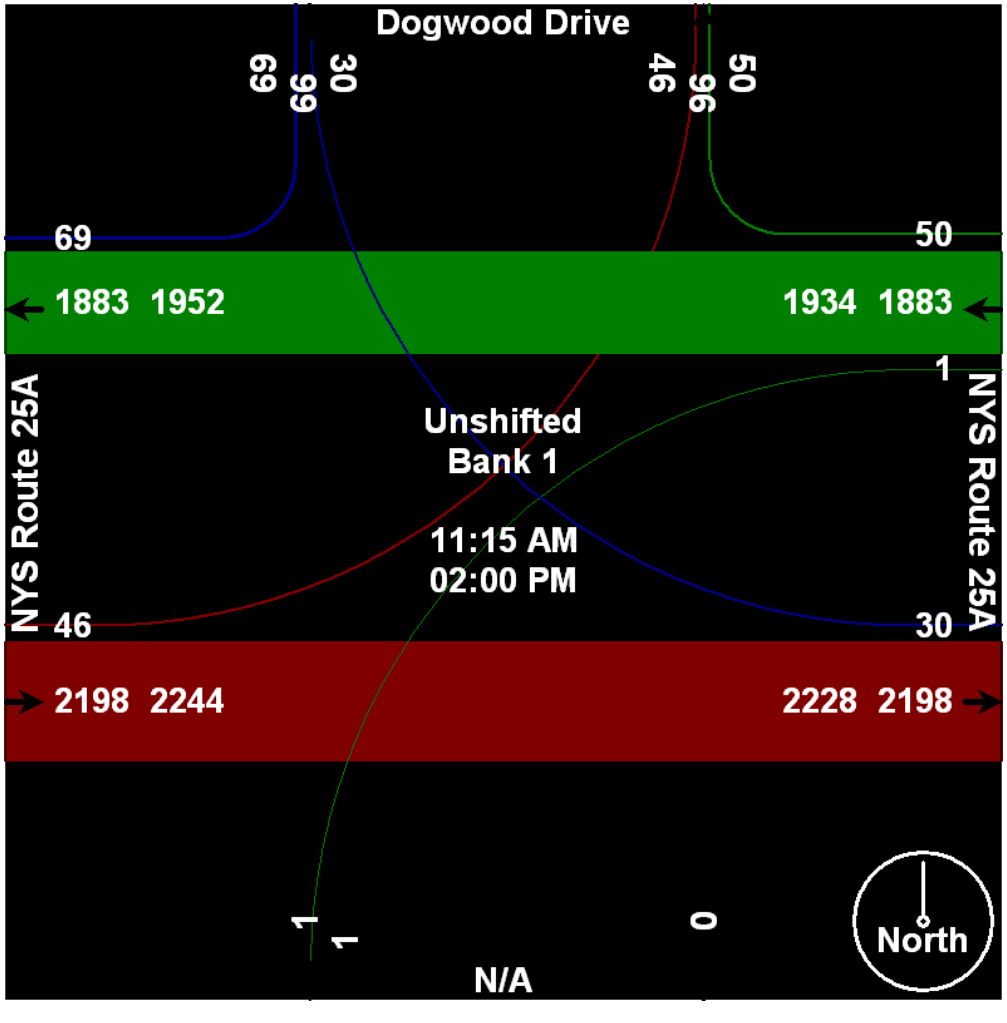


Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Count
Saturday Peak

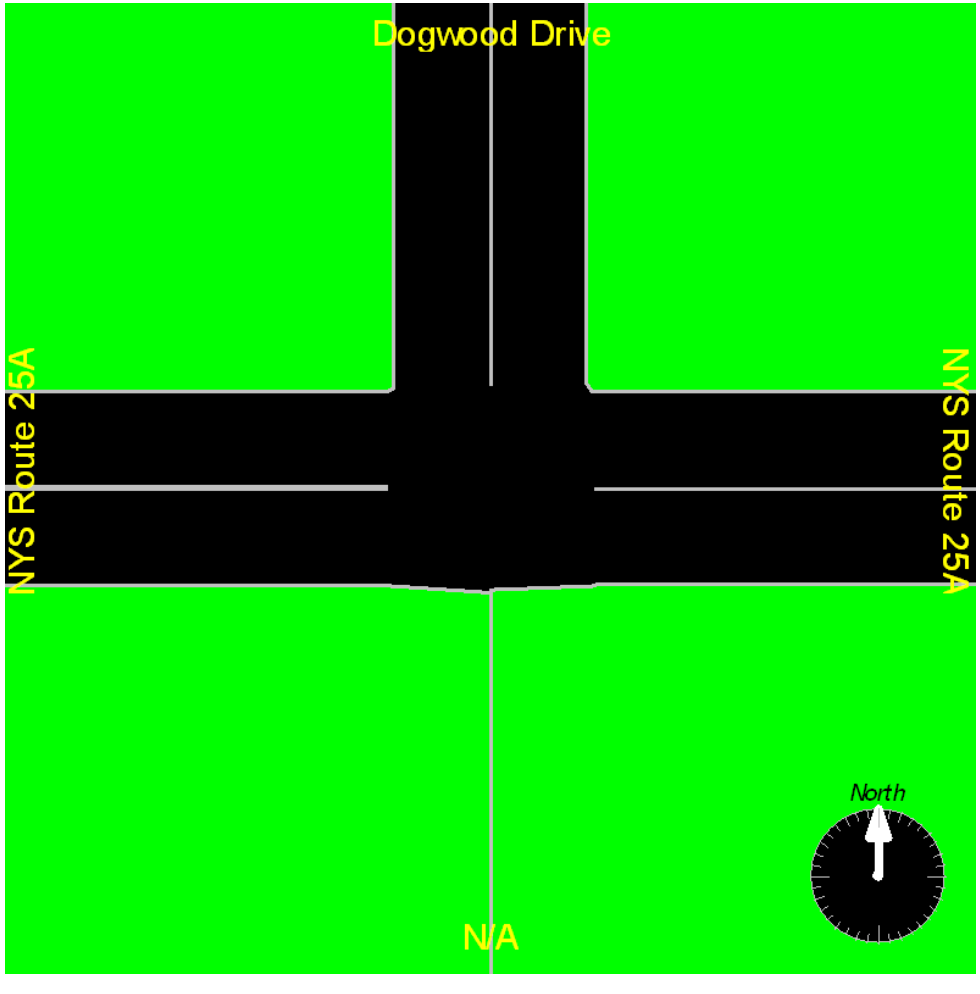
File Name : Venezia Intersection 1 Saturday
Site Code : 18-040T
Start Date : 10/28/2018
Page No : 3



Schneider Engineering
1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Dogwood Drive Intersection
Turning Movement Count
Saturday Peak

File Name : Venezia Intersection 1 Saturday
Site Code : 18-040T
Start Date : 10/28/2018



Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 2
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 1

Groups Printed- Unshifted

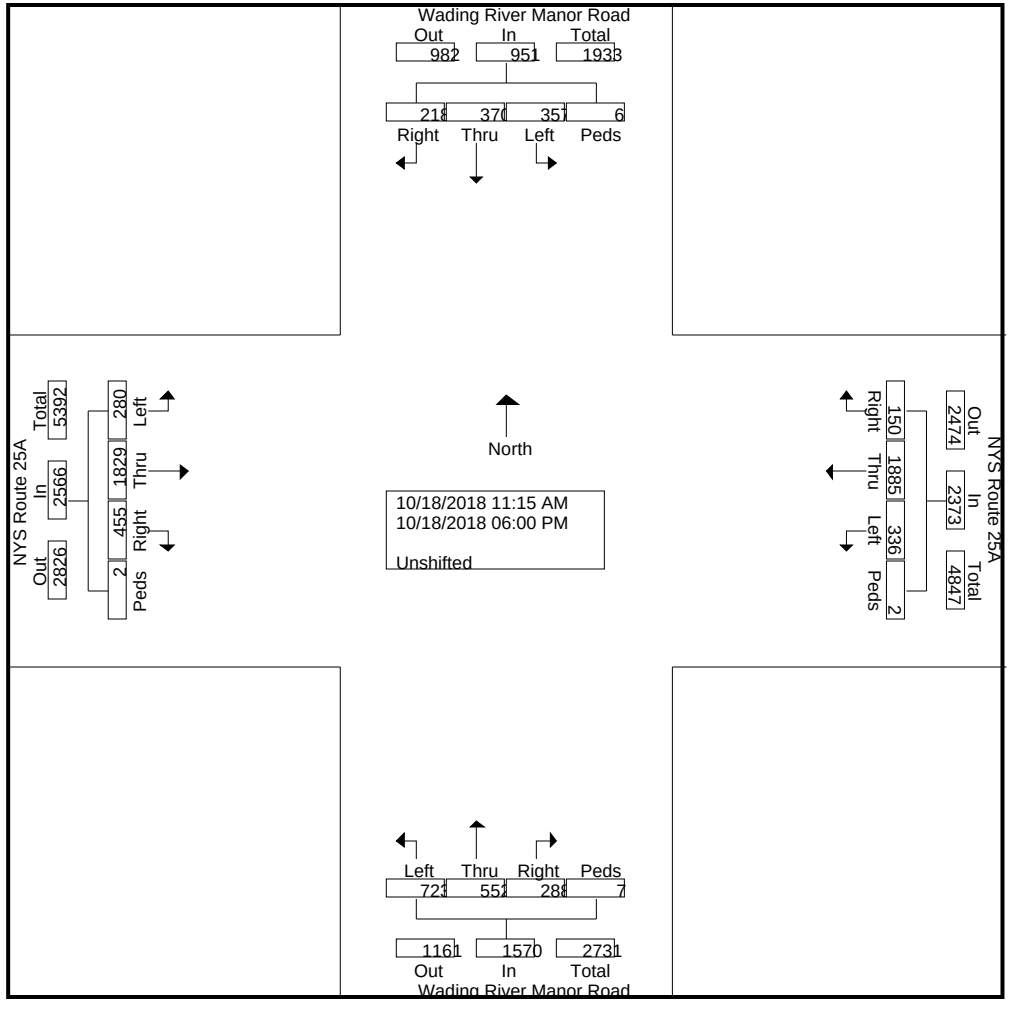
	Wading River Manor Road From North					NYS Route 25A From East					Wading River Manor Road From South					NYS Route 25A From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:15 AM	7	19	20	0	46	5	71	21	0	97	16	28	31	0	75	15	96	17	0	128	346
11:30 AM	16	24	8	0	48	5	95	12	0	112	15	24	35	0	74	25	115	7	0	147	381
11:45 AM	13	21	24	0	58	11	84	10	0	105	20	25	31	0	76	26	101	10	0	137	376
Total	36	64	52	0	152	21	250	43	0	314	51	77	97	0	225	66	312	34	0	412	1103
12:00 PM	16	26	17	0	59	7	87	16	0	110	16	38	32	0	86	28	116	22	0	166	421
12:15 PM	16	22	23	1	62	9	100	24	0	133	13	29	47	0	89	26	96	26	0	148	432
12:30 PM	18	19	33	0	70	10	110	11	0	131	17	24	29	1	71	28	111	17	0	156	428
12:45 PM	13	18	27	0	58	7	100	13	1	121	20	30	44	0	94	17	131	15	0	163	436
Total	63	85	100	1	249	33	397	64	1	495	66	121	152	1	340	99	454	80	0	633	1717
01:00 PM	12	22	25	1	60	9	90	15	0	114	19	19	36	0	74	28	104	12	1	145	393
*** BREAK ***																					
Total	12	22	25	1	60	9	90	15	0	114	19	19	36	0	74	28	104	12	1	145	393
*** BREAK ***																					
04:15 PM	16	35	27	0	78	9	125	24	0	158	18	42	63	1	124	31	100	20	0	151	511
04:30 PM	10	15	17	3	45	12	147	29	0	188	17	50	57	0	124	29	137	12	0	178	535
04:45 PM	16	33	20	0	69	10	135	20	0	165	17	42	58	1	118	30	103	21	0	154	506
Total	42	83	64	3	192	31	407	73	0	511	52	134	178	2	366	90	340	53	0	483	1552
05:00 PM	15	19	17	0	51	14	156	26	1	197	17	36	54	0	107	46	130	11	0	187	542
05:15 PM	9	28	29	0	66	14	143	38	0	195	20	41	49	3	113	29	134	21	0	184	558
05:30 PM	13	26	22	1	62	10	154	27	0	191	28	42	60	0	130	24	122	19	1	166	549
05:45 PM	13	23	23	0	59	12	155	25	0	192	17	46	46	0	109	37	127	30	0	194	554
Total	50	96	91	1	238	50	608	116	1	775	82	165	209	3	459	136	513	81	1	731	2203
06:00 PM	15	20	25	0	60	6	133	25	0	164	18	36	51	1	106	36	106	20	0	162	492
Grand Total	218	370	357	6	951	150	1885	336	2	2373	288	552	723	7	1570	455	1829	280	2	2566	7460
Apprch %	22.9	38.9	37.5	0.6		6.3	79.4	14.2	0.1		18.3	35.2	46.1	0.4		17.7	71.3	10.9	0.1		
Total %	2.9	5	4.8	0.1	12.7	2	25.3	4.5	0	31.8	3.9	7.4	9.7	0.1	21	6.1	24.5	3.8	0	34.4	

Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 2
Site Code : 18-040T
Start Date : 10/18/2018
Page No : 2

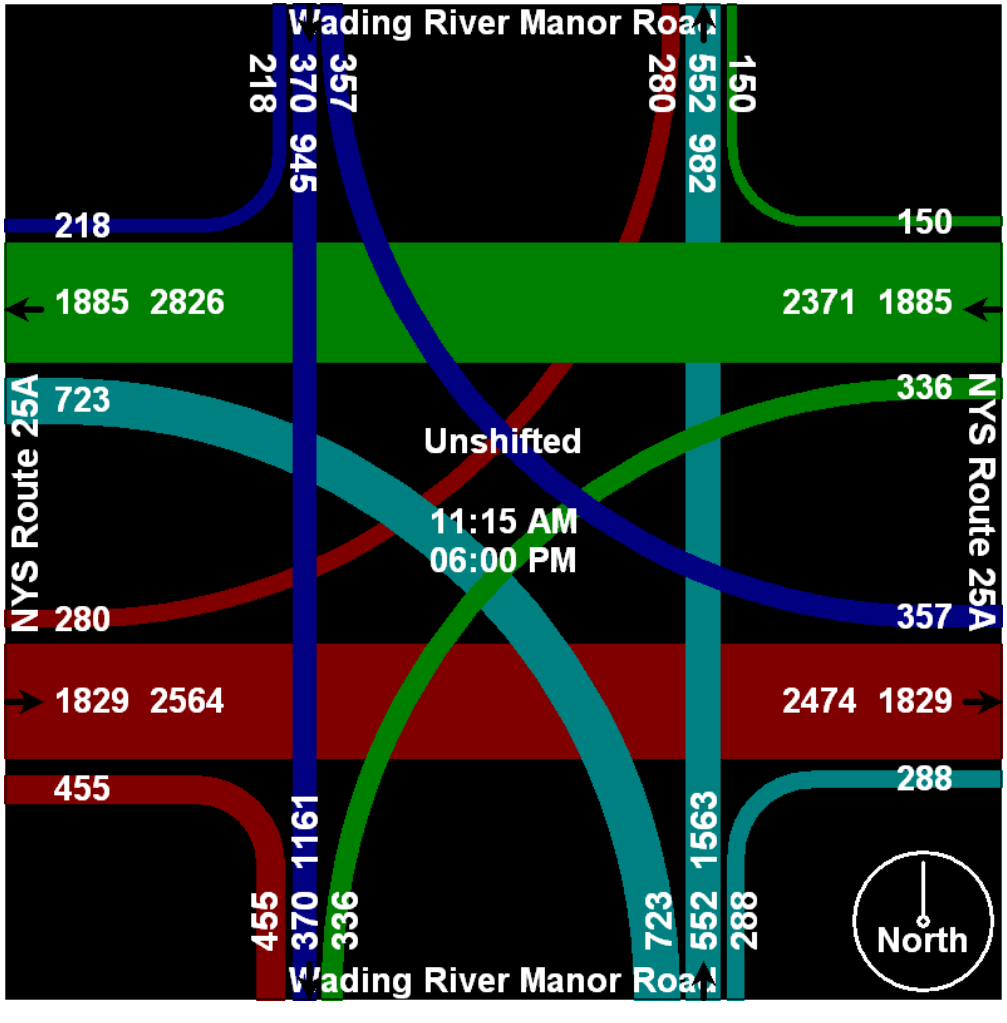


Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

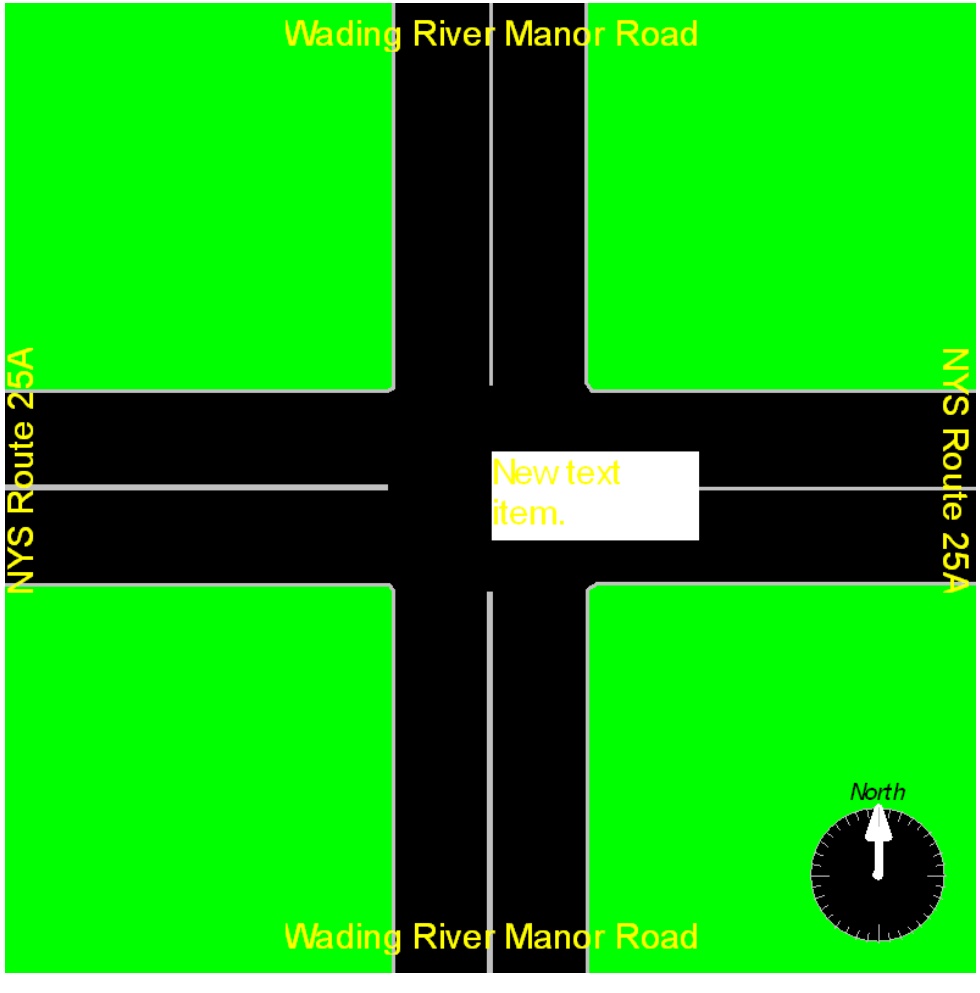
File Name : Venezia Intersection 2
Site Code : 18-040T
Start Date : 10/18/2018



Schneider Engineering
1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Weekday Midday & PM Peaks

File Name : Venezia Intersection 2
Site Code : 18-040T
Start Date : 10/18/2018



Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Saturday Peak

File Name : Venezia Intersection 2 Saturday
Site Code : 18-040T
Start Date : 10/28/2018

Groups Printed- Unshifted

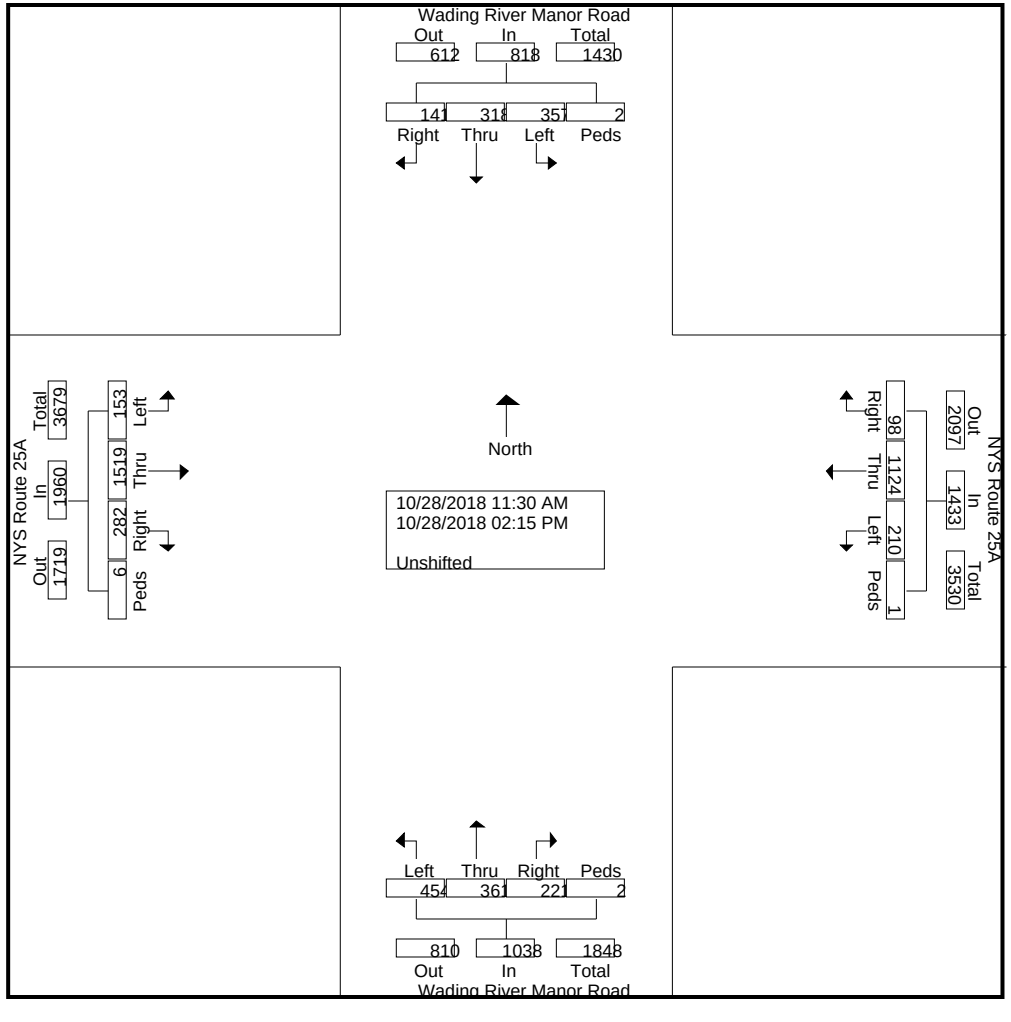
	Wading River Manor Road From North					NYS Route 25A From East					Wading River Manor Road From South					NYS Route 25A From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:30 AM	9	26	22	0	57	12	75	15	0	102	11	34	42	0	87	22	136	8	0	166	412
11:45 AM	16	13	24	1	54	10	74	17	0	101	16	29	36	0	81	20	118	12	0	150	386
Total	25	39	46	1	111	22	149	32	0	203	27	63	78	0	168	42	254	20	0	316	798
12:00 PM	6	22	29	0	57	10	75	17	0	102	12	25	37	0	74	16	153	17	0	186	419
12:15 PM	18	26	31	0	75	7	95	17	0	119	26	31	33	2	92	33	120	22	1	176	462
12:30 PM	18	50	38	0	106	11	89	19	0	119	18	34	43	0	95	26	121	8	0	155	475
12:45 PM	11	34	35	0	80	8	85	19	0	112	22	27	35	0	84	26	144	12	0	182	458
Total	53	132	133	0	318	36	344	72	0	452	78	117	148	2	345	101	538	59	1	699	1814
01:00 PM	10	23	36	0	69	7	104	17	0	128	20	27	38	0	85	19	109	10	0	138	420
01:15 PM	10	28	34	0	72	7	88	16	0	111	26	35	49	0	110	19	107	8	0	134	427
01:30 PM	8	25	34	0	67	6	119	20	0	145	19	37	37	0	93	26	124	18	1	169	474
01:45 PM	13	24	16	0	53	8	106	14	0	128	18	22	35	0	75	32	148	10	0	190	446
Total	41	100	120	0	261	28	417	67	0	512	83	121	159	0	363	96	488	46	1	631	1767
02:00 PM	11	21	30	0	62	3	97	19	0	119	14	32	33	0	79	20	117	18	3	158	418
02:15 PM	11	26	28	1	66	9	117	20	1	147	19	28	36	0	83	23	122	10	1	156	452
Grand Total	141	318	357	2	818	98	1124	210	1	1433	221	361	454	2	1038	282	1519	153	6	1960	5249
Apprch %	17.2	38.9	43.6	0.2		6.8	78.4	14.7	0.1		21.3	34.8	43.7	0.2		14.4	77.5	7.8	0.3		
Total %	2.7	6.1	6.8	0	15.6	1.9	21.4	4	0	27.3	4.2	6.9	8.6	0	19.8	5.4	28.9	2.9	0.1	37.3	

Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Saturday Peak

File Name : Venezia Intersection 2 Saturday
Site Code : 18-040T
Start Date : 10/28/2018

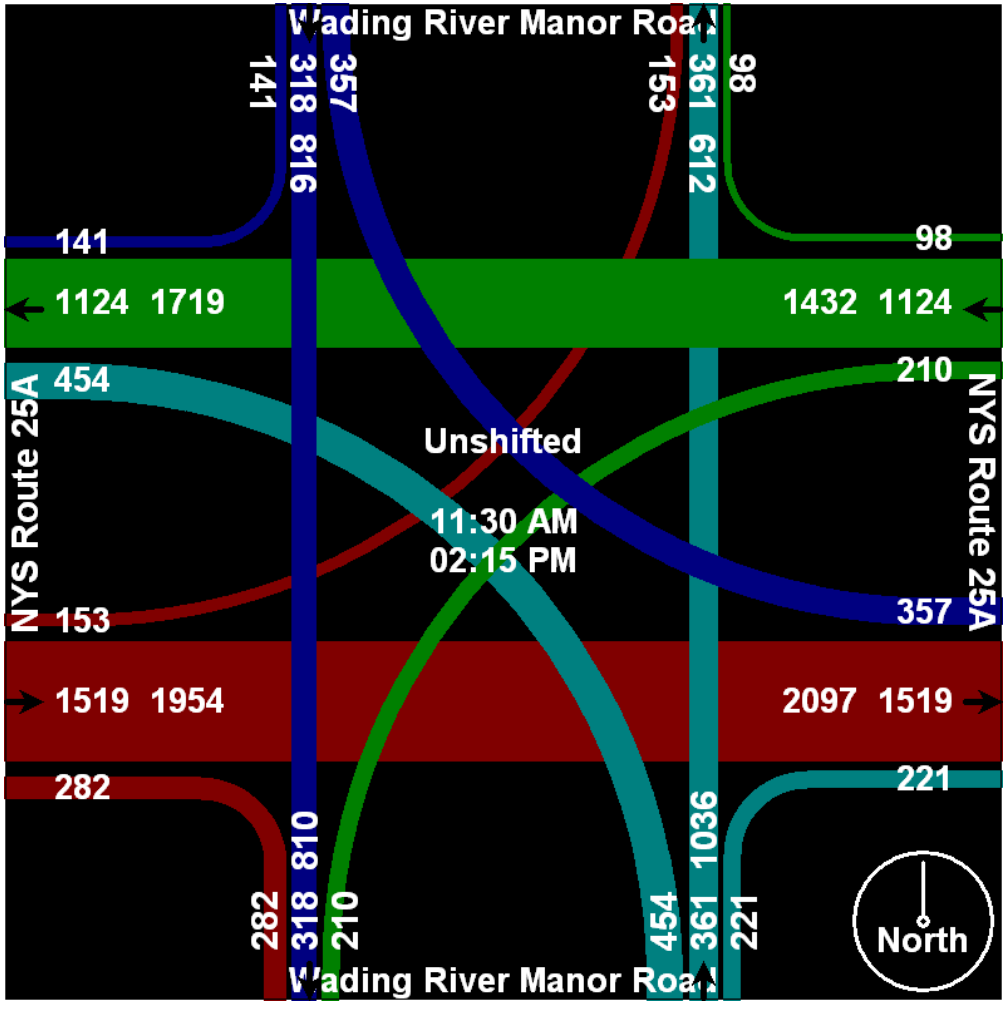


Schneider Engineering

1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Saturday Peak

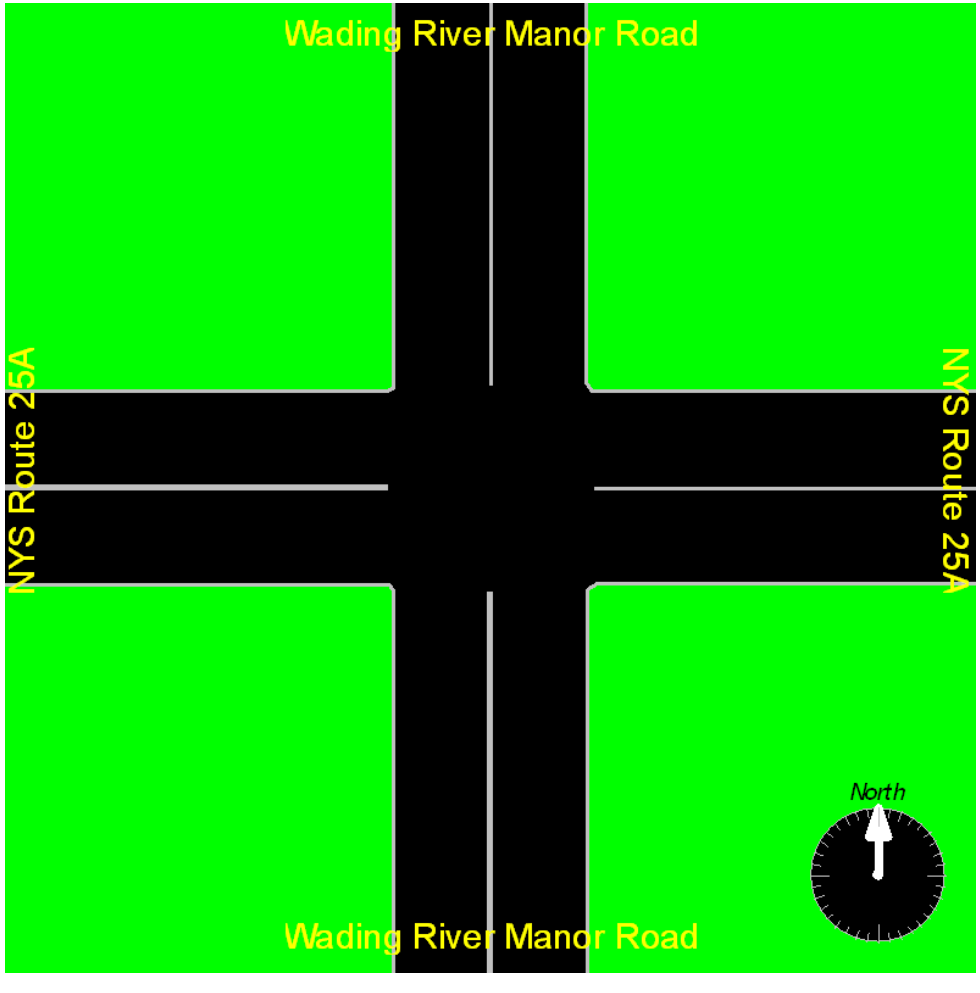
File Name : Venezia Intersection 2 Saturday
Site Code : 18-040T
Start Date : 10/28/2018



Schneider Engineering
1 Comac Loop, Suite 1B4
Ronkonkoma, NY 11779

Venezia Square
Wading River Manor Road Intersection
Turning Movement Counts
Saturday Peak

File Name : Venezia Intersection 2 Saturday
Site Code : 18-040T
Start Date : 10/28/2018
Page No : 4



APPENDIX B:

2017 NYSDOT Seasonal Adjustment Factors

SEASONAL ADJUSTMENT FACTORS FOR TRAFFIC COUNT PROCESSING 2017

Based on Continuous Count Site Data 2014 – 2016

FULL WEEK

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
urban - 30	0.879	0.905	0.966	1.016	1.052	1.069	1.047	1.054	1.039	1.033	0.976	0.964
suburban - 40	0.782	0.804	0.868	0.948	1.076	1.132	1.230	1.224	1.097	1.035	0.927	0.876
recreational - 60	0.627	0.669	0.692	0.787	1.059	1.271	1.639	1.598	1.200	0.997	0.762	0.698

Factor Group	% Precision with 95% Confidence
urban - 30	0.85%
suburban - 40	1.38%
recreational - 60	5.48%

For each factor group, the percent precision value is the maximum value out of all months.

The FHWA Traffic Monitoring Guide 2016 states (page 3-27):

The reliability levels recommended are 10 percent precision with 95 percent confidence for each individual seasonal group, excluding recreational groups where no precision requirement is specified.

New York State Department of
Transportation
Highway Data Services Bureau
MO-TrafficDataViewer@dot.ny.gov
(518) 457-1965

SEASONAL ADJUSTMENT FACTORS FOR TRAFFIC COUNT PROCESSING 2017

Based on Continuous Count Site Data 2014 – 2016

WEEKEND

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
urban - 30	0.760	0.794	0.848	0.895	0.944	0.952	0.918	0.937	0.927	0.908	0.864	0.830
suburban - 40	0.709	0.737	0.808	0.887	1.038	1.125	1.253	1.243	1.080	0.987	0.867	0.790
recreational - 60	0.617	0.674	0.679	0.770	1.119	1.412	1.879	1.813	1.337	1.053	0.740	0.656

Factor Group	% Precision with 95% Confidence
urban - 30	2.17%
suburban - 40	2.57%
recreational - 60	6.60%

For each factor group, the percent precision value is the maximum value out of all months.

The FHWA Traffic Monitoring Guide 2016 states (page 3-27):

The reliability levels recommended are 10 percent precision with 95 percent confidence for each individual seasonal group, excluding recreational groups where no precision requirement is specified.

New York State Department of
Transportation
Highway Data Services Bureau
MO-TrafficDataViewer@dot.ny.gov
(518) 457-1965

SEASONAL ADJUSTMENT FACTORS FOR TRAFFIC COUNT PROCESSING 2017

Based on Continuous Count Site Data 2014 – 2016

WORK WEEK

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
urban - 30	0.923	0.944	1.009	1.062	1.093	1.113	1.101	1.100	1.078	1.078	1.018	1.019
suburban - 40	0.808	0.822	0.884	0.958	1.071	1.113	1.201	1.190	1.079	1.035	0.942	0.912
recreational - 60	0.634	0.654	0.696	0.778	1.003	1.170	1.500	1.459	1.086	0.943	0.764	0.718

Factor Group	% Precision with 95% Confidence
urban - 30	1.05%
suburban - 40	1.49%
recreational - 60	5.99%

For each factor group, the percent precision value is the maximum value out of all months.

The FHWA Traffic Monitoring Guide 2016 states (page 3-27):

The reliability levels recommended are 10 percent precision with 95 percent confidence for each individual seasonal group, excluding recreational groups where no precision requirement is specified.

New York State Department of
Transportation
Highway Data Services Bureau
MO-TrafficDataViewer@dot.ny.gov
(518) 457-1965

APPENDIX C:

Existing Conditions Capacity Analysis Reports

HCS7 Two-Way Stop-Control Report

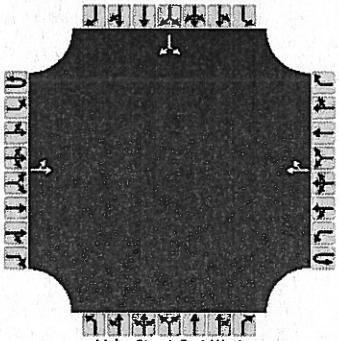
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	Existing Midday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	765				716	37						10		27
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33													39	
Capacity, c (veh/h)		811													230	
v/c Ratio		0.04													0.17	
95% Queue Length, Q_{95} (veh)		0.1													0.6	
Control Delay (s/veh)		9.6													23.8	
Level of Service (LOS)		A													C	
Approach Delay (s/veh)	1.0												23.8			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

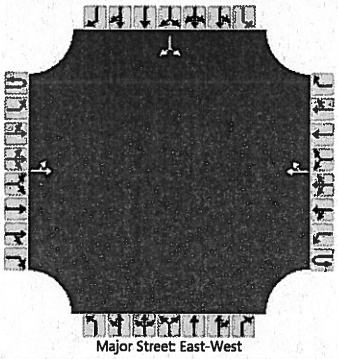
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	Existing PM Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		31	907				1082	22						9		23
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33													34	
Capacity, c (veh/h)		587													115	
v/c Ratio		0.06													0.29	
95% Queue Length, Q_{95} (veh)		0.2													1.1	
Control Delay (s/veh)		11.5													48.6	
Level of Service (LOS)		B													E	
Approach Delay (s/veh)	1.7												48.6			
Approach LOS													E			

HCS7 Two-Way Stop-Control Report

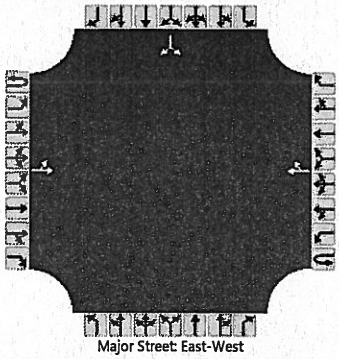
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	Existing Saturday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		20	866				827	14						5		16
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

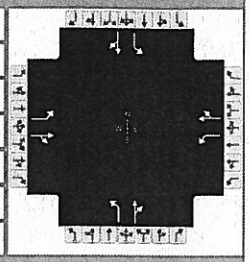
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21													22	
Capacity, c (veh/h)		748													198	
v/c Ratio		0.03													0.11	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		10.0													25.5	
Level of Service (LOS)		A													D	
Approach Delay (s/veh)	0.8												25.5			
Approach LOS													D			

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Existing Midday Peak.xus		
Project Description	Exisiting Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	95	540	117	76	472	39	180	143	78	119	101	75

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	0.6	75.3	9.5	2.5	16.8	1	2	3	4		
Yellow	3.0	0.0	3.6	3.0	0.0	4.7						
Red	0.0	0.0	2.0	0.0	0.0	2.0	5	6	7	8		

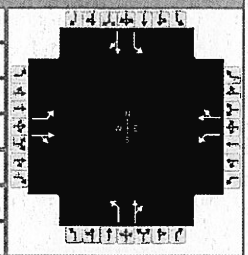
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.6	81.5	7.0	80.9	15.0	26.0	12.5	23.5
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	4.6		4.2		13.4	18.6	9.6	15.3
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.7
Phase Call Probability	0.97		0.94		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	97	670		78	521		184	226		121	180	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1755		1711	1772		1697	1675		1697	1655	
Queue Service Time (g_s), s	2.6	31.0		2.2	21.2		11.4	16.6		7.6	13.3	
Cycle Queue Clearance Time (g_c), s	2.6	31.0		2.2	21.2		11.4	16.6		7.6	13.3	
Green Ratio (*g/C*)	0.65	0.61		0.64	0.60		0.26	0.16		0.22	0.14	
Capacity (*c*), veh/h	503	1062		373	1064		271	268		203	232	
Volume-to-Capacity Ratio (*X*)	0.193	0.631		0.208	0.490		0.677	0.842		0.597	0.774	
Back of Queue (*Q*), ft/ln (50 th percentile)	23.8	317.2		19.8	218.3		134.4	189.8		84.9	147	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.9	12.1		0.8	8.3		5.1	7.1		3.2	5.5	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	10.4	16.0		13.5	14.4		40.3	51.8		42.5	52.7	
Incremental Delay (d_2), s/veh	0.1	2.8		0.1	1.6		5.5	4.4		1.4	2.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	10.4	18.8		13.6	16.0		45.7	56.2		43.9	54.7	
Level of Service (LOS)	B	B		B	B		D	E		D	D	
Approach Delay, s/veh / LOS	17.8	B		15.7	B		51.5	D		50.4	D	
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.37	B	2.09	B	1.74	B	1.50	B

HCS7 Signalized Intersection Results Summary

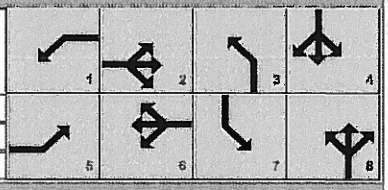
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Existing PM Peak.xus		
Project Description	Exisiting PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	81	513	136	116	608	50	209	165	82	91	96	50

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.2	1.2	74.6	7.6	1.4	16.8	
Yellow	3.0	0.0	3.6	3.0	3.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



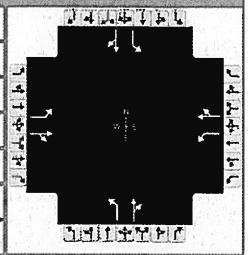
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.2	80.2	8.4	81.4	15.0	27.9	10.6	23.5
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	4.3		5.3		15.0	20.5	7.8	12.6
Green Extension Time (g_e), s	0.1	0.0	0.2	0.0	0.0	0.7	0.0	0.7
Phase Call Probability	0.95		0.98		1.00	1.00	0.96	1.00
Max Out Probability	0.00		0.00		1.00	0.00	0.27	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	83	662		118	671		213	252		93	149	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1745		1711	1772		1697	1681		1697	1678	
Queue Service Time (g_s), s	2.3	31.4		3.3	30.7		13.0	18.5		5.8	10.6	
Cycle Queue Clearance Time (g_c), s	2.3	31.4		3.3	30.7		13.0	18.5		5.8	10.6	
Green Ratio (*g/C*)	0.64	0.60		0.65	0.60		0.26	0.17		0.21	0.14	
Capacity (*c*), veh/h	379	1039		400	1071		296	294		177	235	
Volume-to-Capacity Ratio (*X*)	0.218	0.638		0.296	0.627		0.720	0.859		0.524	0.635	
Back of Queue (*Q*), ft/ln (50 th percentile)	21.3	322.9		29.3	318.7		162	215		64.8	118.4	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8	12.3		1.1	12.1		6.1	8.1		2.4	4.5	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	13.5	16.8		13.1	16.0		41.2	50.9		43.4	51.6	
Incremental Delay (d_2), s/veh	0.1	3.0		0.2	2.8		7.1	6.2		0.9	1.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	13.6	19.8		13.3	18.8		48.4	57.0		44.3	52.6	
Level of Service (LOS)	B	B		B	B		D	E		D	D	
Approach Delay, s/veh / LOS	19.1	B		18.0	B		53.1	D		49.4	D	
Intersection Delay, s/veh / LOS	29.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.33	B	2.40	B	1.84	B	1.41	A

HCS7 Signalized Intersection Results Summary

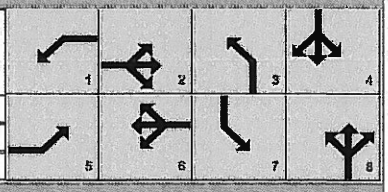
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Saturday Peak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Existing Saturday Peak.xus		
Project Description	Exisiting Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	640	120	85	409	43	176	139	93	158	157	63

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	0.6	71.3	12.0	20.8	0.0	
Yellow	3.0	0.0	3.6	3.0	4.7	0.0	
Red	0.0	0.0	2.0	0.0	2.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.0	76.9	7.5	77.5	15.0	27.5	15.0	27.5
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	4.2		4.7		13.3	20.1	12.0	18.7
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	0.93		0.96		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.03	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	74	800		89	476		185	244		166	232	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1761		1711	1766		1697	1662		1697	1694	
Queue Service Time (g_s), s	2.2	45.5		2.7	19.9		11.3	18.1		10.0	16.7	
Cycle Queue Clearance Time (g_c), s	2.2	45.5		2.7	19.9		11.3	18.1		10.0	16.7	
Green Ratio (*g/C*)	0.61	0.57		0.62	0.57		0.27	0.17		0.27	0.17	
Capacity (*c*), veh/h	474	1003		269	1014		275	286		236	291	
Volume-to-Capacity Ratio (*X*)	0.156	0.798		0.332	0.469		0.674	0.855		0.704	0.795	
Back of Queue (*Q*), ft/ln (50 th percentile)	20.8	494.7		25.9	208.7		132.3	216.4		121.6	194.3	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8	18.9		1.0	7.9		5.0	8.1		4.6	7.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	12.3	21.6		19.5	15.8		38.9	51.0		39.0	50.4	
Incremental Delay (d_2), s/veh	0.1	6.6		0.3	1.6		5.2	9.9		7.8	5.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	12.4	28.2		19.8	17.3		44.1	61.0		46.7	55.6	
Level of Service (LOS)	B	C		B	B		D	E		D	E	
Approach Delay, s/veh / LOS	26.8	C		17.7	B		53.7	D		51.9	D	
Intersection Delay, s/veh / LOS	34.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.54	C	2.03	B	1.78	B	1.66	B

APPENDIX D:

Future No Build Capacity Analysis Reports

HCS7 Two-Way Stop-Control Report

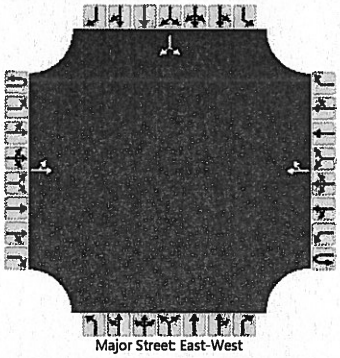
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	No Build Midday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		36	884				807	46						15		34
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		38													52	
Capacity, c (veh/h)		740													165	
v/c Ratio		0.05													0.31	
95% Queue Length, Q_{95} (veh)		0.2													1.2	
Control Delay (s/veh)		10.1													36.3	
Level of Service (LOS)		B													E	
Approach Delay (s/veh)	1.4												36.3			
Approach LOS													E			

HCS7 Two-Way Stop-Control Report

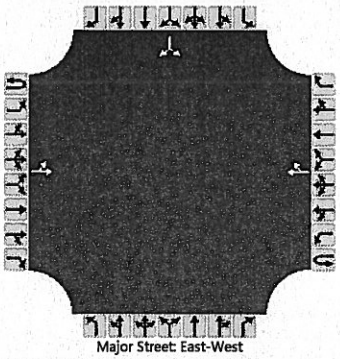
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	No Build PM Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		35	1094				1290	29						13		26
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37													41	
Capacity, c (veh/h)		481													60	
v/c Ratio		0.08													0.68	
95% Queue Length, Q_{95} (veh)		0.2													2.9	
Control Delay (s/veh)		13.1													147.3	
Level of Service (LOS)		B													F	
Approach Delay (s/veh)	3.1												147.3			
Approach LOS													F			

HCS7 Two-Way Stop-Control Report

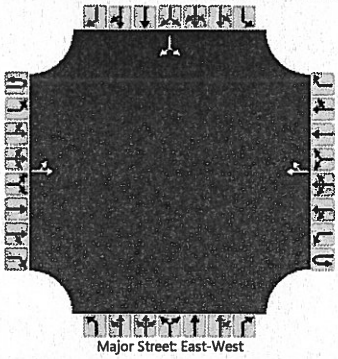
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/6/2018
Analysis Year	2018
Time Analyzed	No Build Saturday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Dogwood/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Dogwood Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		29	1081				1032	26						11		20
Percent Heavy Vehicles (%)		6												0		0
Proportion Time Blocked		0.000												0.000		0.000
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

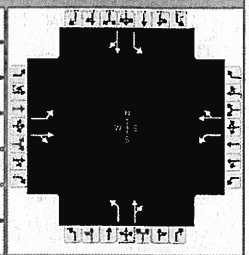
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.16												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		31													33	
Capacity, c (veh/h)		612													90	
v/c Ratio		0.05													0.36	
95% Queue Length, Q_{95} (veh)		0.2													1.4	
Control Delay (s/veh)		11.2													66.2	
Level of Service (LOS)		B													F	
Approach Delay (s/veh)	1.8												66.2			
Approach LOS													F			

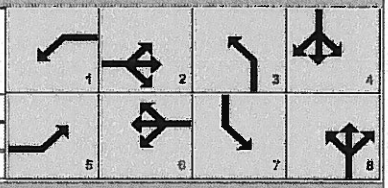
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River No Build Midday Peak.xus		
Project Description	No Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	104	646	125	90	543	54	193	147	107	155	103	90

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	4.7	0.5	70.1	11.4	0.6	21.4						
Yellow	3.0	0.0	3.6	3.0	0.0	4.7						
Red	0.0	0.0	2.0	0.0	0.0	2.0						

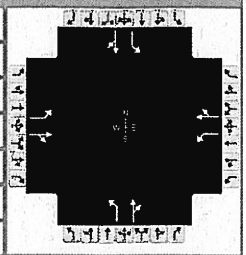
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.2	76.2	7.7	75.7	15.0	28.7	14.4	28.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.2		4.8		14.0	21.3	11.5	16.2
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	0.98		0.96		1.00	1.00	1.00	1.00
Max Out Probability	0.01		0.00		1.00	0.07	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	106	787		92	609		197	259		158	197	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1760		1711	1767		1697	1656		1697	1643	
Queue Service Time (g_s), s	3.2	44.8		2.8	29.4		12.0	19.3		9.5	14.2	
Cycle Queue Clearance Time (g_c), s	3.2	44.8		2.8	29.4		12.0	19.3		9.5	14.2	
Green Ratio (*g/C*)	0.61	0.56		0.60	0.56		0.28	0.18		0.27	0.18	
Capacity (*c*), veh/h	399	992		257	990		303	299		228	290	
Volume-to-Capacity Ratio (*X*)	0.266	0.793		0.357	0.616		0.650	0.866		0.692	0.679	
Back of Queue (*Q*), ft/ln (50 th percentile)	30.3	489		27.5	314.3		137.1	234.5		113.3	154.3	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.2	18.7		1.0	11.9		5.2	8.8		4.3	5.8	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	14.2	21.9		20.7	18.8		38.0	50.5		38.8	48.9	
Incremental Delay (d_2), s/veh	0.1	6.5		0.3	2.9		3.8	12.3		6.7	1.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	14.4	28.4		21.0	21.6		41.8	62.9		45.5	50.2	
Level of Service (LOS)	B	C		C	C		D	E		D	D	
Approach Delay, s/veh / LOS	26.7	C		21.6	C		53.8	D		48.1	D	
Intersection Delay, s/veh / LOS	33.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.57	C	2.26	B	1.82	B	1.59	B

HCS7 Signalized Intersection Results Summary

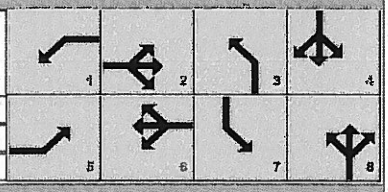
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River No Build PM Peak.xus		
Project Description	No Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	110	649	156	160	772	100	230	170	111	124	99	73

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	5.5	1.6	68.2	9.5	2.5	21.4	
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



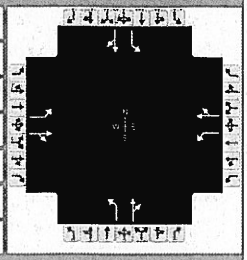
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.5	73.8	10.2	75.4	15.0	30.5	12.5	28.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.6		7.1		15.0	23.3	9.6	14.4
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.6	0.0	0.9
Phase Call Probability	0.98		1.00		1.00	1.00	0.99	1.00
Max Out Probability	0.02		0.15		1.00	0.23	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	112	821		163	890		235	287		127	176	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1750		1711	1760		1697	1663		1697	1655	
Queue Service Time (g_s), s	3.6	51.2		5.1	57.5		13.0	21.3		7.6	12.4	
Cycle Queue Clearance Time (g_c), s	3.6	51.2		5.1	57.5		13.0	21.3		7.6	12.4	
Green Ratio (*g/C*)	0.60	0.54		0.62	0.56		0.29	0.20		0.26	0.18	
Capacity (*c*), veh/h	195	953		257	981		321	325		202	291	
Volume-to-Capacity Ratio (*X*)	0.576	0.862		0.634	0.907		0.732	0.881		0.627	0.602	
Back of Queue (*Q*), ft/ln (50 th percentile)	47.5	577.8		66.3	670.8		171.7	267.4		85.3	134.9	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.8	22.1		2.5	25.4		6.5	10.1		3.2	5.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	27.7	24.8		24.8	25.2		39.0	49.6		39.6	48.2	
Incremental Delay (d_2), s/veh	1.0	10.1		1.1	13.5		7.3	16.0		2.2	0.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	28.7	34.9		25.9	38.7		46.3	65.7		41.9	49.0	
Level of Service (LOS)	C	C		C	D		D	E		D	D	
Approach Delay, s/veh / LOS	34.2	C		36.7	D		57.0	E		46.0	D	
Intersection Delay, s/veh / LOS	40.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.64	C	2.84	C	1.93	B	1.51	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	SaturdayPeak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River No Build Saturday Peak.xus		
Project Description	No Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	101	805	142	119	559	82	202	143	135	208	162	98

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

								1	2	3	4	
Green	5.5	1.2	64.0	10.0	24.0	0.0						
Yellow	3.0	0.0	3.6	3.0	4.7	0.0						
Red	2.0	0.0	2.0	2.0	2.0	0.0	5	6	7	8		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.5	69.6	11.7	70.8	15.0	30.7	15.0	30.7
Change Period, ($Y+R_c$), s	5.0	5.6	5.0	5.6	5.0	6.7	5.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.6		6.7		13.0	23.3	13.0	21.2
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.9
Phase Call Probability	0.98		0.99		1.00	1.00	1.00	1.00
Max Out Probability	0.20		0.88		1.00	0.29	1.00	0.10

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	106	997		125	675		213	293		219	274	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1807		1767	1814		1753	1693		1753	1724	
Queue Service Time (g_s), s	3.6	65.0		4.7	36.0		11.0	21.3		11.0	19.2	
Cycle Queue Clearance Time (g_c), s	3.6	65.0		4.7	36.0		11.0	21.3		11.0	19.2	
Green Ratio (*g/C*)	0.56	0.51		0.57	0.52		0.28	0.20		0.28	0.20	
Capacity (*c*), veh/h	309	924		164	945		232	334		215	340	
Volume-to-Capacity Ratio (*X*)	0.344	1.078		0.765	0.714		0.915	0.877		1.020	0.806	
Back of Queue (*Q*), ft/ln (50 th percentile)	34.9	1012.1		57	397.9		195.4	262.9		239.7	227.5	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.4	39.5		2.2	15.5		7.6	10.2		9.3	8.8	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	19.5	31.0		32.6	23.2		41.5	49.5		41.9	48.7	
Incremental Delay (d_2), s/veh	0.2	53.1		8.6	4.6		36.1	15.4		66.8	8.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	19.7	84.1		41.2	27.8		77.7	64.9		108.7	56.7	
Level of Service (LOS)	B	F		D	C		E	E		F	E	
Approach Delay, s/veh / LOS	77.9	E		29.9	C		70.3	E		79.8	E	
Intersection Delay, s/veh / LOS	63.6						E					

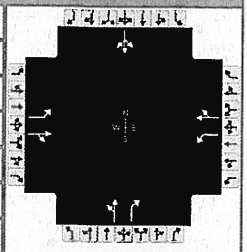
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.92	C	2.42	B	1.90	B	1.82	B

APPENDIX E:

Future Build Capacity Analysis Reports

HCS7 Signalized Intersection Results Summary

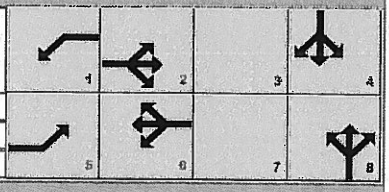
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Dogwood Dr	File Name	25A w Dogwood Dr Midday Peak.xus		
Project Description	Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	36	884	79	74	807	46	83	5	46	15	5	34

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.1	1.3	79.5	9.1	0.0	0.0	
Yellow	4.0	0.0	4.0	4.0	0.0	0.0	
Red	0.0	0.0	2.0	2.0	0.0	0.0	



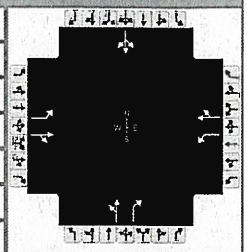
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		8.0
Phase Duration, s	8.1	85.5	9.4	86.8		15.1		15.1
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	3.0	0.0	3.0	0.0		3.4		3.4
Queue Clearance Time (g_s), s	2.5		3.0			9.0		5.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.2
Phase Call Probability	0.69		0.91			1.00		1.00
Max Out Probability	0.42		1.00			1.00		0.34

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	38	1014		78	898			93	48		57	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1843		1810	1852			1409	1610		1681	
Queue Service Time (g_s), s	0.5	36.0		1.0	26.5			3.6	3.1		0.0	
Cycle Queue Clearance Time (g_c), s	0.5	36.0		1.0	26.5			7.0	3.1		3.4	
Green Ratio (*g/C*)	0.78	0.73		0.79	0.74			0.09	0.09		0.09	
Capacity (*c*), veh/h	449	1349		400	1378			192	147		195	
Volume-to-Capacity Ratio (*X*)	0.084	0.751		0.195	0.652			0.481	0.329		0.291	
Back of Queue (*Q*), ft/ln (95 th percentile)	7.9	446.2		27	332.6			114.7	57.7		66.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	17.6		1.1	13.1			4.6	2.3		2.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00			0.00	0.00		0.00	
Uniform Delay (d_1), s/veh	6.6	8.8		9.4	7.0			48.6	46.8		47.0	
Incremental Delay (d_2), s/veh	0.0	3.9		0.1	2.4			0.7	0.5		0.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Control Delay (*d*), s/veh	6.6	12.7		9.5	9.4			49.3	47.3		47.3	
Level of Service (LOS)	A	B		A	A			D	D		D	
Approach Delay, s/veh / LOS	12.5	B		9.4	A		48.6	D		47.3	D	
Intersection Delay, s/veh / LOS	14.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.63	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.22	B	2.10	B	0.72	A	0.58	A

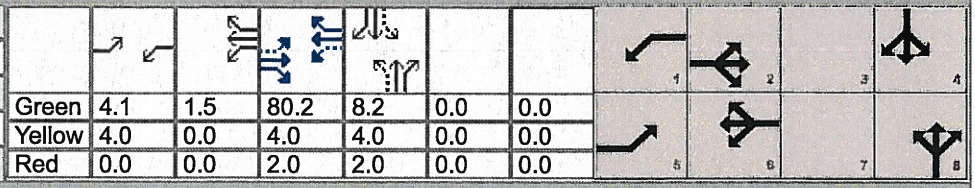
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Dogwood Dr	File Name	25A w Dogwood Dr PM Peak.xus		
Project Description	Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	1094	71	84	1290	29	75	3	52	13	3	26

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	4.1	1.5	80.2	8.2	0.0	0.0
Yellow	4.0	0.0	4.0	4.0	0.0	0.0
Red	0.0	0.0	2.0	2.0	0.0	0.0

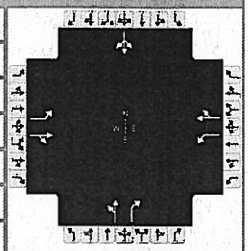
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		8.0
Phase Duration, s	8.1	86.2	9.6	87.7		14.2		14.2
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	3.0	0.0	3.0	0.0		3.4		3.4
Queue Clearance Time (g_s), s	2.5		3.1			8.2		4.7
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.1		0.2
Phase Call Probability	0.68		0.93			1.00		1.00
Max Out Probability	0.40		1.00			1.00		0.16

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	37	1226		88	1388			82	55		44	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1850		1810	1863			1415	1610		1669	
Queue Service Time (g_s), s	0.5	56.7		1.1	79.9			3.5	3.5		0.0	
Cycle Queue Clearance Time (g_c), s	0.5	56.7		1.1	79.9			6.2	3.5		2.7	
Green Ratio (*g/C*)	0.78	0.74		0.80	0.75			0.08	0.08		0.08	
Capacity (*c*), veh/h	149	1365		277	1401			183	135		183	
Volume-to-Capacity Ratio (*X*)	0.248	0.898		0.320	0.991			0.449	0.405		0.241	
Back of Queue (*Q*), ft/ln (95 th percentile)	32	691.3		61.5	1005.4			101.6	66.3		51.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	27.2		2.5	39.6			4.1	2.7		2.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00			0.00	0.00		0.00	
Uniform Delay (d_1), s/veh	32.6	11.2		20.7	13.3			49.0	47.8		47.4	
Incremental Delay (d_2), s/veh	0.3	9.6		0.2	22.0			0.6	0.7		0.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Control Delay (*d*), s/veh	32.9	20.8		20.9	35.3			49.6	48.5		47.6	
Level of Service (LOS)	C	C		C	D			D	D		D	
Approach Delay, s/veh / LOS	21.2	C		34.5	C		49.2	D		47.6	D	
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.62	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.57	C	2.92	C	0.71	A	0.56	A

HCS7 Signalized Intersection Results Summary

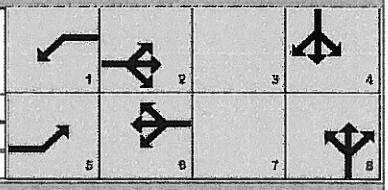
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Saturday Peak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Dogwood Dr	File Name	25A w Dogwood Dr Saturday Peak.xus		
Project Description	Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	1081	129	121	1032	26	118	2	65	11	2	20

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	3.6	2.2	78.1	10.0	0.0	0.0	
Yellow	4.0	0.0	4.0	4.0	0.0	0.0	
Red	0.0	0.0	2.0	2.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		8.0
Phase Duration, s	7.6	84.1	9.9	86.4		16.0		16.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	3.0	0.0	3.0	0.0		3.4		3.4
Queue Clearance Time (g_s), s	2.5		3.7			11.7		4.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.2
Phase Call Probability	0.61		0.98			1.00		1.00
Max Out Probability	0.35		1.00			1.00		0.11

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	31	1274		127	1114			126	68		35	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1835		1810	1862			1416	1610		1697	
Queue Service Time (g_s), s	0.5	70.0		1.7	42.6			7.6	4.4		0.0	
Cycle Queue Clearance Time (g_c), s	0.5	70.0		1.7	42.6			9.7	4.4		2.0	
Green Ratio (*g/C*)	0.76	0.72		0.79	0.74			0.10	0.10		0.10	
Capacity (*c*), veh/h	309	1320		215	1377			207	161		213	
Volume-to-Capacity Ratio (*X*)	0.099	0.965		0.592	0.809			0.612	0.425		0.163	
Back of Queue (*Q*), ft/ln (95 th percentile)	12.6	913.8		115.2	518			166.2	81.9		39.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	36.0		4.6	20.4			6.6	3.3		1.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00			0.00	0.00		0.00	
Uniform Delay (d_1), s/veh	12.3	14.2		30.6	9.3			48.9	46.5		45.5	
Incremental Delay (d_2), s/veh	0.1	17.7		2.9	5.2			3.8	0.7		0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Control Delay (*d*), s/veh	12.3	31.8		33.5	14.5			52.7	47.2		45.6	
Level of Service (LOS)	B	C		C	B			D	D		D	
Approach Delay, s/veh / LOS	31.4	C		16.4	B		50.8	D		45.6	D	
Intersection Delay, s/veh / LOS	26.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.63	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.64	C	2.54	C	0.81	A	0.54	A

HCS7 Two-Way Stop-Control Report

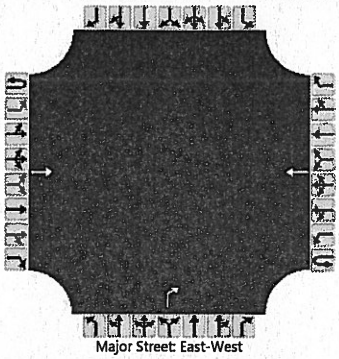
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/15/2018
Analysis Year	2018
Time Analyzed	Build Midday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Right Turn Only Exit/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Venezia Driveway
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration			T				T					R				
Volume (veh/h)			945				900					32				
Percent Heavy Vehicles (%)												1				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.2				
Critical Headway (sec)												6.21				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.31				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												34				
Capacity, c (veh/h)												298				
v/c Ratio												0.11				
95% Queue Length, Q_{95} (veh)												0.4				
Control Delay (s/veh)												18.6				
Level of Service (LOS)												C				
Approach Delay (s/veh)										18.6						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

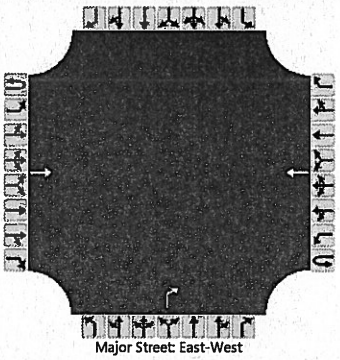
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/15/2018
Analysis Year	2018
Time Analyzed	Build PM Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Right Turn Only Exit/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Venezia Driveway
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration			T				T					R				
Volume (veh/h)			1159				1159					36				
Percent Heavy Vehicles (%)												1				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.2				
Critical Headway (sec)												6.21				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.31				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												38				
Capacity, c (veh/h)												221				
v/c Ratio												0.17				
95% Queue Length, Q_{95} (veh)												0.6				
Control Delay (s/veh)												24.7				
Level of Service (LOS)												C				
Approach Delay (s/veh)										24.7						
Approach LOS										C						

HCS7 Two-Way Stop-Control Report

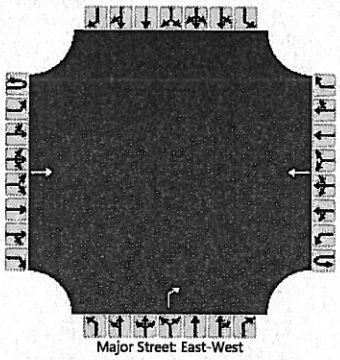
General Information

Analyst	A.R.
Agency/Co.	Schneider Engineering
Date Performed	11/15/2018
Analysis Year	2018
Time Analyzed	Build Saturday Peak
Intersection Orientation	East-West
Project Description	Venezia Square

Site Information

Intersection	Right Turn Only Exit/25A
Jurisdiction	NYSDOT
East/West Street	NYS Route 25A
North/South Street	Venezia Driveway
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration			T				T					R				
Volume (veh/h)			1157				980					46				
Percent Heavy Vehicles (%)												1				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

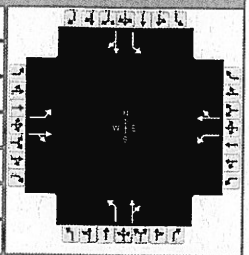
Base Critical Headway (sec)												6.2				
Critical Headway (sec)												6.21				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.31				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												48				
Capacity, c (veh/h)												221				
v/c Ratio												0.22				
95% Queue Length, Q_{95} (veh)												0.8				
Control Delay (s/veh)												25.8				
Level of Service (LOS)												D				
Approach Delay (s/veh)										25.8						
Approach LOS										D						

HCS7 Signalized Intersection Results Summary

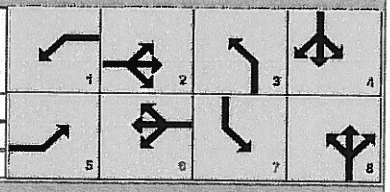
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build Midday Peak_As Is.xus		
Project Description	Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	114	702	137	90	591	54	211	147	107	155	103	98

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.7	0.8	69.7	11.4	0.6	21.4		
Yellow	3.0	0.0	3.6	3.0	0.0	4.7		
Red	0.0	0.0	2.0	0.0	0.0	2.0		



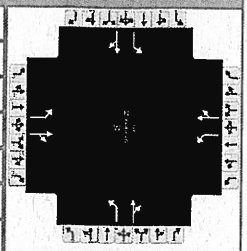
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.5	76.1	7.7	75.3	15.0	28.7	14.4	28.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.5		4.9		15.0	21.3	11.5	17.0
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	0.98		0.96		1.00	1.00	1.00	1.00
Max Out Probability	0.02		0.00		1.00	0.07	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	116	856		92	658		215	259		158	205	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1759		1711	1770		1697	1656		1697	1638	
Queue Service Time (g_s), s	3.5	52.6		2.9	33.3		13.0	19.3		9.5	15.0	
Cycle Queue Clearance Time (g_c), s	3.5	52.6		2.9	33.3		13.0	19.3		9.5	15.0	
Green Ratio (*g/C*)	0.61	0.56		0.60	0.56		0.28	0.18		0.27	0.18	
Capacity (*c*), veh/h	367	991		212	986		296	300		229	289	
Volume-to-Capacity Ratio (*X*)	0.317	0.864		0.433	0.668		0.727	0.865		0.692	0.709	
Back of Queue (*Q*), ft/ln (50 th percentile)	33.2	589.3		33.9	359.9		158.8	234.4		113.2	163.4	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.3	22.5		1.3	13.6		6.0	8.8		4.3	6.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	15.5	23.6		24.5	19.8		38.8	50.5		38.8	49.2	
Incremental Delay (d_2), s/veh	0.2	9.9		0.5	3.6		7.6	12.3		6.6	2.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	15.7	33.5		25.0	23.4		46.4	62.8		45.5	51.3	
Level of Service (LOS)	B	C		C	C		D	E		D	D	
Approach Delay, s/veh / LOS	31.4	C		23.6	C		55.3	E		48.8	D	
Intersection Delay, s/veh / LOS	36.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.70	C	2.34	B	1.85	B	1.61	B

HCS7 Signalized Intersection Results Summary

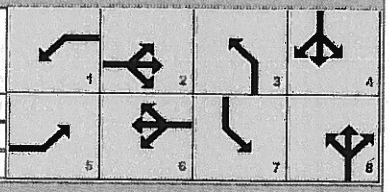
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build PM Peak_As Is.xus		
Project Description	Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	120	711	172	160	831	100	250	170	111	124	99	78

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	6.6	0.7	68.0	9.5	2.5	21.4	
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



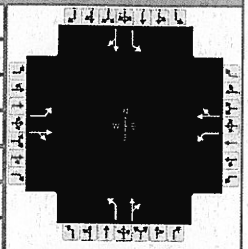
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.6	73.6	10.3	74.3	15.0	30.5	12.5	28.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	6.6		7.2		15.0	23.3	9.6	14.9
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.6	0.0	0.9
Phase Call Probability	0.99		1.00		1.00	1.00	0.99	1.00
Max Out Probability	0.07		0.17		1.00	0.24	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	122	901		163	950		255	287		127	181	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1750		1711	1762		1697	1663		1697	1651	
Queue Service Time (g_s), s	4.6	61.7		5.2	67.0		13.0	21.3		7.6	12.9	
Cycle Queue Clearance Time (g_c), s	4.6	61.7		5.2	67.0		13.0	21.3		7.6	12.9	
Green Ratio (*g/C*)	0.60	0.54		0.61	0.55		0.29	0.20		0.26	0.18	
Capacity (*c*), veh/h	160	950		203	967		316	325		202	291	
Volume-to-Capacity Ratio (*X*)	0.764	0.949		0.805	0.982		0.807	0.881		0.627	0.621	
Back of Queue (*Q*), ft/ln (50 th percentile)	55.2	744.3		82.7	849.2		75.3	267.3		85.3	139.3	
Back of Queue (*Q*), veh/ln (50 th percentile)	2.1	28.4		3.1	32.2		2.8	10.1		3.2	5.2	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	33.9	27.4		28.9	28.0		40.9	49.6		39.6	48.4	
Incremental Delay (d_2), s/veh	4.4	19.2		9.8	24.9		13.3	16.0		2.2	0.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	38.3	46.5		38.7	53.0		54.2	65.7		41.9	49.2	
Level of Service (LOS)	D	D		D	D		D	E		D	D	
Approach Delay, s/veh / LOS	45.5	D		50.9	D		60.3	E		46.2	D	
Intersection Delay, s/veh / LOS	50.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.79	C	2.94	C	1.96	B	1.51	B

HCS7 Signalized Intersection Results Summary

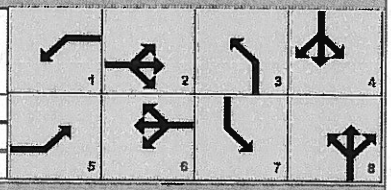
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	11/6/2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	SaturdayPeak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build Saturday Peak_As Is.xus		
Project Description	Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	110	891	157	119	635	82	235	143	135	208	162	110

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	5.8	0.9	64.0	10.0	24.0	0.0	
Yellow	3.0	0.0	3.6	3.0	4.7	0.0	
Red	2.0	0.0	2.0	2.0	2.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.8	69.6	11.7	70.4	15.0	30.7	15.0	30.7
Change Period, ($Y+R_c$), s	5.0	5.6	5.0	5.6	5.0	6.7	5.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.9		6.7		13.0	23.3	13.0	22.4
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	0.98		0.99		1.00	1.00	1.00	1.00
Max Out Probability	0.31		0.88		1.00	0.30	1.00	0.19

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	116	1103		125	755		247	293		219	286	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1807		1767	1818		1753	1693		1753	1716	
Queue Service Time (g_s), s	3.9	65.0		4.7	43.4		11.0	21.3		11.0	20.4	
Cycle Queue Clearance Time (g_c), s	3.9	65.0		4.7	43.4		11.0	21.3		11.0	20.4	
Green Ratio (*g/C*)	0.57	0.51		0.57	0.52		0.28	0.20		0.28	0.20	
Capacity (*c*), veh/h	259	924		164	942		222	334		215	338	
Volume-to-Capacity Ratio (*X*)	0.447	1.194		0.765	0.801		1.113	0.876		1.019	0.846	
Back of Queue (*Q*), ft/ln (50 th percentile)	38	1306.1		57	491.6		193.4	262.7		239.7	247.7	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.5	51.0		2.2	19.2		7.5	10.2		9.3	9.6	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	22.6	31.0		32.6	25.2		42.6	49.5		41.9	49.1	
Incremental Delay (d_2), s/veh	0.4	97.8		8.6	7.1		93.8	15.3		66.5	11.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	23.1	128.9		41.2	32.3		136.4	64.8		108.4	60.7	
Level of Service (LOS)	C	F		D	C		F	E		F	E	
Approach Delay, s/veh / LOS	118.8	F		33.6	C		97.6	F		81.4	F	
Intersection Delay, s/veh / LOS	85.3						F					

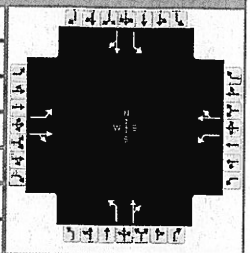
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	3.11	C	2.55	C	1.96	B	1.84	B

APPENDIX F:

Future Build Capacity Analysis Reports with Mitigation

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build Midday Peak.xus		
Project Description	Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	114	702	137	90	591	54	211	147	107	155	103	98

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.7	0.8	75.1	11.7	0.3	21.2	1	2	3	4		
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	5	6	7	8		
Red	0.0	0.0	0.0	0.0	0.0	2.0						

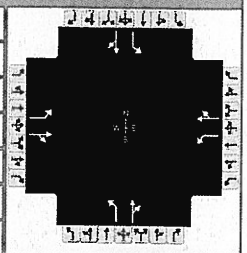
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.4	79.4	7.7	78.7	15.0	28.1	14.7	27.9
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.5		4.9		15.0	20.5	11.8	16.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.9
Phase Call Probability	0.99		0.96		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	116	823		92	642		215	245		158	194	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1770		1711	1777		1697	1665		1697	1646	
Queue Service Time (g_s), s	3.5	48.0		2.9	31.6		13.0	18.5		9.8	14.4	
Cycle Queue Clearance Time (g_c), s	3.5	48.0		2.9	31.6		13.0	18.5		9.8	14.4	
Green Ratio (*g/C*)	0.63	0.58		0.61	0.57		0.27	0.17		0.27	0.17	
Capacity (*c*), veh/h	390	1019		247	1012		293	287		229	281	
Volume-to-Capacity Ratio (*X*)	0.298	0.808		0.372	0.634		0.735	0.852		0.690	0.690	
Back of Queue (*Q*), ft/ln (95 th percentile)	59.2	719		54	496.2		275.5	328.6		209.1	262.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	27.4		2.0	18.8		10.4	12.4		7.9	9.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	14.6	21.9		21.6	18.8		41.1	52.2		40.2	50.7	
Incremental Delay (d_2), s/veh	0.2	6.9		0.3	3.0		8.2	2.8		6.8	1.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	14.7	28.8		22.0	21.9		49.3	54.9		47.1	51.8	
Level of Service (LOS)	B	C		C	C		D	D		D	D	
Approach Delay, s/veh / LOS	27.1	C		21.9	C		52.3	D		49.7	D	
Intersection Delay, s/veh / LOS	33.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.91	B	1.97	B	2.00	B
Bicycle LOS Score / LOS	2.65	C	2.31	B	1.83	B	1.59	B

HCS7 Signalized Intersection Results Summary

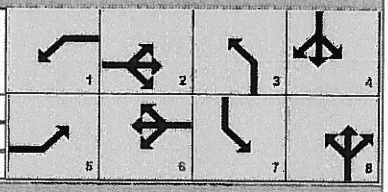
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build PM Peak.xus		
Project Description	Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	120	711	172	160	831	100	250	170	111	124	99	78

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	5.7	0.3	72.5	9.8	2.2	21.2		
Yellow	3.0	0.0	3.6	3.0	0.0	4.7		
Red	0.0	0.0	2.0	0.0	0.0	2.0		



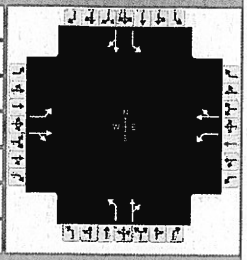
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.7	78.1	9.0	78.4	15.0	30.1	12.8	27.9
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.8		7.2		15.0	22.5	9.8	14.2
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.9
Phase Call Probability	0.99		1.00		1.00	1.00	0.99	1.00
Max Out Probability	1.00		1.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	122	868		163	934		255	272		127	169	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1759		1711	1767		1697	1672		1697	1661	
Queue Service Time (g_s), s	3.8	55.1		5.2	63.0		13.0	20.5		7.8	12.2	
Cycle Queue Clearance Time (g_c), s	3.8	55.1		5.2	63.0		13.0	20.5		7.8	12.2	
Green Ratio (*g/C*)	0.62	0.57		0.62	0.57		0.29	0.19		0.25	0.17	
Capacity (*c*), veh/h	179	994		234	1003		314	314		203	284	
Volume-to-Capacity Ratio (*X*)	0.683	0.873		0.697	0.931		0.813	0.867		0.623	0.597	
Back of Queue (*Q*), ft/ln (95 th percentile)	116.2	832.3		147.8	979.7		148.8	357.8		159.1	231.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	4.4	31.8		5.6	37.1		5.6	13.5		6.0	8.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	29.9	24.3		26.4	25.8		42.8	51.2		41.0	49.8	
Incremental Delay (d_2), s/veh	8.0	10.5		7.4	16.0		14.0	2.8		2.3	0.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	38.0	34.8		33.8	41.8		56.8	54.0		43.3	50.5	
Level of Service (LOS)	D	C		C	D		E	D		D	D	
Approach Delay, s/veh / LOS	35.2	D		40.6	D		55.4	E		47.4	D	
Intersection Delay, s/veh / LOS	42.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.91	B	1.97	B	2.00	B
Bicycle LOS Score / LOS	2.73	C	2.91	C	1.94	B	1.50	A

HCS7 Signalized Intersection Results Summary

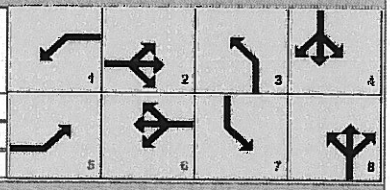
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.25
Analyst	A.R.	Analysis Date	Dec 11, 2018	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Saturday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2018	Analysis Period	1> 7:00
Intersection	25A with Wading River...	File Name	25A w Wading River Build Saturday Peak.xus		
Project Description	Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	110	891	158	119	635	82	235	143	135	208	162	110

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	5.4	0.6	70.6	12.0	23.1	0.0		
Yellow	3.0	0.0	3.6	3.0	4.7	0.0		
Red	0.0	0.0	2.0	0.0	2.0	0.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.4	76.2	9.0	76.8	15.0	29.8	15.0	29.8
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.2	3.2	3.2	3.2
Queue Clearance Time (g_s), s	5.5		6.7		15.0	21.9	14.8	21.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.1
Phase Call Probability	0.98		0.99		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	112	1038		121	715		240	269		212	266	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1815		1767	1825		1753	1700		1753	1723	
Queue Service Time (g_s), s	3.5	71.6		4.7	37.3		13.0	19.9		12.8	19.4	
Cycle Queue Clearance Time (g_c), s	3.5	71.6		4.7	37.3		13.0	19.9		12.8	19.4	
Green Ratio (*g/C*)	0.60	0.55		0.61	0.56		0.29	0.19		0.29	0.19	
Capacity (*c*), veh/h	322	1000		151	1013		270	315		240	319	
Volume-to-Capacity Ratio (*X*)	0.349	1.037		0.807	0.706		0.887	0.856		0.884	0.835	
Back of Queue (*Q*), ft/ln (95 th percentile)	60.8	1298.6		218	573.4		332.9	343.1		302.5	337.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.4	50.7		8.5	22.4		12.9	13.3		11.7	13.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	18.2	29.2		36.2	21.1		42.3	51.3		40.0	51.1	
Incremental Delay (d_2), s/veh	0.2	38.6		24.9	4.1		27.0	2.6		28.8	2.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	18.5	67.8		61.1	25.3		69.3	53.9		68.8	53.3	
Level of Service (LOS)	B	F		E	C		E	D		E	D	
Approach Delay, s/veh / LOS	63.0	E		30.5	C		61.2	E		60.2	E	
Intersection Delay, s/veh / LOS	53.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.91	B	1.97	B	1.99	B
Bicycle LOS Score / LOS	3.00	C	2.48	B	1.91	B	1.80	B

APPENDIX F
REVISED TRAFFIC IMPACT STUDY

Schneider Engineering, PLLC
May 10, 2022

NPV

Schneider Engineering, PLLC

Civil Engineering: Traffic • Municipal • Accident Investigations
Steven Schneider, P.E.
Principal

Venezia Square

Revised Traffic Impact Study

May 10, 2022

43 Seacliff Avenue • Miller Place, New York 11764 • 631 698-6200

www.schneiderengineering.com New York • New Jersey • Florida

Abstract

Schneider Engineering, PLLC has prepared this report to serve as an updated version of the Traffic Impact Study we had submitted in December 2018 for the Venezia Square project. The location of this project is on NY-25A across from Dog Wood Drive, Wading River, New York.

In a letter from the Town of Riverhead Planning Department dated February 15, 2022 to Nelson, Pope 7 Voorhis, LLC, concern was expressed regarding the Level-of-Service (LOS) impact at the intersection of NY-25A and Wading River Manor Road. The 2018 existing conditions capacity analysis identified the overall LOS as operating at LOS C during the peak midday, PM and Saturday conditions. The future build scenario with mitigation measures identified the overall LOS reducing from a C to a D during the PM peak hour and Saturday peak hour. The Town's concern is that the proposed development would result in a traffic impact which would reduce service to a level D or below.

In this report we prepared an updated LOS analysis at the intersection with new turning movement counts (2022) and updated background traffic growth from other proposed developments in the immediate vicinity. Our finding is that under a conservative analysis, the future no build scenario will have an overall LOS C during the peak midday and PM conditions and LOS D during the Saturday condition. In the build scenario service levels will not be reduced from the no build scenario. Therefore, the proposed development will not result in a traffic impact that reduces service levels.

Analysis and Conclusions

We performed an updated level-of-service analysis with the traffic impact related changes that have occurred from the postponement of this project due to COVID-19. From discussions with the Town of Riverhead Planning Department, the major change has been the reduced number of other planned projects in the area anticipated to be developed. Previously it was anticipated that there were going to be five other projects developed in the area whereas now there are only two. These two other planned projects are described below, containing their trip generations.

1. **Central Square** - is located along the south side of Route 25A, approximately a quarter mile to the east of the intersection of Wading River Manor Road and Route 25A. The proposed development is comprised of a restaurant, 14,076 SF of retail space, a 4,250 SF bank with drive thru and 28,962 SF of professional office space is estimated to generate 318 trips (141 Entering, 177 Exiting) during the midday peak hour, 318 trips (141 Entering, 177 Exiting) during the PM peak hour, and 305 trips (162 Entering, 143 Exiting) during the Saturday midday peak hour.

2. **Real Life Church of Wading River** - is located approximately 315 FT north of the intersection of Route 25A and Dogwood Drive. The proposed development includes a proposed 2,952 SF expansion to the existing 2,533 SF church, which will include approximately 1,220 SF of office area in the basement of the church, 1,323 SF of meeting

rooms in the basement, and 409 SF of sanctuary space to include 205 seats. The proposed new church space is expected to generate 27 trips (14 Entering,13 Exiting) during the midday peak hour, 12 trips (7 Entering, 5 Exiting) during the PM peak hour, and 31 trips (22 Entering, 9 Exiting) during the Saturday midday peak hour.

In addition, new turning movement counts were taken at the intersection to utilize current conditions as the base for our analysis. Turning movement counts were taken on Wednesday, April 13, 2022 from 11:00am to 1:00pm, 4:00pm to 6:00pm, and Saturday, April 23, 2022 from 11:00am to 2:00pm. The midweek peak hours were found to be 12:00pm to 1:00pm and 4:00pm to 5:00pm and the Saturday peak hour was found to be 11:45am to 12:45pm. The turning movement count data is included in Appendix A of this report.

A seasonal factor of 1.052 was applied to the turning movement counts using the 2017 NYSDOT Seasonal Adjustment Factors[1] to reflect the busiest summer month. The existing traffic volume data with the applied seasonal factor is presented below in Figure 1.

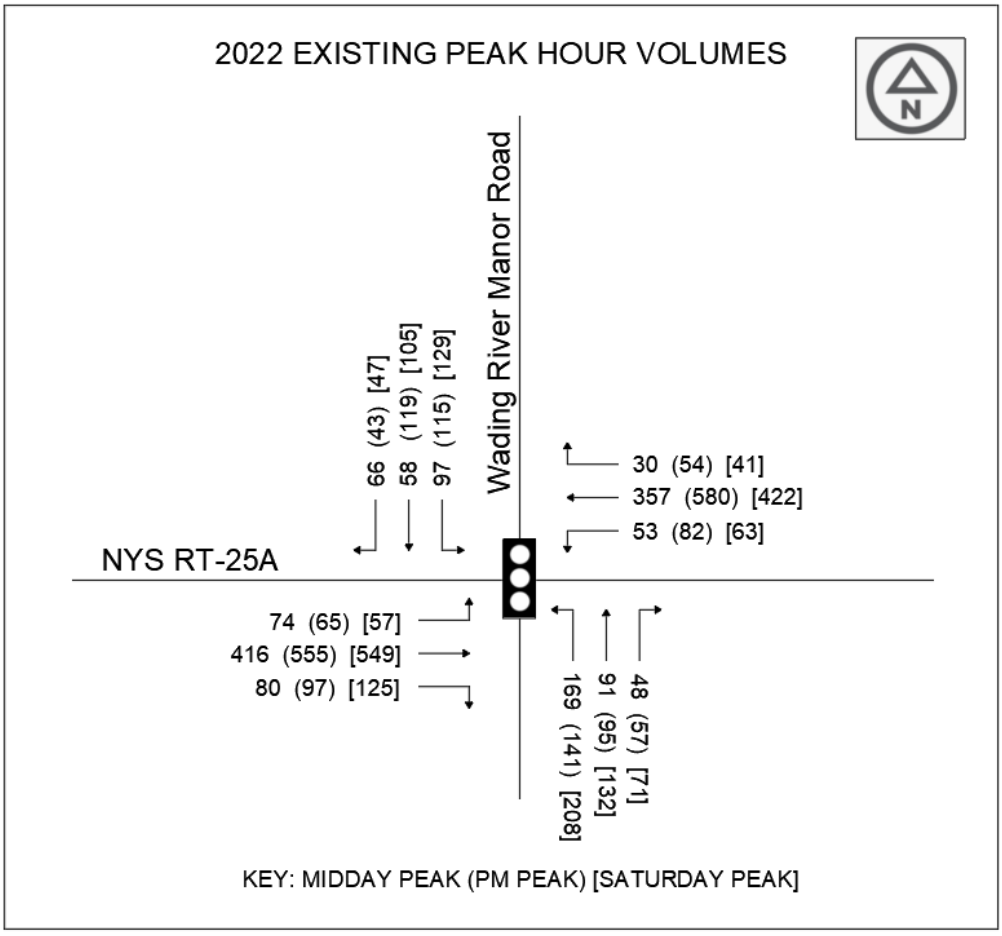


Figure 1. Existing Traffic Volumes

[1] https://www.dot.ny.gov/divisions/engineering/technical-services/hds-respository/Tab/NYSDOT_2017_Seasonal_Adjustment_Factors.pdf

To obtain the future no build scenario traffic volumes, a conservative background traffic growth rate of 1.7% was applied to the existing counts. This rate was previously used in our December 2018 TIS which is based on the NYSDOT Long Island Transportation Plan. In addition, the traffic associated with the other planned developments in the area discussed above were also added. The future no build scenario traffic volumes are presented in Figure 2 below.

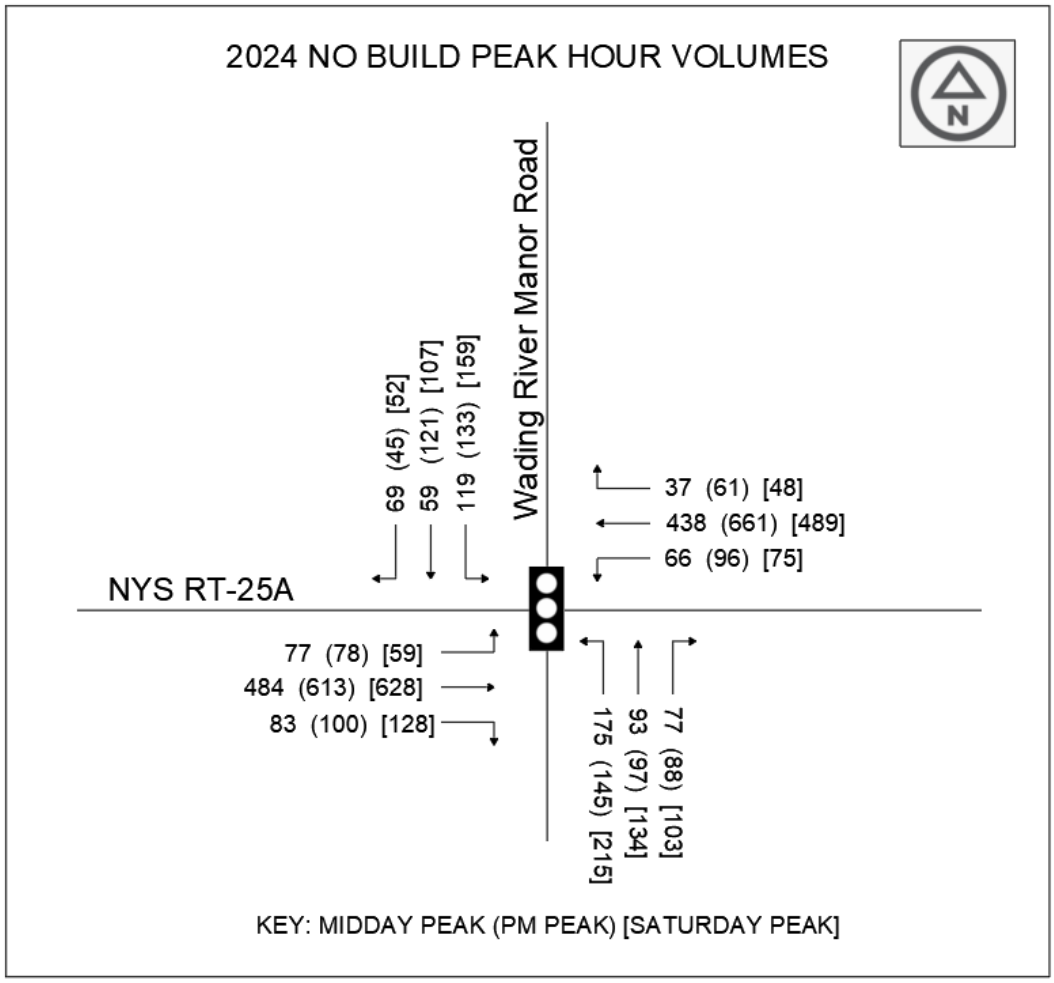


Figure 2. No Build Traffic Volumes

Finally, the build scenario traffic volumes were obtained by adding the traffic associated with the proposed Venezia Square site. The trip generation calculations remained the same as contained in our December 2018 TIS, based on the industry standard ITE Trip Generation Manual. The future build scenario traffic volumes are presented in Figure 3 below.

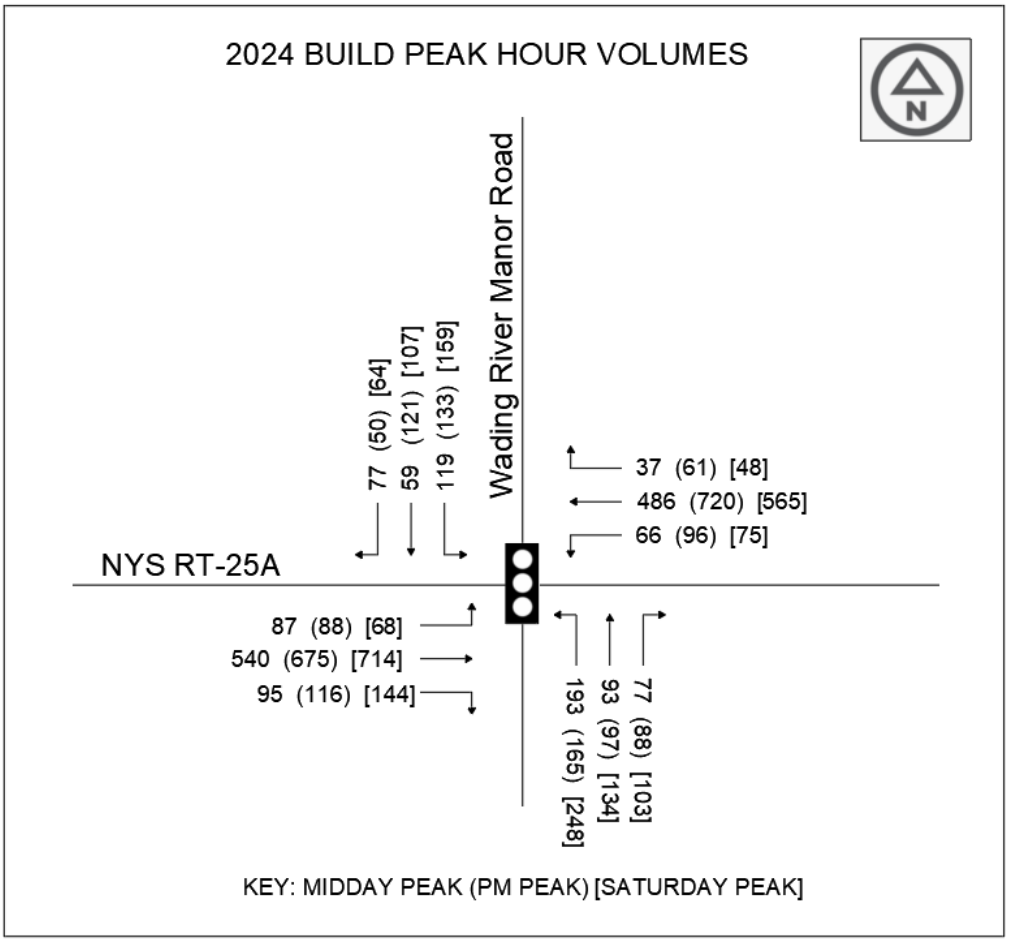


Figure 3. Build Traffic Volumes

The industry standard highway capacity software HCS was used to perform the highway capacity analysis. A summary of the overall LOS analysis is shown in Table 1 below. The HCS printout sheets are included in Appendix B. The LOS results show that the existing conditions identifies the overall LOS as operating at LOS C during the peak midday, PM and Saturday conditions. The no build conditions identifies the overall LOS operating at LOS C during the peak midday and PM conditions and LOS D during the Saturday condition. The build condition identifies the overall LOS operating at the same service levels as the no build conditions. Therefore, the proposed development will not result in a traffic impact that reduces service levels.

Table 1. Overall LOS Analysis Summary

Peak Period	Existing Conditions	No Build Conditions	Build Conditions
Midday Peak	LOS C 25.0 s/veh	LOS C 25.9 s/veh	LOS C 26.7 s/veh
PM Peak	LOS C 25.3 s/veh	LOS C 27.6 s/veh	LOS C 29.5 s/veh
Saturday Peak	LOS C 29.6 s/veh	LOS D 35.6 s/veh	LOS D 42.6 s/veh

If there are any questions, do not hesitate to contact my office.

Sincerely,

Steven Schneider, P.E.
Principal

Appendix A

Turning Movement Count Data

Schneider Engineering, PLLC

Project : Venezia Square
Intersection : NY-25A & Wading River Manor Road

File No. : 18-040T
Date : Wednesday, April 13, 2022

	From North				From East				From South				From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:00AM	5	3	1	0	10	46	10	0	1	4	2	0	8	96	8	0	194
11:15AM	8	21	7	0	1	64	20	0	12	18	32	0	13	90	8	0	294
11:30AM	12	20	13	0	4	96	14	0	13	29	38	0	10	95	16	0	360
11:45AM	13	11	9	0	5	91	10	0	10	19	37	0	17	103	8	0	333
Total	38	55	30	0	20	297	54	0	36	70	109	0	48	384	40	0	1181
12:00PM	12	17	15	0	4	86	5	0	13	23	47	0	20	95	25	0	362
12:15PM	27	12	21	0	5	70	12	0	8	29	39	0	13	89	16	0	341
12:30PM	9	9	22	0	8	90	19	0	14	29	25	0	18	109	16	0	368
12:45PM	15	17	34	0	11	93	14	0	11	5	50	0	25	103	13	0	391
Total	63	55	92	0	28	339	50	0	46	86	161	0	76	396	70	0	1462
BREAK																	
4:00PM	7	30	41	7	13	154	13	0	10	7	7	0	15	172	21	0	497
4:15PM	9	29	42	1	21	113	16	0	23	26	27	0	18	133	11	0	469
4:30PM	11	22	14	0	7	158	27	0	12	35	42	2	29	106	16	0	481
4:45PM	14	32	12	0	10	126	22	1	9	22	58	0	30	117	14	0	467
Total	41	113	109	8	51	551	78	1	54	90	134	2	92	528	62	0	1914
5:00PM	8	23	12	0	11	111	36	0	13	31	43	1	41	91	10	0	431
5:15PM	12	12	15	0	8	164	28	1	24	21	48	0	21	122	12	0	488
5:30PM	13	23	43	0	16	132	19	0	8	11	5	0	13	137	25	0	445
5:45PM	7	24	26	2	32	104	15	0	20	15	18	0	13	112	23	0	411
Total	40	82	96	2	67	511	98	1	65	78	114	1	88	462	70	0	1775

Schneider Engineering, PLLC

Project : Venezia Square
Intersection : NY-25A & Wading River Manor Road

File No. : 18-040T
Date Saturday, April 23, 2022

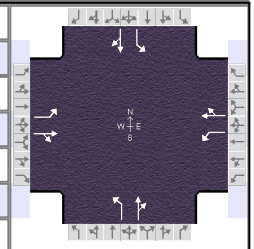
	From North				From East				From South				From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:00AM	15	24	29	0	7	70	11	0	18	21	47	0	22	119	5	1	389
11:15AM	12	23	23	0	6	97	14	0	19	32	33	0	19	127	18	0	423
11:30AM	5	24	32	0	10	86	19	0	13	36	50	0	17	130	10	0	432
11:45AM	13	34	31	0	11	98	16	0	10	39	54	0	30	142	12	0	490
Total	45	105	115	0	34	351	60	0	60	128	184	0	88	518	45	1	1734
12:00PM	10	21	33	0	11	97	15	0	20	34	48	0	25	136	15	0	465
12:15PM	16	26	35	0	13	94	15	0	14	31	44	0	41	112	17	2	460
12:30PM	6	19	24	0	4	112	14	0	23	21	52	0	23	132	10	0	440
12:45PM	6	25	26	0	6	116	14	0	18	24	34	0	29	141	10	0	449
Total	38	91	118	0	34	419	58	0	75	110	178	0	118	521	52	2	1814
1:00PM	9	26	17	0	6	101	15	0	18	26	42	0	20	137	12	0	429
1:15PM	9	26	23	0	7	106	17	0	21	27	30	0	21	114	6	0	407
1:30PM	10	17	25	0	18	100	19	0	15	32	47	0	17	121	13	0	434
1:45PM	7	21	21	0	7	99	16	0	11	22	41	0	25	120	13	0	403
Total	35	90	86	0	38	406	67	0	65	107	160	0	83	492	44	0	1673

Appendix B

HCS Printouts

HCS Signalized Intersection Results Summary

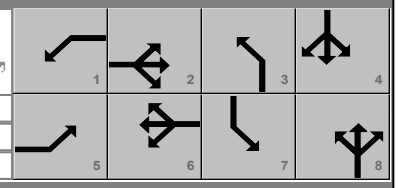
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Existing Midday Peak.xus		
Project Description	Exisiting Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	74	416	80	53	357	30	169	91	48	97	58	66

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.9	0.7	80.9	8.3	0.7	12.2	
Yellow	3.0	0.0	3.6	3.0	3.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



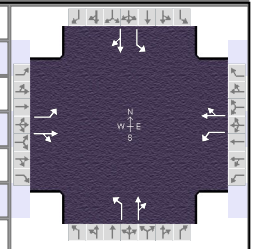
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.7	87.2	5.9	86.5	15.0	22.6	11.3	18.9
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	3.8		3.3		13.2	12.2	8.5	11.6
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.6	0.0	0.5
Phase Call Probability	0.93		0.85		1.00	1.00	0.97	1.00
Max Out Probability	0.00		0.00		1.00	0.00	0.83	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	76	506		54	395		172	142		99	127	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1760		1711	1772		1697	1677		1697	1626	
Queue Service Time (g_s), s	1.8	17.9		1.3	12.9		11.2	10.2		6.5	9.6	
Cycle Queue Clearance Time (g_c), s	1.8	17.9		1.3	12.9		11.2	10.2		6.5	9.6	
Green Ratio (*g/C*)	0.69	0.65		0.68	0.64		0.22	0.13		0.18	0.10	
Capacity (*c*), veh/h	640	1145		526	1142		264	223		215	168	
Volume-to-Capacity Ratio (*X*)	0.118	0.442		0.103	0.346		0.653	0.636		0.460	0.751	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.6	6.6		0.4	4.8		5.0	4.4		2.8	4.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	7.3	10.9		8.6	10.3		43.4	52.1		46.1	55.3	
Incremental Delay (d_2), s/veh	0.0	1.2		0.0	0.8		4.5	1.1		0.6	2.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	7.3	12.1		8.6	11.1		48.0	53.3		46.7	57.9	
Level of Service (LOS)	A	B		A	B		D	D		D	E	
Approach Delay, s/veh / LOS	11.5	B		10.8	B		50.4	D		53.0	D	
Intersection Delay, s/veh / LOS	25.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.88	B	1.95	B	1.96	B
Bicycle LOS Score / LOS	2.06	B	1.84	B	1.59	B	1.38	A

HCS Signalized Intersection Results Summary

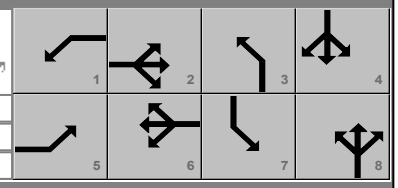
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Existing PM Peak.xus		
Project Description	Exisiting PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	555	97	82	580	54	141	95	57	115	119	43

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.4	0.6	79.0	9.4	1.6	14.6	
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



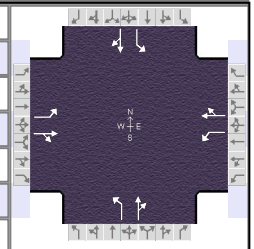
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.4	84.6	7.0	85.2	14.0	22.9	12.4	21.3
Change Period, (*Y+R c*), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (*g s*), s	3.7		4.1		11.1	13.2	9.5	14.0
Green Extension Time (*g e*), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.6
Phase Call Probability	0.90		0.95		0.99	1.00	0.98	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	66	665		84	647		144	155		117	165	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1764		1711	1769		1697	1669		1697	1700	
Queue Service Time (*g s*), s	1.7	28.4		2.1	26.7		9.1	11.2		7.5	12.0	
Cycle Queue Clearance Time (*g c*), s	1.7	28.4		2.1	26.7		9.1	11.2		7.5	12.0	
Green Ratio (*g/C*)	0.67	0.63		0.67	0.63		0.23	0.14		0.20	0.12	
Capacity (*c*), veh/h	421	1111		425	1123		250	227		223	209	
Volume-to-Capacity Ratio (*X*)	0.158	0.599		0.197	0.576		0.574	0.684		0.525	0.790	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.6	10.9		0.7	10.2		3.9	4.8		3.2	5.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh	11.1	13.9		10.8	13.3		41.9	52.3		43.8	54.1	
Incremental Delay (*d 2*), s/veh	0.1	2.4		0.1	2.2		1.6	1.4		0.7	2.5	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	11.1	16.3		10.9	15.5		43.5	53.7		44.5	56.6	
Level of Service (LOS)	B	B		B	B		D	D		D	E	
Approach Delay, s/veh / LOS	15.9	B		15.0	B		48.8	D		51.6	D	
Intersection Delay, s/veh / LOS	25.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.88	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.31	B	2.31	B	1.56	B	1.47	A

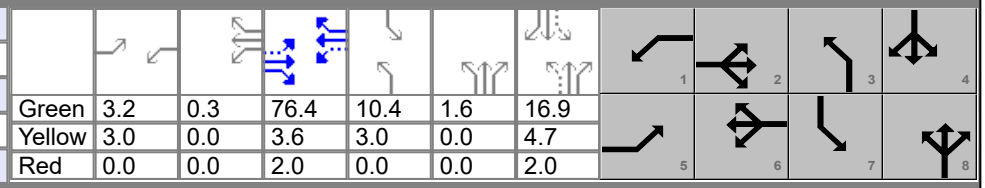
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Saturday Peak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Existing Saturday Peak.xus		
Project Description	Exisiting Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	57	549	125	63	422	41	208	132	71	129	105	47

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	3.2	0.3	76.4	10.4	1.6	16.9
Yellow	3.0	0.0	3.6	3.0	0.0	4.7
Red	0.0	0.0	2.0	0.0	0.0	2.0

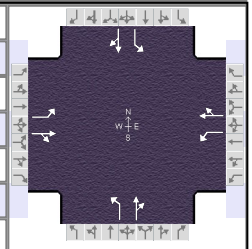
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.2	82.0	6.5	82.2	15.0	25.1	13.4	23.6
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	3.6		3.8		15.0	17.7	10.5	13.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	0.88		0.90		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.01	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	60	709		66	487		219	214		136	160	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1753		1711	1768		1697	1676		1697	1688	
Queue Service Time (g_s), s	1.6	33.8		1.8	18.8		13.0	15.7		8.5	11.4	
Cycle Queue Clearance Time (g_c), s	1.6	33.8		1.8	18.8		13.0	15.7		8.5	11.4	
Green Ratio (*g/C*)	0.64	0.61		0.65	0.61		0.26	0.15		0.23	0.14	
Capacity (*c*), veh/h	501	1068		361	1081		289	256		216	237	
Volume-to-Capacity Ratio (*X*)	0.120	0.665		0.184	0.451		0.757	0.835		0.630	0.675	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.6	13.2		0.6	7.2		6.7	7.0		3.8	4.9	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	10.4	16.3		13.3	13.3		42.1	52.2		42.1	51.8	
Incremental Delay (d_2), s/veh	0.0	3.3		0.1	1.4		9.8	5.2		3.0	1.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	10.4	19.6		13.4	14.6		51.9	57.4		45.1	53.1	
Level of Service (LOS)	B	B		B	B		D	E		D	D	
Approach Delay, s/veh / LOS	18.9	B		14.5	B		54.7	D		49.4	D	
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.37	B	2.01	B	1.78	B	1.50	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River No Build Midday Peak.xus		
Project Description	No Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	77	484	83	66	438	37	175	93	77	119	59	69

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	3.4	0.4	79.6	9.8	2.2	13.4	1	2	3	4		
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	5	6	7	8		
Red	0.0	0.0	2.0	0.0	0.0	2.0						

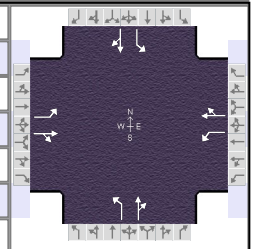
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.8	85.5	6.4	85.2	15.0	22.3	12.8	20.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	4.0		3.7		13.5	15.0	9.9	11.9
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.6
Phase Call Probability	0.94		0.91		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	79	579		67	485		179	173		121	131	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1765		1711	1771		1697	1647		1697	1624	
Queue Service Time (g_s), s	2.0	22.5		1.7	17.5		11.5	13.0		7.9	9.9	
Cycle Queue Clearance Time (g_c), s	2.0	22.5		1.7	17.5		11.5	13.0		7.9	9.9	
Green Ratio (*g/C*)	0.67	0.64		0.67	0.63		0.23	0.13		0.20	0.11	
Capacity (*c*), veh/h	560	1124		466	1124		273	215		206	184	
Volume-to-Capacity Ratio (*X*)	0.140	0.515		0.144	0.431		0.654	0.806		0.590	0.712	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	8.5		0.6	6.6		5.2	5.5		3.4	4.1	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	8.4	12.4		9.9	11.7		42.6	53.6		44.8	54.3	
Incremental Delay (d_2), s/veh	0.0	1.7		0.1	1.2		4.4	2.7		1.3	1.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	8.5	14.1		10.0	12.9		47.0	56.3		46.2	56.2	
Level of Service (LOS)	A	B		A	B		D	E		D	E	
Approach Delay, s/veh / LOS	13.4	B		12.5	B		51.6	D		51.4	D	
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.88	B	1.95	B	1.96	B
Bicycle LOS Score / LOS	2.18	B	2.01	B	1.65	B	1.42	A

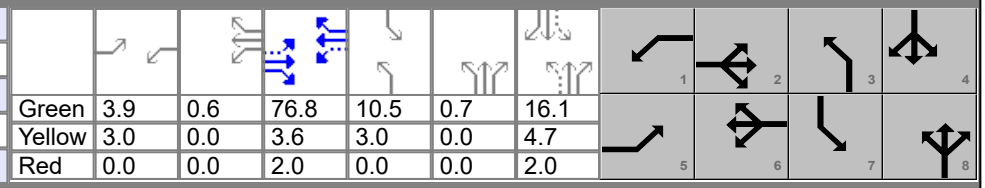
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River No Build PM Peak.xus		
Project Description	No Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	78	613	100	96	661	61	145	97	88	133	121	45

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	3.9	0.6	76.8	10.5	0.7	16.1	
Yellow	3.0	0.0	3.6	3.0	0.0	4.7	
Red	0.0	0.0	2.0	0.0	0.0	2.0	

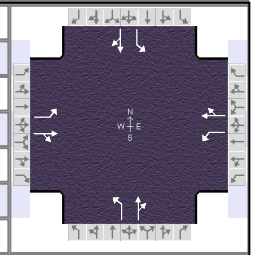
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.9	82.4	7.5	83.0	14.2	23.6	13.5	22.8
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	4.1		4.6		11.3	16.2	10.6	14.2
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.7
Phase Call Probability	0.94		0.97		0.99	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	80	728		98	737		148	189		136	169	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1766		1711	1769		1697	1641		1697	1699	
Queue Service Time (g_s), s	2.1	34.5		2.6	34.7		9.3	14.2		8.6	12.2	
Cycle Queue Clearance Time (g_c), s	2.1	34.5		2.6	34.7		9.3	14.2		8.6	12.2	
Green Ratio (*g/C*)	0.65	0.61		0.66	0.62		0.24	0.14		0.23	0.14	
Capacity (*c*), veh/h	348	1082		370	1092		265	231		216	229	
Volume-to-Capacity Ratio (*X*)	0.229	0.672		0.265	0.675		0.558	0.818		0.627	0.738	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	13.5		0.9	13.6		4.0	6.0		3.8	5.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	14.2	16.2		13.4	15.9		41.3	53.0		42.5	52.8	
Incremental Delay (d_2), s/veh	0.1	3.3		0.1	3.3		1.3	2.7		3.0	1.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	14.3	19.6		13.5	19.3		42.5	55.7		45.5	54.5	
Level of Service (LOS)	B	B		B	B		D	E		D	D	
Approach Delay, s/veh / LOS	19.0	B		18.6	B		49.9	D		50.5	D	
Intersection Delay, s/veh / LOS	27.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.43	B	2.48	B	1.62	B	1.51	B

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	SaturdayPeak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River No Build Saturday Peak.xus		
Project Description	No Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	59	628	128	75	489	48	215	134	103	159	107	52

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	3.5	0.7	69.8	10.0	20.7	0.0	1	2	3	4	5	6	7	8
Yellow	3.0	0.0	3.6	3.0	4.7	0.0								
Red	2.0	0.0	2.0	2.0	2.0	0.0								

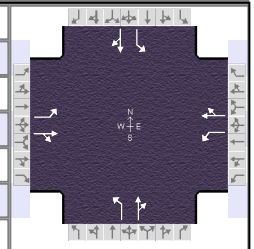
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.5	75.4	9.2	76.1	15.0	27.4	15.0	27.4
Change Period, ($Y+R_c$), s	5.0	5.6	5.0	5.6	5.0	6.7	5.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	3.9		4.4		13.0	20.0	12.0	13.2
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.9
Phase Call Probability	0.89		0.94		1.00	1.00	1.00	1.00
Max Out Probability	0.01		0.03		1.00	0.04	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	62	796		79	565		226	249		167	167	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1801		1767	1826		1753	1707		1753	1738	
Queue Service Time (g_s), s	1.9	44.5		2.4	24.9		11.0	18.0		10.0	11.2	
Cycle Queue Clearance Time (g_c), s	1.9	44.5		2.4	24.9		11.0	18.0		10.0	11.2	
Green Ratio (*g/C*)	0.59	0.56		0.60	0.56		0.26	0.17		0.26	0.17	
Capacity (*c*), veh/h	407	1004		269	1028		279	292		215	297	
Volume-to-Capacity Ratio (*X*)	0.153	0.793		0.294	0.550		0.810	0.854		0.779	0.563	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	19.0		0.9	10.3		3.0	8.5		5.2	4.9	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	14.1	22.3		19.6	17.6		44.1	51.1		40.5	48.3	
Incremental Delay (d_2), s/veh	0.1	6.4		0.2	2.1		15.2	9.5		15.2	0.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	14.1	28.7		19.8	19.7		59.2	60.6		55.8	48.9	
Level of Service (LOS)	B	C		B	B		E	E		E	D	
Approach Delay, s/veh / LOS	27.6	C		19.7	B		60.0	E		52.3	D	
Intersection Delay, s/veh / LOS	35.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.52	C	2.16	B	1.85	B	1.56	B

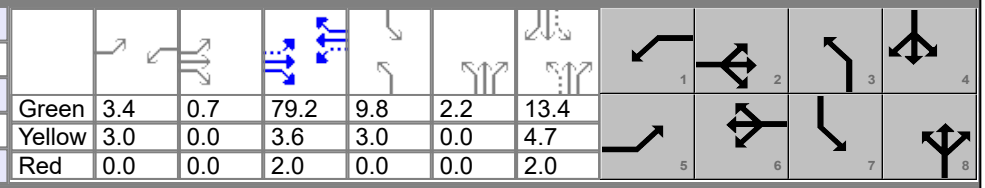
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	Midday Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Build Midday Peak.xus		
Project Description	Build Midday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	87	540	95	66	486	37	193	93	77	119	59	77

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	3.4	0.7		79.2	9.8	2.2	13.4					
Yellow	3.0	0.0		3.6	3.0	0.0	4.7					
Red	0.0	0.0		2.0	0.0	0.0	2.0					

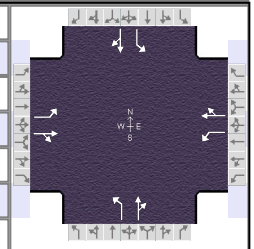
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.1	85.5	6.4	84.8	15.0	22.3	12.8	20.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.5	3.4	3.5
Queue Clearance Time (g_s), s	4.2		3.7		14.8	15.0	9.9	12.6
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.6
Phase Call Probability	0.96		0.91		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	89	648		67	534		197	173		121	139	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1764		1711	1774		1697	1647		1697	1617	
Queue Service Time (g_s), s	2.2	26.8		1.7	20.1		12.8	13.0		7.9	10.6	
Cycle Queue Clearance Time (g_c), s	2.2	26.8		1.7	20.1		12.8	13.0		7.9	10.6	
Green Ratio (*g/C*)	0.68	0.64		0.67	0.63		0.23	0.13		0.20	0.11	
Capacity (*c*), veh/h	525	1123		419	1120		266	215		206	183	
Volume-to-Capacity Ratio (*X*)	0.169	0.577		0.161	0.476		0.740	0.805		0.589	0.759	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	10.2		0.6	7.7		6.1	5.5		3.4	4.4	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	8.9	13.2		11.0	12.3		43.2	53.6		44.8	54.6	
Incremental Delay (d_2), s/veh	0.1	2.2		0.1	1.5		9.3	2.7		1.3	2.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	8.9	15.4		11.1	13.8		52.5	56.3		46.1	57.1	
Level of Service (LOS)	A	B		B	B		D	E		D	E	
Approach Delay, s/veh / LOS	14.6	B		13.5	B		54.3	D		52.0	D	
Intersection Delay, s/veh / LOS	26.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.89	B	1.95	B	1.96	B
Bicycle LOS Score / LOS	2.32	B	2.09	B	1.68	B	1.44	A

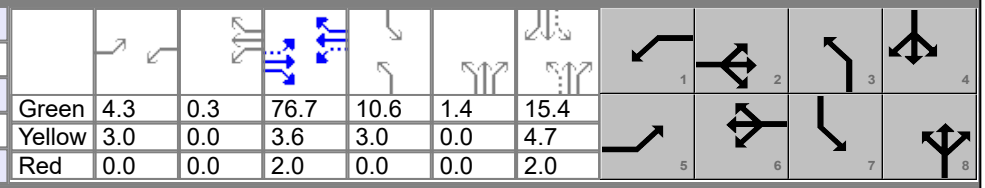
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	PM Peak	PHF	0.98
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Build PM Peak.xus		
Project Description	Build PM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	88	675	116	96	720	61	165	97	88	133	121	50

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	4.3	0.3	76.7	10.6	1.4	15.4						
Yellow	3.0	0.0	3.6	3.0	0.0	4.7						
Red	0.0	0.0	2.0	0.0	0.0	2.0						

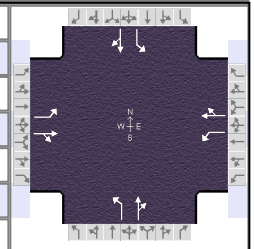
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.3	82.3	7.6	82.6	15.0	23.6	13.6	22.1
Change Period, ($Y+R_c$), s	3.0	5.6	3.0	5.6	3.0	6.7	3.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	4.4		4.6		12.6	16.2	10.6	14.7
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.7
Phase Call Probability	0.96		0.97		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	90	807		98	797		168	189		136	174	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1725	1765		1711	1771		1697	1641		1697	1692	
Queue Service Time (g_s), s	2.4	41.6		2.6	40.1		10.6	14.2		8.6	12.7	
Cycle Queue Clearance Time (g_c), s	2.4	41.6		2.6	40.1		10.6	14.2		8.6	12.7	
Green Ratio (*g/C*)	0.65	0.61		0.66	0.61		0.24	0.14		0.22	0.13	
Capacity (*c*), veh/h	310	1079		316	1087		264	231		217	219	
Volume-to-Capacity Ratio (*X*)	0.290	0.748		0.310	0.733		0.637	0.817		0.624	0.797	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.9	16.5		0.9	15.9		4.7	6.0		3.8	5.6	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	16.4	17.6		16.0	17.2		41.3	53.0		43.0	53.7	
Incremental Delay (d_2), s/veh	0.2	4.7		0.2	4.4		3.9	2.7		2.9	2.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	16.6	22.4		16.2	21.6		45.2	55.7		45.9	56.2	
Level of Service (LOS)	B	C		B	C		D	E		D	E	
Approach Delay, s/veh / LOS	21.8	C		21.0	C		50.7	D		51.7	D	
Intersection Delay, s/veh / LOS	29.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.89	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.58	C	2.58	C	1.66	B	1.52	B

HCS Signalized Intersection Results Summary

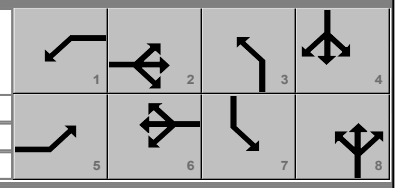
General Information				Intersection Information	
Agency	Schneider Engineering			Duration, h	0.250
Analyst	A.R.	Analysis Date	May 9, 2022	Area Type	Other
Jurisdiction	NYSDOT	Time Period	SaturdayPeak	PHF	0.95
Urban Street	NYS Route 25A	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Wading River Manor Rd	File Name	25A w Wading River Build Saturday Peak.xus		
Project Description	Build Saturday Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	68	714	144	75	565	48	248	134	103	159	107	64

Signal Information			
Cycle, s	127.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	3.9	0.3	69.8	10.0	20.8	0.0	
Yellow	3.0	0.0	3.6	3.0	4.7	0.0	
Red	2.0	0.0	2.0	2.0	2.0	0.0	

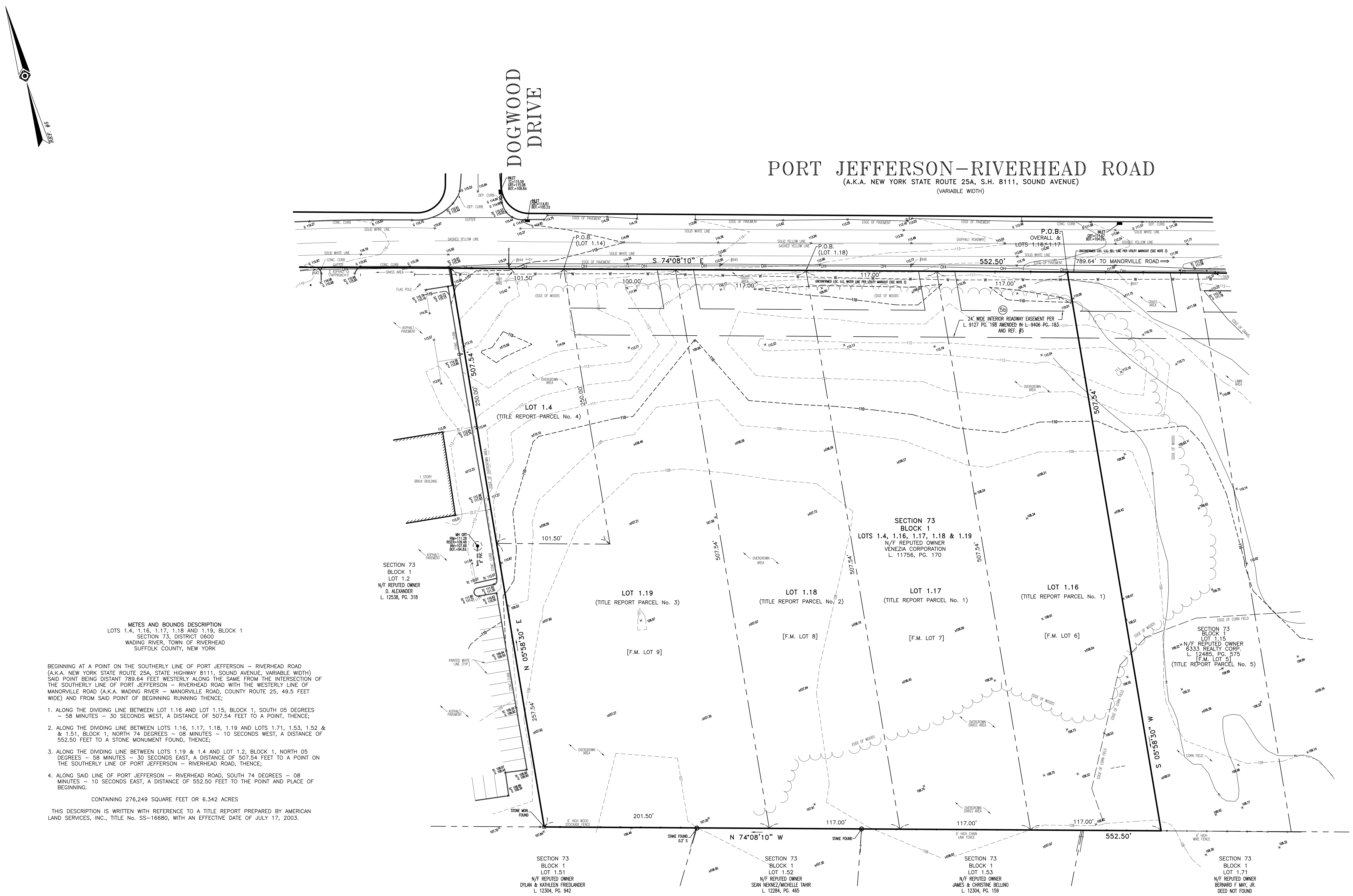


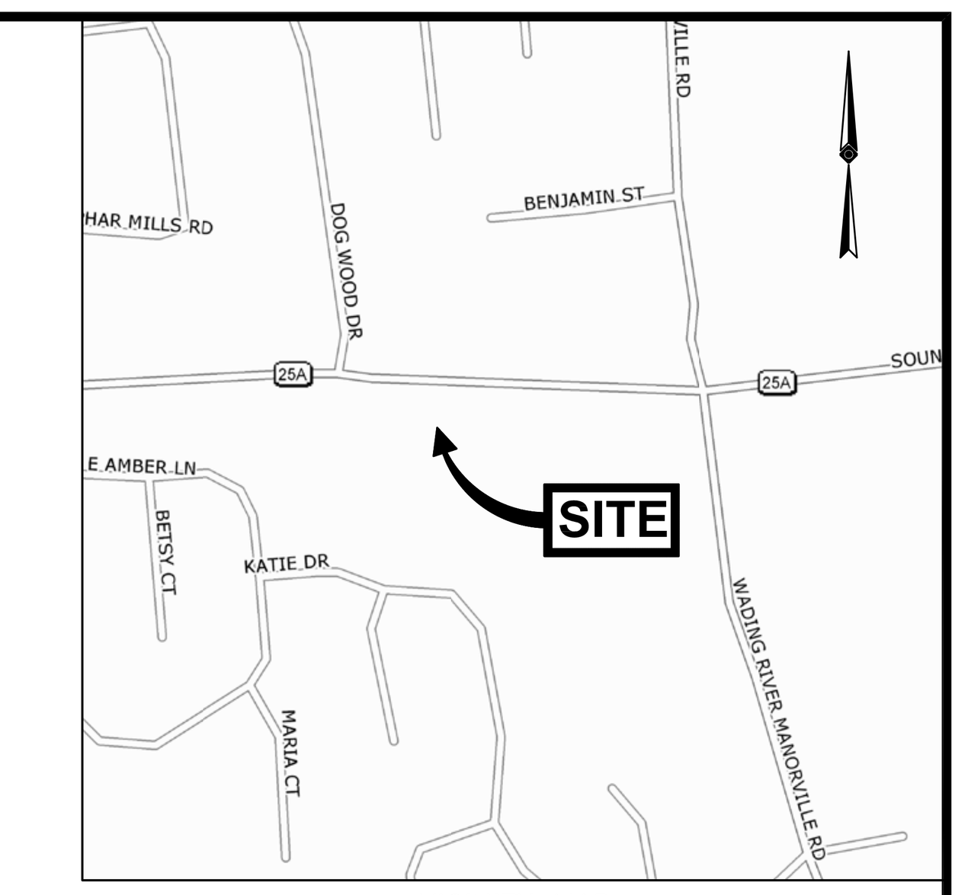
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.9	75.4	9.2	75.7	15.0	27.5	15.0	27.5
Change Period, ($Y+R_c$), s	5.0	5.6	5.0	5.6	5.0	6.7	5.0	6.7
Max Allow Headway (*MAH*), s	3.2	0.0	3.2	0.0	3.4	3.4	3.4	3.4
Queue Clearance Time (g_s), s	4.2		4.4		13.0	20.0	11.9	14.3
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.9
Phase Call Probability	0.92		0.94		1.00	1.00	1.00	1.00
Max Out Probability	0.02		0.03		1.00	0.04	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	72	903		79	645		261	249		167	180	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1801		1767	1830		1753	1707		1753	1725	
Queue Service Time (g_s), s	2.2	56.5		2.4	30.5		11.0	18.0		9.9	12.3	
Cycle Queue Clearance Time (g_c), s	2.2	56.5		2.4	30.5		11.0	18.0		9.9	12.3	
Green Ratio (*g/C*)	0.60	0.56		0.60	0.56		0.26	0.17		0.26	0.17	
Capacity (*c*), veh/h	355	1004		197	1024		269	292		215	295	
Volume-to-Capacity Ratio (*X*)	0.202	0.900		0.400	0.630		0.970	0.853		0.778	0.609	
Back of Queue (*Q*), ft/ln (50 th percentile)												
Back of Queue (*Q*), veh/ln (50 th percentile)	0.8	25.4		1.1	12.8		6.6	8.5		5.2	5.4	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	15.6	24.9		25.2	19.0		46.9	51.1		40.5	48.7	
Incremental Delay (d_2), s/veh	0.1	12.6		0.5	2.9		46.3	9.5		15.1	0.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	15.7	37.5		25.7	22.0		93.2	60.5		55.6	49.5	
Level of Service (LOS)	B	D		C	C		F	E		E	D	
Approach Delay, s/veh / LOS	35.9	D		22.4	C		77.2	E		52.4	D	
Intersection Delay, s/veh / LOS	42.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	1.95	B	1.95	B
Bicycle LOS Score / LOS	2.71	C	2.29	B	1.91	B	1.58	B

PLANS





VICINITY MAP
©1997 DeLorme. Street Atlas USA

METES AND BOUNDS DESCRIPTION
LOTS 1.4, 1.16, 1.17, 1.18 AND 1.19, BLOCK 1
SECTION 73, DISTRICT 0600
WADING RIVER, TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF PORT JEFFERSON – RIVERHEAD ROAD (A.K.A. NEW YORK STATE ROUTE 25A, STATE HIGHWAY 8111, SOUND AVENUE, VARIABLE WIDTH) SAID POINT BEING DISTANT 789.64 FEET WESTERLY ALONG THE SAME FROM THE INTERSECTION OF THE SOUTHERLY LINE OF PORT JEFFERSON – RIVERHEAD ROAD WITH THE WESTERLY LINE OF MANORVILLE ROAD (A.K.A. WADING RIVER – MANORVILLE ROAD, COUNTY ROUTE 25, 49.5 FEET WIDE) AND FROM SAID POINT OF BEGINNING RUNNING THENCE;

1. ALONG THE DIVIDING LINE BETWEEN LOT 1.16 AND LOT 1.15, BLOCK 1, SOUTH 05 DEGREES – 58 MINUTES – 30 SECONDS WEST, A DISTANCE OF 507.54 FEET TO A POINT, THENCE;
2. ALONG THE DIVIDING LINE BETWEEN LOTS 1.16, 1.17, 1.18, 1.19 AND LOTS 1.71, 1.53, 1.52 & & 1.51, BLOCK 1, NORTH 74 DEGREES – 08 MINUTES – 10 SECONDS WEST, A DISTANCE OF 552.50 FEET TO A STONE MONUMENT FOUND, THENCE;
3. ALONG THE DIVIDING LINE BETWEEN LOTS 1.19 & 1.4 AND LOT 1.2, BLOCK 1, NORTH 05 DEGREES – 58 MINUTES – 30 SECONDS EAST, A DISTANCE OF 507.54 FEET TO A POINT ON THE SOUTHERLY LINE OF PORT JEFFERSON – RIVERHEAD ROAD, THENCE;
4. ALONG SAID LINE OF PORT JEFFERSON – RIVERHEAD ROAD, SOUTH 74 DEGREES – 08 MINUTES – 10 SECONDS EAST, A DISTANCE OF 552.50 FEET TO THE POINT AND PLACE OF BEGINNING.

CONTAINING 276,249 SQUARE FEET OR 6.342 ACRES

THIS DESCRIPTION IS WRITTEN WITH REFERENCE TO A TITLE REPORT PREPARED BY AMERICAN LAND SERVICES, INC., TITLE No. SS–16680, WITH AN EFFECTIVE DATE OF JULY 17, 2003.

LEGEND

—123—	EXISTING CONTOUR
X 123.45	EXISTING SPOT ELEVATION
X TC 123.45	EXIST. TOP OF CURB ELEVATION
X G 122.95	EXIST. GUTTER ELEVATION
X TW 123.45	EXIST. TOP OF WALL ELEVATION
X BW 122.95	EXIST. BOTTOM OF WALL ELEVATION
—OH—	OVERHEAD WIRES
—T—	UNCONFIRMED LOC. UNDERGROUND TEL. LINE
—W—	UNCONFIRMED LOC. UNDERGROUND WATER LINE
	UTILITY POLE
	UTILITY POLE/LIGHT POLE
	LIGHT POLE
	GUY WIRE
	MONITORING WELL
E	ELECTRIC METER
	SIGN
	MAIL BOX
	AREA LIGHT
	PAINTED ARROWS
10	DENOTES PARKING SPACE COUNT
[F.M. LOT 9]	FILED MAP LOT NUMBER
(5a)	TITLE REPORT EXCEPTION

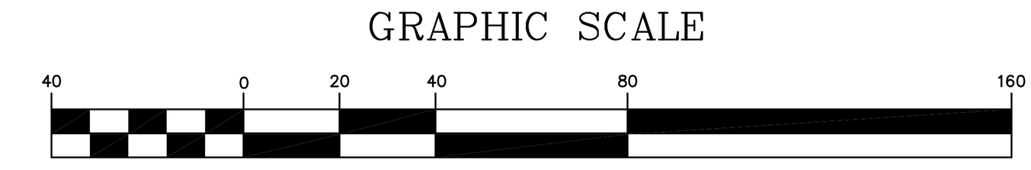
NOTES:

1. PROPERTY KNOWN AS LOTS 1.4, 1.16, 1.17, 1.18 & 1.19, BLOCK 1, SECTION 73, AS SHOWN ON THE OFFICIAL TAX MAPS OF SUFFOLK COUNTY, NEW YORK
2. AREA = 276,249 S.F. OR 6.342 AC.
3. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK–OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY IS PREPARED WITH REFERENCE TO A TITLE REPORT PREPARED BY AMERICAN LAND SERVICES, INC., TITLE No. SS–16680, WITH AN EFFECTIVE DATE OF JULY 17, 2003. WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B;
   - (5a) COVENANTS AND RESTRICTIONS IN LIBER 8147, PG. 398, AFFECTS PROPERTY – BLANKET, NOT SHOWN.
   - (5b) COVENANTS, RESTRICTIONS AND 24' WIDE INTERIOR ROADWAY EASEMENT IN LIBER 9127, PG. 198 AMENDED IN LIBER 9406, PG. 183, AFFECTS LOTS 1.15 THRU 1.19 – EASEMENT SHOWN.
   - (5c) COVENANTS AND RESTRICTIONS IN LIBER 11892, PG. 509, AFFECTS LOT 1.15 – BLANKET, NOT SHOWN.
6. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
7. ELEVATIONS ARE BASED UPON NAVD 88, REF. BM #Z38, ELEV=117.80'
8. PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE 500–YEAR FLOODPLAIN) PER REF. #2
9. THE NEW YORK STATE D.O.T. HAS NOT YET RESPONDED TO A REQUEST FOR HIGHWAY PLANS.

REFERENCES:

1. THE OFFICIAL TAX MAPS OF SUFFOLK COUNTY, NEW YORK
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, SUFFOLK COUNTY, NEW YORK, (ALL JURISDICTIONS), PANEL 428 OF 1026, MAP NUMBER 36103C0428 G, EFFECTIVE DATE: MAY 4, 1998.
3. MAP ENTITLED "AS–BUILT SURVEY, McDONALD'S CORPORATION, LOTS 1.12 & 1.20, BLOCK 1, SEC. 073, DIST 0600, PORT JEFFERSON–RIVERHEAD ROAD & MANORVILLE ROAD, WADING RIVER, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK", PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED 8–29–01, FILE NO. C98345AB.
4. MAP ENTITLED "SITE PLAN PREPARED FOR ARTHUR KRETSCHMER AT WADING RIVER, TOWN OF RIVERHEAD, SUFFOLK COUNTY, N.Y." PREPARED BY HOWARD W. YOUNG, DATED OCT. 3, 1990, LAST REVISED OCT. 2, 1991
5. MAP ENTITLED "SUBDIVISION MAP FOR WADING RIVER MANOR ASSOCIATES AT WADING RIVER, TOWN OF RIVERHEAD, SUFF. CO., N.Y." PREPARED BY YOUNG & YOUNG, DATED JUNE 9, 1983, REVISED JUNE 15, 1983, FILED IN THE SUFFOLK COUNTY CLERK'S OFFICE ON JULY 12, 1983 IN FILE No. 7201, ABS #9425
6. MAP ENTITLED "MAP OF SUBDIVISION AT WADING RIVER, SUFFOLK COUNTY, N.Y., KNOWN AS TERMINAL PARK" PREPARED BY H.J. MILLER, DATED MAY, 1926, FILED IN THE SUFFOLK COUNTY CLERK'S OFFICE ON AUG 25, 1926 IN FILE No. 815, ABS #518
7. MAP ENTITLED "NEW YORK STATE DEPARTMENT OF TRANSPORTATION, DESCRIPTION AND MAP FOR THE ACQUISITION OF PROPERTY, PORT JEFFERSON–RIVERHEAD, PART 2B, S.H. 8111, SUFFOLK COUNTY," MAP NO. 18, PARCEL NO. 28, SHEET 1 OF 2.

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY THE NEW YORK ONE CALL SYSTEM (1–800–272–4480) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
SERIAL NUMBER(S): 2020249 (2003 MARKOUT)

UTILITY COMPANY	PHONE NUMBER
LIPA	(631) 755 – 6900
KEYSPAN	(631) 289 – 8262
CABLEVISION RIVERHEAD	(631) 727 – 6300
TOWN OF RIVERHEAD	(631) 727 – 3200
VERIZON	(631) 435 – 2205

No.	DESCRIPTION OF REVISION	DRAWN:	APPROVED:	DATE
2	REVISE PER FIELD UPDATE	M.H.S.	J.P.L.	1–18–2016
1	REVISE TITLE BLOCK	G.J.S.	J.P.L.	2–3–2015

1–18–2016
DATE

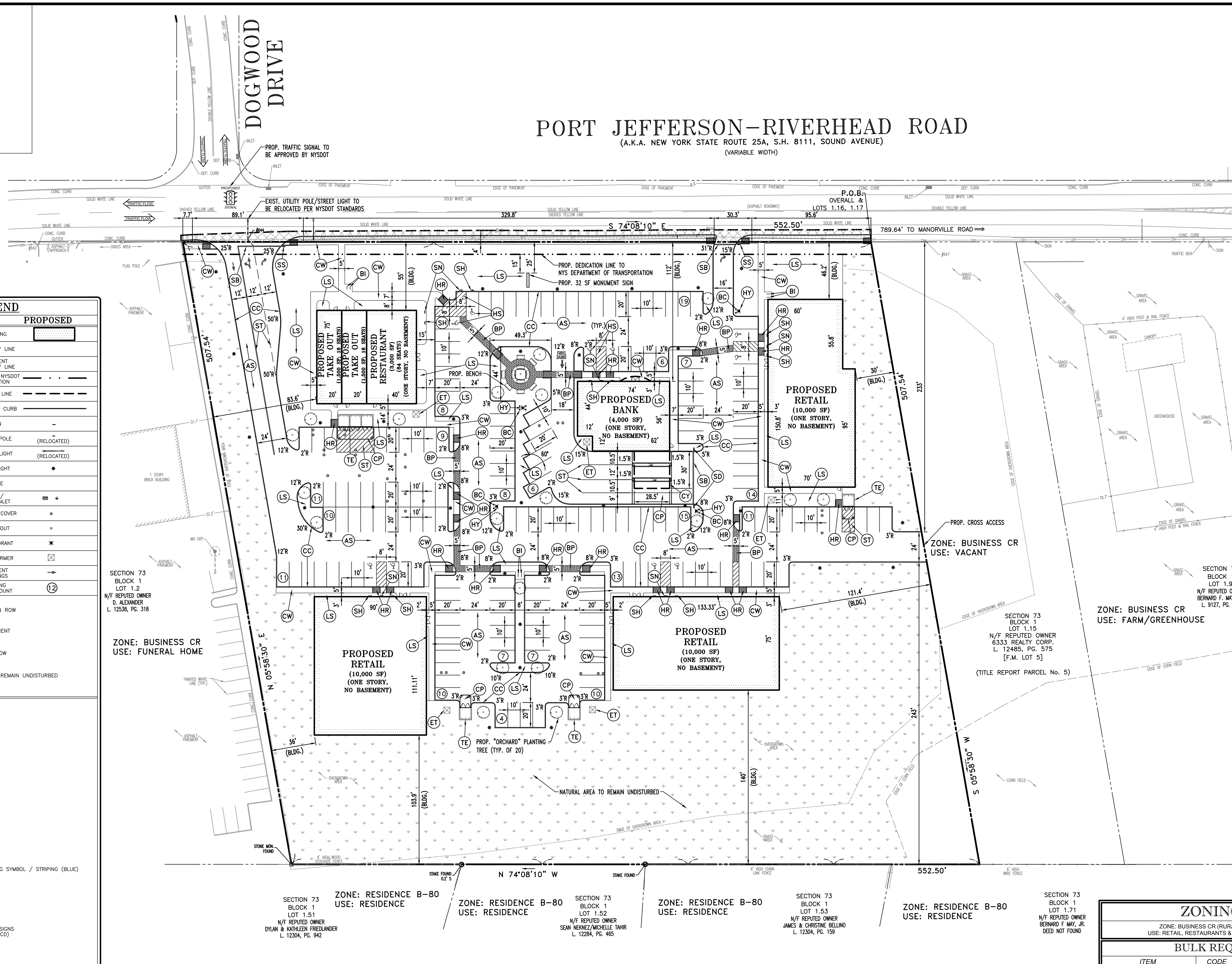
JOHN P. LYNCH
NEW YORK PROFESSIONAL LAND SURVEYOR #50720

FIELD DATE: 5–28–08
FIELD BOOK NO.: 08–16
FIELD BOOK PG.: 23
DRAWN: J.R.W.
REVIEWED: T.F.M.
APPROVED: T.F.M.

BOUNDARY & TOPOGRAPHIC SURVEY
THE NORTHWIND GROUP, LLC
PORT JEFFERSON–RIVERHEAD ROAD (N.Y.S.R. 25A)
LOTS 1.4, 1.16, 1.17, 1.18 & 1.19, BLOCK 1, SECTION 73, DISTRICT 0600
WADING RIVER, TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

CONTROL POINT ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NJ 07059
908.668.0099 - 908.668.9595 FAX
NEW BRITAIN CORPORATE CENTER
1600 MANOR DRIVE, SUITE 120
CHALFONT, PA 18914
215.712.9800 – 215.712.9802 FAX

DATE	SCALE	FILE NO.	DWG. NO.
6–4–2008	1"=40'	C03243.01	1 OF 1



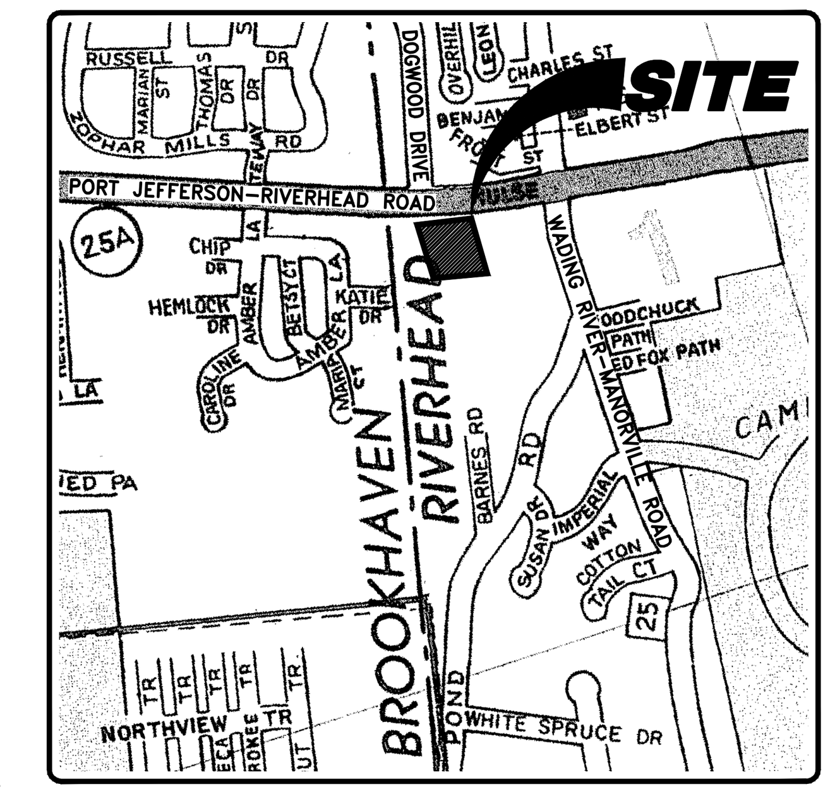
LEGEND

EXISTING		PROPOSED
	BUILDING	
	PROPERTY LINE	
	ADJACENT PROPERTY LINE	
	PROPOSED NYSDOT DEDICATION	
	SAWCUT LINE	
	CONCRETE CURB	
	SIGN	
	UTILITY POLE	(RELOCATED)
	STREET LIGHT	(RELOCATED)
	AREA LIGHT	
	FENCE	
	INLET/ CURB INLET	
	MANHOLE COVER	
	CLEAN OUT	
	FIRE HYDRANT	
	TRANSFORMER	
	PAVEMENT MARKINGS	
	PARKING STALL COUNT	12
	CONC. SIDEWALK IN ROW	
	ASPHALT REPLACEMENT IN ROW	
	LANDSCAPING IN ROW	
	NATURAL AREA TO REMAIN UNDISTURBED	

KEY DESCRIPTION

- (AS) ON-SITE ASPHALT PAVEMENT
- (BC) CONCRETE FILLED BOLLARD
- (BI) BIKE RACK
- (BP) BRICK PAVER WALKWAY
- (CC) CONCRETE CURB
- (CP) CONCRETE PAD
- (CW) CONCRETE SIDEWALK
- (CY) CANOPY
- (ET) ELECTRIC TRANSFORMER
- (HR) ACCESSIBLE RAMP
- (HS) PAINTED ACCESSIBLE PARKING SYMBOL / STRIPING (BLUE)
- (HY) FIRE HYDRANT
- (LS) LANDSCAPED AREA
- (SB) PAINTED STOP LINE
- (SD) "STOP" / "DO NOT ENTER" SIGNS (R1-1 AND R5-1, PER MUTCD)
- (SH) ACCESSIBLE PARKING SIGN
- (SN) "NO PARKING ANYTIME" SIGN
- (SS) STOP SIGN (R1-1C, PER MUTCD)
- (ST) PAINTED STRIPING
- (TE) TRASH ENCLOSURE

SCALE
40 20 10 0 40
1 inch = 40 ft.
DO NOT SCALE



SITE LOCATION MAP
N.T.S.
Copyright Hagstrom/ American Map Corporation
PUN HA0212222005

SITE PLAN NOTES

1. **THE GENERAL NOTES SHEET SHALL BE PART OF THIS ENTIRE DOCUMENT PACKAGE AND IS PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES SHEET IS REFERENCED HEREIN AND IS TO BE REFERRED TO BY THE CONTRACTOR. THE CONTRACTOR IS TO FAMILIARIZE HIMSELF AND ACKNOWLEDGES HIS FAMILIARITY WITH ALL THE NOTES ON THE GENERAL NOTES SHEET AS WELL AS ANY AND ALL DRAWING SHEET SPECIFIC NOTES BELOW.**
2. SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH §108–56, THE SIGNAGE ORDINANCE. SIGNS TO BE FILED UNDER SEPARATE APPLICATIONS.
3. LIGHTING FIXTURES SHALL BE "FULL CUTOFF" TYPE AND SHALL BE SHIELDED SO AS NOT TO SHINE ONTO NEIGHBORING PROPERTIES AND CANNOT BE METAL HALIDE.
4. LOCATION OF EXISTING AND PROPOSED SERVICES SHOWN ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR WITH THE UTILITY COMPANIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF DISCREPANCIES EXIST, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING.
5. STORMWATER RUNOFF WITHIN PROPERTY TO BE COLLECTED ON–SITE WITH NO OVERLAND RUNOFF ONTO RIGHT–OF–WAY OR ADJACENT PROPERTIES.
6. UNSUITABLE MATERIAL, CONSTRUCTION DEBRIS, EXCESS SOILS, ETC. SHALL BE PROPERLY REMOVED AND DISPOSED OF OFF–SITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LAWS.
7. THE CONTRACTOR IS RESPONSIBLE TO TAKE EROSION CONTROL MEASURES NECESSARY IN ACCORDANCE WITH NYS GUIDELINES FOR URBAN EROSION & SEDIMENT CONTROL TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT PROPERTIES.
8. DIRECTIONAL SIGNAGE TO COMPLY WITH THE LATEST NYS MUTCD STANDARDS.
9. ALL SIDEWALKS, CURBS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED OR REPLACED, WHETHER SPECIFIED ON THIS PLAN OR NOT.
12. ALL TRASH GENERATED BY THE PROPOSED BANK WILL BE STORED INDOORS AND COLLECTED NIGHTLY FOR DISPOSAL DUE TO THE SENSITIVE NATURE OF THE MATERIAL. AN OUTDOOR TRASH ENCLOSURE WILL NOT BE PROVIDED.
13. RELOCATION AND/OR REMOVAL OF EXISTING UTILITY POLES, TRAFFIC SIGNS, ETC., SHALL BE COORDINATED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR FIELD–VERIFYING THEIR PRESENCE.
14. EXCAVATION SHALL BE PROPERLY BACKFILLED WITH CLEAN MATERIALS. CONTRACTOR SHALL REFER TO GEOTECHNICAL ENGINEER REPORTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTION TESTING AND SHALL SUBMIT SUCH REPORTS AND RESULTS TO THE ENGINEER OF RECORD AND OWNER.
15. WORK WITHIN THE R.O.W. OF PORT JEFFERSON–RIVERHEAD ROAD SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF NEW YORK STATE DEPARTMENT OF TRANSPORTATION.
16. OWNER/ OPERATOR SHALL FILE THE NOI FOR NPDES PERMITS AT APPROPRIATE TIMEFRAMES BASED UPON THE DESIRED START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES (INCLUDING STORMWATER POLLUTION PREVENTION PLAN, PER TOWN OF RIVERHEAD REQUIREMENTS). THE CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED SWPPP PLAN DURING CONSTRUCTION OPERATIONS (IF PROVIDED).

TOWN OF RIVERHEAD NOTES

1. FOR ALL PARCELS THREE (3) ACRES OR GREATER IN AREA, THE PROPOSED FLOOR AREA SHALL BE DISTRIBUTED INTO A MINIMUM OF FOUR (4) BUILDINGS.
2. ONLY ONE ROW OF PARKING IS ALLOWED IN FRONT YARDS, WITH A PAVED AREA NOT TO EXCEED FORTY (40) FEET IN DEPTH, MEASURED PERPENDICULAR TO THE FRONT STREET.
3. TRASH/DUMPSTER AREAS SHALL BE SCREENED BY WOOD FENCES OR LANDSCAPING, OR A COMBINATION THEREOF, PURSUANT TO §98–8.
4. FRONT YARDS, STREET FACING SIDE YARDS AND REAR YARDS SHALL BE LANDSCAPED OR MAINTAINED AS NATURAL OPEN SPACE. TO THE EXTENT POSSIBLE, EXISTING WOODLANDS, STANDS OF OR INDIVIDUAL TREES AND OTHER UNIQUE, INDIGENOUS OR SIGNIFICANT VEGETATION WITHIN SUCH SETBACKS SHOULD BE PROTECTED.
5. CURB CUTS SHALL BE LIMITED TO ONE CURB CUT EVERY FOUR HUNDRED (400) LINEAR FEET ON PUBLIC FRONT AND SIDE STREETS. DRIVEWAY ENTRANCES TO ADJACENT PARKING LOTS SHALL BE SHARED AND CONSOLIDATED.
6. NO RETAIL BUSINESS ESTABLISHMENT SHALL REMAIN OPEN FOR BUSINESS DURING THE FIVE HOUR PERIOD BETWEEN 12:00 MIDNIGHT AND 5:00 A.M.. EVERY RETAIL BUSINESS ESTABLISHMENT SHALL BE CLOSED TO THE PUBLIC DURING THE AFOREMENTIONED FIVE HOUR PERIOD, AND BUSINESS WITH THE PUBLIC THEREIN IS PROHIBITED AFTER THE HOUR OF 12:00 MIDNIGHT AND BEFORE THE HOUR OF 5:00 A.M. OF EVERY DAY, PURSUANT TO §108–296C.(1).

SIGNAGE REQUIREMENTS

ITEM	CODE	PERMITTED	PROPOSED
MAX. NUMBER OF PRIMARY SIGNS	§ 108-56C.	1	1 (FREESTANDING SIGN)
MAX. FREESTANDING SIGN AREA	§ 108-56C.(3)(b)	32 SF	32 SF
MIN. FREESTANDING SIGN SETBACK	§ 108-56C.(3)(d)	15' (FRONT/REAR) 25' (SIDES)	25' (FRONT) 267.86' (SIDE)
MAX. FREESTANDING SIGN HEIGHT ABOVE GRADE	§ 108-56C.(3)(c)	10'	10'

PARKING REQUIREMENTS

ITEM	CODE	PERMITTED	PROPOSED
MIN. STALL SIZE	§ 108-60E.(2)	10' X 20'	10' X 20'
MIN. AISLE WIDTH	§ 108-60E.(1)	24' (90° STALLS) 18' (60° STALLS)	24' (90° STALLS) 18' (60° STALLS)
MIN. NUMBER OF STALLS	§ 108-60A.	186	186

REQUIRED FOR BANK = 1 STALL/150 SF = 4,000 SF X 1/150 SF = 27 STALLS
REQUIRED FOR RETAIL = 1 STALL/250 SF = 30,000 SF X 1/250 = 120 STALLS
REQUIRED FOR RESTAURANT = 1 STALL/3 SEATS = 116 SEATS X 1/3 = 39 STALLS
TOTAL STALLS REQUIRED = 186 STALLS
TOTAL STALLS PROVIDED = 186 STALLS (INCLUDING 10 ACCESSIBLE STALLS)

PINE BARRENS COMPATIBLE GROWTH AREA

ITEM	CODE	PERMITTED	PROPOSED
MAX. CLEARING OF NATURAL VEGETATION	§ 108-179A.(8)(a)	65% (179,561.85 SF)	64.62% (178,511.13 SF)
MAX. FERTILIZER DEPENDENT VEGETATION	§ 108-179A.(9)	15%	TBD

ZONING TABLE

ZONE: BUSINESS CR (RURAL NEIGHBORHOOD BUSINESS)
USE: RETAIL, RESTAURANTS & BANKS PERMITTED PER §108-294A.

BULK REQUIREMENTS

ITEM	CODE	PERMITTED	PROPOSED
MIN. LOT AREA	TOWN OF RIVERHEAD COMMERCIAL DISTRICTS SCHEDULE OF DIMENSIONAL REGULATIONS	40,000 SF	276,249 SF (6.342 AC)
MIN. LOT WIDTH AT FRONT STREET		200'	552.50'
MIN. FRONT YARD		30'	46.2'
MIN. SIDE YARD		25' EACH / 50' COMBINED	30' (MIN.) / 66' COMBINED
MIN. REAR YARD		25'	103.9'
MAX. BUILDING HEIGHT		35'	<35'
MAX. FAR		0.20	0.148 (40,855 SF)
MAX. BUILDING COVERAGE		15%	14.79% (40,855 SF)
MAX. IMPERVIOUS SURFACE		75%	51.35% (141,854.35 SF)
MIN. BUFFER ADJOINING RESIDENTIAL USE	§ 108-64.1A.(2)	10' W/ MIN. 8' HIGH EVERGREEN PLANTINGS	COMPLIES
MIN. STREET TREES	§ 108-64.1B.	SPACED AT AVERAGE DIAMETER OF BRANCHING HABIT AT MATURITY	COMPLIES
MIN. LANDSCAPE ISLANDS	§ 108-64.1D.	20 SF OF LANDSCAPE ISLAND PER STALL; MIN. 8' WIDE W/ 1 TREE PER 100 SF (3,720 SF)	3,936.53 SF
MIN. LANDSCAPE COVERAGE WITHIN PARKING FIELD	§ 108-296B.(7)	15% (12,373.26 SF)	16.81% (13,866.18 SF)
MIN. TREES WITHIN PARKING FIELD	§ 108-296B.(8)	1 TREE / 10 STALLS = 19 TREES	20 TREES

BOHLER ENGINEERING
WARREN, NJ - CORPORATE OFFICE
WHITE PLAINS, NY · CENTER VALLEY, PA
ALBANY, NY · SOUTHBOROUGH, MA
BOWIE, MD · STERLING, VA
TOWSON, MD · WARRENTON, VA
CHALFONT, PA · FT. LAUDERDALE, FL

APPROVALS

REVISIONS

No.	Date	DESCRIPTION
1	12/3/09	REVISED AS PER SCDHS COMMENTS
2	11/18/15	REV. PER TOWN PLANNING DEPARTMENT COMMENTS

BOHLER ENGINEERING
CIVIL & CONSULTING ENGINEERS
2929 EXPRESSWAY DRIVE NORTH
HAUPPAUGE, NY 11749
Phone: 631.738.1200
Fax: 631.285.6464
WWW.BOHLERENGINEERING.COM

JOSEPH A. DEAL
PROFESSIONAL ENGINEER
NEW YORK LICENSE No. 087122

DATE:	09/18/08	DRAWN BY:	MD
SCALE:	AS SHOWN	CHECKED BY:	JPC
CAD I.D. No.:	N08029-SS-2A	PROJECT No.:	N08029

NOT FOR CONSTRUCTION

NYSDOT CASE #: N/A
HEALTH DEP. REF. #: N/A

CLIENT/ PROJECT: VENEZIA SQUARE, LLC c/o THE NORTHWIND GROUP
PORT JEFFERSON-RIVERHEAD ROAD
(NYS ROUTE 25A)
WADING RIVER
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NY 11792
TAX MAP # : 600-73-1-1.4, 1.16-1.19

TITLE: **SITE PLAN**

SHEET NO. **C-3** OF 13 REV. 2

SUBMISSION SET ~~CONSTRUCTION SET~~