DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

RECEIVED
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TOWN CLERK
TOWN OF BROOKHAVEN

(DSEIS)

for

The Condominiums at Sandy Hills

Change of Zone Application

Hamlet of Middle Island, Town of Brookhaven
Suffolk County, New York

Volume II of II
Appendices

PREPARED BY:
NELSON, POPE & VOORHIS, LLC
572 WALT WHITMAN ROAD
MELVILLE, NEW YORK 11747

NP&V #00088

NOVEMBER 2007
Revised May 2008

APPENDICES

APPENDIX A

BACKGROUND MATERIALS

Appendix A-1

Positive Declaration

Town Board

June 19, 2007

Town of Brookhaven
Long Island

Pamela J. Betheil, Town Clerk & Registrar

June 22, 2007

Dennis Cole
Division of Environmental Protection
Town of Brookhaven

RE: **SEQRA Positive Declaration-Preparation of Supplemental Environmental Impact Statement-Rezoning of the Sandy Hills, LLC Property From A Residential 1 (A-1) and J Business 2 (J-2) to Multi-Family (MF) and J Business 6 (J-6)**

Dear Mr. Cole:

Attached hereto please find a copy of the above-mentioned SEQRA, which was adopted by the Brookhaven Town Board at their **June 19, 2007** meeting.

Sincerely,

Pamela J. Betheil

PAMELA J. BETHEIL
Town Clerk

PJB:cw/enc.
cc: Robert Quinlan, Town Attorney
Barbara Wiplush, Senior Assistant Town Attorney
Beth Ann Reilly, Assistant Town Attorney
John Turner, Environmental Protection Director
Joseph Sanzano, Division of Planning
Eileen Munn, Senior Administrative Assistant
Gina Guccione, Department of Law

Office of the Town Clerk
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ADOPTED

BY THE BROOKHAVEN TOWN BOARD

RESOLUTION NO. **632-07**
MEETING OF: JUNE 19, 2007

SEQRA POSITIVE DECLARATION – PREPARATION OF SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT – REZONING OF THE SANDY HILLS, LLC PROPERTY FROM A RESIDENTIAL 1 (A-1) AND J BUSINESS 2 (J-2) TO MULTI-FAMILY (MF) AND J BUSINESS 6 (J-6)

WHEREAS, the Town Board adopted the Final Generic Environmental Impact Statement (FGEIS) on March 21, 2006, and adopted the Findings Statement on April 4, 2006 for the *Middle Country Road Land Use Plan for Coram, Middle Island and Ridge*; and

WHEREAS, the proposed action, rezoning of the Sandy Hills, LLC property from A Residential 1 (A-1) and J Business 2 (J-2) to Multi-family (MF) and J Business 6 (J-6), Suffolk County Tax Map No. 0200-378-2-33.3, S/S Bailey Road 227 East of Rocky Point Yaphank Road (CR 21), Middle Island, New York, which is under consideration by the Town Board was not adequately addressed in the DGEIS, FGEIS and Findings Statement prepared for the *Middle Country Road Land Use Plan for Coram, Middle Island and Ridge*; and

WHEREAS, upon the recommendation of the Commissioner of the Department of Planning, Environment & Land Management and upon review of the criteria as set forth in the SEQRA regulations regarding the determination of significance for the proposed action, the rezoning of the Sandy Hills LLC property from A Residential 1 (A-1) and J Business 2 (J-2) to Multi-family (MF) and J Business 6 (J-6) located , as set forth in the SEQR Positive Declaration attached hereto, the Town Board hereby determines that a Supplement to the Final Generic Environmental Impact Statement must be prepared in order to determine any significant environmental impacts resulting from the proposed action, the rezoning of the Sandy

Hills LLC property from A Residential 1 (A-1) and J Business 2 (J-2) to Multi-family (MF) and J Business 6 (J-6).

NOW, THEREFORE, BE IT RESOLVED by the Town Board of the Town of Brookhaven that this resolution constitutes a Positive Declaration pursuant to the State Environmental Quality Review Act (SEQRA) and the Notice of Determination attached hereto shall be filed to the extent required by SEQRA or as deemed necessary by this Town Board; and be it further

RESOLVED, that a Supplemental Environmental Impact Statement be prepared in order to consider significant adverse environmental impacts, alternatives and mitigation that may be associated with the proposed action, rezoning of the Sandy Hills LLC property from A Residential 1 (A-1) and J Business 2 (J-2) to Multi-family (MF) and J Business 6 (J-6).

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SEQR
POSITIVE DECLARATION
Request for Supplemental Environmental Impact Statement

LEAD AGENCY: **Town of Brookhaven Town Board**
1 Independence Hill
Farmingville, NY 11763

TITLE OF ACTION
Change of zone from A-1 to MF-1
For Sandy Hills @ Middle Island

APPLICANT
Sandy Hills, LLC

SEQR STATUS: Type I

LOG NO. 2006-039-CZ

DESCRIPTION OF ACTION:
Proposed action involves the change of zone of a 38.6 acre parcel from A-1 residence and J-2 Business to Multifamily (MF) and J-6 Business. The project proposes the development of 134 residential units (including 72 flats, 32 townhouses, 14 duplex units, 6 triplex units and 10 single family unit), 13000 square feet of commercial space and a 5,800 square feet village club house for the residents of the development. An on-site sewage treatment plant is proposed to treat sanitary waste.

LOCATION: S/S Bailey Road 227 East of Rocky Point Yaphank Road (CR 21), Middle Island, NY

SCTM No: 0200-378-2-33.3

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

REASONS SUPPORTING THIS DETERMINATION:

The TOWN BOARD, as Lead Agency, and after review and analysis of the EAF, along with the S.E.Q.R.A. Findings Statement adopted by the Town Board on April 4, 2006 for the Coram Middle Island and Ridge Land Use Plan and the various land use studies discussed below, the issues and relevant areas of environmental concern identified and as enumerated below, the criteria contained in section 617.1 1, and any other supporting information finds that this action is anticipated to have a significant effect upon the environment and that a Supplemental Environmental Impact Statement (SEIS) shall be prepared.

The Board has considered that the purpose of the SEIS is to examine specific significant environmental impacts not addressed or inadequately addressed in the GEIS for the Coram, Middle Island and Ridge Land Use Plan due to changes in the proposed project scope, or changes in circumstance related to the project. Additionally, the SEIS will inform and involve the public and other public agencies as early as possible of this project, and its environmental impacts in order to solicit comments, which will assist the Lead Agency in

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determining the environmental consequences of the proposed action. It is also the Town Board's intent that the protection and enhancement of the environment and human and community resources be given appropriate weight with social and economic considerations in public policy. Social, economic, and environmental factors will be considered together in reaching decisions for he proposed action.

The proposed action proposes a change in land use to MF (Multi-Family) Residential and J6 Business (Main Street Business) to facilitate the construction of approximately 134 residential dwelling units and 13,000 square feet of commercial use from A-1 residence and J-2 Business.

In accordance with 617.10 (d) (4) of the State Environmental Quality Review Act states "A supplement to the final generic EIS must be prepared if the subsequent propose action was not addressed or was not adequately addressed in the generic EIS and the subsequent action may have one or more significant adverse environmental impacts." The Town Board as the SEQR Lead Agency has determined that a Supplemental Environmental Impact Statement is necessary to examine the potential environmental impacts that may result from the proposed action. The Supplemental Environmental Impact Statement will examine those site specific environmental impacts associated with this action and the cumulative traffic impacts resulting from this and other nearby projects not previously discussed in the Coram Middle Island Generic Environmental Impact Statement as follows:

a. **The impact on Town and State regulated wetlands and stream surface waters.**
b. **The potential impacts to the groundwater.**
c. **The potential impacts to the groundwater contributing areas (watershed) of the Carmans River.**
b. **The impacts of this proposal to traffic.**
c. **The impacts of this proposal to open space.**
d. **The impacts of this proposal to groundwater quality and levels.**
e. **The impacts of this proposal to wildlife.**
f. **The impacts of this proposal to endangered species.**
g. **The impacts of this proposal to cultural resources.**
h. **The impacts of this proposal to the surrounding community as presently existing.**
i. **The economic impacts of this project on the Town and the local school districts.**
j. **The noise impacts associated with this project.**
k. **The visual and aesthetic impacts associated with this project.**
l. **The consistency of the project with the 2006 *Middle Country Road Land Use Plan*.**
m. **The consistency of the project the Town's Open Space Plan.**
n. **The consistency of the project with the Town of Brookhaven pine barrens regulations.**

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o. **Consistency with the New York State Department of Environmental Conservation Wild Scenic and Recreational Rivers Corridor standards.**

p. **To identify benefits to the Town of Brookhaven's present and future residents from this action by granting the change of zone and the resultant increase in density.**

q. **Cumulative impacts associated with the project on any items mentioned above.**

REVIEW AGENCY:	**Dennis W. Cole, Department of Planning Environment and Land Management**
ADDRESS:	**1 Independence Hill, Farmingville, NY 11738**
PHONE NO.:	**631-451-6455**

COPIES OF THIS NOTICE SENT TO:

ENB
Town of Brookhaven:
Pamela J. Betheil, Town Clerk
Applicant
Agent
Mark Carrara, NYS D.E.C., Region 1, Regulatory Affairs
Steve, Costa, S.C. Dept of Health Service
Watershed, S.C. Water Authority
Central Pine Barrens Joint Planning and Policy Commission
Suffolk County Sewer Agency
N.Y.S. Natural Heritage Program, Significant Habitat Unit
N.Y.S. O.P.R.H.P. Field Services Bureau
Permit Engineer, NYS DOT
Chief Engineer, Suffolk County DPW
NYSDEC Region 1, WSR Rivers Program

THIS DETERMINATION IS NOT COMPLETE UNTIL AUTHORIZED AS FOLLOWS:

ADOPTED BY RESOLUTION ON: June 19, 2007

PAMELA J. BETHEIL, TOWN CLERK: Pamela J. Betheil

Appendix A-2

Final Scope

Town Board

October 3, 2007

FINAL SCOPE
FOR THE
DRAFT GENERIC SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (DGSEIS)
FOR
TOWNHOMES AT SANDY HILLS, MIDDLE ISLAND

PROPOSED CHANGE OF ZONE ON 38.56 ACRES OF PROPERTY FROM J-2 COMMERCIAL AND A-1 RESIDENTIAL, TO J-6 (COMMERCIAL) AND MF (MULTIFAMILY).
SITE IS LOCATED EAST OF ROCKY POINT ROAD (CR 21) BETWEEN BAILEY ROAD AND MIDDLE COUNTRY ROAD, MIDDLE ISLAND, NY

October 3, 2007

Introduction
This document is the Final scope of the issues and analyses to be included in the DGSEIS for the proposed change of zone project. A DGSEIS has been required by the Brookhaven Town Board, as Lead Agency for administration of the change of zone petition and as required by the New York State Environmental Quality Review Act (SEQRA).

The DGSEIS was prepared in conformance with this scope, 6NYCRR Part 617 and the SEQRA process is intended to provide comprehensive input in the decision-making process for use by involved agencies in preparing their own findings and issuing decisions on their respective permits. The DGSEIS will be concise but thorough, well-documented, accurate and consistent. Figures and tables will be presented in support of the discussions and analyses contained in the document. Technical information will be summarized in the body of the DGSEIS and attached in their entirety in an appendix.

It is important to note that the proposed change of zone and use of the site is designed to be consistent with the Town of Brookhaven's Middle Country Road Land Use Plan (MCRLUP) which identifies the need for strengthening the hamlets of Coram, Middle Island, and Ridge by reducing sprawl, improving aesthetics and community character. The MCRLUP identified the Sandy Hills site as a key site for multifamily development and was used to establish the basis for the project design. This document in accordance with 6NYCRR Part 617.10 of the State Environmental Quality Review is intended to supplement the MCRLUP Generic EIS that was prepared by the Town in order to examine specific significant environmental impacts not addressed or inadequately addressed in the GEIS for the Coram, Middle Island and Ridge Land Use Plan Generic Environmental Impact Statement (GEIS).

Brief Description of the Proposed Project

The proposed project will be constructed on a 38.56 acre parcel of land, which can be more particularly described as SCTM# 0200-378-02-33.3. Most of the site is currently zoned A-1 Residential (38.1 acres), with a section in the northwestern part of the site zoned as J-2 Business (0.46 acres). The site is currently an undeveloped and primarily wooded parcel (mainly Pitch Pine-Oak Forest, with small amounts of Successional Old Field vegetation in disturbed areas).

The proposed J-6 zoned portion of the site (2.10 acres) will consist of 13,000 SQUARE FEET of commercial use. The proposed multifamily (MF) zoned portion of the site (36.46 acres) will consist of 135 residential units having a variety of building types within the limits of a coordinated architectural style. The residential development will consist of townhomes, flats, duplexes, triplexes and live/work units, with 10% of the total residences being offered as affordable housing to the general population (none of the units will be age restricted). Also located on the site will be a 1,600 square feet village clubhouse, an Sewage Treatment Plant (STP) and a recharge basin. The applicant proposes to retain 13.46 acres (±35%) of this site as open space, which will be managed by a home owner's association.

The proposed project will be integrated into the community, and there will be public areas included in the development, such as a village green and plazas. Two primary site entrances and exits are incorporated into the site layout to provide alternative routes for vehicles and improved vehicular circulation. Walking and bicycling will be encouraged through the incorporation of paths throughout the development. The architectural styles used are based upon the results of the MCRLUP prepared by the Town of Brookhaven. This plan assessed the community character along Middle Country Road through Coram, Middle Island, and Ridge, and it was found that a common theme in architecture and landscaping would be essential to defragmenting the Middle Country Road corridor. Finally, the community will include extensive walking paths and green space that may be enjoyed by the residents and public, as this development will not be gated or access-restricted.

A sewage treatment plant (STP) is proposed in the western part of the site, in an area that is set back within the property and surrounded by natural vegetation. It is anticipated that the project will consume approximately 50,000 gallons per day (gpd) of water and generate 50,000 gpd of sanitary wastewater based on the Suffolk County Department of Health Services design flow criteria. The Sewage Treatment Plant will have the capacity to accept sewage from the property immediately west of this site boosting the anticipated sewage flow to approximately 100,000 to 120,0000 gallons per day. All residential units are located at least 200 feet from the proposed STP building.

It is expected that the project will generate a total of ±2,373 lbs of solid waste per month (solid waste use for the village clubhouse was estimated by assuming 1 occupant per 50 square feet). Dumpsters will be provided in convenient locations throughout the site. Resident mailboxes will be provided in a conveniently located kiosk area for efficient delivery and receipt of mail.

The project will provide a total of ±384 parking spaces, depending upon the number of units constructed. As the majority of homes will not have garages, and none of the homes have

driveways, on-street parking is designed to allow convenient access for the residents, and to allow for safe maneuverability of vehicles.

Potentially Significant Adverse Impacts

The following lists the potential adverse impacts and needed comparison studies for the proposed project:

- The impact on Town and State regulated wetlands and stream surface waters;
- The potential impacts to the groundwater;
- The potential impacts to the groundwater contributing areas (watershed) of the Carmans River;
- The impacts of this proposal to traffic;
- The impacts of this proposal to open space;
- The impacts of this proposal to groundwater quality and levels and impacts to the Bailey Road well field;
- The impacts of this proposal to wildlife;
- The impacts of this proposal to endangered species;
- The impacts of this proposal to cultural resources;
- The impacts of this proposal to the surrounding community as presently existing;
- The economic impacts of this project on the town and the local school districts;
- The noise impacts associated with this project;
- The quality of groundwater flow towards the Core Pine Barrens Area.
- Compliance with NYSDEC policy relating to tiger salamander breeding habitat.
- Adherence with Pine Barrens Hardship requirements.
- The visual and aesthetic impacts associated with this project; including photo simulations for this project and the identified alternatives
- The consistency of the project with the 2006 *Middle Country Road Land Use Plan*;
- The consistency of the project to the Town's Open Space Plan;
- The consistency of the project with the Town of Brookhaven pine barrens regulations and standards and the potential environmental impacts of non-compliance with the pine barrens standards;
- Identify the number of pine barrens credits to be used by this project as a benefit.
- To identify benefits to the Town of Brookhaven's present and future residents from this action by granting the change of zone and the resultant increase in density;
- Cumulative impacts associate with the project on any items mentioned above

Extent and Quality of Information Needed to Adequately Address Each Impact

The following indicates the information to be obtained and analyses provided in the DGSEIS to address each of the above-enumerated potentially significant impacts.

1. The site's existing groundwater-related characteristics will be provided; the water table elevation and direction of flow beneath the site will be determined and described, and the quality of groundwater in the region will be characterized by use of the most recent available monitoring or supply well test results from the SCWA, SCDHS and/or NYSDEC. Potential impacts to the Carmans River watershed and the Bailey Road wellfield will also be analyzed, including analysis of the Source Water Assessment Program for the Bailey Road wellfield. Figures and tables will be provided as appropriate, and would include a water table map and water quality test results. The topographic information incorporated in the proposed project plans will be utilized to

determine the maximum and minimum depths to the water table beneath the site. The site's anticipated groundwater recharge rate and quality will be estimated by use of a mass-balance model designed for nitrogen and recharge budget analyses; the model, referred to as Simulation of Nitrogen in Recharge (SONIR), is fully referenced and justified and is accepted by Town, County and State agencies. Changes in these values from those of the existing conditions will be quantified and discussed; model results will be presented in appendices. The potential for adverse impacts on flow direction from groundwater elevation changes will be described. Sources of potential adverse impacts to groundwater quality will be described and discussed; in particular, the anticipated nitrogen concentration will be referenced to the NYS Drinking Water standard. A siting analysis of the proposed Sewage Treatment Plant (STP) will be provided and the proposed capacity and expansion capabilities of the proposed STP discussed. Potentials for impact from site operations will be described, and conformance to applicable requirements and regulations will be discussed. Conformance to requirements of Suffolk County Sanitary Code Articles 6, 7 and 12 will be discussed. Conformance to the recommendations and conclusions of the NURP Study will be provided. The potential for erosion and associated surface and groundwater impacts during the construction process will be discussed, and the requirements and conformance to the NYSDEC's Stormwater Pollution Protection Plan (SWPPP) will be provided, as required for the SPDES GP-02-01 permit.

2. Based on site inspections by qualified personnel, the site's existing vegetation and wildlife (specifically mammals, birds, reptiles and insects) characteristics will be described and lists of species observed and/or suspected will be provided; a map of the site's habitat areas will be prepared, including surrounding areas within 200 feet, and a table of acreages of each type of land surface of the site will be included. Written documentation from the NYS Natural Heritage Program will be obtained, and any information provided will be addressed along with data from the DEC Breeding Bird Atlas, particularly with respect to species with some level of recognition or protection. The site's proximity to a potential tiger salamander breeding habitat will be discussed and information from field surveys of the breeding pond evaluated. Potential impacts from loss of habitat area and/or displacement of species, as well as potential impacts to existing designated wildlife areas in proximity to the project will be quantified and addressed.

3. Describe and map the existing land use and zoning of the site, including existing use by humans of the site, of adjacent and nearby sites, and the patterns of land use and zoning within approximately 1,000 feet. Discuss the compatibility of the project with surrounding land uses and the land use pattern, the zoning pattern within 1,000 feet and proposed zoning. Analyze the conformance of the project with requirements of the Town Code Section 85. Discuss recreational opportunities surrounding the site including the future dedication of the mining operation's northern pond as a recreational lake. Present consistency analysis with the following land use plans (using figures, as appropriate):

    a. Middle Country Road Land Use Plan
    b. The Central Pine Barrens Comprehensive Plan
    c. Brookhaven Comprehensive Land Use Plan and Open Space Study
    d. Special Groundwater Protection Area Plan
    e. Suffolk County Comprehensive Water Resources Management Plan
    f. Long Island Comprehensive Waste Treatment Management Plan (208 Study)
    g. Nationwide Urban Runoff Program (NURP) Study
    h. Longwood Mini Master Plan

Present the recommendations of each plan that are pertinent to the proposed project site, and discuss the proposed project's consistency with each recommendation noted above. In particular, the proposed project's conformance with the Central Pine Barrens Comprehensive Plan's restrictions on clearing and fertilizer dependent vegetation will be evaluated and the pine barrens credit density equivalence pursuant to §85-450 of the Town Code examined, including potential impacts to the Town's receiving capacity for pine barrens credits. Details of the application for hardship within the Compatible Growth Area will be discussed, as well as the number of pine barrens credits planned for redemption as part of the proposed project. [Note that the project site is not within the Core Pine Barrens Zone.]

4. Based on site visits and the use of digital photographs (to be presented in an appendix), the existing viewscape of and across the site from adjacent roadways and other publicly-accessible viewpoints will be described. Based on the applicant's and architect's input in regard to building design and material use, the anticipated visual impacts of the proposed buildings will be discussed for the same viewpoints. Based on the applicant's and architect's input in regard to proposed outdoor lighting, the anticipated impacts on adjacent and nearby residences will be evaluated, including compliance with the Town of Brookhaven's dark skies requirements.

5. Analyze the existing and estimated future property tax revenues and allocations to taxing jurisdictions. Discuss the role and existing characteristics of each of the following community service providers:

    a. Middle Island Fire Department
    b. Suffolk County Police Department, 7th Precinct
    c. Longwood School District
    d. Long Island Power Authority
    e. Suffolk County Water Authority
    f. Town Department of Waste Management

    Discuss the public service needs of the project, as well as existing and potential future fiscal and usage impacts on these community service providers. This information will be presented in a table. An estimate of the project's taxes will be presented using either comparable community taxes or by a market analysis method (calculated by obtaining the project's market value multiplied by the Town's Equalization Rate to estimate the project's Assessed Value). Letters will be sent to community service providers to determine if there are limitations on serving the project. The burden and revenue on each community service to provide services to the site and proposed project will be estimated.

    Using accepted multipliers for school-age residents for the type of use proposed (to be referenced), an estimate of the number of school children generated by the project will be made. Using the per-student expenditure rates (determined from the NYS Education Department report, "The State of Learning") for the most recent year available, an estimate of the amount of school district expenditures necessary to educate the anticipated number of school-age children will be made. This will be compared against the estimated school tax allocations for the project, and the results will be discussed and the implications will be analyzed, in terms of potential fiscal shortfall/excess for the district.

6. A complete Traffic Impact Study (TIS) will be prepared in accordance with transportation engineering standards of the profession; the TIS will be presented in its entirety in an appendix. The following intersections will be analyzed:

- CR 21/Rocky Point Road & Middle Country Road/NYS Route 25
- CR 21/Rocky Point Road & Bailey Road
- Middle Country Road/NYS Route 25 & Tudor Lane (adjacent to site)
- Middle Country Road/NYS Route 25 and the Shopping Center driveway opposite the Sandy Hills Development
- Middle Country Road/NYS Route 25 and Middle Island Road
- Middle Country Road at Margaret's Boulevard/Wal-Mart Access
- CR 21/Rocky Point Road at Middle Island Road
- CR 21/Rocky Point Road at Miller Place-Yaphank Road
- CR 21/Rocky Point Road at Middle Island Shopping Plaza driveway
- CR 21/Rocky Point Road at Artist Lake Condos Drive
- CR 21/Rocky Point Road at each Longwood Middle School Access
- Middle Country Road at Currans Road

Existing traffic turning movement counts will be collected during morning, evening and Saturday peak hours (anticipated to be 7-9 AM, 4-7 PM and 11 AM-3 PM, respectively, but will be subject to final determination in the TIS). From the TIS, the number and distribution of vehicle trips generated by the proposed project will be indicated and added to existing traffic volumes. Future traffic volumes will be determined with and without the project for a horizon year of 2015. A background traffic growth rate for this area will be obtained from the document "Long Island Transportation Plan 2000" (LITP 2000), and will be subject to Town review and approval. This will be used in combination with the vehicle trips generated by the three (3) other pending applications in the vicinity (identified in Item 4 below). The anticipated impacts of these vehicle trips on the pertinent local roadways and intersections will be analyzed and presented in tabular form. Those aspects or features of the proposed project that would tend to mitigate the potential adverse impacts will be discussed. Computer software using the Institute of Transportation Engineers (ITE) trip generation data will be utilized for trip generation estimates, and the HCS model (Highway Capacity Software) will be used in capacity analyses.

7. The existing noise and air environment will be evaluated in terms of sensitive receptors, ambient noise levels, and community character. The potential air and noise impacts of the project will be assessed through identification of source areas, traffic circulation/volume, proximity to receptors, distance and other attenuation, and the significance of potential air and noise impacts on the suitability of the site for residential use will be assessed.

8. A Phase I Cultural Resources Assessment (CRA I) will be prepared to determine the presence and, if present, the character and extent of cultural resources on the site. The CRA is prepared by a qualified archaeologist and is subject to NYS Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (SHPO) guidelines for content and format. The potential for the presence of cultural resources will be determined by a Phase I Cultural Resources Assessment (CRA), which is comprised of two phases:
   - Phase IA is a literature search to determine whether the site has previously been determined to contain cultural resources and/or to delineate potential locations within the site for detailed field testing, followed by
   - Phase IB, which is the field investigation phase, wherein exposed plowed soils are systematically observed or numerous test pits are excavated based on a 50-foot grid and the contents are examined to determine whether further study (a Phase II CRA) is merited.

The CRA I is reviewed by both the Town and SHPO, and is subject to the approval of the latter agency. Such approval will be obtained and documented as part of the SEQRA process and included in the DGSEIS.

Additional Impact Analyses to be Included in the DGSEIS

The previous section identifies the key impacts as outlined in the Positive Declaration. Other analyses and required sections will be included in the DGSEIS as required by SEQRA. These are outlined as follows:

1. Discuss the type, duration and extent of the anticipated impacts associated with the construction period for the proposed project. Such impacts may include, but not be limited to, impacts associated with truck deliveries, construction equipment operations, construction noise, emissions and odors, and construction schedule.

2. The site's existing topographic character will be discussed, to include the general elevation trends of the site, the existing high and low elevations and locations, and site drainage characteristics. The proposed project plan will be used to discuss/analyze anticipated grading requirements of the proposed project, anticipated export or import of soils, if any, changes in topography, etc.

3. The site's existing soil types and their distribution pattern will be described; a discussion of the limitations to development of each soil type found [the Suffolk County Soil Survey (1975) will be referenced for this information and a map will be provided]. Site-specific soil information, will be presented and discussed; soil limitations will be presented in tabular form. The anticipated clearing requirements of the proposed project, preliminary estimates of anticipated export or import of soils, if any, and the volumes and maximum depths of cut/fill, as well as locations, will be discussed.

4. Cumulative and growth inducing impacts will be analyzed as follows: the three (3) other pending application in the vicinity, as indicated by the Town, will be identified and described. These projects are:

   - Middle Island Townhomes – 92 townhouse units. This project is located at the northwestern corner of NYS Route 25 at Rocky Point Road (CR 21). The project is currently still under review .
   - 4B's II, LLC, -Kogel - 240 multi-family units and 130,000 SQUARE FEET Retail and 17,000 SQUARE FEET community center, to be located at the northwest corner of Middle Country Road and Middle Island Road. The project is currently still under review.
   - Proposed expansion to the existing Middle Island Shopping Plaza - 4,088 SQUARE FEET of office space and 16,550 SQUARE FEET of retail space, to be located at the southeast corner of Middle Country Road and CR 21/Rocky Point Road. The project is currently still under review.

   The characteristics of these projects relevant to traffic, community services and groundwater impacts will be ascertained from review of Town Division of Planning records and quantified cumulatively with those of the proposed project presented in tabular form, and these impacts will be discussed.

Other Required Sections

The following sections, as required by SEQRA for a complete DGSEIS, and items appropriate and/or necessary to the above discussions and not specifically noted in the Positive Declaration, will be included:

Project Background, Need, Objectives and Benefits - Provide discussions of history of proposed project, and future actions to be taken by the lead and involved agencies, the public and municipal need for the proposal, the applicant's objectives to be attained by the project, and the public benefits including smart growth concepts and pedestrian friendly design concept. Indicate anticipated number of residents and whether project is for rental or ownership units. Note whether/how project conforms to and meets the goals of applicable plans or lands use studies.

Location and Current Site Conditions - Provide detailed description of site location, including geographic boundaries, street location, appropriate planning and service districts, zoning district, etc., and description of current site conditions.

Project Design and Layout - Describe layout of project and factors determining same; describe/discuss: structures proposed; site access, internal roadways and parking; grading; drainage, sanitary disposal and water supply systems; landscaping, lighting and other amenities proposed. Discuss compliance to other applicable development regulations. Provide Comparison Table of current and anticipated future conditions of site.

Construction Process and Operations - Describe construction process and anticipated schedule and operations (including delivery operations and hours, number of construction workers, erosion preventive measures, etc.). Present erosion control measures to be taken and requirements for such measures.

Permits and Approvals Required - List the various agency reviews, approvals and permits required, and discuss the administrative status of each.

Adverse Impacts That Cannot Be Avoided - Provide listing and brief description of those adverse impacts described and discussed in the document that cannot be avoided.

Irreversible and Irretrievable Commitment of Resources - Briefly describe the natural and human resources that will be permanently committed due to the proposed project.

Growth-Inducing Aspects - Provide discussion of those aspects of the proposed project that will or may induce growth in the vicinity; discuss the nature of such growth anticipated.

Effects on the Use and Conservation of Energy Resources - Describe and discuss the anticipated use of and conservation measures taken with respect to energy resources utilized by the proposed project, and a cost benefit analysis of the proposed project's design and construction with respect to Leadership in Energy and Environmental Design (LEED) Certification guidelines.

Initial Identification of Mitigation Measures

- Conformance to the applicable requirements of the Town Zoning Code, Suffolk County Sanitary Code and NYSDEC to ensure that the potential for significant adverse environmental impacts to

geological, water, ecological, community service and community character resources would be minimized, if not eliminated.

- Balance site cut and fill volumes as much as practicable; identify: construction methods to be implemented to ensure protection of adjacent uses, erosion control measures, hours of construction operations, and truck routes to be utilized.
- Implementation of necessary and appropriate traffic-related improvements delineated in the TIS to minimize potential impacts to traffic flow and intersection operations.
- Property taxes generated by the project would partially offset the increased costs to community service providers.
- Increased amounts of water and energy required for the proposed project would be minimized by use of water- and energy-conserving mechanical systems, plumbing fixtures, insulations, building materials, etc.
- Potential increased need for emergency services would be minimized by use of security, fire and/or smoke alarms, fireproof or fire-retardant building materials, lighting systems, security patrols, etc.
- Potential disconformities with prevailing land use and zoning patterns and the community's goals for the area would be mitigated by conformance with recommendations of accepted land use plans, studies and zoning regulations.
- Use of architectural designs (using materials having colors and textures appropriate for the area) and landscaping schemes complementary to the area development pattern would tend to minimize impacts to the character of the community.
- Use low wattage and/or shielded lighting fixtures, to illuminate only the interior of the site, for safety and security purposes.
- Impacts on cultural resources would be mitigated by avoidance or recovery of cultural information.

Reasonable Alternatives to be Considered

The Sandy Hills at Middle Island DGSEIS will contain an analysis of reasonable alternatives that are in keeping with the goals and objectives of the project sponsor. Alternatives will be presented at a level of detail appropriate to permit analysis and comparison of impacts between alternatives and the proposed project.

A table comparing the key quantifiable impacts of each alternative will be prepared. The alternatives described and analyzed in the DGSEIS will include:

1. No Action - the site remains in its current condition.
2. As of Right Single Family Subdivision - the site is developed in conformance with its existing zoning which would allow for on-site sanitary systems and include a standard yield plan.
3. Increased Commercial Alternative – the site is developed with a layout similar to the proposed action, but with an increase in commercial/retail provided along the proposed connection road.
4. Reduced Density Alternative– the site is developed in a layout similar to the proposed action with a reduction in density and provision for single family units provided along the eastern portion of the site which backs existing single family development.
5. Alternate Cluster Design – the layout of the proposed action is modified to provide a contiguous area of open space and/or not require submission of a hardship application to the CPB Commission.

6. Alternate Road Layout – the layout of the proposed action is modified to relocate the proposed connection boulevard and associated disturbance outside of the 535' setback radius from the adjacent pond (previously identified tiger salamander habitat).
7. Acquisition for Open Space – the site is acquired by the Town of Brookhaven as an open space parcel.
8. Alternative Pine Barrens Credit Allocation – an alterative which evaluates the maximum use of pine barrens credits pursuant to §85-450 and 85-451 of the Town Code.

Appendix A-3

Phase I Environmental Site Assessment

Nelson, Pope & Voorhis

December 13, 2004

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Phase I
Environmental Site Assessment

Sandy Hills Property

Middle Island, New York

NP&V Project No. 00088

December 13, 2004

CONFIDENTIAL AND PRIVILEGED

Phase I

Environmental Site Assessment

Sandy Hills Property

Middle Island, New York

THIS DOCUMENT CONTAINS 30 PAGES OF TEXT

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Nelson, Pope & Voorhis, LLC (NP&V) understands that our client (and their successors or assigns) are relying upon the contents of this Phase I Environmental Site Assessment report for the above referenced property in making a loan secured by or affecting the property and/or acquiring the property as the case may be. The format of this Phase I Environmental Site Assessment was predicated upon general guideline requirements established by individual lending institutions, American Society for Testing and Materials Standards (1527-00), various professional organizations, and our professional judgment.

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ENVIRONMENTAL • PLANNING • CONSULTING

Phase I
Environmental Site Assessment

Sandy Hills Property

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Phase I
Environmental Site Assessment

Sandy Hills Property

1.0 SUMMARY

The subject property has been inspected and reviewed independently by Nelson, Pope & Voorhis, LLC in order determine if potential environmental or public health concerns are present. This report is intended to identify Recognized Environmental Conditions (as defined in ASTM Standards on Environmental Site Assessments for Commercial Real Estate) on the subject property based on the four (4) basic components of a Full Phase I Environmental Site Assessment (ESA): records review, site reconnaissance, interviews and evaluation and reporting.

The subject property lies in the Hamlet of Middle Island, Town of Brookhaven, County of Suffolk, New York. The subject property is a 38.6-acre parcel of vacant land located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). The property is more particularly described as Suffolk County Tax Map # 0200-378-2-33.3.

The subject property consists of a vacant, wooded parcel and maintains a relatively flat topography over the majority of the site with the exception of part of the site and an area in the northern end and along the western property boundary. In steeper slope areas the topography was observed to slope towards the west-northwest and west. A deep depression which is connected to a drainage ditch was observed along the western property line approximately 400 ft south of the intersection between CR 21 and Middle Island Road. Access to the site is provided by several footpaths as well as former vehicular trails which transect the property and lead to several small cleared areas in the southern and central sections of the site. Scattered debris, including several empty drums, was observed in several areas of the property, and there were a number of hand dug pits noted throughout the site. In addition, a small asphalted area was observed along the western property line approximately 200 ft north of the deep depression noted above.

Sanborn map coverage was not available for the subject property. Aerial photographs from 1957, 1966, 1976, 1980 and 1994 were reviewed and revealed that the property was vacant wooded land in the 1994 aerial. The aerials from 1980 and 1976 indicate that the northern portion of the site was predominantly wooded land with several prominent access roadways present. The southern end of the site was mostly cleared and may have been used for agricultural purposes. The aerial photographs from 1966 and 1957 show that most of the site was cleared of all woodland vegetation except for an approximately twelve (12) acre section in the northwest corner of the property. As in the 1980 and 1976 aerials, the cleared area of the site appears to have been used for agricultural purposes. Historic USGS Middle Island Quadrangles maps from 1967 and 1944 were reviewed and depict the property as cleared land, except for the twelve (12) acre area in the northwestern corner of the site.

An extensive government records identified several Federal, State and County documented regulated sites in the vicinity of the subject property, none of which were noted on the subject site. Specifically, six (6) RCRA Generators, two (2) SWF sites, five (5) PBS facilities, two (2) LUST incidents and one (1) CBS facility were identified within one-half (0.5) mile of the subject property. In addition, twenty-nine (29) spill incidents were identified within one (1) mile of the subject property. Also of note, a total of six (6) CLEARS sites were identified in the vicinity of the subject property, two (2) of which were located on the subject site. Both listings are classified as a pit and a dump each of which are related to the deep depression and trench located along the western property boundary.

In conclusion, this assessment has revealed evidence of recognized environmental conditions or issues in connection with the subject property, subject to the methodology and limitations of this report. These conditions are summarized as follows:

1. Due to the identification of the subject property on the County CLEARS list inventory as a dump, subsurface soils should be examined and a soil sample should be collected from the bottom of the deep depression along the western property boundary. The sample should be analyzed for the presence of volatile and semi-volatile organic compounds as well as metals.

2. The scattered debris as well as drums noted on the subject property should be removed and disposed of at an appropriate facility.

3. Due to the utilization of the site for agricultural purposes, it is recommended that if the site is to be used for residential purposes, the formerly farmed areas of the property be sampled for pesticides, herbicides and metals.

2.0 INTRODUCTION

2.1 PURPOSE

This report is intended to meet the format and requirements of the ASTM Standard Practice for Environmental Site Assessments, as published in ASTM E 1527-00. Banks, insurance companies and prospective property purchasers require an understanding of existing and past property conditions and uses in order to assess the potential liabilities associated with a site. This assessment has been completed by a qualified environmental professional as defined in ASTM Standards. The objectives of this Environmental Site Assessment are stated as follows:

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

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

> The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

2.2 SPECIAL TERMS AND CONDITIONS

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

encumbering the property or specialized knowledge or experience that would assist in identifying recognized environmental conditions.

It must be recognized that the level of inquiry is variable for each Phase I Environmental Site Assessment, depending upon the availability of information and quality of information received. As per the ASTM Standards, it should also be noted that the "environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I Environmental Site Assessment or otherwise actually known to the environmental professional". Personnel involved in report preparation will make judgments on the accuracy of information and conduct additional research as necessary in order to meet the requirement of identifying recognized environmental conditions on the site. ASTM Standards provide a number of standards sources of historic information. Nelson, Pope & Voorhis, LLC will seek to research as many sources of historic information as may be available as a means cross confirmation. Based on ASTM Standards, the Phase I Environmental Site Assessment is not intended to include any sampling or testing of materials associated with the project site (i.e. soil, water, air or building materials). Accordingly, this report will conform with this intent and no testing will be conducted.

2.3 LIMITATIONS AND EXCEPTIONS

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

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

Analysis of the CERCLA implications with regard to the innocent purchaser defense under Superfund, finds that naturally occurring radon is not subject to CERCLA liability and is appropriately considered as a non-scope issue. Accordingly, this survey will not address radon gas, and will not involve or recommend air monitoring for radon gas. As a point of information for users of this report, radon is a colorless, odorless, inert gas which has become a common air contaminant of concern in certain geographic areas. Radon is a natural isotope, which is present most commonly in association with crystalline bedrock and at times other geologic deposits. Natural isotope decay, can emit radiation which causes health concerns due to inhalation **(Sax and Lewis, 1987).** Radon levels generally increase in areas where bedrock is close to the land surface, and generally creates a health related problem only where underground basements are constructed which may allow radon gas to accumulate in a manner which would cause exposure.

Geographically, radon may be of concern in some portions of western Long Island, New York City and nearby counties. Similarly, the ASTM Standards do not recognize liability with regard to asbestos that is part of the building materials of a structure, in accordance with CERCLA innocent purchaser defense under Superfund. If asbestos containing material is disposed of on a site however, such practice would be subject to Superfund response actions and should be identified. In the interest of serving the client, and addressing the needs of lending institutions, this report will identify observed asbestos containing material (ACM) on the site which may cause a health danger or is considered friable, as a non–scope issue. This report is not a full asbestos survey as would be required for building demolition, or identification of all possible sources of ACM, regardless of health danger.

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

This report cannot identify all sources of PCB containing oils. Common sources of these materials include transformers and fluorescent lamp ballast. Electric service transformers may include ground level or pole mounted units. These transformers are owned and maintained by the Long Island Power Authority (LIPA), the entity responsible for their use and integrity. Transformers are inventoried and periodically inspected. LIPA environmental engineer Mike Lauro reported in conversation that LIPA transformers were not manufactured to contain PCB contaminated oils. Aggressive and destructive testing which would be required for definitive identification of PCB's is beyond the scope of this study. The study will however identify observed potential sources, fluid leaks, hazardous materials and/or petroleum substance disposal and other environmental or health hazards appropriate the scope of the survey.

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

2.4 AUDIT METHODOLOGY

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

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

1) Field inspection of the subject property was conducted including indoor and outdoor facilities (if they are present) and interview of site personnel, to document facilities and operations, and determine applicable Federal, State and Local laws and regulations.
2) Inspection of areas surrounding the subject property were conducted in order to document surrounding uses as related to the integrity of the subject property.
3) Federal government records were researched including the NPL site list, the CERCLIS site list, and RCRA Hazardous Waste TSD Facilities and Generator Lists, and ERNS lists to determine if the subject property or adjacent sites are included in listings.
4) State government records were researched (NYS Department of Environmental Conservation [NYSDEC]) including Inactive Hazardous Waste Disposal site lists, landfills and solid waste disposal facilities, registered underground storage tanks (USTs), wastewater disposal sites, air emission sources, and leaking USTs/materials spill lists, to determine if the site or adjacent sites are included in listings.
5) County government records were researched including tank and drum registration, violations/enforcement action files, and for sites in Suffolk County, the CLEARS remote sensing site inventory.
6) Local government records were researched including zoning and Certificate of Occupancy to determine site compliance and history.
7) Records involving Transfer of Property were reviewed as available to determine site ownership and history where possible.
8) Published literature concerning on-site soils, and groundwater resources were reviewed as related to environmental audits to establish environmental resource information.
9) Additional interviews were conducted as necessary.
10) Conclusions regarding the site were formulated based upon the above tasks.

The date of inspection, key personnel in the preparation of the report, and a list of persons interviewed is provided below in order to provide further insight into methodology:

Project Commenced:	November 15, 2004
Inspection Date:	December 3, 2004
Report Date:	December 13, 2004
Inspector/Preparer:	Charles J. Voorhis, CEP, AICP
Persons Interviewed:	Vacant Property

3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

The subject property lies in the Hamlet of Middle Island, Town of Brookhaven, County of Suffolk, New York. The subject property is a 38.6-acre parcel of vacant land located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). The property is more particularly described as Suffolk County Tax Map # 0200-378-2-33.3. **Figure 1** provides a location map depicting the subject property and the surrounding area. The subject property is generally rectangular in shape.

3.2 SITE AND VICINITY CHARACTERISTICS

The subject property consists of a vacant, wooded parcel and maintains a relatively flat topography over the majority of the site with the exception of part of the site and an area in the northern end and along the western property boundary. In steeper slope areas the topography was observed to slope towards the west-northwest and west. A deep depression which is connected to a drainage ditch was observed along the western property line approximately 400 ft south of the intersection between CR 21 and Middle Island Road. Access to the site is provided by several footpaths as well as former vehicular trails which transect the property and lead to several small cleared areas in the southern and central sections of the site. Scattered debris, including several empty drums, was observed in several areas of the property, and there were a number of hand dug pits noted throughout the site. In addition, a small asphalted area was observed along the western property line approximately 200 ft north of the deep depression noted above. Additional information concerning site reconnaissance is presented in Section 5.0.

The area immediately surrounding the subject property is comprised of industrial, commercial and residential uses as well as vacant land. These uses are described in more detail in Section 3.3.5.

3.3 DESCRIPTION OF SITE IMPROVEMENTS

3.3.1 Site Conditions

The subject property is vacant, wooded land. No buildings, foundations or remnants thereof were observed on the site.

3.3.2 Site User Information

No one was available to answer questions regarding the subject property. As a result no other information was provided regarding the property during site reconnaissance.

FIGURE 1

LOCATION MAP

Source: DeLorme Street Atlas
Scale: Not to Scale

NORTH

NELSON POPE & VOORHIS, LLC

3.3.3 Current Uses of the Property

The subject property consists of vacant, wooded land and was not observed to be used for any purpose during the site inspection.

3.3.4 Past Uses of the Property

The subject property was vacant, wooded land. However, Sanborn maps as well as historic aerial photographs and USGS maps were requested in order to determine if any prior uses occupied the subject property.

Sanborn map coverage was not available for the subject property. Aerial photographs from 1957, 1966, 1976, 1980 and 1994 were reviewed and revealed that the property was vacant wooded land in the 1994 aerial. The aerials from 1980 and 1976 indicate that the northern portion of the site was predominantly wooded land with several prominent access roadways present. The southern end of the site was mostly cleared and may have been used for agricultural purposes. The aerial photographs from 1966 and 1957 show that most of the site was cleared of all woodland vegetation except for an approximately twelve (12) acre section in the northwest corner of the property. As in the 1980 and 1976 aerials the cleared area of the site appears to have been used for agricultural purposes. Historic USGS Middle Island Quadrangles maps from 1967 and 1944 were reviewed and depicts the property as cleared land, except for the twelve (12) acre area in the northwestern corner of the site. Please refer to Section 4.3 for additional information regarding site history.

3.3.5 Adjacent Land Uses

Current land use at the subject property and surrounding area is described based on aerial photographs and visual observations. The subject property is surrounded by residential uses.

South: Commercial properties and Middle Country Road, beyond which are single family residential homes and a retail strip mall.
West: Commercial properties and Rocky Point-Yaphank Road, beyond which are single-family residential homes, cement company, sand mine and vacant lands.
North: Vacant land, strip mall and Suffolk County Water Authority supply well.
East: Single-family residential homes and vacant lands.

Past uses in the vicinity of the subject property are described based on review of historic aerial photographs, Sanborn Maps and a field inspection. For the subject property area,

aerial photographs revealed the area of the subject property was developed for residential and commercial purposes over the past few decades.

3.3.6 Site Map

An aerial photograph depicting the subject property is provided as **Figure 2**.

FIGURE 2

SITE MAP

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ENVIRONMENTAL • PLANNING • CONSULTING

Source: NYSGIS Orthoimagery Program, 2001
Scale: 1" = 400'

NORTH

4.0 ENVIRONMENTAL RECORDS REVIEW

With the understanding of the facilities at the subject property, it is important to establish the environmental and regulatory conditions of the subject property and surrounding area, as related to public health and environmental issues. This section of the report includes a review of agency records, soils and groundwater resources. The site inspection and the environmental and regulatory conditions form the basis for conclusions regarding the risks and liabilities associated with the subject property.

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

A search of Federal, State and Local databases was performed in order to provide a profile of the subject property and surrounding area with regard to published government agency records. The procedures employed adhere as closely as possible to ASTM standards.

Contact was made with the United States Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), the Suffolk County Department of Health Services (SCDHS), and local government regarding environmental and/or public health concerns associated with the subject property and surrounding uses.

4.1.1 United States Environmental Protection Agency (USEPA)

The United States Environmental Protection Agency (USEPA) was contacted in order to obtain information regarding the National Priorities List (NPL), and sites documented on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The NPL defines all known hazardous material waste sites, which are described by the Federal Government as needing immediate cleanup action. All hazardous material waste sites considered for addition to the NPL are listed in the CERCLIS list.

Review of the NPL (search distance 1.0 mile) and the CERCLIS (search distance 0.5 mile) lists finds the following with respect to the subject property and surrounding area:

1. Subject property did not appear on the NPL or CERCLIS lists.
2. No sites appearing on the NPL were located within one (1) mile of the subject property.
3. There were no sites appearing on the CERCLIS list within one-half (0.5) mile of the subject property.

The CERCLIS list is a compilation of known or suspected uncontrolled or abandoned hazardous waste sites in the United States. These sites have either been investigated, or are currently under investigation by the EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priorities List

(NPL). It should be noted, however, that the presence of a site on this list does not confirm the presence of an environmental problem or a public health threat.

The USEPA was also contacted in order to obtain information concerning RCRA TSD facilities (treatment, storage, and disposal of hazardous wastes, as defined and regulated by the Resource Conservation and Recovery Act, RCRA), and RCRA Generators (of hazardous wastes as defined and regulated by RCRA). RCRA TSD facilities are sites that treat, store or dispose of wastes that can be toxic, flammable, corrosive, explosive or otherwise hazardous; and, RCRA Generators are sites that generate or transport wastes of the above noted characteristics. The search also included review of the Emergency Response Notifications System (ERNS) list, which is a list of reported releases or spills in quantities greater than reportable quantities.

Review of the RCRA TSD Facilities List (search distance 1.0 mile), the RCRA Generator List (search distance, subject property and adjoining properties), and the ERNS List (search distance, subject property only) finds the following with respect to the subject property and surrounding area:

1. Subject property did not appear on the RCRA TSD Facilities List, or the ERNS List.
2. Subject property was not listed on the RCRA Generators list.
3. There were no sites listed as a RCRA TSD facility identified within one (1.0) mile of the subject property.
4. There were six (6) RCRA Generators listed within one-half (0.5) mile of the subject property.
    a. Texaco Service Station (Facility ID: 1000144517), located 1,442 feet south-southeast of the subject property at the corner of NYS Route 25 and Rocky Point Road. Facility listed as a small quantity generator. No violations found or reported.
    b. Ocean Gasoline Station (Facility ID: 1000144479), located 1,459 feet south-southeast of the subject property at 570 Middle Country Road. Facility listed as a small quantity generator with no violations found or reported.
    c. Wal-Mart #2156 (Facility ID: 1004756066), located 2,485 feet southwest of the subject property at 759 Middle Country Road. Facility listed as a conditionally exempt small quantity generator with no violations found or reported.
    d. Longwood School District (Facility ID: 1000237398), located 727 feet north-northwest of the subject property on Yaphank Road. Facility listed as a small quantity generator with no violations found or reported.
    e. Silver King Broadcasting of NJ (Facility ID: 1000430350) located 1,815 feet south-southwest of the subject property at 666 Middle Country Road. Facility listed as a small quantity generator with no violations found or reported.
    f. L&M Automotive (Facility ID: 1000232272), located 1,974 feet east-southeast of the subject property at 444 Middle Country Road. Facility listed as a small quantity generator with violations reported. Violation occurred on 10/07/1996 and listed as generator-annual reporting requirements. No penalty reported and compliance achieved on 11/1/1996.

The RCRA Generator program is intended to track the origin and destination of hazardous waste, and there is no indication that listing on this inventory constitutes an environmental threat. None of the previously identified RCRA Generators are expected to adversely impact the subject property.

In addition, the Federal Facilities Index that includes resources conservation and Recovery Corrective Action Sites (CORRACTS) was reviewed. No additional sites that could impact the subject property were identified. The results of the search are included in **Appendix C.** Applicable State and Federal sites are listed in Sections 4.1.1 and 4.1.2.

4.1.2 New York State Department of Environmental Conservation (NYSDEC)

The NYSDEC is charged with the responsibility of registering inactive hazardous waste disposal sites, and administering the investigation and cleanup of such sites. The NYSDEC inventory is contained in the publication, Inactive Hazardous Waste Disposal Sites in New York State. The inventory provides the location, extent of contamination and remediation status of each listed site in New York State. Accordingly, the registry of the NYSDEC was consulted for information on Inactive Hazardous Waste Disposal Sites (IHWDS). Similarly, the NYSDEC is responsible for permitting Solid Waste Facilities (SWF) - these are facilities including landfills, incinerators, transfer stations and other solid waste management sites. The NYSDEC also registers Petroleum Bulk Storage (PBS) where the total storage capacity at the facility exceeds 1,100 gallons, Chemical Bulk Storage (CBS), Major Oil Storage Facilities (MOSF) and Leaking Underground Storage Tanks (LUSTs).

Review of the IHWDS List (search distance 1.0 mile), the SWF List (search distance 1.0 mile), PBS Lists (search distance, subject property and adjoining properties), CBS and MOSF lists and LUST Lists (search distance 0.5 miles), finds the following with respect to the subject property and surrounding area:

1. The subject property was not listed as an IHWD site.
2. The subject property was not listed on the PBS, CBS or MOSF Lists.
3. The subject property was not listed as having a LUST incident.
4. There were no IHWDS listings located within one (1.0) mile of the subject property.
5. There were two (2) SWF listings identified within one-half (0.5) mile of the subject property.
    a. Roanoke Sand & Gravel (Facility ID: U003535975), located 3,609 feet north-northwest of the site at 104 Rocky Point Road. Facility is a private construction and demolition debris landfill which has accepted concrete, asphalt, brick, clean soil and rock for disposal.
    b. Barker Material & Mason Supply, Ltd. (Facility ID: S105265210), located 3,629 feet north-northwest of the site at 114 Rocky Point Road. Facility is a private construction and demolition debris landfill which has accepted concrete, asphalt, brick, clean soil and rock for disposal.

6. There were five (5) State Registered PBS facilities in close proximity to the subject property.
   a. Texaco Service Station (Facility ID: 6311), located 1,442 feet south-southeast of the subject property at the corner of NYS Route 25 and Rocky Point Road. Facility uses four (4) single wall fiberglass underground tanks for the storage of gasoline and diesel. Previously the facility has two (2) 10,000 gallon, one (1) 6,000 gallon and one (1) 550 gallon steel underground tanks for the storage of gasoline and waste oil which were removed in 1983.
   b. Wal-Mart #2156 (Facility ID: 5621), located 2,485 feet southwest of the subject property at 759 Middle Country Road. Facility uses one (1) 800 gallon above ground waste oil tank, one (1) 125 gallon above ground windshield washer fluid tank, two (2) 400 gallon above ground motor oil tank, one (1) 280 gallon above ground windshield washer fluid tank and one (1) 280 gallon above ground waste oil tank. Previously, facility used one (1) 275 gallon above ground waste oil tank removed in 1996, one (1) 300 gallon above ground waste oil tank removed in 2003 and one (1) oil/water separator removed in 1996.
   c. Tudor Lane Inc. (Facility ID: 16403) located 2,621 feet southwest of the subject property at 875 Middle Country Road. Facility used a 1,080 gallon underground tank for the storage of gasoline which was abandoned in 2003.
   d. Alsan Car Care (Facility ID: 4715), located 1,854 feet south-southwest of the subject property at 805 NYS Route 25. Facility previously had a 3,000 gallon and 4,000 gallon underground tanks used for the storage of gasoline. Both tanks were removed in 1984. In addition, facility also had a 275 gallon above ground tank used for the storage of waste oil which was removed in 1989.
   e. Anchor Enterprises, Inc. (Facility ID: 3858), located 1,744 feet south-southwest of the subject property at 975 Middle Country Road. Facility uses four (4), 500 gallon above ground tanks for the storage of motor oil, waste oil and transmission fluid.
7. There was one (1) State Registered CBS facility identified within one-half (0.5) mile of the subject property.
   a. Birchwood at Spring Lake Home Owners Association, Inc. (Facility ID: 1-000363), located 1,501 feet south-southeast of the subject property at 535 Middle Country Road. Facility has three (3) 2,000 gallon, active and in-service above ground tanks used for the storage of sodium hydroxide and methanol.
8. There were no State Registered MOSF facilities within one-half (0.5) mile of the subject property.
9. There was one (1) closed and one (1) open LUST incident identified within one-half (0.5) mile of the subject property. Information regarding the open incident is presented below.
   a. Texaco (Prior Ocean) (Spill# 8808610), located 1,459 feet south-southeast of the subject property at 570 Middle Country Road. Spill discovered as the result of a tank test failure reported on 1/31/890. Spill classified as a known release that creates the potential for fire or hazard. NYSDEC responded and noted willing responsible party. Corrective action taken. No penalty recommended. Material spilled identified as an unknown quantity of gasoline. Information regarding the closed LUST incidents is contained in **Appendix C**.

The NYSDEC also responds to incidents involving oil spills. The Department maintains a log book and files on all reported and actual incidents at the NYSDEC offices at Stony

Brook. This file was reviewed in conjunction with the subject property. A total of twenty-eight (29) spill incidents were identified within three-quarter (0.5) mile of the subject property between 1985 and 2004. Information regarding the three (3) active downgradient/crossgradient and the twenty-six (26) closed spills e contained is contained in **Appendix C**. None of the incidents are noted as major incidents that may have affected groundwater quality. The subject property is serviced by public water and is not expected to be adversely affected by any of these incidents.

The New York State DEC conducts review of permits for wastewater discharges under the State Pollutant Discharge Elimination System (SPDES) program. The enabling legislation for this program is under Article 17 of the New York State Environmental Conservation Law and Federal authority is granted under Sections 307, 318, 402 and 405 of the Clean Water Act. Records for discharges are maintained at the offices of the NYSDEC. Permits are classified by type based upon the following categories: 01 - industrial and commercial process water; 02 - commercial sanitary discharges; 03 - major EPA regulated industrial discharges; 04 - non significant, non toxic industrial discharges; 05 - major municipal discharge points; and, 09 - private or commercial sewage treatment plants. With regard to potential environmental and public health concerns, only Class 01, 03, 05 and 09 type permits are of importance. Commercial sanitary discharges involve sewage only, and density limitations or sewage treatment requirements ensure that Class 04 discharges involve primarily non-contact cooling water and do not constitute a pollution threat.

The records for the vicinity surrounding the project site were consulted (search distance, subject property and adjoining properties) to determine if any important discharges are present. The following is noted:

1. The subject property is not listed as holding a significant SPDES permit.

4.1.3 Suffolk County Department of Health Department (SCDHS)

The SCDHS performs many important functions in environmental resource protection. These include inspection of facilities that use or store significant quantities of toxic or hazardous material or generate waste. SCDHS did not maintain any file specific to the subject property. This report is not a substitute for an inspection of the site by a qualified biologist.

Also of interest with regard to Health Department functions is a study completed in conjunction with Cornell University, referred to as the CLEARS study (Cornell Laboratory for Environmental Applications of Remote Sensing). This research involves stereoscopic analysis and interpretation of historic aerial photographs for the purpose of identifying past and present hazardous waste disposal sites, solid waste disposal sites,

disturbed areas, chemical storage, and other potential sources of contamination. The study has been ongoing since approximately 1986. The CLEARS study was consulted with regard to the area surrounding the subject property.

A total of six (6) CLEARS site were identified in the vicinity of the subject property, two (2) of which were located on the subject site. The two (2) site present on the property are listed below.

1. Site Reference: Middle Island # D 16
   Site Location: Subject property.
   Site Description: Dump
   - 1947 – Small open dump in depression adjacent to road; screened from road by woody terrain.
   - 1962 – Depression detectable; natural pit-like depression with water in the bottom; open dumping continued.
   - 1972 – As in '62; water no longer detectable.
   - 1978 – Dumping in natural pit-like depression appears to be continuing
   - 1984 – No change.

2. Site Reference: Middle Island # D 16
   Site Location: Subject property.
   Site Description: Pit
   - 1978 – Long narrow trench (overlooked on 1972 photos) located along tree line in abandoned farm field; shows infrequent use.
   - 1984 – Trench detectable, but appears abandoned.

The three (3) CLEARS sites in the vicinity of the subject property are listed below.

1. Site Reference: Middle Island # X48
   Site Location: located immediately west and adjacent to subject property.
   Site Description: Disturbed Land
   - 1978 – Site is comprised of a property which includes a building (maybe two buildings) larger than residences and a large untidy rear yard with scattered random deposits of bulky wastes within the yard and well into the tree line. There may be one, possibly two, very small pits with refuse deposits around the edges and strong evidence of very active vehicular trafficking. Several vehicles are parked uniformly out front; others randomly parked in yard behind the buildings. Areas of dusty objects which may be barrels or drums.
   - 1984 – Site less disorganized; somewhat "cleaned up'; no detectable pits; no detectable waste deposits; vehicles parked in uniform pattern; open storage bins located at rear of property tree line.

2. Site Reference: Middle Island # M 15
   Site Location: located 600 feet to the northwest.
   Site Description: Mined Ares

1947 – Sand mining in progress in two sections separated by woodlands.
1962 – Sand mine expanded into one section.
1972 – Sand mine expanded; related processing operation now part of business.
1978 – No change.
1984 – See #13; #13 and #15 have merged into one unit.

3. Site Reference: Middle Island # X17
Site Location: located 600 feet to the southwest
Site Description: Disturbed Land
1947 – undisturbed; wetland, small pond, surrounded on three sides by trees.
1962 – Same as 1947.
1972 – Pond and wetland in process of fill-in; from two sides.
1978 – Fill-in of pond continuing.
1984 – No change.

The CLEARS Study assists with an historical perspective of the site and surrounding area. Little interpretation can be made with regard to the findings of the CLEARS study. There is no confirmation of activities which may have caused environmental degradation with regard to any of the sites. The SCDHS contracted the CLEARS study and will continue to interpret the results and take remedial action as necessary. The subject property is not listed as a CLEARS study site.

4.1.4 Local Agencies

Freedom of Information requests were submitted to the Town of Brookhaven. The Building Department and the Bureau of Fire Prevention records were not received prior to the completion of this document. Any pertinent information received will be included in an addendum to this report. The Planning and Zoning Department indicated the subject site is currently located within two separate use zoning districts. A majority of the site (~38.1 acres) lies within the A-1 Residence zoning district and a small 0.5 acre section, which fronts along Middle Country Road is within the J-2 Business district. The Town Tax Assessors indicated the property is owned by Bailey Road Associates.

4.2 PHYSICAL SETTING

4.2.1 Soils and Topography

The surficial geology of a site can often provide insight into the past activities on a given parcel of land. The Soil Survey of Suffolk County, conducted by the U.S. Department of Agriculture in 1975 is a useful source of soils information, which identifies soil types resulting from natural deposition and modification, as well as man-induced alterations associated with land use.

The subject property is comprised of soil types: CpA – Carver and Plymouth sands, 0-3% slopes, CpC – Carver and Plymouth sands, 3-15% slopes, HaA – Haven loam, 0-2% slopes, HaB – Haven loam, 2-6% slopes, He – Haven Loam, Thick Surface Layer, PlB – Plymouth loamy sand 3-8% slopes and RdB – Riverhead Sandy Loam, 3-7% slopes. The characteristics of this soil type is identified as follows **(Warner et al., 1975):**

Carver and Plymouth sands, 0-3% slopes (CpA) - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found mainly on outwash plains; however, they are also found on some flatter hilltops and intervening draws on moraines. The hazard for erosion is slight.

Carver and Plymouth sands, 3-15% slopes (CpC) - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found mainly on rolling moraines; however, they are also found on the side slopes of many drainage channels on the outwash plains. The hazard for erosion is slight to moderate.

Haven loam 0-2% slopes (HaA) - This map unit consist of deep, well drained, medium textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. Most of these areas are on outwash plains; some are on moraines and generally are on top of low-lying hills. The hazard of erosion is slight and internal drainage is good. Natural fertility is low.

Haven loam 2-6% slopes (HaB) - The Haven series consists of deep, well drained, medium textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. This soil is found on outwash plains and moraines, commonly along shallow drainage channels. The hazard of erosion is moderate to slight.

Haven Loam, Thick Surface Layer (He) - This soil is mainly on outwash plains throughout the county. These soil generally occupy the bottom of the larger drainage channels or closed depressions where silty material has accumulated from surrounding areas. Slopes are usually less than three (3) percent and areas of this soil are generally quite small.

Plymouth loamy sand, 3-8% slopes (PlB) - Consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand over thick layers of stratified coarse sand and gravel. This soil is on moraines and outwash plains. The erosion hazard is slight and soil tends to be droughty.

Riverhead sandy loam, 3-8% slopes (RdB) - The Riverhead series consist of deep, well-drained, moderately course-textured soils. These soils occur primarily on outwash plains. A few small irregular areas are on the moraines. Riverhead soils have moderate to high available moisture capacity. Internal drainage is good, with moderately rapid to very rapid permeability. Natural fertility is low.

The nature of the surrounding area is that of industrial, commercial and residential uses. The subject property maintains a relatively flat topography over a majority of the site except in the northern end and western boundary of the parcel. In these areas of the site

the topography was observed to slope towards the west-northwest and west, respectively. Neither soils nor topography appear to pose a constraint to the current use of the subject property. Bedrock in the vicinity of the subject property is approximately 1,000 feet below grade.

4.2.2 Water Resources

Groundwater on Long Island is entirely derived from precipitation. Precipitation entering the soils in the form of recharge, passes through the unsaturated zone to a level below which all strata are saturated, referred to as the water table. The groundwater table is equal to sea level on the north and south shores of Long Island, and rises in elevation toward the center of the Island. The high point of the parabola is referred to as the groundwater divide. The changes in elevation of the water table create a hydraulic gradient which causes groundwater to flow, dependent upon potential.

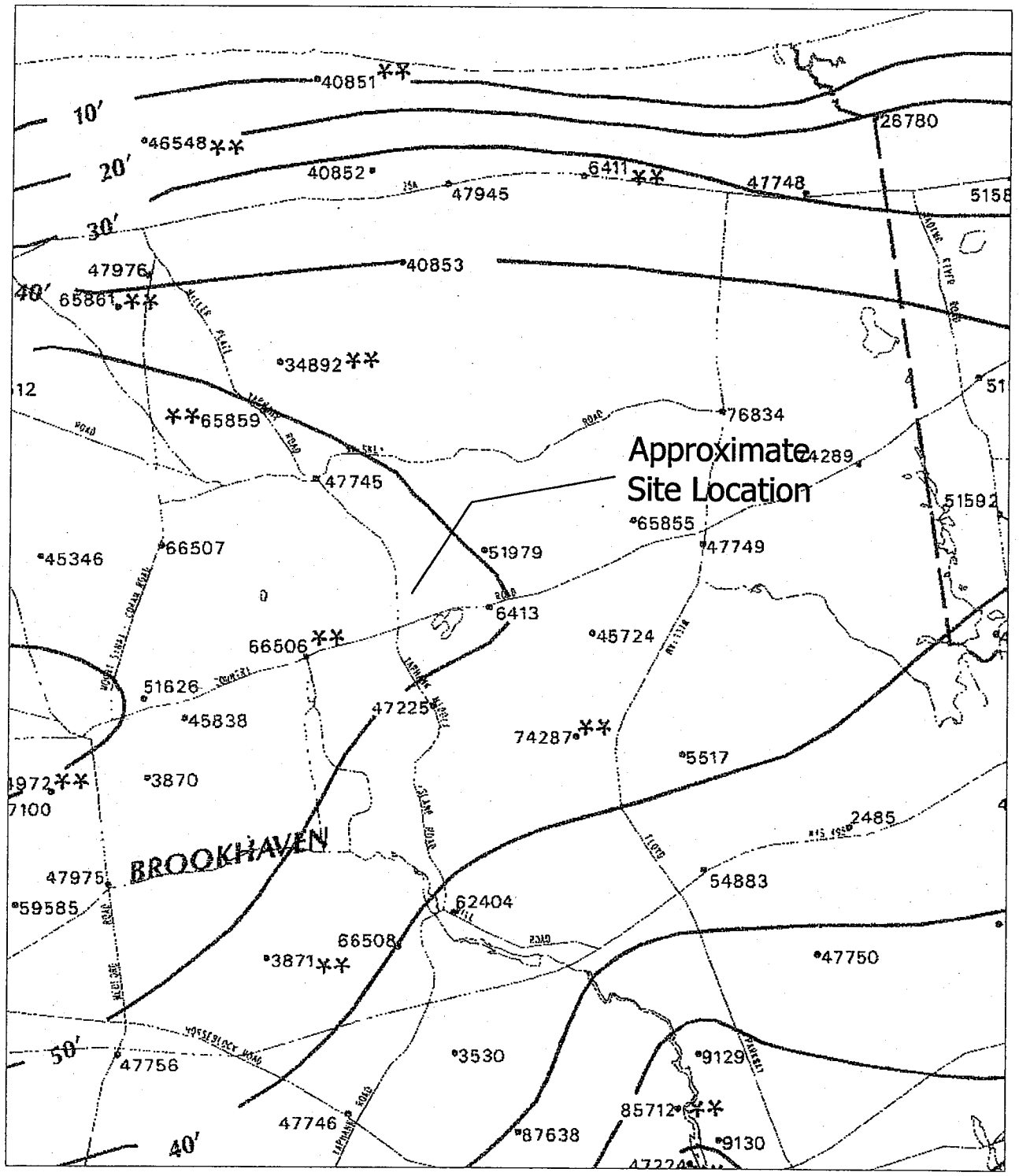
The subject property is south of the groundwater divide, indicating that in the horizontal plane, flow is generally toward the south. Groundwater will be ultimately discharged from the subsurface system into the Great South Bay. The major water bearing units beneath the subject property include: the Upper Glacial aquifer, the Magothy aquifer, and the Lloyd aquifer **(Smolensky et al, 1989).**

The elevation of groundwater beneath the subject property is approximately 51 feet above msl, depending on meteorological conditions associated with the water year. The topographic elevation of the subject property is ranges from approximately 70 to 90 feet above mean sea level. Therefore, the depth to groundwater ranges from approximately 19 to 39 feet. The water table elevations and generalized direction of flow are illustrated in **Figure 3**.

The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) provides information on water quality from 0 to 400 feet below the water table, based upon observation as well as public and private water supply and well monitoring. The general area in proximity to the subject property is depicted as having good water quality with respect to nitrate-nitrogen (0-6 mg/l) at between 0 and 100 feet. With regard to organic compounds, SCDHS water quality data presented in the Suffolk County Comprehensive Water Resources Management Plan indicates that Volatile Organic Compound levels at 0-100 feet below the water table are good (<60% of standard) and found not to exceed drinking water standards the majority of the time; however, there are several areas in proximity to the site that exceed drinking water standards for organic parameters.

FIGURE 3

WATER TABLE MAP



Source: SCDHS Water Table Contour Map, 1999
Scale: 1" = 8,000'

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NORTH

The Suffolk County Department of Health Services (SCDHS) conducted an eighteen (18) month long study of the impact pesticides have had on the groundwater. The study obtained water quality information from across the full geographic area of both counties in order to identify if any pesticides and metabolites had leached into the groundwater. The data from the wells in Nassau County and the five (5) western Towns of Suffolk show that only 1.5 and 2.0%, respectively, exceeded the pesticide related drinking water MCL and 15.4% of the wells in the five (5) eastern Suffolk Towns exceeded the MCL. Private wells in the five (5) eastern towns are at the highest risk of pesticides contamination. Based on the maps provided in the appendix of the SCDHS revealed the subject property is not located in the vicinity of any wells which are contaminated with pesticides.

The nearest water supply well is the SCWA Virginia Avenue well field and pump station. This well field is located on the northwest corner of Virginia Avenue and Smith Street. This well field is approximately 800 feet south of the subject property. The activities of the subject property could potentially impact the well field.

4.3 SITE CLASSIFICATIONS

4.3.1 Wetlands

The subject property was inspected to identify the possible presence of any wetland vegetation and/or water surfaces that would sustain wetland vegetation. The site inspection did not reveal the presence of any wetlands or wetland species located on the subject property. Review of NYSDEC Wetland Maps and the National Wetlands Inventory Map verified that there are no designated wetlands on the site or adjacent properties.

4.3.2 Coastal Barrier Improvements/Flood Plains

The subject property is not located in the vicinity of a coastal area therefore, no coastal barrier improvements exist or are required. The majority of the subject property is located in Flood Zone X, an area of minimal flooding.

4.3.3 Critical Habitat/Endangered Species

The subject property is not located within any identifiable critical habitat areas. The property has been subject to environmental inspection and review. No endangered

species have been identified in association with the subject property. This report is not a substitute for an investigation by a qualified biologist.

4.4 HISTORICAL USE INFORMATION

In terms of available records, historical use can be documented using a variety of standard records. The intent is to trace land use to a period prior to 1940. For the purpose of this Environmental Site Assessment, as many sources as are reasonably available have been consulted. The following are considered standard historical sources:

Aerial Photographs
Fire Insurance Maps (Sanborn Maps)
Property Tax Files
Recorded Land Title Records
USGS 7.5 Minute Topographic Maps
Local Street Directories (Cole Directories)
Building Department Records
Zoning/Land Use Records

Sanborn map coverage was not available for the subject property. Aerial photographs from 1957, 1966, 1976, 1980 and 1994 were reviewed and revealed that the property was vacant wooded land in the 1994 aerial. The aerials from 1980 and 1976 indicate that the northern portion of the site was predominantly wooded land with several prominent access roadways present. The southern end of the site was mostly cleared and may have been used for agricultural purposes. The aerial photographs from 1966 and 1957 show that most of the site was cleared of all woodland vegetation except for an approximately twelve (12) acre section in the northwest corner of the property. As in the 1980 and 1976 aerials the cleared area of the site appears to have been used for agricultural purposes. Historic USGS Middle Island Quadrangles maps from 1967 and 1944 were reviewed and depicts the property as cleared land, except for the twelve (12) acre area in the northwestern corner of the site.

Evidence researched in this section further supports the site history documented in other sections of this report.

5.0 SITE RECONNAISSANCE AND INTERVIEWS

An in depth inspection of the subject property was conducted in order to determine the presence, use, storage, generation and/or disposal of hazardous substances, wastewater, underground and above ground tanks, drum storage, PCB's, solid waste disposal and/or wells. This section is based on visual or physical observation of the subject property, and/or information obtained from the interviews or records review. Persons interviewed for this report are identified in Section 2.4, and the full records review is contained in Section 4.0.

5.1 HAZARDOUS SUBSTANCES

The property was inspected to determine the presence or handling of hazardous materials. The following findings are relevant:

- There were no areas of stains or corrosion visually or physically observed or identified from the site inspection, interviews or records review.
- There were no odors detected or identified from the site inspection, interviews or records review which would indicate uncontrolled release of hazardous substances.
- There were no pools of liquid on the ground that could contain hazardous substances or petroleum products visually or physically observed or identified from the site inspection, interviews or records review.
- There were no areas of stains or corrosion visually or physically observed or identified from the site inspection, interviews or records review.
- A deep depression which is connected to a drainage ditch was observed along the western property line approximately 400 ft south of the intersection between CR 21 and Middle Island Road (this is the same pit and trench noted in the CLEARS listing summarized in Section 4.1.3). In addition, several hand dug pits were noted throughout the site.
- There were no areas of stressed vegetation visually or physically observed or identified from the site inspection, interviews or records review.

5.2 WASTEWATER DISPOSAL

The facility was inspected to identify wastewater disposal systems and the following findings are relevant:

- No wastewater disposal system was identified on the subject property.

5.3 ABOVEGROUND AND UNDERGROUND TANKS

The subject property was inspected to determine the presence of aboveground and underground storage tanks. The following findings are relevant:

- No aboveground storage tanks were observed on the subject property.

- There were no other above or below ground storage tanks observed on the subject property.

5.4 DRUM STORAGE

The subject property was inspected for drum storage of hazardous substances or petroleum products, and the following findings are relevant:

- There were several empty drums noted in the northern and central portions of the site. No evidence of spillage, staining or stressed vegetation were noted in the areas around the drum.

5.5 POLYCHLORINATED BIPHENYLS (PCBs)

The subject property was inspected to determine potential for presence or release of PCBs. The following findings are relevant:

- There were no ground or pole mounted transformers observed in the vicinity of the subject property.

5.6 SOLID WASTE DISPOSAL

The subject property was inspected for the presence of solid waste and the following findings are relevant:

- Scattered debris was observed in several areas of the subject property.
- CLEARS listing in Section 4.1.3 notes dumping in the depression located along the western property boundary.

5.7 WELLS

The subject property was inspected for the presence of wells and the following findings are relevant:

- There were no private water supply or monitoring wells located on the subject property.
- The area of the subject property is served by public water supplied by the Suffolk County Water Authority.

6.0 FINDINGS AND CONCLUSIONS

This environmental inspection report, has been conducted in order to provide the prospective purchaser and lending institutions with accurate and complete information regarding the subject site, surrounding area, historic uses, agency records and regulations, and additional environmental considerations. Based upon this report, the limitations of this report and the methodology employed, the following statement is provided:

NP&V has performed a Phase I Environmental Site Assessment for the Sandy Hills Property located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). This ESA has been prepared in conformance with the scope and limitations of ASTM Practice E 1527. Any exceptions to or deletions from this practice are described in Section 2.0 (Special Terms and Conditions, and Limitations and Exceptions), as well as **Appendix A** of this report.

In conclusion, this assessment has revealed evidence of recognized environmental conditions or issues in connection with the subject property, subject to the methodology and limitations of this report. These conditions are summarized as follows:

1. Due to the identification of the subject property on the County CLEARS list inventory as a dump, a soil sample should be collected from the bottom of the deep depression along the western property boundary. The sample should be analyzed for the presence of volatile and semi-volatile organic compounds as well as metals.

2. The scattered debris as well as drums noted on the subject property should be removed from the property and disposed of at an appropriate facility.

3. Due to the utilization of the site for agricultural purposes, it is recommended that if the site is to be used for residential purposes, the formerly farmed areas of the property be sampled for pesticides, herbicides and metals.

7.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

Nelson, Pope & Voorhis, LLC (NP&V) has completed this Property Condition Survey (Phase I ESA) of the Sandy Hills property located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). The assessment was performed at the Client's request using the methods and procedures consistent with good commercial or customary practice designed to conform with acceptable industry standards.

This report is expressly and exclusively for the sole use and benefit of the Client identified on the first page of this report and is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of NP&V.

The independent conclusions represent NP&V's best professional judgment based on information and data available to the consultant during the course of this assignment. NP&V's evaluations, analyses and opinions are not representations regarding either the design integrity, structural soundness or actual value of the property. Factual information regarding operations, conditions and test data provided by the Client or their representative have been assumed to be correct and complete. The conclusions presented are based on the data provided, observations and conditions that existed on the date of the assessment.

Date of Completion

Charles J. Voorhis, CEP, AICP
Project Manager

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APPENDICES

APPENDIX A

SUPPLEMENTAL STATEMENT OF CONDITIONS

ENVIRONMENTAL AUDITS

SUPPLEMENTAL STATEMENT OF CONDITIONS
ENVIRONMENTAL AUDITS

Charles J. Voorhis is Certified as an Environmental Inspector (CEI) with the Environmental Assessment Association (EAA). The Association provides technical support and is acting to standardize the industry with regard to procedures and techniques for report preparation. The EAA has established an outline of responsibilities for the Environmental Inspector as well as a Statement of Limiting Conditions. This information is reproduced below in order for clients and loan agencies to understand responsibilities and limitations under this contract.

Certification: The Environmental Inspector certifies to the Buyer, Seller and/or lender in a transaction as named in the inspection report "Principal Parties"; and the Inspector and the Principal Parties agree that:

1. The Environmental Inspector has no present or contemplated future (a) partnership with Principal Parties nor (b) an interest in the property inspected which could adversely affect the Inspector's ability to perform an objective inspection; and neither the employment of the inspector to conduct the inspection, nor the compensation for it, is contingent on the results of the inspection.

2. The Environmental Inspector has no personal interest in or bias with respect to the subject matter of the inspection report or any parties who may be part of a financial transaction involving the property. The conclusions and recommendations of the report are not based in whole or in part upon the race, color, creed, sex or national origin of any of the Principal Parties.

3. The Environmental Inspector has personally inspected the property, both inside and out and has made visual inspection of adjacent properties, to the extent possible by readily available access. The inspection does not include the removal of any soil, water or air samples, the moving of furniture or fixtures, or any type of inspection that would require extraordinary effort to access.

4. All contingent and limiting conditions are contained herein (imposed by the terms of the inspection assignment or by the undersigned affecting the conclusions and recommendations contained in the report).

5. This Environmental Inspection report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics of the Environmental Assessment Association.

6. All opinions, conclusions and recommendations concerning the inspected property that are set forth in the inspection report were prepared by the Environmental Inspector whose signature appears on the report. No change of any item in the report shall be made by anyone other than the Inspector, and the Inspector shall have no responsibility for any such unauthorized change.

Contingent and Limiting Conditions: The certification of the Environmental Inspector appearing in the environmental inspection report is subject to the following conditions and to such other specific and limiting conditions as are set forth by the Inspector in the report.

1. The Inspector assumes no responsibility for matters of legal nature affecting the property inspected or the title thereto. The property is inspected assuming responsible ownership.

2. Any sketch appearing in or attached to the inspection report, or any statement of dimensions, capacities, quantities or distances, are approximate and are included to assist the reader in visualizing the property. The inspector has made no survey of the property.

3. The Inspector is not required to give testimony or appear in court because of having made the inspection with reference to the property in question, unless arrangements have been previously made therefor.

4. This report is not intended to have any direct effect on the value of the property inspected but simply to provide a visual Environmental Assessment solely for the benefit of the Principal Parties.

5. The Inspector assumes that there are no hidden, unapparent, or latent conditions or defects in or of the property, subsoil, or structures, other than those noted on the inspection report or any addendum to the report which the Inspector has included. The Inspector assumes no responsibility for such conditions, or for the inspection, engineering or repair which might be required to discover or correct such factors.

6. Information, estimates and opinions furnished to the Inspector, and contained in the report, were obtained from sources considered reliable and believed to be true and correct. However, the Inspector has made no independent investigation as to such matters and undertakes no responsibility for the accuracy of such items.

7. These reports may be relied upon by our client and or his assigns, in determining whether to make a loan evidenced by a note (the "Property Note) which is further secured by the Property. These reports may be relied upon by any purchaser or assignee of the Property Note in determining whether to acquire the Property Note or an interest therein. In addition, these reports may be relied upon by any rating agency involved in rating securities secured by, or representing an interest in, the Property Note. These reports may be used in connection with materials offering for sale the Property Note, or an interest in the Property Note, and in presentations to any rating agency. With respect to the foregoing, these reports speak only as of the origination date of these reports unless specifically updated through a supplemental report.

APPENDIX B

RESUMES OF KEY PERSONNEL

PERSONAL PROFESSIONAL QUALIFICATIONS

CHARLES J. VOORHIS, CEP, AICP

Licensing and Certification:

Certified Environmental Professional (CEP)
American Institute of Certified Planners (AICP)
Certified Environmental Inspector, Environmental Assessment Association
US Coast Guard Master Steam and Auxiliary Sail Vessels

Experience:

* Managing Partner of Firm, Nelson, Pope & Voorhis, LLC; Melville, New York (1/97-Present)

* Principal of Firm, Charles Voorhis & Associates, Inc.; Miller Place, New York (8/88-1/97)

* Director, Division of Environmental Protection, Department of Planning, Environment and Development; Town of Brookhaven, New York (3/86-8/88)

* Environmental Analyst, Division of Environmental Protection, Department of Planning, Environment and Development; Town of Brookhaven, New York (8/82-3/86)

* Private and Public Consultant, Planning and Environmental Issues (8/82-3/87)

* Public Health Sanitarian, Suffolk County Department of Health Services; Hauppauge, New York (1/80-8/82)

* Environmentalist I, Suffolk County Department of Environmental Control, Central Islip, New York (2/78- 8/79)

Education:

* SUNY at Stony Brook; Master of Science in Environmental Engineering, concentration in Water Resource Management, 1984

* Princeton Associates; Groundwater Pollution and Hydrology Short Course, Princeton, New Jersey, 1983

* New York State Health Department, Environmental Health Training Course, Hauppauge, New York, 1982

* Southampton College of Long Island University; Bachelor of Science in Environmental Geology, 1977

Significant Professional Achievements:

* Airport International Plaza, DEIS, 1996
* Patchogue Lace Mill, Phase I ESA, 1996
* Price Club @ New Rochelle, DEIS and FEIS, 1995
* Commack Campus Park @ Commack DEIS and FEIS, 1994
* Water Mill Shops @ Water Mill DEIS, 1993
* PJ Venture Wholesale Club @ Commack DEIS and FEIS, 1993
* Dowling College NAT Center DEIS and FEIS, 1992
* Final EIS Angel Shores @ Southold, 1991
* Town of Brookhaven Boat Mooring Plan, 1991
* Draft EIS Round Hill @ Old Westbury, 1990
* Draft EIS St. Elsewhere @ Nesconset, 1989
* GEIS Commercial Rezonings on the Towns Own Motion, 1988
* GEIS Large Lot Rezonings on the Towns Own Motion, 1988
* Award for Environmentally Sensitive Land Design, Pine Barrens Review Comm., 1988
* EQBA, Acquisition Study for Brookhaven Town, 1987
* Town of Brookhaven Land Use Plan, 1987
* Discussion of Hydrogeologic Zone Boundaries in the Vicinity of S. Yaphank, LI, NY, 1986
* Duck Farms in Brookhaven Town, Land Restoration Techniques, 1985
* Coastal Energy Impact Program, 1984
* Comprehensive Review of Industrial Zoned Land in the Sensitive Hydrogeologic Zone, Town of Brookhaven, 1983
* Groundwater Supply and Early Groundwater Use in Brookhaven Township, Suffolk County, New York 1983

Professional & Other Organizations (past and present):

* American Institute of Certified Planners
* American Planning Association, Washington, D.C.
* National Association of Environmental Professionals, Alexandria, VA
* Environmental Assessment Association, Scottsdale, Arizona
* American Water Resources Association, Syracuse, New York
* National Water Well Association, Worthington, Ohio
* New York Planning Federation, Albany, New York
* New York Water Pollution Control Association, Riverdale, New York
* Water Pollution Control Federation, Washington, D.C.
* Long Island Seaport & EcoCenter, Inc., Director/Trustee, Port Jefferson, NY
* Boy Scouts of America, Trained Scoutmaster, Nathanial Woodhull District, NY
* Alumni Association, LIU, Southampton College, New York
* Historical Society of Port Jefferson, Trustee, Port Jefferson, NY
* Environmental Conservation Board, Inc. Village of Port Jefferson, NY
* Port Jefferson Village, Waterfront Advisory Committee, Port Jefferson, NY
* Town of Brookhaven Mount Sinai Harbor Advisory Committee, Medford, NY
* Brookhaven Conservation Advisory Council, Medford, New York

project impacts on environmental resources, demography, public services, traffic patterns, cultural resources, aesthetics and surrounding land use. Outlined measures to be undertaken to mitigate any negative impact which may have resulted from each project.

- Conducted Part III EAF's for several development proposals including PRCs, multiple retail outlets, restaurants and apartment complexes. Addressed issues outlined in scoping documentation which include groundwater, topography, ecology, transportation cultural resources, aesthetic resources, community services, community character, sanitary disposal, etc. Analyzed impact development has on these resources and proposed mitigation measures to alleviate negative effects..

- Prepared Compatible Growth Area Application package for a Development of Regional Significance related to the construction of a light industrial facility and proposed retirement community in the Central Pine Barrens Region on Long Island, New York. Provided information requested by Central Pine Barrens Commission to ensure compliance with the standards and guidelines outlined in the Central Pine Barrens Comprehensive Land Use Plan.

- Conducted RI/FS for a electroplating facility in Farmingdale, New York. Prepared RI/FS report in accordance with NYSDEC requirements for the evaluation of remedial alternatives related to impacts to soils and groundwater. Evaluated technical data for the proposal of several remedial alternatives which included groundwater pump and treat, capping, excavation and encapsulation.

- Supervised and conducted field activities related to several RI/FS and Phase II studies for a variety of facilities which include government installations, dry cleaners, and industrial facilities. Oversaw all aspects of field investigation including well and boring installations, sampling activities, geophysical studies and hydrogeological studies (pump tests, step tests, stratigraphic mapping, etc.).

- Prepared several Phase I Environmental Site Assessments (ESAs) related to real estate property transfers, municipal property acquisitions and initial property assessments. Responsibilities included regulatory record searches and review, site inspections, report preparation and overall project management. Assessments prepared in accordance with ASTM Standard Practice for Environmental Site Assessments as outlined in ASTM E 1527-00.

- Managed and supervised the investigation and remediation of a graphical printing facility located in Hicksville, New York. Activities conducted under the NYSDECs Voluntary Cleanup Program. Responsibilities included work plan preparation, field work supervision, data assessment, regulatory agency interaction, reporting and cleanup recommendations and design.

- Conducted several indoor air investigations across Long Island at a variety of facilities ranging from public libraries to retail outlets. Responsibilities included sampling program

design, data collection, data interpretation, report preparation, issuance of recommendations and overall project management.

Professional Affiliations:

- National Groundwater Association (NGWA), 1989 to Present
- Indoor Environmental Standards Organization (IESO), 2003

Certifications:

- Certified Professional Geologist, Tennessee Department of Commerce, Certification # 4471, 1999 to Present.

PERSONAL PROFESSIONAL QUALIFICATIONS

Eric C. Arnesen, RPG
Nelson, Pope & Voorhis, LLC.

Education:
State University of New York at Stony Brook, Masters of Science, Hydrogeology (2000).
State University of New York at Cortland Bachelors of Science, Geology (1988).

Experience:

- Hydrogeologist, Nelson, Pope & Voorhis, LLC, Melville, NY (1999-Present). Project Manager responsible for providing technical and professional expertise for Phase I, II, III, RI/FS studies, ESAs, EISs and EAFs regarding groundwater, surface water, soil and solid waste issues. Involved in all phases of stormwater permitting.

- Hydrogeologist, Fanning, Phillips and Molnar, Ronkonkoma, NY (1998-1999). Field coordination and management of delineation and long-term monitoring programs for Air Force Center for Environmental Excellence (AFCEE) at United States Air Force Bases.

- Hydrogeologist, ERM-Northeast, Woodbury, NY (1993-1998). Field coordination and management of Phase I and II Investigation studies. Field Manager of RI/FSs, removal actions and plume delineation studies under jurisdiction of USEPA, USDOE and NYSDEC.

- Geologist/Hydrogeologist Roux Associates, Huntington, NY (1988-1993). Involved in over 30 Phase I and II investigations in all aspects of participation.

Professional Achievements:

- Conducted several Draft EISs for major development projects on Long Island which included the development of a 600,000 sq ft industrial facility on a 78 acre parcel within the Central Pine Barrens Compatible Growth Area in Yaphank and a PRC complex on a 74 acre parcel within the Central Pine Barrens Compatible Growth Area in Eastport. Considered variety of environmental resources including water, geology, soils ecology community, aesthetics, transportation, cultural, zoning, land use and planning. Evaluated impacts developments may have on these resources and proposed mitigation measures to reduce impacts. Also evaluated alternatives to proposed project to determine most appropriate and feasible development approach. Presented finding during public information meetings sponsored by Town planning boards

- Prepared several Draft EISs for the State Education Department (SED) related to the expansion and/or construction of educational facilities. Specifically, conducted an environmental review and authored the Draft EIS related to the proposed construction of a new Middle School for the Hewlett-Woodmere School District, High School expansion for the Center Moriches School District, construction for a proposed new public library in South Huntington and expansion of the Baldwin Public Library. Reviewed and analyzed potential

LARA H. POMI-URBAT

PERSONAL PROFESSIONAL QUALIFICATIONS

Experience:

- **Environmental Analyst, Nelson, Pope & Voorhis, LLC (April 2007-Present)**
  Division of Environmental and Community Planning, Melville, NY
  Preparation of scientific studies and impact analysis documents including ecological assessments, wetland permit processing and restoration, and natural resource protection. Specialized capabilities in GIS and graphic software to aid in resource inventory and analysis.
- **Teaching Assistant for BIO 201, Stony Brook University (September 2006-December 2006)**
  Led undergraduate organisms to ecosystems laboratory sections.
- **Teaching Assistant for BIO 203, Stony Brook University (January 2006-August 2006)**
  Led undergraduate cell and organ physiology laboratory sections.

Education:

M.A. Stony Brook University
Department of Ecology and Evolution, December 2006
Thesis: "The accuracy of predictions for invasive Garlic Mustard, *Alliaria petiolata*, in North America"

B.S. Stony Brook University
Department of Biology, June 2005

Research Experience

Undergraduate Research, Stony Brook University
Department of Biology, September 2004-June 2005
This consisted of independent undergraduate research which focused on invasive earthworms on Long Island.

Significant Professional Achievements

- Shade Tree Nursery, Phase I ESA
- 4600 Elijah's Lane, Phase I ESA
- 4508 Alvah's Lane, Phase I ESA
- 50 Commerce Drive, Phase I ESA
- Hamptons Club at Eastport, Wildlife Sweep Phase A & B
- Chalet Motor Inn, NYSDEC Wetland Permit
- Cenacle Property, Ronkonkoma; Wetlands Flagging
- Sandy Hills, Middle Island; Wetlands Flagging
- Rechler Property, Calverton; Ecological Site Inspection
- Shaw Estates, Manorville; Ecological Site Inspection and Part III EAF
- Bristal at Centereach; Ecological Site Inspection
- Islandia Preserve; Ecological Site Inspection
- Substation Expansion, Riverhead; Photosimulation
- St. Gerard Majella, Terryville; Photosimulation

Honors and Scholarships:

Stony Brook University URECA Small Grant's, Fall 2004, Spring 2005

Member of National Society of Collegiate Scholars, Fall 2002-Present

Nesconset Chamber of Commerce Scholarship, Spring 2001

Software Experience:

Microsoft Office, ArcMap, AutoCAD Light, Adobe Photoshop, DIVA-GIS, Sketch-Up, RAMAS and Max-Ent

The EDR Radius Map
with GeoCheck®

Sandy Hills
Yaphank Rock Point Road
Middle Island, NY 11953

Inquiry Number: 1309552.2s

November 17, 2004

EDR™ Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

YAPHANK ROCK POINT ROAD
MIDDLE ISLAND, NY 11953

COORDINATES

Latitude (North):	40.887600 - 40' 53' 15.4"
Longitude (West):	72.940900 - 72' 56' 27.2"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	673477.4
UTM Y (Meters):	4528109.0
Elevation:	79 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	40072-H8 MIDDLE ISLAND, NY
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

STATE ASTM STANDARD

SHWS..... Inactive Hazardous Waste Disposal Sites in New York State

EXECUTIVE SUMMARY

CBS UST..... Chemical Bulk Storage Database
MOSF UST..... Major Oil Storage Facilities Database
VCP..... Voluntary Cleanup Agreements
SWTIRE..... Registered Waste Tire Storage & Facility List
SWRCY..... Registered Recycling Facility List

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
INDIAN RESERV..... Indian Reservations
FUDS..... Formerly Used Defense Sites
UMTRA..... Uranium Mill Tailings Sites
ODI..... Open Dump Inventory
DOD..... Department of Defense Sites
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS INSP..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

HSWDS..... Hazardous Substance Waste Disposal Site Inventory
MOSF AST..... Major Oil Storage Facilities Database
DEL SHWS..... Delisted Registry Sites
DRYCLEANERS..... Registered Drycleaners
AIRS..... Air Emissions Data
SPDES..... State Pollutant Discharge Elimination System

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS..... A Listing of Brownfields Sites
Brownfields..... Brownfields Site List
VCP..... Voluntary Cleanup Agreements

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-SQG list, as provided by EDR, and dated 08/10/2004 has revealed that there are 6 RCRIS-SQG sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
TEXACO SERVICE STATION	***RTE 25 AT ROCKY POINT R***	***1/4 - 1/2 SSE***	***B10***	***14***
OCEAN GASOLINE STATION	***570 MIDDLE COUNTRY RD***	***1/4 - 1/2 SSE***	***B12***	***17***
WAL-MART #2156	***750 MIDDLE COUNTRY RD***	***1/4 - 1/2 SW***	***G31***	***37***

Lower Elevation	Address	Dist / Dir	Map ID	Page
LONGWOOD SCHOOL DISTRICT	***YAPHANK RD***	***1/8 - 1/4 NNW***	***1***	***6***
SILVER KING BROADCASTING OF NJ	***666 MIDDLE COUNTRY RD***	***1/4 - 1/2 SSW***	***E23***	***29***
L & M AUTOMOTIVE	***444 MIDDLE COUNTRY RD***	***1/4 - 1/2 ESE***	***25***	***30***

STATE ASTM STANDARD

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the list.

A review of the SWF/LF list, as provided by EDR, has revealed that there are 2 SWF/LF sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
ROANOKE SAND & GRAVEL	***104 ROCKY POINT RD***	***1/2 - 1 NNW***	***I39***	***42***
BARKER MATERIAL & MASON SUPPLY	114 ROCKY POINT RD.	1/2 - 1 NNW	I42	48

EXECUTIVE SUMMARY

LTANKS: Leaking Storage Tank Incident Reports. These records contain an inventory of reported leaking storage tank incidents reported from 4/1/86 through the most recent update. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills

A review of the LTANKS list, as provided by EDR, and dated 07/26/2004 has revealed that there are 2 LTANKS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
FILOSA/P&G	***7 FLICKER DRIVE***	***1/8 - 1/4 NNE***	***2***	***6***
TEXACO (PRIOR OCEAN)	570 MIDDLE COUNTRY ROAD	1/4 - 1/2 SSE	B11	16

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database

A review of the UST list, as provided by EDR, and dated 01/01/2002 has revealed that there are 4 UST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
TEXACO SERVICE STATION	***RTE 25 AT ROCKY POINT R***	***1/4 - 1/2 SSE***	***B10***	***14***
WALMART QUICK LUBE	***750 RTE 25 MIDDLE COUNT***	***1/4 - 1/2 SW***	***G30***	***35***
TUDOR LANE INC	875 MIDDLE COUNTRY RD	1/4 - 1/2 SW	34	40

Lower Elevation	Address	Dist / Dir	Map ID	Page
ALSAN CAR CARE	***805 RTE 25 MIDDLE COUNT***	***1/4 - 1/2 SSW***	***E24***	***29***

STATE OR LOCAL ASTM SUPPLEMENTAL

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database.

A review of the AST list, as provided by EDR, and dated 01/01/2002 has revealed that there are 3 AST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WALMART QUICK LUBE	***750 RTE 25 MIDDLE COUNT***	***1/4 - 1/2 SW***	***G30***	***35***

Lower Elevation	Address	Dist / Dir	Map ID	Page
ANCHOR ENTERPRISES INC	975 MIDDLE COUNTRY RD	1/4 - 1/2 SSW	D22	28
ALSAN CAR CARE	***805 RTE 25 MIDDLE COUNT***	***1/4 - 1/2 SSW***	***E24***	***29***

CBS AST: Chemical Bulk Storage Database. Registration data collected as required by 6 NYCRR Part 596. It includes facilities storing hazardous substances listed in 6 NYCRR Part 597, in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size. Includes facilities registered (and closed) since effective date of CBS regulations (July 15, 1988) through the date request is processed.

A review of the CBS AST list, as provided by EDR, and dated 01/01/2002 has revealed that there is 1

EXECUTIVE SUMMARY

CBS AST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
BIRCHWOOD AT SPRING LAKE HOA I	535 MIDDLE COUNTRY ROAD	1/4 - 1/2 SSE	B13	18

SPILLS: Data collected on spills reported to NYSDEC. is required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

A review of the NY Spills list, as provided by EDR, and dated 07/26/2004 has revealed that there are 29 NY Spills sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
FILOSA/P&G	***7 FLICKER DRIVE***	***1/8 - 1/4 NNE***	***2***	***6***
RESIDENCE	33 LAKEVIEW DRIVE	1/4 - 1/2 ESE	3	8
Not reported	LAKEVIEW/PINE STREET	1/4 - 1/2 ENE	A4	9
RESIDENCE	1 PINE ROAD	1/4 - 1/2 ENE	A5	10
CITGO SERVICE STATION	ROUTE 25 / ROCKY POIN	1/4 - 1/2 SSE	B6	10
LILCO	ROCKY PT RD / RTE 25	1/4 - 1/2 SSE	B7	10
TEXAXO S/S	RTE 25 / ROCKY PT MID	1/4 - 1/2 SSE	B8	12
CITGO - NORTHEAST CORNER	RTE25/ROCKY POINT ROAD	1/4 - 1/2 SSE	B9	13
FRACAPAINE RESIDENCE	5 LAKE DRIVE	1/4 - 1/2 SSE	B16	22
APT COMPLEX	44 BAILEY COURT	1/4 - 1/2 ENE	19	26
RELIANCE FUEL	8 RIVER ROAD	1/4 - 1/2 NE	27	32
WAL MART	750 MIDDLE COUNTRY ROAD	1/4 - 1/2 SW	G32	38
WALMART	750 MIDDLE COUNTRY ROAD	1/4 - 1/2 SW	G33	39
BARBARA FURIN RESIDENCE	12 TURNPIKE	1/2 - 1 NNE	37	41
FORMER GAS STATION	875 MIDDLE COUNTRY ROAD	1/2 - 1 SW	43	49

Lower Elevation	Address	Dist / Dir	Map ID	Page
STRASSER RESIDENCE	35 MIDDLE ISLAND ROAD	1/4 - 1/2 SW	C14	21
RUSTIC REALITY	18 LAKEVIEW DRIVE	1/4 - 1/2 ESE	15	21
MALONEY RESIDENCE	33 MIDDLE ISLAND ROAD	1/4 - 1/2 SW	C17	23
CHEMLAWN	78 MIDDLE ISLAND YAPHAN	1/4 - 1/2 SSW	D18	25
UNK	ARTIST LAKE RTE 25	1/4 - 1/2 SSW	D20	26
Not reported	4 BAYLISS AVENUE	1/4 - 1/2 NNW	21	27
UNK	3W MIDDLE ISLAND ROAD	1/4 - 1/2 SSW	F26	31
UNK	CURRANS RD/MIDDLE CTRY	1/4 - 1/2 ESE	28	33
CALABRESE AND SONS	MIDDLE ISLAND/YAPHANK R	1/4 - 1/2 S	F29	34
CONDO COMPLEX	319 ARTIST LAKE DRIVE	1/2 - 1 SSE	H35	40
Not reported	319 ARTIST LAKE DRIVE	1/2 - 1 SSE	H36	41
ARTIST LAKE CONDOS	319 ARTIST LAKE DRIVE	1/2 - 1 SSE	H38	41
SONMAR CARTING	108 ROCKY POINT ROAD	1/2 - 1 NNW	I40	46
SON-MAR RUBBISH SERVICE	108 ROCKY POINT ROAD	1/2 - 1 NNW	I41	47

EXECUTIVE SUMMARY

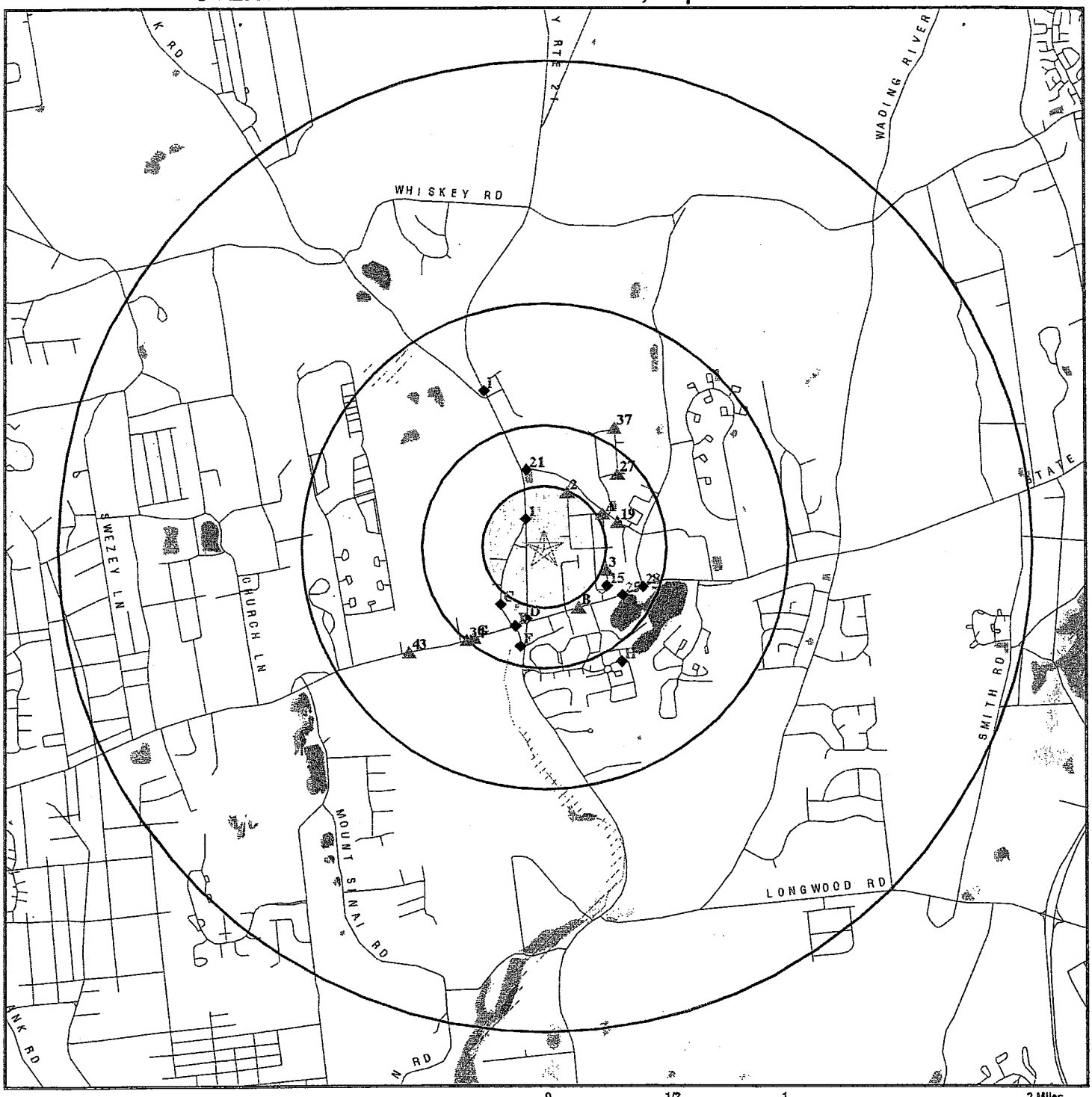
Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
MIDDLE ISLAND CLEANERS	DRYCLEANERS
VARA ENTERPRISES	SWF/LF
POWERTEST/GETTY PETROLEUM	LTANKS
SWEZEY TOWN RD AT	LTANKS, NY Spills
BENS MIDDLE ISLAND HARDWARE	UST
GETTY S/S #00061	UST, AST
OK PETROLEUM	UST, AST
K MART CORP	UST
MIDDLE ISLAND SHOPPING CENTER	UST
SUFFOLK COUNTY CATHEDRAL PINES PARK	UST, AST
MIDDLE ISLAND COUNTRY CLUB	UST
LAIDLAW TRANSIT INC	UST, AST
LONGWOOD CSD CENTRAL ADMINISTRATION	UST
NEW YORK STATE ICF HOSTEL #1801	UST
BIRCHWOOD AT SPRING LAKE	AST
MIDDLE ISLAND CLEANERS	AST
NATION S/S	AST
BAIER LUSTGARTEN NURSERIES	AST
SCWA BAILEY RD WELLFIELD	AST
LAKE POINTE SEWAGE TREATMENT PLANT	AST
ESTONIAN EDUCATIONAL SOCIETY	AST
MIDDLE ISLAND COUNTRY CLUB	AST
FLAMINGO CONTRACTING CORP	AST
SCHNEIDER COAL & TRUCKING - OOB	AST
KMART - TSS	RCRIS-SQG, FINDS
ROBERT WEISS VOLKSWAGON	RCRIS-SQG, FINDS
GETTY SERVICE STATION 61 TEMP CLOSED	RCRIS-SQG, FINDS
LUSTGARTEN BAIER ESTATE OF THE	RCRIS-SQG, FINDS
MIDDLE ISLAND VETERINARY HOSPITAL	RCRIS-SQG, FINDS
SUBURBIA BUS CO	RCRIS-SQG, FINDS
ROUTE 125/WOODVILLE ROAD	NY Spills
TSS DEPT STORE	NY Spills
LILCO	NY Spills
VOLKSWAGON/ROBERT WEISS	NY Spills
UNK	NY Spills
UNK	NY Spills
UNK	NY Spills
UNK	NY Spills
SPRING LAKE	NY Spills
LILCO	NY Spills
TEXACO GAS STATION	NY Spills
LILCO	NY Spills
MIDDLE ISLAND FD	NY Spills
SC WATER AUTHORITY	NY Spills
BAILEY ROAD	NY Spills
UNK	NY Spills
UNK	NY Spills
CURRANS ROAD NORTH BAILEY	NY Spills
CURRANS ROAD / RTE 25	NY Spills
IFO 390 MIDDLE COUNTRY RD	NY Spills
UNK	NY Spills
ZEBROWSKI WELL	NY Spills

EXECUTIVE SUMMARY

SOUTHARD WELL	NY Spills
SUBURBIA BUS CO	NY Spills
UNK TRUCK	NY Spills
HAWKINS JOHN R	NY Spills
LAKE POINT CO OP	NY Spills
MIDDLE COUNTRY RD/CURRRAN	NY Spills
UNK	NY Spills
KOTYNSKI WELL	NY Spills
UNK	NY Spills
IN FRONT OF PC RICHARDS	NY Spills
UNK	NY Spills
TURNPIKE BLVD/ARTIST LAKE	NY Spills
DEC LAND	NY Spills
WADING RIVER HOLLOW ROAD	NY Spills
UNK	NY Spills
THOMAS RESIDENCE	NY Spills
UNK	NY Spills

OVERVIEW MAP - 1309552.2s - Nelson, Pope & Voorhis LLC



0 1/2 1 2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- State Wetlands

TARGET PROPERTY:	Sandy Hills	CUSTOMER:	Nelson, Pope & Voorhis LLC
ADDRESS:	Yaphank Rock Point Road	CONTACT:	Marissa Da Breo
CITY/STATE/ZIP:	Middle Island NY 11953	INQUIRY #:	1309552.2s
LAT/LONG:	40.8876 / 72.9409	DATE:	November 17, 2004 1:00 pm

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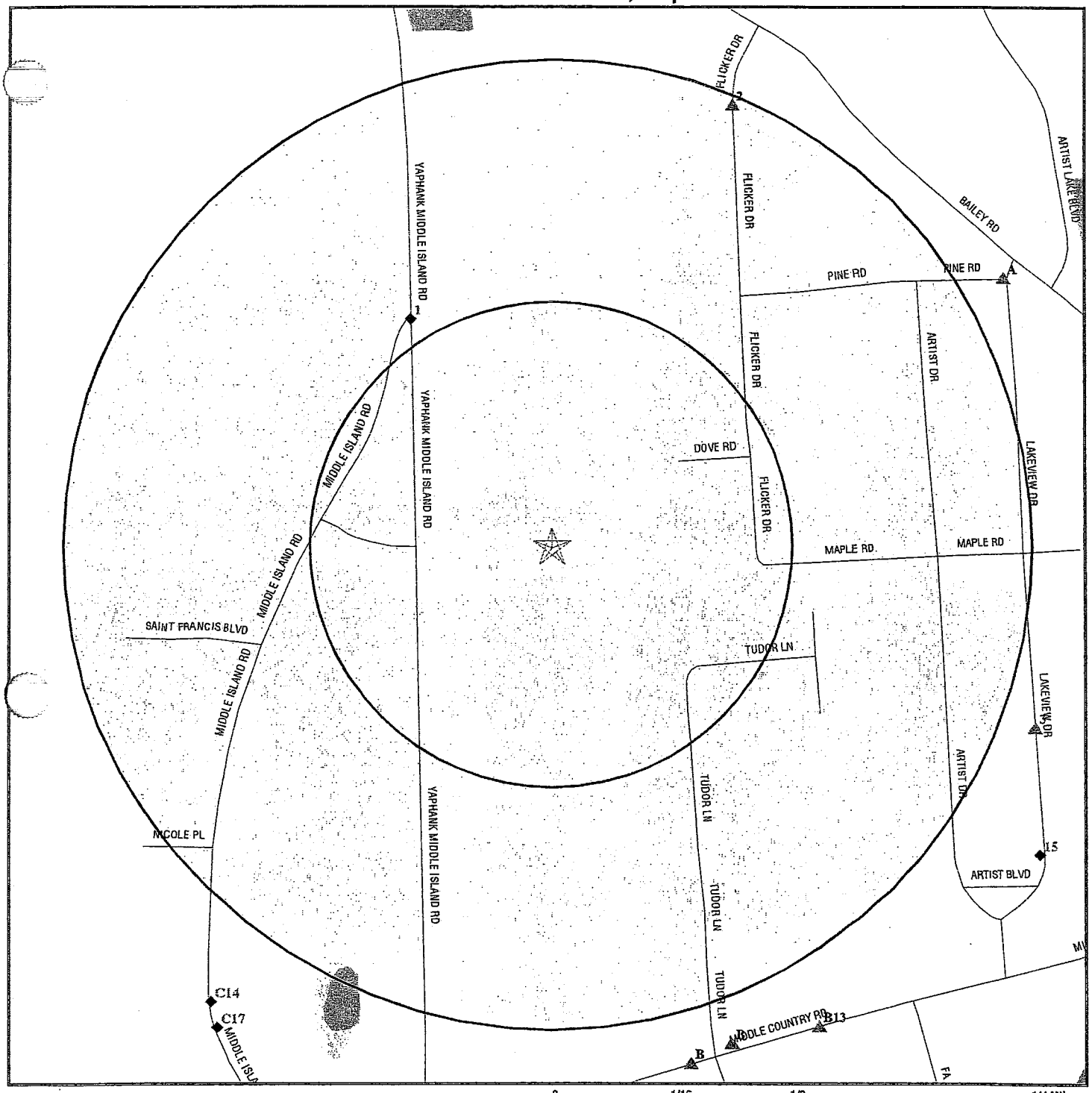
DETAIL MAP - 1309552.2s - Nelson, Pope & Voorhis LLC



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- State Wetlands

TARGET PROPERTY:	Sandy Hills	CUSTOMER:	Nelson, Pope & Voorhis LLC
ADDRESS:	Yaphank Rock Point Road	CONTACT:	Marissa Da Breo
CITY/STATE/ZIP:	Middle Island NY 11953	INQUIRY #:	1309552.2s
LAT/LONG:	40.8876 / 72.9409	DATE:	November 17, 2004 1:01 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.250	0	0	0	0	0	0
Proposed NPL		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.750	0	0	0	0	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.250	0	0	0	0	0	0
RCRIS-TSD		0.750	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0.500	0	0	0	NR	NR	0
RCRIS Sm. Quan. Gen.		0.500	0	1	5	NR	NR	6
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.250	0	0	0	0	0	0
State Landfill		0.750	0	0	0	2	NR	2
LTANKS		0.500	0	1	1	NR	NR	2
UST		0.500	0	0	4	NR	NR	4
CBS UST		0.500	0	0	0	NR	NR	0
MOSF UST		0.750	0	0	0	0	NR	0
VCP		0.750	0	0	0	0	NR	0
SWTIRE		0.500	0	0	0	NR	NR	0
SWRCY		TP	NR	NR	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.250	0	0	0	0	0	0
ROD		1.250	0	0	0	0	0	0
Delisted NPL		1.250	0	0	0	0	0	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.500	0	0	0	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		TP	NR	NR	NR	NR	NR	0
DOD		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
HSWDS		0.750	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST		0.500	0	0	3	NR	NR	3
CBS AST		0.500	0	0	1	NR	NR	1
MOSF AST		0.750	0	0	0	0	NR	0
NY Spills		0.750	0	1	21	7	NR	29
DEL SHWS		1.000	0	0	0	0	NR	0
DRYCLEANERS		0.500	0	0	0	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
SPDES		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.250	0	0	0	0	0	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		TP	NR	NR	NR	NR	NR	0
Brownfields		TP	NR	NR	NR	NR	NR	0
VCP		0.750	0	0	0	0	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

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1 NNW 1/8-1/4 727 ft. — **LONGWOOD SCHOOL DISTRICT, YAPHANK RD, MIDDLE ISLAND, NY 11953** — **RCRIS-SQG / FINDS** — **1000237398 / NYD986902096**

Relative: Lower
Actual: 58 ft.

RCRIS:
Owner: LONGWOOD SCHOOL DISTRICT
(212) 555-1212
EPA ID: NYD986902096
Contact: Not reported
Classification: Small Quantity Generator
TSDF Activities: Not reported
Violation Status: No violations found

NY MANIFEST

Click this hyperlink while viewing on your computer to access additional NY MANIFEST detail in the EDR Site Report.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
National Compliance Data Base
Resource Conservation and Recovery Act Information system

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2 NNE 1/8-1/4 1296 ft. — **FILOSA/P&G, 7 FLICKER DRIVE, MIDDLE ISLAND, NY** — **LTANKS / NY Spills** — **S103482327 / N/A**

Relative: Higher
Actual: 89 ft.

SPILLS:

Spill Number:	9609880	Region of Spill:	1
Spill Date:	11/06/1996 10:00	Reported to Dept:	11/07/96 00:00
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Equipment Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Tank Truck
Facility Contact:	PHIL DOWELL	Facility Tele:	(516) 585-1233
Investigator:	AUSTIN	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	MARIE FILOSA	Spiller Phone:	(516) 924-4547
Spiller:	P&G FUEL		
Spiller Address:	500 PORTION ROAD RONKONKOMA, NY		

DEC Remarks : ***SEE ALSO 9806702 HERE BY P G*** HAS BEEN REFERRED TO LEGAL AFFAIRS. CLEANUP FOR THIS SITE WILL BE RESOLVED UNDER SPILL 98-06702
Remark: spill occured from faulty no le ***SEE ALSO SPILL 9806702 HERE***
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
PBS Number: Not reported
Tank Number: Not reported

FILOSA/P&G (Continued) **S103482327**

Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: True
Material: #2 FUEL OIL
Class Type: Petroleum
Chem Abstract Service Number: #2 FUEL OIL
Last Date: 12/07/1994
Num Times Material Entry In File: 24464
Spill Closed Dt: 09/16/98
Spill Notifier: Affected Persons PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / / Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ / Enforcement Date: / /
Invstgn Complete:/ / UST Involvement: False
Spill Record Last Update: 09/17/98
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 11/07/96
Date Region Sent Summary to Central Office: / /
True Date : Not reported

LTANKS:
Spill Number: 9806702 Region of Spill: 1
Spill Date: 08/30/1998 08:00 Reported to Dept: 08/31/98 11:21
ID: Not reported Date Call Received:Not reported
Material Spilled 1 :Not reported Amount Spilled 1 : Not reported
Region Close Dt : Not reported
Resource Affectd: On Land
Spill Cause: Tank Overfill
Water Affected: Not reported Spill Source: Private Dwelling
Facility Contact: PHIL DOWELL Facility Tele: (516) 585-1233
Investigator: AUSTIN SWIS: 47
Caller Name: Not reported Caller Agency: Not reported
Caller Phone: Not reported Caller Extension: Not reported
Notifier Name: Not reported Notifier Agency: Not reported
Notifier Phone: Not reported Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: MARIE FILOSA Spiller Phone: (516) 924-4547
Spiller: P&G FUEL OIL
Spiller Address: 500 PORTION ROAD
RONKONKOMA, NY
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 05/20/99
Spill Notifier: Affected Persons PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: True
Recommended Penalty: Penalty Not Recommended

FILOSA/P&G (Continued) **S103482327**

Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: False
Spill Record Last Update: 05/20/99
Is Updated: False
Corrective Action Plan Submitted: / /
True Date : Not reported
Date Spill Entered In Computer Data File: 08/31/98
Date Region Sent Summary to Central Office: / /
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: #2 FUEL OIL
Class Type: Petroleum
Chem Abstract Service Number: #2 FUEL OIL
Last Date: 12/07/1994
Num Times Material Entry In File: 24464
DEC Remarks: ***SEE ALSO SPILL 9609880 HERE BY P G*** 9/9/98 REASSIGNED NO RESPONSE B Y P G. REFERRAL MADE TO LEGAL AFFAIRS. OIL PENETRATED GROUND LESS THAN 1 FT. FILOSA RES TO CLEANUP THEMSELVES. NO IMPACT TO GW, NO FURTHER ACTIO N REQUIRED
Spill Cause: CALLER REPORTED THE DISCOVERY OF FUEL OIL CONTAMINATION OUTSIDE OF HER H OUSE IN THE AREA OF THE FILL AND VENT PIPES. SHE REPORTED THAT THIS IS T HE SECOND TIME THAT HER FUEL COMPANY OVERFILLED HER TANK. THE FIRST TIME WAS ABOUT 1 1/2 YEARS AGO BUT ITWASN T THIS BAD. SEE SPILL 9609880).

---

3 ESE 1/4-1/2 1416 ft. **RESIDENCE 33 LAKEVIEW DRIVE MIDDLE ISLAND, NY** **NY Spills** **S104786777 N/A**

Relative: Higher
Actual: 80 ft.

SPILLS:
Spill Number: 9506534
Spill Date: 08/28/1995 10:28
ID: Not reported
Dt Call Received: Not reported
Material Spilled 1 :Not reported
Spill Cause: Unknown
Water Affected: Not reported
Facility Contact: Not reported
Investigator: DECANDIA
Caller Name: Not reported
Caller Phone: Not reported
Notifier Name: Not reported
Notifier Phone: Not reported
PBS : Not reported
Spiller Contact: Not reported

Region of Spill: 1
Reported to Dept: 08/28/95 10:20
Region Close Date :Not reported
Amount Spilled 1 : Not reported
Resource Affected: On Land
Spill Source: Private Dwelling
Facility Tele: Not reported
SWIS: 47
Caller Agency: Not reported
Caller Extension: Not reported
Notifier Agency: Not reported
Notifier Extension: Not reported
Spiller Phone: Not reported

RESIDENCE (Continued) **S104786777**

Spiller: UNK
Spiller Address: Not reported
DEC Remarks : 09/06/95: NO CONTAMINATION FOUND.
Remark: CALLER IS RESIDENT, FOUND A DRUM BURIED IN BACKYARD, UNK TYPE OF CONTENTS
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: UNKNOWN PETROLEUM
Class Type: Petroleum
Chem Abstract Service Number: UNKNOWN PETROLEUM
Last Date: 09/29/1994
Num Times Material Entry In File: 16414
Spill Closed Dt: 09/06/95
Spill Notifier: Affected Persons
PBS Number: Not reported
Cleanup Ceased: 09/06/95
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 02/13/01
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 08/29/95
Date Region Sent Summary to Central Office: / /
True Date : Not reported

A4
ENE
1/4-1/2
1440 ft.

Relative: Higher

Actual: 91 ft.

LAKEVIEW/PINE STREET
MIDDLE ISLAND, NY

NY Spills **S106014084**
N/A

Site 1 of 2 in cluster A

SPILLS:
Spill Number: 0325084
Region of Spill: 1
Tank Number: Not reported
Tank Size : Not reported
Test Method: Not reported
Leak Rate: Not reported
Spill Date: 05/15/03
Reported to Dept: / /
ID: 23263
Date Call Received: 05/15/03
Region Close Date : / /
Material Spilled 1 :WASTE OIL
Amount Spilled 1 : Unknown Gal.
Material Spilled 2 :ANTIFREEZE
Amount Spilled 2 : Unknown Gal.
Spill Cause: ON LAND
Resource Affected: ON LAND
Water Affected: Not reported
Spill Source: PRIVATE DWELLING

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

A5 ENE 1/4-1/2 1440 ft. — **RESIDENCE, 1 PINE ROAD, MIDDLE ISLAND, NY** — **NY Spills** — **S106016581 / N/A**

Relative: Higher — **Actual: 91 ft.**

Site 2 of 2 in cluster A

SPILLS:

Spill Number:	0304504	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	07/29/03	Reported to Dept:	/ /
ID:	27106		
Date Call Received:	07/29/03		
Region Close Date :	02/09/04		
Material Spilled 1 :	MOTOR OIL	Amount Spilled 1 :	Unknown Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	PRIVATE DWELLING

B6 SSE 1/4-1/2 1442 ft. — **CITGO SERVICE STATION, ROUTE 25 / ROCKY POINT RD, MIDDLE ISLAND, NY** — **NY Spills** — **S102237301 / N/A**

Relative: Higher — **Actual: 89 ft.**

Site 1 of 9 in cluster B

SPILLS:

Spill Number:	0225167	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	08/02/02	Reported to Dept:	/ /
ID:	9997		
Date Call Received:	08/02/02		
Region Close Date :	08/05/02		
Material Spilled 1 :	RAW SEWAGE	Amount Spilled 1 :	Unknown Gal.
Spill Cause:	IN SEWER	Resource Affected:	IN SEWER
Water Affected:	Not reported	Spill Source:	OTHER COMM/INDUSTRIAL

This is the most recent NY SPILLS record for this site.

Click this hyperlink while viewing on your computer to access additional NY SPILLS detail in the EDR Site Report.

B7 SSE 1/4-1/2 1442 ft. — **LILCO, ROCKY PT RD / RTE 25, MIDDLE ISLAND, NY** — **NY Spills** — **S102092417 / N/A**

Relative: Higher — **Actual: 89 ft.**

Site 2 of 9 in cluster B

SPILLS:

Spill Number:	9205589	Region of Spill:	1
Spill Date:	08/13/1992 14:00	Reported to Dept:	08/14/92 13:25
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Equipment Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Other Commercial/Industrial
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	KISPERT	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported

LILCO (Continued) **S102092417**

PBS : Not reported
Spiller Contact: Not reported Spiller Phone: Not reported
Spiller: LILCO
Spiller Address: Not reported
DEC Remarks : 08/24/92: TRANSFORMER REPLACED, AFFECTED SOIL REMOVED, LAB ANALYSIS INDICATED NON PCB, NO NEED FOR FURTHER ACTION.
Remark: PAD MOUNT TRANSFORMER CLEAN UP ON MONDAY EXCAVATE SOIL
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 10
Units: Gallons
Unknown Qty Spilled: 10
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: PCB OIL
Class Type: Petroleum
Chem Abstract Service Number: PCB OIL
Last Date: 07/28/1994
Num Times Material Entry In File: 1229
Material Class Type: 1
Quantity Spilled: 0
Units: Not reported
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: MINERAL SPIRITS
Class Type: Petroleum
Chem Abstract Service Number: MINERAL SPIRITS
Last Date: Not reported
Num Times Material Entry In File: 369
Spill Closed Dt: 08/24/92
Spill Notifier: Responsible Party PBS Number: Not reported
Cleanup Ceased: 08/24/92
Last Inspection: / / Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ / Enforcement Date: / /
Invstgn Complete:/ / UST Involvement: False
Spill Record Last Update: 08/25/92
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 08/25/92
Date Region Sent Summary to Central Office: / /
True Date : Not reported

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B8 SSE 1/4-1/2 1442 ft.	**TEXAXO S/S RTE 25 / ROCKY PT MID IS MIDDLE ISLAND, NY**	**NY Spills**	**S102101666 N/A**

Site 3 of 9 in cluster B

Relative: Higher

Actual: 89 ft.

SPILLS:

Spill Number: 9500921
Region of Spill: 1
Spill Date: 04/23/1995 09:10
Reported to Dept: 04/23/95 09:26
ID: Not reported
Dt Call Received: Not reported
Region Close Date: Not reported
Material Spilled 1 : Not reported
Amount Spilled 1 : Not reported
Spill Cause: Equipment Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Gas Station
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: CAMPBELL
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: TEXACO S/S
Spiller Address: Not reported
DEC Remarks : Not reported
Remark: USING PUMP GAS BEGAN SQUIRTING ALL OVER WHEN THE NOZZLE FELL OFF OF THE DISPENSER, PUMP MAY STILL BE LEAKING
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
- PBS Number: Not reported
- Tank Number: Not reported
- Test Method: Not reported
- Capacity of Failed Tank: Not reported
- Leak Rate Failed Tank: Not reported
- Gross Leak Rate: Not reported

Material:
- Material Class Type: 1
- Quantity Spilled: 0
- Units: Gallons
- Unknown Qty Spilled: No
- Quantity Recovered: 0
- Unknown Qty Recovered: False
- Material: GASOLINE
- Class Type: Petroleum
- Chem Abstract Service Number: GASOLINE
- Last Date: 09/29/1994
- Num Times Material Entry In File: 21329

Spill Closed Dt: 04/25/95
Spill Notifier: Citizen
PBS Number: Not reported
Cleanup Ceased: 04/25/95
Last Inspection: / /
Cleanup Meets Std: True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt: / /
Enforcement Date: / /
Invstgn Complete: / /
UST Involvement: True
Spill Record Last Update: 04/28/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 04/26/95

TEXAXO S/S (Continued) **S102101666**

Date Region Sent Summary to Central Office: / /
True Date : Not reported

B9 SSE 1/4-1/2 1442 ft. **CITGO - NORTHEAST CORNER RTE25/ROCKY POINT ROAD MIDDLE ISLAND, NY** **NY Spills** **S102237307 N/A**

Site 4 of 9 in cluster B

Relative: Higher

Actual: 89 ft.

SPILLS:

Spill Number:	9516669	Region of Spill:	1
Spill Date:	07/24/1995 12:00	Reported to Dept:	03/26/96 16:53
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Unknown	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Facility Contact:	JOE MACCHIA	Facility Tele:	(718) 387-7700
Investigator:	HAAS	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	JOE MACCHIA JR	Spiller Phone:	(718) 387-7000
Spiller:	NORTHLAND MARKETING CORP		
Spiller Address:	251 LOMBARDY STREET BROOKLYN, NY 11222		
DEC Remarks :	SAME AS 95-16638		
Remark:	mtbe contamination of groundwater detected in groundwater monitoring wells adjacent to the station - northland notified 07-24-95 and has taken on action to investigate		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		

Tank Test:

PBS Number:	Not reported
Tank Number:	Not reported
Test Method:	Not reported
Capacity of Failed Tank:	Not reported
Leak Rate Failed Tank:	Not reported
Gross Leak Rate:	Not reported

Material:

Material Class Type:	1
Quantity Spilled:	0
Units:	Gallons
Unknown Qty Spilled:	No
Quantity Recovered:	0
Unknown Qty Recovered:	False
Material:	GASOLINE
Class Type:	Petroleum
Chem Abstract Service Number:	GASOLINE
Last Date:	09/29/1994
Num Times Material Entry In File:	21329

Spill Closed Dt:	03/28/96		
Spill Notifier:	DEC	PBS Number:	Not reported
Cleanup Ceased:	/ /		
Last Inspection:	/ /	Cleanup Meets Std:	True
Recommended Penalty:	Penalty Not Recommended		
Spiller Cleanup Dt:	/ /	Enforcement Date:	/ /

CITGO - NORTHEAST CORNER (Continued) **S102237307**

Invstgn Complete:/ / UST Involvement: False
Spill Record Last Update: 04/01/96
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 03/26/96
Date Region Sent Summary to Central Office: / /
True Date : Not reported

B10 SSE 1/4-1/2 1442 ft. **TEXACO SERVICE STATION**
RTE 25 AT ROCKY POINT RD
MIDDLE ISLAND, NY 11953

RCRIS-SQG 1000144517
FINDS NYD986901619
UST

Site 5 of 9 in cluster B

Relative: Higher

Actual: 89 ft.

RCRIS:
Owner: STAR ENTERPRISE
(212) 555-1212
EPA ID: NYD986901619

Contact: Not reported

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

NY MANIFEST

Click this hyperlink while viewing on your computer to access additional NY MANIFEST detail in the EDR Site Report.

CT MANIFEST

Click this hyperlink while viewing on your computer to access additional CT MANIFEST detail in the EDR Site Report.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system

Suffolk County UST:

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 ALLENS AVENUE PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	4
Capacity:	0000010000	Installed:	83
Construction:	Single Walled Fiberglass Tank		
Dispenser:	SUBMERSIBLE	Fill Type:	PUMPED
Tank Status:	Permitted Tank. Permit Runs Out - 1988		
Unique Tank Record:	16890		
Date Removed:	Not reported		
Content:	Diesel		
Permit to Operate:	Not reported		

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 520 ALLENS AVENUE, BLDG 2 PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	1
Capacity:	0000010000	Installed:	83
Construction:	Single Walled Fiberglass Tank		

TEXACO SERVICE STATION (Continued) **1000144517**

Dispenser:	SUBMERSIBLE	Fill Type:	GRAVITY
Tank Status:	Permitted Tank. Permit Runs Out - 1988		
Unique Tank Record:	16887		
Date Removed:	Not reported		
Content:	Gasoline		
Permit to Operate:	Not reported		

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 ALLENS AVENUE PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	8
Capacity:	0000000550	Installed:	Not reported
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Removed Tank (Date Removed - 1983)		
Unique Tank Record:	16894		
Date Removed:	010183		
Content:	Waste Oil		
Permit to Operate:	Not reported		

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 ALLENS AVENUE PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	6
Capacity:	0000010000	Installed:	Not reported
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Removed Tank (Date Removed - 1983)		
Unique Tank Record:	16892		
Date Removed:	010183		
Content:	Gasoline		
Permit to Operate:	Not reported		

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 ALLENS AVENUE PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	7
Capacity:	0000006000	Installed:	Not reported
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Removed Tank (Date Removed - 1983)		
Unique Tank Record:	16893		
Date Removed:	010183		
Content:	Gasoline		
Permit to Operate:	Not reported		

Facility ID:	6311		
Owner:	MOTIVA ENTERPRISES 520 ALLENS AVENUE PROVIDENCE, RI 02905		
Location:	UNDER, OUT	Tank ID:	5
Capacity:	0000010000	Installed:	Not reported
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Removed Tank (Date Removed - 1983)		

TEXACO SERVICE STATION (Continued) **1000144517**

Unique Tank Record: 16891
Date Removed: 010183
Content: Gasoline
Permit to Operate: Not reported

Facility ID: 6311
Owner: MOTIVA ENTERPRISES
520 ALLENS AVENUE
PROVIDENCE, RI 02905
Location: UNDER, OUT — Tank ID: 3
Capacity: 0000010000 — Installed: 83
Construction: Single Walled Fiberglass Tank
Dispenser: SUBMERSIBLE — Fill Type: GRAVITY
Tank Status: Permitted Tank. Permit Runs Out - 1988
Unique Tank Record: 16889
Date Removed: Not reported
Content: Gasoline
Permit to Operate: Not reported

Facility ID: 6311
Owner: MOTIVA ENTERPRISES
520 ALLENS AVENUE
PROVIDENCE, RI 02905
Location: UNDER, OUT — Tank ID: 2
Capacity: 0000010000 — Installed: 83
Construction: Single Walled Fiberglass Tank
Dispenser: SUBMERSIBLE — Fill Type: GRAVITY
Tank Status: Permitted Tank. Permit Runs Out - 1988
Unique Tank Record: 16888
Date Removed: Not reported
Content: Gasoline
Permit to Operate: Not reported

B11 **TEXACO (PRIOR OCEAN)** **LTANKS** **S100172917**
SSE **570 MIDDLE COUNTRY ROAD** **N/A**
1/4-1/2 **MIDDLE ISLAND, NY**
1459 ft.

Site 6 of 9 in cluster B

Relative: Higher

Actual: 88 ft.

LTANKS:
Spill Number: 8808610 — Region of Spill: 1
Spill Date: 01/31/1989 14:00 — Reported to Dept: 01/31/89 17:53
ID: Not reported — Date Call Received: Not reported
Material Spilled 1 : Not reported — Amount Spilled 1 : Not reported
Region Close Dt : Not reported
Resource Affectd: Groundwater
Spill Cause: Tank Test Failure
Water Affected: Not reported — Spill Source: Gas Station
Facility Contact: Not reported — Facility Tele: (516) 345-3162
Investigator: HAAS WELL — SWIS: 47
Caller Name: Not reported — Caller Agency: Not reported
Caller Phone: Not reported — Caller Extension: Not reported
Notifier Name: Not reported — Notifier Agency: Not reported
Notifier Phone: Not reported — Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported — Spiller Phone: Not reported
Spiller: TEXACO/OCEAN
Spiller Address: Not reported

TEXACO (PRIOR OCEAN) (Continued) **S100172917**

Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: / /
Spill Notifier: Tank Tester PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 12/20/98
Is Updated: False
Corrective Action Plan Submitted: / /
True Date : Not reported
Date Spill Entered In Computer Data File: 02/02/89
Date Region Sent Summary to Central Office: / /
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: 0
Leak Rate Failed Tank: 0.00
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: GASOLINE
Class Type: Petroleum
Chem Abstract Service Number: GASOLINE
Last Date: 09/29/1994
Num Times Material Entry In File: 21329
DEC Remarks: Not reported
Spill Cause: 3K FAILED GROSS LEAK. TANK TO BE EXCAVATED RETESTED

B12 **OCEAN GASOLINE STATION** **RCRIS-SQG** **1000144479**
SSE **570 MIDDLE COUNTRY RD** **FINDS** **NYD982792061**
1/4-1/2 **MIDDLE ISLAND, NY 11953**
1459 ft.

Site 7 of 9 in cluster B

Relative:
Higher

Actual:
88 ft.

OCEAN GASOLINE STATION (Continued) **1000144479**

RCRIS:
Owner: LAKE HILL ASSOC
(516) 334-8900
EPA ID: NYD982792061
Contact: Not reported
Classification: Small Quantity Generator
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system

B13 **BIRCHWOOD AT SPRING LAKE HOA INC.** **CBS AST** **S102639496**
SSE **535 MIDDLE COUNTRY ROAD** **N/A**
1/4-1/2 **MIDDLE ISLAND, NY 11953**
1501 ft.

Site 8 of 9 in cluster B

Relative: Higher

Actual: 86 ft.

CBS AST:

CBS Number:	1-000363	Telephone:	(516) 924-7378
Owner:	BIRCHWOOD AT SPRING LAKE HOA INC. 500 BIRCHWOOD PARK DR. MIDDLE ISLAND, NY 11953 (516) 924-7378		
Facility Status:	Active		
Total Tanks	3		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Tank Location:	Aboveground on crib, rack or cradle		
Install Date:	08/88		
Capacity (Gal):	2000		
Tank Type:	Steel/carbon steel		
Substance:	Single Hazardous Substance on DEC List		
Extrnl Protection:	None		
Intrnl Protection:	None		
Tank Containment:	Vault (w/access)		
Pipe Type:	STEEL/IRON	Pipe Location:	Aboveground/Underground Combination
Pipe Internal:	None		
Pipe External:	None		
Pipe Containment:	Double-Walled	Haz Percent:	20
Leak Detection:	Electronic		
Overfill Protection:	Not reported		
Chemical:	Sodium hydroxide		
Tank Closed:	Not reported		
PBS Number:	Not reported	SWIS Code:	4720
Federal ID:	Not reported		
MOSF Number:	Not reported	CAS Number:	1310732
SPDES Number:	0-196762	ICS Number:	1-700858
Facility Type:	Utility (i.e. Wastewater Treatment Plant)		
Operator:	GEORGE KEPIC	Facility Town:	BABYLON
Emrgncy Contact:	GEORGE KEPIC	Emrgncy Phone:	(516) 924-7378
Certified Date:	02/17/2000	Expiration Date:	05/17/2002
Owner type:	Corporate/Commercial		
Owner Sub Type:	Not reported		
Mail Name:	BIRCHWOOD AT SPRING LAKE HOA INC.		

BIRCHWOOD AT SPRING LAKE HOA INC. (Continued) **S102639496**

Mail Contact: RICHARD ROSSI
C/O KALED MGMT. CORP.
7001 BRUSH HOLLOW RD.
WESTBURY, NY 11590
Mail Phone: (516) 876-4800
Tank Secret: False
Date Entered: 05/18/1990 7:59:55
Last Test: Not reported
Due Date: Not reported
Pipe Flag: False
Owner Mark: 1
Renew Date: 03/04/92
Date Expired: 05/17/94
Is it There: False
Is Updated: False
Owner Status: F
Certificate Needs to be Printed: False
Fiscal Amt for Registration Fee Correct: True
Renewal Has Been Printed for Facility: True
Total Capacity of All Active Tanks(gal): 5500
Unique Tank Id Number: 00001
Date Pre-Printed Renewal App Form Was Last Printed: 02/01/2000

CBS Number: 1-000363
Telephone: (516) 924-7378
Owner: BIRCHWOOD AT SPRING LAKE HOA INC.
500 BIRCHWOOD PARK DR.
MIDDLE ISLAND, NY 11953
(516) 924-7378
Facility Status: Active
Total Tanks 3
Tank Status: In Service
Tank Error Status: No Missing Data
Tank Location: Aboveground on crib, rack or cradle
Install Date: 08/88
Capacity (Gal): 2000
Tank Type: Steel/carbon steel
Substance: Single Hazardous Substance on DEC List
Extrnl Protection: None
Intrnl Protection: None
Tank Containment: Vault (w/access)
Pipe Type: STEEL/IRON
Pipe Location: Aboveground/Underground Combination
Pipe Internal: None
Pipe External: None
Pipe Containment: Double-Walled
Haz Percent: 20
Leak Detection: Electronic
Overfill Protection: Not reported
Chemical: Sodium hydroxide
Tank Closed: Not reported
PBS Number: Not reported
SWIS Code: 4720
Federal ID: Not reported
MOSF Number: Not reported
CAS Number: 1310732
SPDES Number: 0-196762
ICS Number: 1-700858
Facility Type: Utility (i.e. Wastewater Treatment Plant)
Operator: GEORGE KEPIC
Facility Town: BABYLON
Emrgncy Contact: GEORGE KEPIC
Emrgncy Phone: (516) 924-7378
Certified Date: 02/17/2000
Expiration Date: 05/17/2002
Owner type: Corporate/Commercial
Owner Sub Type: Not reported
Mail Name: BIRCHWOOD AT SPRING LAKE HOA INC.
Mail Contact: RICHARD ROSSI
C/O KALED MGMT. CORP.
7001 BRUSH HOLLOW RD.

BIRCHWOOD AT SPRING LAKE HOA INC. (Continued) **S102639496**

	WESTBURY, NY 11590		
Mail Phone:	(516) 876-4800		
Tank Secret:	False	Date Entered:	05/18/1990 8:00:14
Last Test:	Not reported	Due Date:	Not reported
Pipe Flag:	False	Owner Mark:	1
Renew Date:	03/04/92	Date Expired:	05/17/94
Is it There:	False	Is Updated:	False
Owner Status:	F		

Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Total Capacity of All Active Tanks(gal):	5500
Unique Tank Id Number:	00002
Date Pre-Printed Renewal App Form Was Last Printed:	02/01/2000

CBS Number:	1-000363	Telephone:	(516) 924-7378
Owner:	BIRCHWOOD AT SPRING LAKE HOA INC. 500 BIRCHWOOD PARK DR. MIDDLE ISLAND, NY 11953 (516) 924-7378		
Facility Status:	Active		
Total Tanks	3		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Tank Location:	Aboveground on crib, rack or cradle		
Install Date:	08/88		
Capacity (Gal):	1500		
Tank Type:	Steel/carbon steel		
Substance:	Single Hazardous Substance on DEC List		
Extrnl Protection:	None		
Intrnl Protection:	None		
Tank Containment:	Vault (w/access)		
Pipe Type:	PLASTIC	Pipe Location:	Aboveground/Underground Combination
Pipe Internal:	None		
Pipe External:	None		
Pipe Containment:	Double-Walled	Haz Percent:	100
Leak Detection:	Electronic		
Overfill Protection:	Not reported		
Chemical:	Methanol		
Tank Closed:	Not reported		
PBS Number:	Not reported	SWIS Code:	4720
Federal ID:	Not reported		
MOSF Number:	Not reported	CAS Number:	67561
SPDES Number:	0-196762	ICS Number:	1-700858
Facility Type:	Utility (i.e. Wastewater Treatment Plant)		
Operator:	GEORGE KEPIC	Facility Town:	BABYLON
Emrgncy Contact:	GEORGE KEPIC	Emrgncy Phone:	(516) 924-7378
Certified Date:	02/17/2000	Expiration Date:	05/17/2002
Owner type:	Corporate/Commercial		
Owner Sub Type:	Not reported		
Mail Name:	BIRCHWOOD AT SPRING LAKE HOA INC.		
Mail Contact:	RICHARD ROSSI C/O KALED MGMT. CORP. 7001 BRUSH HOLLOW RD. WESTBURY, NY 11590		
Mail Phone:	(516) 876-4800		
Tank Secret:	False	Date Entered:	05/18/1990 8:00:50

BIRCHWOOD AT SPRING LAKE HOA INC. (Continued) **S102639496**

Last Test:	Not reported	Due Date:	Not reported
Pipe Flag:	False	Owner Mark:	1
Renew Date:	03/04/92	Date Expired:	05/17/94
Is it There:	False	Is Updated:	False
Owner Status:	F		

Certificate Needs to be Printed:	False
Fiscal Amt for Registration Fee Correct:	True
Renewal Has Been Printed for Facility:	True
Total Capacity of All Active Tanks(gal):	5500
Unique Tank Id Number:	00003
Date Pre-Printed Renewal App Form Was Last Printed:	02/01/2000

C14 SW 1/4-1/2 1549 ft. **STRASSER RESIDENCE** **NY Spills** **S106001478**
35 MIDDLE ISLAND ROAD **N/A**
MIDDLE ISLAND, NY

Site 1 of 2 in cluster C

Relative: Lower

Actual: 52 ft.

SPILLS:

Spill Number:	0111353	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	03/01/98	Reported to Dept:	/ /
ID:	2373		
Date Call Received:	03/01/02		
Region Close Date :	/ /		
Material Spilled 1	#2 FUEL OIL	Amount Spilled 1 :	Unknown Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	PRIVATE DWELLING

This is the most recent NY SPILLS record for this site.

Click this hyperlink while viewing on your computer to access additional NY SPILLS detail in the EDR Site Report.

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15 ESE 1/4-1/2 1581 ft. **RUSTIC REALITY** **NY Spills** **S103567033**
18 LAKEVIEW DRIVE **N/A**
MIDDLE ISLAND, NY

Relative: Lower

Actual: 77 ft.

SPILLS:

Spill Number:	9509667	Region of Spill:	1
Spill Date:	11/03/1995 13:10	Reported to Dept:	11/03/95 17:25
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Other	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Private Dwelling
Facility Contact:	GAIL PESCINO	Facility Tele:	(516) 736-6633
Investigator:	NONE	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	GAIL PESCINO	Spiller Phone:	(516) 736-6633
Spiller:	RUSTIC REALITY		
Spiller Address:	18 LAKEVIEW DRIVE MIDDLE ISLAND, NY		

RUSTIC REALITY (Continued) **S103567033**

DEC Remarks : Not reported
Remark: BURNER STOLEN FROM BASEMENT - LINES DISCONNECTED AND OIL SPILLED ON CONCRETE BASEMENT FLOOR
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 3
Units: Gallons
Unknown Qty Spilled: 3
Quantity Recovered: 3
Unknown Qty Recovered: False
Material: #2 FUEL OIL
Class Type: Petroleum
Chem Abstract Service Number: #2 FUEL OIL
Last Date: 12/07/1994
Num Times Material Entry In File: 24464
Spill Closed Dt: 11/06/95
Spill Notifier: Other
PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 11/07/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 11/03/95
Date Region Sent Summary to Central Office: / /
True Date : Not reported

B16 **FRACAPAINE RESIDENCE** **NY Spills** **S105056246**
SSE **5 LAKE DRIVE** **N/A**
1/4-1/2 **MIDDLE ISLAND, NY**
1587 ft.

Site 9 of 9 in cluster B

Relative: Higher

Actual: 89 ft.

SPILLS:
Spill Number: 9804406
Region of Spill: 1
Spill Date: 07/08/1998 09:00
Reported to Dept: 07/08/98 09:46
ID: Not reported
Dt Call Received: Not reported
Region Close Date :Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Other
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Private Dwelling
Facility Contact: Not reported
Facility Tele: (516) 345-2289
Investigator: CIRRITO WELL
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported

FRACAPAINE RESIDENCE (Continued) **S105056246**

Spiller Contact: Not reported Spiller Phone: (516) 345-2289
Spiller: FRACAPAINE RESIDENCE
Spiller Address: 5 LAKE DRIVE
MIDDLE ISLAND, NY
DEC Remarks : CALLER THINKS THAT GW IS SEEPING INTO TANK MAYBE CORRODED. HOUSE IS ON A PRIVATE ROAD ALONG THE EAST SIDE OF FENCE AT PC RICHARDS.
Remark: caller observed water in tank which is displacing oil onto the ground. underground tank 200 ft from artist lake shore. caller advised home owner to call the dec and she slammed the door on him.
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: True
Material: #2 FUEL OIL
Class Type: Petroleum
Chem Abstract Service Number: #2 FUEL OIL
Last Date: 12/07/1994
Num Times Material Entry In File: 24464
Spill Closed Dt: / /
Spill Notifier: Other PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / / Cleanup Meets Std:False
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ / Enforcement Date: / /
Invstgn Complete:/ / UST Involvement: False
Spill Record Last Update: 02/16/99
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 07/08/98
Date Region Sent Summary to Central Office: / /
True Date : Not reported

C17 **MALONEY RESIDENCE** **NY Spills** **S104651705**
SW **33 MIDDLE ISLAND ROAD** **N/A**
1/4-1/2 **MIDDLE ISLAND, NY**
1596 ft.

Site 2 of 2 in cluster C

Relative:
Lower

Actual:
52 ft.

SPILLS:
Spill Number: 0000407 Region of Spill: 1
Spill Date: 04/07/2000 12:00 Reported to Dept: 04/10/00 16:23
ID: Not reported
Dt Call Received: Not reported Region Close Date :Not reported
Material Spilled 1 :Not reported Amount Spilled 1 : Not reported
Spill Cause: Other Resource Affected: On Land
Water Affected: Not reported Spill Source: Private Dwelling
Facility Contact: PETER ABRAN Facility Tele: (631) 744-2804

MALONEY RESIDENCE (Continued) **S104651705**

Investigator: DONOVAN
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: MRS MALONEY (RESIDENT)
Spiller Phone: (631) 345-6748
Spiller: SAV-ON/LIBERT OIL CO
Spiller Address: Not reported
DEC Remarks : 16:39 - BC T/C TO CALLER: PACKING NUT WASN T TIGHTENED OUTSIDE TANK. 16:47 - BC T/C TO ABRAM SAV-ON LIBERT): LEFT MESSAGE FOR CALL BACK. FURNACE WAS REPLACED TECH LEFT THE FITTING LOOSE. LEAKED INTO SOIL UNDER TANK. 16:40 - BC T/C TO MALONEY RESD.
MRS. MALONEY INDICATED THAT SHE HAS WELL WATER - WELL S IN THE BACK YARD/SO IS THE TANK. SPILL CLEANED. 2 YDS CONT SOIL TAKEN TO BIRDSBORO,PA, SOIL SAMPLES INDICATED MINIMUM POTENTIAL FOR GW IMPACT. NO FURTHER ACTION
Remark: CALLER REPORTING SPILL FOR HOMEOWNER- NEW TANK WAS PUT IN PLACE OVER WEEKEND. IT IS BELIEVED THAT FITTINGS WERE NOT SECURED PROPERLY WHICH RESULTED IN SPILL. INVESTIGATION TO CONTINUE.
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
- PBS Number: Not reported
- Tank Number: Not reported
- Test Method: Not reported
- Capacity of Failed Tank: Not reported
- Leak Rate Failed Tank: Not reported
- Gross Leak Rate: Not reported

Material:
- Material Class Type: 1
- Quantity Spilled: 0
- Units: Gallons
- Unknown Qty Spilled: No
- Quantity Recovered: 0
- Unknown Qty Recovered: True
- Material: #2 FUEL OIL
- Class Type: Petroleum
- Chem Abstract Service Number: #2 FUEL OIL
- Last Date: 12/07/1994
- Num Times Material Entry In File: 24464

Spill Closed Dt: 06/07/01
Spill Notifier: Affected Persons
PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 06/08/01
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 04/10/00
Date Region Sent Summary to Central Office: / /
True Date : Not reported

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
D18 SSW 1/4-1/2 1597 ft.	**CHEMLAWN 78 MIDDLE ISLAND YAPHANK MIDDLE ISLAND, NY**	**NY Spills**	**S102096064 N/A**

Site 1 of 3 in cluster D

Relative: Lower

Actual: 75 ft.

SPILLS:

Spill Number: 8905823
Region of Spill: 1
Spill Date: 09/12/1989 11:10
Reported to Dept: 09/13/89 12:10
ID: Not reported
Dt Call Received: Not reported
Region Close Date: Not reported
Material Spilled 1: Not reported
Amount Spilled 1: Not reported
Spill Cause: Equipment Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Commercial Vehicle
Facility Contact: Not reported
Facility Tele: (516) 924-7200
Investigator: HOFMANN FD
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: CHEMLAWN
Spiller Address: PATCHOGUE YAPHANK ROAD
YAPHANK, NY
DEC Remarks: 09/14/89: 1 YD SOIL REMOVED. 25 GALS LIQUID RECOVERED.
Remark: MATERIAL LEAKING OUT
Spill Class: Not reported

Tank Test:
- PBS Number: Not reported
- Tank Number: Not reported
- Test Method: Not reported
- Capacity of Failed Tank: Not reported
- Leak Rate Failed Tank: Not reported
- Gross Leak Rate: Not reported

Material:
- Material Class Type: 3
- Quantity Spilled: 30
- Units: Gallons
- Unknown Qty Spilled: 30
- Quantity Recovered: 0
- Unknown Qty Recovered: False
- Material: PESTICIDE SEVIN
- Class Type: Non Pet/Non Haz
- Chem Abstract Service Number: PESTICIDE SEVIN
- Last Date: Not reported
- Num Times Material Entry In File: 13

Spill Closed Dt: 09/14/89
Spill Notifier: Citizen
PBS Number: Not reported
Cleanup Ceased: 09/14/89
Last Inspection: / /
Cleanup Meets Std: True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt: / /
Enforcement Date: / /
Invstgn Complete: / /
UST Involvement: False
Spill Record Last Update: 10/20/98
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 09/14/89
Date Region Sent Summary to Central Office: / /

CHEMLAWN (Continued) **S102096064**

True Date : Not reported

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19 ENE 1/4-1/2 1660 ft. **APT COMPLEX 44 BAILEY COURT MIDDLE ISLAND, NY** **NY Spills** **S106018592 N/A**

Relative: Higher

Actual: 86 ft.

SPILLS:

Spill Number:	0306873	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	09/30/03	Reported to Dept:	/ /
ID:	30311		
Date Call Received:	09/30/03		
Region Close Date :	09/30/03		
Material Spilled 1 :	UNKNOWN MATERIAL	Amount Spilled 1 :	20 Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	UNKNOWN

D20 SSW 1/4-1/2 1690 ft. **UNK ARTIST LAKE RTE 25 MIDDLE ISLAND, NY** **NY Spills** **S104786087 N/A**

Site 2 of 3 in cluster D

Relative: Lower

Actual: 73 ft.

SPILLS:

Spill Number:	9315367	Region of Spill:	1
Spill Date:	03/29/1994 09:00	Reported to Dept:	03/29/94 11:20
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Abandoned Drums	Resource Affected:	Surface Water
Water Affected:	Not reported	Spill Source:	Unknown
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	HAAS	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	UNK		
Spiller Address:	Not reported		
DEC Remarks :	Not reported		
Remark:	275 GAL TANK ABANDONED ON THE SHORE POSSIBLY IN THE WATER UNK IF LEAKING		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		

Tank Test:

PBS Number:	Not reported
Tank Number:	Not reported
Test Method:	Not reported
Capacity of Failed Tank:	Not reported
Leak Rate Failed Tank:	Not reported
Gross Leak Rate:	Not reported

Material:

Material Class Type:	1
Quantity Spilled:	0
Units:	Gallons

UNK (Continued) **S104786087**

Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: UNKNOWN PETROLEUM
Class Type: Petroleum
Chem Abstract Service Number: UNKNOWN PETROLEUM
Last Date: 09/29/1994
Num Times Material Entry In File: 16414
Spill Closed Dt: 03/30/94
Spill Notifier: DEC
PBS Number: Not reported
Cleanup Ceased: 03/30/94
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 03/31/94
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 03/29/94
Date Region Sent Summary to Central Office: / /
True Date : Not reported

21
NNW
1/4-1/2
1724 ft.

4 BAYLISS AVENUE
STONY BROOK, NY

NY Spills **S104649710**
N/A

Relative:
Lower

Actual:
59 ft.

SPILLS:
Spill Number: 9907449
Region of Spill: 1
Spill Date: 09/20/1999 14:00
Reported to Dept: 09/21/99 09:30
ID: Not reported
Dt Call Received: Not reported
Region Close Date Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Equipment Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Commercial Vehicle
Facility Contact: Not reported
Facility Tele: ( ) -
Investigator: UNASSIGNED
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: TOM CAMPBELL
Spiller Phone: (516) 391-6138
Spiller: LIPA
Spiller Address: -
DEC Remarks : TELECON WITH TOM CAMPBELL: CLEANED UP BY LIPA CREW BUT HOMEOWNER CALLED TO COMPLAIN SO TRADEWINDS WAS CALLED OUT
Remark: broken hose on a line truck
Spill Class: Possible release with minimal potential for fire or hazard or Known release with no damage. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:

(Continued) **S104649710**

Material Class Type: 1
Quantity Spilled: 2
Units: Gallons
Unknown Qty Spilled: 2
Quantity Recovered: 2
Unknown Qty Recovered: False
Material: HYDRAULIC OIL
Class Type: Petroleum
Chem Abstract Service Number: HYDRAULIC OIL
Last Date: 07/28/1994
Num Times Material Entry In File: 1846
Spill Closed Dt: 12/22/99
Spill Notifier: Other
PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 10/04/00
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 09/21/99
Date Region Sent Summary to Central Office: / /
True Date : Not reported

D22
SSW
1/4-1/2
1744 ft.

ANCHOR ENTERPRISES INC
975 MIDDLE COUNTRY RD
MIDDLE ISLAND, NY 11953

AST **A100265036**
N/A

Site 3 of 3 in cluster D

Relative:
Lower

Actual:
69 ft.

Suffolk County AST:

Facility ID: 3858 Region: SUFFOLK
Permit to Operate: 031302
Owner: MAVIS DEVELOPMENT CORP C/O M DOGAN
PO BOX 414
EAST ROCKAWAY, NY 11518 Tank Key: 11198
Location: ABOVE, IN Tank ID: 10
Capacity: 0000000500 Installed: 2002
Fill Type: Not reported
Content: Motor Oil Date Removed: Not reported
Construction: STEEL / STEEL
Official Use: Permitted Tank. Permit Runs Out - 2007

Facility ID: 3858 Region: SUFFOLK
Permit to Operate: 031302
Owner: MAVIS DEVELOPMENT CORP C/O M DOGAN
PO BOX 414
EAST ROCKAWAY, NY 11518 Tank Key: 11199
Location: ABOVE, IN Tank ID: 11
Capacity: 0000000500 Installed: 2002
Fill Type: Not reported
Content: Motor Oil Date Removed: Not reported
Construction: STEEL / STEEL
Official Use: Permitted Tank. Permit Runs Out - 2007

Facility ID: 3858 Region: SUFFOLK
Permit to Operate: 031302
Owner: MAVIS DEVELOPMENT CORP C/O M DOGAN

ANCHOR ENTERPRISES INC (Continued) **A100265036**

	PO BOX 414 EAST ROCKAWAY, NY 11518	Tank Key:	11200
Location:	ABOVE, IN	Tank ID:	12
Capacity:	0000000500	Installed:	2002
Fill Type:	Not reported		
Content:	Transmission Fluid	Date Removed:	Not reported
Construction:	STEEL / STEEL		
Official Use:	Permitted Tank. Permit Runs Out - 2007		
Facility ID:	3858	Region:	SUFFOLK
Permit to Operate:	031302		
Owner:	MAVIS DEVELOPMENT CORP C/O M DOGAN PO BOX 414 EAST ROCKAWAY, NY 11518	Tank Key:	11197
Location:	ABOVE, IN	Tank ID:	9
Capacity:	0000000500	Installed:	2002
Fill Type:	Not reported		
Content:	Waste Oil	Date Removed:	Not reported
Construction:	STEEL / STEEL		
Official Use:	Permitted Tank. Permit Runs Out - 2007		

E23
SSW
1/4-1/2
1815 ft.

SILVER KING BROADCASTING OF NJ
666 MIDDLE COUNTRY RD
MIDDLE ISLAND, NY 11953

RCRIS-SQG **1000430350**
FINDS **NYD982533085**

Site 1 of 2 in cluster E

Relative:
Lower

Actual:
60 ft.

RCRIS:

Owner:	SILVER KING BROADCAST (212) 555-1212
EPA ID:	NYD982533085
Contact:	Not reported
Classification:	Small Quantity Generator
TSDF Activities:	Not reported
Violation Status:	No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system

E24
SSW
1/4-1/2
1854 ft.

ALSAN CAR CARE
805 RTE 25 MIDDLE COUNTRY RD
MIDDLE ISLAND, NY 11953

UST **U003535705**
AST **N/A**

Site 2 of 2 in cluster E

Relative:
Lower

Actual:
60 ft.

Suffolk County UST:

Facility ID:	4715		
Owner:	LEONARD TARZIA 5 FAWN MEADOW DRIVE WADING RIVER, NY 11792		
Location:	UNDER, OUT	Tank ID:	1
Capacity:	0000003000	Installed:	73
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Removed Tank (Date Removed - 1984)		

ALSAN CAR CARE (Continued) **U003535705**

Unique Tank Record: 13187
Date Removed: 010184
Content: Gasoline
Permit to Operate: Not reported

Facility ID: 4715
Owner: LEONARD TARZIA
5 FAWN MEADOW DRIVE
WADING RIVER, NY 11792
Location: UNDER, OUT — Tank ID: 2
Capacity: 0000004000 — Installed: 73
Construction: STEEL
Dispenser: SUCTION — Fill Type: GRAVITY
Tank Status: Removed Tank (Date Removed - 1984)
Unique Tank Record: 13188
Date Removed: 010184
Content: Gasoline
Permit to Operate: Not reported

Suffolk County AST:
Facility ID: 4715 — Region: SUFFOLK
Permit to Operate: Not reported
Owner: LEONARD TARZIA
5 FAWN MEADOW DRIVE
WADING RIVER, NY 11792 — Tank Key: 13189
Location: ABOVE, OUT — Tank ID: 3
Capacity: 0000000275 — Installed: 79
Fill Type: GRAVITY
Content: Waste Oil — Date Removed: 122089
Construction: STEEL
Official Use: Removed Tank (Date Removed - 1989)

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25 ESE 1/4-1/2 1974 ft.
L & M AUTOMOTIVE
444 MIDDLE COUNTRY RD
MIDDLE ISLAND, NY 11953

RCRIS-SQG 1000232272
FINDS NYD094812450

Relative: Lower
Actual: 55 ft.

RCRIS:
Owner: LEONARD TARZIA
(516) 345-0600
EPA ID: NYD094812450
Contact: Not reported
Classification: Small Quantity Generator
TSDF Activities: Not reported
Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-ANNUAL REPORTING REQUIREMENTS
Date Violation Determined: 10/07/1996
Actual Date Achieved Compliance: 11/01/1996

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/07/1996
Penalty Type: Not reported

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Non-Financial Record Review	GENERATOR-ANNUAL REPORTING REQUIREMENTS	19961101

L & M AUTOMOTIVE (Continued) **1000232272**

NY MANIFEST

Click this hyperlink while viewing on your computer to access additional NY MANIFEST detail in the EDR Site Report.

CT MANIFEST

Click this hyperlink while viewing on your computer to access additional CT MANIFEST detail in the EDR Site Report.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system

F26 SSW 1/4-1/2 2217 ft. **UNK** **NY Spills** **S104785689**
3W MIDDLE ISLAND ROAD **N/A**
MIDDLE ISLAND, NY

Site 1 of 2 in cluster F

Relative: Lower

Actual: 72 ft.

SPILLS:

Spill Number:	9213359	Region of Spill:	1
Spill Date:	03/03/1993 16:00	Reported to Dept:	03/03/93 16:20
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Abandoned Drums	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Unknown
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	LEUNG	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	UNK		
Spiller Address:	Not reported		
DEC Remarks :	Not reported		
Remark:	1-55 GAL DRUM, 200 YDS N/O TEXACO ON ROCKY ROAD, ABANDONED DRUM ON STATE PROPERTY. 1/4 TO 1/2 FULL,		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		

Tank Test:

PBS Number:	Not reported
Tank Number:	Not reported
Test Method:	Not reported
Capacity of Failed Tank:	Not reported
Leak Rate Failed Tank:	Not reported
Gross Leak Rate:	Not reported

Material:

Material Class Type:	1
Quantity Spilled:	0
Units:	Gallons
Unknown Qty Spilled:	No
Quantity Recovered:	0
Unknown Qty Recovered:	False
Material:	UNKNOWN PETROLEUM
Class Type:	Petroleum
Chem Abstract Service Number:	UNKNOWN PETROLEUM

UNK (Continued) **S104785689**

Last Date: 09/29/1994
Num Times Material Entry In File: 16414
Spill Closed Dt: 03/04/93
Spill Notifier: Citizen
PBS Number: Not reported
Cleanup Ceased: 03/04/93
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: / /
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 03/04/93
Date Region Sent Summary to Central Office: / /
True Date : Not reported

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27 NE 1/4-1/2 2229 ft. **RELIANCE FUEL** **NY Spills** **S102092556**
8 RIVER ROAD **N/A**
MIDDLE ISLAND, NY

Relative: Higher

Actual: 97 ft.

SPILLS:
Spill Number: 9207074
Region of Spill: 1
Spill Date: 09/18/1992 14:00
Reported to Dept: 09/18/92 14:20
ID: Not reported
Dt Call Received: Not reported
Region Close Date :Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Human Error
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Tank Truck
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: ACAMPORA
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: RELIANCE FUEL
Spiller Address: Not reported
DEC Remarks : 10/14/92: RELIANCE CLEANED UP MILRO DISPOSED OF 1.5 DRUMS OF SOIL, NO OTHER ACTION.
Remark: OIL SPRAYED ON LAWN, WHILE HOSE WAS BEING HOOKED UP BY FILL AREA. SERVICEMAN ENROUTE TO INSPECT AND CLEANUP SITE
Spill Class: Possible release with minimal potential for fire or hazard or Known release with no damage. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported

Material:
Material Class Type: 1
Quantity Spilled: 1
Units: Gallons
Unknown Qty Spilled: Yes
Quantity Recovered: 0

RELIANCE FUEL (Continued) **S102092556**

Unknown Qty Recovered: False
Material: #2 FUEL OIL
Class Type: Petroleum
Chem Abstract Service Number: #2 FUEL OIL
Last Date: 12/07/1994
Num Times Material Entry In File: 24464
Spill Closed Dt: 10/14/92
Spill Notifier: Responsible Party
PBS Number: Not reported
Cleanup Ceased: 10/14/92
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 10/15/92
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 09/22/92
Date Region Sent Summary to Central Office: / /
True Date : Not reported

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28 ESE 1/4-1/2 2293 ft. **UNK** **NY Spills** **S104786584**
CURRANS RD/MIDDLE CTRY RD **N/A**
MIDDLE ISLAND, NY

Relative: Lower
Actual: 56 ft.

SPILLS:
Spill Number: 9500475
Region of Spill: 1
Spill Date: 04/12/1995 12:10
Reported to Dept: 04/12/95 13:05
ID: Not reported
Dt Call Received: Not reported
Region Close Date :Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Abandoned Drums
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Unknown
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: AUSTIN
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: UNK
Spiller Address: Not reported
DEC Remarks : 06/20/95: AUSTIN COLLECTED 5-1 GAL CONTAINERS, 4 CONTAINED WASTE OIL, ONE CONTAINED ANTIFREEZE, DISPOSED OF AT RIDGE.
Remark: 4-5 GAL CONTAINERS OF WASTE OIL WATER MIXTURE NO SPILLAGE AT THIS TIME, ON VACANT PARCEL, OLD S/S SITE, ON CORNER
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Unknown Responsible Party. Corrective action taken. (ISR)

Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported

Material:
Material Class Type: 1
Quantity Spilled: 0

UNK (Continued) **S104786584**

Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: WASTE OIL
Class Type: Petroleum
Chem Abstract Service Number: WASTE OIL
Last Date: 09/27/1994
Num Times Material Entry In File: 9509
Spill Closed Dt: 06/20/95
Spill Notifier: Local Agency
PBS Number: Not reported
Cleanup Ceased: 06/20/95
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 07/13/98
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 04/13/95
Date Region Sent Summary to Central Office: / /
True Date : Not reported

F29
South
1/4-1/2
2313 ft.

CALABRESE AND SONS
MIDDLE ISLAND/YAPHANK RD
MIDDLE ISLAND, NY

NY Spills **S102091172**
N/A

Site 2 of 2 in cluster F

Relative:
Lower

Actual:
78 ft.

SPILLS:
Spill Number: 8603607
Region of Spill: 1
Spill Date: 09/02/1986 12:00
Reported to Dept: 09/02/86 11:09
ID: Not reported
Dt Call Received: Not reported
Region Close Date Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Traffic Accident
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Commercial Vehicle
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: RAYMOND
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: CALABRESE AND SONS
Spiller Address: 130 WICKS ROAD
COMMACK, NY
DEC Remarks : / / : DEC RESPOND. / / : DEC RESPOND.STATE HIRD MPC-5YDS REMOVED.
Remark: APPROX. 5 X5 AREA AFFECTED.STATE HIRED MPC
Spill Class: Not reported
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:

CALABRESE AND SONS (Continued) **S102091172**

Material Class Type: 1
Quantity Spilled: 20
Units: Gallons
Unknown Qty Spilled: 20
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: GASOLINE
Class Type: Petroleum
Chem Abstract Service Number: GASOLINE
Last Date: 09/29/1994
Num Times Material Entry In File: 21329
Spill Closed Dt: 09/29/86
Spill Notifier: Health Department
PBS Number: Not reported
Cleanup Ceased: 09/29/86
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 11/14/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 09/16/86
Date Region Sent Summary to Central Office: 01/23/89
True Date : Not reported

G30 **WALMART QUICK LUBE** **UST U003536719**
SW **750 RTE 25 MIDDLE COUNTRY RD** **AST N/A**
1/4-1/2 **MIDDLE ISLAND, NY 11953**
2461 ft.

Site 1 of 4 in cluster G

Relative: Higher

Actual: 81 ft.

Suffolk County UST:
Facility ID: 5621
Owner: WALMART
702 SW 8TH STREET DEPT 8916
BENTONVILLE, AR 72716
Location: UNDER, OUT
Tank ID: 6
Capacity: 0000000000
Installed: Not reported
Construction: Not reported
Dispenser: Not reported
Fill Type: Not reported
Tank Status: Removed Tank (Date Removed - 1996)
Unique Tank Record: 14943
Date Removed: 041596
Content: Oil/Water Seperator
Permit to Operate: Not reported

Suffolk County AST:
Facility ID: 5621
Region: SUFFOLK
Permit to Operate: 090396
Owner: WALMART
702 SW 8TH STREET DEPT 8916
BENTONVILLE, AR 72716
Tank Key: 14938
Location: ABOVE, IN
Tank ID: 1
Capacity: 0000000800
Installed: Not reported
Fill Type: Not reported
Content: Waste Oil
Date Removed: Not reported
Construction: STEEL
Official Use: Permitted Tank. Permit Runs Out - 2001

WALMART QUICK LUBE (Continued) **U003536719**

Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	090396		
Owner:	WALMART 702 SW 8TH STREET DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	14942
Location:	ABOVE, IN	Tank ID:	5
Capacity:	0000000125	Installed:	Not reported
Fill Type:	Not reported		
Content:	WINDSHIELD WASHER	Date Removed:	Not reported
Construction:	STEEL		
Official Use:	Permitted Tank. Permit Runs Out - 2001		

Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	WALMART 702 SW 8TH STREET DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	14939
Location:	ABOVE, IN	Tank ID:	2
Capacity:	0000000275	Installed:	Not reported
Fill Type:	Not reported		
Content:	Waste Oil	Date Removed:	090396
Construction:	Not reported		
Official Use:	Removed Tank (Date Removed - 1996)		

Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	090396		
Owner:	WALMART 702 SW 8TH STREET DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	14940
Location:	ABOVE, IN	Tank ID:	3
Capacity:	0000000400	Installed:	Not reported
Fill Type:	Not reported		
Content:	Motor Oil	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2001		

Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	090396		
Owner:	WALMART 702 SW 8TH STREET DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	14941
Location:	ABOVE, IN	Tank ID:	4
Capacity:	0000000400	Installed:	Not reported
Fill Type:	Not reported		
Content:	Motor Oil	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2001		

Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	WALMART 702 SW 8TH STREET DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	42265
Location:	ABOVE, IN	Tank ID:	7
Capacity:	0000000300	Installed:	1994
Fill Type:	GRAVITY		

WALMART QUICK LUBE (Continued) **U003536719**

Content:	Waste Oil	Date Removed:	072803
Construction:	Not reported		
Official Use:	Removed Tank (Date Removed - 2003)		
Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	102703		
Owner:	WAL MART STORES INC 702 SW 8TH ST DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	44717
Location:	ABOVE, IN	Tank ID:	9
Capacity:	0000000280	Installed:	Not reported
Fill Type:	PUMPED		
Content:	WINDSHIELD WASHER FL	Date Removed:	Not reported
Construction:	STEEL / STEEL		
Official Use:	Permitted Tank. Permit Runs Out - 2008		
Facility ID:	5621	Region:	SUFFOLK
Permit to Operate:	102703		
Owner:	WAL MART STORES INC 702 SW 8TH ST DEPT 8916 BENTONVILLE, AR 72716	Tank Key:	44716
Location:	ABOVE, OUT	Tank ID:	8
Capacity:	0000000280	Installed:	Not reported
Fill Type:	GRAVITY		
Content:	Waste Oil	Date Removed:	Not reported
Construction:	STEEL / STEEL		
Official Use:	Permitted Tank. Permit Runs Out - 2008		

G31 **WAL-MART #2156** **RCRIS-SQG** **1004756066**
SW **750 MIDDLE COUNTRY RD** **FINDS** **NY0001008416**
1/4-1/2 **MIDDLE ISLAND, NY 11953**
2485 ft.

Site 2 of 4 in cluster G

Relative:
Higher

Actual:
84 ft.

RCRIS:

Owner: WAL-MART STORES INC
(501) 273-8715
EPA ID: NY0001008416

Contact: MICHAEL SHERRY
(516) 924-0081

Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site:
Resource Conservation and Recovery Act Information system

G32 SW 1/4-1/2 2485 ft. | **WAL MART 750 MIDDLE COUNTRY ROAD MIDDLE ISLAND, NY** | **NY Spills** | **S103939166 N/A**

Site 3 of 4 in cluster G

Relative: Higher

Actual: 84 ft.

SPILLS:

Spill Number:	9925183	Region of Spill:	1
Spill Date:	07/01/1999 16:00	Reported to Dept:	07/01/99 16:22
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Housekeeping	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Other Commercial/Industrial
Facility Contact:	ANDREW SANFILIPPO- MGR	Facility Tele:	(516) 924-0375
Investigator:	DARCANGELO 99-054	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	Not reported	Spiller Phone:	(516) 924-0375
Spiller:	WAL MART		
Spiller Address:	750 MIDDLE COUNTRY ROAD MIDDLE ISLAND, NY		

DEC Remarks : SPILL CLEANED UP BY WAL MART EMPL0YEES, MATERIAL INCORPORATED INTO THERE STANDARD WASTE STREAM CONTACTED ENVIRONMENTAL GROUP REGARDING CHANGES THAT CAN BE MADE TO AVOID REOCCURANCE,NO FURTHER ACTION

Remark: LARGE PUDDLE OF OIL ON THE EAST SIDE OF THE REPAIR GARAGE, IN THE CELLAR. UNKNOWN IF THE FLOOR S SEALED.

Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:

PBS Number:	Not reported
Tank Number:	Not reported
Test Method:	Not reported
Capacity of Failed Tank:	Not reported
Leak Rate Failed Tank:	Not reported
Gross Leak Rate:	Not reported

Material:

Material Class Type:	1
Quantity Spilled:	15
Units:	Gallons
Unknown Qty Spilled:	15
Quantity Recovered:	15
Unknown Qty Recovered:	False
Material:	MOTOR OIL
Class Type:	Petroleum
Chem Abstract Service Number:	MOTOR OIL
Last Date:	07/28/1994
Num Times Material Entry In File:	508

Spill Closed Dt:	07/07/99		
Spill Notifier:	Local Agency	PBS Number:	Not reported
Cleanup Ceased:	/ /		
Last Inspection:	/ /	Cleanup Meets Std:	True
Recommended Penalty:	Penalty Not Recommended		
Spiller Cleanup Dt	/ /	Enforcement Date:	/ /
Invstgn Complete:	/ /	UST Involvement:	False
Spill Record Last Update:	07/12/99		

WAL MART (Continued) **S103939166**

Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 07/02/99 09:41
Date Region Sent Summary to Central Office: / /
True Date : Not reported

G33 SW 1/4-1/2 2485 ft. **WALMART 750 MIDDLE COUNTRY ROAD MIDDLE ISLAND, NY** **NY Spills** **S105141416 N/A**

Site 4 of 4 in cluster G

Relative: Higher

Actual: 84 ft.

SPILLS:
Spill Number: 0125156 Region of Spill: 1
Spill Date: 08/09/2001 09:32 Reported to Dept: 08/09/01 09:32
ID: Not reported
Dt Call Received: Not reported Region Close Date :Not reported
Material Spilled 1 :Not reported Amount Spilled 1 : Not reported
Spill Cause: Housekeeping Resource Affected: On Land
Water Affected: Not reported Spill Source: Other Commercial/Industrial
Facility Contact: ANDREW SANFILIPPO- MGR Facility Tele: (516) 924-0375
Investigator: BRIAN D 01-079 SWIS: 47
Caller Name: Not reported Caller Agency: Not reported
Caller Phone: Not reported Caller Extension: Not reported
Notifier Name: Not reported Notifier Agency: Not reported
Notifier Phone: Not reported Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported Spiller Phone: (516) 924-0375
Spiller: WALMART
Spiller Address: 750 MIDDLE COUNTRY ROAD
MIDDLE ISLAND, NY
DEC Remarks : WASTE OIL TANK OVERFILLED, APPROX 5-10 GALLONS IMPACTING CONCRETE FLOOR, NO DRAINS IMPACTED, CLEANED BY WALMART EMPLOYEES
Remark: LARGE PUDDLE OF OIL IN THE CELLAR, OF THE GARAGE. SEEMS TO BE AN ONGOING PROBLEM SEE SPILL 9925183.
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported
Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: MOTOR OIL
Class Type: Petroleum
Chem Abstract Service Number: MOTOR OIL
Last Date: 07/28/1994
Num Times Material Entry In File: 508
Spill Closed Dt: 08/31/01
Spill Notifier: Local Agency PBS Number: Not reported
Cleanup Ceased: / /

WALMART (Continued) **S105141416**

Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 09/07/01
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 08/09/01 09:38
Date Region Sent Summary to Central Office: / /
True Date : Not reported

This is the most recent NY SPILLS record for this site.

Click this hyperlink while viewing on your computer to access additional NY SPILLS detail in the EDR Site Report.

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34 SW 1/4-1/2 2621 ft. **TUDOR LANE INC** **UST** **U003961347**
875 MIDDLE COUNTRY RD **N/A**
MIDDLE ISLAND, NY 11953

Relative: Higher

Actual: 92 ft.

Suffolk County UST:

Facility ID:	16403		
Owner:	TUDOR LANE INC 1085 RTE 112 PORT JEFFERSON, NY 11777		
Location:	UNDER, OUT	Tank ID:	1
Capacity:	0000001080	Installed:	Not reported
Construction:	STEEL		
Dispenser:	SUCTION	Fill Type:	GRAVITY
Tank Status:	Abandoned (Date - 2003), approved by plan review, awaiting construction for compliance inspection		
Unique Tank Record:	44879		
Date Removed:	072803		
Content:	Gasoline		
Permit to Operate:	Not reported		

H35 SSE 1/2-1 2986 ft. **CONDO COMPLEX** **NY Spills** **S106383525**
319 ARTIST LAKE DRIVE **N/A**
MIDDLE ISLAND, NY

Site 1 of 3 in cluster H

Relative: Lower

Actual: 65 ft.

SPILLS:

Spill Number:	0313419	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	03/07/04	Reported to Dept:	/ /
ID:	37491		
Date Call Received:	03/07/04		
Region Close Date :	03/08/04		
Material Spilled 1 :	RAW SEWAGE	Amount Spilled 1 :	0 Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	UNKNOWN

H36
SSE
1/2-1
2986 ft.

NY Spills **S106382779**
N/A

319 ARTIST LAKE DRIVE
MIDDLE ISLAND, NY

Site 2 of 3 in cluster H

Relative:
Lower

Actual:
65 ft.

SPILLS:

Spill Number:	0312660	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	02/13/04	Reported to Dept:	/ /
ID:	36488		
Date Call Received:	02/13/04		
Region Close Date :	02/17/04		
Material Spilled 1 :	RAW SEWAGE	Amount Spilled 1 :	Unknown Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	UNKNOWN

37
NNE
1/2-1
2989 ft.

BARBARA FURIN RESIDENCE
12 TURNPIKE
MIDDLE ISLAND, NY

NY Spills **S106000520**
N/A

Relative:
Higher

Actual:
101 ft.

SPILLS:

Spill Number:	0110057	Region of Spill:	1
Tank Number:	Not reported	Tank Size :	Not reported
Test Method:	Not reported	Leak Rate:	Not reported
Spill Date:	01/18/02	Reported to Dept:	/ /
ID:	696		
Date Call Received:	01/18/02		
Region Close Date :	/ /		
Material Spilled 1 :	#2 FUEL OIL	Amount Spilled 1 :	Unknown Gal.
Spill Cause:	ON LAND	Resource Affected:	ON LAND
Water Affected:	Not reported	Spill Source:	PRIVATE DWELLING

H38
SSE
1/2-1
2992 ft.

ARTIST LAKE CONDOS
319 ARTIST LAKE DRIVE
MIDDLE ISLAND, NY

NY Spills **S105236758**
N/A

Site 3 of 3 in cluster H

Relative:
Lower

Actual:
64 ft.

SPILLS:

Spill Number:	0109382	Region of Spill:	1
Spill Date:	12/22/2001 12:51	Reported to Dept:	12/22/01 12:51
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Unknown	Resource Affected:	In Sewer
Water Affected:	Not reported	Spill Source:	Private Dwelling
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	NONE	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	MADELINE SHEEHEY	Spiller Phone:	(631) 924-7615
Spiller:	UNKNOWN		
Spiller Address:	Not reported		

DEC Remarks : 12/22/01 TELECON MADLINE-SPOKE WITH HUSBAND, SEWER TREATMENT FOR THE

ARTIST LAKE CONDOS (Continued) **S105236758**

CONDO, PERIODICALLY RUNS THE SEWAGE INTO THE PARKING LOT IMPACTING DRAINS AND ARTIST LAKE, THIS HAS BEEN GOING ON FOR THE PAST MONTH,NO RESPONSE

Remark: CALLER IS RESIDENT AT ABOVE COMPLEX. CALLER REPORTS THAT THERE IS A SEWER MALFUNCTION AND MATERIAL IS RUNNING ON THE GROUND AND INTO STORM SEWERS. CALLER HAS CONTACTED MANAGMENT BUT IS GETTING NO ASSISTANCE. CALLER IS REQUESTING TO SPEAK TO ON CA
LL REGION REP.

Spill Class: Possible release with minimal potential for fire or hazard or Known release with no damage. DEC Response. Willing Responsible Party. Corrective action taken.

Tank Test:
- PBS Number: Not reported
- Tank Number: Not reported
- Test Method: Not reported
- Capacity of Failed Tank: Not reported
- Leak Rate Failed Tank: Not reported
- Gross Leak Rate: Not reported

Material:
- Material Class Type: 3
- Quantity Spilled: 0
- Units: Gallons
- Unknown Qty Spilled: No
- Quantity Recovered: 0
- Unknown Qty Recovered: False
- Material: RAW SEWAGE
- Class Type: Non Pet/Non Haz
- Chem Abstract Service Number: RAW SEWAGE
- Last Date: 07/28/1994
- Num Times Material Entry In File: 1993

Spill Closed Dt: 12/24/01
Spill Notifier: Affected Persons
PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 12/26/01
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 12/22/01
Date Region Sent Summary to Central Office: / /
True Date : Not reported

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I39 **ROANOKE SAND & GRAVEL** **SWF/LF** **U003535975**
NNW **104 ROCKY POINT RD** **UST** **N/A**
1/2-1 **MIDDLE ISLAND, NY 11953** **AST**
3609 ft.

Site 1 of 4 in cluster I

Relative: Lower

LF:
- Secondary Addr : Not reported
- Phone Number : 6319244100
- Owner Type : Private
- Owner Address : 104 Rocky Point Road
- Region Code : 1
- Owner Name : Roanoke Sand & Gravel Corp.

Actual: 67 ft.

ROANOKE SAND & GRAVEL (Continued) **U003535975**

Not reported
Middle Island, NY 11953
Owner Email : Not reported Owner Phone : 6319244100
Contact Name : John Barker
Contact Address : 104 Rocky Point Road
Not reported
Middle Island, NY 11953
Contact Email : Not reported Contact Phone : 6319244100
Activity Desc : C&D processing - registered
Activity Number : 52W03R
Active : Yes Accuracy Code : Not reported
North Coordinate :Not reported East Coordinate : Not reported
Regulatory Status Registration
Waste Type : Concrete;Asphalt;Brick;Soil (Clean);Rock
Authorization # : 52W03R Authorization Date :06/06/94
Expiration Date : / /

Suffolk County UST:

Facility ID: 15281
Owner: ROANOKE SAND & GRAVEL
104 ROCKY POINT RD
MIDDLE ISLAND, NY 11953
Location: UNDER, OUT Tank ID: 7
Capacity: 0000004000 Installed: 60
Construction: STEEL
Dispenser: Not reported Fill Type: Not reported
Tank Status: Removed Tank (Date Removed - 1986)
Unique Tank Record: 41647
Date Removed: 010186
Content: #2 Fuel Oil
Permit to Operate: Not reported

Facility ID: 15281
Owner: ROANOKE SAND & GRAVEL
104 ROCKY POINT RD
MIDDLE ISLAND, NY 11953
Location: UNDER, OUT Tank ID: 8
Capacity: 0000001000 Installed: 60
Construction: STEEL
Dispenser: Not reported Fill Type: Not reported
Tank Status: Removed Tank (Date Removed - 1986)
Unique Tank Record: 41648
Date Removed: 010186
Content: Waste Oil
Permit to Operate: Not reported

Facility ID: 15281
Owner: ROANOKE SAND & GRAVEL
104 ROCKY POINT RD
MIDDLE ISLAND, NY 11953
Location: UNDER, OUT Tank ID: 6
Capacity: 0000004000 Installed: 60
Construction: STEEL
Dispenser: Not reported Fill Type: Not reported
Tank Status: Removed Tank (Date Removed - 1986)
Unique Tank Record: 41646
Date Removed: 010186
Content: Diesel

ROANOKE SAND & GRAVEL (Continued) **U003535975**

Permit to Operate: Not reported

Suffolk County AST:

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	42007
Location:	ABOVE, OUT	Tank ID:	11
Capacity:	0000000550	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	030901
Construction:	STEEL		
Official Use:	Removed Tank - Unregistered Tank (Date Removed - 2001)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	030901		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	42011
Location:	ABOVE, IN	Tank ID:	15
Capacity:	0000005136	Installed:	Not reported
Fill Type:	Not reported		
Content:	Drum Storage	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2006		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41643
Location:	ABOVE, OUT	Tank ID:	3
Capacity:	0000001200	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	082900
Construction:	Not reported		
Official Use:	Removed Tank (Date Removed - 2000)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41641
Location:	ABOVE, OUT	Tank ID:	1
Capacity:	0000000550	Installed:	Not reported
Fill Type:	Not reported		
Content:	Waste Oil	Date Removed:	112596
Construction:	STEEL		
Official Use:	Removed Tank (Date Removed - 1996)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41645
Location:	ABOVE, IN	Tank ID:	5
Capacity:	0000000400	Installed:	Not reported

ROANOKE SAND & GRAVEL (Continued) **U003535975**

Fill Type:	Not reported		
Content:	Drum Storage	Date Removed:	082900
Construction:	Not reported		
Official Use:	Removed Tank (Date Removed - 2000)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41649
Location:	ABOVE, OUT	Tank ID:	9
Capacity:	0000000550	Installed:	Not reported
Fill Type:	Not reported		
Content:	Drum Storage	Date Removed:	030901
Construction:	Not reported		
Official Use:	Removed Tank - Unregistered Tank (Date Removed - 2001)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	030901		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	42008
Location:	ABOVE, OUT	Tank ID:	12
Capacity:	0000005000	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2006		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	030901		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	42009
Location:	ABOVE, OUT	Tank ID:	13
Capacity:	0000000550	Installed:	Not reported
Fill Type:	Not reported		
Content:	Waste Oil	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2006		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	030901		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	42010
Location:	ABOVE, OUT	Tank ID:	14
Capacity:	0000001000	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	Not reported
Construction:	Not reported		
Official Use:	Permitted Tank. Permit Runs Out - 2006		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD		

ROANOKE SAND & GRAVEL (Continued) **U003535975**

	MIDDLE ISLAND, NY 11953	Tank Key:	41650
Location:	ABOVE, OUT	Tank ID:	10
Capacity:	0000000275	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	030901
Construction:	STEEL		
Official Use:	Removed Tank - Unregistered Tank (Date Removed - 2001)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41644
Location:	ABOVE, IN	Tank ID:	4
Capacity:	0000000275	Installed:	Not reported
Fill Type:	Not reported		
Content:	Kerosene	Date Removed:	030901
Construction:	STEEL		
Official Use:	Removed Tank - Unregistered Tank (Date Removed - 2001)		

Facility ID:	15281	Region:	SUFFOLK
Permit to Operate:	Not reported		
Owner:	ROANOKE SAND & GRAVEL 104 ROCKY POINT RD MIDDLE ISLAND, NY 11953	Tank Key:	41642
Location:	ABOVE, OUT	Tank ID:	2
Capacity:	0000003000	Installed:	Not reported
Fill Type:	Not reported		
Content:	Diesel	Date Removed:	030901
Construction:	Not reported		
Official Use:	Removed Tank (Date Removed - 2001)		

I40 NNW 1/2-1 3618 ft. **SONMAR CARTING** **NY Spills** **S102101854**
108 ROCKY POINT ROAD **N/A**
MIDDLE ISLAND, NY

Site 2 of 4 in cluster I

Relative: Lower

Actual: 67 ft.

SPILLS:

Spill Number:	9502677	Region of Spill:	1
Spill Date:	05/26/1995 12:00	Reported to Dept:	06/02/95 08:50
ID:	Not reported		
Dt Call Received:	Not reported	Region Close Date	Not reported
Material Spilled 1 :	Not reported	Amount Spilled 1 :	Not reported
Spill Cause:	Unknown	Resource Affected:	In Sewer
Water Affected:	Not reported	Spill Source:	Other Commercial/Industrial
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	DECANDIA	SWIS:	47
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
PBS :	Not reported		
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	SONMAR CARTING		
Spiller Address:	Not reported		
DEC Remarks :	06/09/95: UNABLE TO FIND SPILL OR NO SPILL.		
Remark:	LARGE PUDDLE OF OIL ON GROUND, ALSO RUNNING INTO SEWER		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response.		

SONMAR CARTING (Continued) **S102101854**

Unable/unwilling Responsible Party. Corrective action taken. (ISR)

Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported

Material:
Material Class Type: 1
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: UNKNOWN PETROLEUM
Class Type: Petroleum
Chem Abstract Service Number: UNKNOWN PETROLEUM
Last Date: 09/29/1994
Num Times Material Entry In File: 16414

Spill Closed Dt: 06/09/95
Spill Notifier: Citizen
PBS Number: Not reported
Cleanup Ceased: 06/09/95
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 06/12/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 06/05/95
Date Region Sent Summary to Central Office: / /
True Date : Not reported

I41 **SON-MAR RUBBISH SERVICE** **NY Spills** **S102661691**
NNW **108 ROCKY POINT ROAD** **N/A**
1/2-1 **MIDDLE ISLAND, NY**
3618 ft.

Site 3 of 4 in cluster I

Relative:
Lower

Actual:
67 ft.

SPILLS:
Spill Number: 9613262
Region of Spill: 1
Spill Date: 02/08/1997 11:00
Reported to Dept: 02/08/97 11:28
ID: Not reported
Dt Call Received: Not reported
Region Close Date :Not reported
Material Spilled 1 :Not reported
Amount Spilled 1 : Not reported
Spill Cause: Deliberate
Resource Affected: Air
Water Affected: Not reported
Spill Source: Other Commercial/Industrial
Facility Contact: Not reported
Facility Tele: (516) 924-3800
Investigator: UNASSIGNED
SWIS: 47
Caller Name: Not reported
Caller Agency: Not reported
Caller Phone: Not reported
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
PBS : Not reported
Spiller Contact: Not reported
Spiller Phone: (516) 924-3800
Spiller: SON-MAR RUBBISH SERVICE
Spiller Address: 108 ROCKY POINT ROAD
MIDDLE ISLAND, NY 11953

SON-MAR RUBBISH SERVICE (Continued) **S102661691**

DEC Remarks : REFERRED TO SOLID WASTE,NO RESPONSE BY SPILL UNIT AT THIS TIME
Remark: THE CALLER STATES THAT THE OWNERS ARE BURNING THE COLLECTED RUBBISH IN LARGE DUMPSTERS, SHE HAS REPORTED THIS TO THE TOWN BEFORE, AND THEY DID ISSUE A SUMMONS TO THE COMPANY OWNERS - THE HOUSES AROUND THE BUSINESS GET THEIR WATER FROM WELLS AHD SHE
IS AFRAID OF CONTAMINATION - SHE WOULD LIKE TO REMAIN ANNONYMOUS
Spill Class: Possible release with minimal potential for fire or hazard or Known release with no damage. (Highly Improbable)

Tank Test:
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Capacity of Failed Tank: Not reported
Leak Rate Failed Tank: Not reported
Gross Leak Rate: Not reported

Material:
Material Class Type: 4
Quantity Spilled: 0
Units: Gallons
Unknown Qty Spilled: No
Quantity Recovered: 0
Unknown Qty Recovered: False
Material: UNKNOWN MATERIAL
Class Type: Unknown
Chem Abstract Service Number: UNKNOWN MATERIAL
Last Date: 11/09/1994
Num Times Material Entry In File: 9140

Spill Closed Dt: 01/22/99
Spill Notifier: Citizen
PBS Number: Not reported
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Std:True
Recommended Penalty: Penalty Not Recommended
Spiller Cleanup Dt/ /
Enforcement Date: / /
Invstgn Complete:/ /
UST Involvement: False
Spill Record Last Update: 01/25/99
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 02/08/97
Date Region Sent Summary to Central Office: / /
True Date : Not reported

I42 **BARKER MATERIAL & MASON SUPPLY LTD** **SWF/LF** **S105265210**
NNW **114 ROCKY POINT RD.** **N/A**
1/2-1 **MIDDLE ISLAND, NY 11953**
3629 ft.

Site 4 of 4 in cluster I

Relative:
Lower

Actual:
67 ft.

LF:
Secondary Addr : Not reported
Region Code : 1
Phone Number : 6313456929
Owner Name : Frank C. Barker
Owner Type : Private
Owner Address : 48 Miller Place-Yaphank Road
Not reported
Middle Island, NY 11953
Owner Email : Not reported
Owner Phone : 6313456929
Contact Name : Frank C. Barker
Contact Address : 48 Miller Place-Yaphank Road
Not reported
Middle Island, NY 11953

BARKER MATERIAL & MASON SUPPLY LTD (Continued) **S105265210**

Contact Email : Not reported
Contact Phone : 6313456929
Activity Desc : C&D processing - registered
Activity Number : 52W34R
Active : Yes
Accuracy Code : Not reported
North Coordinate : Not reported
East Coordinate : Not reported
Regulatory Status Registration
Waste Type : Asphalt;Brick;Concrete;Soil (Clean);Rock;Wood (Clean)
Authorization # : 52W34R
Authorization Date : 02/28/96
Expiration Date : / /

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43 SW 1/2-1 3707 ft. **FORMER GAS STATION** **NY Spills** **S106015854**
875 MIDDLE COUNTRY ROAD **N/A**
MIDDLE ISLAND, NY

Relative: Higher

Actual: 157 ft.

SPILLS:
Spill Number: 0303697
Region of Spill: 1
Tank Number: Not reported
Tank Size : Not reported
Test Method: Not reported
Leak Rate: Not reported
Spill Date: 07/08/03
Reported to Dept: / /
ID: 26006
Date Call Received: 07/08/03
Region Close Date : 02/09/04
Material Spilled 1 : GASOLINE
Amount Spilled 1 : Unknown Gal.
Spill Cause: ON LAND
Resource Affected: ON LAND
Water Affected: Not reported
Spill Source: OTHER COMM/INDUSTRIAL

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MIDDLE ISLAND	S105140607		ROUTE 125/WOODVILLE ROAD	11953	NY Spills
MIDDLE ISLAND	1004757724	KMART - TSS	RTE 25 1 MI E OF ROCKY PT RD	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	A100140288	BIRCHWOOD AT SPRING LAKE	RTE 25	11953	AST
MIDDLE ISLAND	A100264949	MIDDLE ISLAND CLEANERS	856 RTE 25 MIDDLE COUNTRY RD	11953	AST
MIDDLE ISLAND	A100265004	NATION S/S	1146 RTE 25 MIDDLE COUNTRY RD	11953	AST
MIDDLE ISLAND	S100172686	POWERTEST/GETTY PETROLEUM	RTE 25	11953	LTANKS
MIDDLE ISLAND	S102091324	TSS DEPT STORE	RTE 25	11953	NY Spills
MIDDLE ISLAND	S102093497	LILCO	RT 25 @ MID. ISL. LIBRARY	11953	NY Spills
MIDDLE ISLAND	S102094738	VOLKSWAGON/ROBERT WEISS	RTE 25	11953	NY Spills
MIDDLE ISLAND	S103680426	UNK	RT 25 / YAPHANK ROAD	11953	NY Spills
MIDDLE ISLAND	S104784983	UNK	RTE 25 / PICASSIO WAY	11953	NY Spills
MIDDLE ISLAND	S104785070	UNK	RTE 25 / ROCKY PT ROAD	11953	NY Spills
MIDDLE ISLAND	S104786868	UNK	RTE 25 / SWEZEY LANE	11953	NY Spills
MIDDLE ISLAND	S106004165	SPRING LAKE	RTE 25 /BARTLETT	11953	NY Spills
MIDDLE ISLAND	U003535825	BENS MIDDLE ISLAND HARDWARE	RTE 25 MIDDLE COUNTRY RD	11953	UST
MIDDLE ISLAND	U003536153	BAIER LUSTGARTEN NURSERIES	RTE 25 JERICHO TPKE	11953	AST
MIDDLE ISLAND	U003843421	GETTY S/S #00061	RTE 25 MIDDLE COUNTRY RD	11953	UST, AST
MIDDLE ISLAND	U003843704	OK PETROLEUM	RTE 25 & ROCKY POINT RD	11953	UST, AST
MIDDLE ISLAND	U003843753	K MART CORP	RTE 25 MIDDLE COUNTRY RD	11953	UST
MIDDLE ISLAND	U003961294	MIDDLE ISLAND SHOPPING CENTER	RTE 25 MIDDLE COUNTRY RD	11953	UST
MIDDLE ISLAND	S102095730	LILCO	RTE 25/REAR OF TSS STORES	11953	NY Spills
MIDDLE ISLAND	S106469326	TEXACO GAS STATION	RTE 25/ROCKY POINT ROAD	11953	NY Spills
MIDDLE ISLAND	S102101360	LILCO	ARTIST LAKE DRIVE	11953	NY Spills
MIDDLE ISLAND	S102090646	MIDDLE ISLAND FD	ARTIST LAKE BLVD / RTE 25	11953	NY Spills
MIDDLE ISLAND	A100140409	SCWA BAILEY RD WELLFIELD	BAILEY RD	11953	AST
MIDDLE ISLAND	S102090272	SC WATER AUTHORITY	BAILEY ROAD	11953	NY Spills
MIDDLE ISLAND	S104646591		BAILEY ROAD	11953	NY Spills
MIDDLE ISLAND	S104784724	UNK	BAILEY ROAD	11953	NY Spills
MIDDLE ISLAND	S104785975	UNK	BAILEY ROAD	11953	NY Spills
MIDDLE ISLAND	S106018785		CURRANS ROAD NORTH BAILEY	11953	NY Spills
MIDDLE ISLAND	S104649929		CURRANS ROAD / RTE 25	11953	NY Spills
MIDDLE ISLAND	S104648024		IFO 390 MIDDLE COUNTRY RD	11953	NY Spills
MIDDLE ISLAND	S104784350	UNK	JERICHO TURNPIKE	11953	NY Spills
MIDDLE ISLAND	A100195998	LAKE POINTE SEWAGE TREATMENT PLANT	LAKE POINTE VILLAGE	11953	AST
MIDDLE ISLAND	1000219150	ROBERT WEISS VOLKSWAGON	MIDDLE COUNTRY RD	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	1000555380	GETTY SERVICE STATION 61 TEMP CLOSED	MIDDLE COUNTRY RD & ROCKY	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	1001113494	LUSTGARTEN BAIER ESTATE OF THE	MIDDLE COUNTRY RD	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	1004758038	MIDDLE ISLAND VETERINARY HOSPITAL	MIDDLE COUNTRY RD &	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	A100140524	ESTONIAN EDUCATIONAL SOCIETY	MIDDLE ISLAND BLVD	11953	AST
MIDDLE ISLAND	A100264780	MIDDLE ISLAND COUNTRY CLUB	275 MIDDLE ISLAND YAPHANK RD	11953	AST
MIDDLE ISLAND	S102091036	ZEBROWSKI WELL	MIDDLE ISLAND YAPHANK RD	11953	NY Spills
MIDDLE ISLAND	S102091165	SOUTHARD WELL	MIDDLE ISLAND-YAPHANK RD	11953	NY Spills
MIDDLE ISLAND	S102096012	SUBURBIA BUS CO	MIDDLE ISLAND YAPHANK RD	11953	NY Spills

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MIDDLE ISLAND	S102102571	SWEZEY TOWN RD AT	MIDDLE COUNTRY ROAD	11953	LTANKS, NY Spills
MIDDLE ISLAND	S102567383	UNK TRUCK	MIDDLE ISLAND YAPHANK RD	11953	NY Spills
MIDDLE ISLAND	S103564426	HAWKINS JOHN R	MIDDLE COUNTRY ROAD	11953	NY Spills
MIDDLE ISLAND	S103828050	LAKE POINT CO OP	MIDDLE COUNTRY ROAD	11953	NY Spills
MIDDLE ISLAND	S106383201		MIDDLE COUNTRY RD/CURRRAN	11953	NY Spills
MIDDLE ISLAND	S106384835	UNK	MIDDLE COUNTRY/ARNOLD/112	11953	NY Spills
MIDDLE ISLAND	S106435062	MIDDLE ISLAND CLEANERS	856 MIDDLE ISLAND COUNTRY RD	11953	DRYCLEANERS
MIDDLE ISLAND	U003843633	SUFFOLK COUNTY CATHEDRAL PINES PARK	116 MIDDLE ISLAND/YAPHANK RD	11953	UST, AST
MIDDLE ISLAND	U003960729	MIDDLE ISLAND COUNTRY CLUB	275 MIDDLE ISLAND YAPHANK RD	11953	UST
MIDDLE ISLAND	S102091156	KOTYNSKI WELL	MIDDLE-ISLAND YAPHANK RD	11953	NY Spills
MIDDLE ISLAND	1000872227	SUBURBIA BUS CO	MILLER PL YAPHANK RD	11953	RCRIS-SQG, FINDS
MIDDLE ISLAND	A100140642	FLAMINGO CONTRACTING CORP	MILLER PLACE YAPHANK RD	11953	AST
MIDDLE ISLAND	A100196406	SCHNEIDER COAL & TRUCKING - OOB	MILLER PLACE YAPHANK RD	11953	AST
MIDDLE ISLAND	S104785508	UNK	MILLER PLACE/YAPHANK RD	11953	NY Spills
MIDDLE ISLAND	U003843215	LAIDLAW TRANSIT INC	MILLER PLACE YAPHANK RD	11953	UST, AST
MIDDLE ISLAND	S102661782	IN FRONT OF PC RICHARDS	280 NYS RTE 25	11953	NY Spills
MIDDLE ISLAND	S104784004	UNK	ROCKY PT RD / OLD RTE 25	11953	NY Spills
MIDDLE ISLAND	S105841223	VARA ENTERPRISES	ROCKY POINT ROAD	11953	SWF/LF
MIDDLE ISLAND	S106124760		TURNPIKE BLVD/ARTIST LAKE	11953	NY Spills
MIDDLE ISLAND	S103939087	DEC LAND	WADING RIVER HOLLOW ROAD	11953	NY Spills
MIDDLE ISLAND	S105056105		WADING RIVER HOLLOW ROAD	11953	NY Spills
MIDDLE ISLAND	S102565511	UNK	WESTSIDE OF CURRANS ROAD	11953	NY Spills
MIDDLE ISLAND	S102098642	THOMAS RESIDENCE	16 YAPHANK ROCKY PT ROAD	11953	NY Spills
MIDDLE ISLAND	S104783966	UNK	YAPHANK MIDDLE ISLAND RD	11953	NY Spills
MIDDLE ISLAND	U003843635	LONGWOOD CSD CENTRAL ADMINISTRATION	YAPHANK MIDDLE ISLAND RD	11953	UST
MIDDLE ISLAND	U003843745	NEW YORK STATE ICF HOSTEL #1801	YAPHANK RD	11953	UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/30/04
Date Made Active at EDR: 09/09/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/03/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 11/02/04

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 07/22/04
Date Made Active at EDR: 09/09/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/03/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 11/02/04

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/27/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/21/04
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/21/04

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/27/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/21/04
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/21/04

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/15/04
Date Made Active at EDR: 08/10/04
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 06/25/04
Elapsed ASTM days: 46
Date of Last EDR Contact: 09/07/04

RCRIS: Resource Conservation and Recovery Information System
Source: EPA
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 08/10/04
Date Made Active at EDR: 10/11/04
Database Release Frequency: Varies
Date of Data Arrival at EDR: 08/24/04
Elapsed ASTM days: 48
Date of Last EDR Contact: 08/24/04

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/03
Date Made Active at EDR: 03/12/04
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/26/04
Elapsed ASTM days: 46
Date of Last EDR Contact: 10/25/04

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/13/04

CONSENT: Superfund (CERCLA) Consent Decrees
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/05/04
Database Release Frequency: Varies
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/07/04
Database Release Frequency: Annually
Date of Last EDR Contact: 10/06/04
Date of Next Scheduled EDR Contact: 01/03/05

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/30/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/02/04
Date of Next Scheduled EDR Contact: 01/31/05

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/09/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/08/04
Date of Next Scheduled EDR Contact: 01/03/05

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 02/17/04
Database Release Frequency: Annually
Date of Last EDR Contact: 04/20/04
Date of Next Scheduled EDR Contact: 07/19/04

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/15/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/13/04
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 09/28/04
Date of Next Scheduled EDR Contact: 12/27/04

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/23/04
Date of Next Scheduled EDR Contact: 11/22/04

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/29/04
Database Release Frequency: Annually
Date of Last EDR Contact: 08/10/04
Date of Next Scheduled EDR Contact: 11/08/04

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-692-8801
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 08/12/04
Date of Next Scheduled EDR Contact: 11/08/04

UMTRA: Uranium Mill Tailings Sites
Source: Department of Energy
Telephone: 505-845-0011
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 04/22/04
Database Release Frequency: Varies
Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

ODI: Open Dump Inventory
Source: Environmental Protection Agency
Telephone: 800-424-9346
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 05/23/95
Date of Next Scheduled EDR Contact: N/A

FUDS: Formerly Used Defense Sites
Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/03
Database Release Frequency: Varies
Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

INDIAN RESERV: Indian Reservations
Source: USGS
Telephone: 202-208-3710
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 08/12/04
Date of Next Scheduled EDR Contact: 11/08/04

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/06/04

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/02
Database Release Frequency: Annually
Date of Last EDR Contact: 09/20/04
Date of Next Scheduled EDR Contact: 12/20/04

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/06/04

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/13/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/20/04

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/01
Database Release Frequency: Annually
Date of Last EDR Contact: 10/18/04
Date of Next Scheduled EDR Contact: 01/17/05

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/13/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/07/04
Date of Next Scheduled EDR Contact: 12/20/04

STATE OF NEW YORK ASTM STANDARD RECORDS

SHWS: Inactive Hazardous Waste Disposal Sites in New York State
Source: Department of Environmental Conservation
Telephone: 518-402-9553
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/01/03
Date Made Active at EDR: 03/12/04
Database Release Frequency: Annually

Date of Data Arrival at EDR: 02/27/04
Elapsed ASTM days: 14
Date of Last EDR Contact: 08/23/04

SWF/LF: Facility Register
Source: Department of Environmental Conservation
Telephone: 518-457-2051
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/01/04
Date Made Active at EDR: 09/24/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 08/06/04
Elapsed ASTM days: 49
Date of Last EDR Contact: 11/01/04

LTANKS: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-402-9549
Leaking Storage Tank Incident Reports. These records contain an inventory of reported leaking storage tank incidents reported from 4/1/86 through the most recent update. They can be either leaking underground storage tanks or leaking aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills.

Date of Government Version: 07/26/04
Date Made Active at EDR: 08/26/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 08/04/04
Elapsed ASTM days: 22
Date of Last EDR Contact: 10/25/04

UST: Petroleum Bulk Storage (PBS) Database
Source: Department of Environmental Conservation
Telephone: 518-402-9549
Facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons.

Date of Government Version: 01/01/02
Date Made Active at EDR: 03/22/02
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 02/20/02
Elapsed ASTM days: 30
Date of Last EDR Contact: 10/25/04

CBS UST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-402-9549
Facilities that store regulated hazardous substances in underground tanks of any size

Date of Government Version: 01/01/02
Date Made Active at EDR: 03/22/02
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 02/20/02
Elapsed ASTM days: 30
Date of Last EDR Contact: 10/25/04

MOSF UST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-402-9549
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/02
Date Made Active at EDR: 03/22/02
Database Release Frequency: Varies

Date of Data Arrival at EDR: 02/20/02
Elapsed ASTM days: 30
Date of Last EDR Contact: 10/25/04

VCP: Voluntary Cleanup Agreements
Source: Department of Environmental Conservation
Telephone: 518-402-9711
The voluntary remedial program uses private monies to get contaminated sites r emediated to levels allowing for the sites' productive use. The program covers virtually any kind of site and contamination.

Date of Government Version: 06/29/04
Date Made Active at EDR: 08/16/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/29/04
Elapsed ASTM days: 48
Date of Last EDR Contact: 09/27/04

SWRCY: Registered Recycling Facility List
Source: Department of Environmental Conservation
Telephone: 518-402-8705
A listing of recycling facilities.

Date of Government Version: 09/10/04
Date Made Active at EDR: 10/07/04
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 09/10/04
Elapsed ASTM days: 27
Date of Last EDR Contact: 08/30/04

SWTIRE: Registered Waste Tire Storage & Facility List
Source: Department of Environmental Conservation
Telephone: 518-402-8694

Date of Government Version: 04/01/04
Date Made Active at EDR: 06/25/04
Database Release Frequency: Annually

Date of Data Arrival at EDR: 05/19/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 08/19/04

STATE OF NEW YORK ASTM SUPPLEMENTAL RECORDS

HSWDS: Hazardous Substance Waste Disposal Site Inventory
Source: Department of Environmental Conservation
Telephone: 518-402-9564
The list includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites and non-Registry sites that U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared. Hazardous Substance Waste Disposal Sites are eligible to be Superfund sites now that the New York State Superfund has been refinanced and changed. This means that the study inventory has served its purpose and will no longer be maintained as a separate entity. The last version of the study inventory is frozen in time. The sites on the study will not automatically be made Superfund sites, rather each site will be further evaluated for listing on the Registry. So overtime they will be added to the registry or not.

Date of Government Version: 09/01/02
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 09/03/04
Date of Next Scheduled EDR Contact: 11/29/04

AST: Petroleum Bulk Storage
Source: Department of Environmental Conservation
Telephone: 518-402-9549
Registered Aboveground Storage Tanks.

Date of Government Version: 01/01/02
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

CBS AST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-402-9549
Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 01/01/02
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

MOSF AST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-402-9549
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/02
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

SPILLS: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-402-9549
Data collected on spills reported to NYSDEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

Date of Government Version: 07/26/04
Database Release Frequency: Varies
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

DEL SHWS: Delisted Registry Sites
Source: Department of Environmental Conservation
Telephone: 518-402-9553
A database listing of sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites.

Date of Government Version: 04/01/04
Database Release Frequency: Annually
Date of Last EDR Contact: 08/23/04
Date of Next Scheduled EDR Contact: 11/22/04

DRYCLEANERS: Registered Drycleaners
Source: Department of Environmental Conservation
Telephone: 518-402-8403
A listing of all registered drycleaning facilities.

Date of Government Version: 06/15/04
Database Release Frequency: Varies
Date of Last EDR Contact: 05/21/04
Date of Next Scheduled EDR Contact: N/A

SPDES: State Pollutant Discharge Elimination System
Source: Department of Environmental Conservation
Telephone: 518-402-8233
New York State has a state program which has been approved by the United States Environmental Protection Agency for the control of wastewater and stormwater discharges in accordance with the Clean Water Act. Under New York State law the program is known as the State Pollutant Discharge Elimination System (SPDES) and is broader in scope than that required by the Clean Water Act in that it controls point source discharges to groundwaters as well as surface waters.

Date of Government Version: 09/23/04
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/09/04
Date of Next Scheduled EDR Contact: 11/08/04

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AIRS: Air Emissions Data
Source: Department of Environmental Conservation
Telephone: 518-402-8452

Date of Government Version: 12/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 08/26/04
Date of Next Scheduled EDR Contact: 11/22/04

LOCAL RECORDS

CORTLAND COUNTY:

Cortland County Storage Tank Listing
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 10/07/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/02/04
Date of Next Scheduled EDR Contact: 11/29/04

Cortland County Storage Tank Listing
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 10/07/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/02/04
Date of Next Scheduled EDR Contact: 11/29/04

NASSAU COUNTY:

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 05/21/03
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/01/04
Date of Next Scheduled EDR Contact: 01/31/05

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 05/21/03
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/01/04
Date of Next Scheduled EDR Contact: 01/31/05

Storage Tank Database
Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000

Date of Government Version: 05/25/04
Database Release Frequency: Varies

Date of Last EDR Contact: 08/09/04
Date of Next Scheduled EDR Contact: 11/08/04

Storage Tank Database
Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000

Date of Government Version: 05/25/04
Database Release Frequency: Varies

Date of Last EDR Contact: 08/09/04
Date of Next Scheduled EDR Contact: 11/08/04

ROCKLAND COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Petroleum Bulk Storage Database
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 07/30/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

Petroleum Bulk Storage Database
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 07/30/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/04/04
Date of Next Scheduled EDR Contact: 01/03/05

SUFFOLK COUNTY:

Storage Tank Database
Source: Suffolk County Department of Health Services
Telephone: 631-854-2521

Date of Government Version: 04/16/04
Database Release Frequency: Annually

Date of Last EDR Contact: 08/30/04
Date of Next Scheduled EDR Contact: 11/29/04

Storage Tank Database
Source: Suffolk County Department of Health Services
Telephone: 631-854-2521

Date of Government Version: 04/16/04
Database Release Frequency: Annually

Date of Last EDR Contact: 08/30/04
Date of Next Scheduled EDR Contact: 11/29/04

WESTCHESTER COUNTY:

Listing of Storage Tanks
Source: Westchester County Department of Health
Telephone: 914-813-5161
Listing of underground storage tanks in Westchester County.

Date of Government Version: 06/16/04
Database Release Frequency: Varies

Date of Last EDR Contact: 08/30/04
Date of Next Scheduled EDR Contact: 11/29/04

Listing of Storage Tanks
Source: Westchester County Department of Health
Telephone: 914-813-5161
Listing of aboveground storage tanks in Westchester County.

Date of Government Version: 06/16/04
Database Release Frequency: Varies

Date of Last EDR Contact: 08/30/04
Date of Next Scheduled EDR Contact: 11/29/04

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS DATABASES

Brownfields: Brownfields Site List
Source: Department of Environmental Conservation
Telephone: 518-402-9764

Date of Government Version: 06/29/04
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/27/04
Date of Next Scheduled EDR Contact: 12/13/04

VCP: Voluntary Cleanup Agreements
Source: Department of Environmental Conservation
Telephone: 518-402-9711
The voluntary remedial program uses private monies to get contaminated sites r emediated to levels allowing for the sites' productive use. The program covers virtually any kind of site and contamination.

Date of Government Version: 06/29/04
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/27/04
Date of Next Scheduled EDR Contact: 12/13/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: N/A
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Providers
Source: Department of Health
Telephone: 212-676-2444

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

New York State Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961
Coverages are based on official New York State Freshwater Wetlands Maps as described in Article 24-0301 of the Environmental Conservation Law.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SANDY HILLS
YAPHANK ROCK POINT ROAD
MIDDLE ISLAND, NY 11953

TARGET PROPERTY COORDINATES

Latitude (North):	40.887600 - 40° 53' 15.4"
Longitude (West):	72.940903 - 72° 56' 27.2"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	673477.4
UTM Y (Meters):	4528109.0
Elevation:	79 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

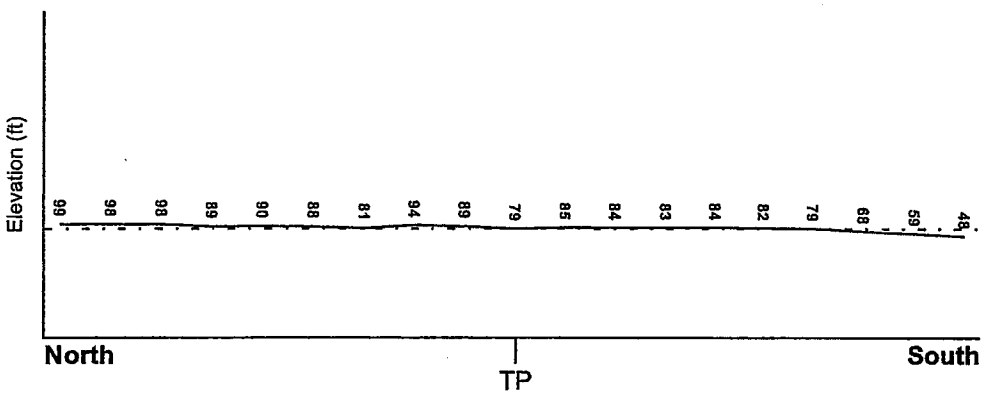
TOPOGRAPHIC INFORMATION

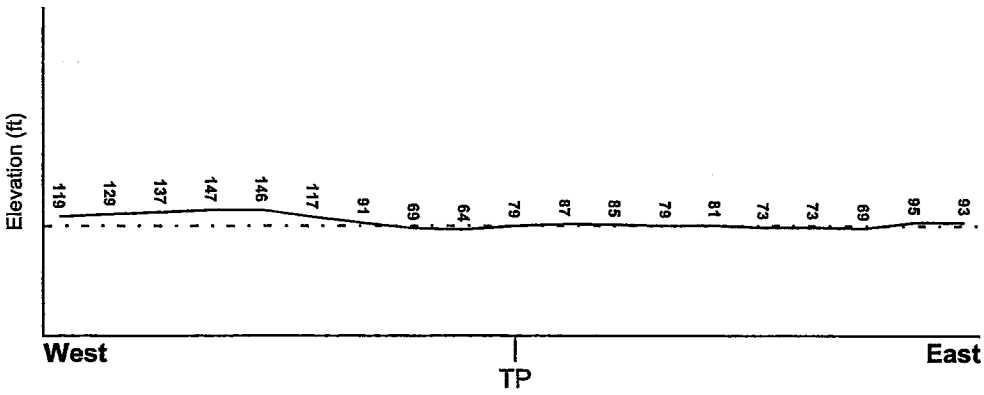
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	40072-H8 MIDDLE ISLAND, NY
General Topographic Gradient:	General WSW
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 79 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SUFFOLK, NY	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	36103C0415G
Additional Panels in search area:	36103C0420G 36103C0705G 36103C0710G

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MIDDLE ISLAND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) Investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Pleistocene
Code:	Qp *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	RIVERHEAD
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	LOW
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	12 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 6.00 Min: 3.60
2	12 inches	27 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 6.00 Min: 3.60
3	27 inches	35 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 6.00 Min: 4.50
4	35 inches	65 inches	stratified	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 20.00	Max: 7.30 Min: 4.50

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loam
loamy sand
silt loam
fine sandy loam

Surficial Soil Types: loam
loamy sand
silt loam
fine sandy loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: gravelly - coarse sand
very gravelly - sand
sandy loam

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A4	USGS0791471	1/4 - 1/2 Mile North
A5	USGS0791472	1/4 - 1/2 Mile North
A6	USGS0791470	1/4 - 1/2 Mile North
7	USGS0791529	1/4 - 1/2 Mile North
8	USGS0791435	1/2 - 1 Mile East
9	USGS0791563	1/2 - 1 Mile NNW
10	USGS0791405	1/2 - 1 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	NY0009155	1/4 - 1/2 Mile SE

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	NYWS005718	1/4 - 1/2 Mile North
A3	NYWS005717	1/4 - 1/2 Mile North

PHYSICAL SETTING SOURCE MAP - 1309552.2s

0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

TARGET PROPERTY:	Sandy Hills	CUSTOMER:	Nelson, Pope & Voorhis LLC
ADDRESS:	Yaphank Rock Point Road	CONTACT:	Marissa Da Breo
CITY/STATE/ZIP:	Middle Island NY 11953	INQUIRY #:	1309552.2s
LAT/LONG:	40.8876 / 72.9409	DATE:	November 17, 2004 1:01 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **SE** **1/4 - 1/2 Mile** **Higher**	**FRDS PWS**	**NY0009155**

PWS ID:	NY0009155	PWS Status:	Active
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	PROSSER PINES COUNTY PARK ROCKY PT YAPHANK RD MIDDLE ISLAND, NY 11953		
Addressee / Facility:	System Owner/Responsible Party HINES LARRY SUFFOLK CO. PARKS DEPARTMENT PO BOX 144 WEST SAYVILLE, NY 11796		
Facility Latitude:	40 53 03	Facility Longitude:	072 56 16
City Served:	BROOKHAVEN (T)		
Treatment Class	Not Reported	Population:	Not Reported

PWS currently has or had major violation(s) or enforcement: No

---

A2 **North** **1/4 - 1/2 Mile** **Lower**	**NY WELLS**	**NYWS005718**

Well Id:	NY5110526	System name:	SUFFOLK COUNTY WATER AUTHORITY
System Id:	264	Well name:	BAILEY ROAD WELL#3 S-49606
Type:	WL	Active?:	A
County:	SUFFOLK COUNTY	Latitude:	405333 000
Longitude:	725631 000	Slec_type_:	AC
Agency:	MURRAY, ROBERT L.		
Address:	180 Fifth Avenue		
City/State/Zip:	BAYSHORE NY 11706		
Phone:	631-665-0662		

A3 **North** **1/4 - 1/2 Mile** **Lower**	**NY WELLS**	**NYWS005717**

Well Id:	NY5110526	System name:	SUFFOLK COUNTY WATER AUTHORITY
System Id:	264	Well name:	BAILEY ROAD WELL#3 S-49606
Type:	WL	Active?:	A
County:	SUFFOLK COUNTY	Latitude:	405333 000
Longitude:	725631 000	Slec_type_:	AC
Agency:	RANDAZZO, KAREN		
Address:	PO BOX 18043		
City/State/Zip:	HAUPPAUGUE NY 11788		
Phone:	631-563-0258		

Map ID Direction Distance Elevation	Database	EDR ID Number
A4 **North** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS0791471**

Agency:	USGS	Site ID:	405335072562901
Site Name:	S 36711. 1		
Dec. Latitude:	40.8926		
Dec. Longitude:	-72.94094		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	81.0		
Hydrologic code:	02030201		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	112GLCLU		
Aquifer type:	Not Reported		
Well depth:	143.		
Hole depth:	225.	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 0

A5 **North** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS0791472**

Agency:	USGS	Site ID:	405335072562902
Site Name:	S 40161. 1		
Dec. Latitude:	40.89315		
Dec. Longitude:	-72.94094		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	80.0		
Hydrologic code:	02030201		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	112GLCLU		
Aquifer type:	Not Reported		
Well depth:	138.		
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 0

A6 **North** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS0791470**

Agency:	USGS	Site ID:	405335072562900
Site Name:	S 47218. 1		
Dec. Latitude:	40.89315		
Dec. Longitude:	-72.94122		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	71.0		
Hydrologic code:	02030201		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	19730612	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	211MGTY		
Aquifer type:	Not Reported		
Well depth:	703.		
Hole depth:	703.	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 0

7
North
1/4 - 1/2 Mile
Higher

FED USGS **USGS0791529**

Agency:	USGS	Site ID:	405335072562903
Site Name:	S 49606. 1		
Dec. Latitude:	40.89371		
Dec. Longitude:	-72.94094		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	75.0		
Hydrologic code:	02030201		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	19730912	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	211MGTY		
Aquifer type:	Not Reported		
Well depth:	388.		
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 17

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-04-01		47.56	2002-04-02		47.48
2001-04-05		49.37	2000-03-23		48.02
1999-04-27		47.91	1998-04-28		49.08
1997-04-24		49.74	1994-04-28		48.28
1993-04-28		48.26	1992-04-14		48.31
1991-04-18		50.82	1990-04-05		50.88
1988-04-14		46.20	1985-03-28		50.31
1985-03-28		50.30	1984-04-14		50.22
1983-03-29		48.37			

Map ID Direction Distance Elevation	Database	EDR ID Number
8 **East** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS0791435**

Agency:	USGS	Site ID:	405316072554501
Site Name:	S 24121. 1		
Dec. Latitude:	40.88788		
Dec. Longitude:	-72.92871		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	85.0		
Hydrologic code:	02030202		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	112GLCLU		
Aquifer type:	Not Reported		
Well depth:	94.		
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 0

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9 **NNW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS0791563**

Agency:	USGS	Site ID:	405356072564801
Site Name:	S 43238. 1		
Dec. Latitude:	40.89899		
Dec. Longitude:	-72.94621		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	Not Reported		
Hydrologic code:	Not Reported		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	112GLCLU		
Aquifer type:	Not Reported		
Well depth:	80.		
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 0

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10 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS0791405**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency:	USGS	Site ID:	405308072553101
Site Name:	S 6413. 1		
Dec. Latitude:	40.88565		
Dec. Longitude:	-72.92483		
Coord Sys:	NAD83		
State:	NY		
County:	Suffolk County		
Altitude:	93.8		
Hydrologic code:	02030202		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	Not Reported
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	112GLCLU		
Aquifer type:	Not Reported		
Well depth:	108.		
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

Ground-water levels, Number of Measurements: 512

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-07-15		51.31	2003-06-16		50.26
2003-05-15		50.39	2003-04-16		50.50
2003-03-17		51.25	2003-01-17		48.77
2002-12-23		49.00	2002-11-15		49.30
2002-10-17		49.77	2002-09-19		49.40
2002-08-21		49.12	2002-07-15		49.18
2002-06-17		49.36	2002-05-20		49.54
2002-04-24		49.78	2002-03-25		50.04
2002-02-22		50.27	2002-01-18		50.40
2001-12-20		50.82	2001-11-26		50.87
2001-10-24		51.06	2001-09-17		51.14
2001-08-21		51.10	2001-07-18		50.96
2001-06-26		51.22	2001-05-31		50.93
2001-04-18		51.00	2001-03-20		51.05
2001-02-20		50.89	2001-01-23		50.41
2000-12-19		50.59	2000-11-22		50.80
2000-10-27		50.93	2000-09-27		51.09
2000-07-19		50.27	2000-06-21		50.16
2000-05-17		50.20	2000-04-26		50.28
2000-03-20		50.63	2000-02-22		51.00
1999-12-21		50.26	1999-11-29		50.45
1999-10-26		50.69	1999-09-27		50.94
1999-08-25		51.04	1999-07-15		51.11
1999-06-25		51.04	1999-05-18		51.11
1999-04-28		51.14	1999-03-30		51.13
1999-02-17		50.94	1999-01-26		51.14
1998-11-18		51.17	1998-10-27		51.47
1998-09-29		51.95	1998-08-31		52.50
1998-07-20		52.99	1998-06-24		52.79
1998-05-27		52.72	1998-04-22		51.23
1998-03-16		50.99	1998-01-22		50.68
1997-12-18		51.17	1997-12-09		50.57
1997-11-24		50.56	1997-09-19		50.84
1997-08-28		50.89	1997-08-26		50.94
1997-07-14		50.88	1997-06-19		51.01
1997-05-21		51.04	1997-03-17		51.10

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1997-02-21		50.80
1996-12-26		50.97
1996-08-27		48.07
1996-06-06		47.86
1996-01-25		48.10
1995-08-21		49.50
1995-05-19		50.11
1995-01-19		50.60
1994-10-27		50.59
1994-08-30		50.79
1994-06-21		50.93
1994-04-21		51.03
1994-02-22		51.23
1993-12-22		50.38
1993-10-26		50.67
1993-08-25		50.90
1993-06-29		50.96
1993-04-23		51.02
1993-03-02		50.28
1992-12-29		50.41
1992-10-27		50.79
1992-08-26		50.76
1992-06-16		51.09
1992-04-23		50.36
1992-02-20		50.57
1991-12-30		50.74
1991-10-22		50.91
1991-08-23		51.30
1991-06-11		51.58
1990-10-16		51.32
1990-08-15		51.86
1990-06-18		52.17
1990-04-27		51.89
1990-02-21		51.74
1989-12-27		51.52
1989-10-24		51.11
1989-08-22		51.15
1989-06-23		51.11
1989-04-18		50.21
1989-02-23		51.04
1988-12-29		49.94
1988-10-21		49.96
1988-08-26		49.89
1988-06-20		49.25
1988-04-27		50.30
1988-02-23		51.12
1987-12-28		50.73
1987-10-23		50.44
1987-08-26		50.15
1987-06-29		49.66
1987-04-30		51.74
1987-02-19		49.47
1986-12-23		47.26
1986-10-28		47.77
1986-08-21		48.47

Date	Feet below Surface	Feet to Sealevel
1997-01-27		50.74
1996-09-16		51.13
1996-06-25		47.92
1996-03-12		47.91
1995-11-30		48.60
1995-07-24		49.74
1995-03-13		50.80
1994-12-21		50.92
1994-09-28		50.72
1994-07-27		50.86
1994-05-24		50.98
1994-03-31		51.05
1994-02-01		51.18
1993-11-26		50.53
1993-09-28		50.78
1993-07-15		50.96
1993-05-18		51.00
1993-03-23		51.07
1993-01-29		50.27
1992-11-17		50.66
1992-09-17		51.09
1992-07-22		50.89
1992-05-21		50.28
1992-03-17		50.46
1992-01-30		50.63
1991-11-26		51.13
1991-09-18		51.06
1991-07-22		51.03
1991-03-21		51.46
1990-09-19		51.54
1990-07-11		52.12
1990-05-15		51.94
1990-03-28		51.74
1990-01-23		51.52
1989-11-21		51.35
1989-09-28		51.10
1989-07-21		51.06
1989-05-22		51.00
1989-03-27		51.02
1989-01-27		49.15
1988-11-21		51.13
1988-09-23		51.02
1988-07-25		50.92
1988-05-25		49.69
1988-03-22		51.20
1988-01-29		50.94
1987-11-20		49.86
1987-09-24		50.98
1987-07-23		49.37
1987-05-14		49.84
1987-04-01		50.48
1987-02-04		49.29
1986-11-25		47.54
1986-10-01		48.07
1986-07-24		48.76

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1986-06-25		49.13
1986-04-22		52.50
1986-02-25		49.86
1985-12-17		50.47
1985-10-21		50.14
1985-08-21		50.30
1985-06-21		50.80
1985-04-22		50.72
1985-02-21		51.12
1984-12-19		51.98
1984-10-23		52.70
1984-08-27		53.43
1984-05-23		53.01
1984-03-22		52.51
1984-01-23		50.39
1983-11-21		50.08
1983-09-19		50.74
1983-07-26		51.23
1983-05-23		51.86
1983-03-21		48.40
1983-01-24		47.99
1982-11-24		48.68
1982-09-20		49.56
1982-07-21		50.24
1982-05-18		47.99
1982-03-22		47.81
1982-02-24		47.50
1981-12-21		46.14
1981-10-27		46.51
1981-07-20		47.49
1981-05-21		47.05
1981-03-23		47.54
1981-01-26		48.59
1980-11-25		49.45
1980-09-25		50.26
1980-07-21		51.31
1980-05-21		51.96
1980-04-16		51.19
1980-02-22		50.62
1979-12-19		51.37
1979-10-26		52.14
1979-07-30		53.28
1979-06-11		53.78
1979-06-07		53.78
1979-05-31		53.77
1979-05-07		53.88
1979-03-30		54.10
1979-03-13		53.70
1979-01-05		50.60
1978-05-21		52.07
1978-03-30		51.48
1977-10-25		47.86
1977-07-01		48.88
1976-09-23		49.50
1976-04-13		50.59

Date	Feet below Surface	Feet to Sealevel
1986-05-21		49.71
1986-03-25		50.86
1986-01-16		50.75
1985-11-18		51.13
1985-09-25		50.57
1985-07-25		50.49
1985-05-20		50.58
1985-03-20		50.94
1985-01-30		51.32
1984-11-26		52.21
1984-09-24		53.13
1984-07-23		53.95
1984-04-23		52.43
1984-03-01		50.75
1983-12-19		50.19
1983-10-21		50.26
1983-08-22		51.22
1983-06-20		51.67
1983-04-21		50.29
1983-02-24		47.78
1982-12-20		48.99
1982-10-20		49.10
1982-08-19		49.90
1982-06-23		50.39
1982-04-22		47.89
1982-02-24		47.50
1982-01-25		46.70
1981-11-20		46.27
1981-09-21		46.87
1981-06-22		47.73
1981-04-21		47.33
1981-02-25		48.31
1980-12-29		49.10
1980-10-28		49.83
1980-08-26		50.79
1980-06-23		51.69
1980-04-21		51.76
1980-03-24		50.50
1980-01-29		50.87
1979-11-23		51.72
1979-09-26		52.33
1979-06-27		53.50
1979-06-08		53.73
1979-06-06		53.81
1979-05-25		53.83
1979-04-12		54.16
1979-03-15		53.77
1979-02-05		52.86
1978-10-17		51.18
1978-04-21		51.56
1978-01-03		48.62
1977-09-30		47.95
1977-04-04		48.47
1976-06-24		50.10
1976-01-13		48.36

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1976-01-05		49.16
1975-06-27		50.32
1974-12-24		48.79
1974-07-16		50.08
1974-04-03		50.68
1973-09-26		50.75
1973-03-28		52.08
1972-09-29		47.45
1972-03-20		45.45
1971-09-21		45.93
1971-07-26		46.48
1971-06-08		46.84
1971-03-12		46.01
1971-02-04		45.56
1970-11-23		46.26
1970-10-09		46.70
1970-07-23		47.50
1970-05-11		47.95
1970-03-10		46.50
1969-12-22		45.05
1969-10-28		45.21
1969-08-29		45.52
1969-06-26		45.72
1969-04-28		45.27
1969-01-29		44.73
1968-11-27		44.78
1968-09-27		45.40
1968-07-31		45.97
1968-05-22		46.39
1968-04-02		45.91
1968-01-30		45.01
1967-11-28		44.93
1967-10-03		45.58
1967-07-24		45.58
1967-05-26		44.68
1967-04-04		43.60
1967-01-26		42.51
1966-11-29		42.93
1966-09-28		43.48
1966-07-27		43.93
1966-06-07		44.06
1966-03-25		44.44
1966-02-01		44.66
1965-11-30		45.38
1965-09-29		46.11
1965-07-26		46.94
1965-05-26		47.48
1965-03-29		47.45
1965-01-28		46.54
1964-11-23		47.01
1964-09-30		47.72
1964-07-29		48.75
1964-05-27		49.58
1964-03-26		48.06
1964-01-30		47.49

Date	Feet below Surface	Feet to Sealevel
1975-10-06		49.66
1975-04-07		49.88
1974-09-20		49.77
1974-07-09		50.81
1973-12-27		49.93
1973-06-26		51.65
1972-12-21		47.70
1972-07-06		47.73
1971-12-16		45.22
1971-08-30		46.22
1971-06-28		46.67
1971-04-23		46.09
1971-02-23		45.80
1971-01-05		46.30
1970-10-22		46.56
1970-09-01		47.13
1970-06-16		47.74
1970-04-09		46.98
1970-02-25		46.36
1969-11-28		44.99
1969-10-01		45.38
1969-07-31		45.64
1969-05-29		45.76
1969-04-02		44.79
1968-12-27		44.70
1968-10-25		45.06
1968-08-29		45.69
1968-07-02		46.19
1968-04-26		46.49
1968-02-27		45.14
1967-12-27		44.74
1967-10-27		45.18
1967-09-01		45.61
1967-06-27		45.33
1967-04-26		44.18
1967-03-01		42.40
1966-12-29		42.71
1966-10-28		43.22
1966-08-29		43.72
1966-06-30		44.02
1966-04-29		44.23
1966-03-01		44.63
1965-12-28		45.10
1965-11-02		45.68
1965-08-30		46.59
1965-06-28		47.26
1965-04-23		47.51
1965-03-02		47.01
1964-12-29		46.72
1964-10-27		47.36
1964-08-31		48.24
1964-07-01		49.10
1964-04-30		48.98
1964-02-26		47.71
1963-12-27		46.69

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1963-12-03		47.95
1963-09-26		48.77
1963-07-31		49.44
1963-05-28		49.68
1963-03-27		49.89
1963-01-29		49.19
1962-12-04		49.04
1962-10-02		49.37
1962-07-26		50.17
1962-05-31		50.91
1962-04-03		50.78
1962-02-06		50.06
1961-11-30		49.52
1961-10-05		50.05
1961-07-27		50.76
1961-05-31		50.79
1961-04-04		50.03
1961-02-01		48.88
1960-12-07		48.85
1960-10-04		49.55
1960-08-01		50.27
1960-06-08		50.93
1960-04-06		50.82
1960-02-01		50.03
1959-11-24		50.22
1959-10-05		50.93
1959-08-04		51.49
1959-05-29		51.85
1959-03-31		51.43
1959-01-29		51.43
1958-12-01		51.59
1958-09-26		51.78
1958-07-29		52.75
1958-05-26		52.87
1958-03-25		50.54
1958-01-27		48.62
1957-12-04		47.88
1957-09-26		48.65
1957-08-01		49.43
1957-05-27		50.39
1957-03-27		49.65
1957-01-30		49.75
1956-11-29		50.33
1956-10-04		51.03
1955-11-01		50.63
1955-08-26		49.97
1955-06-27		50.60
1955-04-25		50.81
1955-02-21		50.80
1954-12-23		50.12
1954-10-21		50.34
1954-08-23		48.90
1954-06-29		49.52
1954-04-26		48.86
1954-02-23		48.70

Date	Feet below Surface	Feet to Sealevel
1963-10-30		48.32
1963-09-04		49.08
1963-07-02		49.63
1963-04-29		49.92
1963-03-04		49.48
1962-12-26		49.25
1962-10-29		49.11
1962-08-31		49.75
1962-07-03		50.49
1962-04-30		51.09
1962-03-05		50.18
1962-01-03		49.26
1961-10-31		49.83
1961-09-06		50.35
1961-07-05		50.97
1961-05-01		50.44
1961-02-28		49.04
1961-01-06		48.78
1960-11-08		49.16
1960-09-02		49.83
1960-06-28		50.71
1960-05-04		51.12
1960-02-29		50.25
1959-12-30		49.99
1959-10-26		50.66
1959-09-01		51.35
1959-07-02		51.57
1959-05-01		52.04
1959-02-25		51.33
1959-01-07		51.59
1958-10-29		51.60
1958-08-25		52.25
1958-06-25		53.15
1958-04-28		52.20
1958-02-26		50.08
1957-12-18		48.00
1957-10-31		48.23
1957-08-28		49.03
1957-07-02		49.89
1957-04-24		50.17
1957-02-27		49.71
1956-12-21		50.07
1956-11-01		50.62
1955-11-29		51.79
1955-09-30		49.56
1955-07-27		50.19
1955-05-26		50.86
1955-03-23		50.68
1955-01-21		50.68
1954-11-23		50.12
1954-09-22		49.67
1954-07-26		49.18
1954-05-27		49.46
1954-03-22		48.57
1954-01-26		48.91

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for SUFFOLK County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SUFFOLK COUNTY, NY

Number of sites tested: 183

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.670 pCi/L	100%	0%	0%
Basement	1.010 pCi/L	98%	2%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

New York State Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961
Coverages are based on official New York State Freshwater Wetlands Maps as described in Article 24-0301 of the Environmental Conservation Law.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

New York Public Water Wells
Source: New York Department of Health
Telephone: 518-458-6731

New York Facility and Manifest Data
Source: NYSDEC
Telephone: 518-457-6585
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

RADON

State Database: NY Radon
Source: Department of Health
Telephone: 518-402-7556
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Appendix A-4

Phase II Environmental Site Assessment

Nelson, Pope & Voorhis

July 28, 2005

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Limited Phase II
Environmental Site Assessment

Sandy Hills

Middle Island, New York

N&P Project No. 00088

April 19, 2005
Revised May 2008

Limited Phase II

Environmental Site Assessment

Sandy Hills

THIS DOCUMENT CONTAINS 10 PAGES OF TEXT

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ENVIRONMENTAL • PLANNING • CONSULTING

Limited Phase II

Environmental Site Assessment

Sandy Hills

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Limited Phase II

Environmental Site Assessment

Sandy Hills

1.0 INTRODUCTION AND PURPOSE

Nelson, Pope & Voorhis, LLC (NP&V) has been contracted to prepare a Limited Phase II Environmental Site Assessment (ESA) for the subject property. This report is intended to address specific environmental conditions that were identified in a Phase I ESA report prepared by Nelson, Pope & Voorhis, LLC dated December 13, 2004. The Phase I ESA was performed in accordance with the standards detailed by the American Society of Testing and Materials (ASTM) for the Performance of a Phase I Environmental Site Assessment (E 1527). This Phase II ESA was designed to determine what, if any, impact on-site activities have had upon the environmental quality of the subject property.

The subject property lies in the Hamlet of Middle Island, Town of Brookhaven, County of Suffolk, New York. The subject property is a 38.6-acre parcel of vacant land located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). The property is more particularly described as Suffolk County Tax Map # 0200-378-2-33.3.

The subject property consists of a vacant, wooded parcel and maintains a relatively flat topography over the majority of the site with the exception of part of the site and an area in the northern end and along the western property boundary. In steeper slope areas the topography was observed to slope towards the west-northwest and west. A deep depression which is connected to a drainage ditch was observed along the western property line approximately 400 ft south of the intersection between CR 21 and Middle Island Road. Access to the site is provided by several footpaths as well as former vehicular trails which transect the property and lead to several small cleared areas in the southern and central sections of the site. Scattered debris, including several empty drums, was observed in several areas of the property, and there were a number of hand dug pits noted throughout the site. In addition, a small asphalted area was observed along the western property line approximately 200 ft north of the deep depression noted above.

Sanborn map coverage was not available for the subject property. Aerial photographs from 1957, 1966, 1976, 1980 and 1994 were reviewed and revealed that the property was vacant wooded land in the 1994 aerial. The aerials from 1980 and 1976 indicate that the northern portion of the site was predominantly wooded land with several prominent access roadways present. The southern end of the site was mostly cleared and may have been used for agricultural purposes. The aerial photographs from 1966 and 1957 show that most of the site was cleared of all woodland vegetation except for an approximately twelve (12) acre section in the northwest corner of the property. As in the 1980 and 1976 aerials, the cleared area of the site appears to

have been used for agricultural purposes. Historic USGS Middle Island Quadrangles maps from 1967 and 1944 were reviewed and depict the property as cleared land, except for the twelve (12) acre area in the northwestern corner of the site.

Six (6) CLEARS sites were identified in the vicinity of the subject property, two (2) of which were located on the subject site. Both listings are classified as a pit and a dump each of which are related to the deep depression and trench located along the western property boundary.

The Phase I ESA revealed evidence of recognized environmental conditions or issues in connection with the subject property. In particular, due to the identification of the site on the County CLEARS list inventory as a dump, it was recommended that a soil sample should be collected from the bottom of the deep depression along the western property boundary and analyzed for the presence of volatile and semi-volatile organic compounds as well as metals. This Phase II ESA was prepared to further investigate and assess the impact related to this environmental concern.

2.0 INVESTIGATION METHODS, PROCEDURES AND PROTOCOLS

In order to conduct this Limited Phase II ESA at the subject property, various investigative methodologies were employed to assess the impact that the recognized environmental condition which is the focus of this investigation may have had on the site. For the purpose of this investigation hand auger soil sampling was utilized to determine what if any impact past site activities have had on environmental resources associated with the subject site. A discussion of each technique is presented in the following sections.

2.1 HAND AUGER SOIL SAMPLING

Hand auger soil sampling entails the use of a stainless steel auger head attached to a "T" handle rod tool. The auger head is manually twisted into the soil in order to retrieve discrete samples at desired depths. The advantage of this method is due to its portability which allows sampling in areas with limited access and requires less setup time. The disadvantage of this method is that it is limited to efficient sampling depths of approximately three (3) feet below surface grade.

2.2 PROTOCOLS

The protocols used to direct this investigation are based upon the following documents: the New York State Department of Environmental Conservation (NYSDEC), Technical Administrative Guidance Memorandum (TAGM) 4046).

3.0 SAMPLING AND ANALYSIS PROGRAM (SAP)

3.1 HAND AUGER SOIL SAMPLES

One (1) composite soil sample was collected from the bottom of the deep depression along the western property boundary. Several samples were collected from the 0-3 inch interval at the bottom of the depression and then combined to form one (1) sample which was then submitted to the laboratory for analysis.

3.2 LABORATORY SAMPLE LOCATION AND FREQUENCY

The soil sample collected was containerized and labeled for identification purposes. The label was coded to correspond to the location from which the sample was secured and is identified as DSS-1.

4.0 LABORATORY ANALYSIS

4.1 ANALYTICAL TEST METHODS

The soil sample was transported to a New York State Certified Commercial Laboratory for analysis and was analyzed for volatile and semi-volatile organic compounds based on USEPA Test Method 8260 and 8270, respectively as well as 8 RCRA Metals.

4.2 ANALYTICAL RESULTS

No volatile organic compounds were detected in the sample collected; however, several semi-volatile organic compounds and metals were identified in soil retrieved from the bottom of the deep depression. Of the compounds and metals detected, only Benzo-a-Pyrene was found to exceed its respective regulatory guidance value. A summary of the analytical results is presented in **Table 1**.

TABLE 1
SOIL SAMPLE RESULTS
SANDY HILLS, MIDDLE ISLAND, NEW YORK

Parameter	Sample ID	NYSDEC TAGM 4046	NYSDEC Part 375*
Semi-volatiles	**ug/kg**	**ug/kg**	**ug/kg**
Phenanthrene	60	50,000	100,000
Fluoranthene	295	50,000	100,000
Pyrene	249	50,000	100,000
Benzo-a-Anthracene	158	224	1,000
Chrysene	169	400	1,000
Benzo-b-Fluoranthene	150	1,100	1,000
Benzo-k-Fluoranthene	67	1,100	800
Benzo-a-Pyrene	**98**	61	1,000
Indeno(1,2,3-cd)Pyrene	71	3,200	500
Benzo(g,h,i)Perylene	67	50,000	100,000
Metals	**mg/kg**	**mg/kg**	**mg/kg**
Barium	16.5	300	350
Chromium	5.17	50	30
Mercury	0.072	0.1	0.18
Lead	32.1	61	63

* Unrestricted use clean up objective guidance values were utilized.
Notes: ug/kg - micrograms per kilogram.
mg/kg - milligrams per kilogram.
Bold/Shaded - Denotes detection that exceeds its respective guidelines set forth in TAGM 4046.

5.0 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES (QA/QC)

This sampling protocol was conducted in accordance with USEPA accepted sampling procedures for hazardous waste streams (Municipal Research Laboratory, 1980, Sampling and Sampling Procedures for Hazardous Material Waste Streams, USEPA, Cincinnati, Ohio EPA- 600\280-018) and ASTM Material Sampling Procedures. All samples were collected by or under the auspices of USEPA trained personnel having completed the course Sampling of Hazardous Materials, offered by the Office of Emergency and Remedial Response. Separate QA/QC measures were implemented for each of the instruments used in soil sampling.

Separate QA/QC measures were implemented for each of the instruments used in the Sampling and Analysis Program. Sampling instruments included a stainless steel hand auger, photo ionization detector and sample vessels.

Prior to arrival on the site and between sample locations, the probes sections were decontaminated by washing with a detergent (alconox/liquinox) and potable water solution with distilled water rinse. The organic vapor analyzer was calibrated prior to sampling using a span gas of known concentration. All sample vessels were "level A" certified decontaminated containers. Samples were placed into vessels consistent with the analytical parameters. After acquisition, samples were preserved in the field. All containerized samples were refrigerated to 4° C during transport.

A sample represents physical evidence, therefore, an essential part of liability reduction is the proper control of gathered evidence. To establish proper control, the following sample identification and chain-of-custody procedures were followed.

Sample Identification

Sample identification was executed by use of a sample tag, log book and manifest. Documentation provides the following:

1. Project Code
2. Sample Laboratory Number
3. Sample Preservation
4. Instrument Used for Source Soil Grabs
5. Composite Medium Used for Source Soil Grabs
6. Date Sample was Secured from Source Soil
7. Time Sample was Secured from Source Soil
8. Person Who Secured Sample from Source Soil

Chain-of-Custody Procedures

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered under custody if:

It was in a person's possession, or
It was in a person's view, after being in possession, or
It was in a person's possession and they were to lock it up, or
It is in a designated secure area.

When transferring custody, the individuals relinquishing and receiving signed, dated and noted the time on the Chain-of- Custody Form.

Laboratory Custody Procedures

A designated sample custodian accepted custody of the shipped samples and verified that the information on the sample tags matched that on the Chain-of-Custody records. Pertinent information as to shipment, pick-up, courier, etc. was entered in the "remarks" section. The custodian then entered the sample tag data into a bound logbook which was arranged by project code and station number.

The laboratory custodian used the sample tag number or assigned an unique laboratory number to each sample tag and assured that all samples were transferred to the proper analyst or stored in the appropriate source area.

The custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples from the time they were received until the sample was exhausted or returned to the custodian.

All identifying data sheets and laboratory records were retained as part of the permanent site record. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

6.0 SUMMARY AND CONCLUSION

This investigation was completed to address specific issues raised in a prior Phase I ESA dated December 13, 2004 and prepared by Nelson, Pope & Voorhis, LLC. A sampling and analysis program was designed to determine if the any of the target areas studied as part of this investigation have impacted the environmental quality of the subject site. The sampling and analysis plan consisted of soil/sediment quality testing using analytical test methods consistent with expected parameters and agency soil cleanup objectives. The following presents an evaluation of the results of this investigation.

1. No volatile organic compounds were detected in the sample collected; however several semi-volatile organic compounds and metals were identified in soil retrieved from the bottom of the deep depression. Of the compounds and metals detected, only Benzo-a-Pyrene was found to exceed the NYSDEC TAGM 4046 regulatory guidance value; the concentration detected was 98 mg/kg and the recommended cleanup guidance value is 61 mg/kg indicating a slight exceedance. Since Benzo-a-pyrene was the only constituent which exceeded the guidance value, the NYSDEC was contacted in order to determine if any remedial activities would be necessary. According to Karen Gomez, Environmental Engineer, the NYSDEC would not require any remedial activities due to the slight exceedance. In addition, the NYSDEC has adopted a new guidance document (6 NYCRR Part 375 in December 2006) which has revised guidance values. The concentration of Benzo-a-pyrene does not exceed the guidance value set forth in the current regulations (Part 375). As a result, no remedial activity is recommended for the subject site.

The subject property has been evaluated based on the results of the Phase I ESA, and in accordance with standard practice for the industry. This Limited Phase II ESA addresses only the specific areas of the site and can only provide conclusions regarding the subsurface soil quality within the specific area tested. The Phase II ESA report is limited to the evaluation of on-site conditions at the time of completion of the field sampling program.

_____ _____

Date of Completion *Charles J. Voorhis, CEP, AICP*
Project Manager

7.0 REFERENCES

New York State Department of Environmental Conservation (NYSDEC), 1992, Sampling Guidelines and Protocols, Technology Background and Quality Control/Quality Assurance for NYSDEC Spill Response Program, NYSDEC, Albany, New York.

NYSDEC, 1994, Technical Administrative Guidance Memorandum, HWR-94-4046, Determination of soil cleanup objectives and cleanup levels, Division of Hazardous Waste Remediation, Albany, New York.

APPENDICES

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

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AIHA# 164456
NJDOH# NY012
PADOH# 68-2943

RECEIVED
APR 14 2005 SJM
NELSON & POPE

April 14, 2005

Nelson, Pope & Voorhis
Steven McGinn
572 Walt Whitman Road
Melville, New York 11747

Re: Sandy Hills

Dear Mr. McGinn

Enclosed please find the Laboratory Analysis Report(s) for sample(s) received on April 8, 2005. Long Island Analytical Laboratories analyzed the samples on April 14, 2005 for the following:

CLIENT ID	ANALYSIS
DSS-1	EPA 8260, EPA 8270, Total (8) Metals

Samples received at 8°C.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

110 Colin Drive • Holbrook, New York 11741
Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialine.com

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (DSS-1)
Date received: 4/8/05	Laboratory ID: 1070471
Date extracted: 4/11/05	Matrix: Soil
Date analyzed: 4/11/05	ELAP #: 11693

EPA METHOD 8260

Parameter	CAS No.	MDL	Results ug/kg
BENZENE	71-43-2	5 ug/kg	<5
BROMOBENZENE	108-86-1	5 ug/kg	<5
BROMOCHLOROMETHANE	74-97-5	5 ug/kg	<5
BROMODICHLOROMETHANE	75-27-4	5 ug/kg	<5
BROMOFORM	75-25-2	5 ug/kg	<5
BROMOMETHANE	74-83-9	5 ug/kg	<5
n-BUTYLBENZENE	104-51-8	5 ug/kg	<5
sec-BUTYLBENZENE	135-98-8	5 ug/kg	<5
tert-BUTYLBENZENE	98-06-6	5 ug/kg	<5
CARBON TETRACHLORIDE	56-23-5	5 ug/kg	<5
CHLOROBENZENE	108-90-7	5 ug/kg	<5
CHLORODIBROMOMETHANE	124-48-1	5 ug/kg	<5
CHLOROETHANE	75-00-3	5 ug/kg	<5
CHLOROFORM	67-66-3	5 ug/kg	<5
CHLOROMETHANE	74-87-3	5 ug/kg	<5
2-CHLOROTOLUENE	95-49-8	5 ug/kg	<5
4-CHLOROTOLUENE	106-43-4	5 ug/kg	<5
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	5 ug/kg	<5
1,2-DIBROMOETHANE	106-93-4	5 ug/kg	<5
DIBROMOMETHANE	74-95-3	5 ug/kg	<5
1,2-DICHLOROBENZENE	95-50-1	5 ug/kg	<5
1,3-DICHLOROBENZENE	541-73-1	5 ug/kg	<5
1,4-DICHLOROBENZENE	106-46-7	5 ug/kg	<5
DICHLORODIFLUOROMETHANE	75-71-8	5 ug/kg	<5
1,1-DICHLOROETHANE	75-34-3	5 ug/kg	<5
1,2-DICHLOROETHANE	107-06-2	5 ug/kg	<5
1,1-DICHLOROETHENE	75-35-4	5 ug/kg	<5
cis-1,2-DICHLOROETHENE	156-59-2	5 ug/kg	<5
trans-1,2-DICHLOROETHENE	156-60-5	5 ug/kg	<5
1,2-DICHLOROPROPANE	78-87-5	5 ug/kg	<5
1,3-DICHLOROPROPANE	142-28-9	5 ug/kg	<5
2,2-DICHLOROPROPANE	594-20-7	5 ug/kg	<5

MDL = Minimum Detection Limit.

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (DSS-1)
Date received: 4/8/05	Laboratory ID: 1070471
Date extracted: 4/11/05	Matrix: Soil
Date analyzed: 4/11/05	ELAP #: 11693

EPA METHOD 8260

Parameter	CAS No.	MDL	Results ug/kg
1,1-DICHLOROPROPENE	563-58-6	5 ug/kg	<5
ETHYLBENZENE	100-41-4	5 ug/kg	<5
HEXACHLOROBUTADIENE	87-68-3	5 ug/kg	<5
ISOPROPYLBENZENE	98-82-8	5 ug/kg	<5
p-ISOPROPYLTOLUENE	99-87-6	5 ug/kg	<5
METHYLENE CHLORIDE	75-09-2	5 ug/kg	<5
NAPHTHALENE	91-20-3	5 ug/kg	<5
n-PROPYLBENZENE	103-65-1	5 ug/kg	<5
STYRENE	100-42-5	5 ug/kg	<5
1,1,1,2-TETRACHLOROETHANE	630-20-6	5 ug/kg	<5
1,1,2,2-TETRACHLOROETHANE	79-34-5	5 ug/kg	<5
TETRACHLOROETHENE	127-18-4	5 ug/kg	<5
TOLUENE	108-88-3	5 ug/kg	<5
1,2,3-TRICHLOROBENZENE	87-61-6	5 ug/kg	<5
1,2,4-TRICHLOROBENZENE	120-82-1	5 ug/kg	<5
1,1,1-TRICHLOROETHANE	71-55-6	5 ug/kg	<5
1,1,2-TRICHLOROETHANE	79-00-5	5 ug/kg	<5
TRICHLOROETHENE	79-01-6	5 ug/kg	<5
TRICHLOROFLUOROMETHANE	75-69-4	5 ug/kg	<5
1,2,3-TRICHLOROPROPANE	96-18-4	5 ug/kg	<5
1,3,5-TRIMETHYLBENZENE	108-67-8	5 ug/kg	<5
1,2,4-TRIMETHYLBENZENE	95-63-6	5 ug/kg	<5
VINYL CHLORIDE	75-01-4	5 ug/kg	<5
ACETONE	62-64-1	50 ug/kg	<50
CARBON DISULFIDE	75-15-0	5 ug/kg	<5
2-BUTANONE (MEK)	78-93-3	10 ug/kg	<10
VINYL ACETATE	108-05-4	5 ug/kg	<5
2-HEXANONE	591-78-6	5 ug/kg	<5
p & m-XYLENE	1330-20-7	10 ug/kg	<10
o-XYLENE	95-47-6	5 ug/kg	<5
MTBE	1634-05-4	5 ug/kg	<5

MDL = Minimum Detection Limit.

Michael Veraldi

Michael Veraldi-Laboratory Director

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110 Colin Drive • Holbrook, New York 11741
"TOMORROWS ANALYTICAL SOLUTIONS TODAY" Phone (631) 472 3400 • Fax (631) 472 8505

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (DSS-1)
Date received: 4/8/05	Laboratory ID: 1070471
Date extracted: 4/12/05	Matrix: Soil
Date analyzed: 4/12/05	ELAP #: 11693

EPA METHOD 8270

Parameter	CAS No.	MDL	Results ug/kg
Bis(2-CHLOROETHYL)ETHER	111-44-4	40 ug/kg	<40
PHENOL	108-95-1	40 ug/kg	<40
2-CHLOROPHENOL	95-57-8	40 ug/kg	<40
1,3-DICHLOROBENZENE	541-73-1	40 ug/kg	<40
1,4-DICHLOROBENZENE	106-46-7	40 ug/kg	<40
1,2-DICHLOROBENZENE	95-50-1	40 ug/kg	<40
Bis(2-CHLOROISOPROPYL)ETHER	108-60-1	40 ug/kg	<40
2-METHYLPHENOL	95-48-7	40 ug/kg	<40
HEXACHLOROETHANE	67-72-1	40 ug/kg	<40
N-NITROSODI-n-PROPYL AMINE	621-64-7	40 ug/kg	<40
4-METHYLPHENOL	106-44-5	40 ug/kg	<40
NITROBENZENE	98-95-3	40 ug/kg	<40
ISOPHORONE	78-59-1	40 ug/kg	<40
2-NITROPHENOL	88-75-5	40 ug/kg	<40
2,4-DIMETHYLPHENOL	105-67-9	40 ug/kg	<40
Bis(2-CHLOROETHOXY)METHANE	111-91-1	40 ug/kg	<40
2,4-DICHLOROPHENOL	102-83-2	40 ug/kg	<40
1,2,4-TRICHLOROBENZENE	120-82-1	40 ug/kg	<40
NAPHTHALENE	91-20-3	40 ug/kg	<40
4-CHLOROANILINE	106-47-8	40 ug/kg	<40
HEXACHLOROBUTADIENE	87-68-3	40 ug/kg	<40
4-CHLORO-3-METHYLPHENOL	59-50-7	40 ug/kg	<40
2-METHYLNAPHTHALENE	91-57-6	40 ug/kg	<40
HEXACHLOROCYCLOPENTADIENE	77-47-4	66 ug/kg	<66
2,4,6-TRICHLOROPHENOL	88-06-2	40 ug/kg	<40
2,4,5-TRICHLOROPHENOL	95-95-4	40 ug/kg	<40
2-CHLORONAPHTHALENE	91-58-7	40 ug/kg	<40
2-NITROANILINE	88-74-4	40 ug/kg	<40
ACENAPHTHYLENE	208-96-8	40 ug/kg	<40
DIMETHYLPHTHALATE	131-11-3	40 ug/kg	<40
2,6-DINITROTOLUENE	606-20-2	40 ug/kg	<40
ACENAPHTHENE	83-32-9	40 ug/kg	<40

MDL = Minimum Detection Limit.

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (DSS-1)
Date received: 4/8/05	Laboratory ID: 1070471
Date extracted: 4/12/05	Matrix: Soil
Date analyzed: 4/12/05	ELAP #: 11693

EPA METHOD 8270

Parameter	CAS No.	MDL	Results ug/kg
3-NITROANILINE	99-09-2	40 ug/kg	<40
2,4-DINITROPHENOL	51-28-5	40 ug/kg	<40
DIBENZOFURAN	132-64-9	40 ug/kg	<40
2,4-DINTROTOLUENE	121-14-2	40 ug/kg	<40
4-NITROPHENOL	100-02-7	40 ug/kg	<40
FLUORENE	86-73-7	40 ug/kg	<40
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	40 ug/kg	<40
DIETHYLPHTHALATE	84-66-2	40 ug/kg	<40
4-NITROANILINE	100-01-6	40 ug/kg	<40
4,6-DINITRO-2-METHYLPHENOL	534-52-1	40 ug/kg	<40
N-NITROSODIPHENYLAMINE	86-30-6	40 ug/kg	<40
4-BROMOPHENYL-PHENYL ETHER	101-55-3	40 ug/kg	<40
HEXACHLOROBENZENE	118-74-1	40 ug/kg	<40
PENTACHLORPHENOL	87-86-5	40 ug/kg	<40
PHENANTHRENE	85-01-8	40 ug/kg	60
ANTHRACENE	120-12-7	40 ug/kg	<40
Di-n-BUTYLPHTHALATE	84-74-2	500 ug/kg	<500
FLUORANTHENE	206-44-0	40 ug/kg	295
PYRENE	129-00-0	40 ug/kg	249
BUTYLBENZYLPHTHALATE	85-68-7	40 ug/kg	<40
3,3-DICHLOROBENZIDINE	91-94-1	40 ug/kg	<40
BENZO-a-ANTHRACENE	56-55-3	40 ug/kg	158
CHRYSENE	218-01-9	40 ug/kg	169
Bis(2-ETHYLEXYL)PHTALATE	117-81-7	500 ug/kg	<500
DI-n-OCTYLPHTHALATE	117-84-0	40 ug/kg	<40
BENZO-b-FLUOROANTHENE	205-99-2	40 ug/kg	150
BENZO-k- FLUOROANTHENE	207-08-9	40 ug/kg	67
BENZO-a-PYRENE	50-32-8	40 ug/kg	98
INDENO(1,2,3-c,d)PYRENE	193-39-5	40 ug/kg	71
DIBENZO-a,h-ANTHRACENE	53-70-3	40 ug/kg	<40
BENZO-g,h,i-PERYLENE	191-24-2	40 ug/kg	67

MDL = Minimum Detection Limit.

Michael Veraldi

Michael Veraldi-Laboratory Director

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110 Colin Drive • Holbrook, New York 11741
TOMORROWS ANALYTICAL SOLUTIONS TODAY

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (DSS-1)
Date received: 4/8/05	Laboratory ID: 1070471
Date extracted: 4/13, 4/14/05	Matrix: Soil
Date analyzed: 4/13, 4/14/05	ELAP #: 11693

METALS ANALYSIS 8 RCRA

Parameter	MDL	Results mg/kg
SILVER, Ag	1.65 mg/kg	<1.65
ARSENIC, As	1.65 mg/kg	<1.65
BARIUM, Ba	3.33 mg/kg	16.5
CADMIUM, Cd	1.00 mg/kg	<1.00
CHROMIUM, Cr	1.65 mg/kg	5.17
MERCURY, Hg	0.020 mg/kg	0.072
LEAD, Pb	1.65 mg/kg	32.1
SELENIUM, Se	1.65 mg/kg	<1.65

MDL = Minimum Detection Limit.

Performed by SW-846 Method 6010

Michael Veraldi

Michael Veraldi-Laboratory Director

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110 Colin Drive • Holbrook, New York 11741
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110 Colin Drive • Holbrook, New York 11741 • (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

13

CLIENT NAME/ADDRESS: NPW, 572 West Walnut Rd, Melville NY 11747

CONTACT: Steve McGrew

PHONE: 427-5565

FAX:

SAMPLER (SIGNATURE): Eric C — DATE: 4/8/05 — TIME: 10:30

SAMPLER NAME (PRINT): Eric Denser — DATE — TIME

SAMPLE(S) SEALED: YES / NO

CORRECT CONTAINER(S): YES / NO

0014619

PROJECT LOCATION: Sandy Hollow

SAMPLES RECEIVED AT: 8 °C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month.

LABORATORY ID # (For Laboratory Use Only)	MATRIX	TYPE	PRES.	PH UNITS	RES. CHLORINE PPM	SAMPLE # - LOCATION	8260	8270	8 RCRA	# OF CONTAINERS
1. 1070471	S	G	ice	—	—	DSS-1	X	X	X	2
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										

MATRIX: S=SOIL; SL=SLUDGE; L=LIQUID; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL
TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON
PRES: ICE, HCL, H_2SO_4, NAOH, $NA_2S_2O_3$

TURNAROUND REQUIRED: ☑ NORMAL ☐ STAT
BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE 4/8/05 TIME 11:05	PRINTED NAME Eric Denser	RECEIVED BY (SIGNATURE)	DATE 4/8/05 TIME 11:07	PRINTED NAME T. Dugne
RELINQUISHED BY (SIGNATURE)	DATE TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE 4/8/05 TIME 11:25	PRINTED NAME T Dugne

WHITE - OFFICE / CANARY - LAB / PINK - SAMPLE CUSTODIAN / GOLDENROD - CLIENT NYSDOH ELAP# 11693 USEPA# NY01273 AIHA# 164456 CTDOH# PH-0284

Appendix A-5

Pesticide Report

Nelson, Pope & Voorhis

April 22, 2008

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Pesticide Report

Sandy Hills

Middle Island, New York

NP&V Project No. 00088

May 27, 2008

Pesticide Report

Sandy Hills

Middle Island, New York

THIS DOCUMENT CONTAINS 10 PAGES OF TEXT

Prepared For:

Frank Weber
Suffolk Rocky, LLC
P.O. Box 334
St. James, New York 11780

Prepared By:

Mr. Charles J. Voorhis, CEP, AICP
Nelson, Pope & Voorhis, LLC
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Long Island Analytical Laboratories, Inc.
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Holbrook, New York 11741

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NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Pesticide Report

Sandy Hills

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3.0	LABORATORY ANALYSIS	Page 4 of 10
3.1	Analytical Test Methods	Page 4 of 10
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4.0	QUALITY ASSURANCE/QUALITY CONTROL	Page 6 of 10
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Pesticide Report

Sandy Hills

1.0 INTRODUCTION AND PURPOSE

Nelson, Pope & Voorhis, LLC has been contracted to prepare a Pesticide Report for the subject property. This report is intended to determine the concentration of pesticides and metals in soil, because this substance was widely used for weed and pest control in Long Island agricultural practice.

The subject property lies in the Hamlet of Middle Island, Town of Brookhaven, County of Suffolk, New York. The subject property is a 38.6-acre parcel of vacant land located on the east side of Rocky Point-Yaphank Road (CR 21), between Bailey Road and Middle Country Road (NYS Route 25). The property is more particularly described as Suffolk County Tax Map # 0200-378-2-33.3.

The subject property consists of a vacant, wooded parcel and review of historical aerial photographs which covered the subject property revealed that much of the site was previously used for agricultural purposes. This document will be used to assist in evaluating the environmental and/or public health implications regarding the current concentrations of agricultural chemicals in on-site soils.

The sampling program was designed and supervised by NP&V. Laboratory analytical data was prepared by Long Island Analytical Laboratories, Inc. The protocol used to direct this investigation was based upon the guidance offered by the New York State Department of Health (NYSDOH) Bureau of Toxic Substance Assessment to the local health department in particular, with general consideration of sampling and analysis protocol as documented in USEPA Soil Screening Guidance - Soil Screening Levels as imposed by Suffolk County Department of Health Services (SCDHS) and/or New York State Department of Environmental Conservation (NYSDEC), Technical Administrative Guidance Manual (TAGM) # 4046 Determination of Soil Cleanup Objectives and Cleanup Levels. The following sections detail the subject property and surrounding area characteristics, sampling program, protocol and quality assurance, lab analysis and results.

A total of sixteen (16) soil samples from eight (8) locations were collected from throughout the site in areas that were previously farmed. Four (4) of the samples collected from a depth of 0-3 inches were analyzed for the presence of pesticides and metals and the remaining four (4) samples from the 0-3 inch interval were analyzed only for arsenic which is a common constituent associated with agricultural chemicals. The results of these eight (8) samples revealed that there were elevated concentrations of several analyzed constituents. As a result, all of the 3-6 inch samples were analyzed for the presence of arsenic only and the 3-6 inch samples from two (2) of the locations were analyzed for mercury. The following sections of this report outline the sampling measures taken and provide a map illustrating the location of the samples collected. Appropriate recommendations are provided in Section 5.0.

2.0 SAMPLING AND ANALYSIS PROGRAM (SAP)

2.1 SAMPLE COLLECTION

A total of sixteen (16) soil samples were collected from eight (8) locations at the subject property on March 21, 2008. The soil samples were collected from depths of 0-3 and 3-6 inches below grade. The 0-3 inch samples were analyzed for the presence of pesticides and metals, while the 3-6 inch samples were held pending the results of the 0-3 inch samples. The depths of the soil samples were selected to provide a profile of the soil located on the subject property. The sampling scheme employed was consistent with guidance available from the New York State Department of Health (NYSDOH) and the Suffolk County Department of Health Services (SCDHS).

A stainless steel hand auger decontaminated between uses (see Section 4.0), was used to extract all of the soil samples from the subject property. **Figure 1** provides a map that identifies the various locations from which the soil samples were collected. The topography of the subject property where the samples were collected is relatively flat.

2.2 SAMPLING PROGRAM RATIONALE

The NYSDOH provides guidance for such soil sampling through the SCDHS. Soil samples were collected in accordance with the recommendations of the NYSDOH, noted as follows:

- Samples were collected at depths of 0-3 and 3-6 inches.
- Samples were directed toward those areas likely to have accumulated the highest contaminant levels.
- Four (4) samples were analyzed for pesticides and metals and four (4) samples were analyzed for arsenic, a common constituent associated with agricultural chemicals.

Laboratory analysis results are discussed in Section 3.0. Since the proposed property will be used for a residential subdivision, the concentration of pesticides and metals is an important issue.

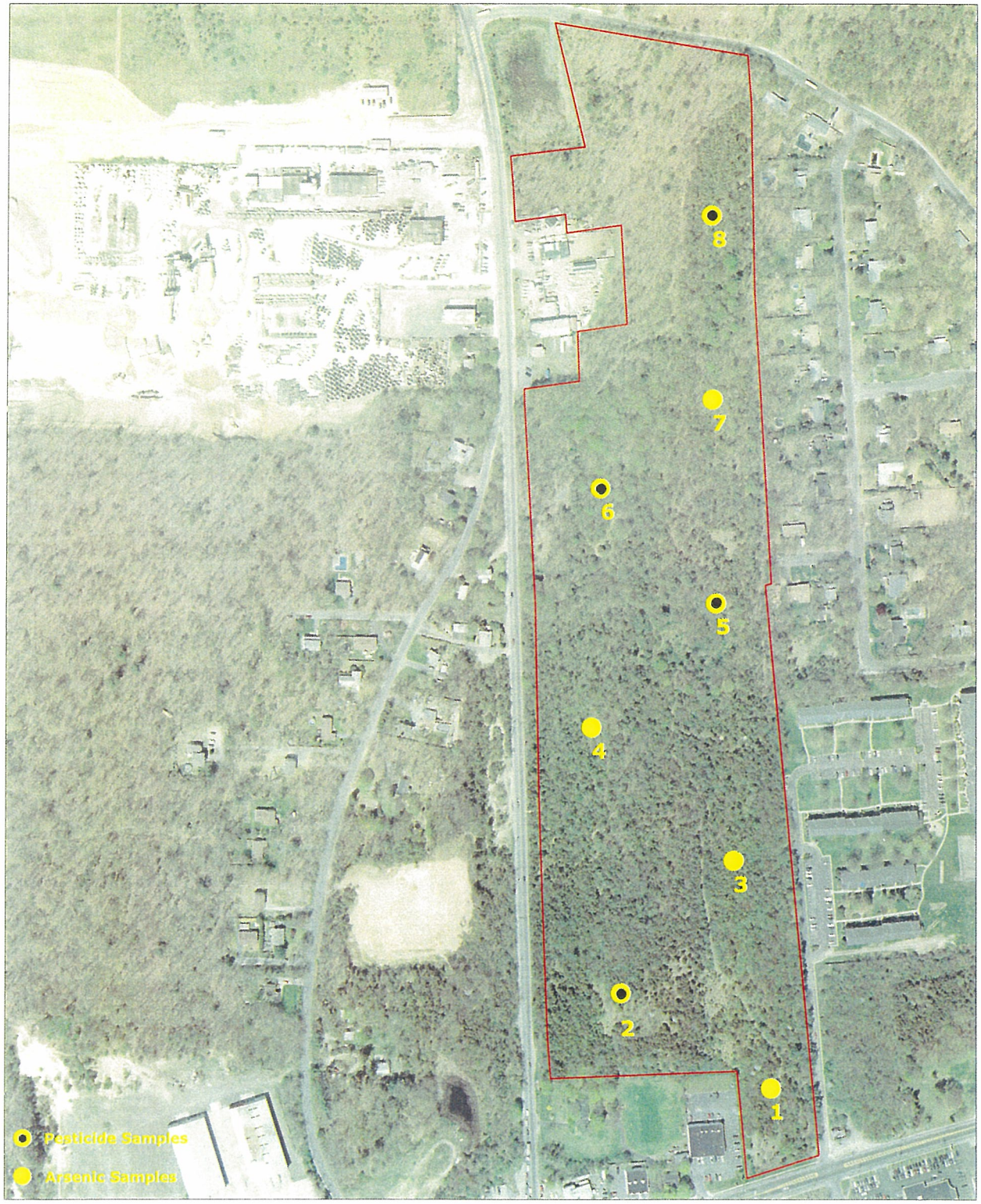
In accordance with NYSDOH and SCDHS recommendations, the sampling and analysis program was intended to determine:

- If site activities had caused degradation of soil quality on site;
- If a soils management plan (SMP) is appropriate given the concentration of contaminants and the intended use of the site.

The following section provides the laboratory analysis for the site samples, including test methods and analytical results.

FIGURE 1

SAMPLE LOCATION MAP



Source: NYSGIS Orthoimagery Program, 2001
Scale: 1" = 400'

NORTH

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-5 {0-3})
Date received: 3/21/08	Laboratory ID: 1154626
Date analyzed: See Below	Matrix: Soil

METALS ANALYSIS

PARAMETER	MDL	DATE ANALYZED	RESULTS mg/kg	FLAG
SILVER, Ag	1.65 mg/kg	3/25/08	<1.65	
ARSENIC, As	1.65 mg/kg	3/25/08	6.33	
BERYLLIUM, Be	1.65 mg/kg	3/25/08	<1.65	
CADMIUM, Cd	1.00 mg/kg	3/25/08	<1.00	
CHROMIUM, Cr	1.65 mg/kg	3/25/08	6.98	
COPPER, Cu	1.65 mg/kg	3/25/08	12.8	
MERCURY, Hg•	0.020 mg/kg	3/26/08	0.123	
NICKEL, Ni	1.65 mg/kg	3/25/08	4.00	
LEAD, Pb	1.65 mg/kg	3/25/08	21.9	

MDL = Minimum Detection Limit.
Performed by EPA Method 6010B
•Method: EPA 7471A

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"
110 Colin Drive • Holbrook, New York 11741
Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-6 {0-3})
Date received: 3/21/08	Laboratory ID: 1154627
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

PESTICIDES EPA METHOD 8081

COMPOUND	CAS No.	MDL	RESULTS ug/kg	Flag
Aldrin	309-00-2	5 ug/kg	<5	
α - BHC	319-84-6	5 ug/kg	<5	
β - BHC	319-85-7	5 ug/kg	<5	
δ - BHC	319-86-8	5 ug/kg	<5	
γ - BHC (Lindane)	58-89-9	5 ug/kg	<5	
Chlordane	12789-03-6	15 ug/kg	<15	
4,4'- DDD	72-54-8	5 ug/kg	<5	
4,4'-DDE	72-55-9	5 ug/kg	8.81	
4,4'-DDT	50-29-3	5 ug/kg	<5	
Dieldrin	60-57-1	5 ug/kg	<5	
Endosulfan I	959-98-8	5 ug/kg	<5	
Endosulfan II	33212-65-9	5 ug/kg	<5	
Endosulfan sulfate	1031-07-8	5 ug/kg	<5	
Endrin	72-20-8	5 ug/kg	<5	
Endrin aldehyde	7421-93-4	5 ug/kg	<5	
Heptachlor	76-44-8	5 ug/kg	<5	
Heptachlor epoxide	1024-57-3	5 ug/kg	<5	
4,4'-Methoxychlor	72-43-5	5 ug/kg	<5	
Toxaphene	8001-35-2	200 ug/kg	<200	
Endrin ketone	53494-70-5	5 ug/kg	<5	

MDL = Minimum Detection Limit.

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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3.0 LABORATORY ANALYSIS

3.1 ANALYTICAL TEST METHODS

The soil samples were transported to a New York State Certified Commercial ELAP Laboratory for analysis. Selection of the analytical test methods for the soil samples was based on the NYSDOH recommended soil sampling parameters for agricultural soils on Long Island. Analysis of four (4) of the soil samples consisted of pesticides and metals. Analysis of the four (4) additional samples was for arsenic, a common constituent associated with agricultural chemicals.

3.2 ANALYTICAL RESULTS

The laboratory results revealed the eight (8) 0-3 inch samples analyzed exhibited elevated concentrations of several of the analyzed pesticide constituents and metals. None of the detected pesticide compounds exceeded their respective regulatory guidance values identified in USEPA Soil Screening Guidance - Soil Screening Levels as imposed by SCDHS and/or the NYSDEC 6 NYCRR Part 375 soil cleanup objectives for unrestricted use. However, arsenic was elevated and exceeded the regulatory guidance values identified in USEPA Soil Screening Guidance - Soil Screening Levels in all of the samples with the exception of P-7. In addition, the detection of arsenic in the 0-3 inch sampled collected from sample location P-3 was also found to exceed the 6 NYCRR recommended soil cleanup objective for arsenic as well. Arsenic is typical in shallow soils of Long Island farm fields and SCDHS who provides assistance to Towns upon request and in other jurisdictions has set a guidance value of 4.0 mg/kg for arsenic. **Tables 1A** and **1B** identify those constituents from the 0-3 inch intervals which exhibited elevated concentrations and the regulatory guidance values. Based on the results of the 0-3 inch samples all of the 3-6 inch samples were analyzed for the presence of arsenic.

Review of the analytical results for all the 3-6 inch interval samples analyzed for arsenic detected the presence of arsenic which exceeded the USEPA Soil Screening Guidance - Soil Screening Levels in all of the samples. In addition, all of the samples except one (P-5) were found to also exceed the 6 NYCRR soil cleanup objectives for arsenic. A summary of the analytical results for the 3-6 inch sample intervals is provided in **Table 2**.

The original laboratory analysis sheets as provided by Long Island Analytical Laboratories, Inc. are presented in **Appendix A** of this document.

TABLE 1A
0-3 INCH PESTICIDE AND METALS RESULTS

Constituents	P-2 (0-3)	P-5 (0-3)	P-6 (0-3)	P-8 (0-3)	USEPA SSL	6 NYCRR Part 375
Pesticides	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**	**ug/kg**
Chlordane	ND	ND	ND	ND	500	*910*
4,4'-DDD	ND	ND	ND	ND	3,0000	*2,600*
4,4'-DDE	ND	62.3	8.81	20.6	2,000	*1,800*
4,4'-DDT	ND	32.1	ND	7.82	2,000	*1,700*
Dieldrin	ND	ND	ND	ND	40	*39*
Endosulfan I	ND	ND	ND	ND	470,000	*4,800*
Endosulfan II	ND	ND	ND	ND	470,000	*4,800*
Endosulfan sulfate	ND	ND	ND	ND	NA	*4,800*
Endrin	ND	ND	ND	ND	23,000	*2,200*
Endrin ketone	ND	ND	ND	ND	NA	*NA*
Metals	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Arsenic	**12.9**	**6.33**	**7.66**	**11.7**	4.0	*13*
Chromium	9.45	6.98	8.67	7.15	390	*30*
Copper	15.3	12.8	10.5	13.1	NS	*50*
Mercury	0.073	0.123	0.131	0.056	23	*0.18*
Nickel	5.18	4.0	5.18	3.57	1,600	*30*
Lead	30.8	21.9	16.1	17.1	400	*63*

Notes: ND = Not Detected; NA = Not Applicable; SB = Soil Background
Bold indicates the constituent exceeds the USEPA standards.

TABLE 1B
0-3 INCH ARSENIC RESULTS

Constituent	P-1 (0-3)	P-3 (0-3)	P-4 (0-3)	P-7 (0-3)	USEPA SSL	6 NYCRR Part 375
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Arsenic	**15.8**	*16.9*	**12.3**	ND	4.0	*13*

Notes: All results are reported in mg/kg; ND = Not Detected; NA = Not Applicable; SB = Soil Background
Bold indicates the constituent exceeds the USEPA standards; Italics indicates the constituent exceeds the NYSDEC standards.

TABLE 2
3-6 INCH ARSENIC RESULTS

Constituent	P-1 (3-6)	P-2 (3-6)	P-3 (3-6)	P-4 (3-6)	P-5 (3-6)	P-6 (3-6)	P-7 (3-6)	P-8 (3-6)	USEPA SSL	6 NYCRR Part 375
Arsenic	*17.5*	*18.3*	*26.9*	*18.1*	9.35	*13.5*	*12.8*	*13.3*	4.0	*13*

Notes: All results are reported in mg/kg; ND = Not Detected; NA = Not Applicable; SB = Soil Background
Bold indicates the constituent exceeds the USEPA standards; Italics indicates the constituent exceeds the NYSDEC standards.

4.0 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES (QA/QC)

Sampling protocol was conducted in accordance with USEPA accepted sampling procedures for hazardous waste streams (Municipal Research Laboratory, 1980, Sampling and Sampling Procedures for Hazardous Material Waste Streams, USEPA, Cincinnati, Ohio EPA- 600\280-018) and ASTM Material Sampling Procedures. All samples were collected by or under the auspices of USEPA trained personnel having completed the course Sampling of Hazardous Materials, offered by the Office of Emergency and Remedial Response.

Separate QA/QC measures were implemented for each of the instruments used in the Sampling and Analysis Program. Sampling instruments included a stainless steel trowel and hand auger and sample vessels.

Prior to arrival on the subject property and between sample locations, the hand auger was decontaminated by washing with a detergent (alconox/liquinox) and potable water solution with distilled water rinse. All sample vessels were "level A" certified decontaminated containers. Samples were placed into vessels consistent with the analytical parameters. After acquisition, samples were preserved in the field. All containerized samples were refrigerated to 4° C during transport.

A sample represents physical evidence, therefore, an essential part of liability reduction is the proper control of gathered evidence. To establish proper control, the following sample identification and chain-of-custody procedures were followed.

Sample Identification

Sample identification was executed by use of a sample tag, logbook and manifest. Documentation provides the following:

1. Project Code
2. Sample Laboratory Number
3. Sample Preservation
4. Instrument Used for Source Soil Grabs
5. Composite Medium Used for Source Soil Grabs
6. Date Sample was Secured from Source Soil
7. Time Sample was Secured from Source Soil
8. Person Who Secured Sample from Source Soil

Chain-of-Custody Procedures

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered under custody if:

It was in a person's possession, or
It was in a person's view, after being in possession, or
It was in a person's possession and they were to lock it up, or
It is in a designated secure area.

When transferring custody, the individuals relinquishing and receiving signed, dated and noted the time of the Chain-of- Custody Form.

Laboratory Custody Procedures

A designated sample custodian accepted custody of the shipped samples and verified that the information on the sample tags matched that on the Chain-of-Custody records. Pertinent information as to shipment, pick-up, courier, etc. was entered in the "remarks" section. The custodian then entered the sample tag data into a bound logbook which was arranged by project code and station number.

The laboratory custodian used the sample tag number or assigned an unique laboratory number to each sample tag and assured that all samples were transferred to the proper analyst or stored in the appropriate source area.

The custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples from the time they were received until the sample was exhausted or returned to the custodian.

All identifying data sheets and laboratory records were retained as part of the permanent site record. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

5.0 SUMMARY AND CONCLUSION

This investigation was completed in order to determine if certain pesticide related compounds were present in the soils of the subject property. A sampling and analysis program (SAP) was designed to determine the concentrations of pesticides and metals in the soil in accordance with recommendations of the NYSDOH. The SAP consisted of collection of discrete soil samples at depths of 0-3 and 3-6 inches in the former farm field area of the property. Laboratory analysis of the soil samples was performed using analytical test methods consistent with expected parameters and NYSDOH guidance. The following presents an evaluation of the results of this investigation.

1. The laboratory results revealed the eight (8) 0-3 inch samples analyzed exhibited elevated concentrations of several of the analyzed pesticide constituents and metals. None of the detected pesticide compounds exceeded their respective regulatory guidance values identified in USEPA Soil Screening Guidance - Soil Screening Levels as imposed by SCDHS and/or the NYSDEC 6 NYCRR Part 375 soil cleanup objectives. However, arsenic was elevated and exceeded the regulatory guidance values identified in USEPA Soil Screening Guidance - Soil Screening Levels in all of the samples with the exception of P-7. In addition, the detection of arsenic in the 0-3 inch sampled collected from sample location P-3 was also found to exceed the 6 NYCRR recommended soil cleanup objective for arsenic as well. Arsenic is typical in shallow soils of Long Island farm fields and SCDHS who provides assistance to Towns upon request and in other jurisdictions has set a guidance value of 4.0 mg/kg for arsenic. Based on the results of the 0-3 inch samples all of the 3-6 inch samples were analyzed for the presence of arsenic.

2. Review of the analytical results for all the 3-6 inch interval samples analyzed for arsenic detected the presence of arsenic which exceeded the USEPA Soil Screening Guidance - Soil Screening Levels in all of the samples. In addition, all of the samples except one (P-5) were found to also exceed the 6 NYCRR soil cleanup objectives for arsenic.

In summary, representative soils on the subject property were sampled and analyzed for the presence of pesticides and metals. As a result, of this investigation a Soil Management Plan (SMP) will be needed to ensure that health and safety objectives are met.

Date of Completion

Charles J. Voorhis, CEP, AICP
NELSON, POPE & VOORHIS, LLC

6.0 REFERENCES

New York State Department of Environmental Conservation (NYSDEC), 1992, Sampling Guidelines and Protocols, Technology Background and Quality Control/Quality Assurance for NYSDEC Spill Response Program, NYSDEC, Albany, New York.

NYSDEC, 1994, Technical Administrative Guidance Memorandum, HWR-94-4046, Determination of soil cleanup objectives and cleanup levels, Division of Hazardous Waste Remediation, Albany, New York.

NYSDOH, 1996, letter dated July 15, 1996 from Edward Horn, Ph.D., Director Bureau of Toxic Substance Assessment to Frank Randall, Chief, Inspection Services Bureau NYSDOH.

USEPA, Office of Solid Waste and Emergency Response, 1996, Publication 9355.4-23, Soil Screening Guidance User's Guide, Washington, D.C.

SCDHS, Division of Environmental Quality, February 2006, Procedures for Municipalities to Evaluate the Need for Soil Sampling and Soil Management at Subdivisions or Other Construction Projects with Potentially Contaminated Soils, Yaphank, NY.

APPENDICES

APPENDIX A

LONG ISLAND ANALYTICAL LABORATORIES, INC.

LABORATORY DATA SHEETS

LONG ISLAND ANALYTICAL LABORATORIES INC.

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

March 27, 2008

Nelson, Pope & Voorhis
Eric Arnesen
572 Walt Whitman Road
Melville, New York 11747

Re: Sandy Wells

Dear Mr. Arnesen:

Enclosed please find the Laboratory Analysis Report(s) for sample(s) received on March 21, 2008. Long Island Analytical Laboratories analyzed the samples on March 26, 2008 for the following:

CLIENT ID	ANALYSIS
P-1 {0-3}	Total Arsenic Analysis
P-2 {0-3}	EPA 8081, EPA 8151, SCDH Metals Analysis
P-3 {0-3}	Total Arsenic Analysis
P-4 {0-3}	Total Arsenic Analysis
P-5 {0-3}	EPA 8081, EPA 8151, SCDH Metals Analysis
P-6 {0-3}	EPA 8081, EPA 8151, SCDH Metals Analysis
P-7 {0-3}	Total Arsenic Analysis
P-8 {0-3}	EPA 8081, EPA 8151, SCDH Metals Analysis

Samples received at 2°C.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted above. Report shall not be reproduced except in full, without the written approval of the laboratory. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

110 Colin Drive • Holbrook, New York 11741
Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills
Date received: 3/21/08	Laboratory ID: 1154622
Date extracted: 3/25/08	Matrix: Soil
Date analyzed: 3/25/08	ELAP #: 11693

TOTAL ARSENIC ANALYSIS

Lab ID	Client ID	MRL	Results mg/kg	FLAG
1154622	P-1 {0-3})	1.65 mg/kg	15.8	

MRL = Minimum Reporting Limit
METHOD: EPA SW-846 3050 / 6010B

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-2 {0-3})
Date received: 3/21/08	Laboratory ID: 1154623
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

PESTICIDES EPA METHOD 8081

COMPOUND	CAS No.	MDL	RESULTS ug/kg	Flag
Aldrin	309-00-2	5 ug/kg	<5	
α - BHC	319-84-6	5 ug/kg	<5	
β - BHC	319-85-7	5 ug/kg	<5	
δ - BHC	319-86-8	5 ug/kg	<5	
γ - BHC (Lindane)	58-89-9	5 ug/kg	<5	
Chlordane	12789-03-6	15 ug/kg	<15	
4,4'- DDD	72-54-8	5 ug/kg	<5	
4,4'-DDE	72-55-9	5 ug/kg	<5	
4,4'-DDT	50-29-3	5 ug/kg	<5	
Dieldrin	60-57-1	5 ug/kg	<5	
Endosulfan I	959-98-8	5 ug/kg	<5	
Endosulfan II	33212-65-9	5 ug/kg	<5	
Endosulfan sulfate	1031-07-8	5 ug/kg	<5	
Endrin	72-20-8	5 ug/kg	<5	
Endrin aldehyde	7421-93-4	5 ug/kg	<5	
Heptachlor	76-44-8	5 ug/kg	<5	
Heptachlor epoxide	1024-57-3	5 ug/kg	<5	
4,4'-Methoxychlor	72-43-5	5 ug/kg	<5	
Toxaphene	8001-35-2	200 ug/kg	<200	
Endrin ketone	53494-70-5	5 ug/kg	<5	

MDL = Minimum Detection Limit.

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-2 {0-3})
Date received: 3/21/08	Laboratory ID: 1154623
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

EPA METHOD 8151

PARAMETER	CAS #	MDL	RESULTS ug/kg	FLAG
DICAMBA	1918-00-9	50 ug/kg	<50	
2,4-D	94-75-7	50 ug/kg	<50	
SILVEX(2,4,5-TP)	93-72-1	50 ug/kg	<50	
2,4,5-T	93-76-5	50 ug/kg	<50	
2,4-DB	94-82-6	50 ug/kg	<50	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-2 {0-3})
Date received: 3/21/08	Laboratory ID: 1154623
Date analyzed: See Below	Matrix: Soil

METALS ANALYSIS

PARAMETER	MDL	DATE ANALYZED	RESULTS mg/kg	FLAG
SILVER, Ag	1.65 mg/kg	3/25/08	<1.65	
ARSENIC, As	1.65 mg/kg	3/25/08	12.9	
BERYLLIUM, Be	1.65 mg/kg	3/25/08	<1.65	
CADMIUM, Cd	1.00 mg/kg	3/25/08	<1.00	
CHROMIUM, Cr	1.65 mg/kg	3/25/08	9.45	
COPPER, Cu	1.65 mg/kg	3/25/08	15.3	
MERCURY, Hg•	0.020 mg/kg	3/26/08	0.073	
NICKEL, Ni	1.65 mg/kg	3/25/08	5.18	
LEAD, Pb	1.65 mg/kg	3/25/08	30.8	

MDL = Minimum Detection Limit.
Performed by EPA Method 6010B
•Method: EPA 7471A

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills
Date received: 3/21/08	Laboratory ID: 1154624-1154625
Date extracted: 3/25/08	Matrix: Soil
Date analyzed: 3/25/08	ELAP #: 11693

TOTAL ARSENIC ANALYSIS

Lab ID	Client ID	MRL	Results mg/kg	FLAG
1154624	P-3 {0-3})	1.65 mg/kg	16.9	
1154625	P-4 {0-3})	1.65 mg/kg	12.3	

MRL = Minimum Reporting Limit
METHOD: EPA SW-846 3050 / 6010B

Calculated on a wet weight basis

Michael Veraldi

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-5 {0-3})
Date received: 3/21/08	Laboratory ID: 1154626
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

PESTICIDES EPA METHOD 8081

COMPOUND	CAS No.	MDL	RESULTS ug/kg	Flag
Aldrin	309-00-2	5 ug/kg	<5	
α - BHC	319-84-6	5 ug/kg	<5	
β - BHC	319-85-7	5 ug/kg	<5	
δ - BHC	319-86-8	5 ug/kg	<5	
γ - BHC (Lindane)	58-89-9	5 ug/kg	<5	
Chlordane	12789-03-6	15 ug/kg	<15	
4,4'- DDD	72-54-8	5 ug/kg	<5	
4,4'-DDE	72-55-9	5 ug/kg	62.3	
4,4'-DDT	50-29-3	5 ug/kg	32.1	
Dieldrin	60-57-1	5 ug/kg	<5	
Endosulfan I	959-98-8	5 ug/kg	<5	
Endosulfan II	33212-65-9	5 ug/kg	<5	
Endosulfan sulfate	1031-07-8	5 ug/kg	<5	
Endrin	72-20-8	5 ug/kg	<5	
Endrin aldehyde	7421-93-4	5 ug/kg	<5	
Heptachlor	76-44-8	5 ug/kg	<5	
Heptachlor epoxide	1024-57-3	5 ug/kg	<5	
4,4'-Methoxychlor	72-43-5	5 ug/kg	<5	
Toxaphene	8001-35-2	200 ug/kg	<200	
Endrin ketone	53494-70-5	5 ug/kg	<5	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-5 {0-3})
Date received: 3/21/08	Laboratory ID: 1154626
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

EPA METHOD 8151

PARAMETER	CAS #	MDL	RESULTS ug/kg	FLAG
DICAMBA	1918-00-9	50 ug/kg	<50	
2,4-D	94-75-7	50 ug/kg	<50	
SILVEX(2,4,5-TP)	93-72-1	50 ug/kg	<50	
2,4,5-T	93-76-5	50 ug/kg	<50	
2,4-DB	94-82-6	50 ug/kg	<50	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-6 {0-3})
Date received: 3/21/08	Laboratory ID: 1154627
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

EPA METHOD 8151

PARAMETER	CAS #	MDL	RESULTS ug/kg	FLAG
DICAMBA	1918-00-9	50 ug/kg	<50	
2,4-D	94-75-7	50 ug/kg	<50	
SILVEX(2,4,5-TP)	93-72-1	50 ug/kg	<50	
2,4,5-T	93-76-5	50 ug/kg	<50	
2,4-DB	94-82-6	50 ug/kg	<50	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-6 {0-3})
Date received: 3/21/08	Laboratory ID: 1154627
Date analyzed: See Below	Matrix: Soil

METALS ANALYSIS

PARAMETER	MDL	DATE ANALYZED	RESULTS mg/kg	FLAG
SILVER, Ag	1.65 mg/kg	3/25/08	<1.65	
ARSENIC, As	1.65 mg/kg	3/25/08	7.66	
BERYLLIUM, Be	1.65 mg/kg	3/25/08	<1.65	
CADMIUM, Cd	1.00 mg/kg	3/25/08	<1.00	
CHROMIUM, Cr	1.65 mg/kg	3/25/08	8.67	
COPPER, Cu	1.65 mg/kg	3/25/08	10.5	
MERCURY, Hg•	0.020 mg/kg	3/26/08	0.131	
NICKEL, Ni	1.65 mg/kg	3/25/08	5.18	
LEAD, Pb	1.65 mg/kg	3/25/08	16.1	

MDL = Minimum Detection Limit.
Performed by EPA Method 6010B
•Method: EPA 7471A

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills
Date received: 3/21/08	Laboratory ID: 1154628
Date extracted: 3/25/08	Matrix: Soil
Date analyzed: 3/25/08	ELAP #: 11693

TOTAL ARSENIC ANALYSIS

Lab ID	Client ID	MRL	Results mg/kg	FLAG
1154628	P-7 {0-3})	1.65 mg/kg	<1.65	

MRL = Minimum Reporting Limit
METHOD: EPA SW-846 3050 / 6010B

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-8 {0-3})
Date received: 3/21/08	Laboratory ID: 1154629
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

PESTICIDES EPA METHOD 8081

COMPOUND	CAS No.	MDL	RESULTS ug/kg	Flag
Aldrin	309-00-2	5 ug/kg	<5	
α - BHC	319-84-6	5 ug/kg	<5	
β - BHC	319-85-7	5 ug/kg	<5	
δ - BHC	319-86-8	5 ug/kg	<5	
γ - BHC (Lindane)	58-89-9	5 ug/kg	<5	
Chlordane	12789-03-6	15 ug/kg	<15	
4,4'- DDD	72-54-8	5 ug/kg	<5	
4,4'-DDE	72-55-9	5 ug/kg	20.6	
4,4'-DDT	50-29-3	5 ug/kg	7.82	
Dieldrin	60-57-1	5 ug/kg	<5	
Endosulfan I	959-98-8	5 ug/kg	<5	
Endosulfan II	33212-65-9	5 ug/kg	<5	
Endosulfan sulfate	1031-07-8	5 ug/kg	<5	
Endrin	72-20-8	5 ug/kg	<5	
Endrin aldehyde	7421-93-4	5 ug/kg	<5	
Heptachlor	76-44-8	5 ug/kg	<5	
Heptachlor epoxide	1024-57-3	5 ug/kg	<5	
4,4'-Methoxychlor	72-43-5	5 ug/kg	<5	
Toxaphene	8001-35-2	200 ug/kg	<200	
Endrin ketone	53494-70-5	5 ug/kg	<5	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-8 {0-3})
Date received: 3/21/08	Laboratory ID: 1154629
Date extracted: 3/24/08	Matrix: Soil
Date analyzed: 3/24/08	ELAP #: 11693

EPA METHOD 8151

PARAMETER	CAS #	MDL	RESULTS ug/kg	FLAG
DICAMBA	1918-00-9	50 ug/kg	<50	
2,4-D	94-75-7	50 ug/kg	<50	
SILVEX(2,4,5-TP)	93-72-1	50 ug/kg	<50	
2,4,5-T	93-76-5	50 ug/kg	<50	
2,4-DB	94-82-6	50 ug/kg	<50	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope & Voorhis	Client ID: Sandy Hills (P-8 {0-3})
Date received: 3/21/08	Laboratory ID: 1154629
Date analyzed: See Below	Matrix: Soil

METALS ANALYSIS

PARAMETER	MDL	DATE ANALYZED	RESULTS mg/kg	FLAG
SILVER, Ag	1.65 mg/kg	3/25/08	<1.65	
ARSENIC, As	1.65 mg/kg	3/25/08	11.7	
BERYLLIUM, Be	1.65 mg/kg	3/25/08	<1.65	
CADMIUM, Cd	1.00 mg/kg	3/25/08	<1.00	
CHROMIUM, Cr	1.65 mg/kg	3/25/08	7.15	
COPPER, Cu	1.65 mg/kg	3/25/08	13.1	
MERCURY, Hg•	0.020 mg/kg	3/26/08	0.056	
NICKEL, Ni	1.65 mg/kg	3/25/08	3.57	
LEAD, Pb	1.65 mg/kg	3/25/08	17.1	

MDL = Minimum Detection Limit.
Performed by EPA Method 6010B
•Method: EPA 7471A

Calculated on a wet weight basis

Michael Veraldi

Michael Veraldi-Laboratory Director

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CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

76

CLIENT NAME/ADDRESS	CONTACT: Eric Aderson	SAMPLER (SIGNATURE)	DATE	TIME	SAMPLE(S) SEALED	LABORATORY CHAIN ID # (FOR LAB USE ONLY)
NPV 572 WALT WHITMAN RD. MELVILLE NY 11747	PHONE: 427-5665	[signature]	3/21/08	1000	YES / NO	
	FAX:	SAMPLER NAME (PRINT): Eric Aderson	DATE	TIME	CORRECT CONTAINER(S) YES / NO	

PROJECT LOCATION: Sandy Walls

SAMPLES RECEIVED AT: 2 °C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month. Tendering of samples to LIAL for analytical testing constitutes agreement by buyer/sampler to LIAL's Standard terms

LABORATORY ID # (For Laboratory Use Only)	MATRIX	TYPE	pH	RES. CHLORINE	DATE	TIME	PRES.	SAMPLE # LOCATION	8081	8151	3050 Metals	Asbestos	# OF CONTAINERS
1. 115462L	S	G	–	–	3/21	745		P-1 0-3				X	1
2. 115462J						750		P-2 0-3	X	X	X		
3. 115462W						803		P-3 0-3				X	
4. 115462V						810		P-4 0-3				X	
5. 115462U						813		P-5 0-3	X	X	X		
6. 115462T						822		P-6 0-3	X	X	X		
7. 115462S						843		P-7 0-3				X	
8. 115462R						852		P-8 0-3	X	X	X		
9.													
10.													
11.													
12.													
13.													
14.													

MATRIX: S=SOIL; SL=SLUDGE; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL, WW=WASTE WATER
TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON
PRES: (1) ICE; (2) HCL; (3) H_2SO_4; (4) NAOH; (5) $NA_2S_3O_3$; (6) HNO_3; (7) OTHER

TURNAROUND REQUIRED: ☒ NORMAL ☐ STAT
BY / /

COMMENTS / INSTRUCTIONS

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE / TIME	PRINTED NAME
[signature]	DATE 3/21/08 TIME 1200	Eric Aderson		DATE TIME	
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE 3-21-08 TIME 1200	PRINTED NAME

LONG ISLAND ANALYTICAL LABORATORIES INC.

"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

April 15, 2008

Nelson, Pope & Voorhis
Eric Arnesen
572 Walt Whitman Road
Melville, New York 11747

Re: Sandy Wells

Dear Mr. Arnesen:

Enclosed please find the Laboratory Analysis Report(s) for sample(s) received on April 9, 2008. Long Island Analytical Laboratories analyzed the samples on April 14, 2008 for the following:

CLIENT ID	ANALYSIS
P-1 {3-6}	Total Arsenic
P-2 {3-6}	Total Arsenic
P-3 {3-6}	Total Arsenic
P-4 {3-6}	Total Arsenic
P-5 {3-6}	Total Arsenic, and Mercury
P-6 {3-6}	Total Arsenic, and Mercury
P-7 {3-6}	Total Arsenic

Samples received at 2°C.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted above. Report shall not be reproduced except in full, without the written approval of the laboratory. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

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Client: Nelson, Pope, & Voorhis	Client ID: Sandy Wells
Date received: 4/9/08	Laboratory ID: 1155548-1155554
Date analyzed: 4/14/08	Matrix: Soil

TOTAL ARSENIC ANALYSIS

Lab ID	Client ID	MDL	Results mg/kg	Flag
1155548	P-1 {3-6}	1.65 mg/kg	17.5	
1155549	P-2 {3-6}	1.65 mg/kg	18.3	
1155550	P-3 {3-6}	1.65 mg/kg	26.9	
1155551	P-4 {3-6}	1.65 mg/kg	18.1	
1155552	P-5 {3-6}	1.65 mg/kg	9.35	
1155553	P-6 {3-6}	1.65 mg/kg	13.5	
1155554	P-7 {3-6}	1.65 mg/kg	12.8	

MDL = Minimum Detection Limit. Calculated on a wet weight basis
Performed by EPA Method 6010B

Michael Veraldi

Michael Veraldi-Laboratory Director

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Client: Nelson, Pope, & Voorhis	Client ID: Sandy Wells
Date received: 4/9/08	Laboratory ID: 1155552-1155553
Date extracted: 4/14/08	Matrix: Soil
Date analyzed: 4/14/08	ELAP #: 11693

TOTAL MERCURY ANALYSIS

Lab ID #	Client ID	MDL	Results mg/kg	FLAG
1155552	P-5 {3-6}	0.020 mg/kg	0.145	
1155553	P-6 {3-6}	0.020 mg/kg	0.313	

MDL = Minimum Detection Limit. Calculated on a wet weight basis

SW-846 7471A

Michael Veraldi

Michael Veraldi-Laboratory Director

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ISLAND
ANALYTICAL
LABORATORIES INC.

"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

LONG ISLAND ANALYTICAL LABORATORIES, INC.
DATA REPORTING FLAGS

For reporting results, the following "Flags" are used:

A: Time not supplied by client, may have exceeded holding time
B: Holding time exceeded, results cannot be used for regulatory purposes
C: Minimum detection limit raised due to matrix interference
D: Minimum detection limit raised due to target compound interference
E: Minimum detection limit raised due to non-target compound interference
F: Minimum detection limit raised due to insufficient sample volume
G: Sample received in incorrect container
H: Sample not preserved, corrected upon receipt
I: Dilution Water does not meet QC Criteria
J: Estimated concentration, exceeds calibration range
K: Target compound found in blank
L: Subcontractor ELAP #11398
M: Subcontractor ELAP #10320
N: Subcontractor NVLAP #102047.0
O: Subcontractor AIHA #103005
P: Subcontractor A2LA 2004-01
Q: Subcontractor ELAP #11026
R: Subcontractor ELAP #10155
S: Subcontractor ELAP #11501
T: Subcontractor CTC
U: Subcontractor ELAP #11685
V: QC affected by matrix
W: Subcontractor ELAP #10248
X: QC does not meet acceptance criteria
Y: Sample container received with head space
Z: Insufficient sample volume received
AA: Preliminary results, cannot be used for regulatory purposes.
BB: Spike recovery does not meet QC criteria due to high target concentration
CC: Date reported below the lower limit of quantitation and should be considered to have an increased quantitative uncertainty.
DD: Sampling information not supplied and/or sample not taken by qualified technician, therefore verifiability of the report is limited to results only. Report cannot be used for regulatory purposes.
EE: Subcontractor ELAP : #11777
FF: Unable to verify that the wipe samples submitted conform to ASTM E1792 or specifications issued by the EPA.
GG: Level found exceeds the maximum contaminant level (MCL) as set by local, state or federal agencies.
HH: Subcontractor ELAP #10750
II: Subcontractor ELAP #10145

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CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT (14)

CLIENT NAME/ADDRESS: NPV, 572 WEST WILLIAMSON RD, MELVILLE NY 11747

CONTACT: ERIC ARNESEN
PHONE: 427-5266
FAX:

SAMPLER (SIGNATURE): Eric C — DATE: 3/21/08 — TIME: 1000
SAMPLER NAME (PRINT): ERIC ARNESEN

SAMPLE(S) SEALED: YES / NO
CORRECT CONTAINER(S): YES / NO

L 0037874 (F
0037874

PROJECT LOCATION: SAND VENS

SAMPLES RECEIVED AT: 2 °C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month. Tendering of samples to LIAL for analytical testing constitutes agreement by buyer/sampler to LIAL's Standard terms

LABORITORY ID # (For Laboratory Use Only)	MATRIX	TYPE	pH	RES. CHLORINE	DATE	TIME	PRES.	SAMPLE # LOCATION	8081	8151	3050/3545 Arsenic	Mercury								# OF CONTAINERS
1. 115548	S	G	–	–	3/21	747		P-1 3-6			X									1
2. 115549						752		P-2 3-6	X	X	X	X								
3. 115550						805		P-3 3-6				X								
4. 115551						812		P-4 3-6				X								
5. 115552						816		P-5 3-6	X	X	X	X	X							
6. 115553						825		P-6 3-6	X	X	X	X	X							
7. 115554						842		P-7 3-6				X								
8.						900		P-8 3-6	X	X	X	X								
9.																				
10.																				
11.																				
12.																				
13.																				
14.																				

HOLD

MATRIX: S=SOIL; SL=SLUDGE; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL, WW=WASTE WATER
TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON
PRES: (1) ICE; (2) HCL; (3) H_2SO_4; (4) NAOH; (5) $NA_2S_2O_3$; (6) HNO_3; (7) OTHER

TURNAROUND REQUIRED: ☑ NORMAL ☐ STAT
BY / /

COMMENTS / INSTRUCTIONS: WAD Pendant 0'-3' Results

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE / TIME	PRINTED NAME
Eric C	3/21/08 1200	ERIC ARNESEN			
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE 3-21-08 / TIME 1200 PM	PRINTED NAME

LONG ISLAND ANALYTICAL LABORATORIES INC.

NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

April 18, 2008

Nelson, Pope & Voorhis
Eric Arnesen
572 Walt Whitman Road
Melville, New York 11747

Re: Sandy Wells

Dear Mr. Arnesen:

Enclosed please find the Laboratory Analysis Report(s) for sample(s) resubmitted on April 15, 2008. Long Island Analytical Laboratories analyzed the samples on April 17, 2008 for the following:

CLIENT ID	ANALYSIS
P-8 {3-6}	Total Arsenic

Samples received at 2°C.

If you have any questions or require further information, please call at your convenience. Long Island Analytical Laboratories Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAP standards unless noted above. Report shall not be reproduced except in full, without the written approval of the laboratory. Long Island Analytical Laboratories would like to thank you for the opportunity to be of service to you.

Best Regards,

Long Island Analytical Laboratories, Inc.

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Client: Nelson, Pope, & Voorhis	Client ID: Sandy Wells
Date received: 4/9/08*	Laboratory ID: 1155914
Date analyzed: 4/17/08	Matrix: Soil

TOTAL ARSENIC ANALYSIS

Lab ID	Client ID	MDL	Results mg/kg	Flag
1155914	P-8 {3-6}	1.65 mg/kg	13.3	

MDL = Minimum Detection Limit. Calculated on a wet weight basis
Performed by EPA Method 6010B

Michael Veraldi

Michael Veraldi-Laboratory Director

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NYSDOH ELAP# 11693
USEPA# NY01273
CTDOH# PH-0284
AIHA# 164456
NJDEP# NY012
PADEP# 68-2943

LONG ISLAND ANALYTICAL LABORATORIES, INC.
DATA REPORTING FLAGS

For reporting results, the following "Flags" are used:

A: Time not supplied by client, may have exceeded holding time
B: Holding time exceeded, results cannot be used for regulatory purposes
C: Minimum detection limit raised due to matrix interference
D: Minimum detection limit raised due to target compound interference
E: Minimum detection limit raised due to non-target compound interference
F: Minimum detection limit raised due to insufficient sample volume
G: Sample received in incorrect container
H: Sample not preserved, corrected upon receipt
I: Dilution Water does not meet QC Criteria
J: Estimated concentration, exceeds calibration range
K: Target compound found in blank
L: Subcontractor ELAP #11398
M: Subcontractor ELAP #10320
N: Subcontractor NVLAP #102047.0
O: Subcontractor AIHA #103005
P: Subcontractor A2LA 2004-01
Q: Subcontractor ELAP #11026
R: Subcontractor ELAP #10155
S: Subcontractor ELAP #11501
T: Subcontractor CTC
U: Subcontractor ELAP #11685
V: QC affected by matrix
W: Subcontractor ELAP #10248
X: QC does not meet acceptance criteria
Y: Sample container received with head space
Z: Insufficient sample volume received
AA: Preliminary results, cannot be used for regulatory purposes.
BB: Spike recovery does not meet QC criteria due to high target concentration
CC: Date reported below the lower limit of quantitation and should be considered to have an increased quantitative uncertainty.
DD: Sampling information not supplied and/or sample not taken by qualified technician, therefore verifiability of the report is limited to results only. Report cannot be used for regulatory purposes.
EE: Subcontractor ELAP : #11777
FF: Unable to verify that the wipe samples submitted conform to ASTM E1792 or specifications issued by the EPA.
GG: Level found exceeds the maximum contaminant level (MCL) as set by local, state or federal agencies.
HH: Subcontractor ELAP #10750
II: Subcontractor ELAP #10145

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CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

CLIENT NAME/ADDRESS: NPV, 572 West Walnut Rd, Melville NY 11747

CONTACT: Eric Arnesen

PHONE: 427-5665

FAX:

SAMPLER (SIGNATURE): Eric A — DATE: 3/21/08 — TIME: 1000

SAMPLER NAME (PRINT): Eric Arnesen — DATE — TIME

SAMPLE(S) SEALED: YES / NO

CORRECT CONTAINER(S): YES / NO

0037874

0037874

PROJECT LOCATION: Sandy Hollows

SAMPLES RECEIVED AT: 2 °C

TERMS & CONDITIONS: Accounts are payable in full within thirty days, outstanding balances accrue service charges of 1.5% per month. Tendering of samples to LIAL for analytical testing constitutes agreement by buyer/sampler to LIAL's Standard terms

LABORITORY ID # (For Laboratory Use Only)	MATRIX	TYPE	pH	RES. CHLORINE	DATE	TIME	PRES.	SAMPLE # LOCATION	8081	8151	3005A/6010	Arsenic	MTM (WA)								# OF CONTAINERS
1. 115548	S	G	–	–	3/21	745		P-1 3-6				X									1
2. 115549						752		P-2 3-6	X	X	X	X									1
3. 115550						805		P-3 3-6				X									1
4. 115551						812		P-4 3-6				X									1
5. 115552						816		P-5 3-6	X	X	X	X	X								1
6. 115553						825		P-6 3-6	X	X	X	X	X								1
7. 115554						842		P-7 3-6				X									1
8. 115914						900		P-8 3-6	X	X	X	X									1
9.																					
10.																					
11.																					
12.																					
13.																					
14.																					

HOLD

MATRIX: S=SOIL; SL=SLUDGE; DW=DRINKING WATER; A=AIR; W=WIPE; PC=PAINT CHIPS; BM= BULK MATERIAL, O=OIL, WW=WASTE WATER

TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON

PRES: (1) ICE; (2) HCL; (3) H_2SO_4; (4) NAOH; (5) $NA_2S_2O_3$; (6) HNO_3; (7) OTHER

TURNAROUND REQUIRED: ☑ NORMAL ☐ STAT BY / /

COMMENTS / INSTRUCTIONS: H2O Percent 0"-3" Results

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY (SIGNATURE)	DATE / TIME	PRINTED NAME
Eric A	3/21/08 1200	Eric Arnesen			
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY SAMPLE CUSTODIAN	DATE 3-21-08 / TIME 1200 P	PRINTED NAME

WHITE - OFFICE / CANARY - LAB / PINK - SAMPLE CUSTODIAN / GOLDENROD - CLIENT NYSDOH ELAP# 11693 USEPA# NY01273 AIHA# 164456 CTDOH# PH-0284

APPENDIX B

WATER RESOURCE DOCUMENTS

Appendix B-1

SONIR Model User's Guide

SONIR MODEL USER'S GUIDE

Simulation of Nitrogen in Recharge (SONIR)
Nelson, Pope & Voorhis, LLC Microcomputer Model

INTRODUCTION

SONIR is a microcomputer model developed by Charles J. Voorhis, CEP, AICP for use by Nelson, Pope & Voorhis, LLC in order to simulate the hydrologic water budget of a site and determine total nitrogen and nitrogen present in recharge in connection with land use projects. The model was developed on the Microsoft Excel Spreadsheet (trademark of Microsoft Products) for IBM (trademark of International Business Machines, Inc.) or compatible Personal Computers capable of running Excel.

Nitrogen has been identified as a source of contamination primarily from sanitary discharge and lawn fertilization. Nitrogen is of concern as a drinking water contaminant, and there is an established health limit of 10 milligrams per liter (mg/l) in drinking water. Nitrogen is also of concern in surface water, as it is a nutrient that when present in high concentrations can cause algal blooms, resulting in biological oxygen demand as algae is biologically decomposed. Depleted oxygen in surface waters causes conditions unfavorable to fish species and can result in extremely undesirable aesthetic impacts, primarily related to odors. Accordingly, it is necessary to understand the concentration of nitrogen recharge as related to a proposed site development.

Utilizing a mass-balance concept, and applying known hydrologic facts and basic assumptions, it is possible to predict the concentration of nitrogen in recharge to the shallow aquifer underlying a given site. This prediction can in turn be used to determine impacts and significance of impacts in consideration of hydrogeologic factors. Similar techniques have been used to simulate nitrogen in recharge as published by the New York State Water Resources Institute, Center for Environmental Research at Cornell University, Ithaca, New York (**Hughes and Pacenka, 1985**). SONIR is intended to provide a more versatile model based upon the BURBS Mass-Balance concept. SONIR allows for use of the model to predict nitrogen impact from many sources including sewage treatment plants, and further allows for determination of a wider variety site recharge components under the hydrologic water budget section. SONIR has more versatility in the input of information, and also provides a printout of each step performed by the model, in order for regulatory agencies and review entities to understand how values are derived.

This text describes in detail the definition of terms, supported by referenced information regarding input of data for the simulation. The concept of determining the concentration of nitrogen in recharge involves a predication of the weight of nitrogen introduced to the site, as compared to the quantity of recharge resulting from precipitation and wastewater water discharge. Losses due to evapotranspiration and runoff must be accounted for in the simulation. The values and relationship associated with these parameters determines the quantity of recharge that enters the site. The prediction is generally annualized due to the availability of average

annual hydrologic data; however, data input can be determined on a seasonal basis if information is available.

The model includes four (4) data sheets identified as follows:

* Data Input Field - Sheet 1
* Site Recharge Computations - Sheet 2
* Site Nitrogen Budget - Sheet 3
* Nitrogen in Recharge Output Field - Sheet 4

All information required by the model is input in Sheet 1 - Data Input Field. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

It should be noted that the simulation is only as accurate as the data which is input into the model. An understanding of hydrologic principles is necessary to determine and justify much of the data inputs used for water budget parameters. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must apply caution in arriving at assumptions in order to ensure justifiable results.

SITE RECHARGE COMPUTATIONS

Overview

SONIR utilizes the basic hydrologic equation for determining the quantity of recharge anticipated by subtracting recharge losses from total precipitation. The quantity of recharge resulting from a given site is determined using the hydrologic budget equation **(Koszalka, 1984; p. 19):**

$$R = P - (E + Q)$$

where:

R = recharge
P = precipitation
E = evapotranspiration
Q = overland runoff

The quantity of recharge must be determined for each type of land use existing on a site, in order to determine the resultant site recharge. Surfaces commonly considered include: impervious surfaces; turfed areas; and natural areas; however, SONIR allows for a variety of land cover types to be considered in the model. In addition, site recharge occurs as a result of irrigation and wastewater discharge. In cases where water is imported to a site via a public water system, this quantity of recharge must be considered as additional water recharged on site. SONIR allows for all of these recharge components to be included in the simulation. Many sites have fresh surface

water in the form of lakes and ponds. Precipitation falls upon these surfaces; however, such features generally act as a mechanism for water loss as a result of evaporation. SONIR includes a Water Area Loss component in determining the site Hydrologic Water Budget and in computing recharge nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the hydrologic water budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Area of Site* - The total area of the site (in acres) that is capable of recharging precipitation is entered in this data cell. For sites that include tidal wetlands, the area that is inundated by tidal waters should be excluded, as recharge from these areas should not be considered in the context of nitrogen simulation. For sites that include surface water, the area can be included, provided evaporative water loss from surface water is considered by entering the acreage of surface water in Data Cell 15 noted below.

2. *Precipitation Rate* - Precipitation in the form of rainfall and snowmelt is determined using long-term recorded values from local weather stations. Cornell University maintains the Northeast Regional Climate Center, from which long-term precipitation data for Long Island weather stations is available. Monthly precipitation averages are published for the period 1951-1980 in Thornthwaite and Mather's Climatic Water Budget Method **(Snowden and Pacenka, 1985).** A tabulation of monthly and annual precipitation averages excerpted from this reference is included in the table cited for Evapotranspiration values. Data entry is in inches.

3. *Acreage of Lawn* - The total area of lawn (in acres) is entered in this Data Cell. This area includes all lawn area whether it is irrigated, fertilized or unmaintained. If there is no lawn area, a value of zero (0) is entered.

4. *Fraction of Land in Lawn* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Lawn by dividing the lawn area by total area.

5. *Evapotranspiration from Lawn* - Evapotranspiration is the natural water loss attributed to evaporation and plant utilization. Rainwater that is evaporated and transpired by plants is returned to the atmosphere as vapor. There are various methods for determining evapotranspiration, including direct measure and calculation. A commonly recognized method is the Thornthwaite and Mather Climatic Water Budget Method. Evapotranspiration rates for various locations on Long Island have been determined by the U.S. Geological Survey, as documented in: "Ground-Water-Recharge Rates in Nassau and Suffolk Counties, New York" **(Peterson, 1987; p. 10).** The following general rates as a percent of total precipitation are excerpted from that reference:

Location	Soil Type	Vegetation	ET (in)	ET (%)
Bridgehampton	sandy loam	shallow root	21.2	46.6
	silt loam	shallow root	21.4	47.2
LaGuardia	sand	shallow root	24.2	52.9
	clay loam	shallow root	25.4	55.5
	sandy loam	moderate root	26.2	57.2
JFK Airport	sand	shallow root	22.5	53.8
	clay loam	shallow root	23.9	57.3
	sandy loam	moderate root	25.0	60.0
Mineola	sand	shallow root	22.4	47.8
	sand-silt	shallow root	23.8	51.0
	sandy loam	moderate root	25.1	53.7
	sandy loam	orchards	25.5	54.5
Patchogue	fine sand	mature forest	25.5	53.5
Riverhead	sandy loam	shallow root	22.4	49.3
		orchards	24.8	54.7
Setauket	sandy loam	mature forest	26.8	57.9
Upton	silt loam	deep root	23.9	48.4
	sandy loam	moderate root	23.0	46.5

6. *Runoff from Lawn* - Runoff is the quantity of water that travels overland during a precipitation event. Soil infiltration capacity is the critical factor in determining runoff; however, factors such as slope and vegetation also determine runoff characteristics to a lesser extent on Long Island because of soil conditions. Less urbanized areas of Long Island with characteristically dry soils with groundcover will have a low runoff percentage as a function of total precipitation, as compared to the more urbanized portions of western Long Island. Peterson **(1984; p. 14)** estimates runoff as a percent of total precipitation for Nassau County (2.1 percent); Suffolk County (0.7 percent), and Long Island in general (1.0 percent). If an average precipitation rate of 45 inches per year is assumed, runoff will vary from 0.31 to 0.94 inches. Lawn areas would be expected to be in the lower end of the range. Judgements of higher and lower runoff can be made on a site-specific basis depending upon slope and groundcover types.

7. *Acreage of Impervious* - The total area of impervious surface (in acres) is entered in this Data Cell. This area includes paved driveways, parking areas, roofs, roads, etc. If there are no impervious surfaces, a value of zero (0) is entered.

8. *Fraction of Land Impervious* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Impervious by dividing the impervious area by total area.

9. *Evaporation from Impervious* - Impervious surfaces will allow water to evaporate, particularly during summer months. There is no vegetation; therefore there is no transpiration by plants. Evaporation from Impervious is estimated to be approximately 10 percent of total precipitation **(Hughes and Porter, 1983; p. 10).** This value accounts

for evaporation from parking lots and other surfaces during summer months, averaged over the entire year. This indicates that recharge/runoff would comprise the remaining 90 percent of precipitation. This assumption coincides with most drainage computations required by Code Subdivision Regulations for determined leaching pool capacity.

10. *Runoff from Impervious* - The approximation of Evaporation from Impervious would indicate that recharge/runoff would comprise the remaining 90 percent of precipitation, as there are no other losses from impervious surfaces. In consideration of paved areas, runoff is not transported off the site or to surface water as a loss. Runoff is diverted to leaching pools and allowed to re-enter the hydrologic system beneath a given site. Therefore, in terms of site recharge computations, the value for Runoff from Impervious is zero (0).

11. *Acreage of Unvegetated* - The total acreage of unvegetated area is entered in this Data Cell. This area includes sand, barren soils, and porous drives and trails. If there is no unvegetated area, a value of zero (0) is used.

12. *Fraction of Land Unvegetated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Unvegetated by dividing the unvegetated area by total area.

13. *Evapotranspiration from Unvegetated* - Evapotranspiration from Unvegetated areas is determined in the same manner as described for Data Cell 5 above.

14. *Runoff from Unvegetated* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to unvegetated areas on a site-specific basis. Runoff in the middle to the higher end of the range (0.7 to 2.1 percent of precipitation) is expected due to lack of groundcover vegetation.

15. *Acreage of Water* - SONIR considers evaporation from surface water in the computation of site recharge. Surface water, particularly groundwater fed lakes and ponds are a source of water loss in the water budget. The quantity of fresh surface water (in acres) is entered in this Data Cell.

16. *Fraction of Land in Water* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Water on the site by dividing the water area by total area.

17. *Evaporation from Water* - Surface water features will cause evaporation of water in excess of normal evapotranspiration as documented by **Warren et al, 1968,** Hydrology of Brookhaven National Laboratory and Vicinity Suffolk County, New York. It is estimated that the upper limit of evaporation from a large free-water surface is approximately 30.00 inches per year **(Warren et al, 1968; p. 26).** This value is entered in Data Cell 17 as the most accurate approximation.

18. *Makeup Water* - SONIR allows for consideration of the impact of man-made lakes on site recharge. Lakes are generally lined with an impermeable material. Evaporation occurs

from the surface of the lake at a rate of 30.00 inches per year. In order to maintain a constant water level, an on-site well is generally installed to provide make-up water to the lake or pond. The quantity of make-up water is equivalent to the quantity of evaporation, given the fact that the function of the well is to replace water that is evaporated. Therefore, for cases where make-up water is used to maintain a constant water level, a value of 30.00 inches per year is entered in Data Cell 18.

19. *Acreage of Natural* - The total quantity of natural area (in acres) is entered in this Data Cell. This area includes naturally vegetated areas such as woodland, meadow, etc. If there is no natural area, a value of zero (0) is entered.

20. *Fraction of Land Natural* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Natural by dividing the natural area by total area.

21. *Evapotranspiration from Natural* - Evapotranspiration from Natural areas is determined in the same manner as described for Data Cell 5 above.

22. *Runoff from Natural* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to natural areas on a site specific basis. Generally lower values in the range of 0.7 percent of precipitation are expected due to groundcover and canopy vegetation.

23. *Acreage of Other Area* - This is a general category which can be used to include additional groundcover types in the simulation. Acreage of Other Area is entered (in acres). This Data Cell can be used to include site recharge considerations from a portion of the site that has different hydrologic properties, such as a moist hardwood forest or vegetated freshwater wetland, where evapotranspiration would be high and runoff would be extremely low.

24. *Fraction of Land in Other Area* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Other Area by dividing the land in other area by total area.

25. *Evapotranspiration from Other Area* - Evapotranspiration from Other areas is determined in the same manner as described for Data Cell 5 above. Value can be varied depending upon the hydrologic properties of the groundcover type.

26. *Runoff from Other Area* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to Other Areas on a site-specific basis. Value can be varied depending upon the hydrologic properties of the groundcover type.

27. *Acreage of Land Irrigated* - Imported water for irrigation purposes is an additional site recharge component not considered in any of the Data Cells above. The quantity of land irrigated on a given site is entered in this Data Cell (in acres).

28. *Fraction of Land Irrigated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Irrigated by dividing the Land Irrigated area by total area.

29. *Irrigation Rate* - The rate of irrigation must be entered in this Data Cell (in inches). Hughes and Porter **(1983; p. 19)** have indicated that lawn irrigation is estimated to be about 5.5 inches per year. This value is entered in Data Cell 29 as the most accurate approximation.

30. *Number of Dwellings* - The number of dwellings is entered in this Data Cell in order to allow for computation of wastewater disposal from residential use. Wastewater imported to a site, or even withdrawn from on-site wells and recharged through sanitary effluent is an additional recharge component that must be considered. If the project is for a commercial use or utilizes a denitrification system, the number of dwellings should not be entered in the Data Entry Field, as the wastewater flow will include recharge and nitrogen components.

31. *Water Use per Dwelling* - The water use should correspond to the total site non-irrigation water use, divided by the number of units.

32. *Wastewater Design Flow* - No entry need be made in this Data Cell. SONIR will compute the Wastewater Design Flow by multiplying the Number of Dwellings by the Water Use per Dwelling.

33. *Commercial/STP Design Flow* - SONIR permits the consideration of recharge from commercial projects, denitrification systems and sewage treatment plants. The Commercial/STP Design Flow is entered in this Data Cell as per County Health Department or engineering design standards.

Site Recharge Computations - Sheet 2

Once data entry is complete for Site Recharge Parameters, SONIR will complete a series of detailed Water Budget computations for the overall site. The following describes the computations that are performed by the model:

A. *Lawn Area Recharge* - Lawn Area Recharge is determined by use of the basic Hydrologic Budget Equation [$R = P - (E + Q)$] as defined previously. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Lawn Area to determine the component of Lawn Area Recharge in overall site recharge.

B. *Impervious Area Recharge* - Impervious area recharge is also determined using the Hydrologic Budget Equation; however, the value for runoff is zero (0) due to the fact that runoff is controlled by conveyance to on site leaching facilities or is allowed to runoff into depressions where runoff is recharged on site.

C. *Unvegetated Area Recharge* - Unvegetated Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Unvegetated Area to determine the component of Unvegetated Area Recharge in overall site recharge.

D. *Water Area Loss* - The Hydrologic Budget Equation is modified to consider Water Area Loss. This is particularly useful in water quantity stressed areas of Long Island. If runoff (Q) is considered be zero (0), then lake storage/recharge without make-up water would be Precipitation minus Evaporation (P - E). The resultant quantity of lake storage/recharge is then reduced by the amount of make-up water (M). The final quantity of loss is then multiplied by that portion of the site occupied by water to determine the component of water loss as related to the overall site water budget.

E. *Natural Area Recharge* - Natural Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Natural Area to determine the component of Natural Area Recharge in overall site recharge.

F. *Other Area Recharge* - Other Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Other Area to determine the component of Other Area Recharge in overall site recharge.

G. *Irrigation Recharge* - Irrigation recharge is an additional recharge component artificially added on sites where irrigation occurs. This quantity is determined in the same manner as the Hydrologic Water Budget except that the irrigation rate (in inches) is substituted for precipitation. The resultant recharge is multiplied by the area of the site that is irrigated, in order to determine the Irrigation Recharge in overall site recharge.

H. *Wastewater Recharge* - Wastewater is also a recharge component artificially added to a site. SONIR annualizes the wastewater design flow and assumes it is applied over the entire by multiplying Wastewater Design Flow by the Area of the Site, resulting in a per foot measure of wastewater over the site. This is converted to inches to be included in overall site recharge.

Once the eight (8) series of Site Recharge Computations are complete, SONIR totals each individual component to determine Total Site Recharge. The sum of these recharge contributions, is that quantity of water that is expected to enter the site on an annual basis due to precipitation, after the development is completed. This value is important in determining the concentration of nitrogen in recharge, and is important as a means of determining hydrologic impacts of a project in terms of changes to site recharge.

SITE NITROGEN BUDGET

Overview

The total nitrogen released on a given site must be determined in order to provide a means of simulating nitrogen in recharge. Nitrogen sources include: sanitary nitrogen; fertilizer nitrogen; pet waste nitrogen; precipitation nitrogen; and water supply nitrogen (wastewater and irrigation). The total of these quantities represents total site nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the nitrogen budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Persons per Dwelling* - The number of persons per dwelling is a demographic multiplier used in the determination of human population of a site. Based on multipliers listed in "The New Practitioner's Guide to Fiscal Impact Analysis", **(Rutgers, 1985)**, the average number of residents is calculated at 0.00/unit (Existing Conditions), and will be 4.1/unit (Proposed Conditions).

2. *Nitrogen per Person per Year* - Annual nitrogen per person is a function of nitrogen bearing waste in wastewater. For residential land use the population of the development is determined and the nitrogen generated is assumed to be 10 pounds per capita per year **(Hughes and Porter, 1983; p. 8).**

3. *Sanitary Nitrogen Leaching Rate* - For normal residential systems, Porter and Hughes report that 50 percent of the nitrogen entering the system is converted to gaseous nitrogen and the remainder leaches into the soil **(Porter and Hughes, 1983; p. 14).**

4. *Area of Land Fertilized 1* - The area of land fertilized is input in Data Cell 4. This value may correspond to the Acreage of Lawn and/or the Acreage of Land Irrigated, but is not necessarily the same value. This entry should be determined on a site-specific basis.

5. *Fertilizer Application Rate 1* - Fertilizer nitrogen is determined by a fertilizer application rate over a specified area of the site. The fertilizer application rates vary depending upon the type of use. The following table indicates the rate of fertilization as a function of use as excerpted from the Non-Point Source Management Handbook **(Koppelman, 1984; Chapter 5, p.6):**

Residential (contract)	1.5 lbs/1000 sq ft
Residential (unmanaged)	2.3 lbs/1000 sq ft
Commercial	3.5 lbs/1000 sq ft
Golf Course	3.5 lbs/1000 sq ft
Sod Farms	4.0 lbs/1000 sq ft
Recreational Lands	0.2 lbs/1000 sq ft

A commercial landscaping firm has been interviewed to determine trends in commercial fertilizer application. Various fertilizer formulations are used including 10-6-4, 16-4-8 and 20-10-5 (nitrogen-phosphate-potash) depending upon season. Heavier nitrogen application rates are generally used in the spring. Fertilizer used is 50 percent organic nitrogen. This is applied in a dry form approximately 2-3 times per year, and a 50-pound bag is applied over approximately 16,000 square feet. Based on this rate if 20- 10-5 nitrogen were applied in the spring, and 16-4-8 were applied during summer and fall, this would result in an application rate of 1.5-2.1 pounds per 1000 square feet. The high of this range is a conservative value based on three applications of relatively high nitrogen fertilizer, which will be used for nitrogen in recharge simulation.

In addition, it is noted that the Non-Point Source Management Handbook indicates that application rates as low as 1.0 lb/1000 sq ft can be achieved with proper fertilizer management control.

6. *Fertilizer Nitrogen Leaching Rate 1* - Nitrogen applied as fertilizer is subject to plant uptake (20 to 80%; 50% on average) and storage in thatch and soils (36 to 47%), thereby reducing the total amount of nitrogen leached. The percentage of plant uptake and storage are based on studies cited in the LIRPB's Special Groundwater Protection Area Plan. Based on those studies, a conservative nitrogen leaching rate of 14% has been applied in the model.

7. *Area of Land Fertilized 2* - More than one fertilizer nitrogen input is provided in order allow consideration of mixed use and/or golf course projects where land is fertilized at different rates.

8. *Fertilizer Application Rate 2* - Fertilizer Application Rates for this entry can be determined based upon Data Cell 5 above.

9. *Fertilizer Nitrogen Leaching Rate 2* - Fertilizer Nitrogen Leaching Rates can be determined based upon Data Cell 6 above.

10. *Pet Waste Application Rate* - Pet Waste Nitrogen results from the excretion of domestic pets in the outside environment. There is relatively little definitive information concerning this nitrogen source; however, several references were located and are analyzed herein. The 208 Study provides a table of nitrogen concentration in manure for various animals, not including dogs or cats. Total nitrogen values in the range of 0.30-0.43 lbs/day/1000 lbs live weight are reported for cattle, sheep and horses **(Koppelman, 1978; Animal Waste report p. 3).** It is assumed that dogs constitute the major source of animal waste that would be present in the yards of residential developments. Cat waste would be significantly less due to the lesser live weight of cats and the fact that many cat owners dispose of cat waste in solid waste by using an indoor litter box. If an average of 0.35 lbs of nitrogen is assumed for dogs, and an average of 25 pounds live weight is assumed per dog, then the total annual nitrogen per pet would be 3.19 lbs/year.

The only other reference located that approximates nitrogen in pet waste is Land Use and Ground-Water Quality in the Pine Barrens of Southampton **(Hughes and Porter, 1983; p. 10).** This reference assumed an application rate of 6.5 lbs/acre of nitrogen. Pet waste was assumed to be deposited evenly over all turf. This assumption was not correlated to population density or pet density, but only to turfed acreage. In comparison of the two values, the per pet value corresponds to approximately 2 turfed acres. For the purpose of this model, the value of 3.19 lbs/pet/year is considered to be the most justifiable value for pet waste and is entered in this Data Cell.

11. *Pet Waste Nitrogen Leaching Rate* - Pet waste is also subject to a leaching rate factor whereby, 50 percent of the nitrogen applied to the ground is removed as a gas.

12. *Area of Land Irrigated* - No entry need be made in this Data Cell. This value is the same as Data Cell 27 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.

13. *Irrigation Rate* - No entry need be made in this Data Cell. This value is the same as Data Cell 29 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.

14. *Irrigation Nitrogen Leaching Rate* - Hughes and Porter **(1983; p. 10)** states "plant uptake and gaseous losses are assumed to remove 85% of the nitrogen entering in precipitation". Irrigation nitrogen would be expected to be subject to the same losses; therefore, a leaching rate of 15% is entered in this Data Cell.

15 *Nitrogen in Precipitation* - Groundwater nitrogen is partially derived from rainwater. Nitrate-nitrogen concentrations in precipitation have been reported to be on the order of 1-2 mg/l in Nassau and Suffolk Counties **(SCDHS, 1987; p. 6-4).**

16. *Precipitation Nitrogen Leaching Rate* - As indicated above, a nitrogen leaching rate of 15% is applied to precipitation nitrogen.

17. *Nitrogen in Water Supply* - The concentration of Nitrogen in Water Supply determines the quantity of nitrogen that enters the site as a result of irrigation nitrogen and wastewater flow. Local water supply data should be utilized if available, otherwise a value of between 1 and 2 mg/l could be utilized.

18. *Nitrogen in Commercial/STP Flow* - This data entry allows SONIR to compute the quantity of nitrogen resulting from commercial discharge, denitrification systems and/or sewage treatment plants. Total nitrogen in community wastewater is identified as having a total nitrogen concentration of 20 mg/l in weak effluent; 40 mg/l in medium strength effluent, and 85 mg/l in strong effluent **(Metcalf & Eddy, Inc, 1991).** It is recommended that a value of 40 mg/l be used for total nitrogen concentration in commercial sanitary systems. Properly functioning denitrification systems and sewage treatment plants are capable of reducing total nitrogen to less than 10 mg/l in accordance with discharge

limitations. A value of 10 mg/l can be entered in this data cell for such systems. The SONIR model computes the number of pounds of nitrogen in sanitary discharge as a function of concentration. The absolute nitrogen is utilized in the model; however, it must recognized that from the discharge point, nitrogen is nitrified through conversion of ammonia to nitrate in the leaching area beneath the discharge point. Further natural transformation in the form of denitrification occurs as a result of bacteria. This causes release of nitrogen gas and may account for further reduction of 50 percent or more subsequent to discharge **(Canter and Knox, 1979; pp. 77-78; Hughes and Porter, 1983; p. 14).** As a result SONIR is conservative in predicting the concentration of nitrogen in recharge, and when natural denitrification of sanitary effluent is considered, actual concentration would be less.

Site Nitrogen Budget - Sheet 2

Once data entry is complete for Nitrogen Budget Parameters, SONIR will complete a series of detailed computations to determine the individual component of nitrogen from each source and the total nitrogen for the overall site and use. The following describes the computations that are performed by the model:

A. *Sanitary Nitrogen - Residential* - SONIR establishes the site population using the number of units on the site, and the demographic multiplier. The nitrogen load factor is then applied and reduced by the leaching rate, resulting in the total residential nitrogen component. If the project is for a commercial use or utilizes a denitrification system, the number of dwellings should not be entered in the Data Entry Field, in which case the total nitrogen from this source will be zero (0).

B. *Pet Waste Nitrogen* - The pet waste nitrogen was determined on a per pet basis; however, the number of pets for a given residential project must be determined. In order to correlate the number of pets to human population, a ratio was determined using information contained in the 208 Study, wherein it was estimated that there is 1 dog per 5 residents in suburban areas and 1 dog per 7 residents in urban areas **(Koppelman, 1978; Animal Waste Report, pp. 6).** This results in an average number of dogs based upon of 17 percent of the human population. Accordingly, this multiplier is used based upon the population of a land use project in order to estimate the nitrogen waste from pets. The pet waste nitrogen is subject to reduction as a function of the leaching rate, leading to the total pet waste nitrogen in pounds.

C. *Sanitary Nitrogen (Commercial/STP)* - SONIR utilizes the Commercial/STP Flow that is converted to liters and multiplied by the nitrogen concentration in waste. This provides a weight of nitrogen in milligrams, which is converted to pounds for the total nitrogen from this component.

D. *Water Supply Nitrogen* - SONIR utilizes the residential wastewater design flow to compute the weight of nitrogen contributed from the water supply. The method of calculation is the same as Sanitary Nitrogen (Commercial/STP). For commercial projects, this value is accounted for in the Commercial/STP Flow.

E. *Fertilizer Nitrogen 1* - This calculation utilizes data entry from the Area of Land Fertilized 1, in the Data Input Field, to determine the weight of fertilizer nitrogen applied to the area. The area is multiplied by the application rate and reduced by the leaching rate documented previously to arrive at total weight.

F. *Fertilizer Nitrogen 2* - If fertilization rates vary, the Area of Land Fertilized 2, is utilized to determine nitrogen from this source.

G. *Precipitation Nitrogen* - Nitrogen in precipitation is considered by determining the liters of Natural Recharge entering the site, multiplied by the concentration of nitrogen in precipitation. SONIR uses the sum of natural recharge components from the Site Recharge Computations to establish the natural recharge. A precipitation nitrogen leaching rate of 15% is utilized as referenced above.

H. *Irrigation Nitrogen.* - Although a very small component, the Irrigation Nitrogen is determined using the Irrigation Recharge R(irr) computed in the Site Recharge Computations, over the irrigated area of the site to produce a volume of irrigation recharge. The Irrigation Recharge value is used in order to account for reduction of recharge due to evapotranspiration, since this component is only intended to determine nitrogen leaching into soil as a result of irrigation nitrogen in the water supply. This value is converted to liters and multiplied by the concentration of nitrogen in irrigation water supply. The Irrigation Nitrogen Leaching Rate (expected to the same as for precipitation) is applied to the weight to determine the total nitrogen from this source.

Once the eight (8) series of Site Nitrogen Budget computations are complete, SONIR totals each individual component to determine the Total Site Nitrogen. This value is used in determining the weight per volume ratio of nitrogen in recharge as computed in Sheet 4 of the SONIR model.

FINAL COMPUTATIONS AND SUMMARY

SONIR utilizes data generated in Sheets 2 and 3 of the model to compute a mass/volume ratio for nitrogen in recharge. Nitrogen in recharge is converted from pounds to milligrams in order to provide units compatible for mass/volume concentration. Likewise, the quantity of site recharge is applied over the site in order to determine an overall volume number for site recharge. This is then converted to liters. The final computation divides the total weight of nitrogen in milligrams, by the total volume of recharge in liters, to arrive at the Nitrogen in Recharge ratio in milligrams per liter (mg/l). This concentration represents the Final Concentration of Nitrogen in Recharge, which is highlighted on Sheet 4.

Sheet 4 also provides a site recharge summary in order to compare recharge between natural conditions, a proposed project and/or alternatives. Total Site Recharge is presented in both inches, and as a volume in cubic feet/year, gallons/year and million gallons/year (MGY).

The final field summarizes the Conversions Used in SONIR. Conversions are standard conversion multipliers as found in standard engineering references.

SONIR is a valuable tool allowing for versatile determination of site recharge as determined from many components of site recharge. SONIR determines the weight of nitrogen applied to a site from a variety of sources as well. SONIR is a fully referenced model utilizing basic hydrologic and engineering principals, in a simulation of nitrogen in recharge. Input data should be carefully justified in order to achieve best results. SONIR can be used effectively in comparing land use alternatives and relative impact upon groundwater due to nitrogen. By running the model for Existing Conditions, Proposed Project conditions and/or alternative land uses comparison of impacts can be made for consideration in land use decision-making. Questions, comments or suggestions concerning this model should be addressed to Nelson, Pope & Voorhis, LLC, 572 Walt Whitman Road, Melville, New York 11747.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

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Appendix B-2

SONIR Model,

Existing Conditions

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD Existing Conditions **SHEET 1**

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	39.38	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	0.00	acres
4	Fraction of Land in Lawn	0.000	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	0.00	acres
8	Fraction of Land Impervious	0.000	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.01	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	39.37	acres
20	Fraction of Land Natural	1.000	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	0.00	acres
28	Fraction of Land Irrigated	0.000	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	0	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	0.00	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	0.00	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	10.00	mg/l

C	*Comments*
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Existing Conditions SHEET 2

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	0.00	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	0.00	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.00	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.00	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	1.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	18.32	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.000	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.00	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	0	gal/day
2	WDF = Wastewater Design Flow	0.00	cu ft/yr
3	A = Area of Site	1,715,393	sq ft
4	R(ww) = WDF/A	0.00	feet
5	R(WW) = Wastewater Recharge	0.00	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	18.32 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Existing Conditions SHEET 3

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	0	gal/day
2	CF = Commercial/STP Flow	0	liters/yr
3	N = Nitrogen in Commercial	10.00	mg/l
4	N(S) = CF x N	0	milligrams
5	N(S) = Sanitary Nitrogen	0.00	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	0	gal/day
2	WDF = Wastewater Design Flow	0	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	0	milligrams
5	N(WW) = Wastewater Nitrogen	0.00	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	0	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	0.00	lbs
5	N(F1) = Fertilizer Nitrogen	0.00	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	1.53	feet
2	A = Area of Site (sq ft)	1,715,393	sq ft
3	R(N) = R(n) x A	2,618,633	cu ft
4	R(N) = Natural Recharge (liters)	74,159,697	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	741,597	milligrams
8	N(ppt) = Precipitation Nitrogen	1.64	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	0	sq ft
4	R(I) = R(irr) x A	0	cu ft
5	R(I) = Site Precipitation (liters)	0	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	0	milligrams
9	N(irr) = Irrigation Nitrogen	0.00	lbs

Total Site Nitrogen	
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)
N=	1.64 lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
Existing Conditions

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	1.64	lbs
2	N = Total Nitrogen (milligrams)	742,390	milligrams
3	R(T) = Total Recharge (inches)	18.32	inches
4	R(T) = Total Recharge (feet)	1.53	feet
5	A = Area of Site	1,715,393	sq ft
6	R = R(T) x A	2,618,633	cu ft
7	R = Site Recharge Volume	74,159,697	liters
9	NR = N/R	0.01	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

0.01

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	18.32	inches/yr
2	R = Site Recharge Volume	2,618,633	cu ft/yr
3	R = Site Recharge Volume	19,588,739	gal/yr
4	R = Site Recharge Volume	19.59	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Appendix B-3

SONIR Model,

Proposed Conditions

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD Proposed Conditions **SHEET 1**

A	Site Recharge Parameters	Value	Units
1	Area of Site	39.38	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	6.70	acres
4	Fraction of Land in Lawn	0.170	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	13.88	acres
8	Fraction of Land Impervious	0.352	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.01	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	18.79	acres
20	Fraction of Land Natural	0.477	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	4.28	acres
28	Fraction of Land Irrigated	0.109	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	50,000	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	4.28	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	4.28	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	10.00	mg/l

C	Comments
1)	Please refer to user manual for data input instructions.
2)	Coverages include 3.96 acre STP parcel (2.07 natural area, 0.42 impervious area and 1.47 unfertilized landscaped area

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Proposed Conditions

SHEET 2

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.170	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	3.01	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.352	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	13.58	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.00	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.00	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	0.477	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	8.74	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.109	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.16	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	2,440,025.00	cu ft/yr
3	A = Area of Site	1,715,393	sq ft
4	R(ww) = WDF/A	1.42	feet
5	R(WW) = Wastewater Recharge	17.07	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	42.57 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Proposed Conditions **SHEET 3**

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	50,000	gal/day
2	CF = Commercial/STP Flow	69,076,250	liters/yr
3	N = Nitrogen in Commercial	10.00	mg/l
4	N(S) = CF x N	690,762,500	milligrams
5	N(S) = Sanitary Nitrogen	1523.13	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	69,076,250	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	69,076,250	milligrams
5	N(WW) = Wastewater Nitrogen	152.31	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	186,437	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	60.03	lbs
5	N(F1) = Fertilizer Nitrogen	60.03	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	2.11	feet
2	A = Area of Site (sq ft)	1,715,393	sq ft
3	R(N) = R(n) x A	3,622,813	cu ft
4	R(N) = Natural Recharge (liters)	102,598,073	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	1,025,981	milligrams
8	N(ppt) = Precipitation Nitrogen	2.26	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	186,437	sq ft
4	R(I) = R(irr) x A	23,175	cu ft
5	R(I) = Site Precipitation (liters)	656,308	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	98,446	milligrams
9	N(irr) = Irrigation Nitrogen	0.22	lbs

Total Site Nitrogen	
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)
N=	1737.96 lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
Proposed Conditions

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	1737.96	lbs
2	N = Total Nitrogen (milligrams)	789,032,230	milligrams
3	R(T) = Total Recharge (inches)	42.57	inches
4	R(T) = Total Recharge (feet)	3.55	feet
5	A = Area of Site	1,715,393	sq ft
6	R = R(T) x A	6,086,013	cu ft
7	R = Site Recharge Volume	172,355,889	liters
9	NR = N/R	4.58	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

4.58

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	42.57	inches/yr
2	R = Site Recharge Volume	6,086,013	cu ft/yr
3	R = Site Recharge Volume	45,526,542	gal/yr
4	R = Site Recharge Volume	45.53	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Appendix B-4

SONIR Results,

80,000 gpd Combined Projects

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD 80,000 gpd Combined Projects **SHEET 1**

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	52.89	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	11.28	acres
4	Fraction of Land in Lawn	0.213	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	18.64	acres
8	Fraction of Land Impervious	0.352	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.23	acres
16	Fraction of Site in Water	0.004	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	22.74	acres
20	Fraction of Land Natural	0.430	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	6.31	acres
28	Fraction of Land Irrigated	0.119	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	80,000	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	6.31	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	4.28	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	10.00	mg/l

C	*Comments*
1)	Please refer to user manual for data input instructions.
2)	Coverages include 3.96 acre STP parcel (2.07 natural area, 0.42 impervious area and 1.47 unfertilized landscaped area

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS — 80,000 gpd Combined Projects — **SHEET 2**

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.213	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	3.78	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.352	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	13.58	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.00	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.004	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.06	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	0.430	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	7.88	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.119	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.18	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	80,000	gal/day
2	WDF = Wastewater Design Flow	3,904,040.00	cu ft/yr
3	A = Area of Site	2,303,888	sq ft
4	R(ww) = WDF/A	1.69	feet
5	R(WW) = Wastewater Recharge	20.33	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	45.81 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET — 80,000 gpd Combined Projects — **SHEET 3**

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	80,000	gal/day
2	CF = Commercial/STP Flow	110,522,000	liters/yr
3	N = Nitrogen in Commercial	10.00	mg/l
4	N(S) = CF x N	1,105,220,000	milligrams
5	N(S) = Sanitary Nitrogen	2437.01	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	80,000	gal/day
2	WDF = Wastewater Design Flow	110,522,000	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	110,522,000	milligrams
5	N(WW) = Wastewater Nitrogen	243.70	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	274,864	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	88.51	lbs
5	N(F1) = Fertilizer Nitrogen	88.51	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	2.11	feet
2	A = Area of Site (sq ft)	2,303,888	sq ft
3	R(N) = R(n) x A	4,856,260	cu ft
4	R(N) = Natural Recharge (liters)	137,529,276	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	1,375,293	milligrams
8	N(ppt) = Precipitation Nitrogen	3.03	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	186,437	sq ft
4	R(I) = R(irr) x A	23,175	cu ft
5	R(I) = Site Precipitation (liters)	656,308	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	98,446	milligrams
9	N(irr) = Irrigation Nitrogen	0.22	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	2772.47	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
89,000 gpd Combined Projects

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	2772.47	lbs
2	N = Total Nitrogen (milligrams)	1,258,699,920	milligrams
3	R(T) = Total Recharge (inches)	45.81	inches
4	R(T) = Total Recharge (feet)	3.82	feet
5	A = Area of Site	2,303,888	sq ft
6	R = R(T) x A	8,794,466	cu ft
7	R = Site Recharge Volume	249,059,282	liters
9	NR = N/R	5.05	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

5.05

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	45.81	inches/yr
2	R = Site Recharge Volume	8,794,466	cu ft/yr
3	R = Site Recharge Volume	65,787,180	gal/yr
4	R = Site Recharge Volume	65.79	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Appendix B-5

Correspondence with SCDHS

COUNTY OF SUFFOLK

STEVE LEVY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

David G. Graham, M.D., M.P.H.
Acting Commissioner

February 16, 2007

To: Walter Hilbert, P.E.
Martin Trent

From: Robert J. Farmer, P.E. RJF

RE: PRELIMINARY SITE REVEW FOR THE SEWAGE TREATMENT PLANT FOR SANDY HILLS @ MIDDLE ISLAND
S.C.T.M. No. 0200-378.00-002-033.003
H.D. Ref. No.: C02-__-____

The federal Source Water Assessment Program (SWAP) recently completed by the NYSDOH provided detailed maps of the land areas contributing recharge to PWS wells, and the approximate times of travel from the point of recharge to withdrawal at the wellhead. These "capture zones" or "contributing areas" were based on long-term average pumping rates for each well; the estimates were made slightly more conservative by enlarging each zone to take into account future increases in pumpage. Potential impacts by STPs on public water supply wells are of concern, even though sewage discharges are required to meet drinking water standards, because of continued uncertainties as to the full range of microbiological contaminants in treated effluent, and because of the possibility of treatment system malfunctions. The proximity of STP discharges to PWS wells is therefore taken into account in STP siting decisions. The SCDHS will use the SWAP maps to determine the potential impact of proposed STPs on PWS wells, and to suggest mitigation measures (such as the re-siting of STP discharges).

I have reviewed the preliminary site plan for the proposed project, "Sandy Hills at Middle Island," located in Middle Island, Town of Brookhaven on the east side of Rocky Point Middle Island Road and north of Middle Country Road (Route 25), and offer the following comments concerning the siting of the sewage system in relation to public and private water supply wells in the area:

DIVISION OF ENVIRONMENTAL QUALITY • 360 YAPHANK AVENUE, SUITE 1C • YAPHANK NY 11980
OFFICE OF WATER RESOURCES
PHONE (631) 852-5810 • FAX (631) 852-5787

PRELIMINARY REVIEW FOR THE SEWAGE TREATMENT PLANT
SANDY HILLS AT MIDDLE ISLAND

(1) Groundwater Flow Direction:	East by Northeast
(2) Proximity to present or known future public well sites:	The closest SCWA wellfield is on Bailey Road about 2,000 feet north of the proposed site.
(3) Depth of Public Wells and Corresponding Aquifer:	<u>SCWA Bailey Road Wellfield</u> S-36,711 (Abandoned) S-40,161 Depth: 138 feet (Glacial Aquifer) S-49,606 Depth: 389 feet (Magothy Aquifer).

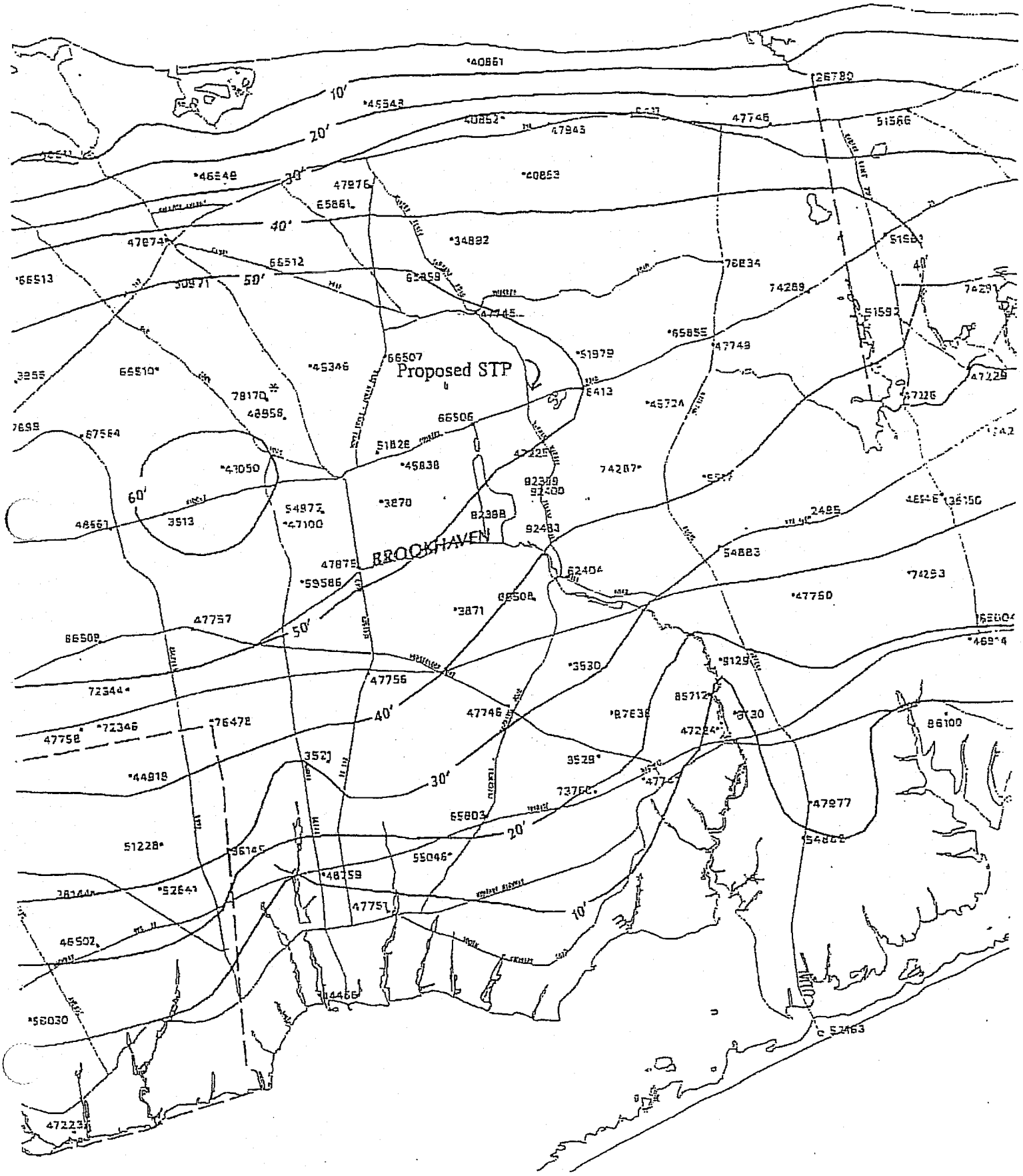
The project sponsor is proposing to construct an 80,000 gpd sewage treatment plant to treat sewage from two sites. On the parcel with the proposed STP will be 134 attached residential condominium units and a commercial building with a total design sewage flow of 50,000 gpd. The second site to the west will be 92 residential units with a proposed design sewage flow of 30,000 gpd. These two projects will be combined into one STP as suggested by SCDPW. The new system will utilize subsurface leaching pools. The current site consists of 38.26 acres located in Hydrogeologic Zone III at an estimated elevation of 75 feet above sea level with an existing water table of approximately 52 feet above sea level. Therefore, the depth to water will be approximately 23 feet where the STP is proposed. The exact surface elevation and depth to water will be required to be provided with the engineering report for the proposed project. Groundwater flow is east by northeast according the SCDHS 2002 Water Table Contour Map.

The closest public water supply wellfield is at the Bailey Road Wellfield operated by SCWA and located approximately 2,000 to the north of the proposed STP. There are two existing wells located at this site. Well S-40,161 is shallow,138 feet below grade, with a pumping capacity of 1,200 gpm and screened in the Glacial Aquifer. The other well, S-49,606, is deeper, 389 feet below grade, with a pumping capacity of 1,400 gpm and screened in the Magothy Aquifer. A third well at this site has been abandoned. The attached SWAP Contributing Area map shows that the proposed STP will not be near the contributing area for the Bailey Road Wellfield.

A review of the accompanying aerial photograph and SCWA distribution may shows that the apartments and single family residential homes to the east of the project are serviced by public water. However, the single family homes, located as near as 400 feet to the west on along Middle Island Road are not serviced by public water and have private on-site wells. An offer to extend public water to these homes should be required as a condition for building the STP.

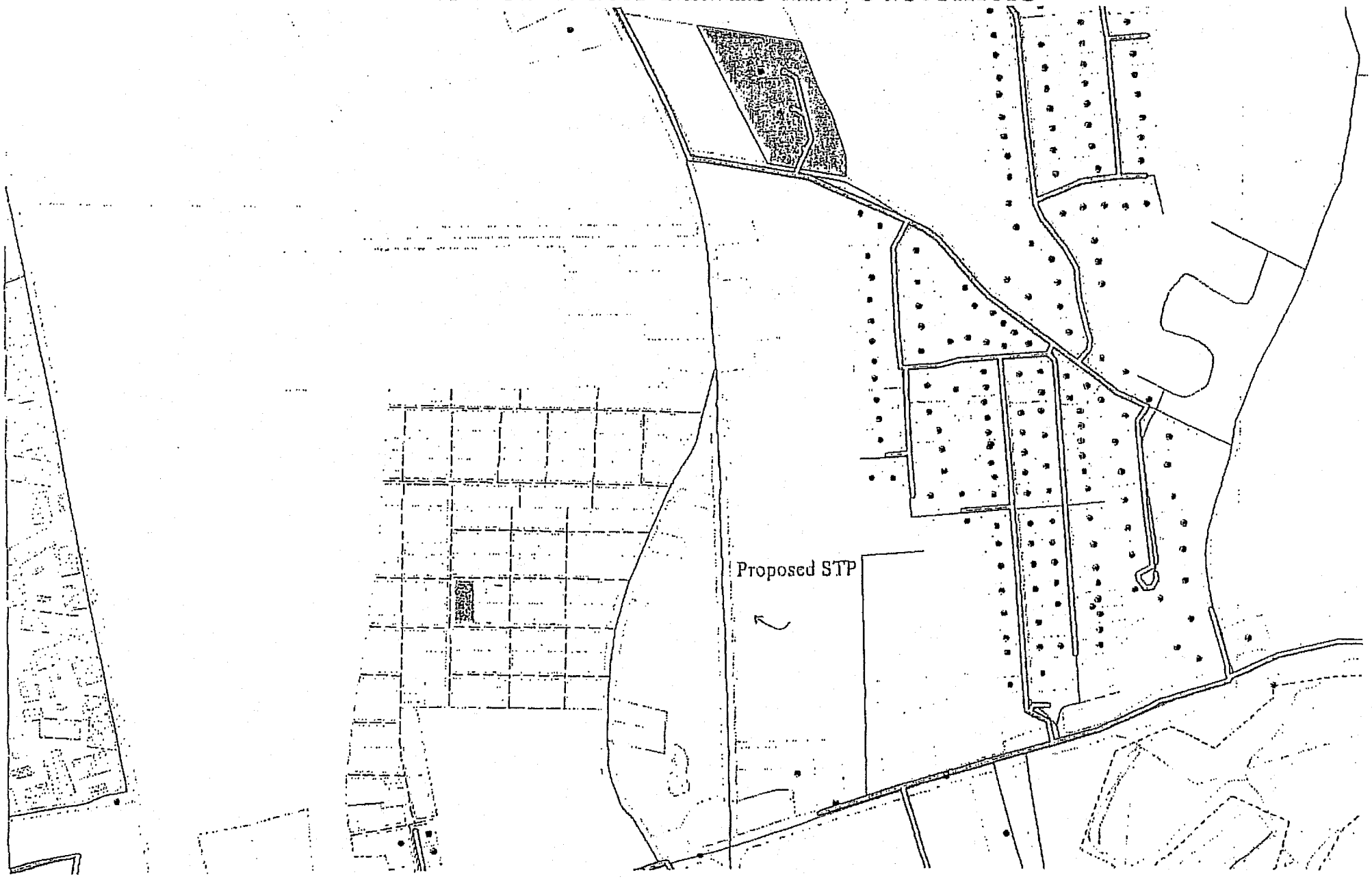
2002 SCLHS Water Table Contour Map

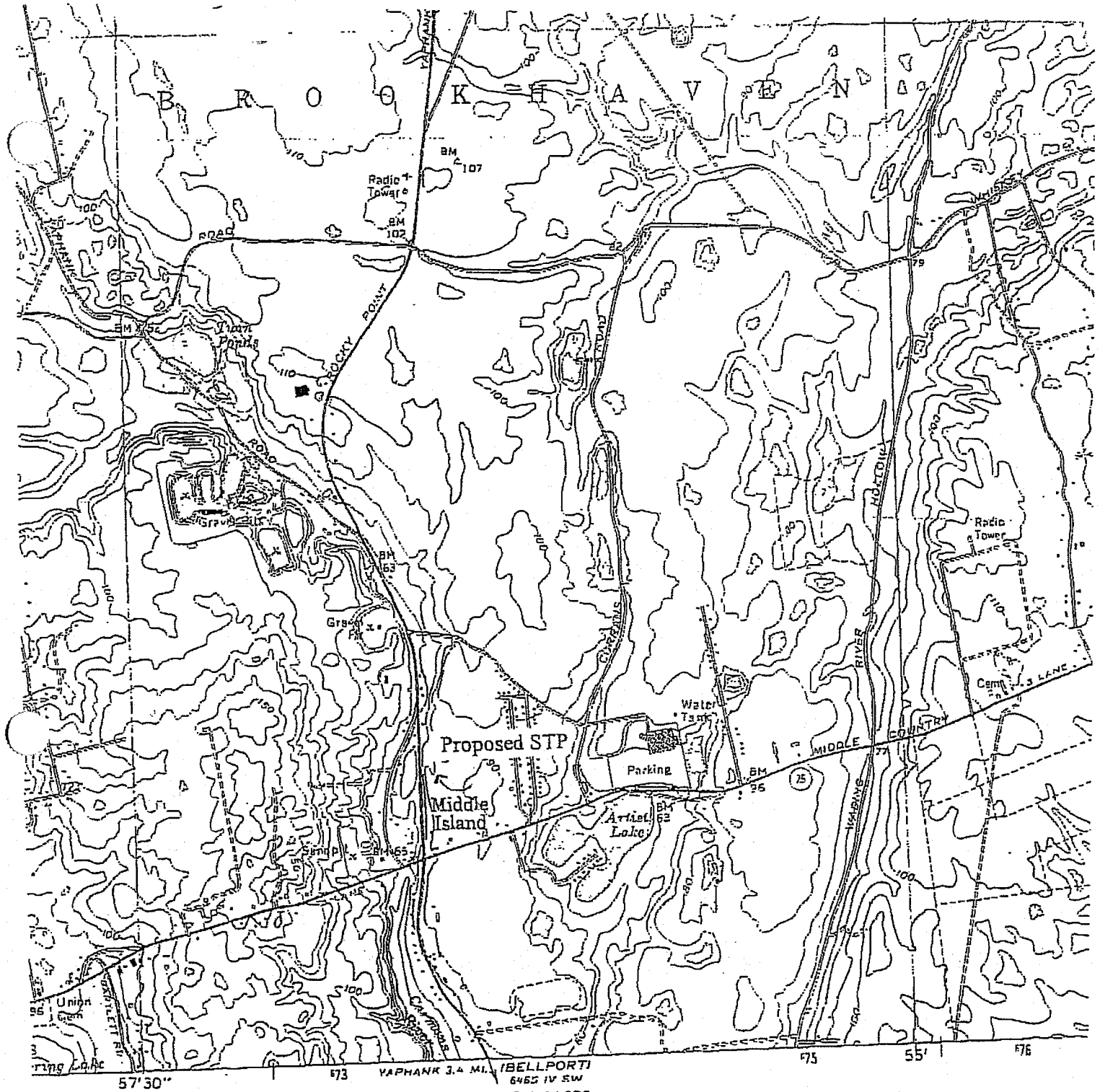
LONG ISLAND SOUND



SWAP Contributing Areas

Suffolk County Water Authority
Location of Water Mains and Customers





SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 6.2 FEET

GN

1°21'
24 MILE

MAGNETIC NORTH
CENTER OF SHEET

NEW

QUADRANGL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Appendix B-6

Correspondence with SCWA

July 17, 2007

SCWA

RECEIVED
AUG 14 2007
TOWN OF BROOKHAVEN
DIVISION OF ENVIRONMENTAL PROTECTION

SUFFOLK COUNTY WATER AUTHORITY

Stephen M. Jones
Chief Executive Officer

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0219
Fax (631) 563-0370

July 17, 2007

Hon. Brian X. Foley
Town of Brookhaven
One Independence Hill
Farmingville, NY 11738

Re: Sandy Hills, LLC - Middle Island
SCTM# 0200-378-2-33.3 - Change of Zone

Dear Supervisor Foley & Members of the Town Board:

The Suffolk County Water Authority opposes the rezoning of the subject parcel of land (0200-346-4-13, 378-02-33.3) to a higher density residential classification on two grounds.

First, the location is very near our Bailey Road wellfield and we believe the proposed on-site STP will jeopardize drinking water in the area.

Second, absent any use of Pine Barrens credits, the proposal flies in the face of the Pine Barrens Plan, adopted by the Town of Brookhaven, which envisions transferring development from the Core protection area to the Compatible Growth Area (CGA). The plan was approved by elected officials because it stood for **preserving future drinking water supplies** and was not just another open space preservation strategy. The CGA was <u>not</u> to be used to create new stand-alone development opportunities, but was supposed to promote compact, orderly growth. The towns were to demonstrate a commitment to protecting drinking water supplies by associating Pine Barrens Credits with any increase in density. Anything less cheapens the plan and the support for drinking water protection shown by the voters on countless occasions.

Very truly yours,

Stephen M. Jones
Chief Executive Officer

SMJ:kk

Cc: CPBJPPC c/o Ray Corwin
Thomas Isles, Director, Suffolk County Department of Planning
Vito Minei, Suffolk County Department of Health Services

APPENDIX C

DATABASE SEARCH INFORMATION

Appendix C-1

NYS Natural Heritage Program Correspondence

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

June 6, 2007

RECEIVED
JUN 08 2007
NELSON & POPE

Ashley Marciszyn
Nelson, Pope & Voorhis
572 Walt Whitman Rd
Melville, NY 11747

Dear Ms. Marciszyn:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed 38 acre Mixed Residential Development, Project 00088, site as indicated on the map you provided, located at Sandy Hills in Middle Island, Town of Brookhaven, Suffolk County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.
PLEASE NOTE: The Rocky Point Wildlife Management Area is located North of your project site.

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, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environment impact assessment.

Our databases are 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.

Sincerely,
Tara Seoane
Tara Seoane, Information Services
NY Natural Heritage Program

Encs.
cc: Reg. 1, Wildlife Mgr.
Peter Nye, Endangered Species Unit, Albany

Natural Heritage Report on Rare Species

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

report contains SENSITIVE information that should not be released to the public without permission from the NY Natural Heritage Program.
r to the User's Guide for explanations of codes, ranks and fields.
~We do not provide maps for species most vulnerable to disturbance.

Natural Heritage Report on Rare Species and Ecological Communities

MPHIBIANS

Ambystoma tigrinum

				Office Use
Tiger Salamander	**NY Legal Status:** Endangered	**NYS Rank:**	S1S2 - Critically imperiled	3993
	Federal Listing:	**Global Rank:**	G5 - Demonstrably secure	ESU
	County: Suffolk			
	Town: Brookhaven			
	Location: Documented within 0.25 mile of project site. In addition to potential impacts on the documented locations, animals can move 0.25 mile from these locations. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.			

1 Records Processed

More detailed information about many of the rare and listed animals in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, and from NYSDEC at http://www.dec.ny.gov/animals/7494.html.

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

HISTORICAL RECORDS

The following plants and animals were documented in the vicinity of the project site at one time, but have not been documented here since 1979 or earlier.
There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown and therefore location maps are generally not provided.
If appropriate habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur here.

Natural Heritage Report on Rare Species and Ecological Communities

VASCULAR PLANTS

Eleocharis tricostata

Three-ribbed Spikerush

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G4 - Apparently secure
Last Report: 1921-09-19
EO Rank: Historical, no recent information
County: Suffolk
Town: Brookhaven
Location: Middle Island
Directions: Middle Island.
General Quality and Habitat:

Office Use 3903

M

Eleocharis tricostata

Three-ribbed Spikerush

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G4 - Apparently secure
Last Report: 1921-09-19
EO Rank: Historical, no recent information
County: Suffolk
Town: Brookhaven
Location: Artist Lake
Directions: Pine barrens, border [?] pond, east of Middle Island.
General Quality and Habitat: Pine barrens.

Office Use 8683

M

Euphorbia ipecacuanhae

American Ipecac

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G5? - Demonstrably secure
Last Report: 1923-08-15
EO Rank: Historical, no recent information
County: Suffolk
Town: Brookhaven
Location: Middle Island
Directions: Sandy field near Middle Island.
General Quality and Habitat: Sandy field.

Office Use 9753

M

Juncus debilis

Weak Rush

Office Use 7874

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G5 - Demonstrably secure
Last Report: 1936-06-30
EO Rank: Historical, no recent information

County: Suffolk
Town: Brookhaven
Location: Artist Lake
Directions: Specimen label: Artists Lake. In shallow water.
General Quality and Habitat: Shallow water.

M

Lechea tenuifolia

Slender Pinweed

Office Use 1510

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G5 - Demonstrably secure
Last Report: 1923-08-14
EO Rank: Historical, no recent information

County: Suffolk
Town: Brookhaven
Location: Middle Island
Directions: Dry, sandy fields near Middle Island.
General Quality and Habitat: Dry, sandy fields.

M

Linum medium var. texanum

Southern Yellow Flax

Office Use 2079

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G5T5 - Demonstrably secure
Last Report: 1925-09-08
EO Rank: Historical, no recent information

County: Suffolk
Town: Brookhaven
Location: Middle Island
Directions: Middle Island.
General Quality and Habitat: Hilly, dry scrub oak.

M

Symphyotrichum concolor var. concolor

Silvery Aster

Office Use 7654

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G5T5 - Demonstrably secure
Last Report: 1933-10-08
EO Rank: Historical, no recent information

County: Suffolk
Town: Brookhaven
Location: Middle Island
Directions: Middle Island.
General Quality and Habitat: Sandy woods.

M

Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants database at http://plants.usda.gov/index.html (for plants).

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
12233-4757
(518) 402-8935

·This report contains **SENSITIVE** information that should not be released to the public without permission from the NY Natural Heritage Program.
·Refer to the User's Guide for explanations of codes, ranks and fields.
·Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

OMMUNITIES

Pitch pine-oak-heath woodland

This occurrence of Pitch Pine-Oak-Heath Woodland is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value. Office Use

NY Legal Status:	Unlisted	**NYS Rank:**	S2S3	2215
Federal Listing:		**Global Rank:**	G3G4	
Last Report:	1994-09-16	**EO Rank:**		
County:	Suffolk			SL
Town:	Brookhaven			
Location:	Rocky Point Pine Barrens			
Directions:	The woodland is northeast of Middle Island, west of Wading River Hollow Road, east of Rocky Point-Yaphank Road, and 0.5 mile north of Middle Country Road north to Route 25A.			
General Quality and Habitat:	This is a large area (800 acres), with moderate disturbance, low diversity. Large expanse of pine barrens with scattered pitch pine, dense thicket of scrub oak and white oak sprouts. Area north of woodland is primarily pitch pine-oak forest and successional pitch pine forest. Surrounded by housing development to the south, eastand west.			

Pitch pine-oak forest

This occurrence of Pitch Pine-Oak Forest is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value. Office Use

NY Legal Status:	Unlisted	**NYS Rank:**	S4	3601
Federal Listing:		**Global Rank:**	G4G5	
Last Report:	1994-09-15	**EO Rank:**		
County:	Suffolk			SL
Town:	Brookhaven			
Location:	Rocky Point Pine Barrens			
Directions:	From Middle Island, go east on Route 25, take Wading River Hollow Road north to the barrier. Park and walk north to the pitch pine-oak forest.			
General Quality and Habitat:	Large size, area somewhat disturbed. The pitch pine-oak forest at this site is large but somewhat fragmented by past and current disturbances. There are many areas of successional pitch pine-oak forest within the more mature forest. South of the pine-oak forest is an area of pitch pine-oak-heath woodland.			

Coastal plain pond shore

This occurrence of Coastal Plain Pond Shore is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status:	Unlisted	**NYS Rank:**	S2	220
Federal Listing:		**Global Rank:**	G3G4	
Last Report:	1985-09-06	**EO Rank:**		
County:	Suffolk			SC
Town:	Brookhaven			
Location:	Currans Pond South			
Directions:	From the junction of Route 25 and Currans Road, go 0.6 mi north on Currans Road. The pond is west through a narrow band of trees across from a kennel.			
General Quality and Habitat:	This is a small pond with good zonation. There is disturbance by goldfish and by children playing in the muck. The rank is based upon notes (not field forms) from Robert Zaremba. A small pine barrens pond with an open margin even in a high water year. The pond is surrounded by pine domininated woods. There is some disturbance.			

Coastal plain pond shore

This occurrence of Coastal Plain Pond Shore is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status:	Unlisted	**NYS Rank:**	S2	3699
Federal Listing:		**Global Rank:**	G3G4	
Last Report:	1985-09-06	**EO Rank:**		
County:	Suffolk			SL
Town:	Brookhaven			
Location:	Artist Lake			
Directions:	Artist Lake. From the junction of Rocky Point-Yaphank Road and Middle Country Road (Route 25), go east 0.6 mi. The pond is south of the road.			
General Quality and Habitat:	Not a bad occurrence despite intense development. About two-thirds of the margin has houses. There is some emergent vegetation and good margins on the west side.			

MOTHS

Hemileuca maia ssp. 5

Office Use

Coastal Barrens Buckmoth

NY Legal Status:	Special Concern	**NYS Rank:**	S2 - Imperiled	6236
Federal Listing:		**Global Rank:**	G5T3 - Vulnerable	
Last Report:	1985-10-17	**EO Rank:**	Good	
County:	Suffolk			SL
Town:	Brookhaven			
Location:	Rocky Point Pine Barrens			
Directions:	South of rocky point in recently burned areas, south of Route 25A, north of Route 25, east of Yaphank Road and mostly west of Wading River Hollow Road. Follow a trail east off that to scrub oaks around the ponds.			
General Quality and Habitat:	Pitch pine scrub oak barren, mostly fire suppressed. High density patch in north is open from cutting, a patch in the south due to burn in 1980.			

VASCULAR PLANTS

Coreopsis rosea

Office Use 10333

Rose Coreopsis

NY Legal Status: Rare
NYS Rank: S3 - Vulnerable
Federal Listing:
Global Rank: G3 - Vulnerable
Last Report: 2000-08-17
EO Rank: Good
County: Suffolk
Town: Brookhaven
Location: Artist Lake
Directions: From the junction of Rocky Point-Yaphank Road and Middle County Road (Route 25), go east 0.6 mi. The pond is south of the road. Group 1: The plants are on the southeast borders of Artist Lake. Group 2: The plants are on the northeast, west and southwestshore of the western lobe of Arist Lake.

General Quality and Habitat: Scattered plants in disturbed, abused habitat. A pond shore or shallow water of a very disturbed pond. Approximately two-thirds of the margin has houses and some emergent vegetation. Associated species: Group 1: Ludwigia alterniflora, Agalinis purpurea, and Rhynchospora capitellata. Group 2: Euthamia graminifolia, Agalinis purpurea, Viola lanceolata, Hypericum canadense, Eupatorium perfoliatum. Cephalanthus, Vaccinium corymbosum and Eubatrys racemosa on shore.

Coreopsis rosea

Office Use 1423

Rose Coreopsis

NY Legal Status: Rare
NYS Rank: S3 - Vulnerable
Federal Listing:
Global Rank: G3 - Vulnerable
Last Report: 2005-07-26
EO Rank: Good
County: Suffolk
Town: Brookhaven
Location: Currans Pond South
Directions: Go north 0.7 miles on Currans Road from the junction with Route 25. Currans Pond is through a narrow band of trees west across from the kennels. The plants occur in the upper margin of the pond, mainly on the north side.

General Quality and Habitat: This is a good population scattered throughout a good pond shore. This is a small (about 1 acre) pine barrens pond with a sedge margin even in high-water years. The upper margin is in mucky to sandy substrate. Associated species: Thelypteris palustris, Sphagnum, Euthamia graminifolium, Juncus canadensis, Juncus effusus, Triadenum, Lycopus, Symnphyotrichum sp., Gratiola aurea, Eleocharis melanocarpa, Ludwigia palustris.

Eleocharis tricostata

Office Use 4525

Three-ribbed Spikerush

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G4 - Apparently secure
Last Report: 2005-07-26
EO Rank: Fair
County: Suffolk
Town: Brookhaven
Location: Currans Pond South
Directions: Go north 0.7 miles on Currans Road from the junction of Route 25. The plants are located through a narrow band of trees west of the road across from kennels, on the west side of the pond. The plants are at the very edge of the water in shallow water.

General Quality and Habitat: There are 30-40 plants in a small disturbed pond. This is a small (about 1 acre) pine barrens pond with an open margin even in high water years and some disturbance. Associated species: Eleocharis melanocarpa. Utricularia gibba and Gratiola aurea.

Eupatorium album var. subvenosum

Office Use 10195

White Boneset

NY Legal Status: Threatened
NYS Rank: S2S3 - Imperiled
Federal Listing:
Global Rank: G5T3T4 - Vulnerable
Last Report: 2004-08-04
EO Rank: Fair
County: Suffolk
Town: Brookhaven
Location: Artist Lake Hillside
Directions: From the junction of Rocky Point-Yaphank Road and Middle Country Road, go east 0.6 miles to the dirt road just east of the blinking light at Lakeview Terrace, at a sandy pull off. Walk down the dirt road that goes southwest into the woods to a sloping grassy opening on the west side of the sand road.

General Quality and Habitat: There are 35 plants in fair habitat. About two-thirds of the margin of the lake is developed with houses. The hillside is successional pine barrens. Associated species: Ailanthus altissima, Anthoxanthum odoratum, Eupatorium hyssopifolium, Euthamia tenuifolia, Juniperus virginiana, Quercus coccinea, Quercus velutina, Rhus copallinum, and Rubus.Andropogon scoparius, Lespedeza, Lechea, Comptonia, and Pinus.

Lechea tenuifolia

Office Use 139

Slender Pinweed

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G5 - Demonstrably secure
Last Report: 2000-08-17
EO Rank: Excellent
County: Suffolk
SL
Town: Brookhaven
Location: Artist Lake
Directions: The plants are on a hillside of Artist Lake. From Rocky Point-Yaphank Road and Middle County Road (Route 25), go east 0.6 mi. The pond is south of the road. The plants are located on a hillside west of the pond.

General Quality and Habitat: This is an excellent population in successional pine barrens. About two thirds of the margin has houses, some emergent vegetation, hillside is successional pine barrens. Associated species: Eupatorium album, Andropogon virginicus, Rubus flagellaris, Euthamia tenuifolia, Hypericum gentianoides, Trichostema, Lechea spp, Andropogon scoparius, Lespedeza spp., and Pinus rigida. There is also bare soil with lichens and mosses.

Lechea tenuifolia

Office Use 2233

Slender Pinweed

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G5 - Demonstrably secure
Last Report: 1985-08-06
EO Rank: Good
County: Suffolk
SL
Town: Brookhaven
Location: Development South Of Currans
Directions: From the junction of Route 25 and Currans Road, go 0.4 mi north on Currans Road. The plants are along the west side of the road at the edge of the woods along the mowed roadside.

General Quality and Habitat: This is a large population in roadside setting. Roadside through pine barrens in front of only development along this road. Wood's edge along mowed roadside. Associated species: Andropogon scoparius, Comptonia peregrina and Pinus rigida.

Lipocarpha micrantha

Dwarf Bulrush

Office Use 3757

NY Legal Status:	Endangered	**NYS Rank:**	S1 - Critically imperiled
Federal Listing:		**Global Rank:**	G5 - Demonstrably secure
Last Report:	2005-09-12	**EO Rank:**	Fair
County:	Suffolk		
Town:	Brookhaven		
Location:	Artist Lake		
Directions:	From the junction of Rocky Point-Yaphank Road and Middle County Road (Route 25), go east 0.6 miles to the pond south of the road. 2005: The plants are located northeast section of the pond border. They were in dense clusters near Route 25 and in front of the condominium development on the south side of the fence. 1985: The plants are located on the southeast border of Artist Lake growing in a sandy exposed margin in a heavily trampled area.		
General Quality and Habitat:	There are hundreds of plants in very disturbed habitat. Approximately two-thirds of the lake margin has houses. There is some emergent vegetation. There is a sandy exposed margin in a heavily trampled area. The plants occur on a very sandy beach in a draw down area with very few other species. Associated species: Eleocharis obtusa, standard garden weeds in 80% bare sand.		

Oldenlandia uniflora

Clustered Bluets

Office Use 4253

NY Legal Status:	Endangered	**NYS Rank:**	S1 - Critically imperiled
Federal Listing:		**Global Rank:**	G5 - Demonstrably secure
Last Report:	2005-09-12	**EO Rank:**	Fair
County:	Suffolk		
Town:	Brookhaven		
Location:	Currans Pond South		
Directions:	Go north 0.7 miles on Currans Road from Route 25. Currans Pond is through a narrow band of trees west across from the kennels. The plants are on the west and south side of the pond.		
General Quality and Habitat:	There are 100-200 plants in degraded habitat. This is a small (approximately 1 acre) pine barrens pond. There is some disturbance (boards, etc.). Associated species: Gratiola and sedges.		

Persicaria careyi

Carey's Smartweed

Office Use 8081

NY Legal Status:	Threatened	**NYS Rank:**	S1S2 - Critically imperiled
Federal Listing:		**Global Rank:**	G4 - Apparently secure
Last Report:	2000-08-17	**EO Rank:**	Fair
County:	Suffolk		SL
Town:	Brookhaven		
Location:	Artist Lake		
Directions:	The plants are on the northwest shore of Artist Lake where there is no development. The plants are along the trail at the base of a weedy woodland on a slope and above the sedge and grass border of the lake.		
General Quality and Habitat:	Saw a few but more can be expected. A coastal plain pond shore. The plants are at the peaty edge of a pond with some sand. The rest of the pond is highly developed. Associated species: Juncus canadensis, Juncus effusus, Carex lurida, Scirpus cyperinus, Cyperus sp., Panicum clandestinum, Ludwigia alternifolia, Euthamia tenuifolia, Cephalanthus, Acer rubrum.		

Stachys hyssopifolia

Office Use 9829

R[illegible]h Hedge-nettle

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G4G5 - Apparently secure
Last Report: 2000-08-17
EO Rank: Fair
County: Suffolk
Town: Brookhaven
Location: Artist Lake
Directions: Head east from Middle Island on Route 25 toward Artist Lake, go past the flashing light and look for a cleared area to pull off on the right. Back track on foot a short distance and go south on the right fork of an unpaved drive. This leads to a successional open area where the plants occur in the eroded part of the unpaved drive.
General Quality and Habitat: 20 plants in disturbed habitat.. This is a recently disturbed area with unpaved drives and successional woods. The successional woods is composed of young Quercus velutina, Juniperus virginiana, and Prunus serotina. The clear area is a combination of weedy species and pine barrens grassland species. Associated species: Andropogon virginicus, Rubus flagellaris, Eupatorium album, Euthamia tenuifolia, Hypericum gentianoides, Panicum sp., Trichostemma dichotomum, Daucus carota, Centaurea maculosa, Tridens flavus and Lespedeza capitata.

Utricularia radiata

Office Use 8410

Small Floating Bladderwort

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G4 - Apparently secure
Last Report: 2000-08-16
EO Rank: Good
County: Suffolk
SC
Town: Brookhaven
Location: Currans Pond South
Directions: Go north 0.7 mi on Currans Road from Route 25. The Currans Pond is through a narrow band of trees west across from kennels. The plants are located in standing water at the south end.
General Quality and Habitat: This is a good population in good habitat. A small (approximately 1 acre) pine barrens pond with some disturbance (boards etc.). In standing water growing with Nymphaea and Eleocharis sp. Floating cover of about 20%. Pond bordered on the east and west by a wall of Smilax and on north by Cephalanthus. Pond margin with Thelypteris palustris, Sphagnum, Euthamia tenuifolia, Panicum rigidulum, Juncus canadensis, Triadenum, Lycopus sp., Juncus effusus, Aster sp., and Coreopsis rosea. Path runs across north end of pond.

Utricularia radiata

Office Use 8982

Small Floating Bladderwort

NY Legal Status: Threatened
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G4 - Apparently secure
Last Report: 2000-08-17
EO Rank: Good
County: Suffolk
Town: Brookhaven
Location: Artist Lake
Directions: The plants are at the northwest portion of Artist Lake near its shore.
General Quality and Habitat: A fair but hardy population in disturbed habitat. An Atlantic coastal plain pond shore that was shallow open water near the peaty shore of a pond with fluctuating water levels, trash and surrounding development.

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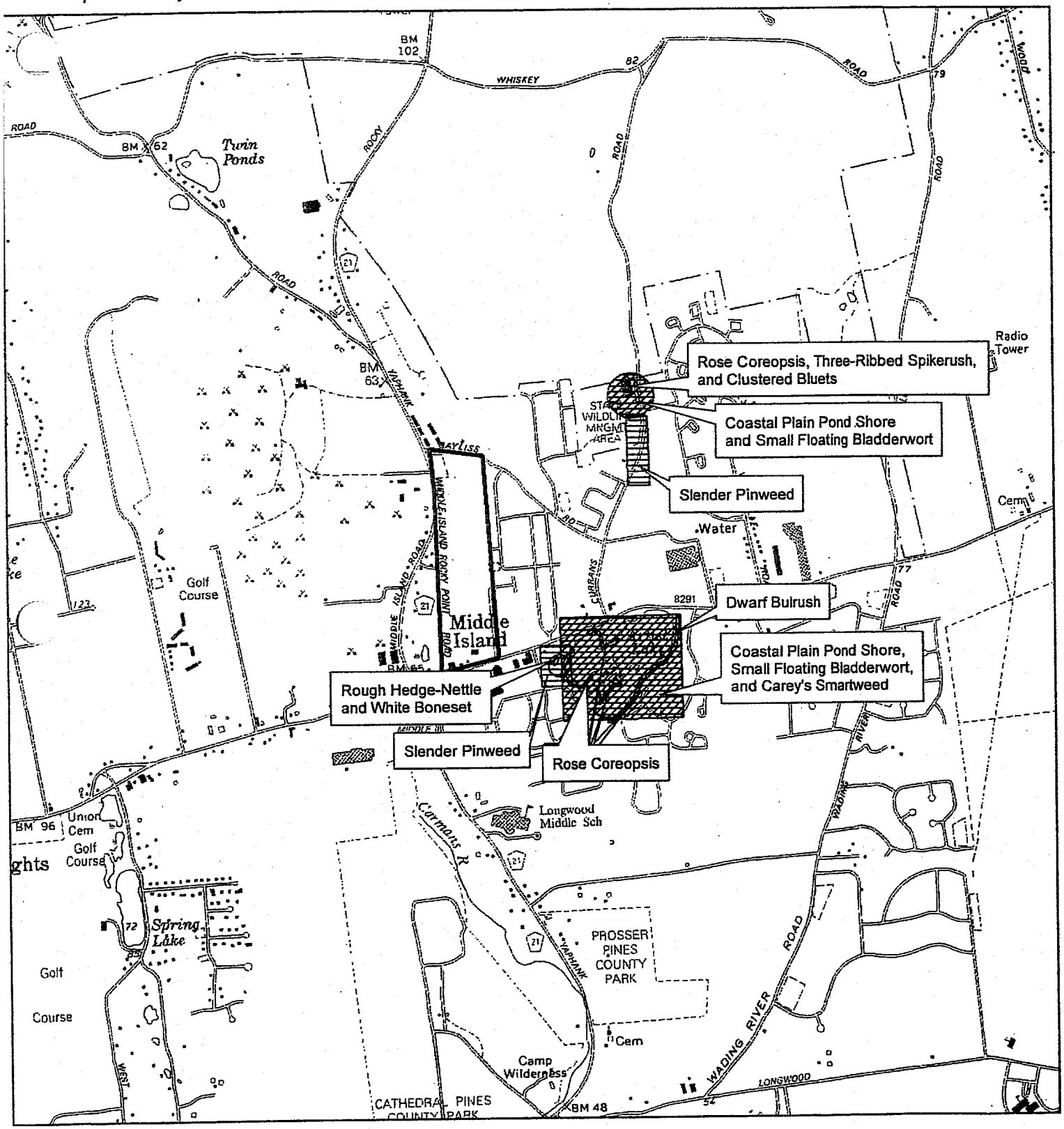
17 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

M[illegible]etailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, dis[illegible]ution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to http://www.dec.ny.gov/animals/29384.html and click on DRAFT--Ecological Communities of New York State.

Natural Heritage Map of Rare Species and Ecological Communities

Prepared May 29, 2007 by NY Natural Heritage Program, NYS DEC, Albany, NY



Legend

- Project Site
- NY Natural Heritage Program Database Records*
- Community
- Plant

1:24,000

0 0.15 0.3 0.6 0.9 1.2 Miles

*The locations that are displayed are considered sensitive and should not be released to the public without permission. We do not provide map locations for all records. Please see report for details.

N W E S

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 625 Broadway, 5th Floor, Albany, NY 12233-4757 phone: (518) 402-8935

TURAL HERITAGE PROGRAM: The NY Natural Heritage Program is a partnership between the NYS Department of Environmental Conservation (NYS DEC) and The Nature Conservancy. Our mission is to enable and enhance conservation of rare animals, rare plants, and significant communities. We accomplish this mission by combining thorough field inventories, scientific analyses, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity to deliver the highest quality information for natural resource planning, protection, and management.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should **not** be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

EO RANK: A letter code for the quality of the occurrence of the rare species or significant natural community, based on population size or area, condition, and landscape context.

A-E = Extant: A=Excellent, B=Good, C=Fair, D=Poor, E=Extant but with insufficient data to assign a rank of A-D.
F = Failed to find. Did not locate species during a limited search, but habitat is still there and further field work is justified.
H = Historical. Historical occurrence without any recent field information.
X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
U = Extant/Historical status uncertain.
Blank = Not assigned.

LAST REPORT: The date that the rare species or significant natural community was last observed at this location, as documented in the Natural Heritage databases. The format is most often YYYY-MM-DD.

NY LEGAL STATUS – Animals:

Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E - **Endangered Species:** any species which meet one of the following criteria:
- Any native species in imminent danger of extirpation or extinction in New York.
- Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T - **Threatened Species:** any species which meet one of the following criteria:
- Any native species likely to become an endangered species within the foreseeable future in NY.
- Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC - **Special Concern Species:** those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P - **Protected Wildlife** (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U - **Unprotected** (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G - **Game** (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NY LEGAL STATUS – Plants:

The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E - **Endangered Species:** listed species are those with:
- 5 or fewer extant sites, or
- fewer than 1,000 individuals, or
- restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
- species listed as endangered by U.S. Dept. of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

Threatened: listed species are those with:
- 6 to fewer than 20 extant sites, or
- 1,000 to fewer than 3,000 individuals, or
- restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
- listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R - **Rare**: listed species have:
- 20 to 35 extant sites, or
- 3,000 to 5,000 individuals statewide.

V - **Exploitably vulnerable**: listed species are likely to become threatened in the near future throughout all or a significant portion of
their range within the state if causal factors continue unchecked.

U - **Unprotected**; no state status.

FEDERAL STATUS (PLANTS and ANIMALS): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527. The codes below without parentheses are those used in the Federal Register. The codes below in parentheses are created by Heritage to deal with species which have different listings in different parts of their range, and/or different listings for different subspecies or varieties.

(blank) = No Federal Endangered Species Act status.
LE = Formally listed as endangered.
LT = Formally listed as threatened.
C = Candidate for listing.
LE,LT = Formally listed as endangered in part of its range, and as threatened in the other part; or, one or more subspecies or varieties is listed as endangered, and the others are listed as threatened.
LT,PDL = Populations of the species in New York are formally listed as threatened, and proposed for delisting.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Infraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world. ? = Indicates a question exists about the rank. Range ranks, e.g. S1S2, indicate not enough information is available to distinguish between two ranks.

LOBAL RANK:

G1 - **Critically imperiled** globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.
G2 - **Imperiled** globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.
G3 – **Vulnerable**: Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.
G4 - **Apparently secure** globally, though it may be quite rare in parts of its range, especially at the periphery.
G5 - **Demonstrably secure** globally, though it may be quite rare in parts of its range, especially at the periphery.
GH - Historically known, with the expectation that it might be rediscovered.
GX - Species believed to be extinct.

NYS RANK:

S1 - **Critically imperiled**: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2 – **Imperiled**: Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3 - **Vulnerable**: Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4 - Apparently secure in New York State.
S5 - Demonstrably secure in New York State.
SH - Historically known from New York State, but not seen in the past 15 years.
SX - Apparently extirpated from New York State.

SxB and SxN, where Sx is one of the codes above, are used for migratory animals, and refer to the rarity within New York State of the breeding (B)populations and the non-breeding populations (N), respectively, of the species.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way as the Global ranks (G1 - G5), but the T-rank refers only to the rarity of the subspecific taxon.
T1 through T5 - See Global Rank definitions above.
Q - Indicates a question exists whether or not the taxon is a good taxonomic entity.

Revised April, 2005

Appendix C-2

NYSDEC Breeding Bird Survey Data

NYSDEC Breeding Bird Atlas
Atlas Block 6652B
2000-2005

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status
Green Heron	*Butorides virescens*	T2	7/14/2001	Protected
Canada Goose	*Branta canadensis*	FL	5/13/2001	Game Species
Mute Swan	*Cygnus olor*	FL	7/14/2001	Protected
Wood Duck	*Aix sponsa*	P2	7/4/2002	Game Species
Mallard	*Anas platyrhynchos*	FL	7/4/2002	Game Species
Cooper's Hawk	*Accipiter cooperii*	NY	5/15/2001	Protected-Special Concern
Red-tailed Hawk	*Buteo jamaicensis*	P2	4/14/2001	Protected
Northern Bobwhite	*Colinus virginianus*	T2	6/3/2001	Game Species
Killdeer	*Charadrius vociferus*	FL	7/4/2002	Protected
Rock Pigeon	*Columba livia*	P2	6/3/2001	Unprotected
Mourning Dove	*Zenaida macroura*	FL	7/4/2002	Protected
Yellow-billed Cuckoo	*Coccyzus americanus*	T2	6/29/2001	Protected
Eastern Screech-Owl	*Megascops asio*	X1	1/25/2003	Protected
Great Horned Owl	*Bubo virginianus*	NE	5/5/2001	Protected
Whip-poor-will	*Caprimulgus vociferus*	T2	5/15/2003	Protected-Special Concern
Belted Kingfisher	*Ceryle alcyon*	X1	7/4/2002	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	T2	6/3/2001	Protected
Downy Woodpecker	*Picoides pubescens*	FL	6/16/2001	Protected
Hairy Woodpecker	*Picoides villosus*	X1	7/4/2002	Protected
Northern Flicker	*Colaptes auratus*	T2	4/14/2001	Protected
Eastern Phoebe	*Sayornis phoebe*	UN	7/4/2002	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	ON	6/3/2001	Protected
Eastern Kingbird	*Tyrannus tyrannus*	FL	6/29/2001	Protected
Warbling Vireo	*Vireo gilvus*	T2	7/4/2002	Protected
Red-eyed Vireo	*Vireo olivaceus*	P2	6/29/2001	Protected
Blue Jay	*Cyanocitta cristata*	FL	7/14/2001	Protected
American Crow	*Corvus brachyrhynchos*	FL	6/3/2001	Game Species
Fish Crow	*Corvus ossifragus*	FL	6/29/2001	Protected
Tree Swallow	*Tachycineta bicolor*	P2	6/3/2001	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	P2	6/29/2001	Protected
Bank Swallow	*Riparia riparia*	X1	6/16/2001	Protected
Barn Swallow	*Hirundo rustica*	FL	7/4/2002	Protected
Black-capped Chickadee	*Poecile atricapillus*	FL	6/29/2001	Protected
Tufted Titmouse	*Baeolophus bicolor*	FL	6/3/2001	Protected
Red-breasted Nuthatch	*Sitta canadensis*	X1	4/14/2001	Protected
White-breasted Nuthatch	*Sitta carolinensis*	P2	6/3/2001	Protected
Brown Creeper	*Certhia americana*	X1	4/14/2001	Protected
Carolina Wren	*Thryothorus ludovicianus*	FL	6/16/2001	Protected
House Wren	*Troglodytes aedon*	ON	6/16/2001	Protected
Eastern Bluebird	*Sialia sialis*	T2	7/14/2001	Protected
Wood Thrush	*Hylocichla mustelina*	T2	6/3/2001	Protected
American Robin	*Turdus migratorius*	FY	6/3/2001	Protected
Gray Catbird	*Dumetella carolinensis*	FY	6/29/2001	Protected
Northern Mockingbird	*Mimus polyglottos*	FY	6/29/2001	Protected
Brown Thrasher	*Toxostoma rufum*	FY	6/16/2001	Protected

European Starling	*Sturnus vulgaris*	FY	6/29/2001	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	NE	7/4/2002	Protected
Blue-winged Warbler	*Vermivora pinus*	FL	6/16/2001	Protected
Yellow Warbler	*Dendroica petechia*	T2	5/26/2002	Protected
Pine Warbler	*Dendroica pinus*	FY	6/29/2001	Protected
Prairie Warbler	*Dendroica discolor*	DD	6/16/2001	Protected
Black-and-white Warbler	*Mniotilta varia*	T2	6/16/2001	Protected
Ovenbird	*Seiurus aurocapilla*	T2	6/16/2001	Protected
Common Yellowthroat	*Geothlypis trichas*	T2	6/16/2001	Protected
Scarlet Tanager	*Piranga olivacea*	T2	6/16/2001	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	S2	6/3/2001	Protected
Chipping Sparrow	*Spizella passerina*	FY	6/16/2001	Protected
Field Sparrow	*Spizella pusilla*	FY	6/3/2001	Protected
Song Sparrow	*Melospiza melodia*	FY	7/14/2001	Protected
Northern Cardinal	*Cardinalis cardinalis*	FL	6/29/2001	Protected
Indigo Bunting	*Passerina cyanea*	T2	6/3/2001	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	FY	6/3/2001	Protected
Common Grackle	*Quiscalus quiscula*	FY	6/3/2001	Protected
Brown-headed Cowbird	*Molothrus ater*	FL	7/14/2001	Protected
Orchard Oriole	*Icterus spurius*	T2	6/3/2001	Protected
Baltimore Oriole	*Icterus galbula*	FL	6/29/2001	Protected
House Finch	*Carpodacus mexicanus*	S2	6/3/2001	Protected
American Goldfinch	*Carduelis tristis*	S2	6/3/2001	Protected
House Sparrow	*Passer domesticus*	ON	6/3/2001	Unprotected

Current Date: 8/14/2007
Source: http://www.dec.ny.gov/cfmx/extapps/bba/

Appendix C-3

Projection of Wildlife Ecological Response (POWER) Model Results

PROJECTION OF WILDLIFE ECOLOGICAL RESPONSE (POWER)

NELSON, POPE & VOORHIS, LLC, MICROCOMPUTER MODEL

SPECIES LIST

INTRODUCTION

This appendix has been included to present the results of a computer model used to investigate the various wildlife species which can be expected to be found on the site considering the habitats established. This model was developed by and for the use of Nelson, Pope & Voorhis, LLC using available information and references for the various species. The model utilizes Excel spreadsheets to identify wildlife species commonly found in various Long Island habitats, based upon thorough research of available literature. The habitats investigated consisted of Successional Field, Successional Wooded Edge, Terrestrial Cultural (lawn/landscaping), Maritime Beach and Intertidal Shoals. Some of the species listed in this model would not be expected on the property given the surrounding development, but are present in similar habitats.

The first column identifies the common name of the species, presented with the main common name in alphabetical order (for example: red-tailed hawk would come before blue jay). The scientific name of particular species is in the second column. The third column shows the legal status of the species, of which there are four possible entries (Endangered, Threatened, Special Concern and Local Concern). The fourth column indicates the seasons during which the species might be expected to be present and the fifth column, of particular importance to the environmental setting, contains information on frequency of the species in the habitat (abundant, common, rare and non expected); the species activity in the habitat (nesting, hunting and resting). References are provided with the reference list provided at the end of the appendix. The printout contained in this appendix, coupled with the discussions provided in the main body of the report, provides significant information of the wildlife found, or expected to be found on site.

Pine Oak Forest Species - Inventory and Characteristics

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
gray catbird	*Dumetella carolinensis*	none		Late	X		R / N,F	4 9
black capped chickadee	*Parus atricapillus*	none	X	X	X	X	A / N,F	4 11
brown-headed cowbird	*Molothrus ater*	none		X	X	Early	A / N,F	4 6
brown creeper	*Certhia familiaris*	none		X	X	Early	C / N,F	4 9
American crow	*Corvus brachyrhynchos*	none	X	X	X	X	A / N,H	4 11
yellow-billed cuckoo	*Coccyzus americanus*	none		Late	X		R / N,F	4 12
mourning dove	*Zenaida macroura*	none	X	X	X	X	C / N,H	4 8
house finch	*Carpodacus mexicanus*	none		X	X	X	A / N,F	4 20
purple finch	*Carpodacus purpureus*	none	X	X	X	X	C / N,F	4 20
common flicker	*Colaptus auratus*	none	X	X	X	X	C / N,F	4 14
great-crested flycatcher	*Myiarchus crinitus*	none		Late	X		C / N,F	4 15
common grackle	*Quiscalus quiscula*	none	X	X	X	X	C / N,F	4 6
ruffed grouse	*Bonasa umbellus*	none	X	X	X	X	R / N,F	4 8
broad-winged hawk	*Buteo platypterus*	none		X	X		R / N,H	4 16
Cooper's hawk	*Accipiter cooperii*	special concern		X	X		N / N,H	4 17
red-tailed hawk	*Buteo jamaicensis*	none	X	X	X	X	C / N,H	4 16
sharp-shinned hawk	*Accipiter striatus*	special concern	X	X	X	X	R / N,H	4 16
blue jay	*Cyanocitta cristatta*	none	X	X	X	X	A / N,F	4 10
Northern (dark-eyed) junco	*Junco hyemalis*	none	X			Late	C / N,F	4 21
Eastern kingbird	*Tyrannus tyrannus*	none		X	X	Early	C / N,F	4 15
golden-crowned kinglet	*Regulus satrapa*	none	X	X		X	R / N,H	4 7
ruby-crowned kinglet	*Regulus calendula*	none	X	X		X	R / N,H	4 7
Northern mockingbird	*Mimus polyglottos*	none	X	X	X	X	C / N,F	4 9
white-breasted nuthatch	*Sitta carolinensis*	none	X	X	X	X	A / N,F	4 9
northern oriole	*Icterus galbula*	none		Late	X		R / N,F	4 6
ovenbird	*Seiurus aurocapillus*	none		Late	X	Early	C / N,F	4 19
common screech owl	*Otus asio*	none	X	X	X	X	C / N	4 17
great-horned owl	*Bubo virginianus*	none	X	X	X	X	C / N,H	4 17
long-eared owl	*Asio otus*	none	X	X	X	X	C / N,H	4 17
American robin	*Turdus migratorius*	none		X	X	Early	A / N,F	4 7
yellow-bellied sapsucker	*Sphyrapicus varius*	none		Late	X	Early	C / N,F	14
pine siskin	*Carduelis pinus*	none	X	X	X	X	N / N,F	4 20

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
fox sparrow	*Passerella iliaca*	none	X	X		X	R / F	20 21
house sparrow	*Passer domesticus*	none	X	X	X	X	C / N,F	4 20
song sparrow	*Melospiza melodia*	none	X	X	X	X	R / N,F	4 22
white-throated sparrow	*Zonotrichia albicollis*	none	X	X	X	X	R / N,F	4 22
European starling	*Sturnus vulgaris*	none	X	X	X	X	C / N,F	4 23
chimney swift	*Chaetura pelagica*	none		X	X		C / F	4 42
scarlet tanager	*Piranga olivacea*	none		X	X		C / N,F	4
brown thrasher	*Toxostoma rufum*	none		X	X	Early	R / N,F	4 9
hermit thrush	*Catharus guttatus*	none	X	X	X	X	C / N,F	4 7
wood thrush	*Hylocichla mustelina*	none		X	X	Early	R / N,F	4 7
tufted titmouse	*Parus bicolor*	none	X	X	X	X	R / N,F	4 11
veery	*Catharus fuscescens*	none		Late	X		R / N,F	4 7
red-eyed vireo	*Vireo olivaceus*	none		Late	X		R / N,F	4 23
black-and-white warbler	*Mniotilta varia*	none		X	X		R / N,F	4 18
black-throated blue warbler	*Dendroica caerulescens*	none		Late	X	Early	C / N,F	18
pine warbler	*Dendroica pinus*	none		X	X	Early	C / N,F	4 19
prairie warbler	*Dendroica discolor*	none		Late	X	Early	C / N,F	4 19
yellow-rumped warbler	*Dendroica coronata*	none		X	X	Early	C / N,F	4 8
cedar waxwing	*Bombycilla cedrorum*	none		X	X	Early	R / N,F	4 23 32
whip-poor-will	*Caprimulgus vociferous*	special concern		Late	X		C / N	4 12
Eastern wood-peewee	*Contopus virens*	none		X	X		C / N,F	4 15
downy woodpecker	*Picoides pubescens*	none	X	X	X	X	A / N,F	4 14
hairy woodpecker	*Picoides villosus*	none	X	X	X	X	C / N,F	4 14
red-bellied woodpecker	*Melanerpes carolinus*	none	X	X	X	X	R / N,F	4 14
house wren	*Troglodytes aedon*	none		Late	X	Early	R / N,F	4 9
Mammals								
big-brown bat	*Eptesicus fuscus*	none	X	X	X	X	C / N,F	1 29
hoary bat	*Lasiurus borealis*	none			Late	Early	C / N,F	45
Keen's bat	*Myotis keenii*	none			X	Early	R / N	1 29
little-brown bat	*Myotis lucifugus*	none	X	X	X	X	C / N,F	1 29
red bat	*Lasiurus borealis*	none		Late	X	Early	C / N,F	1 29
Eastern pipistrelle	*Pipistrellus subflavus*	none		X	X	Early	R / N,F	1 29
silver-haired bat	*Lasionycteris noctivagans*	none			X		R / N,F	1 29
Eastern chipmunk	*Tamis striatus*	none	X	X	X	X	C / N,F	1 29

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
Eastern cottontail	*Sylvilagus floridanus*	none	X	X	X	X	C / N,F	1 29
white-tailed deer	*Odocoileus virginianus*	none	X	X	X	X	C / N,F	1 25 29
red fox	*Vulpes vulpes*	none	X	X	X	X	C / N,H	1 29
Eastern mole	*Scalopus aquaticus*	none	X	X	X	X	C / N,F	1 29
house mouse	*Mus musculus*	none	X	X	X	X	N / N,F	1 29
meadow-jumping mouse	*Zapus hudsonicus*	none	X	X	X	X	R / N,F	1 29
white-footed mouse	*Peromyscus leucopus*	none	X	X	X	X	C / N,F	1 29
Virginia opossum	*Didelphis virginiana*	none	X	X	X	X	C / N,F	1 29
racoon	*Procyon lotor*	none	X	X	X	X	C / N,F	1 29
masked shrew	*Sorex cinereus*	none	X	X	X	X	C / N,F	1 29
short-tailed shrew	*Blarina breuicauda*	none	X	X	X	X	A / N,F	1 29
striped skunk	*Mephitis mephitis*	none	X	X	X	X	N / N,F	1 29
Eastern gray squirrel	*Sciurus carolinensis*	none	X	X	X	X	C / N,F	1 29
southern-flying squirrel	*Glaucimys volans*	none	X	X	X	X	C / N,F	1 29
pine vole	*Microtus pinetorum*	none	X	X	X	X	C / N,F	1 29
long-tailed weasel	*Mustela frenata*	none	X	X	X	X	R / N,H	1 29
woodchuck	*Marmota monax*	none	X	X	X	X	R / N,F	1 29
Herptiles								
common gray treefrog	*Hyla versicolor*	none	X	X	X	X	C / N,F	33 37
red-backed salamander	*Plethodon cinerus cinerus*	none	X	X	X	X	R / N,F	34 36
marbled salamander	*Ambystoma opacum*	special concern	X	X	X	X	R / N,F	34 36 38
Eastern garter snake	*Thamnophis sirtalis*	none	X	X	X	X	C / N,F	38 40
eastern hognose snake	*Heterodon platyrhinos*	special concern	X	X	X	X	R / N,H	38
eastern milk snake	*Lampropettis d. triangulum*	none	X	X	X	X	C / N,F	38 39
Eastern spadefoot toad	*Scaphiopus holbrooki*	special concern	X	X	X	X	C / N,F	33
Fowler's toad	*Bufo woodhousei fowleri*	none	X	X	X	X	C / F	33 37
Eastern box turtle	*Terrepene carolina*	special concern	X	X	X	X	C / N,F	41

KEY:

Frequency:
A- abundant
C- common
R- rare
N- not expected

Activity:
N- nesting
H- hunting
R- resting
F- foraging

Successional Old Field Species - Inventory and Characteristics

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			Winter	Spring	Summer	Fall		
Birds								
red-winged blackbird	*Agelaius phoeniceus*	none		X	X	Early	C / N,F	4 6
Eastern bluebird	*Sialia sialis*	none		X	X	Early	R / N,F	4 7
common bobwhite	*Colinus virginianus*	none	X	X	X	X	C / N,F	4 8
indigo bunting	*Passerina cyanea*	none		Late	X	Early	C / N,F	4 20
Northern cardinal	*Cardinalis cardinalis*	none	X	X	X	X	C / N,F	4 20
gray catbird	*Dumetella carolinensis*	none		Late	X		A / N,F	4 9
black capped chickadee	*Parus atricapillus*	none	X	X	X	X	C / H	4 11
brown-headed cowbird	*Molothrus ater*	none		X	X	Early	A / H	4 6
American crow	*Corvus brachyrhynchos*	none	X	X	X	X	A / H	4 11
black-billed cuckoo	*Coccyzus erythropthalmus*	none		Late	X		C / N,F	4 11
yellow-billed cuckoo	*Coccyzus americanus*	none		Late	X		C / N,F	4 12
mourning dove	*Zenaida macroura*	none	X	X	X	X	A / N,H	4 8
rock dove	*Columba livia*	none	X	X	X	X	A / N,F	4 8
American goldfinch	*Carduelis tristis*	none		X	X	X	C / N,F	4 20
house finch	*Carpodacus mexicanus*	none		X	X	X	A / N,F	4 20
common flicker	*Colaptus auratus*	none	X	X	X	X	C / N,F	4 14
least flycatcher	*Empidonax minimus*	none		Late	X		R / N,F	4 15
willow flycatcher	*Empidonax traillii*	none		Late	X		C / N,F	4 15
common grackle	*Quiscalus quiscula*	none	X	X	X	X	A / N,F	4 6
ruffed grouse	*Bonasa umbellus*	none	X	X	X	X	C / N,F	4 8
rose-breasted grosbeak	*Pheucticus ludovicianus*	none		Late	X	Early	C / N,F	4 20
Northern harrier	*Circus cyaneus*	threatened	X	X	X	X	R / H	4 16
Cooper's hawk	*Accipiter cooperii*	special concern		X	X		N / N,H	4 17
red-tailed hawk	*Buteo jamaicensis*	none	X	X	X	X	C / H	4 16
sharp-shinned hawk	*Accipiter striatus*	special concern	X	X	X	X	N / N,F	4 16
blue jay	*Cyanocitta cristatta*	none	X	X	X	X	A / N,F	4 10
Northern (dark-eyed) junco	*Junco hyemalis*	none	X			Late	C / N,F	4 21
American kestrel	*Falco sparverius*	none	X	X	X	X	C / H	4 17
Eastern kingbird	*Tyrannus tyrannus*	none		X	X	Early	A / N,F	4 15
Eastern meadowlark	*Sturnella magna*	none		Late	X		C / N,F	4 6

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			Winter	Spring	Summer	Fall		
Northern mockingbird	*Mimus polyglottos*	none	X	X	X	X	A / N,F	4 9
common nighthawk	*Chordeiles minor*	special concern		Late	X		R / N,F	4 12
barn owl	*Tyto alba*	none	X	X	X	X	R / H	4 17
great-horned owl	*Bubo virginianus*	none	X	X	X	X	C / N,H	4 17
ring-necked pheasant	*Phasianus colchicus*	none	X	X	X	X	C / N,F	4 8
American robin	*Turdus migratorius*	none		X	X	Early	A / N,F	4 7
chipping sparrow	*Spizella passerina*	none	X	X	X	X	C / N,F	4 21
fox sparrow	*Passerella iliaca*	none	X	X		X	C / F	20 21
field sparrow	*Spizella pusilla*	none		X	X	X	C / N,F	4 21
grasshopper sparrow	*Ammodramus savannarum*	special concern		X	X	Early	C / N,F	4 20
house sparrow	*Passer domesticus*	none	X	X	X	X	C / N,F	4 20
Savannah sparrow	*Passerculus sandwichensis*	none		X	X	Early	R / N,F	4 21
song sparrow	*Melospiza melodia*	none	X	X	X	X	A / N,F	4 22
swamp sparrow	*Melospiza georgiana*	none	X	X	X	X	C / N,F	4 22
white-crowned sparrow	*Zonotrichia leucophrys*	none	X	X		X	C / F	22 32
European starling	*Sturnus vulgaris*	none	X	X	X	X	A / N,F	4 23
barn swallow	*Hirundo rustica*	none		Late	X		C / N,F	4 15
brown thrasher	*Toxostoma rufum*	none		X	X	Early	C / N,F	4 9
rufous-sided towhee	*Pipilo erythrophthalmus*	none		Late	X	Early	A / N,F	4 20
black-and-white warbler	*Mniotilta varia*	none		X	X		R / N,F	4 18
blue-winged warbler	*Vermivora pinus*	none		Late	X		C / N,F	4 14
chestnut-sided warbler	*Dendroica pensylvanica*	none		Late	X		R / N,F	4 19
prairie warbler	*Dendroica discolor*	none		Late	X	Early	C / N,F	4 19
yellow warbler	*Dendrocica petchia*	none		Late	X		R / N,F	4 18
cedar waxwing	*Bombycilla cedrorum*	none		X	X	Early	C / N,F	4 23 32
whip-poor-will	*Caprimulgus vociferous*	special concern		Late	X		C / F	4 12
American woodcock	*Philhela minor*	none		X	X	X	C / N,F	4 30
red-headed woodpecker	*Melanerpes erythrocephalus*	special concern		X	X	Early	C / N,F	4 14
house wren	*Troglodytes aedon*	none		Late	X	Early	C / N,F	4 9
common yellowthroat	*Geothlypis trichas*	none		X	X	Early	C / N,F	4 19
Mammals								
Eastern chipmunk	*Tamis striatus*	none	X	X	X	X	C / N,F	1 29
Eastern cottontail	*Sylvilagus floridanus*	none	X	X	X	X	A / N,F	1 29
white-tailed deer	*Odocoileus virginianus*	none	X	X	X	X	C / F	1 25 29

Common Name	Scientific Name	Status	Found During Winter	Spring	Summer	Fall	Frequency/ Habitat Use	References
red fox	*Vulpes vulpes*	none	X	X	X	X	C / H	1 29
Eastern mole	*Scalopus aquaticus*	none	X	X	X	X	C / N,F	1 29
house mouse	*Mus musculus*	none	X	X	X	X	R / N,F	1 29
meadow-jumping mouse	*Zapus hudsonicus*	none	X	X	X	X	R / N,F	1 29
white-footed mouse	*Peromyscus leucopus*	none	X	X	X	X	C / N,F	1 29
Virginia opossum	*Didelphis virginiana*	none	X	X	X	X	C / N,F	1 29
racoon	*Procyon lotor*	none	X	X	X	X	C / F	1 29
black rat	*Rattus rattus*	none	X	X	X	X	R / N,F	1 29
Norway rat	*Rattus norvegicus*	none	X	X	X	X	C / N,F	1 29
least shrew	*Cryptotis parva*	none	X	X	X	X	N / N,F	1 29
short-tailed shrew	*Blarina breuicauda*	none	X	X	X	X	A / N,F	1 29
striped skunk	*Mephitis mephitis*	none	X	X	X	X	N / N,F	1 29
meadow vole	*Microtus pennsylvanicus*	none	X	X	X	X	C / N,F	29 45
pine vole	*Microtus pinetorum*	none	X	X	X	X	C / N,F	1 29
long-tailed weasel	*Mustela frenata*	none	X	X	X	X	R / N,H	1 29
woodchuck	*Marmota monax*	none	X	X	X	X	R / N,F	1 29
Herptiles								
Eastern garter snake	*Thamnophis sirtalis*	none	X	X	X	X	C / N,F	38 40
eastern hognose snake	*Heterodon platyrhinos*	special concern	X	X	X	X	R / N,H	38
eastern milk snake	*Lampropettis d. triangulum*	none	X	X	X	X	C / N,F	38 39
Fowler's toad	*Bufo woodhousei fowleri*	none	X	X	X	X	C / F	33 37

KEY:

Frequency:
A- abundant
C- common
R- rare
N- not expected

Activity:
N- nesting
H- hunting
R- resting
F- foraging

Fresh Water Pond Species - Inventory and Characteristics

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
Birds								
red-winged blackbird	*Agelaius phoeniceus*	none		X	X	Early	A / N,F	4 6
canvasback	*Aythya valisineria*	none	X			Late	R / F	4 27
American coot	*Fulica americana*	none		X	X	Early	R / N,F	4 26
American black duck	*Anas rubripes*	none	X	X	X	X	R / N,F	4 27
ring-necked duck	*Aythya collaris*	none	X			X	C / F	4 27
wood duck	*Aix sponsa*	none		X	X	Early	C / N	4 27
great egret	*Casmerodius albus*	none		X	X		C / N,F	4 26
gadwall	*Anas strepera*	none		Late	X	X	C / N,F	4 27
blue-grey gnatcatcher	*Polioptila caerulea*	none		X	X		R / N,F	4 7
Canada goose	*Branta canadensis*	none	X	X	X	X	C / N,F	4 28
horned grebe	*Podiceps auritus*	none	X	Early		X	C / N,F	32 42
pied-billed grebe	*Podilymbus podiceps*	none		X		Early	R / F	32
great blue heron	*Ardea herodias*	none		Late	X		R / M	4 26
green heron	*Butorides striatus*	none		X	X	Early	C / N,F	4 26
Eastern kingbird	*Tyrannus tyrannus*	none		X	X	Early	A / N,F	4 15
belted kingfisher	*Megaceryle alcyon*	none	X	X	X	X	C / N,F	4 12
mallard	*Anas platyrhynchos*	none		X	X	X	C / N,F	4 27
hooded merganser	*Lophodytes cucullatus*	none	X	X	X	X	C / N,F	4 27
common screech owl	*Otus asio*	none	X	X	X	X	C / N,H	4 17
semipalmated plover	*Charadrius semipalmatus*	none		Late	X	Early	R / F	31 32
least sandpiper	*Calidris minutilla*	none			X		R / F	32
spotted sandpiper	*Actitus macularia*	none		X	X	Early	R / N,F	4 31 32
greater scaup	*Aythya marila*	none	X			X	C / F	32 44
lesser scaup	*Aythya affinis*	none	X			X	C / F	32 44
fox sparrow	*Passerella iliaca*	none	X	X		X	R / F	20 21
European starling	*Sturnus vulgaris*	none	X	X	X	X	R / N,F	4 23
barn swallow	*Hirundo rustica*	none		Late	X		C / N,F	4 15
rough-winged swallow	*Stelgidopteryx ruficollis*	none		Late	X		R / N,F	4 15
tree swallow	*Tachycineta bicolor*	none		X	X		C / N,F	4 15
mute swan	*Cygnus olor*	none	X	X	X	X	C / N,F	4
green-winged teal	*Anas crecca*	none		X	X	X	C / N,F	4 27

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
common tern	*Sterna hirundo*	threatened		Late	X		R /N,F	4 24
American widgeon	*Anas americana*	none		X	X		C / N,F	4 27
lesser yellowlegs	*Triniga flavipes*	none	X	Early		X	R / F	30 32
Mammals								
big-brown bat	*Eptesicus fuscus*	none	X	X	X	X	R / H	1 29
Keen's bat	*Myotis keenii*	none			X	Early	R / N	1 29
little-brown bat	*Myotis lucifugus*	none	X	X	X	X	C / H	1 29
red bat	*Lasiurus borealis*	none		Late	X	Early	R / F	1 29
Eastern pipistrelle	*Pipistrellus subflavus*	none		X	X	Early	R / F	1 29
silver-haired bat	*Lasionycteris noctivagans*	none			X		R / N,F	1 29
white-tailed deer	*Odocoileus virginianus*	none	X	X	X	X	C / F	1 25 29
red fox	*Vulpes vulpes*	none	X	X	X	X	C / H	1 29
mink	*Mustela vison*	none	X	X	X	X	C / N,F	1
meadow-jumping mouse	*Zapus hudsonicus*	none	X	X	X	X	R / N,F	1 29
white-footed mouse	*Peromyscus leucopus*	none	X	X	X	X	C / N,F	1 29
muskrat	*Ondarta zibethicus*	none	X	X	X	X	C / N,F	1 29
Virginia opossum	*Didelphis virginiana*	none	X	X	X	X	C / F	1 29
racoon	*Procyon lotor*	none	X	X	X	X	C / N,F	1 29
Norway rat	*Rattus norvegicus*	none	X	X	X	X	C / N,F	1 29
striped skunk	*Mephitis mephitis*	none	X	X	X	X	N / F	1 29
meadow vole	*Microtus pennsylvanicus*	none	X	X	X	X	R / N,F	29 45
long-tailed weasel	*Mustela frenata*	none	X	X	X	X	R / N,H	1 29
bull frog	*Rana catesbeiana*	none	X	X	X	X	C / N,H	33 34 35 37
Herptiles								
common gray treefrog	*Hyla versicolor*	none	X	X	X	X	C / N,F	33 37
green frog	*Rana clamitans*	none	X	X	X	X	C / N,H	33 35 37
wood frog	*Rana sylvatica*	none	X	X	X	X	C / N,F	33 37
red-spotted newt	*Notophthalmus viridescens*	none	X	X	X	X	C / N,F	36 38
spring peeper	*Hyla crucifer*	none	X	X	X	X	R / N,F	33 35 38
spotted salamander	*Ambystoma maculatum*	none	X	X	X	X	R / N	34 36 38
Eastern tiger salamander	*Ambystoma tigrinum tigrinum*	endangere	X	X	X	X	R / N,F	36 38
marbled salamander	*Ambystoma opacum*	ecial conc	X	X	X	X	R / F	34 36 38
Eastern garter snake	*Thamnophis sirtalis*	none	X	X	X	X	C / N,F	38 40
eastern milk snake	*Lampropettis d. triangulum*	none	X	X	X	X	C / N,F	38 39

Common Name	Scientific Name	Status	Found During winter	spring	summer	fall	Frequency/ Habitat Use	References
Eastern ribbon snake	*Thamnophis s. sauritus*	none	X	X	X	X	C / N,F	38 40
Northern ringneck snake	*Diadophis punctatus*	none	X	X	X	X	C / H	38
Northern water snake	*Natrix sipedon sipedon*	none	X	X	X	X	C / N,F	38 39
stink pot	*Sternotherus odoratue*	none	X	X	X	X	C / N,F	38
Fowler's toad	*Bufo woodhousei fowleri*	none	X	X	X	X	C / N,F	33 37
Eastern box turtle	*Terrepene carolina*	ecial conc	X	X	X	X	C / N,F	41
painted turtle	*Chrysemys picta*	none	X	X	X	X	C / N,F	38
snapping turtle	*Chelydra serpentina*	none	X	X	X	X	C / N,F	38 41
spotted turtle	*Chlemys guttata*	ecial conc	X	X	X	X	R / N,F	38 41

KEY:

Frequency:
A- abundant
C- common
R- rare
N- not expected

Activity:
N- nesting
H- hunting
R- resting
F- foraging

PROJECTION OF WILDLIFE ECOLOGICAL RESPONSE (POWER)

NELSON, POPE & VOORHIS, LLC, MICROCOMPUTER MODEL

SPECIES ADAPTABILITY

This portion of the appendix has been included to present the results of a computer program to identify "Species Adaptability." This list is another component of the program developed for use by Nelson, Pope & Voorhis, LLC to determine potential impacts of the proposed project on wildlife. In this application the "Adaptability" of the observed and expected species are shown. The "adaptability" as indicated in the table, refers to whether an individual species may potentially benefit from (+) a habitat change from natural to urban/suburban setting; or, be impacted (-), or remain constant (=), as a result of this change. These values are not intended to represent the dynamics of actual species on the subject site under post-development conditions. The column entitled "Comments" provides relevant information which was obtained from the literature, as regards special habits of the particular species, such as adaptability, nesting, food, etc. This column is particularly important in assessing the potential impacts to the species as a result of the proposed project. The preceding text considers the site specific aspects of the proposed development in regard to individual species. This appendix is included to provide the reader with the benefit of what the literature which was consulted in connection with the Habitat Suitability Model suggests, in terms of generalized species dynamics resulting from land use. References are the same as those cited in the previous Species List portion of the appendix.

Pine Oak Species - Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	References
Birds				
gray catbird	Dumetella carolinensis	=	abundant around parks, urban and suburban areas	4 9
black capped chickadee	Parus atricapillus	=	abundant around parks, urban and suburban areas	4 11
brown-headed cowbird	Molothrus ater	=	lays eggs in other bird's nests; some stay during winter	4 6
brown creeper	Certhia familiaris	-	prefers predominantly deciduous wooded areas	4 9
American crow	Corvus brachyrhynchos	=	extremely adaptable; omnivorous	4 11
yellow-billed cuckoo	Coccyzus americanus	-	avoids heavy urban areas; prefers wooded open or edges for nests	4 12
mourning dove	Zenaida macroura	=	abundant around parks, urban and suburban areas	4 8
house finch	Carpodacus mexicanus	+	nests almost entirely on buildings; considered a pest species	4 20
purple finch	Carpodacus purpureus	-	inhabits parks, suburban areas, and coniferous forests	4 20
common flicker	Colaptus auratus	=	abundant around parks, suburban and urban areas	4 14
great-crested flycatcher	Myiarchus crinitus	-	prefers deciduous forests and deciduous open woodland	4 15
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 6
ruffed grouse	Bonasa umbellus	-	prefers dense cover, thick woods; avoids humans	4 8
broad-winged hawk	Buteo platypterus	-	avoids humans; nests only in dense forests; prefers to be near water	4 16
Cooper's hawk	Accipiter cooperii	-	needs extensive woodland	4 17
red-tailed hawk	Buteo jamaicensis	-	needs 100 foot radius undisturbed area for nest	4 16
sharp-shinned hawk	Accipiter striatus	-	avoids humans; nests in heavily forested areas	4 16
blue jay	Cyanocitta cristatta	=	extremely adaptable to human activity and other stresses	4 10
Northern (dark-eyed) junco	Junco hyemalis	-	prefers forested area with elevation >300 meters; no LI atlas record	4 21
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
golden-crowned kinglet	Regulus satrapa	-	prefers spruce vegetation; no atlas sightings on Long Island	4 7
Northern mockingbird	Mimus polyglottos	+	prefers to nest near humans	4 9
white-breasted nuthatch	Sitta carolinensis	=	abundant in parks, urban and suburban areas	4 9
northern oriole	Icterus galbula	=	prefers deciduous woodland and shade trees	4 6
ovenbird	Seiurus aurocapillus	-	prefers open forest floor and woodlot greater than 35 acres	4 19
common screech owl	Otus asio	=	nocturnal; nests in hollow trees, abandoned buildings, nest boxes	4 17
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 17
long-eared owl	Asio otus	-	nocturnal; prefers dense forested areas near water	4 17
American robin	Turdus migratorius	=	very adaptable; abundant in parks; nests in man-made structures	4 7
yellow-bellied sapsucker	Sphyrapicus varius	=	nests in tree cavity; found in parks, yards and gardens	14
pine siskin	Carduelis pinus	=	one atlas confirmed breeding record on Long Island	4 20
fox sparrow	Passerella iliaca	-	boreal species, winters here in edge, thickets, brushy areas	20 21

Common Name	Scientific Name	Adapt.	Comments	References
house sparrow	Passer domesticus	+	prefers buildings, urban, suburban, gardens; considered a pest	4 20
song sparrow	Melospiza melodia	=	common to most habitats except deep forest, open field and marsh	4 22
white-throated sparrow	Zonotrichia albicollis	-	prefers brushy areas and thick undergrowth	4 22
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
chimney swift	Chaetura pelagica	+	nests in chimneys, with few exceptions	4 42
scarlet tanager	Piranga olivacea	-	rare in wooded area of less than 50 acres; affected by fragmentation	4
brown thrasher	Toxostoma rufum	=	common in parks, suburban areas, wooded edges, dry open areas	4 9
hermit thrush	Catharus guttatus	=	not common on Long Island; when present, prefers pine barrens	4 7
wood thrush	Hylocichla mustelina	=	prefers vacant wood (trees >40 feet); may adapt of wooded suburban	4 7
tufted titmouse	Parus bicolor	=	common in suburban areas	4 11
veery	Catharus fuscescens	-	prefers damp forest with undergrowth; affected by fragmentation	4 7
red-eyed vireo	Vireo olivaceus	=	found in parks and suburban areas with shade trees and undergrowth	4 23
black-and-white warbler	Mniotilta varia	-	builds nests under shrubs and/or trees	4 18
black-throated blue warbler	Dendroica caerulescens	=	migratory, large range; forest interior specie; can adapt to suburb	18
pine warbler	Dendroica pinus	-	prefers pine forest; may appear in overgrown field	4 19
prairie warbler	Dendroica discolor	-	prefers scrub fields and open pine barrens habitat	4 19
yellow-rumped warbler	Dendroica coronata	-	prefers mixed and conifer forest; may be in yards	4 8
cedar waxwing	Bombycilla cedrorum	+	prefers open woodlands, orchards and residential areas	4 23 32
whip-poor-will	Caprimulgus vociferous	-	nocturnal; prefers open woods with adjacent fields	4 12
Eastern wood-peewee	Contopus virens	=	prefers suburban areas, parks and villages with shade trees	4 15
downy woodpecker	Picoides pubescens	=	found in parks and suburban areas	4 14
hairy woodpecker	Picoides villosus	=	found mainly in deciduous forests	4 14
red-bellied woodpecker	Melanerpes carolinus	=	prefers forest openings; mostly found on Long Island north shore	4 14
house wren	Troglodytes aedon	=	found in suburban areas and gardens; nests in crevices of buildings	4 9
Mammals				
big-brown bat	Eptesicus fuscus	+	roosts in structures; found throughout LI; hunts over water	1 29
hoary bat	Lasiurus borealis	=	roosts in trees, sometimes found in parks	45
Keen's bat	Myotis keenii	+	roosts in buildings, crevices and bark; more common on eastern LI	1 29
little-brown bat	Myotis lucifugus	+	roosts in buildings and man made structures; hunts over water	1 29
red bat	Lasiurus borealis	-	feeds in marsh area; nests within 1000 yards of marsh in trees	1 29
Eastern pipistrelle	Pipistrellus subflavus	=	found near water in open woods, also found in buildings	1 29
silver-haired bat	Lasionycteris noctivagans	-	prefers wooded areas near water, primarily during summer months	1 29
Eastern chipmunk	Tamis striatus	=	prefers open woods, thickets, and rocky areas	1 29
Eastern cottontail	Sylvilagus floridanus	=	will adapt to suburban areas, if there is sufficient cover	1 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 25 29

Common Name	Scientific Name	Adapt.	Comments	References
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
Eastern mole	Scalopus aquaticus	=	tunnels underground	1 29
house mouse	Mus musculus	+	lives in association with man, not expected away from buildings	1 29
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, woods, marsh and coastal areas	1 29
racoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
masked shrew	Sorex cinereus	=	tunnels underground; common in wood and wet habitats	1 29
short-tailed shrew	Blarina breuicauda	=	tunnels underground; abundant in a variety of habitats	1 29
striped skunk	Mephitis mephitis	=	prefers mixed wood & brush within 2 miles of water; not expected on LI	1 29
Eastern gray squirrel	Sciurus carolinensis	=	found in parks, urban and suburban areas; very adaptable	1 29
southern-flying squirrel	Glaucimys volans	-	common in deep mixed, deciduous and coniferous woods	1 29
pine vole	Microtus pinetorum	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29
woodchuck	Marmota monax	-	appears primarily in scrub woods and brushy areas; not common on LI	1 29
Herptiles				
common gray treefrog	Hyla versicolor	-	prefer mossy trees near ponds	33 37
red-backed salamander	Plethodon cinerus cinerus	-	terrestrial, prevalent in moist situations	34 36
marbled salamander	Ambystoma opacum	=	moist to sandy areas; lays eggs in fall in low spots wet by rain	34 36 38
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern hognose snake	Heterodon platyrhinos	=	sandy soil and sunny roadside; feeds on herptiles and insects	38
eastern milk snake	Lampropettis d. triangulum	=	occupies a variety of habitats	38 39
Eastern spadefoot toad	Scaphiopus holbrooki	-	nocturnal; burrows in sandy soil; eats insects, worms; gardens, etc.	33
Fowler's toad	Bufo woodhousei fowleri	-	found in suburban areas, gardens; breeds in shallow permanent ponds	33 37
Eastern box turtle	Terrepene carolina	-	terrestrial based species	41

Successional Old Field Species - Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	References
Birds				
American crow	Corvus brachyrhynchos	=	extremely adaptable; omnivorous	4 11
American goldfinch	Carduelis tristis	=	prefers diet of thistles and dandelions	4 20
American kestrel	Falco sparverius	-	adaptable; prefers open areas and parks; will nest near humans	4 17
American robin	Turdus migratorius	=	very adaptable; abundant in parks; nests in man-made structures	4 7
American woodcock	Philhela minor	-	prefers moist woodland and thicket near open fields	4 30
barn owl	Tyto alba	=	hunts in open areas, nests in man made structures and hollow trees	4 17
barn swallow	Hirundo rustica	+	nests almost entirely on buildings	4 15
black capped chickadee	Parus atricapillus	=	abundant around parks, urban and suburban areas	4 11
black-and-white warbler	Mniotilta varia	-	builds nests under shrubs and/or trees	4 18
black-billed cuckoo	Coccyzus erythropthalmus	-	avoids human activities	4 11
blue jay	Cyanocitta cristatta	=	extremely adaptable to human activity and other stresses	4 10
blue-winged warbler	Vermivora pinus	-	primarily abandoned and overgrown field, and thickets	4 14
brown thrasher	Toxostoma rufum	=	common in parks and suburban areas, wooded edges and dry open areas	4 9
brown-headed cowbird	Molothrus ater	=	lays eggs in other bird's nests; some stay during winter	4 6
cedar waxwing	Bombycilla cedrorum	+	prefers open woodlands, orchards and residential areas	4 23 32
chestnut-sided warbler	Dendroica pensylvanica	-	prefers first growth woods, with some open brush area	4 19
chipping sparrow	Spizella passerina	+	abundant around man made structures	4 21
common bobwhite	Colinus virginianus	-	somewhat tolerant of humans during spring and summer months	4 8
common flicker	Colaptus auratus	=	abundant around parks, suburban and urban areas	4 14
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 6
common nighthawk	Chordeiles minor	=	primarily a grassland species; will nest in burnt areas and roofs	4 12
common yellowthroat	Geothlypis trichas	=	found in all open brushy wet areas	4 19
Cooper's hawk	Accipiter cooperii	-	needs extensive woodland	4 17
Eastern bluebird	Sialia sialis	-	found almost entirely in nesting boxes, extremely rare in wild	4 7
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
Eastern meadowlark	Sturnella magna	-	found in marshes during winter months	4 6
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
field sparrow	Spizella pusilla	-	associated with grasslands, fields and brushy wooded edges	4 21
fox sparrow	Passerella iliaca	-	boreal species, winters here in edge, thickets, brushy areas	20 21
grasshopper sparrow	Ammodramus savannarum	-	requires grasslands	4 20
gray catbird	Dumetella carolinensis	=	abundant around parks, urban and suburban areas	4 9
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 17

Common Name	Scientific Name	Adapt.	Comments	References
house finch	Carpodacus mexicanus	+	nests almost entirely on buildings; considered a pest species	4 20
house sparrow	Passer domesticus	+	prefers buildings, urban, suburban, gardens; considered a pest	4 20
house wren	Troglodytes aedon	=	found in suburban areas and gardens; nests in crevices of buildings	4 9
indigo bunting	Passerina cyanea	-	inhabits open woodlands with dense thickets for cover	4 20
least flycatcher	Empidonax minimus	=	prefers open areas and woodland borders; uncommon on Long Island	4 15
mourning dove	Zenaida macroura	=	abundant around parks, urban and suburban areas	4 8
Northern (dark-eyed) junco	Junco hyemalis	-	prefers forested area with elevation >300 meters; no LI atlas record	4 21
Northern cardinal	Cardinalis cardinalis	=	found around gardens, yards, parks	4 20
Northern harrier	Circus cyaneus	-	avoids humans; extremely protective of nests	4 16
Northern mockingbird	Mimus polyglottos	+	prefers to nest near humans	4 9
prairie warbler	Dendroica discolor	-	prefers scrub fields and open pine barrens habitat	4 19
red-headed woodpecker	Melanerpes erythrocephalus	=	prefers open woodlands, parks and suburban areas	4 14
red-tailed hawk	Buteo jamaicensis	-	needs 100 foot radius undisturbed area for nest	4 16
red-winged blackbird	Agelaius phoeniceus	=	needs water	4 6
ring-necked pheasant	Phasianus colchicus	-	needs fields with cover along edge	4 8
rock dove	Columba livia	+	nests almost entirely on buildings; considered a pest species	4 8
rose-breasted grosbeak	Pheucticus ludovicianus	=	mainly found on north shore	4 20
ruffed grouse	Bonasa umbellus	-	prefers dense cover, thick woods; avoids humans	4 8
rufous-sided towhee	Pipilo erythrophthalmus	-	may be present year round on Long Island	4 20
Savannah sparrow	Passerculus sandwichensis	-	found in shore areas; not expected inland	4 21
sharp-shinned hawk	Accipiter striatus	-	avoids humans; nests in heavily forested areas	4 16
song sparrow	Melospiza melodia	=	common to most habitats except deep forest, open field and marsh	4 22
swamp sparrow	Melospiza georgiana	-	prefers fresh water marshes; may be found in weedy fields, parks	4 22
whip-poor-will	Caprimulgus vociferous	-	nocturnal; prefers open woods with adjacent fields	4 12
white-crowned sparrow	Zonotrichia leucophrys	=	often found in suburban areas and city parks	22 32
willow flycatcher	Empidonax traillii	-	found mostly on south shore and western north shore areas	4 15
yellow warbler	Dendrocica petchia	=	rare breeder on LI, winter sps, abundant in parks & yards	4 18
yellow-billed cuckoo	Coccyzus americanus	-	avoids heavy urban areas; prefers wooded open or edges for nests	4 12
Mammals				
Eastern chipmunk	Tamis striatus	=	prefers open woods, thickets, and rocky areas	1 29
Eastern cottontail	Sylvilagus floridanus	=	will adapt to suburban areas, if there is sufficient cover	1 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 25 29
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
Eastern mole	Scalopus aquaticus	=	tunnels underground	1 29
house mouse	Mus musculus	+	lives in association with man, not expected away from buildings	1 29

Common Name	Scientific Name	Adapt.	Comments	References
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, as well as woods, marsh and coastal areas	1 29
racoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
black rat	Rattus rattus	=	lives in association with man, mainly city water front buildings	1 29
Norway rat	Rattus norvegicus	+	nocturnal; usually associated with human activity	1 29
least shrew	Cryptotis parva	-	not commonly documented on Long Island	1 29
short-tailed shrew	Blarina breuicauda	=	tunnels underground; abundant in a variety of habitats	1 29
striped skunk	Mephitis mephitis	=	prefers mixed wood & brush within 2 miles of water; not expected on LI	1 29
meadow vole	Microtus pennsylvanicus	=	tunnels underground; prefers open woodland	29 45
pine vole	Microtus pinetorum	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29
woodchuck	Marmota monax	-	appears primarily in scrub woods and brushy areas; not common on LI	1 29
Herptiles				
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern hognose snake	Heterodon platyrhinos	=	sandy soil and sunny roadside; feeds on herptiles and insects	38
eastern milk snake	Lampropettis d. triangulum	=	occupies a variety of habitats	38 39
Fowler's toad	Bufo woodhousei fowleri	-	found in suburban areas, gardens; breeds in shallow permanent ponds	33 37

Freshwater Pond Species : Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	References
Birds				
red-winged blackbird	Agelaius phoeniceus	=	needs water	4 6
canvasback	Aythya valisineria	-	rarely winters in the area	4 27
American coot	Fulica americana	-	winters occasionally in area	4 26
American black duck	Anas rubripes	-	nests in thick vegetation within 1.2 meters of water	4 27
ring-necked duck	Aythya collaris	-	does not nest on Long Island	4 27
wood duck	Aix sponsa	-	prefers wooded rivers and ponds, and wooded swamps	4 27
great egret	Casmerodius albus	-	common in south shore bays; nests in tall vegetation	4 26
gadwall	Anas strepera	-	observed in south shore bays; may occupy pond and river areas	4 27
blue-grey gnatcatcher	Polioptila caerulea	=	prefers dense foliated trees along water ways	4 7
Canada goose	Branta canadensis	=	prefers lakes, rivers, bays and marshes	4 28
horned grebe	Podiceps auritus	-	prefers southeast shores, oceans, and bays	32 42
pied-billed grebe	Podilymbus podiceps	-	prefers brackish water in Long Island area	32
great blue heron	Ardea herodias	-	occurs as non-breeding species; present during migration	4 26
green heron	Butorides striatus	-	may be found near lakes, streams, ponds and marshes	4 26
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
belted kingfisher	Megaceryle alcyon	-	nests in banks (rarely in trees), up to a mile from fishing area	4 12
mallard	Anas platyrhynchos	-	adaptable to human activity	4 27
hooded merganser	Lophodytes cucullatus	-	not expected on Long Island	4 27
common screech owl	Otus asio	=	nocturnal; nests in hollow trees, abandoned buildings, nest boxes	4 17
semipalmated plover	Charadrius semipalmatus	-	non-breeder on LI; may forage during summer, occasionally winter	31 32
least sandpiper	Calidris minutilla	-	may occasionally winter on Long Island	32
spotted sandpiper	Actitus macularia	-	nests on ground in grassy areas	4 31 32
greater scaup	Aythya marila	-	winters in bay areas	32 44
lesser scaup	Aythya affinis	-	prefers ponds, lakes, rivers and sometimes marshes	32 44
fox sparrow	Passerella iliaca	-	boreal species, winters here in edge, thickets, brushy areas	20 21
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
barn swallow	Hirundo rustica	+	nests almost entirely on buildings	4 15
rough-winged swallow	Stelgidopteryx ruficollis	=	common to streams & rivers; nests in low banks, buildings, cavities	4 15
tree swallow	Tachycineta bicolor	=	always nests near water	4 15
mute swan	Cygnus olor	=	common in bays, very adaptable	4
green-winged teal	Anas crecca	-	nests in upland areas in proximity to water	4 27
American widgeon	Anas americana	-	rare on Long Island; some may be found during winter months	4 27

Common Name	Scientific Name	Adapt.	Comments	References
lesser yellowlegs	Triniga flavipes	-	does not nest on Long Island; considered a migratory shorebird	30 32
Mammals				
big-brown bat	Eptesicus fuscus	+	roosts in structures; found throughout LI; hunts over water	1 29
Keen's bat	Myotis keenii	+	roosts in buildings, crevices and bark; more common on eastern LI	1 29
little-brown bat	Myotis lucifugus	+	roosts in buildings and man made structures; hunts over water	1 29
red bat	Lasiurus borealis	-	feeds in marsh area; nests within 1000 yards of marsh in trees	1 29
Eastern pipistrelle	Pipistrellus subflavus	=	found near water in open woods, also found in buildings	1 29
silver-haired bat	Lasionycteris noctivagans	-	prefers wooded areas near water, primarily during summer months	1 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 25 29
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
mink	Mustela vison	-	prefers wetlands surrounded by forested areas	1
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
muskrat	Ondarta zibethicus	-	prefers damp and marshy fresh and salt water habitats	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, woods, marsh and coastal areas	1 29
racoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
Norway rat	Rattus norvegicus	+	nocturnal; usually associated with human activity	1 29
meadow vole	Microtus pennsylvanicus	=	tunnels underground; prefers open woodland	29 45
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29
Herptiles				
bull frog	Rana catesbeiana	-	strictly aquatic, wooded lakes	33 34 35 37
common gray treefrog	Hyla versicolor	-	prefer mossy trees near ponds	33 37
green frog	Rana clamitans	-	mainly aquatic species	33 35 37
wood frog	Rana sylvatica	-	prefers leafy pools and transient pools in wooded areas	33 37
red-spotted newt	Notophthalmus viridescens	-	prefers shallow ponds in wooded areas; open moist woods	36 38
spring peeper	Hyla crucifer	=	prefers pools/marsh near woodland; found high in trees in summer	33 35 38
spotted salamander	Ambystoma maculatum	-	will breed in pond or vernal ponds in late March, early April	34 36 38
Eastern tiger salamander	Ambystoma tigrinum tigrinum	-	needs fishless pond or vernal pond with 500' vacant radius to breed	36 38
marbled salamander	Ambystoma opacum	=	moist to sandy areas; lays eggs in fall in low spots wet by rain	34 36 38
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern milk snake	Lampropettis d. triangulum	=	occupies a variety of habitats	38 39
Eastern ribbon snake	Thamnophis s. sauritus	=	semi-aquatic specie seldom wanders far from wet areas	38 40
Northern ringneck snake	Diadophis punctatus	=	prefers secluded moist areas under logs/stones; can adapt to suburb	38
Northern water snake	Natrix sipedon sipedon	-	common in swamp, bog, marsh, stream, pond and lake environments	38 39
stink pot	Sternotherus odoratue	-	not common on LI; prefers lake, pond and sluggish streams	38
Fowler's toad	Bufo woodhousei fowleri	-	found in suburban areas, gardens; breeds in shallow permanent ponds	33 37

Common Name	Scientific Name	Adapt.	Comments	References
Eastern box turtle	Terrepene carolina	-	terrestrial based species	41
painted turtle	Chrysemys picta	-	prefers small bodies of water	38
snapping turtle	Chelydra serpentina	-	sometimes found on land near water	38 41
spotted turtle	Chlemys guttata	-	found in bogs and ponds; may be in brooks and pools	38 41

REFERENCES FOR WILDLIFE MATRIX

Refer.	Publication
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Appendix C-4

Correspondence with NYSDEC Regarding Tiger Salamanders

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING
572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620
npv@nelsonpope.com

November 20, 2007

Mr. Dan Rosenblatt
New York State Department of Environmental Conservation
Bureau of Wildlife
625 Broadway, 5th Floor
Albany, NY 12233

Re: Tiger Salamander Guidance
Sandy Hills, Middle Island
NP&V # 00088

Dear Dan:

As per our phone conversation on November 7, 2007, below is a summary of the verbal guidance you provided regarding conservation recommendations for the endangered Tiger Salamander on the Sandy Hills property. Please recall the meeting which you attended with representatives of NP&V and Town Planners at the Town of Brookhaven on June 23, 2006 to establish land use guidelines for tiger salamander protection in connection with the Middle Island Townhomes project and the Sandy Hills project. The Town was interested in ensuring that projects that were proposed as a result of the Middle Country Road Land Use Plan were feasible, and considered the natural resources in the area. The planning of both projects has considered this input and as a result, the needs of the species in consideration of the unique conditions of each site have been addressed. It was recognized that the breeding pond lies across CR 21 (Rocky Point Road) from the subject site, and that no recent information of species presence was available but work during the 1990's did not identify the species in association with the site. Nevertheless, protection of the potential habitat was discussed as a being necessary. The Middle Island Townhomes project was planned to locate an interconnecting road between Old Middle Island Road and CR 21 at the south limit of a cleared and barren area on that site. Additional wooded buffer would be provided where it currently exists north of the interconnecting road and west of CR 21 with a box culvert of the dimensions you have previously specified to be provided. The discussion considered the Town's desire to provide an extension of that road into the Sandy Hills site, in line with the interconnecting road west of CR 21 and continuing through the Sandy Hills site south to Route 25.

Protection of upland on the Sandy Hills site surrounding the pond was discussed as follows and re-confirmed and clarified in our conversation of November 7, 2007:

- The 535' setback begins from the high water mark along the edge of the known tiger salamander breeding pond, not from the limit of vegetated wetlands.
- Fee Title ownership of conservation areas are preferred for preservation of land within 535' of a salamander pond; however, land subject to a conservation easement is acceptable, provided there are mechanisms in place to ensure that impacts to the Tiger Salamander do not occur (i.e. no ATV use, no compaction of soil except for paths and trails, no major clearing of vegetation, no structural improvements).
- The limit of the conservation area should preferably be demarcated with a post & rail or chainlink fence at the 535' setback if possible, or the 100' setback at a minimum. Fence is critical to ensuring no active uses/tresspassers (e.g. ATVs) enter the protection area. Fence with a pedestrian gate not wide enough to allow for ATV access would be ideal.

- Passive uses are allowed within the 535' setback. However, the passive uses must not result in the need for clearing of trees or permanent compaction of soils. Fitness stations and hiking, education, exercise and nature trails (woodchip, bare earth) are ok, but no paving or other equipment for compaction of soils is allowed. Allowable uses do not include heavy passive uses, such as a high-traffic county park, and do not include fishing. The stocking of fish in a vernal pond is prohibited, as it is extremely detrimental to breeding salamander populations.

As requested, we are enclosing one (1) copy of the most recent site plan for the proposed Sandy Hills project for your review. As discussed, nearly all of the upland habitat within the recommended 535 foot setback from the salamander pond will be preserved as open space, with the exception of an approximately 80-foot wide area in the area of the proposed boulevard which is proposed to be graded and an area of grading for the building and parking essentially at the 535 foot setback. The necessity to allow clearing for the interconnecting road was discussed with the Town on June 23, 2006 and it was recognized that alignment of the road with the Middle Island Townhomes road was a design request of the Town's for conformance to the Town's Middle Country Road Land Use Plan.

It is believed that the use of uplands on the subject property by migrating salamanders from pond #MD-3 may be limited due to fragmentation of the subject property from the breeding pond by an the existing roadway, Rocky Point Road. This fragmentation further decreases the potential for impacts from the project on tiger salamander populations and the breeding pond. Nonetheless, the woodland on the subject property within proximity to the breeding pond will be preserved as illustrated on the plan.

Please do not hesitate to call should you have any questions. Thank you.

Sincerely,

NELSON, POPE & VOORHIS, LLC

Charles J. Voorhis, CEP, AICP

cc: Chuck Hamilton, NYSDEC Region 1
Gary Becker, N&P
File

Town of
Brookhaven
Long Island

Brian X. Foley, Supervisor

RECEIVED
AUG 24 2007
NELSON & POPE

FAX COVER SHEET

TO: Carrie O'Farrell, AICP
Nelson & Pope

FAX NUMBER: 631-427-5620

FROM: Dennis Cole

DATE: 8/24/07

RE: NYSDEC Letter from Michael Clark plus statement of Policy for Tiger Salamanders
Also letting you know that the wetlands surrounding the pond have been flagged and points were recorded with our GPS.

NUMBER OF PAGES, INCLUDING COVER:

Department of Planning, Environment and Land Management
Division of Environmental Protection
One Independence Hill • Farmingville • NY 11738 • Phone (631) 451-6455
www.brookhaven.org

Printed on recycled paper

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources, Region One
Bureau of Wildlife
Stony Brook University
50 Circle Road, Stony Brook, New York 11790 - 3409
Phone: (631) 444-0305 • **FAX:** (631) 444-0272
Website: www.dec.state.ny.us

MEMORANDUM

TO: Dennis Cole, Chief Environmental Analyst

FROM: Michael Clark

DATE: August 21, 2007

SUBJECT: Sandy Hills @ Middle Island
Log # 2006-039-CZ
SCTM NO: 0200-0200-378-2-33.3

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AUG 24 2007
NELSON & POPE

The southern end of the propose project property is within the 1000' radius of a known tiger salamander pond. It is the NYS DEC recommendations that there is no disturbance within the 535' radius and a maximum of 50 % disturbance of the existing upland areas within the 1000' radius. The construction of under-road culverts was discussed and recommended to another project on the west side of the Rocky Point Rd. This would create a safe passageway between these two suitable habitats and would make the southern end of the property even more valuable to the Tiger Salamander. For all of the project area that falls within the 1000' radius, the NYS DEC request that the guidelines for Tiger Salamander habitat conservation be followed.

Michael Clark
Wildlife Biologist
631-444-0311

CC: Dan Rosenblatt
John Pavacic
Dan Lewis

ENCL: Tiger Salamander Conservation Guidelines

RECEIVED
AUG 24 2007
TOWN OF BROOKHAVEN
DIVISION OF ENVIRONMENTAL PROTECTION

Statement of Policy on Landcover Set Asides for Conservation of the Tiger Salamander:

In the discharge of its authority and responsibility to protect and conserve endangered species under ECL Article 11-0535 and associated regulations 6 NYCRR § 182.6, and as a general matter, DEC urges developers to minimize adverse impacts to tiger salamanders by conforming with both of the following when designing projects that would occur on lands within 1,000 feet of known tiger salamander breeding ponds:

a) Preserving 100% of the existing upland forest habitat within 534 feet of the breeding pond.

b) Preserving a minimum of 50% of the adjacent upland area within 1,000 feet of breeding ponds in contiguous blocks of suitable habitat, while allowing for the preservation of wooded corridors which provide connections to adjacent tiger salamander upland habitats. The exact configuration of this habitat is subject to the particular site history and habitat features of a project site.

In general, the habitat closest to the wetland is given a higher priority, with a secondary priority being the preservation of intact corridors of habitat that will allow animals to move off of the subject parcel to other suitable habitat if they choose to do so. Where possible, development is encouraged within existing disturbed areas. The preferred habitat of the salamanders is mature oak-pine woodlands. In general, the preserved area should contain as much oak pine woodland as possible, with development occurring on existing footprints of previous buildings, parking areas, roadways or tilled fields. Therefore, the optimal layout for any particular site can vary depending on site specific features such as historic land use, habitat coverage, and adjacent land cover. In addition, preserved areas should remain undisturbed with no grading, excavation, clearing or similar physical activity allowed except as noted below. DEC may request that additional measures be undertaken to protect preserved upland areas including installation of fencing, signage, supplemental plantings of native woody species and closure of existing pathways that currently provide access to such preserved areas.

Additional requirements:

Roadways: For all newly constructed roadways within 1,000 feet of known tiger ponds, at least one culvert suitable for the passage of migrating tiger salamanders must be placed under the roadway for every 100 feet of roadway within 1,000 feet of known breeding ponds. Curbing with a minimum height of 8" above grade on the side facing out from the roadbed must be installed to prevent tiger salamanders from inadvertently crossing the road and being killed. Curbing must also be placed around leaching pools, catch basins and similar stormwater drainage structures to prevent inadvertent entry of tiger salamanders into these structures.

Pools: All pools within 1,000 feet of tiger salamander breeding ponds must be surrounded by a steeply-sided curb of no less than 8" above grade and which also extends well below the surface.

Other Created Bodies of Surface Water (e.g. recharge or decorative ponds, etc.): All other

Appendix C-5

NP&V Staff Professional Qualifications

SARA N. DA SILVA

PERSONAL PROFESSIONAL QUALIFICATIONS

Experience:

- Environmental Scientist; Nelson, Pope & Voorhis, LLC (November 2003 to Present). Preparation of environmental assessments, environmental impact statements, watershed management plans and various other land use and feasibility studies. Complete ecological site evaluations on floral and faunal populations and habitats to determine land use impacts, including utilizing line transect techniques, rapid bio-assessment protocols, pond seining/dip netting and other scientific procedures. Preparation of comprehensive wetland permit applications required by the NYSDEC, Army Corps of Engineers, Department of State, and various other governmental agencies, including freshwater and tidal wetland delineation.
- Ecological Effects and Habitat Research Associate; The Environmental Careers Organization, Inc., (2002-2003). Intern with US Environmental Protection Agency Atlantic Ecology Division/ Office of Research and Development (US EPA AED/ORD), Narragansett, RI. Evaluated biotic integrity and habitat of RI streams; protocol development for riparian zone vegetation sampling and spore extraction from marsh soil; salt marsh plant manipulation design; poster presentations at national meetings; and co-authorship of final papers.
- Volunteer Field Botanist; Invasive Plant Atlas of New England (May 2002 to Present). IPANE-trained in identification of invasive species; monitor their presence and spread throughout natural areas.
- Web Site Coordinator/Research Associate; URI Cooperative Extension, Kingston, RI (2001-2003). Maintenance of CSREES New England Region Water Quality Web Site. Led volunteer stream biomonitoring workshop.
- Teacher/Naturalist; New Canaan Nature Center, New Canaan, CT (Summer/Fall 2003). Taught environmental themes (ages 4-9) for summer camp, and special programs.
- Plant Conservation Volunteer; New England Wild Flower Society (Spring 2007 to present). Field surveys to monitor presence of rare species in Fairfield County, CT.
- Research Associate; Roger Williams University, Bristol, RI (1999-2002). Biomonitoring of RI streams (contract with RI Department of Environmental Management; annual collection, taxonomic identification, and report summary of freshwater stream macroinvertebrates for EPA 305(b) reports; collected/assessed water and sediment samples; maintained phytoplankton culture stocks; coordinator/translator for Azores Field Study Abroad program (2001).
- Biologist; US EPA AED/ORD, Narragansett, RI (Summer 2001). Biological protocol/index development of stream and estuarine habitats to determine effects of urbanization

Education:

- University of Rhode Island, Master of Science, Environmental Science, 2003
- Roger Williams University, Bachelor of Science, Marine Biology, cum laude, 2001

Significant Professional Achievements:

- Suffolk County North Shore Embayments Watershed Management Plan
- Mt. Sinai Harbor Management Plan
- Cedar Beach Marina Shoreline Improvements Design & Permitting
- Silver Island Pines; LEED Conceptual Plan
- Manorhaven Nature Preserve Design
- Manorhaven Beach Park & N. Sheets Creek Shoreline Improvement Design
- Manorville Meadows, Manorville; Rare Species Investigation
- Dreamworks Homes, Northport; Rare Species Investigation
- Stonehurst IV @ Coram; Rare Species Investigation
- John Knapp Beach; Design of Educational Signs & Beach Educ. Awareness
- Residences @ North Hills; DEIS
- Kiruv Estates, Huntington; DEIS & Permitting
- Woodbury Hills; DEIS
- Weld Property, Bellport; State Wetlands Permit
- Port Jefferson Ferry; Federal, State and Local Wetlands Permits
- Fire Island Pines; Federal, State and Local Wetlands Permits
- Terrell River Property, E. Moriches; Wetlands Feasibility Study
- Bay Road Property, E. Moriches; Wetlands Feasibility & Permitting
- Boys & Girls Club, Bellport; Revegetation/Restoration Plan;
- RMC Property, Bronx; Tidal Wetlands Mitigation/Revegetation Plan; ULURP & CEQR Applications
- Brambletye Farm, Old Field; Wetlands Flagging
- Manor Estates, Fishkill, NY; Wetlands Flagging
- Gateway Commons, East Lyme, CT; Wetlands Flagging

Publications:

- da Silva, S.N., S.M. Lussier, Charpentier, M., Heltshe, J.F., in press. Watershed Land use and the Occurrence of Non-native Plants in Rhode Island Riparian Zones. *Ecological Indicators.*
- Lussier, S.M and S.N. da Silva. 2005. Plant Invasions in Rhode Island Riparian Zones. Rhode Island Naturalist 12(2):1-5. November 2005.
- Lussier, S.M., Enser, R.W., da Silva, S.N., and Charpentier, M. 2006. Effects of Habitat Disturbance from Residential Development on Breeding Bird Communities in Riparian Corridors. Environmental Management 38:504-521.

Professional Societies/Associations:

- Society of Wetland Scientists
- New York State Wetlands Forum, Inc.
- Connecticut Invasive Plant Working Group (CIPWG)
- New England Invasive Plant Group (NIPGro)
- New England Wild Flower Society (NEWFS)
- Rhode Island Natural History Survey
- Norwalk River Watershed Association, Board Member

APPENDIX D

PINE BARRENS DEVELOPMENT STANDARDS

5. Standards and Guidelines for Land Use

5.1 Central Pine Barrens overall area

The following sets forth the standards and guidelines for land use within the Central Pine Barrens.

Standards are to be implemented, and are enforceable, by municipalities, municipal agencies and the Commission, or any other agency with enforcement powers within the Central Pine Barrens. Discretionary decisions regarding standards are to be made by the Commission, under the provisions set forth in Volume I, Chapter 4 of this Plan. These standards are in addition to all other regulatory requirements and do not exempt any entity from complying with applicable federal, state, county, or local laws.

Guidelines are to be utilized by municipalities and municipal agencies with discretionary decisions determined at the municipal level, unless a project is before the Commission due to its location within a Critical Resource Area, because it is a Development of Regional Significance or because there was an assertion of jurisdiction as described in Volume I, Chapter 4 of this Plan.

The municipalities may adopt standards and guidelines which are more restrictive than those contained in this Plan.

Present land uses that comply with existing laws may be continued in accordance with their current approved use.

5.2 Core Preservation Area

The Core Preservation Area is to be preserved by a strategy of government land acquisition, the transfer of development rights, conservation easements, gifts, land swaps, and donations. Development in the Core Preservation Area shall be prohibited or redirected, and hardship exemptions granted by this Commission as provided for in the Act.

Allowable uses within the Core Preservation Area shall be limited to those operations or uses which do not constitute development, or hardship exemptions granted by this Commission pursuant to the Act.

Any existing, expanded, or new activity involving agriculture or horticulture in the Core Preservation Area is an allowable use if it does not involve material alteration of native vegetation. The erection of agricultural buildings, including but not limited to barns, greenhouses and farm stands, required for the production of plants or animals as reflected under ECL Section 57-0107(14), shall constitute an allowable use. If such activity does

involve material alteration of native vegetation, the use will require a hardship exemption from the Commission.

5.3 Compatible Growth Area

5.3.1 Applicability

The Central Pine Barrens Joint Planning and Policy Commission adopts the following standards and guidelines for development in the Compatible Growth Area in accordance with applicable state law.

These standards shall be incorporated into local land use and development review procedures, ordinances and laws by the local municipalities. The Commission shall also apply these standards to those projects that it directly reviews within the Compatible Growth Area.

These guidelines shall be incorporated into land use and development procedures, and utilized by municipalities and municipal agencies on a discretionary basis.

All standards and guidelines for land use in this section are based on the best available scientific evidence and municipal laws and practices.

5.3.2 State Environmental Quality Review Act (SEQRA)

A generic environmental impact statement (GEIS) has been completed for the Plan, including the standards and guidelines for land use set forth in this section.

A supplemental environmental impact statement may be required for individual projects by the appropriate town or other governmental agency, if a significant environmental effect is identified that is outside the scope of the standards and guidelines set forth in this chapter. If a potentially significant environmental effect is not identified, a Supplemental Environmental Impact Statement or an Environmental Impact Statement should not be required.

The scope of the supplemental EIS should be limited to subjects that are not addressed by the standards or guidelines or the GEIS.

5.3.3 Intent and Compatible Growth Area standards

The Commission recognizes the need for balanced growth and development consistent with the water resource protection and habitat preservation goals provided for in the Act.

Projects in the Compatible Growth Area are required to meet all of the standards in this chapter unless a permit has been issued under the provisions of Volume I, Chapter 4 of this Plan.

Where standards contained in the Plan differ from state, county, or local law, the stricter standard(s) shall apply.

5.3.3.1 Nitrate-nitrogen

Nitrate-nitrogen, a contaminant that emanates from numerous types of land uses, is a recognized indicator of groundwater quality. The Suffolk County Department of Health Services abides by the New York State nitrate-nitrogen standard for drinking water.

Standards

5.3.3.1.1 **Suffolk County Sanitary Code Article 6 compliance**

All development proposals subject to Article 6 of the Suffolk County Sanitary Code shall meet all applicable requirements of the Suffolk County Department of Health Services. Projects which require variances from the provisions of Article 6 shall meet all requirements of the Suffolk County Department of Health Service's Board of Review in order to be deemed to have met the requirements of this standard.

5.3.3.1.2 **Sewage treatment plant discharge**

Where deemed practical by the County or State, sewage treatment plant discharge shall be outside and downgradient of the Central Pine Barrens. Denitrification systems that are approved by the New York State Department of Environmental Conservation or the Suffolk County Department of Health Services may be used in lieu of a sewage treatment plant.

Guideline

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.

5.3.3.2 Other chemical contaminants of concern

In addition to the specific standards for nitrate-nitrogen above, other contaminants of concern may be relevant in specific applications or in specific areas. This is particularly true for organic contaminants of anthropogenic origin.

Standard

5.3.3.2.1 **Suffolk County Sanitary Code Articles 7 and 12 compliance**

All development projects must comply with the provisions of Articles 7 and 12 of the Suffolk County Sanitary Code, 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.

5.3.3.3 Wellhead protection

The New York State Department of Health advocates the exclusion of potentially contaminating activities from an area extending for 200 feet in all directions from a well site. Although this may have been considered adequate to prevent the rapid drawdown of bacterial contamination or its entry into groundwater through poorly constructed wells, it does not necessarily ensure an adequate level of protection against the suite of organic and inorganic pollutants that may threaten community water supplies.

Standard

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 New York State Environmental Conservation Law Article 17.

Guideline

5.3.3.3.2 **Private well protection**

The Suffolk County Department of Health Services' guidelines for private wells should be used for wellhead protection.

5.3.3.4 Wetlands and surface waters

Freshwater wetlands that exist within the Central Pine Barrens are considered to be an important natural resource, providing flood and erosion control, the filtering of contaminants and sediments from stormwater runoff, and habitat for plants and wildlife.

Tidal wetlands existing within the marine environment bordering portions of the Central Pine Barrens are equally valuable natural resources. These wetlands support the reproduction of finfish and shellfish, provide habitat for waterfowl, and contribute a scenic quality that supports recreational economies.

Surface waters, including freshwater ponds, lakes, streams, rivers, and creeks, occur throughout the Central Pine Barrens. These are considered to be resources of significant value in economic, aesthetic and ecological terms. Their protection is judged to be vital to the dynamics of the pine barrens.

Standards

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 Wild, Scenic and Recreational Rivers Act or local ordinance. Distances shall be measured horizontally from the wetland edge as mapped by the New York State Department of Environmental Conservation, 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 New York State Department of Environmental Conservation or a municipality in order to be deemed to have met the requirements of this standard.

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 New York State Environmental Conservation Law and local ordinances, shall be imposed to protect these areas as deemed necessary.

5.3.3.4.3 **Wild, Scenic and Recreational Rivers Act compliance**

Development shall conform to the provisions of the New York State Wild, Scenic and Recreational Rivers Act, where applicable. Projects which require variances or exceptions under the New York State Wild, Scenic and Recreational Rivers Act shall meet all requirements imposed by the New York State Department of Environmental Conservation in order to be deemed to have met the requirements of this standard.

Guideline

5.3.3.4.4 **Additional nondisturbance buffers**

Stricter nondisturbance buffer areas may be established for wetlands as appropriate.

5.3.3.5 Stormwater runoff

Development of lands within the pine barrens inevitably results in an increase of runoff water following precipitation. Runoff water originating from the roofs of buildings and from driveways is usually discharged directly to subsurface dry wells situated on the building lot. However, the great volume of runoff water originating from paved streets and roads is usually discharged by pipes into large open recharge basins or sumps. These basins may cover several acres and require the removal of considerable native vegetation to the detriment of the site's ecology and aesthetics.

Standard

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.

Guidelines

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.

5.3.3.5.3 **Ponds**

Ponds should only be created if they are to accommodate stormwater runoff, not solely for aesthetic purposes.

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.

5.3.3.5.5 **Soil erosion and stormwater runoff control during construction**

During construction, the standards and guidelines promulgated by the New York State Department of Environmental Conservation pursuant to state law, which are designed to prevent soil erosion and control stormwater runoff, should be adhered to.

5.3.3.6 Natural vegetation and plant habitat

Clearing is defined, for the purposes of this standard, as the removal of any portion of the natural vegetation found on a site exclusive of any vegetation associated with active agricultural or horticultural activity or formalized landscape and turf areas. Excessive clearing of natural vegetation can result in severe soil erosion, excessive stormwater runoff, and the destruction or reduction of pine barrens plant and wildlife habitat.

Further, the *Long Island Comprehensive Waste Treatment Management Plan* (the "208 Study"; Long Island Regional Planning Board, Hauppauge, NY, 1978) indicated that fertilizers are a significant source of nitrogen and phosphorous contamination to ground and surface waters. Due to the low fertility, soils common to the pine barrens (e.g., Carver, Haven, Plymouth and Riverhead) require both irrigation and fertilizer application for establishment and maintenance of turf and nonnative vegetation. As native pine barrens vegetation is replaced with turf through development, increased contamination and a general change in the ecosystem may be expected.

Standards

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. 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 Core property, and for the purpose of calculating the clearance limits, the site shall be construed to be the combined Core and CGA portions. However, the Core portion may not be cleared except in accordance with Section 5.2 of the Plan.

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 Plan.

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.

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 is specifically not recommended.

5.3.3.6.4 **Native Plantings**

Development designs shall consider the native planting suggestions contained in Figure 5-2.

Figure 5-1: Clearance standards

(This table shows total site clearance including lots, roads, drainage and other improvements. Note: For residential projects which are utilizing Pine Barrens Credits in a Residential Overlay District (ROD) within the Compatible Growth Area, Figure 5-1 should be applied as specified in the Commission resolution of 9/26/01: see either the text version or the pdf file available at these links.)

Zoning lot size (*)	Maximum site clearance (**)
10,000 square feet residential (1/4 acre)	90 %
15,000 square feet residential (1/3 acre)	70 %
20,000 square feet residential (1/2 acre)	60 %
30,000 square feet residential (2/3 acre)	58 %
40,000 square feet residential (1 acre)	53 %
60,000 square feet residential (1.5 acre)	46 %
80,000 square feet residential (2 acres)	35 %
120,000 square feet residential (3 acres)	30 %
160,000 through 200,000+ square feet residential (4 - 5+ acres)	20 % Clearance limitations on lots in this category shall not include the clearance necessary for the construction of driveways and septic systems. In no case shall the total clearance in this category exceed 25%.
Commercial, Industrial and Other or Mixed Use	65 %

Notes:

(*) These entries are the minimum lot sizes required by zoning, not the size of the subject parcels.

(**) In calculating the percentage of land cleared, the preserved areas in a development should preferably be native vegetation. These are maximum clearance standards, and more restrictive standards may be imposed during the review by the local municipality due to consideration of other standards, especially those addressing preservation of rare or endangered species, or unique flora or vegetation.

Figure 5-2: Planting recommendations

(Native plants are more drought tolerant than nonnative species, are adapted to our local environment, maintain natural ecological diversity, perpetuate fast disappearing native genotypes, and comprise a form of habitat restoration.)

Scientific name *(In alphabetic order)*	**Common name**
Recommended native plants	
Andropogon gerardi	Big bluestem
Andropogon scoparius	Little bluestem
Betula lenta	White Birch
Betula populifolia	Grey birch
Celtis occidentalis	Hackberry
Dennstaedtia punctilobula	Hay scented fern
Epigea repens	Trailing arbutus
Hamamelis virginia	Witch hazel
Ilex glabra	Inkberry
Ilex opaca	American holly
Myrica pensylvanica	Northern bayberry
Parthenocissus quinquefolia	Virginia creeper
Pinus rigida	Pitch pine
Populus tremuloides	Quaking aspen
Prunus maritima	Beach plum
Prunus serotina	Black cherry
Pteridum aquilinum	Bracken fern
Quercus alba	White oak
Quercus coccinea	Scarlet oak
Quercus rubra	Red oak
Rosa virginiana	Virginia rose
Rubus allegheniensis	Northern blackberry
Salix discolor	Pussy willow
Sassafras albidum	Sassafras
Solidago species	Goldenrod
Spirea latifolia	Spirea
Vaccinium angustifolium	Lowbush blueberry
Vaccinium	Highbush blueberry

corymbosum	
Continued ...	
Invasive, nonnative plants specifically not recommended	
Acer platinoides	Norway maple
Acer pseudoplatanus	Sycamore maple
Ampelopsis brevipedunculata	Porcelain berry vine
Berberis thunbergii	Japanese barberry
Celastrus orbiculatus	Asiatic bittersweet
Coronilla varia	Crown vetch
Eleagnus umbellata	Autumn olive
Lespedeza cuneata	Himalayan bushclover
Ligustrum sinense	Chinese privet
Lonicera japonica	Japanese honeysuckle
Lonicera maackii	Amur honeysuckle
Lonicera tartarica	Tartarian honeysuckle
Lythrum salicaria	Purple loosestrife
Miscanthus sinensis	Eulalia
Pinus nigra	Black pine
Polygonum cuspidatum	Mexican bamboo
Pueraria lobata	Kudzu
Robina pseudoacacia	Black locust
Rosa multiflora	Multiflora rose
Rosa rugosa	Rugosa (salt spray) rose
Rudbeckia hirta	Black eyed susan

5.3.3.7 Species and communities of special concern

The pine barrens ecosystem hosts several species of rare, endangered or threatened animals and plants, as well as species of special concern. The State of New York has identified such species and has enacted laws to protect their number and habitat. The New York State Natural Heritage Program has also identified unique natural communities and habitats of special concern.

Standard

5.3.3.7.1 **Special species and ecological communities**

Where a significant negative impact upon a habitat essential to those species identified on the New York State maintained lists as rare, threatened, endangered or of special concern, or upon natural communities classified by the New York State 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.

5.3.3.8 Soils

Disturbance of, and construction on, steep slopes within the pine barrens involves considerable removal of native vegetation resulting in excessive surface water runoff and severe soil erosion. Steeply sloped areas are also subject to more rapid spread of wildfire than flat ground.

Guidelines

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%).

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.

5.3.3.8.3 **Slope analyses**

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.

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.

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.

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%).

5.3.3.9 Coordinated design for open space management

Comprehensive, coordinated planning and design of development proposals within the pine barrens is essential to ensure maximum preservation of open space and habitat linkages. Developments should not be designed without adequate consideration of the existing development and known future plans for the adjacent parcels. Otherwise, inefficient road patterns may require unnecessary clearing and lot layout that may hinder or prevent the preservation of large, unbroken blocks of open space.

The use of the clustering technique within the Central Pine Barrens preserves open space, preserves habitat, protects important resource areas, improves infrastructure efficiency and furthers the statute's goals of compact, efficient and orderly development in the Central Pine Barrens.

Additionally, proper management of these areas is essential in order to protect open spaces from illegal dumping, clearing, motor vehicle trespass and other abuses.

Standard

5.3.3.9.1 **Receiving entity for open space dedications**

Applications must specify the entity to which dedicated open space will be transferred.

Guidelines

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.

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.

5.3.3.10 Agriculture and horticulture

Scattered throughout the pine barrens are parcels devoted to agricultural and horticultural uses.

Guideline

5.3.3.10.1 **Best management practices**

Any existing, expanded, or new activity involving agriculture or horticulture in the Compatible Growth Area should comply with best management practices, as defined herein, and relevant requirements including local law. Best management practices are, for purposes of this Plan, 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, New York State Department of Environmental Conservation, 1991 and as later amended).

5.3.3.11 Scenic, historic and cultural resources

The Long Island Pine Barrens Protection Act specifies that the Plan shall consider and protect unique scenic, cultural or historic features. The Plan includes an inventory of many of these resources, and separate inventories for these items exist in local, state, county, federal or private inventories.

The Commission's policy is to protect and enhance those landscape based features of a community which define it, provide for its distinction from neighboring communities, provide for natural areas among the communities which complement the protection of the pine barrens ecosystem, and contribute to a regional diversity, both natural and cultural.

Guidelines

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 Critical Resource Areas, and along the Long Island Expressway, 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 New York State Historic Preservation Office or the New York State Museum.

5.3.3.11.2 **Inclusion of cultural resources in applications**

Development proposals should note established recreation and educational trails and trail corridors; active recreation sites; scenic corridors, roads, vistas and viewpoints located in Critical Resource Areas and undisturbed portions of the roadsides of the Long Island

Expressway, 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 New York State Historic Preservation Office 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.

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.

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.

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.

5.3.3.12 Commercial and industrial development

Throughout the Compatible Growth Area, there are parcels of land that are zoned for commercial or industrial use. Future development of these parcels should occur in a manner which is consistent with the goals and objectives of the Act.

Standard

5.3.3.12.1 **Commercial and industrial compliance with Suffolk County Sanitary Code**

All commercial and industrial development applications shall comply with the provisions of the Suffolk County Sanitary Code as applied by the Suffolk County Department of Health Services, and all other applicable federal, state or local laws. Projects which require variances from the provisions of the Suffolk County Sanitary Code shall meet all requirements of the Department of Health Service's Board of Review in order to be deemed to have met the requirements of this standard.

APPENDIX E

VISUAL AND ARCHITECTURAL DETAILS

SITE AND AREA PHOTOGRAPHS KEY MAP

Source: NYSGIS Orthoimagery Program, 2004
Scale: 1" = 300'

NORTH

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Appendix E-1

Site and Area Photographs with Associated Key Map

1. View of site from existing apartments on Tudor Lane, looking west.

2. View looking north along Tudor Lane.

3. View looking south along Tudor Lane.

4. View from the intersection of Middle Country Road and Tudor Lane, looking south towards shopping center.

5. View looking west along Middle Country Road from the intersection of Middle Country Road and Tudor Lane.

6. View looking east along Middle Country Road from the intersection of Middle Country Road and Tudor Lane.

7. View looking southeast from the intersection of Middle Country Road and Tudor Lane.

8. View looking south towards shopping center from Middle Country Road.

9. View looking west along Middle Country Road.

10. View looking west towards Shell station from Rocky Point Road.

11. View looking north along Rocky Point Road.

12. View from the west side of Rocky Point Road, looking east.

13. View looking south along Rocky Point Road.

14. View from east side of Rocky Point Road looking west towards Roanoke Sand and Gravel.

15. View looking north towards commercial center from the intersection of Rocky Point Road and Bailey Road.

16. View looking east along Bailey Road from the intersection of Rocky Point Road and Bailey Road.

17. View looking east along Bailey Road.

18. View from the subject property looking north towards the Bailey Road wellfield.

19. View looking west from the intersection of Rocky Point Road and Bailey Road.

FLATS UNITS
FRONT ELEVATIONS

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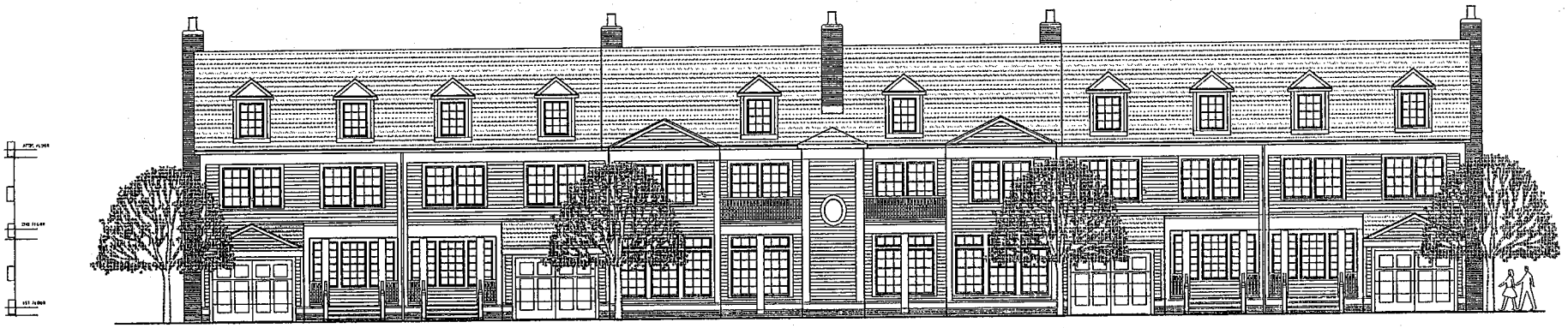

2 STORY TOWNHOUSES & FLATS
BACK ELEVATIONS

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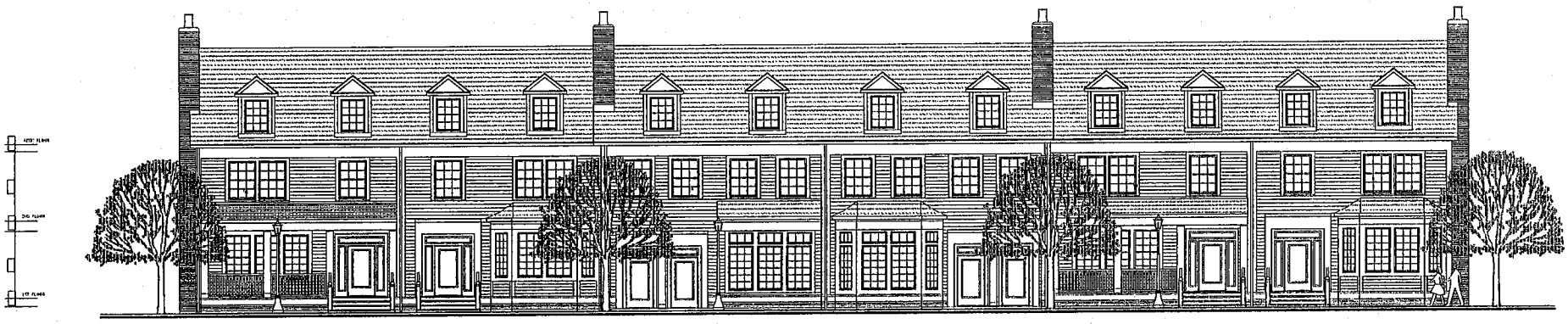

2 STORY TOWNHOUSES & FLATS
FRONT ELEVATIONS

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TOWN HOUSES
FRONT ELEVATIONS

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2 STORY DUPLEX UNITS
FRONT ELEVATION TYPE 1

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2 STORY DUPLEX UNITS
FRONT ELEVATIONS

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2 STORY TRIPLEX UNITS
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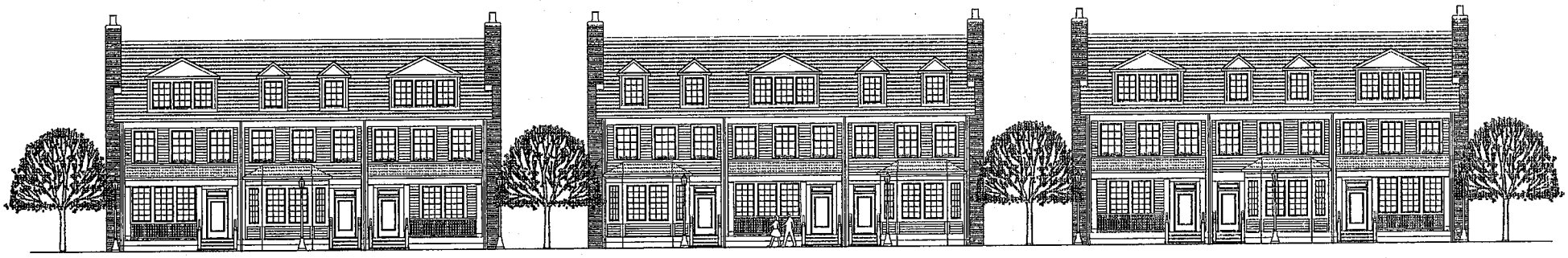

2 STORY TRIPLEX UNITS
FRONT ELEVATIONS

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2 STORY LIVE/WORK UNITS
FRONT ELEVATION

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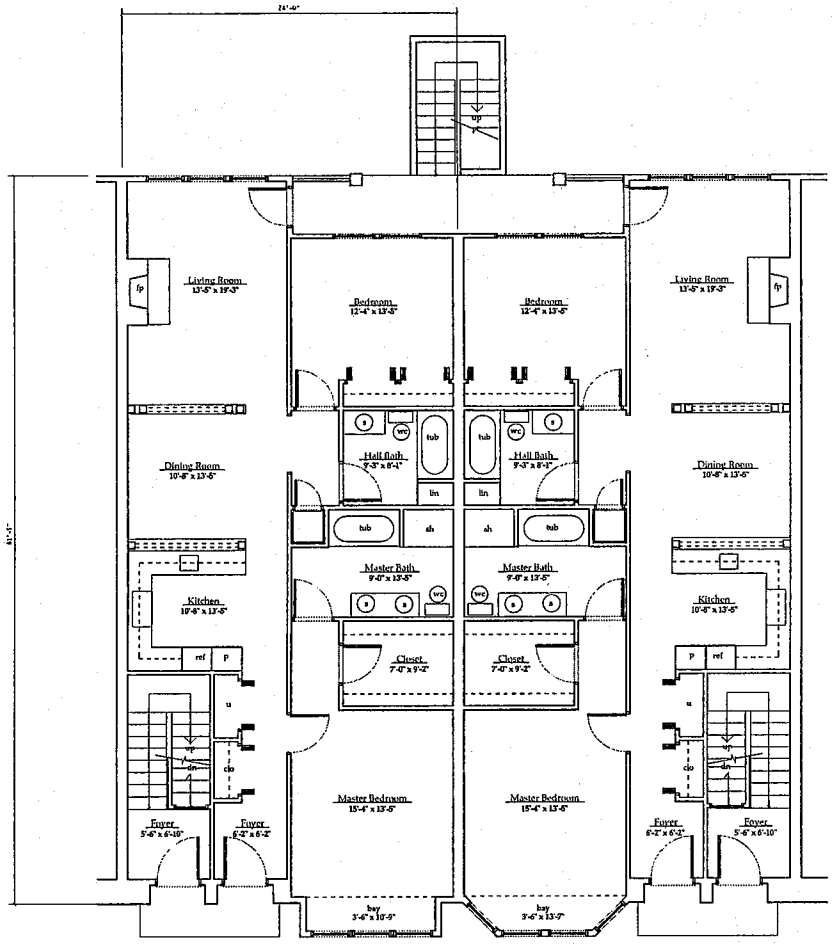
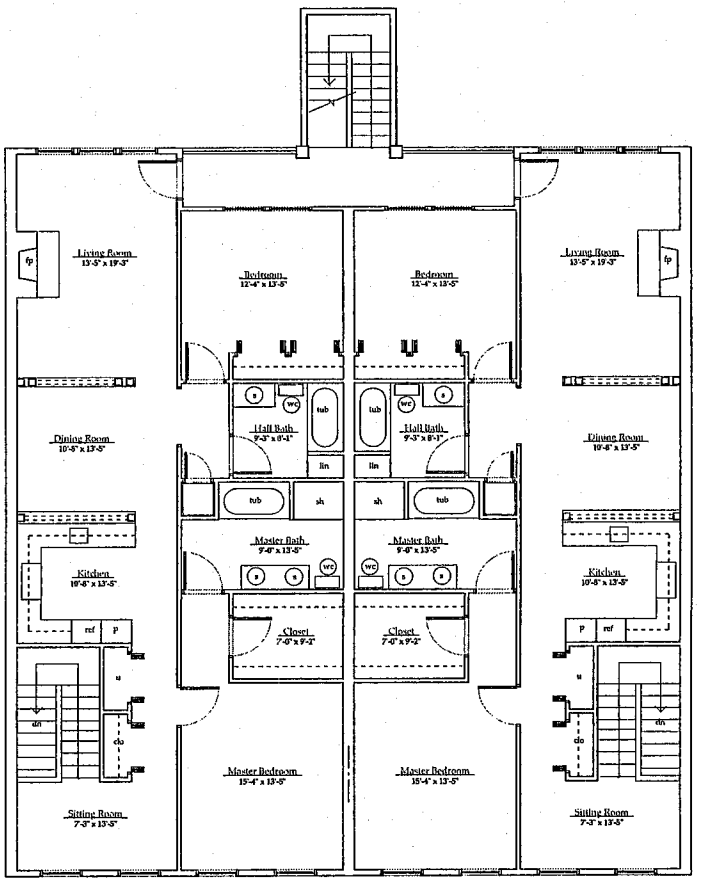
LIVE/WORK UNIT & MIXED USE COMMERCIAL BUILDING
STREETSIDE ELEVATIONS



1 FLATS UNITS- 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 FLATS UNITS- 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

FLATS UNITS

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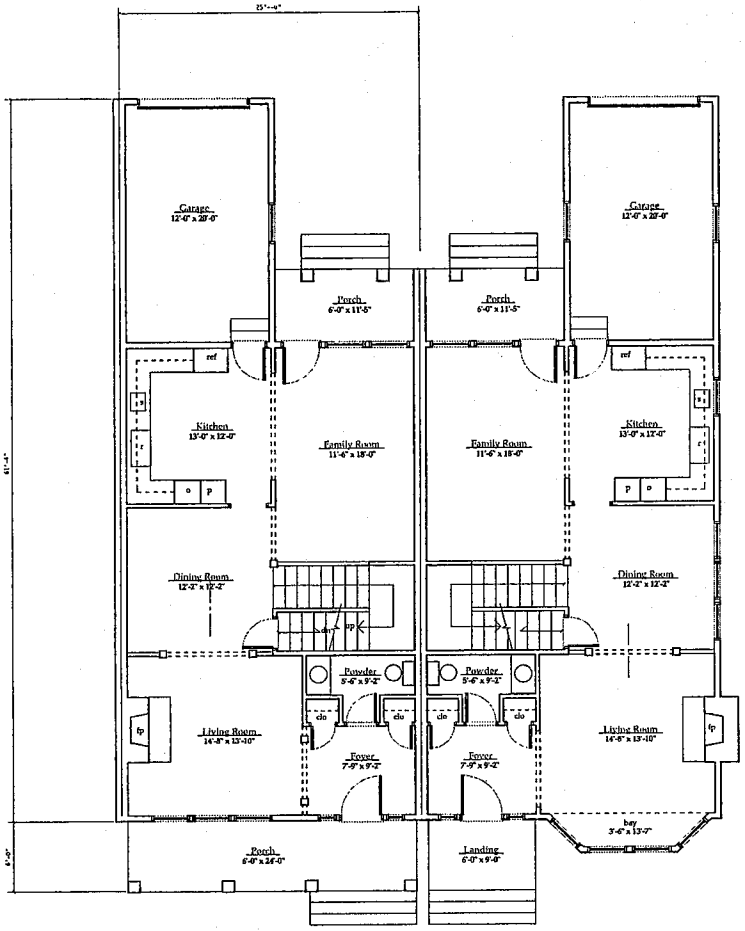

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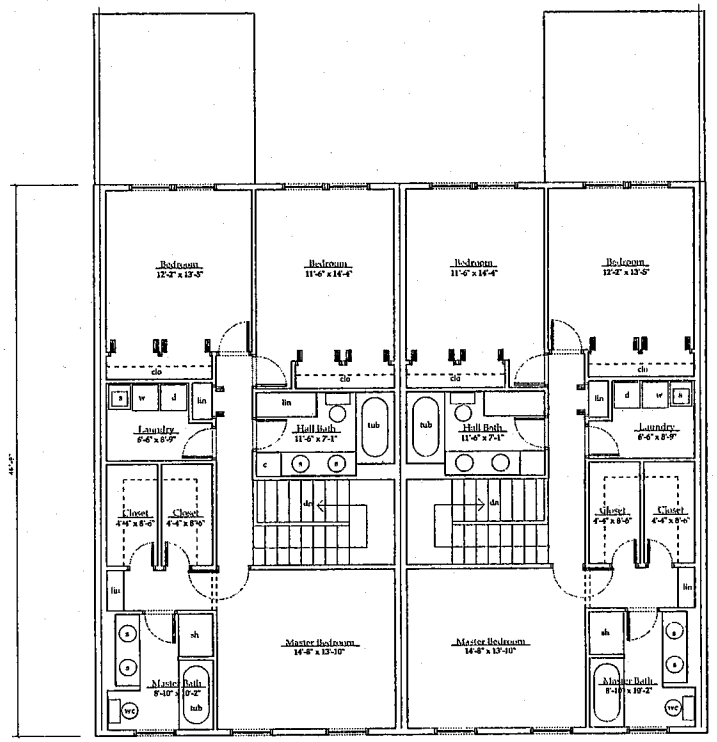

2 TOWNHOUSE UNITS- 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

TOWNHOUSE UNITS

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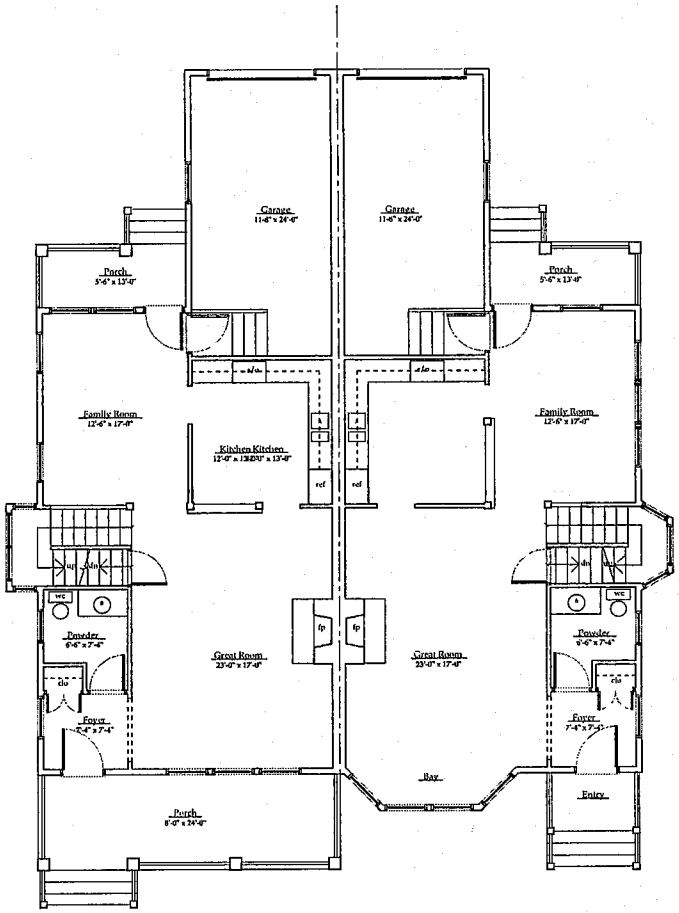
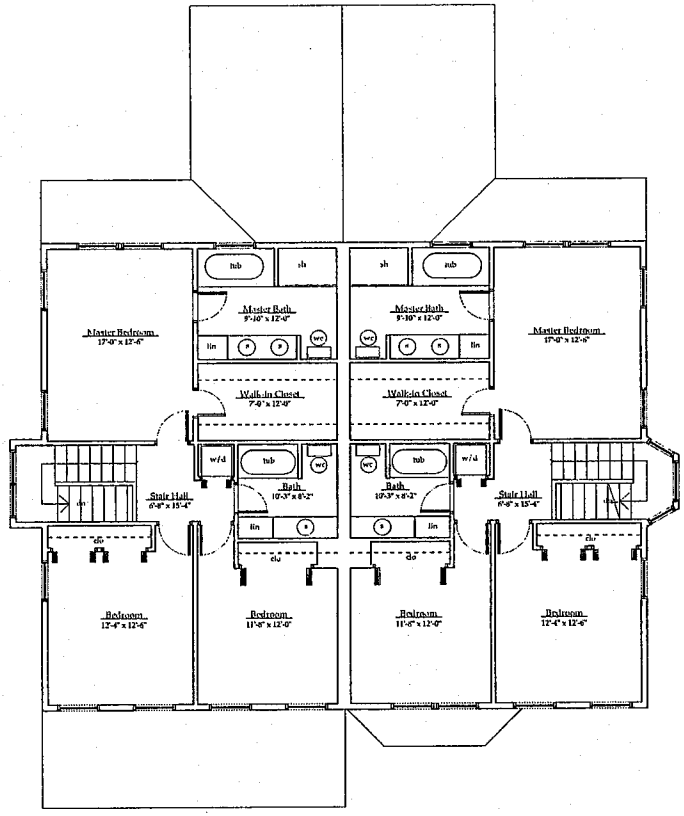


1 DUPLEX UNITS- 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 DUPLEX UNITS- 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

DUPLEX UNITS

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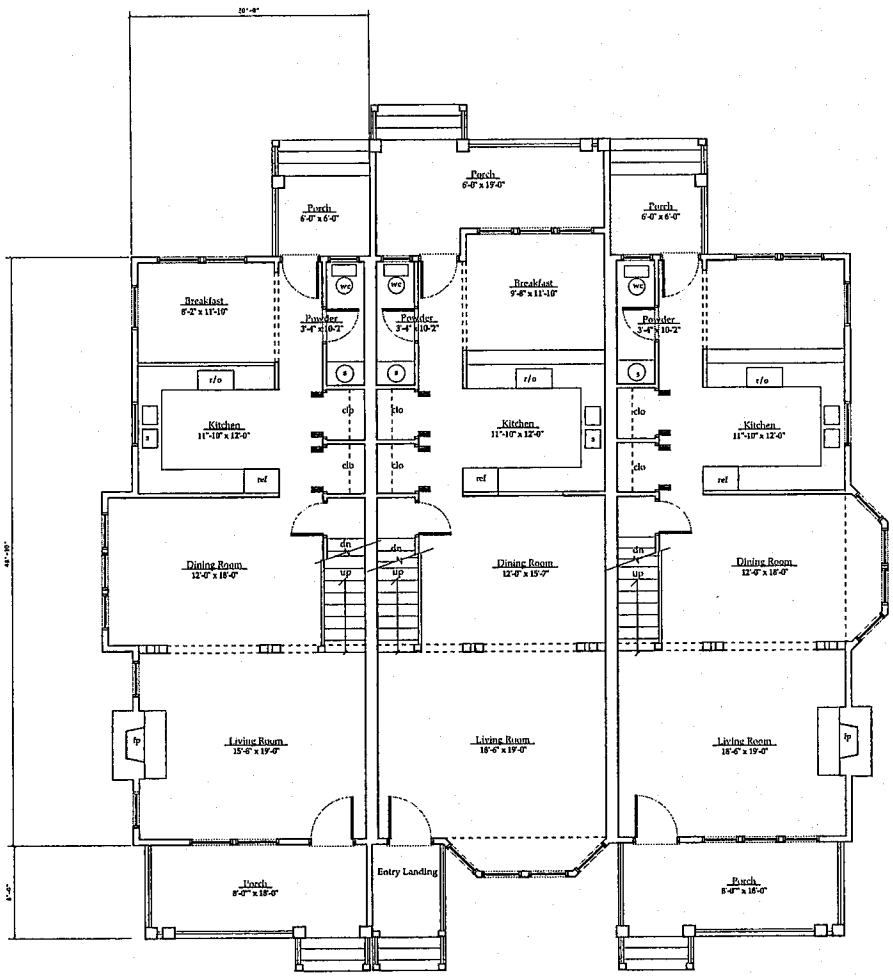

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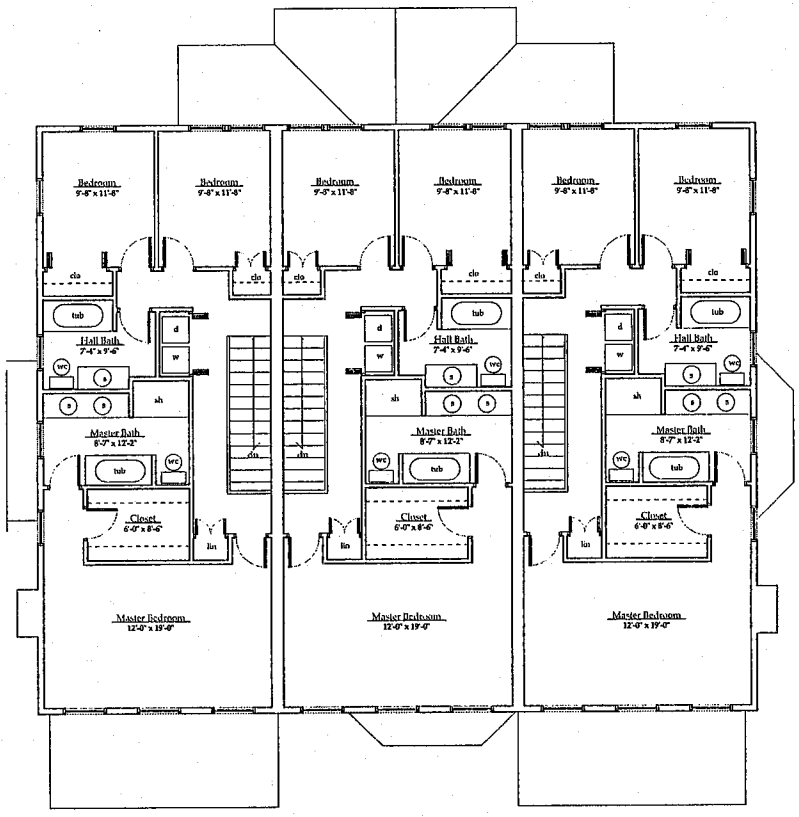

2 TRIPLEX UNITS- 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

TRIPLEX UNITS

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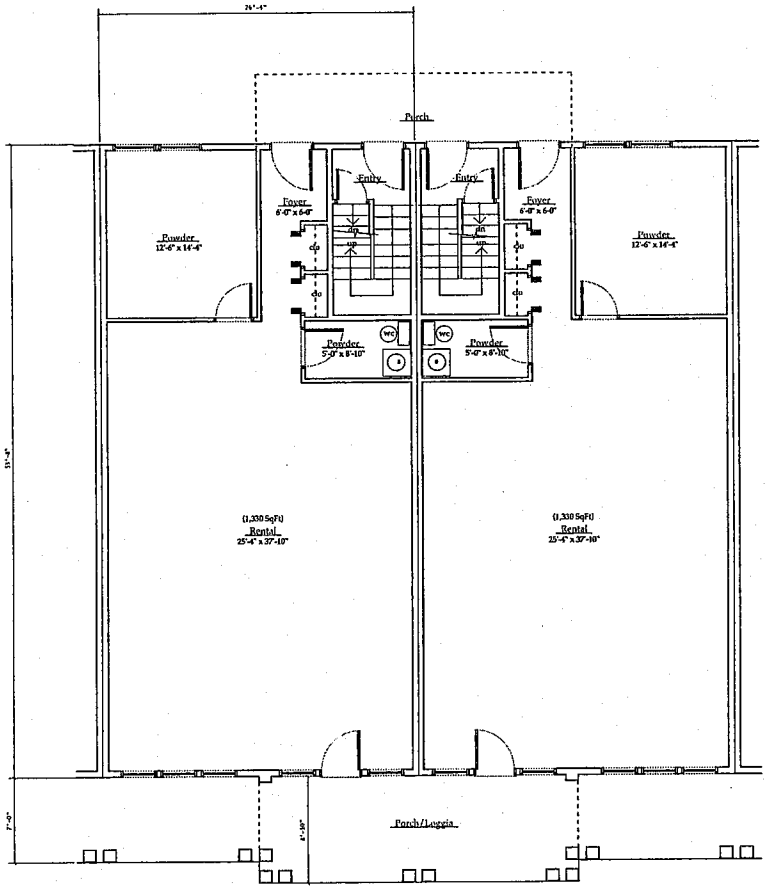
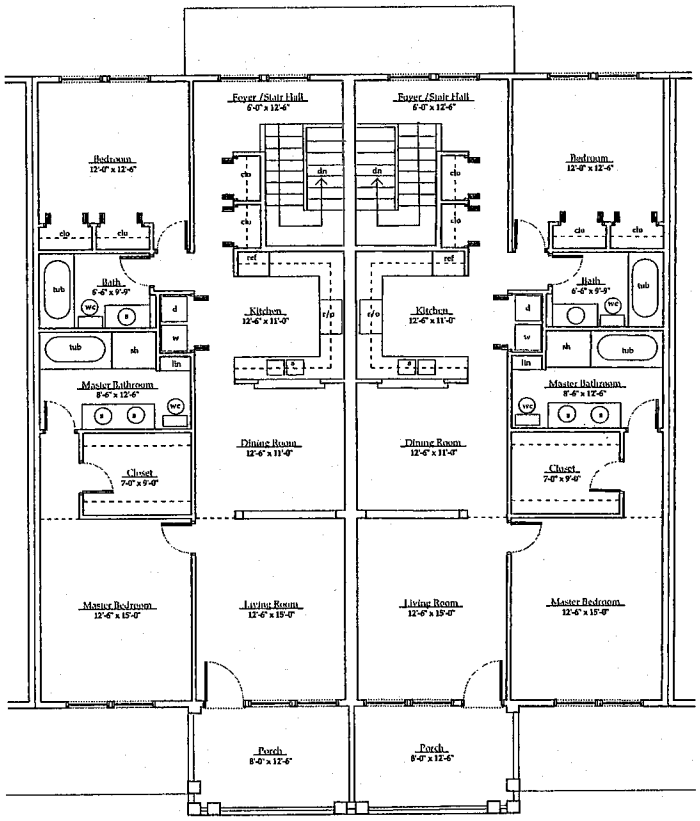


1 LIVE/WORK UNITS- 1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 LIVE/WORK UNITS- 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

LIVE/WORK UNITS

0 2 5 10 20

JOHN DeFAZIO AIA
ARCHITECT
4720 CENTER BLVD
SUITE 216
LONG ISLAND CITY, NY, 11109

(718) 606-1676 (T)
defazio@mindspring.com

APPENDIX F

COMMUNITY SERVICE CORRESPONDENCE

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

CHARLES J. VOORHIS, CEP, AICP • VICTOR BERT, P.E. • ARTHUR J. KOERBER, P.E.
JOSEPH R. EPIFANIA, P.E. • ROBERT G. NELSON, JR., P.E. • PAUL M. RACZ, P.L.S.
THOMAS F. LEMBO, P.E. • GREGORY D. PETERMAN, P.L.S.
GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

August 22, 2007

Mr. John Webb
Commissioner
PO Box 203
Middle Island, NY 11953

Re: The Condominiums at Sandy Hills, Middle Island Draft Environmental Impact Statement (DEIS) NPV #00088

Dear Chairman Olsen:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are currently preparing a Draft Environmental Impact Statement (DEIS) for the construction of a condominium/mixed use facility in Middle Island. Both a more detailed project description and location map are attached.

I am writing to obtain information in regard to Middle Island Fire District facilities, services, and capabilities which may be pertinent to the project. Specifically, I am requesting the following:

- The location of the substation(s) which would serve the site;
- A listing of the major pieces of firefighting equipment at each facility;
- The number of firefighters assigned to each facility;
- Indicate any specialized firefighting capabilities of the District;
- Indicate whether the firefighters are volunteers or full-time.

Your responses will be included in the DEIS for review by the Town; if you have any additional information which would be pertinent, please include it. Finally, if you feel that this project may have an adverse impact on the District's ability to provide services, or may require additional equipment purchases or firefighter training, please indicate this.

If you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC
Gary Pappas
Gary Pappas
Senior Planner

File

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620 WWW.NELSONPOPE.COM

Middle Island Fire District

Board of Fire Commissioners

Box 203, Middle Island, New York 11953

Tel: (631) 924-3362 • Fax: (631) 924-0535

RECEIVED

NOV 16 2007

NELSON & POPE

November 15, 2007

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

Attn: Lara Pomi-Urbat, Analyst

Dear Lara:

Please be advised that the proposed Condominiums at Sandy Hills, Middle Island would be served by the Middle Island Fire Department for Fire Protection and Ambulance Service. There are two Fire Stations; Headquarters is located at the corner of Middle Country Road and Arnold Drive, and Station #2 is located at the corner of Middle Country Road and Artist Drive. Headquarters has two Class "A" pumpers, One Rescue Truck, one Brush Truck, One Fire Police and two Ambulances. Station #2 has One Class "A" Pumper, One 105' Aerial truck, a special operations unit for water rescue, one Fire Police and one Ambulance.

The Fire Department is primarily volunteer with approximately (85) members between both stations. There is 24 hour EMS First Responder Coverage 7 days a week. If you have any further questions, I can be reached at (631) 924-3362.

Sincerely,

Vicki Robinson

Vicki M. Robinson, Secretary
Board of Fire Commissioners
Middle Island Fire District

NELSON, POPE & VOORHIS, LLC
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CHARLES J. VOORHIS, CEP, AICP • VICTOR BERT, P.E. • ARTHUR J. KOERBER, P.E.
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THOMAS F. LEMBO, P.E. • GREGORY D. PETERMAN, P.L.S.
GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

June 13, 2007

Ken Camilleri
KeySpan Energy/Gas
175 Old Country Road
Hicksville, NY 11801

Re: The Condominiums at Sandy Hills, Middle Island Draft Environmental Impact Statement (DEIS) NPV # 00088

Dear Mr. Camilleri:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are preparing a Draft Environmental Impact Statement (DEIS for a proposed 134 residences on a vacant lot located on the south side of Bailey Road, north of Middle Country Road and East of Middle Island Road in Middle Island, New York. The property is more particularly described as SCTM#0200-378-2-33.3. Please see attached location map and property description.

I am writing to obtain information in regard to electric service. Specifically, I am requesting the following:

- Whether electricity and natural gas can be supplied to the site;
- If electricity and natural gas can be supplied, the location(s) and sizes of the supply lines which would be used;
- Whether the amount of usage would significantly impact the ability of LIPA/Keyspan to supply services to its other customers in the area; and,
- If natural gas and electricity can be provided, please send a letter to my attention confirming that such service can be provided.

Your responses will be included in the DEIS for review by the Town; if you have any additional information which would be pertinent, please include it.

If you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Gary Pappas

Gary Pappas

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620 WWW.NELSONPOPE.COM

KEYSPAN
Energy Delivery

175 East Old Country Road
Hicksville, NY 11801

KENNETH J. CAMILLERI
SENIOR ACCOUNT EXECUTIVE
ARCHITECTS /ENGINEERS
Key Account Sales
516-545-3865

June 18, 2007

RECEIVED
JUN 20 2007
NELSON & POPE
PAPPAS

Mr. Gary Pappas
Nelson , Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, N.Y. 11747

Re: The Condominiums at Sandy Hills
Middle Island, N.Y.
NP&V #00088

Dear Mr. Pappas,

As requested, please be advised that KeySpan Energy Delivery and LIPA will provide gas and electric service to the above referenced project in accordance with our filed tariff and schedules in effect at the time service is required.

Responsibility for all excavation, extension of services, meter location, and installation of service will be determined by LIPA/KeySpan design personnel at the site after request for service has been submitted.

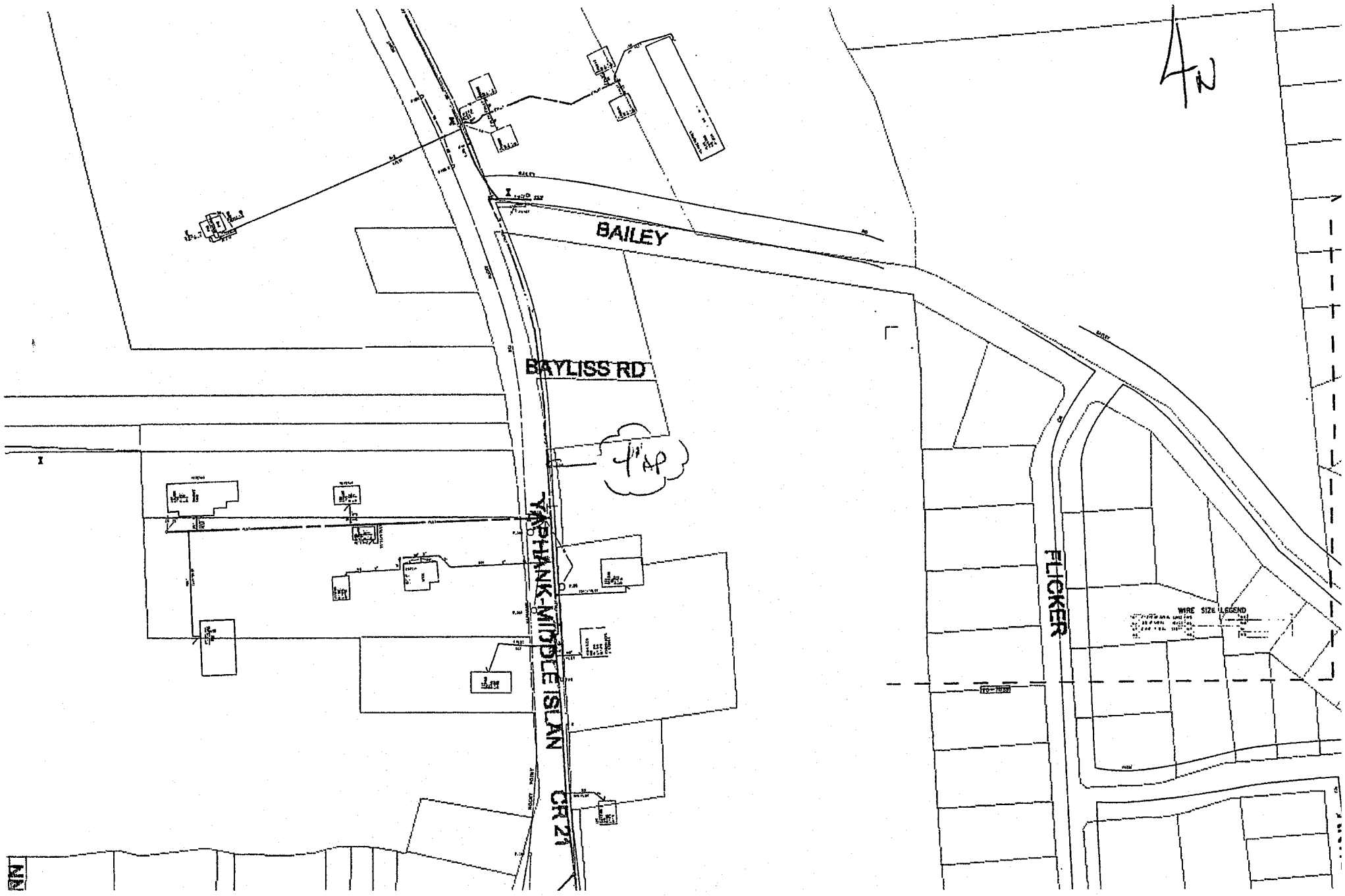
All easements, and cost to supply service will be determined at the time of design.

Gas and electric grid maps are not available until design begins. However, for your information, there is currently gas available along Yaphank Middle Island Road in the form of a 4 inch high pressure gas main. Overhead electric is also available.

Please feel free to contact me at (516) 545-3865, if you require further information.

Sincerely,

Kenneth J. Camilleri



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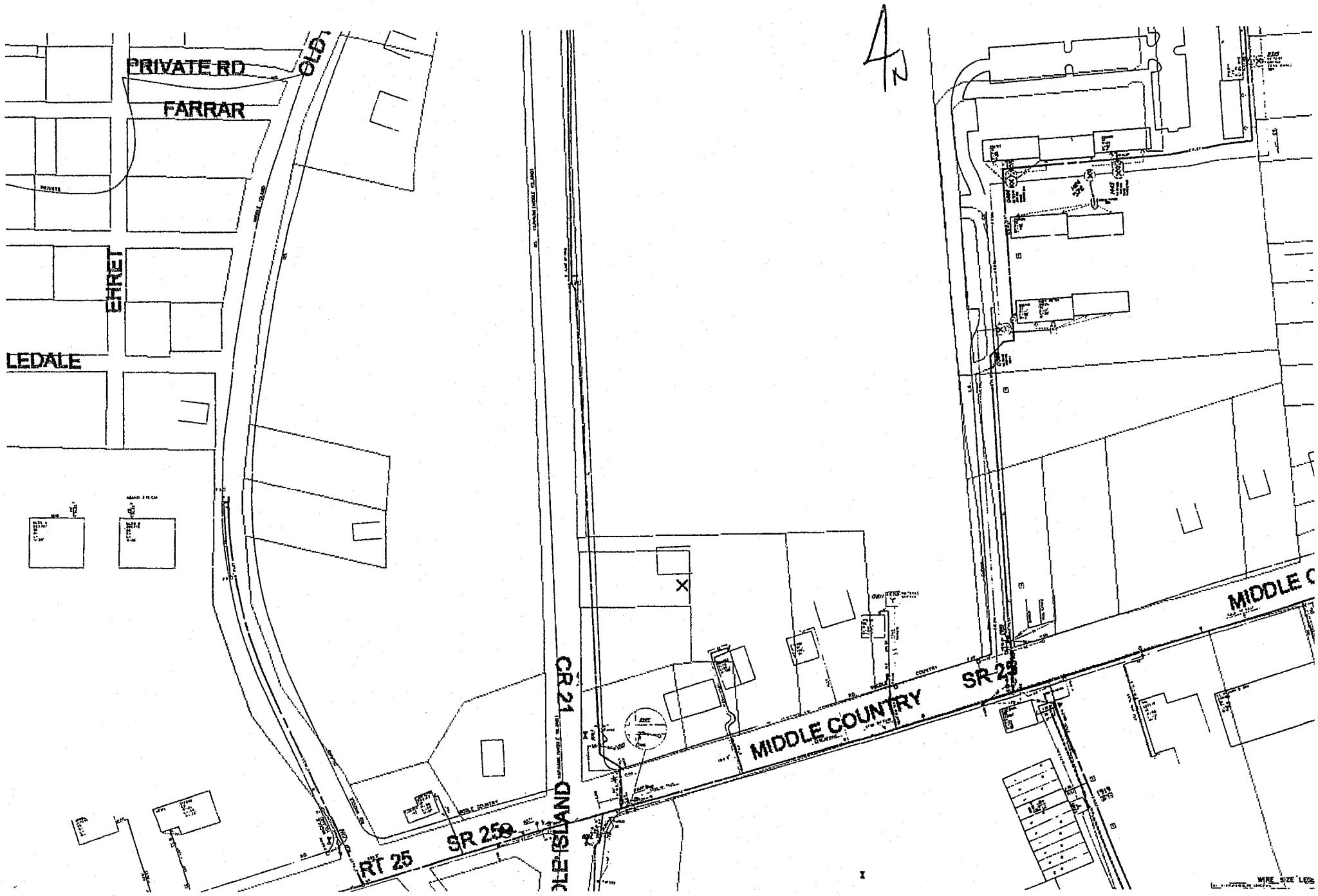

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The items depicted may not a[illegible]ately reflect the actual field conditions.
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The information on this document has been supplied by KeySpan
for its sole use and not to be relied on by others.
The items depicted may not accurately reflect the actual field conditions.
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Date Plotted: 06/10/2007

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GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

June 13, 2007

Frank Stallone, Commanding Officer
Suffolk County Police Department
Sixth Precinct
Route 25
Coram, NY 11727

Re: The Condominiums at Sandy Hills,
Middle Island
Draft Environmental
Impact Statement (DEIS)
NPV #00088

Dear Officer Stallone:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are currently preparing a Draft Environmental Impact Statement (DEIS) for the construction of a condominium/mixed use facility in Middle Island. Both a more detailed project description and a location map are attached. I am writing to obtain information regarding SCPD facilities and services which may be pertinent to the project. Specifically, I am requesting the following:

- Precinct in which the project site is located;
- Location of the stationhouse;
- Patrol sector assigned to the site.

Your responses will be included in the DEIS for review by the Town of Brookhaven. If you have any additional information which would be pertinent (e.g., Will there be a change in the amount of protection necessary with this change in land use? Is it expected that additional patrol cars will be necessary, or that additional personnel would be needed?), please include it.

If you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Gary Pappas

Gary Pappas
Senior Planner

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620 WWW.NELSONPOPE.COM

NELSON, POPE & VOORHIS, LLC
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THOMAS F. LEMBO, P.E. • GREGORY D. PETERMAN, P.L.S.
GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

June 13, 2007

Suffolk County Police Department (SCPD)
Research and Development Section
30 Yaphank Avenue
Yaphank, New York 11980
attn: Lt. William Blaschuk
Commanding Officer of Research and Development Section

Re: The Condominiums at Sandy Hills, Middle Island Draft Environmental Impact Statement (DEIS) NPV #00088

Dear Lieutenant Blaschuk:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are currently preparing a Draft Environmental Impact Statement (DEIS) for the construction of a condominium/mixed use facility in Middle Island. Both a more detailed project description and a location map are attached. I am writing to obtain information regarding SCPD facilities and services which may be pertinent to the project. Specifically, I am requesting the following:

- Precinct in which the project site is located;
- Location of the stationhouse;
- Patrol sector assigned to the site.

Your responses will be included in the DEIS for review by the Town of Brookhaven. If you have any additional information which would be pertinent (e.g., Will there be a change in the amount of protection necessary with this change in land use? Is it expected that additional patrol cars will be necessary, or that additional personnel would be needed?), please include it.

If you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Gary Pappas

Gary Pappas
Senior Planner

File ✓

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188

COUNTY OF SUFFOLK

STEVE LEVY
COUNTY EXECUTIVE

RICHARD DORMER
POLICE COMMISSIONER

POLICE DEPARTMENT

June 22, 2007

Gary Pappas
Senior Planner
Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, NY 11747-2188

RECEIVED
JUN 29 2007
NELSON & POPE
G. PAPPAS

Dear Mr. Pappas,

I am writing in response to your request for information in support of a Draft Environmental Impact Statement being conducted by your firm for the construction of a community/mixed use facility in Middle Island.

The parcel in question, located south of Bailey Road, north of Middle Country Road, and east of Middle Island Road, lies within the jurisdiction of patrol sector 704 of the 7th precinct of the Suffolk County Police Department. The 7th Precinct stationhouse is located at 1491 William Floyd Parkway, Shirley.

It is not anticipated at this time that the development of the subject property will necessitate a change in the amount of police protection provided.

Please make a note that all future correspondence to this office should be addressed to Principal Management Analyst William English rather than Lieutenant William Blaschuk, as he is no longer assigned to this command.

I hope this information will be of assistance to you. If you have any questions, please contact Management Analyst Richard Agostini at (631) 852-6092.

Sincerely,

W. J. English

William English
Principal Management Analyst
Research and Development Section

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

CHARLES J. VOORHIS, CEP, AICP • VICTOR BERT, P.E. • ARTHUR J. KOERBER, P.E.
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GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

June 13, 2007

Attn: NEW SERVICE
Suffolk County Water Authority
P.O Box 38
Oakdale, NY 11769

Re: The Condominiums at Sandy Hills, Middle Island
Draft Environmental Impact Statement (DEIS)
NPV #00088

Attn: NEW SERVICE Dept.:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are currently preparing a Draft Environmental Impact Statement (DEIS) for the construction of a condominium facility at Middle Island (see enclosed location map). Based on the Suffolk County Department of Health design flow requirements, the proposed project is expected to consume 34,270 gallons per day (gpd) of potable water. A more detailed project description is attached as well.

I am writing to obtain information in regard to the above-referenced water supply facilities which may be pertinent to the project. Specifically, I am writing to request a Letter of Water Availability.

Your responses will be included in the DEIS for review by the Town; if you have any additional information which would be pertinent, please include it.

If you should have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,
NELSON, POPE AND VOORHIS, LLC

Gary Pappas

Gary Pappas
Senior Planner

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620 WWW.NELSONPOPE.COM

SUFFOLK COUNTY WATER AUTHORITY
4060 Sunrise Highway, P.O. Box 38, Oakdale, New York 11769

RECEIVED
JUN 27 2007
NELSON & POPE

June 25, 2007

Nelson, Pope and Voorhis LLC.
572 Walt Whitman Rd.
Melville, NY 11747
Attn: Gary Pappas

Re: Water Availability – The Condominiums @ Sandy Hills Middle Island
SCTM# 200-378-2-33.3,33.2 & 200-346-4-13
File# 4671526
NPV File # 00088

Dear Mr. Pappas:

Reference is made to your request for information regarding availability of public water service to the above referenced property.

There is an existing water main available to the above captioned property from Bailey Rd.

Connection fees, which include any applicable water main surcharges, an application and an inspection, will be required for the house service line installation.

We have kept a copy of your survey on file. Generally there is a three to four week waiting period from the time all Authority requirements have been met to the time of installation.

If you have any further questions, please feel free to contact me at (631) 563-5610 or our New Service Department at (631) 218-1148.

Sincerely,

Steve Romano
Manager New Service

SR:drh

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

CHARLES J. VOORHIS, CEP, AICP • VICTOR BERT, P.E. • ARTHUR J. KOERBER, P.E.
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GARY S. BECKER, P.E. • ERIC J. McFERRAN, P.E.

June 13, 2007

Longwood Central School District
Allan Gerstenlauer
Superintendent of Schools
35 Yaphank Middle Island Road
Middle Island, NY 11953

Re: The Condominiums at Sandy Hills, Middle Island Draft Environmental Impact Statement (DEIS) NPV #00088

Dear Superintendent Gerstenlauer:

Nelson, Pope & Voorhis, LLC is an environmental and planning consulting firm located in Melville. We are currently preparing a Draft Environmental Impact Statement (DEIS) for the construction of a condominium/mixed use facility in Middle Island (see enclosed location map). I would like to coordinate with your office or designee to determine potential impacts of this project on the district including children to be served and bus availability. The proposed condominiums, flats, duplexes and triplexes will be two stories in height and will all have 3 - bedrooms, except for the flats which will have 2 bedrooms. There will also be single family homes which will contain 3 bedrooms.

We have projected the number of school aged children that would be generated by these typical developments using multipliers supplied by Rutgers Residential Demographic Multipliers, 2006. These multipliers were originally generated by the Center for Urban Policy Research at Rutgers University to reflect local conditions and to provide factors for multiple types of residential units, including mid-rise condominium buildings. Based on the proposed bedroom count for 134 units, it is predicted that a maximum of sixty-seven (67) new students will be generated. Based on the proposed bedroom count for 150 units, it is predicted that a maximum of seventy-five (75) new students will be generated.

I am writing to obtain information in regard to school district facilities and characteristics which may be pertinent to the project. Specifically, I am requesting the following:

- Current enrollments of each school that the students living in the building would attend;
- Any available district information on school child generation from similar forms of housing; and
- Information regarding school bus routes in the immediate vicinity of the project location and whether transportation would be provided for students of the proposed condominium building.

572 WALT WHITMAN ROAD, MELVILLE, NY 11747 - 2188
(631) 427-5665 FAX (631) 427-5620 WWW.NELSONPOPE.COM

Kristen McCabe

From: Allan Gerstenlauer [AGerstenlauer@longwoodcsd.com]
Sent: Thursday, November 15, 2007 12:48 PM
To: gpappas@nelsonpope.com; kmccabe@nelsonpope.com
Subject: Sandy Hills Development

Dear Mr. Pappas and Ms. McCabe:

I apologize for not responding to your request for information in a more timely fashion and appreciate the opportunity at this time to provide you with information regarding the impact of the proposed development project in Middle Island.

School aged children who might live in the proposed condominium/mixed use facility would attend four schools within the district: (1) West Middle Island Elementary School, Grades K-4, current enrollment 775; (2) Longwood Middle School, Grades 5 & 6, current enrollment 1,360; (3) Longwood Junior High School, Grades 7 & 8, current enrollment 1,420; and (4) Longwood High School, Grades 9 - 12, current enrollment 3,100. Depending on the grades levels of new students who may enter the Longwood schools, the proposed project would certainly have an impact on staffing as class sizes at most grade levels are at maximum capacity. Additionally, the Middle School, Junior High School and High School are at or above their capacity to absorb any more students than would come from a nominal growth in the population of the community.

The buses that service the area of the proposed project are also at capacity and would require the district to add an additional bus route for each school. Each bus in our contracted fleet transports students to three school buildings throughout the day. Thus, under the current transportation schedule we would need to add one bus to the fleet to transport students to the High School, Elementary School and either the Middle or Junior High School, and another route for either the Middle or Junior High School.

It is my sincere hope that as the project moves forward that the development company remain sensitive to the additional burden such a project will place on the District.

Thank you for your consideration.

Allan Gerstenlauer, Ed.D.
Superintendent
Longwood Central School District
Middle Island, New York

APPENDIX G

TRAFFIC IMPACT STUDY

TRAFFIC IMPACT STUDY

CONDOMINIUMS AT SANDY HILLS
&
MIDDLE ISLAND TOWNHOMES

Town of Brookhaven

SEPTEMBER 2007

N & P JOB NO. 00088

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EXECUTIVE SUMMARY

Nelson & Pope has conducted a traffic impact analyses to identify traffic impacts that may be associated with the proposed projects "Condominium at Sandy Hills" and "Middle Island Townshomes" to be located on Middle County Road (NYS 25) in the vicinity of Rocky Point Road (CR 21), in the Town of Brookhaven, Suffolk County, New York.

In order to identify the impacts created by this proposed project, the following future conditions were analyzed:

Scenario 1- 2015 Future Condition without Other Planned Projects

Scenario 1 presents the analyses and anticipated impacts on the study intersections assuming no other planned projects get built in the study area other than the proposed "Condominiums at Sandy Hills" and "Middle Island Town homes" projects which will be referred to as the proposed projects in this report.

Scenario 2 – 2015 Future Condition with Other Planned Projects

Scenario 2 presents the analyses and anticipated impacts on the study intersections assuming that other planned projects in the study area and the proposed projects get built.

The following is a summary of the conditions analyzed under Scenarios 1 and 2.

- 2015 No Build Scenario 1 Condition – This condition represents the analyses at the study intersections in 2015 assuming no developments get built in the study area. The 2015 No Build Scenario 1 traffic volumes were developed by applying a 1.5% per year growth factor to the 2007 existing traffic volumes for a period of 8 years to account for population growth. These analyses will help identify impacts that will be created at the study intersection due to population growth. It should be noted that this traffic volumes do not include traffic from other planned project within the study area.

- 2015 Build Scenario 1 Condition – This condition represents the analyses of the study intersections in 2015 assuming only the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 1 traffic volumes were developed by adding the traffic anticipated to be generated by the proposed projects to the 2015 No Build Scenario 1 traffic volumes. The 2015 Build Scenario1 Condition analyses when compared to the 2015 No Build Scenario 1 condition analyses will identify impact that will be created by the proposed projects if, no other planned projects get built.

- 2015 No Build Scenario 2 Condition – This condition represents the analyses of the study intersections in 2015 assuming only the other planned projects provided to us by the Town of Brookhaven get built in the study area. The 2015 No Build Scenario 2 condition traffic volumes were developed by adding the traffic anticipated to be generated by the other planned projects to the 2015 No Build Scenario 1 traffic volumes. The 2015 No Build Scenario 2 Condition analyses when compared to the 2015 No Build Scenario 1 condition analyses will identify impacts that will be created by the other planned projects.

- 2015 Build Scenario 2 Condition – This condition represents the analyses of the study intersections in 2015 assuming the other planned projects and the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 2 traffic volumes were developed by adding the traffic anticipated to be generated by the proposed projects to the 2015 No Build Scenario 2 traffic volumes The 2015 Build Scenario 2 Condition analyses when compared to the 2015 No Build Scenario 2 condition analyses will identify impacts created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) if, all other planned projects are built prior to the construction of the proposed projects.

The following Tables summarize the results of the analyses for the Scenario 1 and Scenario 2 Future Conditions

Level of Service Summary for Analyzed Conditions
AM Peak Hour

Signalized Intersection	2015 No Build Condition Scenario 1		2015 Build Condition Scenario1		2015 Build Condition Scenario 1 with Mitigation		2015 No Build Condition Scenario 2		2015 Build Condition Scenario 2		2015 Build Condition Scenario 2 with Mitigations	
	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	A	7.1	A	7.1	A	7.0	A	7.3	A	7.3	A	7.0
Middle Country Rd (NYS 25) at Middle Island Rd	A	3.7	A	3.8	A	3.5	A	3.7	A	3.7	A	2.4
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	D	54.0	E	62.5	D	53.1	E	60.7	E	68.8	D	37.9
Rocky Point Road (CR 21) at Artist Lake Drive	B	14.2	B	16.1			B	17.5	C	20.5		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	A	9.4	B	10.5			B	11.3	B	13.2		

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

Level of Service Summary for Analyzed Conditions
PM Peak Hour

Signalized Intersection	2015 No Build Condition Scenario 1		2015 Build Condition Scenario1		2015 Build Condition Scenario 1 with Mitigation		2015 No Build Condition Scenario 2		2015 Build Condition Scenario 2		2015 Build Condition Scenario 2 with Mitigations	
	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	C	21.6	C	27.8	C	27.8	D	43.9	E	59.6	D	45.7
Middle Country Rd (NYS 25) at Middle Island Rd	A	7.0	A	7.7	A	7.4	B	15.0	C	30.3	B	12.1
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	E	69.9	F	83.6	E	73.5	F	101.8	F	114.4	C	32.5
Rocky Point Road (CR 21) at Artist Lake Drive	A	4.4	A	4.6			A	5.1	A	5.5		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	A	6.0	A	6.8			A	8.8	A	9.2		

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

Level of Service Summary for Analyzed Conditions
Saturday Midday Peak Hour

	2015 No Build Condition Scenario 1		2015 Build Condition Scenario1		2015 Build Condition Scenario 1 with Mitigation		2015 No Build Condition Scenario 2		2015 Build Condition Scenario 2		2015 Build Condition Scenario 2 with Mitigations	
Signalized Intersection	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	C	26.8	C	34.4	C	29.3	D	52.2	E	63.1	D	54.0
Middle Country Rd (NYS 25) at Middle Island Rd	A	6.7	A	7.2	A	7.2	C	20.5	C	35.5	B	19.0
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	E	76.9	F	91.3	E	72.1	F	143.8	F	155.4	E	56.6
Rocky Point Road (CR 21) at Artist Lake Drive	A	4.3	A	5.0			A	5.9	A	6.5		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	A	2.2	A	2.4			A	3.0	A	3.6		

Signalized Intersections – As can be seen from the review of the Tables above, the signalized intersections studied operate at No Build LOS for the most part under both Scenario 1 and Scenario 2 future conditions. However, where mitigation measures are needed, the proposed mitigation measures were able to mitigate the impacts in both Scenario 1 and Scenario 2 future conditions.

Unsignalized intersections - As discussed in the subsequent sections of this report, the analyses of the unsignalized intersections showed that, the minor approaches of most of the unsignalized intersections currently operates at poor levels of service during the weekday PM and Saturday midday peak hours and will continue to operate at poor levels of service after the construction of the proposed projects. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps. It should be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays

on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

PURPOSE OF REPORT

Nelson & Pope has investigated the potential traffic impacts associated with the proposed developments "Condominiums at Sandy Hills" and "Middle Island Town homes" to be located on Middle Country Road (NYS Route 25) in Middle Island, Town of Brookhaven, Suffolk County, New York. The proposed "Condominiums at Sandy Hills" project will be located on the northeast quadrant of the intersection of Middle Country Road (NYS Route 25) and Rocky Point Road (CR 21) on a parcel of land designated as District 200, Section 378, Block 02, Lot 33.3 on the Suffolk County Tax maps and comprised of 135 Condominium/Townhouse units and 13,000 SF of retail space. The proposed "Middle Island Townhomes" project will be located on Rocky Point Road (CR 21) between Middle Island Road and Middle Country Road (NYS Route 25) on a parcel of land designated as District 200, Section 378, Block 01, Lots 8, 12.4 and 13 on the Suffolk County Tax maps and comprised of 92 Condominium/Townhouse units.

Access to the "Condominiums at Sandy Hills" site will be provided via two full movement driveways; one driveway located on Rocky Point Road (CR 21) and one driveway located on Middle Country Road (NYS Route 25). Access to the "Middle Island Townhomes" site will be provided via one full movement driveway directly opposite the "Condominiums at Sandy Hills" site driveway on Rocky Point Road (CR 21). This driveway will provide cross-access to the two sites.

This report summarizes the results of a detailed investigation of the traffic impacts of the proposed developments by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that the proposed development will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network.

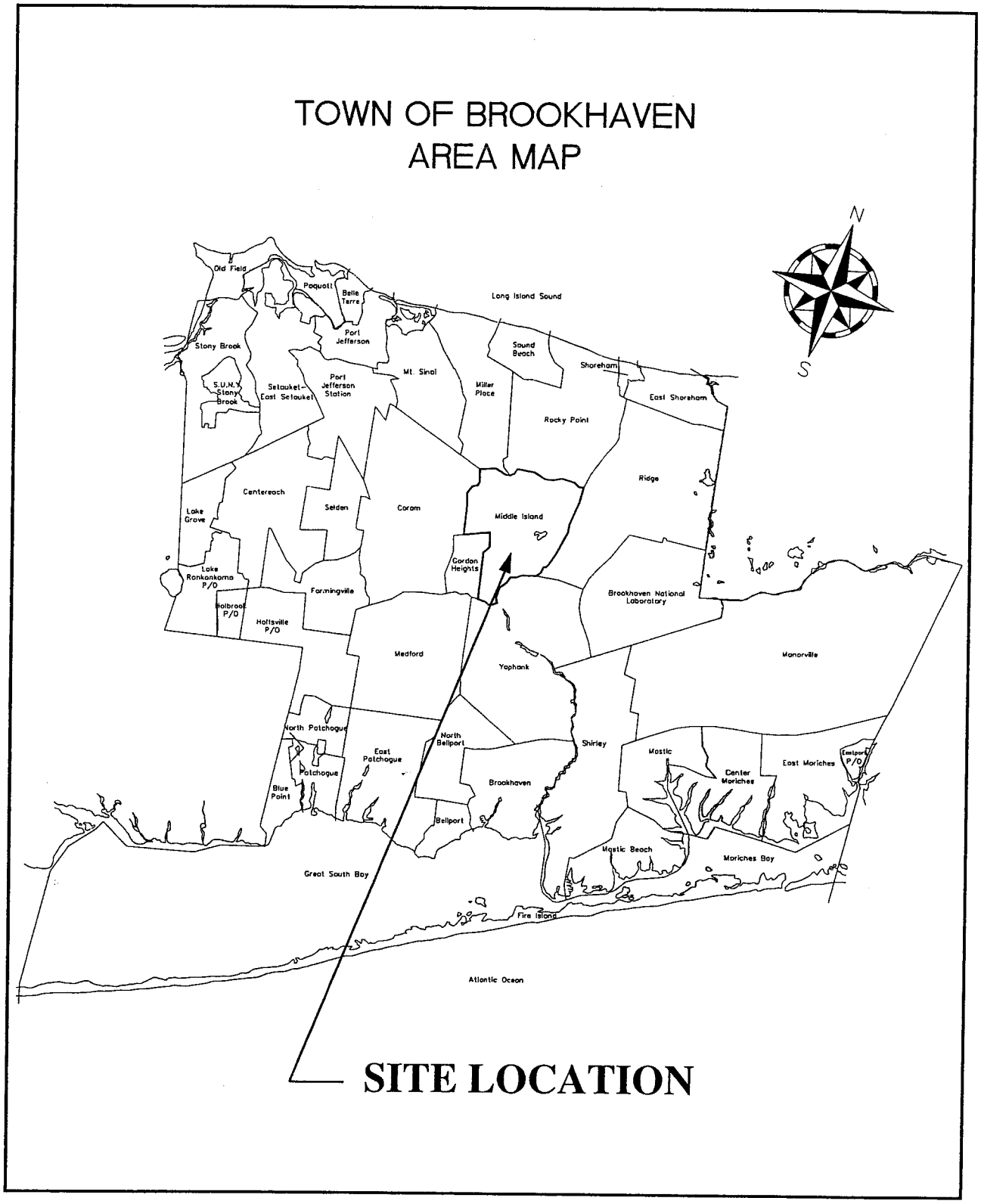
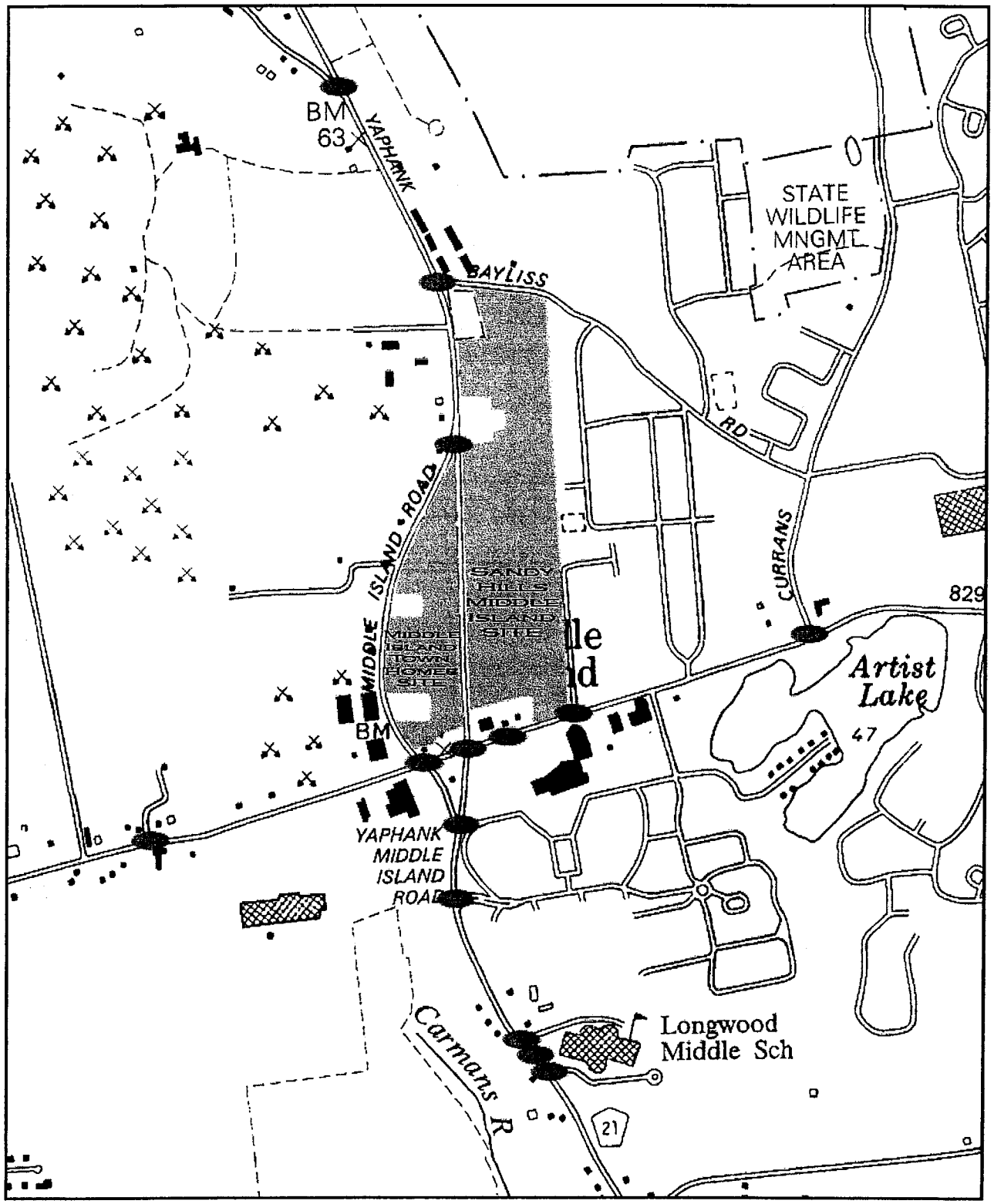


Figure 1: Area Map



SOURCE: USGS MIDDLE ISLAND 1991

Figure 2: Location Map

● STUDY INTERSECTIONS

STUDY METHODOLOGY

The study assesses the traffic impacts associated with the proposed developments and identifies appropriate mitigation, if necessary. In executing the scope of work, the following steps were undertaken.

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing driveways and intersections along with signing, signal timings, phasings and cycle lengths. Pedestrian and bicycle features at intersections and along roadways were identified and included in the traffic study.

- Transit service in the project area and locations of bus stops on the roadway network were identified.

- Turning movement volume counts were conducted during the weekday morning (7:00 AM to 9:00AM), weekday evening (4:00 PM to 7:00 PM) and Saturday midday (11:00 AM to 3:00 PM) peak periods at the following study intersections.

    - Middle Country Road (NYS Route 25) at St. Margaret's Boulevard
    - Middle Country Road (NYS Route 25) at Middle Island Road
    - Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)
    - Middle Country Road (NYS Route 25) at the Middle Island Shopping Center driveway
    - Middle Country Road (NYS Route 25) at Tudor Lane
    - Middle Country Road (NYS Route 25) at Currans Road
    - Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way
    - Rocky Point Road (CR 21) at Bailey Road
    - Rocky Point Road (CR 21) at Middle Island Road
    - Rocky Point Road (CR 21) at Shopping Center Driveway
    - Rocky Point Road (CR 21) at Artist Lake Drive
    - Rocky Point Road (CR 21)at North Longwood Middle School Driveway
    - Rocky Point Road (CR 21) at Signalized Longwood Middle School Driveway

- Rocky Point Road (CR 21) at South Longwood Middle School Entering Only Driveway

- Hourly traffic volumes collected along Middle Country Road (NYS Route 25) from Mt. Sinai-Coram Road to William Floyd Parkway and along Rocky Point Road (CR 21) from Miller Place-Yaphank Road to Longwood Road were obtained from the New York State Department of Transportation (NYSDOT).

- Accident data for the study intersections and roadways in the vicinity of the site was obtained from NYSDOT and Suffolk County Department of Public Works.

- A detailed accident analysis was performed for the intersection of Rocky Point Road (CR 21) and Middle Country Road (NYS Route 25) since it is designated as a high accident location by the Town of Brookhaven.

- A horizon year of 2015 was utilized in this study as requested by the Town of Brookhaven

- As requested by the Town of Brookhaven an annual growth factor of 1.5% obtained form the Middle Country Road Land Use Plan for Coram, Middle Island and Ridge was applied to the 2007 "normalized" Existing traffic volumes to estimate the increase in background traffic that would occur in 2015. These traffic volumes will be referred to as the Ambient Traffic Volumes.

- The Town of Brookhaven Planning Department was contacted to obtain information on other planned projects that may impact traffic flow in the study area. The traffic generated by the other planned projects is referred to the Other Planned Projects Traffic Volumes.

- Estimates of traffic that would be generated by the proposed developments were prepared utilizing trip generation data published by the Institute of Transportation Engineers (ITE) publication, *Trip Generation, Seventh Edition.* The site-generated traffic volumes were assigned to the adjacent street system based upon the anticipated directional trip distribution forecasted by Nelson & Pope.

- In this Traffic Study, two Future Traffic Condition Scenarios will be analyzed:

  1. Scenario 1- 2015 Future Condition without Other Planned Projects

     Scenario 1 presents the analyses and anticipated impacts on the study intersections assuming no other planned projects get built in the study area other than the proposed "Condominiums at Sandy Hills" and "Middle Island Town homes" projects which will be referred to as the proposed projects in this report.

  2. Scenario 2 – 2015 Future Condition with Other Planned Projects

     Scenario 2 presents the analyses and anticipated impacts on the study intersections assuming that other planned projects in the study area and the proposed projects get built.

- The 2015 No Build Scenario 1 traffic volumes (Ambient traffic volumes) were developed by applying the 1.5% annual growth factor to the 2007 normalized Existing traffic volumes for a period of 8 years.

- The site traffic volumes were then added to the 2015 No Build Scenario 1 traffic volumes to generate the proposed 2015 Build Scenario 1 traffic volumes (Build volumes without Other Planned Projects).

- The 2015 No Build Scenario 2 traffic volumes were developed by adding the ambient traffic volumes to the other planned projects traffic volumes.

- The site traffic volumes were then added to the 2015 No Build Scenario 2 traffic volumes to generate the proposed 2015 Build Scenario 2 traffic volumes (Build volumes with Other Planned Projects).

- Capacity analyses were performed at the study intersections for the following Conditions:

  - 2007 Existing Condition
  - 2015 No Build Scenario 1 Condition (without traffic from Other Planned Projects)

- 2015 Build Scenario 1 Condition (without Other Planned Projects)
- 2015 No Build Scenario 2 Condition (with Other Planned Projects)
- 2015 Build Scenario 2 Condition (with Other Planned Projects)

- The results of the analyses for the 2015 No Build Scenario 1 and 2015 Build Scenario 1 Conditions were compared to identify any significant impact associated with the proposed projects "Condominiums at Sandy Hills" and "Middle Island Townhomes" if no other planned projects are constructed prior to the construction of the proposed projects.

- The results of the analyses for the 2015 No Build Scenario 2 and 2015 Build Scenario 2 Conditions were compared to identify any significant impacts associated with the proposed projects "Condominiums at Sandy Hills" and "Middle Island Town homes" if, the other planned projects are constructed prior to the construction of the proposed projects.

- The site layout was reviewed for circulation and parking.
- The proposed parking was compared with the Town's parking requirement.
- In accordance with the findings of the capacity computations, where appropriate recommendations were made to mitigate the project traffic impacts.

EXISTING CONDITION

Land Use

As previously discussed the "Condominiums at Sandy Hills" site is located on the northeast quadrant of the intersection of Middle Country Road and Rocky Point Road (CR 21) and the "Middle Island Townhomes" site is located on Rocky Point Road (CR 21) between Middle Island Road and Middle Country Road (NYS Route 25) in Middle Island, Town of Brookhaven, Suffolk County, New York. The "Condominiums at Sandy Hills" site is a vacant parcel currently zoned J-2 Business and A-1 Residential. The "Middle Island Townhomes" site is a vacant parcel currently zoned A-1 Residence (Lots 8 and 12.4) and MF Residence (Lot 13).

Roadway Conditions

The following is a list of roadways included in the study network surrounding the site. The greatest portion of the traffic generated by the proposed developments will be distributed throughout the network. The general descriptions listed here refer only to the sections of the roadways that exist near the site. Their cross-section may vary further away from the site. The Average Annual Daily Traffic (AADT) is listed for each roadway where available in the most recent NYDOT Local Highway Traffic Volumes Report.

Middle Country Road (NYS Route 25) is an east/west urban principal arterial under the jurisdiction of the New York State Department of Transportation (NYSDOT). NYS Route 25 west of the Middle Island shopping center driveway provides one eastbound travel lane and two westbound travel lanes with a center left turn lane at some sections of the roadway and left turn lanes at key intersections. NYS Route 25 east of the Middle Island shopping center driveway provides one lane per travel direction with left turn lanes at key intersections. The section of NYS Route 25, between Mt. Sinai-Coram Road to Rocky Point Road (CR 21) has an average annual daily traffic (AADT) volume of approximately 22,196 vehicles per day (source: NYSDOT Traffic Volume Report 2004) and the section of NYS Route 25, between Rocky Point Road (CR 21) and William Floyd Parkway (CR 46), has an average annual daily traffic (AADT) volume of approximately 15,925 vehicles per day (source: NYSDOT Traffic Volume Report 2002). The horizontal alignment is straight and the vertical alignment is hilly in the vicinity of

the site. The posted speed limit is 45 miles per hour. The land uses along this roadway in the vicinity of the site are predominantly commercial.

Rocky Point Road (CR 21) is a north/south minor arterial roadway under the jurisdiction of Suffolk County, providing one lane per travel direction. The section of Rocky Point Road (CR 21), between NYS Route 25 and Miller Place Yaphank Road, has an average annual daily traffic (AADT) volume of approximately 13,163 vehicles per day and the section of Rocky Point Road (CR 21), between NYS Route 25 and Longwood Road, has an average annual daily traffic (AADT) volume of approximately 18,249 vehicles per day (source: Suffolk County Department of Public Works). In the vicinity of the site, Rocky Point Road (CR 21) provides a slightly curving horizontal alignment and a rolling vertical alignment. The posted speed limit along Rocky Point Road (CR 21) Road is 50 miles per hour. The land uses consist of primarily residential developments south of NYS Route 25 and the wooded study sites to the north of NYS Route 25.

Middle Island Road is a north/south Town roadway intersecting Middle Country Road at its southern terminus and intersecting Rocky Point Road (CR 21) at its northern terminus. This roadway provides one lane per travel direction. Middle Island Road provides a curving horizontal alignment and a rolling vertical alignment. The posted speed limit along this roadway is 30 miles per hour. The land uses along Middle Island Road primarily consist of residential properties, the vacant 4 B's site to the west and the vacant Middle Island Townhomes site to the east.

Currans Road is a north/south roadway extending from Middle Country Road to Whiskey Road. Currans Road has a curving horizontal alignment and provides one lane per travel direction. The land uses along this roadway are predominantly vacant lots.

Tudor Lane is a north/south local residential street that accesses an apartment complex. Tudor Lane has a straight horizontal alignment and a flat vertical alignment.

St Margaret's Boulevard is a north/south private local access road intersecting NYS Route 25 opposite the Wall Mart entrance. St. Margaret's Boulevard is a dead end road to the north and provides access to/from a Dental office, a Funeral home and a couple of residential homes.

Miller Place-Yaphank Road is a northwest/southeast roadway in the vicinity of Rocky Point Road (CR21) and intersects CR 21 at a T-intersection. Miller Place-Yaphank Road has a curving horizontal alignment and provides one lane per travel directions. The land uses along this roadway in the vicinity of CR 21 are a mix of residential uses and vacant lots.

Bailey Road - is an east/west roadway extending from Rocky Point Road to Currans Road. Bailey Road has a curving horizontal alignment and provides one lane per travel direction. The land uses along this roadway are predominantly residential.

Artist Lake Drive is an east/west local residential street that accesses a Condominium/Townhouse complex. Artist Lake Drive has a slightly curving horizontal alignment and a flat vertical alignment.

Table 1 summarizes the lane configurations and traffic controls at the study intersections.

Table 1: Intersection Geometry

Intersection	Approach	Lane Designation*	Traffic Control
Middle Country Road (NYS Route 25) at St. Margaret Boulevard	EB	L-T-R	Traffic Signal
	WB	L-T-TR	
	NB	L-TR	
	SB	LTR	
Middle Country Road (NYS Route 25) at Middle Island Road	EB	L-TR	Traffic Signal
	WB	L-T-TR	
	NB	LT-R	
	SB	LTR	
Rocky Point Rd (CR 21) at Middle Country Road (NYS Route 25)	EB	L-T-R	Traffic Signal
	WB	L-T-TR	
	NB	L-T-R	
	SB	L-TR	
Middle Country Road (NYS Route 25) at Shopping Center Driveway	EB	TR	Stop Control on Shopping Center Driveway
	WB	L-T	
	NB	L-R	
Middle Country Road (NYS Route 25)at Tudor Lane/Shopping Center Driveway	EB	LTR	Stop Control on Tudor Lane/Shopping Center Driveway
	WB	LTR	
	NB	LTR	
	SB	LTR	
Middle Country Road (NYS Route 25)at Currans Road	EB	L-T	Stop Control on Currans Road
	WB	TR	
	SB	LR	
Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way	EB	LT-R	Stop Control on Miller Place-Yaphank Road and Andrew Way
	WB	LTR	
	NB	L-TR	
	SB	L-TR	
Rocky Point Road (CR 21) at Bailey Road	WB	LR	Stop Control on Bailey Road
	NB	TR	
	SB	L-T	
Rocky Point Road (CR 21) at Middle Island Road	EB	LR	Stop Control on Middle Island Road
	NB	LT	
	SB	TR	
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	Stop Control on Shopping Center Driveway
	NB	TR	
	SB	L-T	
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L-R	Traffic Signal
	NB	T-R	
	SB	L-T	
Rocky Point Road (CR 21) at Longwood School North Driveway	WB	R	Stop Control on School Driveway
	NB	TR	
	SB	LT	
Rocky Point Road (CR 21) at Longwood School Signalized Driveway	WB	L-R	Traffic Signal
	NB	T	
	SB	T	
Rocky Point Road (CR 21) at Longwood School South Driveway	NB	TR	
	SB	LT	

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

Pedestrian, Bicycle and Transit Facilities

A field inventory of the existing pedestrian, bicycle and transit facilities along the roadways and intersections in the vicinity of the site were identified.

Pedestrian Facilities

Of the signalized intersections studied only the intersections of Middle Country Road at St. Margaret's Boulevard and Middle Country Road at Rocky Point Road contain pedestrian push buttons and crosswalks. Sidewalks are provided on the south side of Middle Country Road between the Wal-Mart Access/St. Margaret's Boulevard and Rocky Point Road but not on the north side of Middle Country Road. Sidewalks are provided on both the north and south sides of Middle Country Road between Rocky Point Road and Tudor Lane. Sidewalks are provided along the east and west sides of Rocky Pont Road in the vicinity of Middle Country Road.

Bike Routes and Transit Facilities

Middle Country Road (NYS Route 25) and Rocky Point Road (CR 21) are designated bike routes with no striped bike lanes. Middle Country Road (NYS Route 25) is a transit route. Suffolk County Bus Route 58 (from East Northport to Riverhead) serves Middle Island via NYS Route 25. This route contains a number of stops along NYS Route 25 in the vicinity of the proposed site.

Traffic Volume Data

Weekday turning movement counts were collected at the study intersections on Tuesday March 20, on Tuesday May 22, and on Tuesday June 12, 2007 during the weekday AM (7:00-9:00 AM) and PM (4:00-7:00 PM) peak periods. The weekend turning movement counts were collected on Saturday, June 2, and on Saturday June 16, 2007 during the Saturday midday peak period (11:00 AM – 3:00 PM). The volume data was tabulated to identify the peak hours at each of the study intersections. In order to perform a conservative analysis the peak hour volumes at each intersection were utilized in this study.

Weekday seasonal adjustment factors of 1.003, 1.080 and 1.120 for the months of March, May and June (months of weekday counts) and a weekend seasonal adjustment factor of 0.936 for the

month of June (month of weekend counts) were obtained from NYSDOT. Applying the weekend normalization factor will increase the existing weekend traffic volumes, therefore the weekend counts were normalized to account for seasonal fluctuation. Applying the weekday normalization factors to the weekday traffic count data collected would effectively reduce the existing peak hour volumes. Therefore to be conservative, the weekday peak hour traffic volumes collected were not normalized. The existing intersection peak hour volumes are shown on Figures 3, 4, and 5 and detailed data are contained in Appendix A.

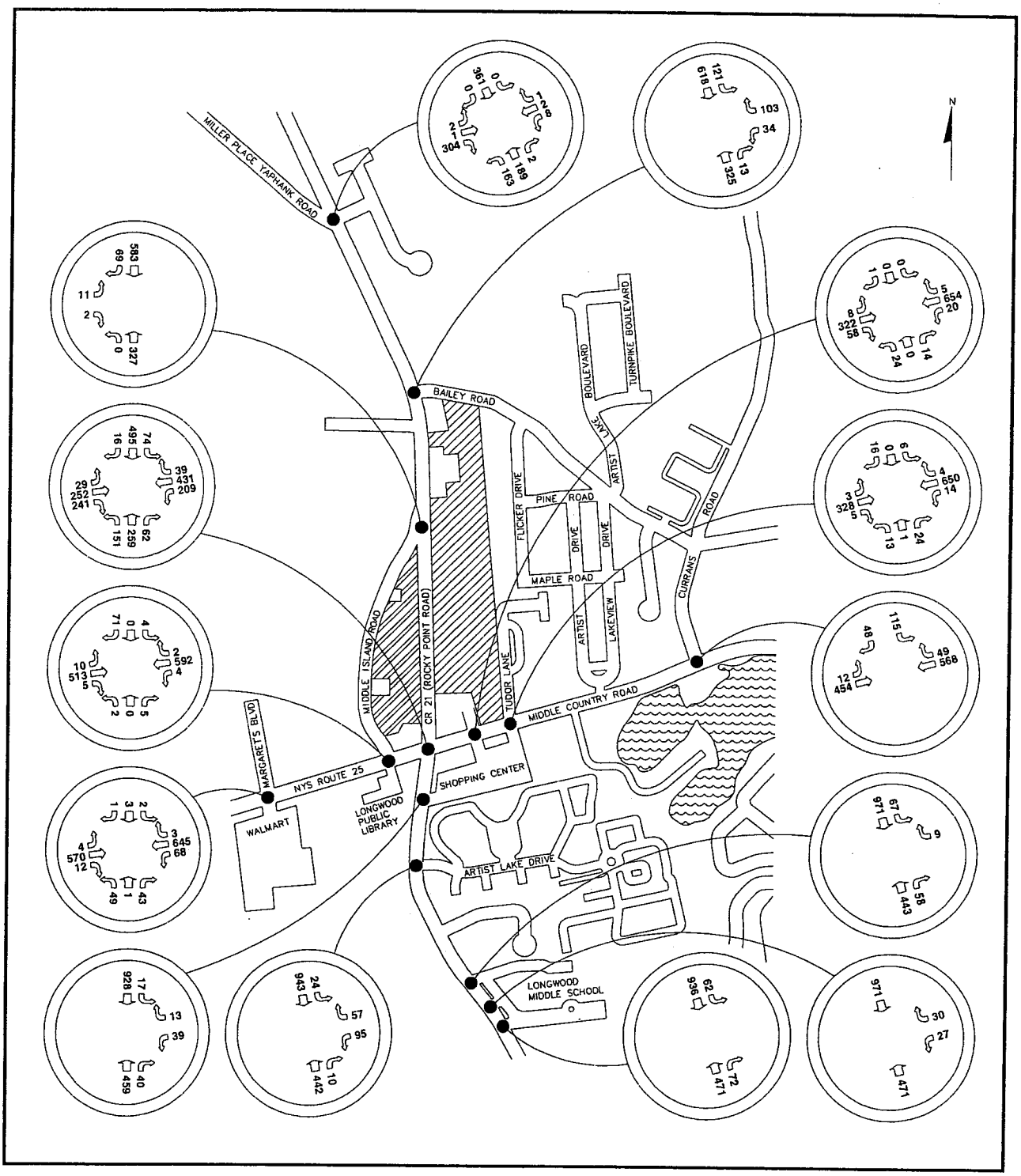


Figure 3: Existing AM Peak Hour Traffic Volumes

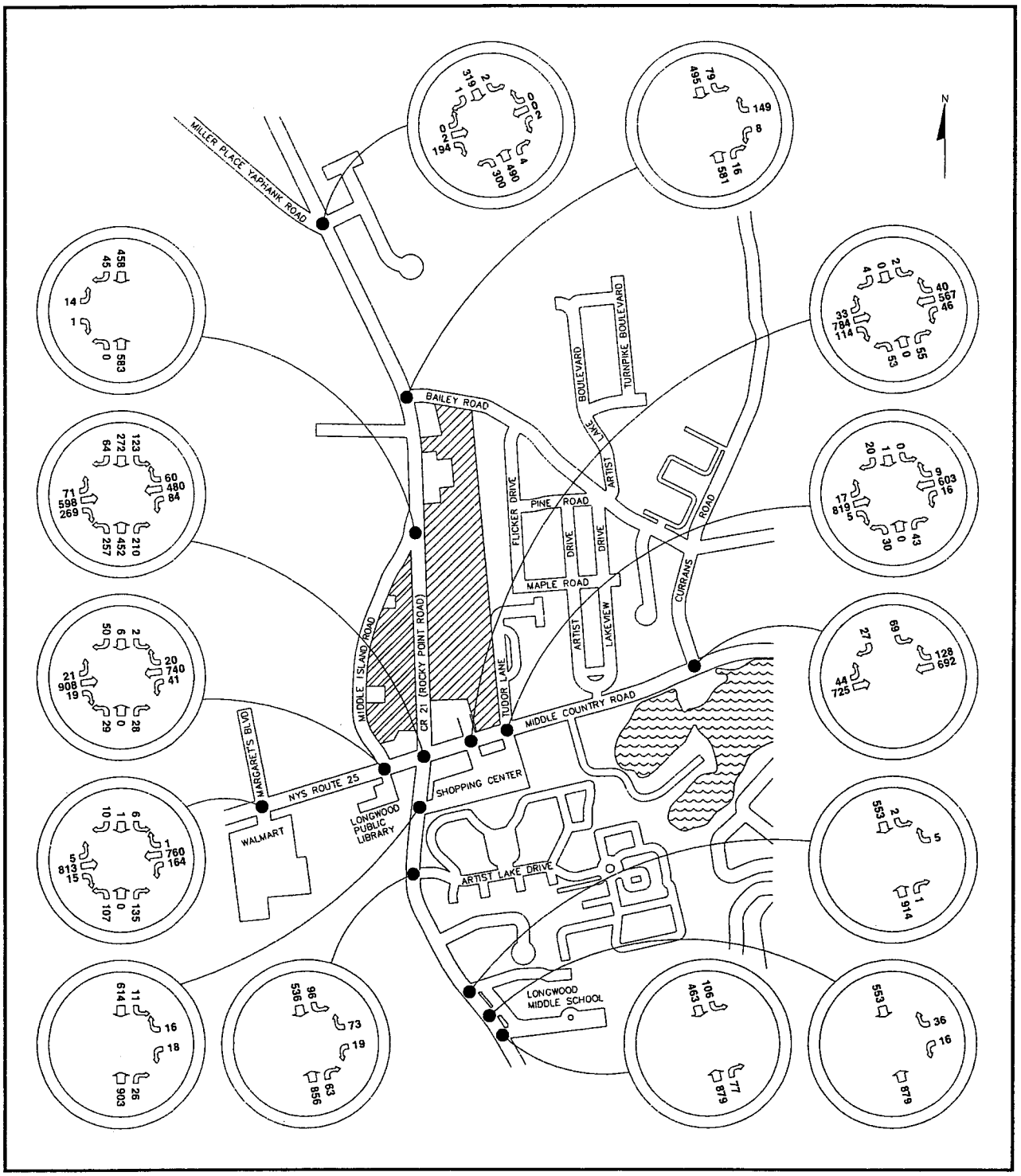


Figure 4: Existing PM Peak Hour Traffic Volumes

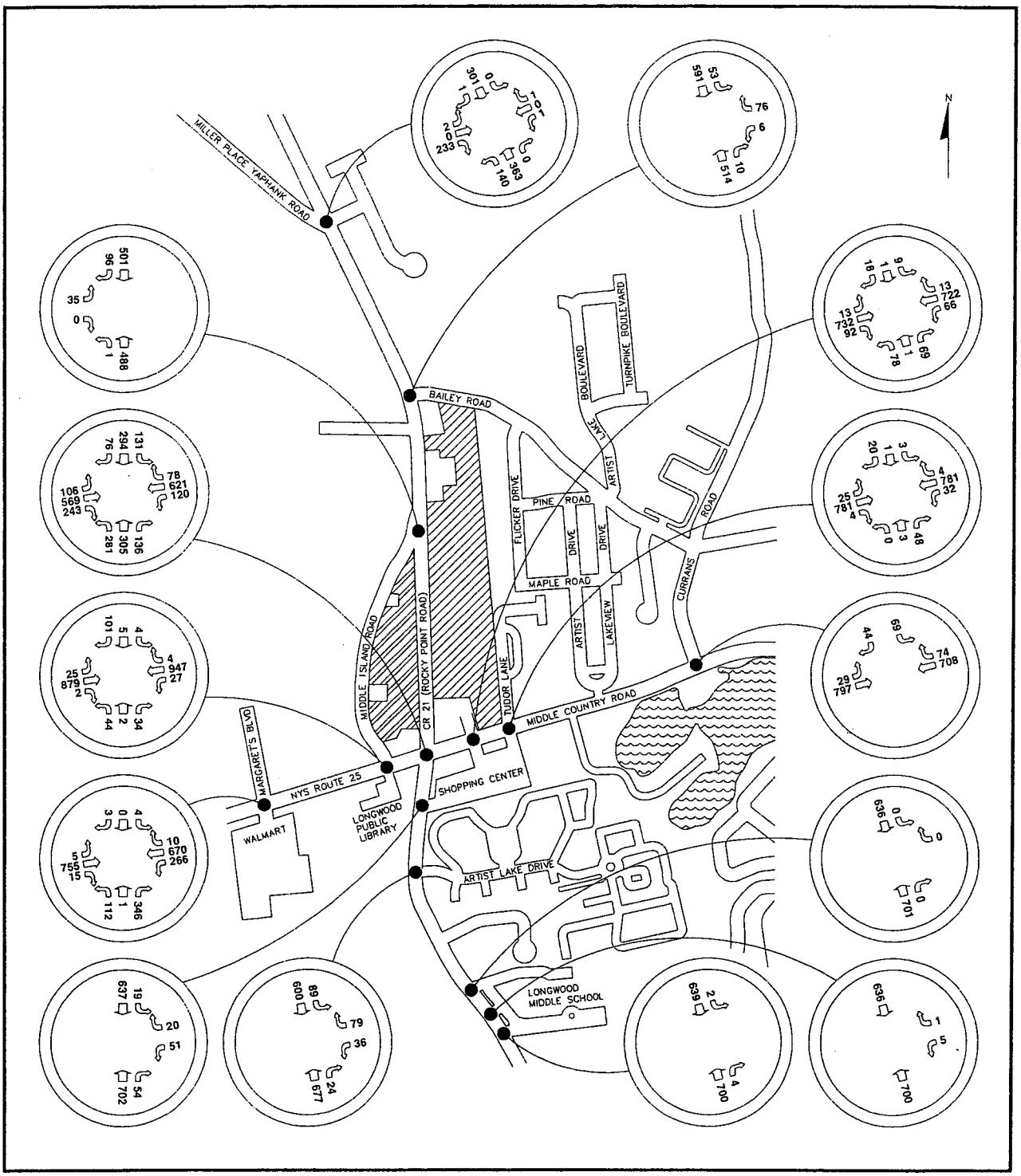


Figure 5: Existing Saturday Peak Hour Traffic Volumes

Accident History

Accident data for the sections of roadways and intersections in the vicinity of the site was obtained from the NYSDOT and Suffolk County DPW. The most recent data available was from January 2001 to June 2004 (3.5 year period). The data was reviewed and summarized in the following tables.

Table 2: Accident Summary by Severity

Location	Accident Severity			
	Fatality	Injury	Property Damage	TOTAL
CR 21 South of Whiskey Road	-	1	1	2
CR 21 at Miller Place Yaphank Road	-	14	36	50
CR 21 at Bailey Road	-	3	8	11
CR 21 at Middle Island Road	-	1	9	10
CR 21 North of NYS 25	-	5	11	16
CR 21 at NYS 25	-	21	95	116
CR 21 South of NYS 25	-	15	15	30
CR 21 at Artist Lake Drive	-	8	17	25
CR 21 at Island Bay Avenue	-	1	3	4
CR 21 North of East Bartlett Road	1	-	2	3
CR 21 North of Longwood Road	-	4	5	9
CR 21 at Longwood Road	-	10	27	37
CR 21 South of Longwood Road	-	1	-	1
NYS 25 West of Middle Island Road	-	22	35	57
NYS 25 at Middle Island Road	-	8	7	15
NYS 25 West of Rocky Point Road	-	8	17	25
NYS 25 West of Tudor Lane	-	4	6	10
NYS 25 at Tudor Lane	-	-	1	1
NYS 25 West of Lakeview Road	-	1	6	7
NYS 25 at Lakeview Road	-	1	-	1
NYS 25 West of Currans Road	-	6	5	11
NYS 25 at Currans Road	-	1	4	5
Total	1 *1%*	135 *30%*	310 *69%*	446 *100%*

Table 2 indicates a total of 446 accidents occurred at or in the vicinity of study intersections during the analysis period one of which resulted in a fatality. The majority of accidents, 69%, involved property damage only. The locations with the greatest number of accidents are the intersection of NYS Route 25 at Rocky Point Road (CR 21), NYS Route 25 just west of Middle

Island Road and CR 21 at Miller Place Yaphank Road with a total of 116, 57 and 50 accidents respectively. The fatal accident occurred on Rocky Point Road (CR 21) just north of East Bartlett Road and involved a fixed object collision.

Table 3: Accident Summary by Type of Collision

Location	Accident Type										
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/ Bicycle	Side-Swipe	Over-Taking	Other/ Unknown	Total
CR 21 South of Whiskey Road	1	-	-	-	-	1	-	-	-	-	2
CR 21 at Miller Place Yaphank Road	2	28	1	2	-	7	1	-	1	8	50
CR 21 at Bailey Road	4	1	1	-	-	3	-	-	-	2	11
CR 21 at Middle Island Road	2	3	-	-	1	2	-	-	-	2	10
CR 21 North of NYS 25	3	9	-	1	-	-	-	1	-	2	16
CR 21 at NYS 25	12	46	-	20	5	3	2	4	5	19	116
CR 21 South of NYS 25	8	11	-	-	-	8	-	-	1	2	30
CR 21 at Artist Lake Drive	2	13	-	3	-	3	-	-	1	3	25
CR 21 at Island Bay Avenue	1	2	-	-	-	-	-	-	-	1	4
CR 21 North of East Bartlett Road	-	-	-	-	-	1	-	1	-	1	3
CR 21 North of Longwood Road	-	1	-	-	-	4	-	-	-	4	9
CR 21 at Longwood Road	2	17	-	1	-	2	-	-	2	13	37
CR 21 South of Longwood Road	-	-	1	-	-	-	-	-	-	-	1
NYS 25 West of Middle Island Road	13	20	-	2	2	2	2	-	-	16	57
NYS 25 at Middle Island Road	4	5	-	1	-	-	-	-	-	5	15
NYS 25 West of Rocky Point Road	4	10	-	1	-	1	-	-	-	9	25
NYS 25 West of Tudor Lane	1	2	-	-	1	1	1	-	-	4	10
NYS 25 at Tudor Lane	-	1	-	-	-	-	-	-	-	-	1
NYS 25 West of Lakeview Road	1	2	-	1	-	-	-	-	-	3	7
NYS 25 at Lakeview Road	-	1	-	-	-	-	-	-	-	-	1
NYS 25 West of Currans Road	1	4	-	-	1	1	1	-	1	2	11
NYS 25 at Currans Road	2	1	-	-	-	-	-	-	-	2	5
Total	63 *14%*	177 *40%*	3 *1%*	32 *7%*	10 *2%*	39 *9%*	7 *2%*	6 *1%*	11 *2%*	98 *22%*	446 *100%*

A review of Table 3 indicates that a plurality of the accidents (40%) involved rear-end accidents. Most of the rear-end accidents occurred at the intersections of NYS Route 25 and Rocky Point, Rocky Point Road (CR 21). Most of these rear end accidents occurred on the northbound, southbound and eastbound directions. A detailed accident analysis was conducted for the intersection of Middle Country Road (NYS Route25) at Rocky Point Road (CR 21) since it is designated as a high accident location (HAL) by the Town of Brookhaven.

During the 3.5 year study period a total of 116 accidents occurred at the intersection of Middle Country Road (NYS Route 25) and Rocky Point Road (CR 21). An accident rate was calculated for the intersection and compared to the statewide average. The accident rate at the intersection was 2.55 accidents per million entering vehicles, which is significantly higher than the statewide average accident rate of 0.46 accidents per million entering vehicles. Detailed calculations are included in Appendix B of the report. Statistical reports are also included in the appendix of the report, which shows intersection statistics, such as number of accidents per accident type, severity, season, time of day, and weather. Also appended is a collision diagram for the intersections and roadway sections with 4 or more accidents per year, which illustrates the number of accidents per accident type and show whether an injury occurred.

Of the 116 accidents at the intersection of NYS Route Rocky Point Road (CR 21), 40% (46) were attributed to rear-end collisions, 17 % (20) were attributed to left turn collisions, 10% (12) were attributed to right angle collisions and nearly 17% (19) are unknown or non reported accidents. In general, the incidence of accidents seems to be fairly evenly distributed by direction of travel with a slight increase indicated for vehicles traveling eastbound compared with westbound, northbound and southbound. The frequency of accidents at the intersection is decreasing over the 3.5-year period reviewed with 42 accidents recorded in 2001, 35 in 2002 and 22 in 2004. Accidents involving wet pavement conditions due to rain, snow or ice, represented almost 23% of the total accidents.

The high number of rear-end accidents at this intersection may be attributed to the heavy traffic volumes on NYS Route 25 and Rocky Point Road and driver inattentiveness. The high incidence

of left turn accidents at the intersection of Middle Island Road and Rocky Point Road may be attributed to left-turn vehicles failing to yield right of way or running red light.

Level of Service Description

In order to identify the operational characteristics of the study intersections, level of service and capacity analyses for the study intersections were performed using *SYNCHRO Version 6* Software. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersections ultimate capacity. *SYNCHRO* also implements the methods of the 2000 Highway Capacity Manual (HCM) for Urban Streets, Signalized intersections, and unsignalized intersections for determining intersection capacity analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining level of service for many transportation facilities and modes including signalized and unsignalized intersections. The 3rd edition of this manual was updated in 2000 as *Highway Capacity Manual 2000.*

An intersection's level of service (LOS) describes its quality of traffic flow. It ranges in grade from LOS "A" (relatively congestion-free) to LOS "F" (very congested). The level of service definition, as well as the threshold values for each level, varies according to whether the intersection is controlled by a signal or a stop sign. A brief description is given here and a more detailed definition is found in Appendix E.

The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity for each approach represents the maximum rate of flow (for the subject approach) which may pass through the intersection under prevailing traffic, roadway and signal conditions. The level of service of a signalized intersection is evaluated on the basis of average control-delay measured in seconds per vehicle (sec/veh). The control-delay is calculated using an equation that combines the stopped-delay with the vehicle acceleration/deceleration delay that is caused by the signalized intersection. At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal "green time", turning percentages, truck volumes, etc. However, delay cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the Level of Service "F"

range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement experiences a long red time; or progressive movements for a particular lane are poor.

The flow at a two-way stop-controlled (TWSC) intersection is gauged in terms of LOS and capacity. The capacity of a stop-controlled leg is based on the distribution of gaps in the major street traffic, driver judgment in selecting a gap, and the follow-up time required by each driver in a queue. The LOS for a TWSC intersection is determined by the control-delay, and is defined for each movement rather than for the overall intersection. As with signalized intersections, HCS quantifies only the average control-delay, which is a function of the approach and the degree of saturation for any particular minor movement.

Existing Condition Analysis

The 2007 existing peak hour traffic volumes depicted in Figures 3, 4, and 5 were used to determine the existing capacity and LOS of the study intersection. Tables 4 and 5 contain the LOS summary for the Existing Condition calculated through the Synchro software described previously. The detailed analysis worksheets are in Appendix F.

Table 4: Existing Condition LOS Summary (Signalized)

Location (Signalized	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Intersections)	LOS	Delay	LOS	Delay	LOS	Delay
Middle Country Road (NYS Route 25) at St. Margaret's Boulevard	A	6.8	B	15.0	B	18.3
Middle Country Road (NYS Route 25) at Middle Island Road	A	3.5	A	6.1	A	5.7
Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)	D	41.2	D	46.6	D	50.9
Rocky Point Road (CR 21) at Artist Lake Drive	B	10.2	A	3.7	A	3.7
Rocky Point Road (CR 21) at Signalized Longwood School Driveway	A	6.9	A	5.1	A	1.9

Table 5: Existing Condition LOS Summary (Unsignalized)

Location (Unsignalized Intersections)	Approach	Movmnt	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay
Middle Country Road (NYS Route 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	1.2	A	0.6
	WB	L	A	8.5	C	15.2	B	14.9
	NB	L	E	45.6	F	*	F	*
	NB	R	B	10.8	D	33.3	D	28.9
	SB	L	A	0.0	F	823.9	F	1539.0
	SB	R	B	14.1	B	13.3	C	15.0
Middle Country Road (NYS Route 25) at Tudor Place/Shopping Center Driveway	EB	LTR	A	0.1	A	0.6	A	1.1
	WB	LTR	A	0.4	A	1.1	A	2.4
	NB	LTR	C	24.2	F	653.5	F	58.5
	SB	LTR	C	22.3	C	20.5	F	261.0
Middle Country Road (NYS Route 25) at Currans Road	EB	L	A	9.2	B	10.3	A	9.8
	SB	LR	F	94.8	F	208.4	F	159.8
Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way	EB	LT	C	19.9	B	12.6	B	13.6
	WB	LTR	F	57.2	F	74.2	C	23.7
	NB	L	A	8.8	A	8.9	A	8.3
	SB	L	A	0.00	A	8.4	A	0.0
Rocky Point Road (CR 21) at Bailey Road	WB	LR	D	31.3	C	20.9	C	15.1
	SB	L	A	8.5	A	9.2	A	8.8
Rocky Point Road (CR 21) at Middle Island Road	EB	LR	C	19.2	C	21.9	C	23.8
	NB	LT	A	0.00	A	0.0	A	0.0
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	56.7	F	57.9
	SB	L	A	8.9	B	13.4	B	10.2
Rocky Point Road (CR 21) at Longwood School North Driveway	WB	R	B	12.2	C	21.8	A	0.0
	SB	LT	A	2.8	A	0.1	A	0.0
Rocky Point Road (CR 21) at Longwood School South Driveway	SB	LT	A	2.2	A	4.8	A	0.1

Notes: LOS = Level of Service. Delay = seconds/vehicle
** = The delay is incalculable by the Synchro software*

Middle Country Road (NYS Route 25) at St. Margaret's Boulevard

The signalized intersection of Middle Country Road (NYS Route 25) at St. Margaret's Boulevard currently operates at LOS A during the weekday AM peak hour and at LOS B during the weekday PM and Saturday midday peak hours.

Middle Country Road (NYS Route 25) at Middle Island Road

The signalized intersection of Middle Country Road (NYS Route 25) and Middle Island Road currently operates at LOS A during the weekday AM, weekday PM and Saturday midday peak hours.

Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)

The signalized intersection of Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21) currently operates at LOS D during the weekday AM, PM and Saturday midday peak hours.

Rocky Point Road (CR 21) at Artist Lake Drive

The signalized intersection of Rocky Point Road (CR 21) at Artist Lake Drive currently operates at LOS B during the weekday AM peak hour and at LOS A during the weekday PM and Saturday midday peak hours.

Rocky Point Road (CR 21) at Signalized Longwood Middle School Driveway

The signalized intersection of Rocky Point Road (CR 21) at Longwood Middle School Driveway currently operates at LOS A during the weekday AM, PM and Saturday midday peak hours.

Middle Country Road (NYS Route 25) at Middle Island Shopping Center Driveway

Currently the eastbound Middle Country Road (NYS Route 25) approach operates at LOS A during the weekday AM, weekday PM and Saturday midday peak hours and the westbound Middle Country Road (NYS Route 25) approach operates at LOS A, C, B during the weekday AM, weekday PM and Saturday midday peak hours respectively. The northbound Shopping Center driveway left turn movement operates at LOS E, F and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. The northbound Shopping Center

driveway right turn movement operates at LOS B, D and D during the weekday AM, weekday PM and Saturday midday peak hours respectively. The southbound left turn movement operates at LOS A during the weekday AM peak hour and at LOS F during the weekday PM and Saturday midday peak hours. The southbound right turn movement operates at LOS B during the weekday AM and PM peak hours and at LOS C during the Saturday midday peak hour. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps.

Middle Country Road (NYS Route 25) at Tudor Lane/Shopping Center Driveway

Currently the eastbound and westbound Middle Country Road (NYS Route 25) approaches operate at LOS A during the weekday AM, weekday PM and Saturday midday peak hours. The northbound Shopping Center driveway approach operates at LOS C during the weekday AM peak hour, and at LOS F during the weekday PM and Saturday midday peak hours. The southbound Tudor Lane approach operates at LOS C during the weekday AM and PM peak hours and at LOS F during the Saturday midday peak hour.

Middle Country Road (NYS Route 25) at Currans Road

Currently the eastbound Middle Country Road left turn movement operates at LOS A, B, A during the weekday AM, weekday PM and Saturday midday peak hours respectively. The southbound Currans Road approach operates at LOS F during the weekday AM, weekday PM and Saturday midday peak hours.

Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way

Currently the northbound and southbound Rocky point Road approaches operate at LOS A during the weekday AM, PM and Saturday midday peak hours. The eastbound Miller Place-Yaphank Road approach operates at LOS C during the weekday AM peak hour and at LOS B during the weekday PM and Saturday midday peak hour. The westbound Andrew Way approach

operates at LOS F during the weekday AM and PM peak hours and at LOS C during the Saturday midday peak hour.

Rocky Point Road (CR 21) at Bailey Road

Currently the southbound Rocky Point Road left turn movement operates at LOS A during the weekday AM, PM and Saturday midday peak hours. The westbound Bailey Road approach operates at LOS D, C and C during the weekday AM, PM and Saturday midday peak hours respectively.

Rocky Point Road (CR 21) at Middle Island Road

Currently the northbound Rocky Point Road approach operates at LOS A during the weekday AM, PM and Saturday midday peak hours. The westbound Bailey Road approach operates at LOS C during the weekday AM, PM and Saturday midday peak hours.

Rocky Point Road (CR 21) at Middle Island Shopping Center Driveway

Currently the southbound Rocky Point Road (CR 21) left turn movement operate at LOS A during the weekday AM peak hour and at LOS B during the weekday PM and Saturday midday peak hours. The westbound shopping center driveway approach operates at LOS F during the weekday AM, PM and Saturday midday peak hours. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps.

Rocky Point Road (CR 21) at Longwood Middle School North Driveway

Currently the southbound Longwood Middle School North Driveway approach operates at LOS A during the weekday AM, PM and Saturday midday peak hours. The westbound School Driveway right turn movement operates at LOS B, C and A during the weekday AM, PM and Saturday midday peak hours respectively.

Rocky Point Road (CR 21) at Longwood Middle School South Driveway

Currently the southbound Longwood Middle School South Driveway approach operates at LOS A during the weekday AM, PM and Saturday midday peak hours.

Unsignalized intersection analyses

The analyses results for the unsignalized intersections may not be representative of the actual field conditions. It should also be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

2015 FUTURE CONDITIONS

As part of this traffic impact study, two (2) future condition scenarios will be analyzed.

Scenario 1- 2015 Future Condition without Other Planned Projects

Scenario 1 presents the analyses and anticipated impacts on the study intersections assuming no other planned projects get built in the study area other than the proposed "Condominiums at Sandy Hills" and "Middle Island Town homes" projects which will be referred to as the proposed projects in this report.

Scenario 2 – 2015 Future Condition with Other Planned Projects

Scenario 2 presents the analyses and anticipated impacts on the study intersections assuming that other planned projects in the study area and the proposed projects get built.

SCENARIO 1 FUTURE CONDITION

No Build Scenario 1 Condition

The No Build Scenario 1 Condition represents traffic conditions expected at the study intersections in the future year 2015 without the construction of the proposed project and the other planned projects in the study area. The No Build Condition traffic volumes under scenario 1 are estimated based on the increases in traffic due to general population growth and developments outside of the immediate project area. This traffic increase is referred to as ambient growth. A 1.5% annual growth factor was obtained from the Middle Country Road Land Use Plan for Coram, Middle Island and Ridge as requested by the Town of Brookhaven and applied to the 2007 existing traffic volumes for a period of 8 years to generate the 2015 No Build Volumes under scenario 1. The No Build Scenario 1 Condition traffic volumes for the weekday AM, PM and Saturday midday peak hours are illustrated in Figures 6, 7 and 8.

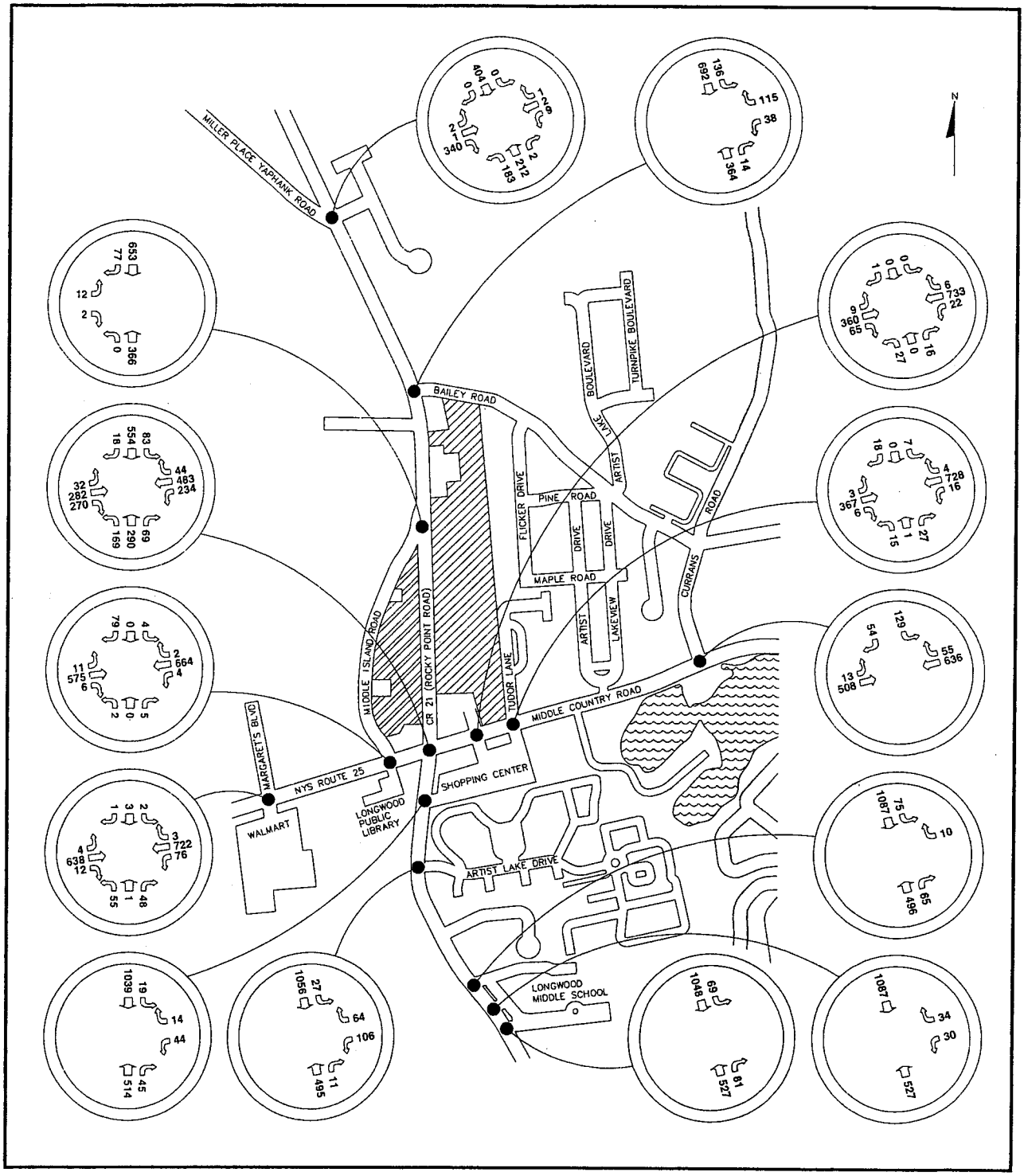


Figure 6: 2015 No Build Scenario 1 (No Build without Other Planned Projects) AM Peak Hour Traffic Volumes

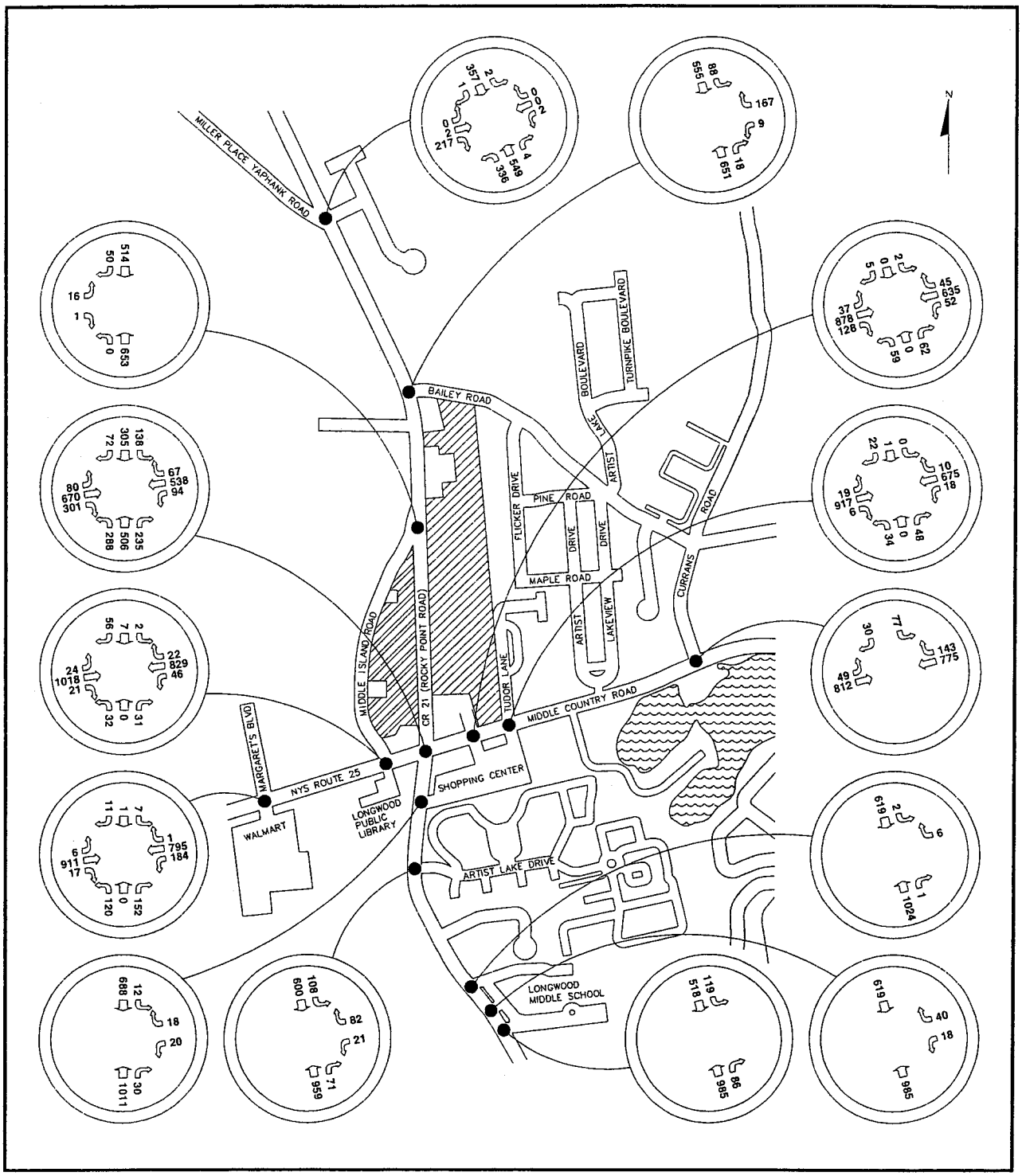


Figure 7: 2015 No Build Scenario 1 (No Build without Other Planned Projects) PM Peak Hour Traffic Volumes

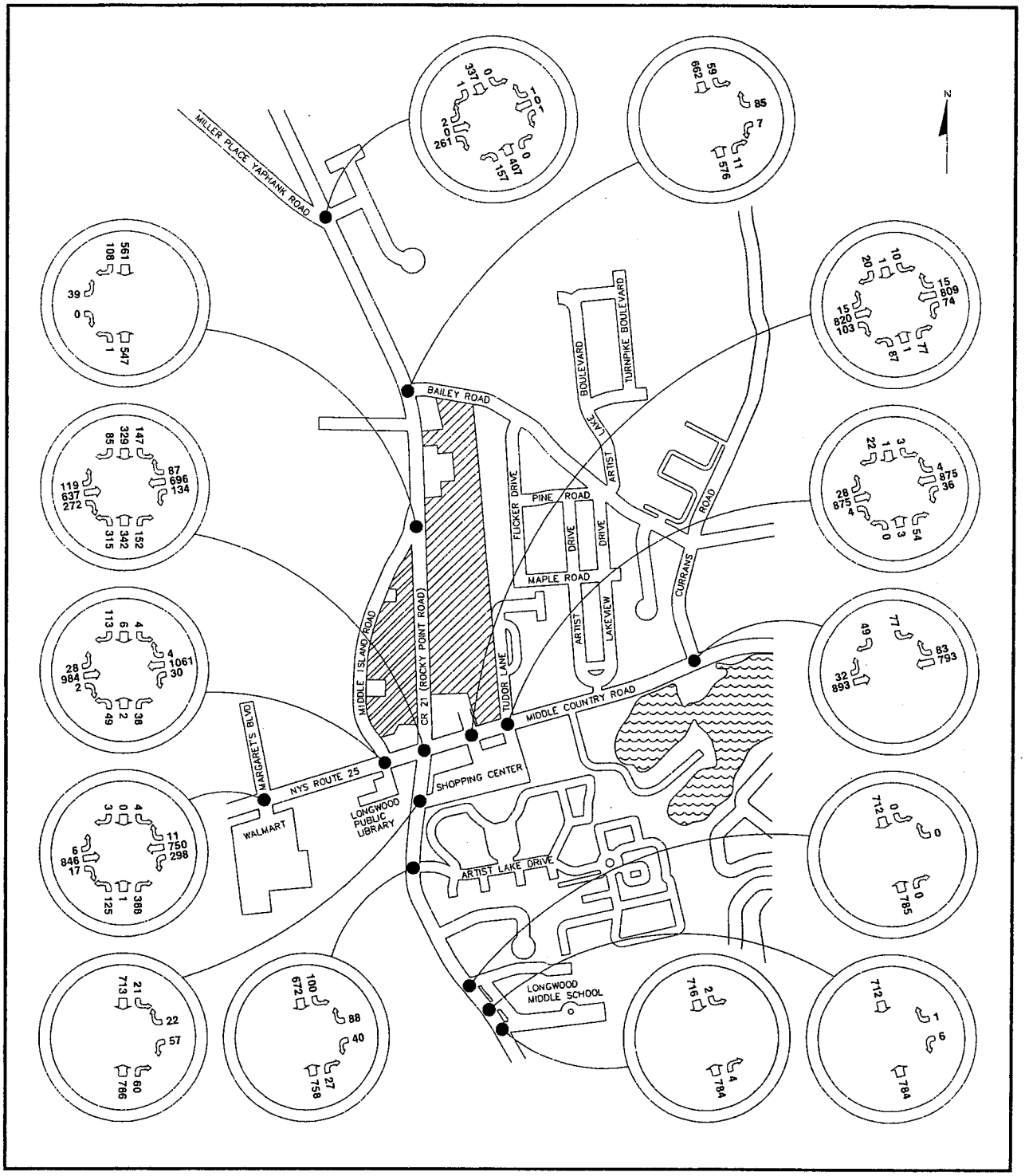


Figure 8: 2015 Scenario 1 (No Build without Other Planned Projects) Saturday Midday Peak Hour Traffic Volumes

Proposed Development

As part of this project, two developments "Condominiums at Sandy Hills" and "Middle Island Towmhomes" are proposed. The Condominium at Sandy Hills development is comprised of 135 Condominiums/Townhouse units and 13,000 SF of retail space and the Middle Island Townhomes development is comprised of 92 Condominium/Townhouse units.

Site Access

As depicted on the site plan, access to the "Condominiums at Sandy Hills" site will be provided via two full movement driveways; one driveway located on Rocky Point Road (CR 21) and one driveway located on Middle Country Road (NYS Route 25). Access to the "Middle Island Townhomes" site will be provided via one full movement driveway on Rocky Point Road directly opposite the "Condominiums at Sandy Hills" site driveway. This driveway will provide cross-access to the two sites

Parking

A total of 494 parking spaces (378 paved parking spaces, 58 driveways and 58 garage stalls) will be provided to support the "Condominium at Sandy Hills" development and 184 parking spaces will be provided to support the "Middle Island Townhomes" development. The parking calculations on the "Condominium at Sandy Hills" and "Middle Island Townhomes" site plans indicate that 378 parking spaces and 184 parking spaces are required respectively in accordance with the Town of Brookhaven parking code. The parking calculations for the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) were based upon requirements for Multifamily Residence (MF-1) District (2 parking spaces per unit) and 1 parking space per 150 SF of commercial space.

Trip Generation

In order to identify the impacts the proposed developments (Condominiums at Sandy Hills and Middle Island Townhomes) will have on the adjacent street system, it is necessary to estimate the magnitude of traffic volume to be generated during the peak hours and to estimate the directional distribution of the site traffic when traveling to and from the subject property. The proposed "Condominium at Sandy Hills" development will contain 135 Condominium/Townhouse units

and 13,000 SF of retail space and the proposed "Middle Island Townhomes" development will contain 92 Condominium/Townhouse units. The trip generation estimates for all the proposed uses were prepared utilizing data within the Institute of Transportation Engineers' publication, *Trip Generation, Seventh Edition.* This publication sets forth trip generation data obtained by traffic counts conducted at sites throughout the country. The following Table summarizes the trip generation estimates for the proposed "Condominiums at Sandy Hills" development. Appendix D contains the trip generation worksheets.

Table 6: Trip Generation (Condominiums at Sandy Hillls)

Time Period	Distribution	13,000 SF Shopping Center - ITE LUC 820	135 units (Residential Condominium/ Townhouse) ITE LUC 230	Total
Weekday AM Peak Hour	Enter	28	12	40
	Exit	18	54	72
	Total	46	66	**112**
Weekday PM Peak Hour	Enter	78	52	130
	Exit	85	25	110
	Total	163	77	**240**
Saturday Midday Peak Hour	Enter	119	44	163
	Exit	110	38	148
	Total	229	82	**311**

Source: Trip Generation, 7th Edition, published by ITE

As can be seen from Table 6 above, the Condominium at Sandy Hills development will generate 112 trips (40 entering and 72 exiting) during the weekday AM peak hour, 240 trips (130 entering and 110 exiting) during the weekday PM peak hour and 311 trips (163 entering and 148 exiting) during the Saturday midday peak hour.

The following table summarizes the trip generation estimates for the proposed "Middle Island Townhomes" development. As can be seen from Table 7 below, the "Middle Island Townhomes" development will generate 48 trips (8 entering and 40 exiting) during the weekday AM peak hour, 56 trips (37 entering and 19 exiting) during the weekday PM peak hour and 69 trips (37 entering and 32 exiting) during the Saturday midday peak hour.

Table 7: Trip Generation (Middle Island Town Homes)

Time Period	Distribution	92 units (Residential Condominium/ Townhouse) ITE LUC 230
Weekday AM Peak Hour	Enter	8
	Exit	40
	Total	**48**
Weekday PM Peak Hour	Enter	37
	Exit	19
	Total	**56**
Saturday Midday Peak Hour	Enter	37
	Exit	32
	Total	**69**

Source: Trip Generation, 7th Edition, published by ITE

The following Table summarizes the total trip generation estimate for the proposed two developments (Condominiums at Sandy Hills and Middle Island Townhomes). The proposed two developments will generate 160 trips (48 entering and 112 exiting) during the weekday AM peak hour, 296 trips (167 entering and 129 exiting) during the weekday PM peak hour and 380 trips (200 entering and 180 exiting) during the Saturday midday peak hour.

Table 8: Total Site Generated Traffic

Time Period	Distribution	Proposed two developments
Weekday AM Peak Hour	Enter	48
	Exit	112
	Total	**160**
Weekday PM Peak Hour	Enter	167
	Exit	129
	Total	**296**
Saturday Midday Peak Hour	Enter	200
	Exit	180
	Total	**380**

Source: Trip Generation, 7th Edition, published by ITE

Trip Distribution and Assignment

The volume of site traffic that would travel through the study intersections during peak hours was distributed and assigned to each movement based on the existing roadway travel patterns. The nature of the proposed land use and its associated travel patterns were considered as well. Figures

9 and 10 present the trip distribution for the traffic generated by the "Middle Island Townhomes" and "Condominiums at Sandy Hills" developments respectively. Figures 11, 12, 13 depict the combined traffic generated by the "Condominium at Sandy Hills" and "Middle Island Townhomes "developments for the weekday AM, weekday PM and Saturday midday peak hours.

Build Scenario 1 Condition

The Build Scenario 1 Condition represents traffic conditions expected at the study intersections in the future year 2015 assuming only the proposed projects (Condominiums at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 1 Condition volumes were developed by adding the site generated traffic volumes to the AM, PM and Saturday midday No Build Scenario 1 (No Build without other planned projects) traffic volumes. Figures 14, 15 and 16 depict the Build Scenario 1 (Build without other planned projects) traffic volumes.

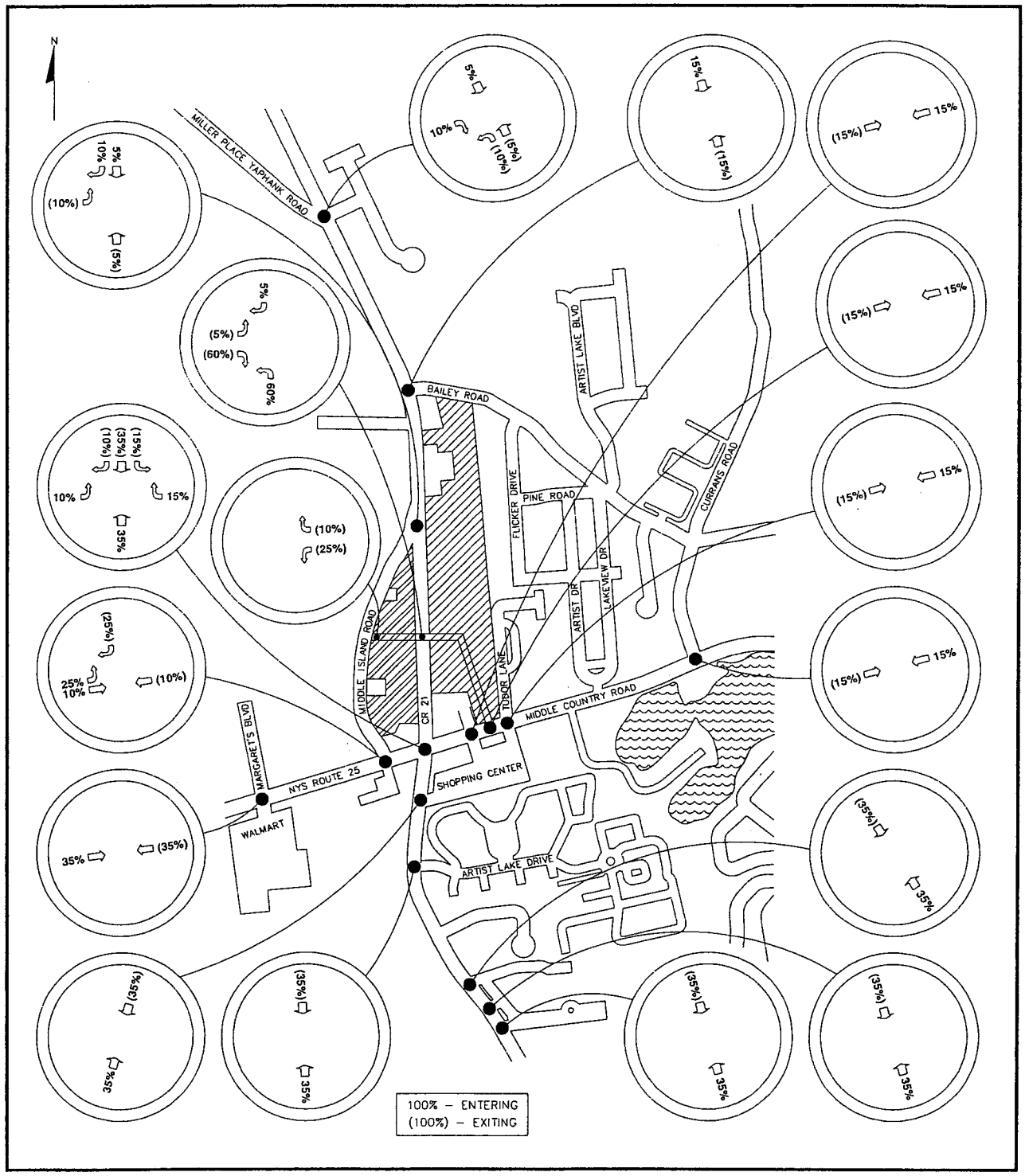


Figure 9: Site Generated (Middle Island Townhomes) Trip Distribution

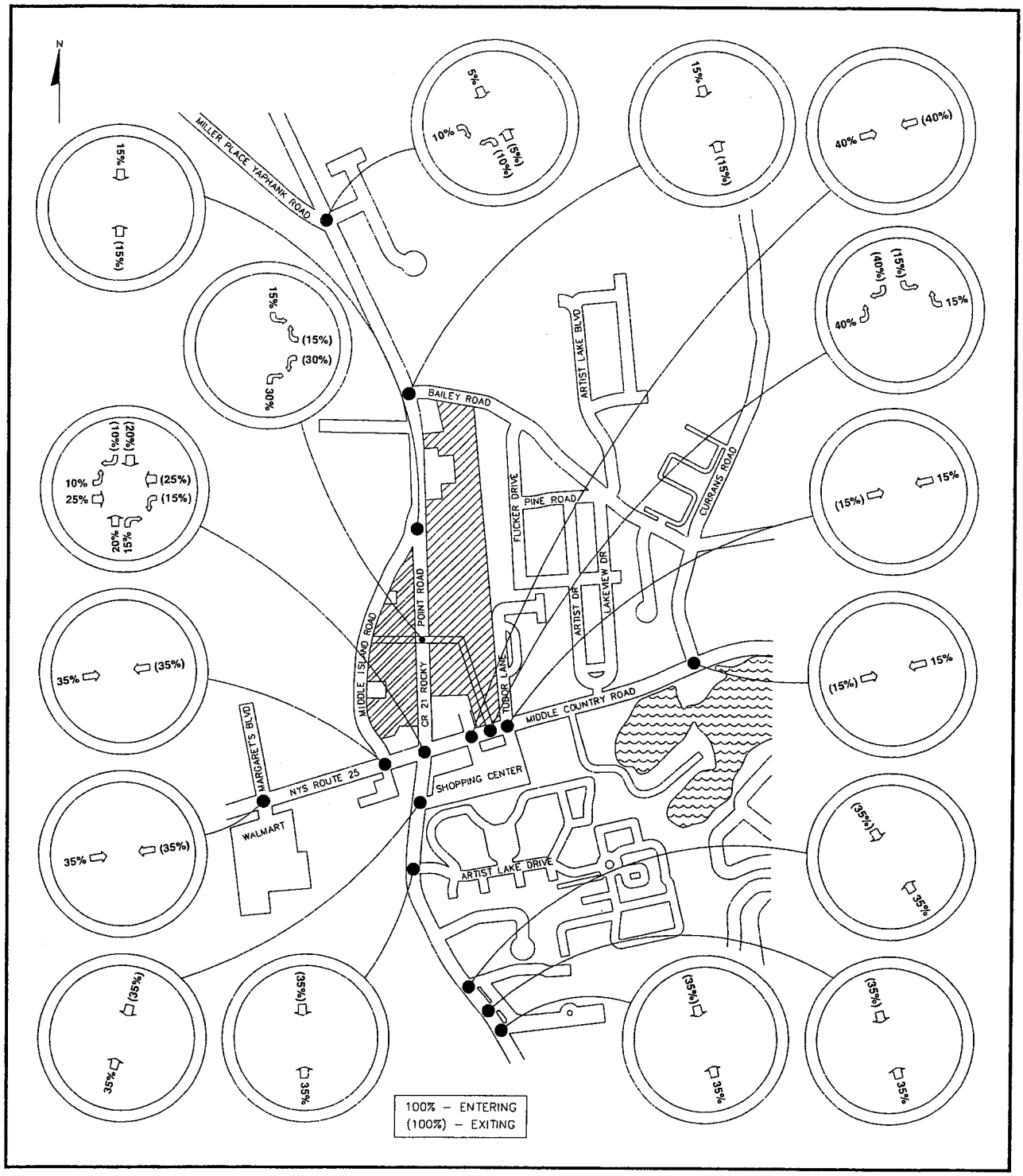


Figure 10: Site Generated (Sandy Hills) Trip Distribution

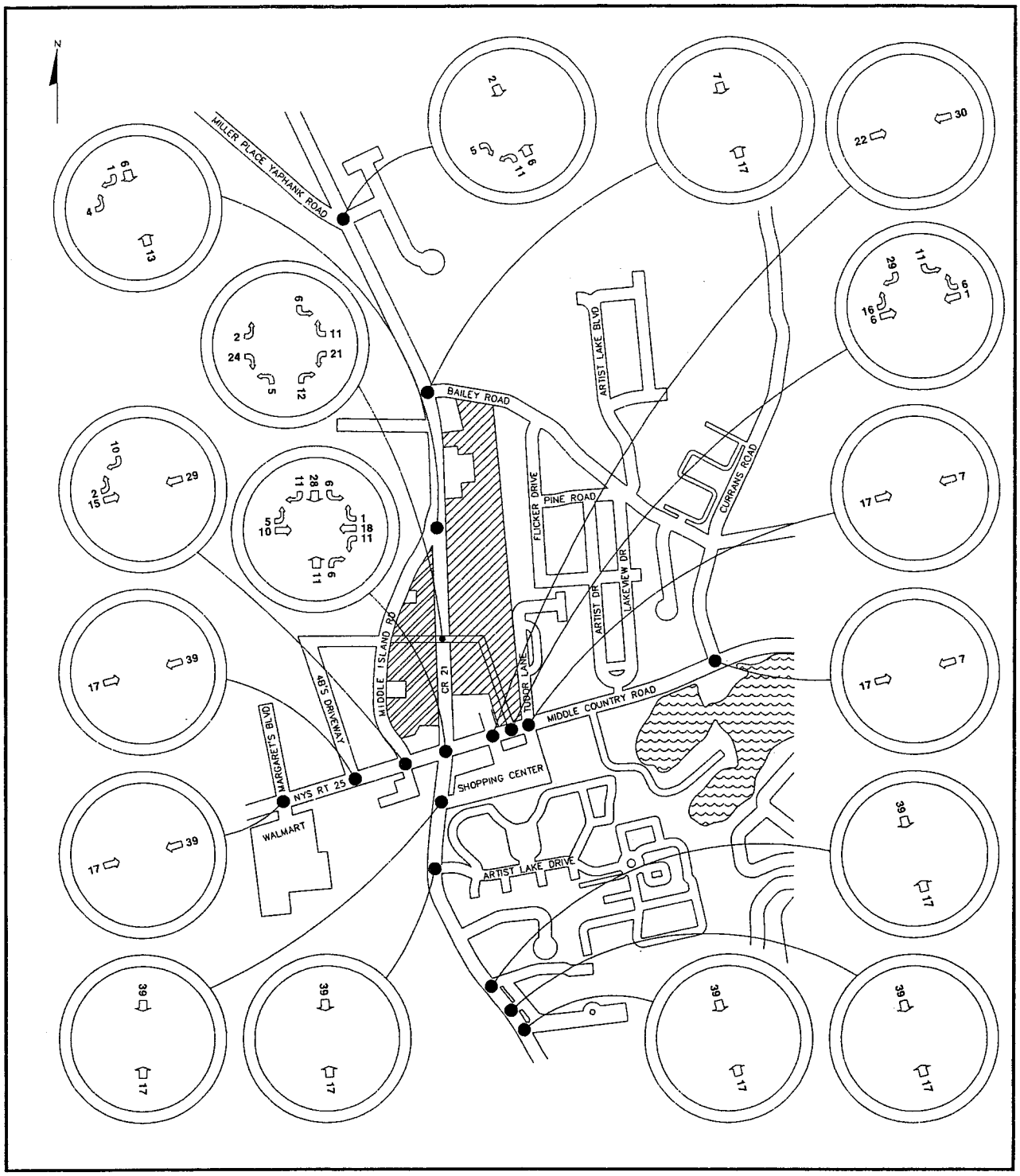


Figure 11: Site Generated AM Peak Hour Traffic Volumes

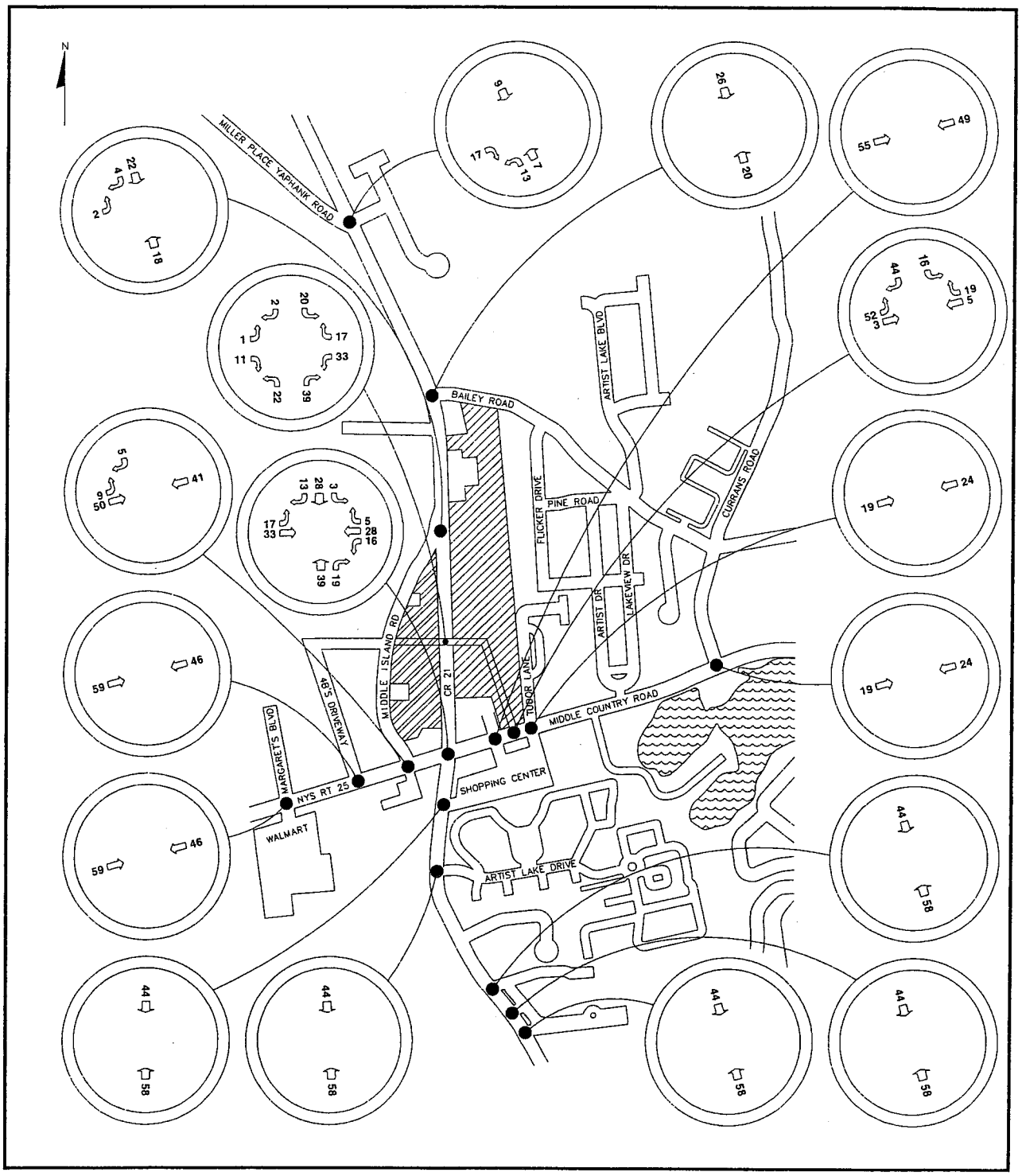


Figure 12: Site Generated PM Peak Hour Traffic Volumes

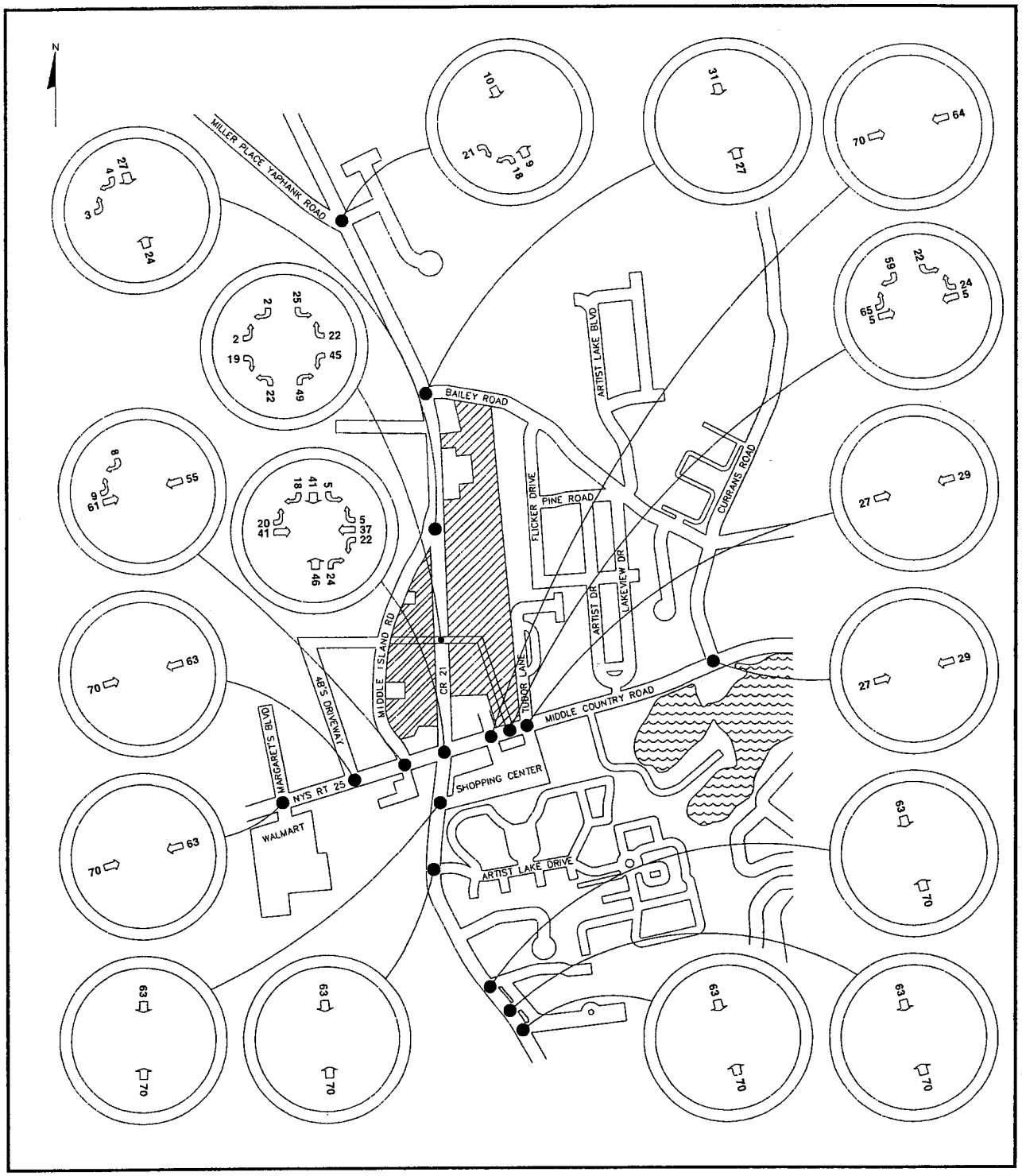


Figure 13: Site Generated Saturday Midday Peak Hour Traffic Volumes

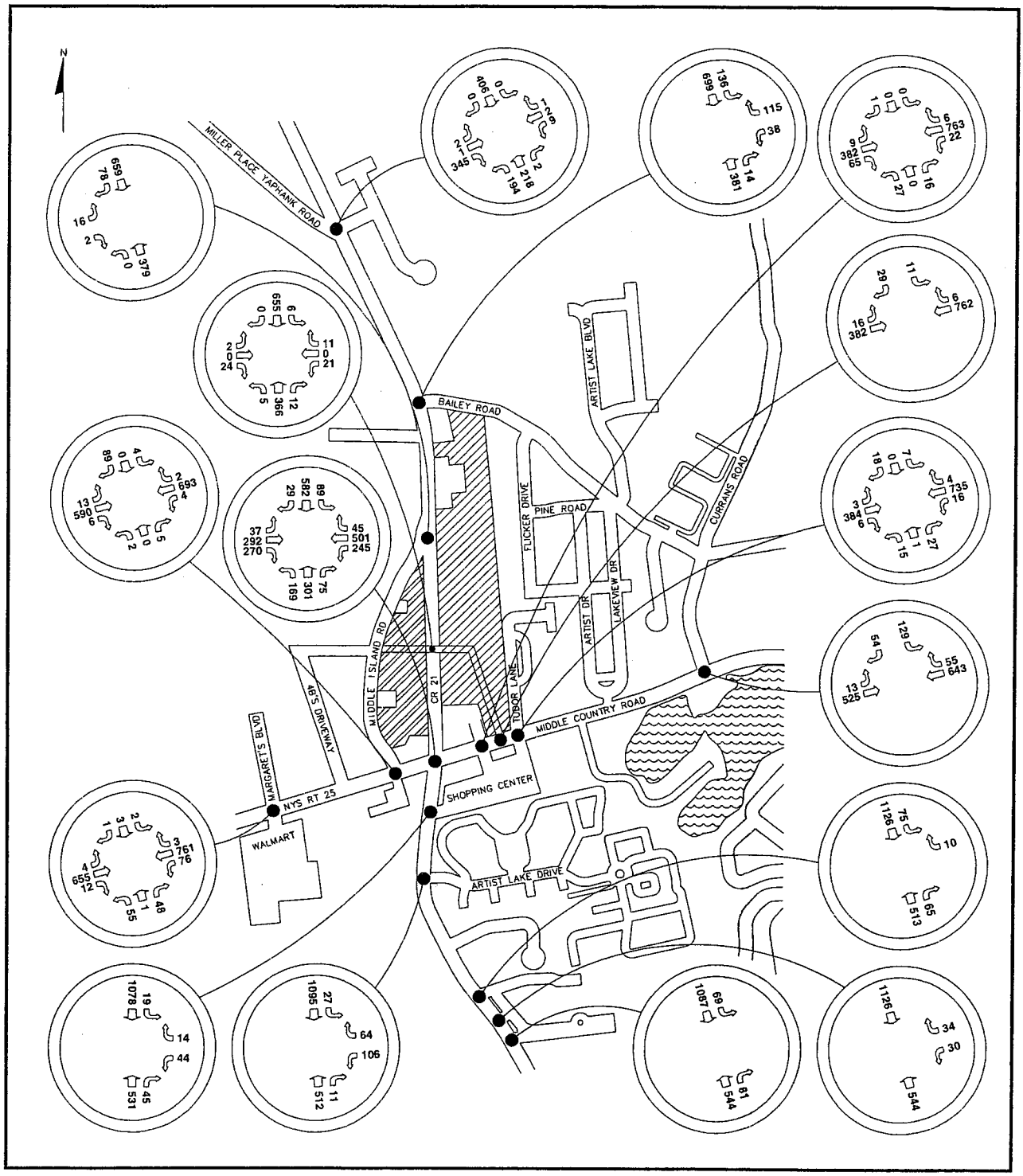


Figure 14: Build Scenario 1 (without Other Planned Projects) AM Peak Hour Traffic Volumes

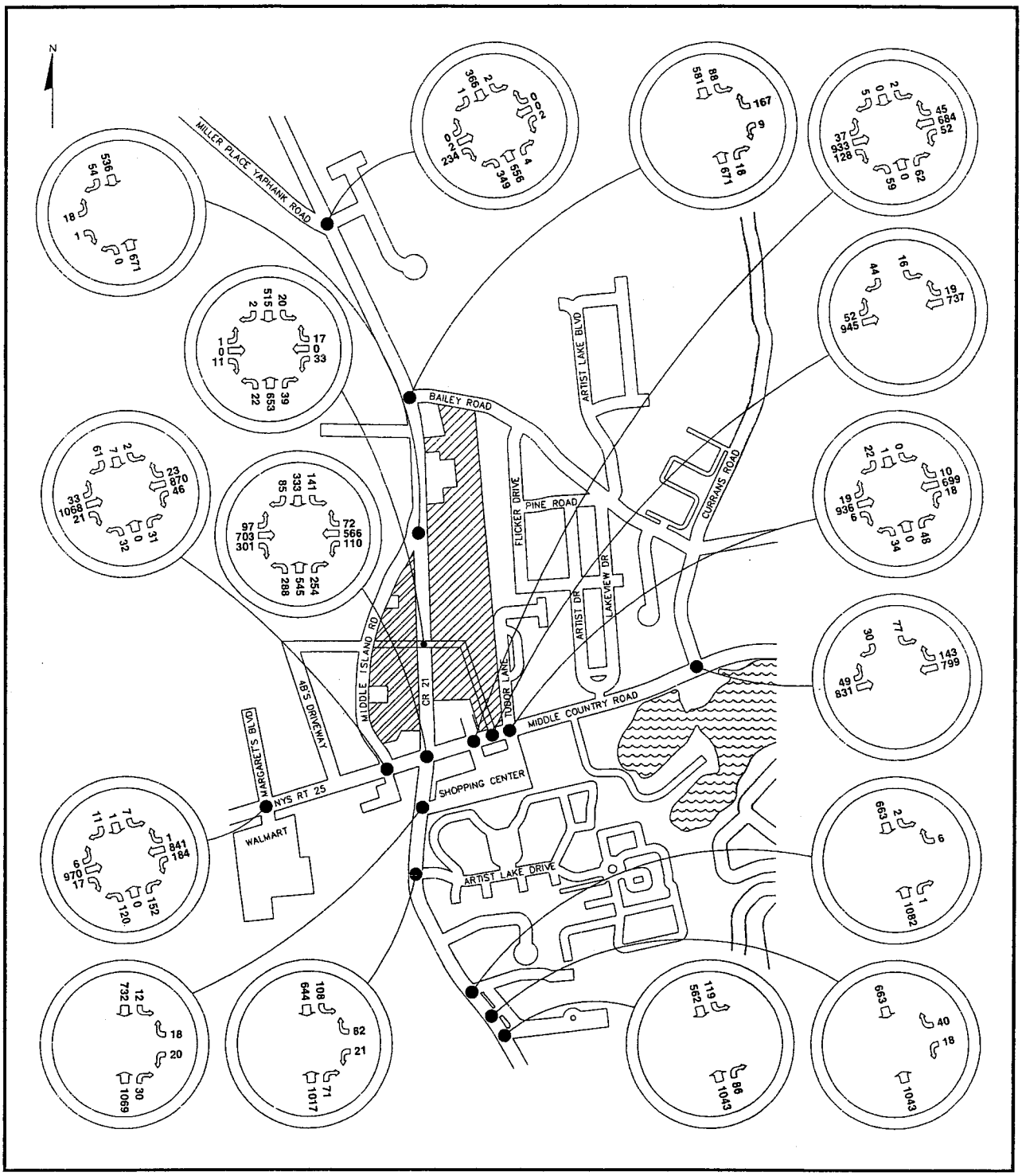


Figure 15: Build Scenario 1 (without Other Planned Projects) PM Peak Hour Traffic Volumes

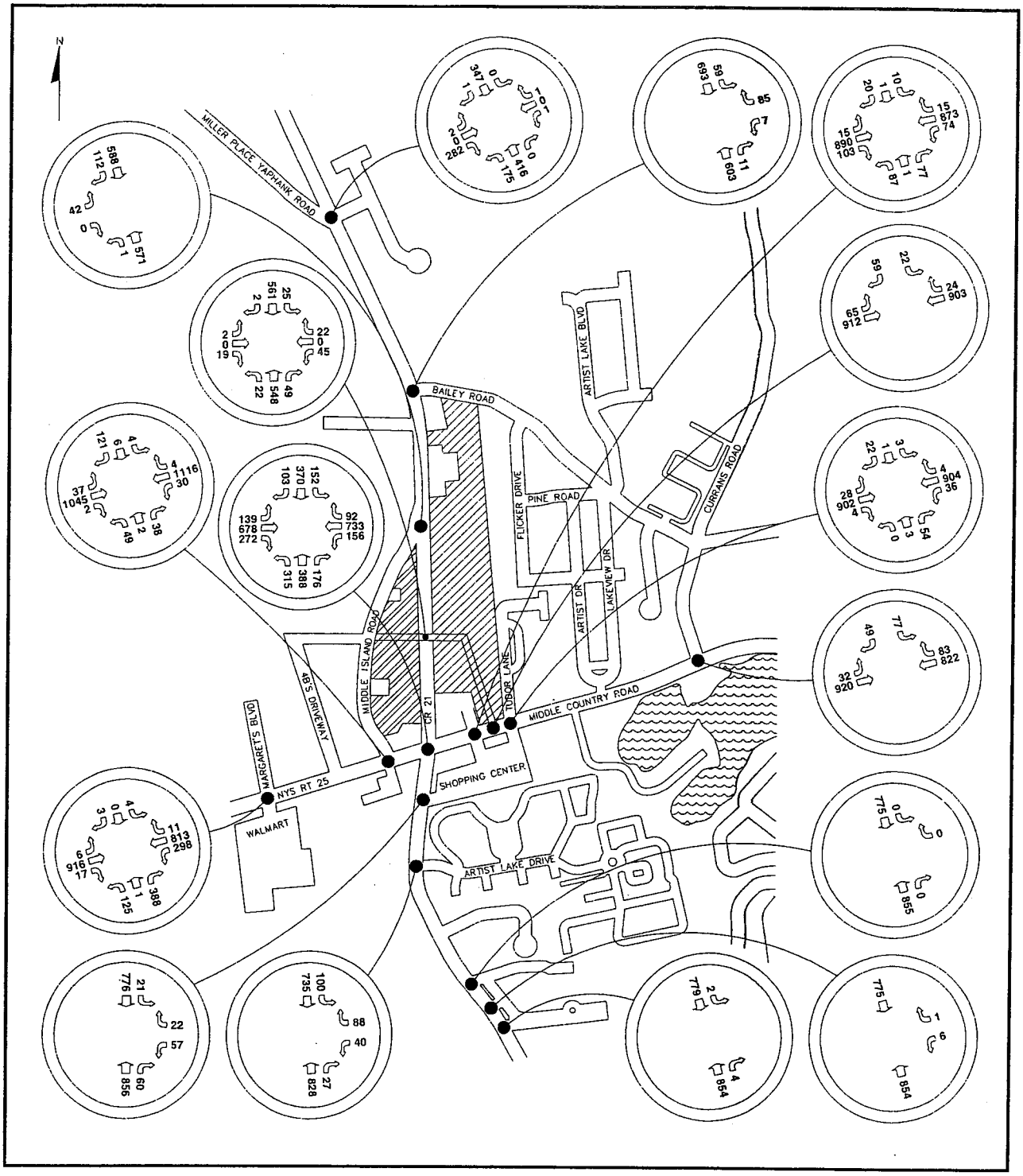


Figure 16: Build Scenario 1(without Other Planned Projects) Saturday Midday Peak Hour Traffic Volumes

Scenario 1 (Without Other Planned Projects) Traffic Impact Analyses

In order to identify the impacts created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) in the study area, capacity analyses were conducted at the study intersections for the No Build Scenario 1 and Build Scenario 1 Conditions during the weekday AM, PM and Saturday midday peak hours. The results of the capacity analyses for the No Build Scenario 1 and Build Scenario 1 Conditions were compared to determine the impact that will be created on the study intersections by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes). It should be noted that the Scenario 1 analyses did not included any other planned projects that may be constructed in the study area before the construction of the proposed projects. The results of these analyses will identify the impacts, if any, that may be created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) if no other planned projects get built in the study area. The following tables summarize the results of the capacity analyses and mitigation measures identified for Scenario 1.

Table 9: Level of Service Summary for Scenario 1 at Signalized Intersections
AM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	5.0	A	5.2	A	5.2	A	5.2
		T	A	6.9	A	7.8	A	8.0	A	8.0
		R	A	2.4	A	2.6	A	2.6	A	2.6
	WB	L	A	1.2	A	1.5	A	1.6	A	1.5
		TR	A	0.8	A	0.9	A	1.0	A	0.8
	NB	L	E	60.3	E	60.8	E	60.8	E	60.8
		TR	B	16.1	B	15.1	B	15.1	B	15.1
	SB	LTR	D	41.5	D	40.7	D	40.7	D	40.7
	Overall		**A**	**6.8**	**A**	**7.1**	**A**	**7.1**	**A**	**7.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.3	A	1.4	A	1.4	A	1.4
		TR	A	2.2	A	2.3	A	2.4	A	2.4
	WB	L	A	0.5	A	0.5	A	0.5	A	0.5
		TR	A	1.6	A	2.1	A	2.0	A	1.4
	NB	LT	D	51.0	D	51.0	D	51.0	D	51.0
		R	C	27.4	C	27.4	C	27.2	C	27.2
	SB	LTR	B	18.7	B	18.4	B	18.2	B	18.1
	Overall		**A**	**3.5**	**A**	**3.7**	**A**	**3.8**	**A**	**3.5**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	29.3	C	29.5	C	30.1	C	29.9
		T	D	45.4	D	50.3	D	52.0	D	49.9
		R	A	7.5	B	12.9	B	14.3	B	14.1
	WB	L	C	27.7	C	32.1	C	34.8	D	38.4
		TR	C	28.6	C	29.7	C	31.6	C	32.4
	NB	L	D	46.9	E	57.5	E	57.6	E	57.9
		T	C	30.6	C	33.8	C	34.8	C	33.6
		R	A	3.4	A	3.3	A	3.3	A	3.4
	SB	L	B	18.2	B	18.9	B	19.3	B	18.6
		TR	F	84.4	F	128.5	F	159.3		
		T							F	122.8
		R							A	7.3
	Overall		**D**	**41.2**	**D**	**54.0**	**E**	**62.5**	**D**	**53.1**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	31.0	C	31.2	C	31.2		
	NB	T	A	6..0	A	7.1	A	7.4		
	SB	L	A	2.8	A	3.0	A	3.0		
		T	B	11.1	B	17.0	C	19.6		
	Overall		**B**	**10.2**	**B**	**14.2**	**B**	**16.1**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.7	C	26.8	C	26.8		
		R	A	9.2	A	8.9	A	8.9		
	NB	T	A	4.0	A	4.5	A	4.6		
	SB	T	A	7.0	B	10.9	B	12.6		
	Overall		**A**	**6.9**	**A**	**9.4**	**B**	**10.5**		

Table 10: Level of Service Summary for Scenario 1 at Unsignalized Intersections AM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	0.4	A	0.4		
	WB	L	A	8.5	A	8.8	A	8.9		
	NB	L	E	45.6	F	73.3	F	90.5		
		R	B	10.8	B	11.3	B	11.6		
	SB	L	A	0.0	A	0.0	A	0.0		
		R	B	14.1	C	15.3	C	15.8		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.1	A	0.1	A	0.1		
	WB	LTR	A	0.4	A	0.4	A	0.5		
	NB	LTR	C	24.2	E	35.2	E	37.9		
	SB	LTR	C	22.3	D	29.0	D	30.2		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.2	A	9.6	A	9.6		
	SB	LR	F	94.8	F	221.3	F	242.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	C	19.9	D	27.1	D	28.1		
	WB	LTR	F	57.2	F	130.7	F	155.5		
	NB	L	A	8.8	A	9.1	A	9.2		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	D	31.3	F	59.2	F	65.8		
	SB	L	A	8.5	A	8.7	A	8.7		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	19.2	C	22.2	C	23.7		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	837.7	F	1032.2		
	SB	L	A	8.9	A	9.3	A	9.4		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	B	12.2	B	13.1	B	13.4		
	SB	LT	A	2.8	A	4.3	A	4.9		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	2.2	A	3.1	A	3.4		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	0.7		
	SB	LR					C	21.6		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					D	31.9		
		TR					B	13.9		
	WB	L					E	39.5		
		TR					B	10.8		
	NB	LTR					A	0.2		
	SB	LTR					A	0.2		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	8.9		
	SB	LT					A	0.1		

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

Table 11: Level of Service Summary for Scenario 1 at Siganlized Intersections PM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	8.8	A	9.8	A	10.0	A	10.0
		T	B	18.3	C	28.5	D	41.2	D	41.4
		R	A	5.2	A	6.0	A	6.1	A	6.1
	WB	L	C	22.0	D	47.9	E	58.6	E	56.5
		TR	A	2.5	A	2.9	A	3.6	A	3.1
	NB	L	E	72.3	E	73.9	E	73.9	E	73.9
		TR	A	2.0	A	2.7	A	3.6	A	3.6
	SB	LTR	C	29.9	C	28.9	C	28.9	C	28.9
	Overall		**B**	**15.0**	**C**	**21.6**	**C**	**27.8**	**C**	**27.8**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	0.5	A	0.5	A	0.6	A	0.6
		TR	A	3.8	A	5.3	A	6.6	A	6.6
	WB	L	A	3.2	C	25.9	C	26.8	B	29.1
		TR	A	2.6	A	2.5	A	3.0	A	1.9
	NB	LT	E	74.8	E	76.5	E	77.3	E	77.3
		R	B	18.5	B	17.2	B	17.0	B	17.0
	SB	LTR	C	20.1	B	19.3	B	18.5	B	18.5
	Overall		**A**	**5.9**	**A**	**7.0**	**A**	**7.7**	**A**	**7.4**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	B	15.6	B	18.6	C	20.1	C	20.1
		T	E	71.0	F	130.8	F	158.3	F	158.3
		R	A	1.5	A	2.9	A	3.6	A	3.4
	WB	L	C	27.5	D	45.6	E	56.8	E	56.8
		TR	C	26.6	C	27.9	C	28.8	C	28.8
	NB	L	E	60.4	F	96.7	F	96.9	E	76.9
		T	E	63.6	F	86.2	F	107.3	F	107.0
		R	A	8.4	B	12.9	B	15.8	B	14.9
	SB	L	D	37.8	D	39.4	D	39.7	D	40.1
		TR	E	76.5	F	102.7	F	134.9		
		T							F	80.9
		R							A	6.7
	Overall		**D**	**46.6**	**E**	**69.9**	**F**	**83.6**	**E**	**73.5**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.1	C	29.2	C	29.2		
	NB	T	A	2.9	A	3.3	A	3.9		
	SB	L	C	21.0	C	28.1	C	28.1		
		T	A	1.6	A	1.8	A	2.0		
	Overall		**A**	**3.7**	**A**	**4.4**	**A**	**4.6**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.1	C	26.2	C	26.2		
		R	B	10.3	B	10.0	B	10.0		
	NB	T	A	5.3	A	6.6	A	7.9		
	SB	T	A	3.5	A	3.9	A	4.2		
	Overall		**A**	**5.1**	**A**	**6.0**	**A**	**6.8**		

Table 12: Level of Service Summary for Scenario 1 at Unsiganlized Intersections PM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	1.2	A	1.6	A	1.9		
	WB	L	C	15.2	C	20.5	C	22.6		
	NB	L	F	*	F	*	F	*		
		R	D	33.3	F	69.3	F	96.1		
	SB	L	F	823.9	F	*	F	*		
		R	B	13.3	B	14.3	C	15.1		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.6	A	0.8	A	0.8		
	WB	LTR	A	1.1	A	2.0	A	2.1		
	NB	LTR	F	653.5	F	*	F	*		
	SB	LTR	C	20.5	D	32.4	E	35.1		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	B	10.3	B	10.9	B	11.1		
	SB	LR	F	208.4	F	463.1	F	521.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	12.6	B	13.8	B	14.3		
	WB	LTR	F	74.2	F	113.9	F	132.6		
	NB	L	A	8.9	A	9.3	A	9.4		
	SB	L	A	8.4	A	8.6	A	8.7		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	20.9	D	28.4	D	30.5		
	SB	L	A	9.2	A	9.6	A	9.7		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	21.9	D	26.2	D	28.3		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	56.7	F	*	F	*		
	SB	L	B	13.4	F	148.6	F	253.1		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	C	21.8	F	123.9	F	199.3		
	SB	LT	A	0.1	A	1.5	A	2.5		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	4.8	A	6.3	A	6.9		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	2.2		
	SB	LR					F	595.0		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	71.0		
		TR					B	12.0		
	WB	L					F	136.8		
		TR					C	16.1		
	NB	LTR					A	0.6		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	9.1		
	SB	LT					A	0.4		

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

** = The delay is incalculable by the Synchro software*

Table 13: Level of Service Summary for Scenario 1 at Signalized Intersections
Saturday Midday Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	B	10.2	B	10.3	B	10.5	B	10.5
		T	B	19.9	C	29.5	D	36.7	D	44.5
		R	A	5.1	A	5.4	A	5.8	A	5.8
	WB	L	C	30.4	D	54.3	F	97.2	D	53.1
		TR	A	3.1	A	4.2	A	4.6	A	2.2
	NB	L	E	57.1	D	53.5	D	51.8	D	47.9
		TR	C	22.3	D	35.4	D	39.5	D	28.0
	SB	LTR	C	28.3	C	28.9	C	28.6	C	27.1
	Overall		**B**	**18.3**	**C**	**26.8**	**C**	**34.4**	**C**	**29.3**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.9	A	2.4	A	2.5	A	2.3
		TR	A	4.1	A	6.6	A	7.5	A	7.7
	WB	L	A	3.4	A	3.5	A	3.1	A	4.6
		TR	A	2.5	A	2.6	A	2.9	A	3.9
	NB	LT	E	57.9	E	59.4	E	59.7	D	44.9
		R	B	15.9	B	15.1	B	15.3	B	11.4
	SB	LTR	B	16.0	B	14.5	B	15.2	B	12.3
	Overall		**A**	**5.7**	**A**	**6.7**	**A**	**7.2**	**A**	**7.2**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	21.6	C	28.2	D	37.8	C	24.2
		T	F	83.1	F	148.6	F	185.6	F	139.1
		R	A	2.4	A	5.2	A	7.6	A	3.6
	WB	L	D	38.2	D	44.5	E	56.5	D	51.4
		TR	C	29.2	C	32.0	C	33.6	C	26.2
	NB	L	F	133.0	F	237.7	F	238.2	F	262.1
		T	D	39.4	D	41.2	D	45.1	D	42.7
		R	A	4.2	A	6.4	B	10.3	B	10.2
	SB	L	C	23.8	C	25.3	C	27.7	C	33.5
		TR	E	62.2	E	79.2	F	122.6		
		T							E	70.0
		R							A	7.2
	Overall		**D**	**50.9**	**E**	**76.9**	**F**	**91.3**	**E**	**72.1**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.8	C	30.0	C	30.0		
	NB	T	A	3.8	A	4.4	A	4.9		
	SB	L	A	3.5	A	6.4	B	15.3		
		T	A	2.4	A	2.7	A	3.0		
	Overall		**A**	**3.7**	**A**	**4.3**	**A**	**5.0**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.0	C	26.0	C	26.0		
		R	C	21.0	C	21.0	C	21.0		
	NB	T	A	1.9	A	2.2	A	2.6		
	SB	T	A	1.7	A	1.8	A	2.0		
	Overall		**A**	**1.9**	**A**	**2.2**	**A**	**2.4**		

Table 14: Level of Service Summary for Scenario 1 at Unsignalized Intersections Saturday Midday Peak Hour

Unsignalized Intersection	Approach	Move-ment	2007 Existing Conditions LOS	2007 Existing Conditions Delay (sec.)	2015 Ambient No Build Condition LOS	2015 Ambient No Build Condition Delay (sec.)	2015 Build Condition LOS	2015 Build Condition Delay (sec.)	2015 Build Condition with Mitigations LOS	2015 Build Condition with Mitigations Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.6	A	0.8	A	1.0		
	WB	L	B	14.9	C	18.0	C	20.3		
	NB	L	F	*	F	*	F	*		
		R	D	28.9	E	44.2	F	60.5		
	SB	L	F	1539.0	F	*	F	*		
		R	C	15.0	C	16.6	C	17.8		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	1.1	A	1.5	A	1.6		
	WB	LTR	A	2.4	A	4.0	A	4.2		
	NB	LTR	F	58.5	F	162.7	F	182.1		
	SB	LTR	F	261.0	F	1528.4	F	*		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.8	B	10.3	B	10.5		
	SB	LR	F	159.8	F	374.1	F	439.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	13.6	C	15.2	C	16.3		
	WB	LTR	C	23.7	D	30.5	E	35.7		
	NB	L	A	8.3	A	8.5	A	8.6		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	15.1	C	17.4	C	18.3		
	SB	L	A	8.8	A	9.1	A	9.2		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	23.8	D	29.3	D	32.6		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	57.9	F	109.5	F	146.9		
	SB	L	B	10.2	B	11.1	B	12.1		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	A	0.0	A	0.0	A	0.0		
	SB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	0.1	A	0.1	A	0.1		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	3.2		
	SB	LR					F	*		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	57.3		
		TR					B	12.6		
	WB	L					F	124.1		
		TR					B	13.8		
	NB	LTR					A	0.7		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	9.3		
	SB	LT					A	0.3		

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

** = The delay is incalculable by the Synchro software*

Middle Country Road (NYS Route 25) at St. Margaret's Boulevard

During the No Build Scenario 1 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at St. Margaret's Boulevard operates at overall LOS A, C and C during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project, the intersection will continue to operate at No Build LOS conditions during the analyzed peak periods.

Middle Country Road (NYS Route 25) at Middle Island Road

During the No Build Scenario 1 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at Middle Island Road operates at overall LOS A during the weekday AM, weekday PM and Saturday midday peak hours. After the completion of the project, the intersection will continue to operate at No Build LOS A during the analyzed peak periods.

Middle Country Road (NYS 25) at Rocky Point Road (CR 21)

During the No Build Scenario 1 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21) operates at LOS D, E and E during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the LOS will change from D to E during the AM peak hour and from E to F during the PM and Saturday midday peak hours. In order to mitigate the impacts created at this intersection, the following improvements may be considered:

- Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
- Optimize the traffic signal network cycle lengths, phasing and timings

With these improvements, the intersection will operate at No Build LOS D, E and E during the weekday AM, PM and Saturday midday peak hours respectively.

Rocky Point Road (CR 21) at Artist Lake Drive

During the No Build Scenario 1 Condition, the signalized intersection of Rocky Point Road (CR 21) at Artist Lake Drive will operate at LOS B during the weekday AM peak hour and at LOS A during the weekday PM and Saturday midday peak hours. After the completion of the project, the

intersection will continue to operate at No Build LOS conditions during the analyzed peak periods.

Rocky Point Road (CR 21) at Longwood Middle School Signalized Driveway

During the No Build Scenario 1 Condition, the signalized intersection of Rocky Point Road (CR 21) at Longwood Middle School Signalized Driveway will operate at LOS A during the weekday AM, weekday PM and Saturday midday peak hours. After the completion of the project, the intersection will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change form LOS A to LOS B during the weekday AM peak hour with a 1.1 second increase in delay. The 1.1 seconds increase in delay should not significantly impact the operation of the intersection; hence mitigation may not be necessary.

Middle Country Road (NYS Route 25) at Shopping Center westerly driveway

During the No Build Scenario 1 Condition, the eastbound Middle Country Road approach operates at LOS A during the analyzed peak hours and the westbound Middle Country Road approach operates at LOS A during the weekday AM peak hour and at LOS C during the weekday PM and Saturday midday peak hours. The northbound left turn movement operates at LOS F during the analyzed peak hours and the northbound right turn movement operates at LOS B during the weekday AM peak hour, at LOS F during the weekday PM peak hour and at LOS E during the Saturday midday peak hour. The southbound left turn movement operates at LOS A during the weekday AM peak hour, and at LOS F during the weekday PM and Saturday midday peak hours. The southbound right turn movement operates at LOS C, B, and C during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project, the approach movements to the intersection will continue to operate at No Build levels of service except for the southbound right turn movement that will change form LOS B to C with a 0.8 second increase in delay during the PM peak hour and the northbound right turn movement that will change from LOS E to F with an increase in delay of 16.3 seconds during the Saturday midday peak hour. The traffic movements at the intersection that currently operate at failing levels of service will continue to operate at failing levels of service with increase in delays. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the

traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps.

Middle Country Road (NYS Route 25) at Tudor Lane/Shopping Center Driveway

During the No Build Scenario 1 Condition, the eastbound and westbound Middle Country Road approaches operate at LOS A during the analyzed peak hours. The northbound approach operates at LOS E during the weekday AM peak hour and at LOS F during the weekday PM and Saturday midday peak hours. The southbound Tudor Place approach operates at LOS D during the weekday AM and PM peak hours and at LOS F during the Saturday midday peak hour. After the completion of the project the approach movements to the intersection will continue to operate at No Build levels of services except for the southbound Tudor Lane approach that changed from LOS D to LOS E with an increase in delay of 2.7 seconds during the weekday PM peak hour.

Middle Country Road (NYS Route 25) at Currans Road

During the No Build Scenario 1 Condition, the eastbound Middle Country Road left turn movement will operate at LOS B or better during the analyzed peak hours. The southbound Currans Road approach will operate at LOS F during the analyzed peak hours. After the completion of the project the intersection approach movements will continue to operate at No Build LOS.

Rocky Point Road (CR 21) at Miller Place Yaphank Road/Andrew Way

During the No Build Scenario 1 Condition the northbound and southbound Rocky Point Road (CR 21) approaches operate at LOS A during the analyzed peak hours. The eastbound Miller Place-Yaphank Road approach operates at LOS D, B and C during the weekday AM, PM and Saturday midday peak hours respectively. The westbound Andrew Way approach operates at LOS F during the weekday AM and PM peak hours and at LOS D during the Saturday midday peak hour. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build LOS except for the westbound Andrew Way approach that changed from LOS D to LOS E with an increase in delay of 5.2 seconds during the Saturday midday peak hour.

Rocky Point Road (CR 21) at Bailey Road

During the No Build condition the southbound Rocky Point Road (CR 21) left turn movement operates at LOS A during the analyzed peak hours. The westbound Bailey Road approach will operate at LOS F, D and C during the weekday AM, PM and Saturday midday peak hours respectively. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Middle Island Road

During the No Build condition, the northbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. The eastbound Middle Island Road approach operates at LOS C during the weekday AM peak hour and at LOS D during the weekday PM and Saturday midday peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Shopping Center Driveway

During the No Build condition, the southbound Rocky Point Road (CR 21) left turn movement operates at LOS A, F, B during the weekday AM, PM and Saturday midday peak hours respectively. The westbound Shopping Center driveway approach operates at LOS F during the analyzed peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Longwood Middle School North Driveway

During the No Build condition, the southbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. The westbound North School driveway approach operates at LOS B, F and A during the weekday AM, PM and Saturday midday peak hours respectively. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Longwood Middle School South Driveway

During the No Build condition, the southbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Middle Country Road at proposed Sandy Hills driveway

After the completion of the project, the eastbound Middle Country Road approach at the intersection of Middle Country Road and Sandy Hills driveway will operate at LOS A during the analyzed peak hours. The southbound Sandy Hills driveway approach will operate at LOS C during the weekday AM peak hour and at LOS F during the weekday PM and Saturday midday peak hours. However, the southbound driveway queues can be accommodated on site without disrupting on site traffic circulation.

Rocky Point Road (CR 21) at proposed site driveway

After the completion of the project, the northbound and southbound Rocky Point Road approaches at the intersection of Rocky Point Road (CR 21) and site driveway will operate at LOS A during the analyzed peak hours. The eastbound and westbound through/right turn movements will operate at LOS C or better during the analyzed peak hours. The eastbound and westbound left turn movements will operate at LOS E during the weekday AM peak hour and at LOS F during the weekday PM and Saturday midday peak hours. However, the eastbound driveway left turn queues can be accommodated on site without disrupting on site traffic circulation.

SCENARIO 2 FUTURE CONDITION

No Build Scenario 2 Condition

The No Build Scenario 2 Condition represents traffic conditions expected at the study intersections in the future year 2015 with the construction of other planned projects in the study area. The No Build Condition traffic volumes under scenario 2 are estimated based on the following factors:

- Increases in traffic due to general population growth and developments outside of the immediate project area. This traffic increase is referred to as ambient growth.
- Other planned projects located near the project site that may affect traffic levels and patterns at the study intersections.

Ambient Traffic Growth

As requested by the Town of Brookhaven, a 1.5% annual growth factor was obtained from the Middle Country Road Land Use Plan for Coram, Middle Island and Ridge. The 2007 existing traffic volumes were increased by this factor for a period of 8 years to project volumes to the year 2015. These volumes are referred to as the Ambient traffic volumes.

Other Planned Projects

Planned projects that may be constructed prior to the proposed project and significantly influence the traffic flow through the study intersections would be considered as part of the Scenario 2 No Build analysis. The Town of Brookhaven was contacted to obtain information on any other planned projects in the area. As advised by the Town, the following proposed planned projects were included:

- 4B's LLC-Kogel (240 multi-family units and 130,000 SF of commercial space and a 17,000 SF community center) to be located on the northwest corner of Middle Country Road (NYS Route 25) and Middle Island Road.

- An expansion to the existing Middle Island Shopping Plaza (4,088 SF of office space and 16,550 SF of retail space) to be located at the southeast corner of Middle Country Road and Rocky Point Road.

Trip generation estimates for these other planned projects were prepared utilizing data within the Institute of Transportation Engineers' publication, *Trip Generation, Seventh Edition.* As shown in the table below, the combined trips attributed to the two other planned projects will generate 383 trips during the AM peak hour, 1092 trips during the PM peak hour and 1431 trips during the Saturday peak hour. The traffic for each development was assigned to the study intersections and is shown in Figures contained in Appendix C.

Table 15: Other Planned Projects - Site Generated Trips

Planned Projects	Peak Hour	Peak Hour Trips		
		Enter	Exit	Total
4B's II LLC – Kogel (240 multi-family units, 130,000 SF Commercial space and 17,000 SF Community Center)	Weekday AM	147	168	315
	Weekday PM	448	447	895
	Saturday midday	606	554	1160
Middle Island Shopping Plaza expansion (4,088 SF of office space and 16,550 SF of retail space)	Weekday AM	45	23	68
	Weekday PM	93	104	197
	Saturday midday	141	130	271
Total	**Weekday AM**	**192**	**191**	**383**
	Weekday PM	**541**	**551**	**1092**
	Saturday midday	**747**	**684**	**1431**

The No Build Scenario 2 Condition traffic volumes were estimated by adding the traffic generated by the other planned projects to the Ambient traffic volumes. The No Build Scenario 2 Condition traffic volumes for the weekday AM, PM and Saturday midday peak hours are illustrated in Figures 17, 18 and 19.

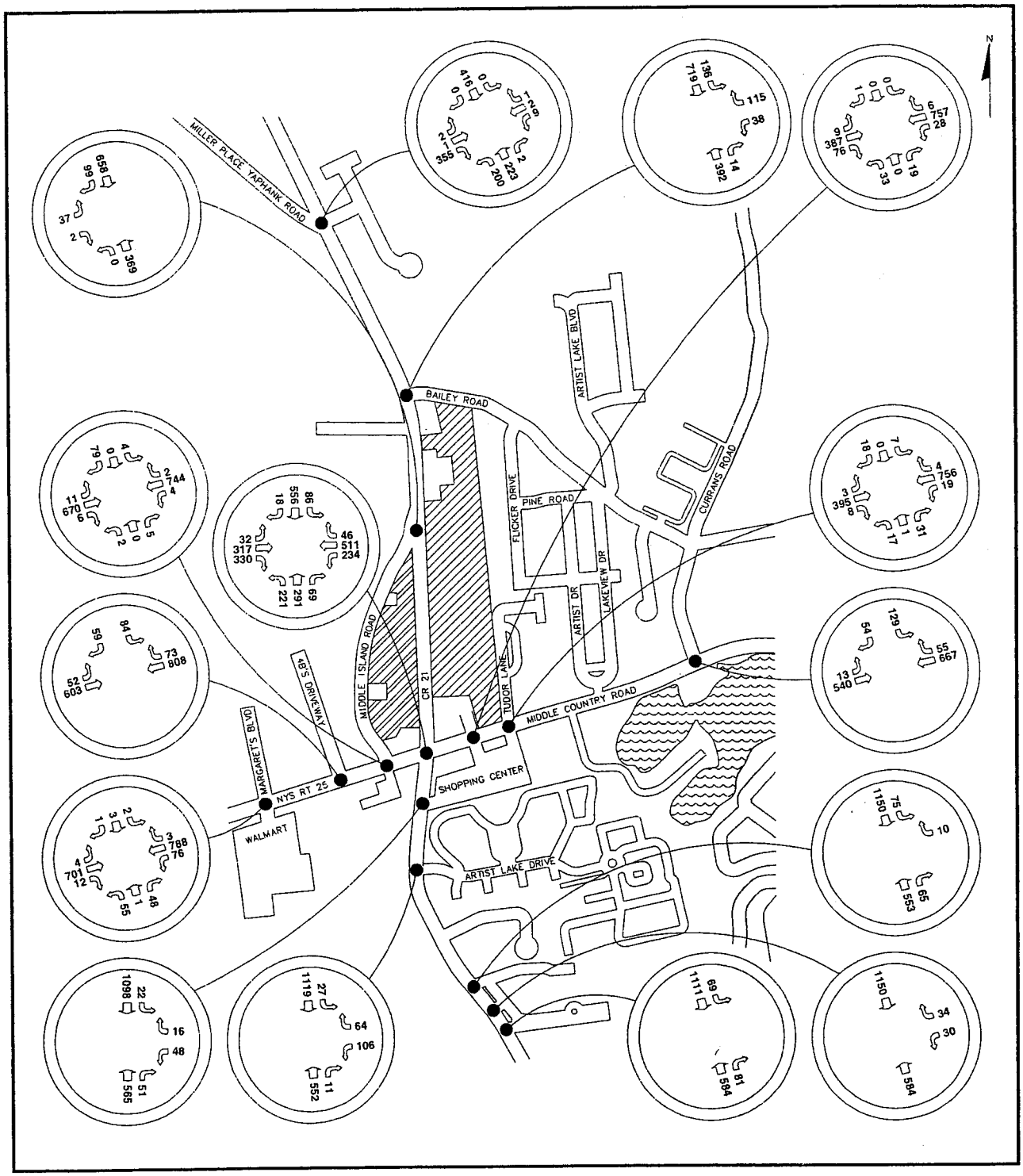


Figure 17: 2015 No Build Scenario 2 (with Other Planned Projects)AM Peak Hour Traffic Volumes

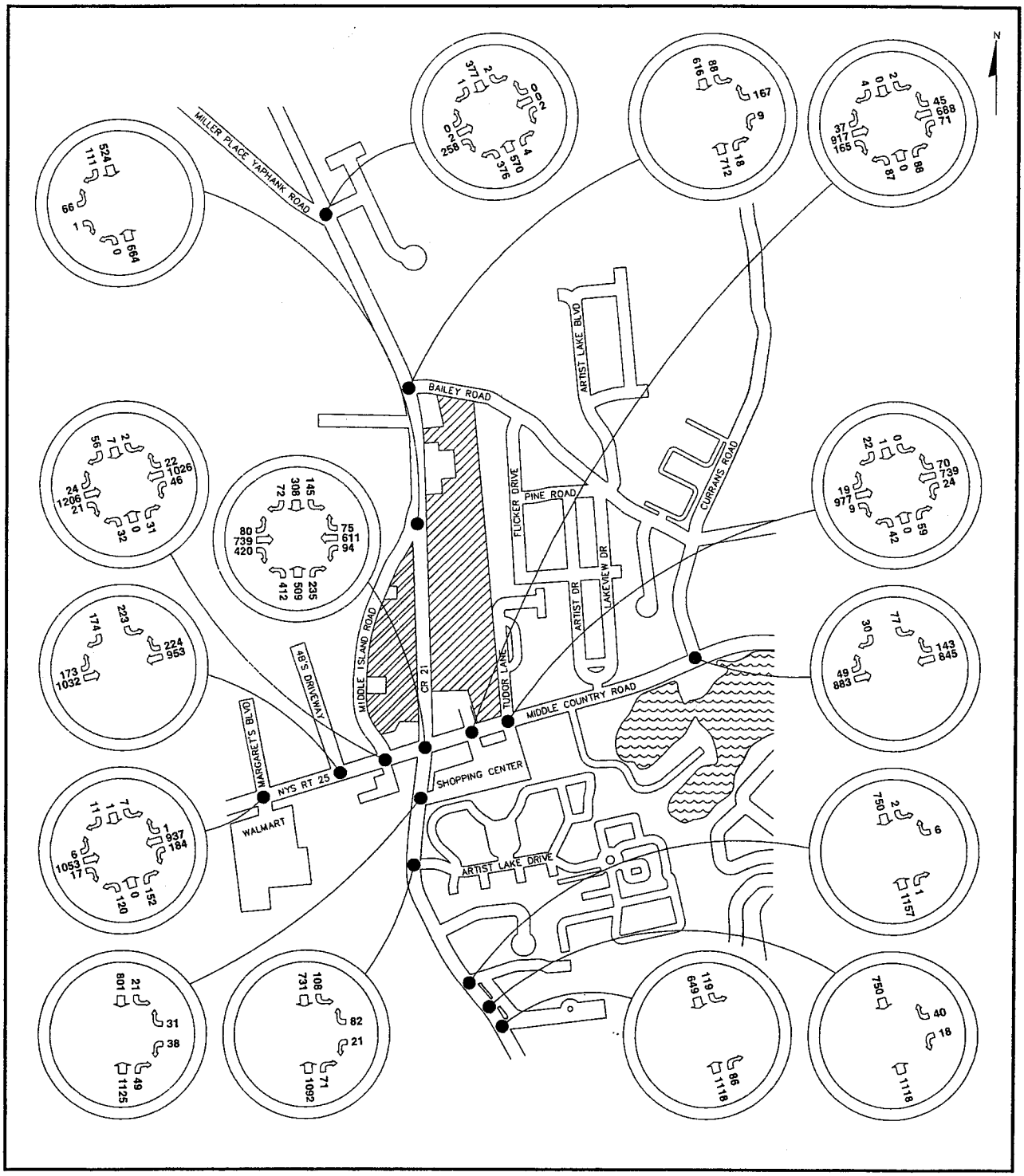


Figure 18: 2015 No Build Scenario 2 (with Other Planned Projects) PM Peak Hour Traffic Volumes

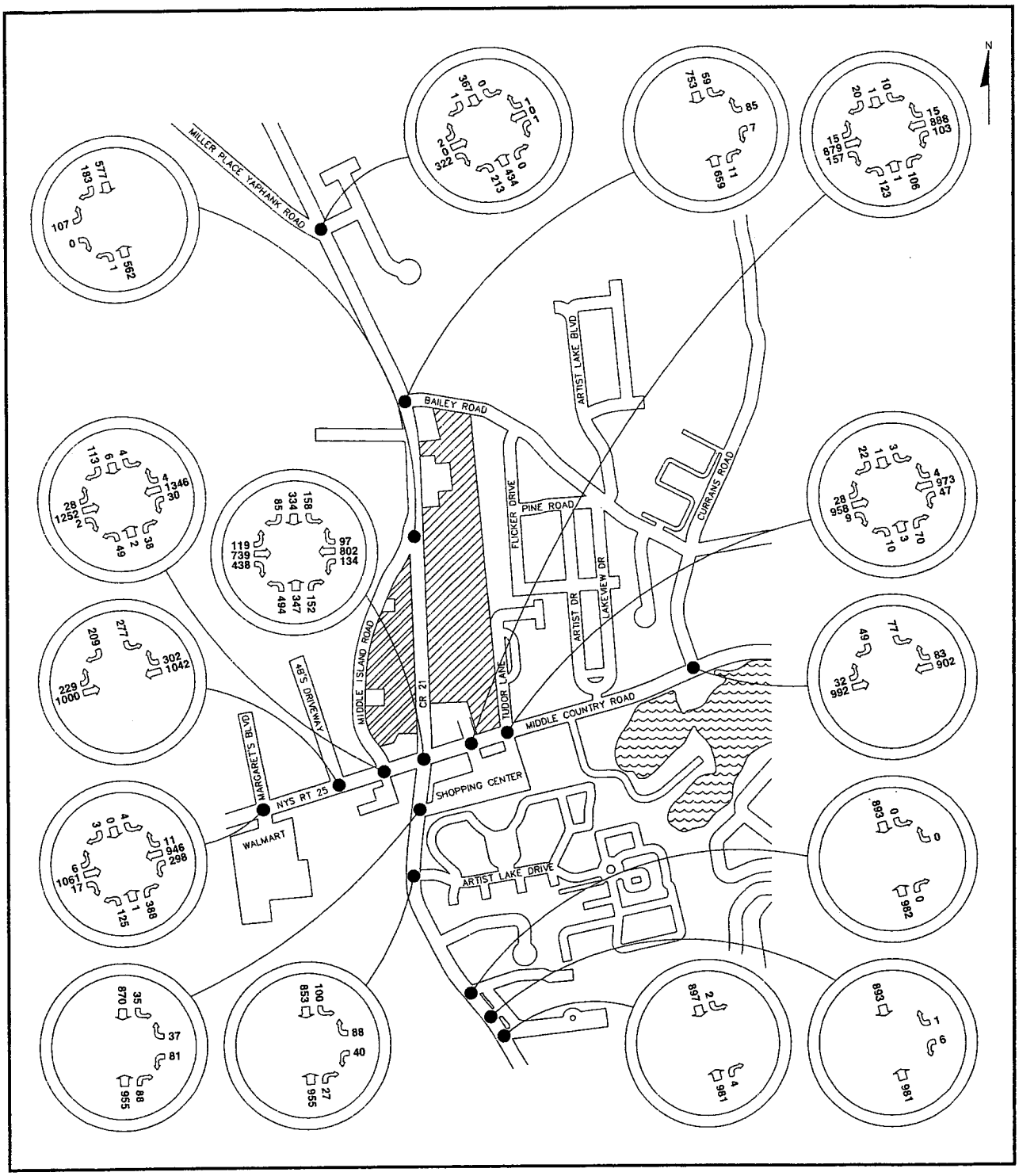


Figure 19: 2015 No Build Scenario 2 (with Other Planned Projects) Saturday Peak Hour Traffic Volumes

Build Scenario 2 Condition

The Build Scenario 2 Condition represents traffic conditions expected at the study intersections in the future year 2015 assuming that, the other planned projects and the proposed projects get built in the study area. The 2015 Build Scenario 2 Condition volumes (Build with other planned projects) were developed by adding the site generated traffic volumes to the AM, PM and Saturday midday No Build Scenario 2 (No Build with other planned projects) traffic volumes. Figures 20, 21 and 22 depict the Build Scenario 2 (Build with other planned projects) traffic volumes.

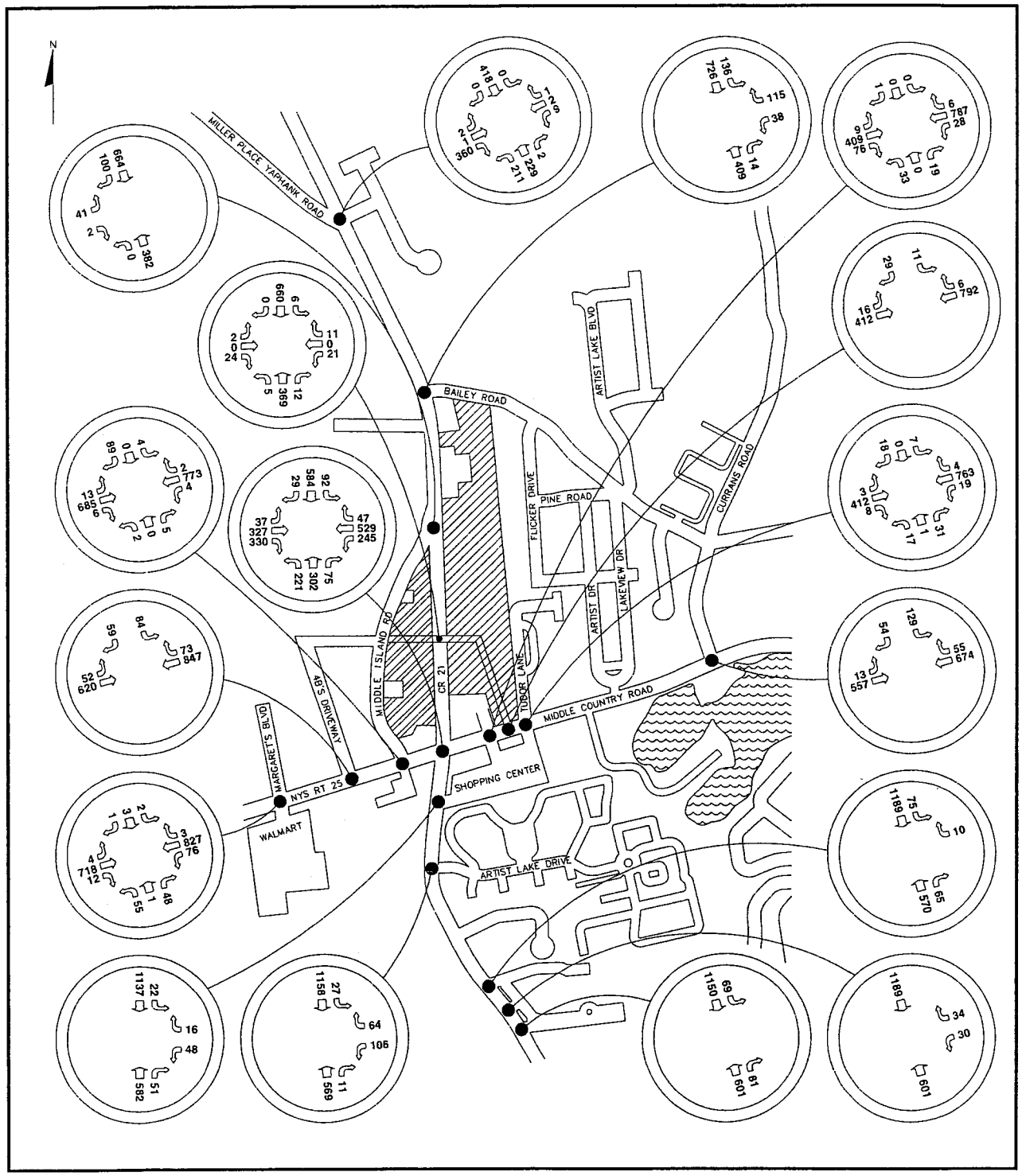


Figure 20: Build Scenario 2 (with Other Planned Projects) AM Peak Hour Traffic Volumes

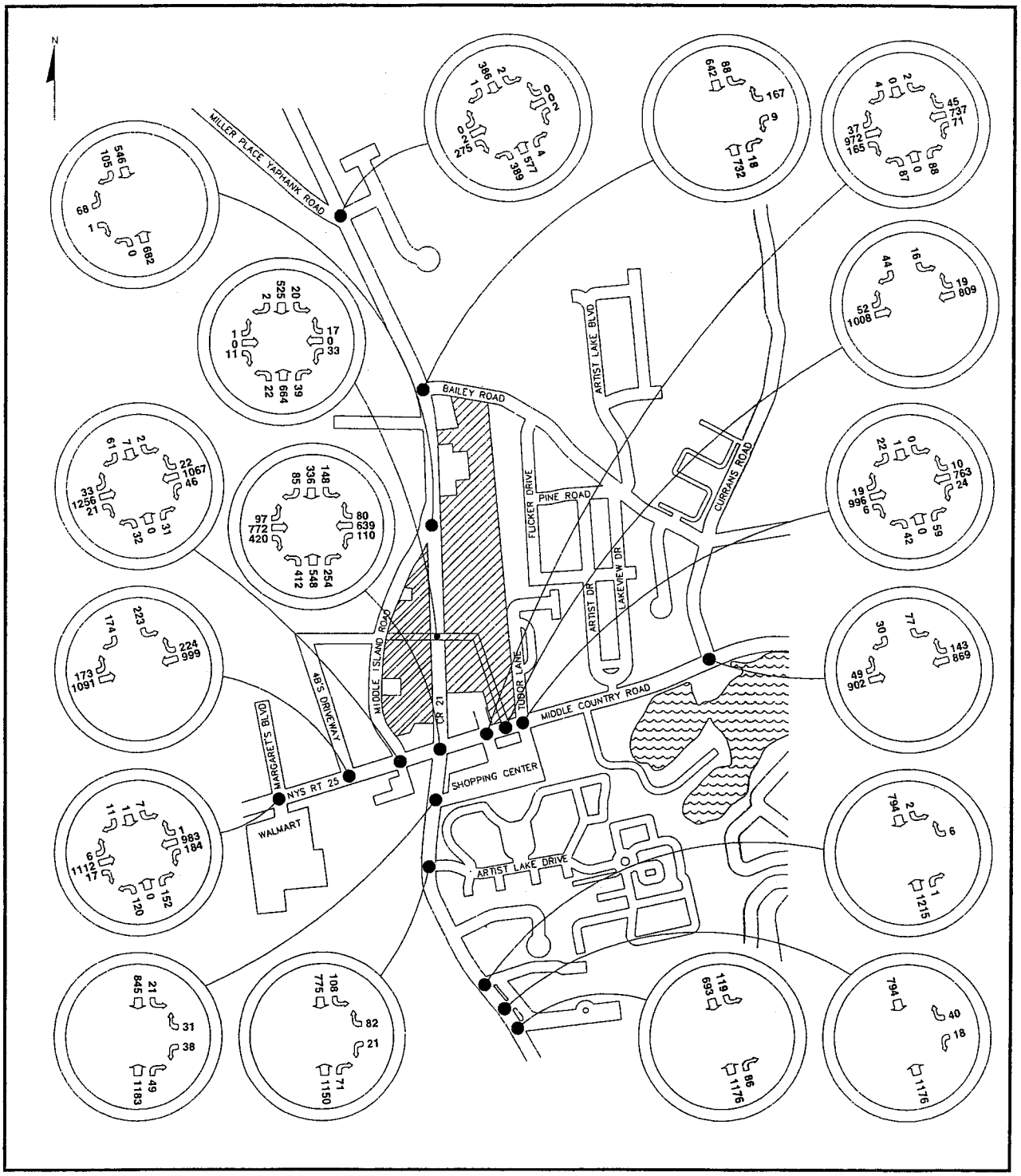


Figure 21: Build Scenario 2 (with Other Planned Projects) PM Peak Hour Traffic Volumes

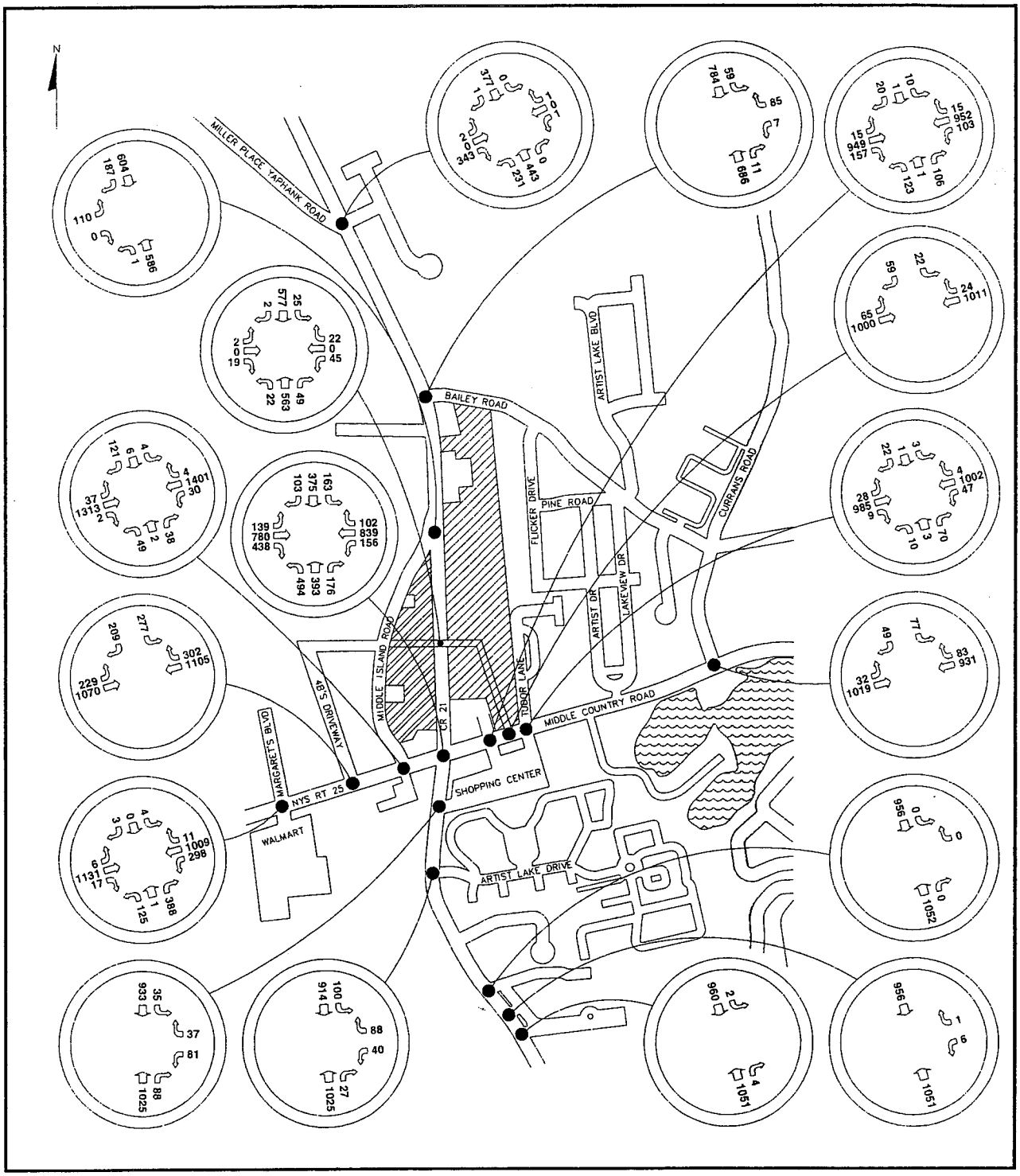


Figure 22: Build Scenario 2 (with Other Planned Projects) Saturday Midday Peak Hour Traffic Volumes

Scenario 2 (With Other Planned Projects) Traffic Impact Analyses

Capacity analyses were conducted for the No Build Scenario 2 and Build Scenario 2 Conditions during the weekday AM, PM and Saturday midday peak hours to identify impacts, if any, created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) if all other planned projects in the study area get built prior to the construction of the proposed projects. The results of the capacity analyses for the No Build Scenario 2 and Build Scenario 2 Conditions were compared to determine the impact that will be created on the study intersections by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes). The following tables summarize the results of the capacity analyses and mitigation measures identified for Scenario 2.

Table 16: Level of Service Summary for Scenario 2 at Signalized Intersections
AM Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Signalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	5.0	A	5.2	A	5.2	A	5.8
		T	A	6.9	A	8.6	A	8.8	A	10.0
		R	A	2.4	A	2.6	A	2.6	A	3.1
	WB	L	A	1.2	A	1.9	A	2.0	A	3.2
		TR	A	0.8	A	1.0	A	1.1	A	1.8
	NB	L	E	60.3	E	60.8	E	60.8	D	36.5
		TR	B	16.1	B	15.1	B	15.1	B	10.8
	SB	LTR	D	41.5	D	40.7	D	40.7	C	25.5
	Overall		**A**	**6.8**	**A**	**7.3**	**A**	**7.3**	**A**	**7.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.3	A	1.4	A	1.4	A	0.6
		TR	A	2.2	A	2.6	A	2.7	A	2.0
	WB	L	A	0.5	A	0.5	A	0.5	A	0.5
		TR	A	1.6	A	2.1	A	2.0	A	1.0
	NB	LT	D	51.0	D	51.0	D	51.0	C	31 0
		R	C	27.4	C	27.4	C	27.2	B	18.2
	SB	LTR	B	18.7	B	18.5	B	18.2	B	12.1
	Overall		**A**	**3.5**	**A**	**3.7**	**A**	**3.7**	**A**	**2.4**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	29.3	C	29.2	C	29.8	C	29.2
		T	D	45.4	D	54.0	E	56.1	D	37.1
		R	A	7.5	B	16.6	B	17.8	B	12.7
	WB	L	C	27.7	D	35.7	D	40.0	E	56.8
		TR	C	28.6	C	30.2	C	32.1	D	38.4
	NB	L	D	46.9	F	123.1	F	123.2	E	64.4
		T	C	30.6	C	34.0	C	34.9	B	15.6
		R	A	3.4	A	3.3	A	3.3	A	1.5
	SB	L	B	18.2	B	19.0	B	19.4	A	9.0
		TR	F	84.4	F	130.6	F	161.4		
		T							E	57.2
		R							A	2.4
	Overall		**D**	**41.2**	**E**	**60.7**	**E**	**68.8**	**D**	**37.9**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	31.0	C	31.2	C	31.2		
	NB	T	A	6..0	A	8.0	A	8.2		
	SB	L	A	2.8	A	3.1	A	3.2		
		T	B	11.1	C	22.3	C	27.1		
	Overall		**B**	**10.2**	**B**	**17.5**	**C**	**20.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.7	C	26.8	C	26.8		
		R	A	9.2	A	8.9	A	8.9		
	NB	T	A	4.0	A	4.9	A	5.1		
	SB	T	A	7.0	B	13.8	B	16.8		
	Overall		**A**	**6.9**	**B**	**11.3**	**B**	**13.2**		

Table 17: Level of Service Summary for Scenario 2 at Unsignalized Intersections
AM Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	0.4	A	0.4	A	0.4
	WB	L	A	8.5	A	9.0	A	9.2	A	8.9
	NB	L	E	45.6	F	120.1	F	157.3	F	96.4
		R	B	10.8	B	11.8	B	12.1	B	11.5
	SB	L	A	0.0	A	0.0	A	0.0	A	0.0
		R	B	14.1	C	15.7	C	16.2	C	16.2
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.1	A	0.1	A	0.1	A	0.1
	WB	LTR	A	0.4	A	0.6	A	0.6	A	0.6
	NB	LTR	C	24.2	F	50.4	F	54.8	F	52.1
	SB	LTR	C	22.3	D	34.7	E	36.2	E	35.3
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.2	A	9.7	A	9.7		
	SB	LR	F	94.8	F	281.4	F	306.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	C	19.9	D	31.2	D	32.6		
	WB	LTR	F	57.2	F	219.4	F	262.4		
	NB	L	A	8.8	A	9.3	A	9.3		
	SB	L	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	D	31.3	F	74.6	F	83.4		
	SB	L	A	8.5	A	8.8	A	8.9		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	19.2	D	28.2	D	30.3		
	NB	LT	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	1157.3	F	*		
	SB	L	A	8.9	A	9.7	A	9.9		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	B	12.2	B	14.1	B	14.4		
	SB	LT	A	2.8	A	5.8	A	6.8		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	2.2	A	3.7	A	4.2		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			A	2.1	A	2.2		
	SB	L			F	282.7	F	352.5		
		R			B	12.0	B	12.2		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	0.6		
	SB	LR					C	23.7		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					D	32.4		
		TR					B	13.9		
	WB	L					E	40.3		
		TR					B	10.9		
	NB	LTR					A	0.2		
	SB	LTR					A	0.2		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					A	9.4		
	WB	LTR					A	9.0		
	NB	LTR					A	0.0		
	SB	LTR					A	0.1		

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

** = The delay is incalculable by the Synchro software*

Table 18: Level of Service Summary for Scenario 2 at Signalized Intersections PM Peak Hour

Signalized Intersection	Approach	Move-ment	2007 Existing Conditions LOS	2007 Existing Conditions Delay (sec.)	2015 No Build Condition with OPD LOS	2015 No Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD LOS	2015 Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD - Mitigation LOS	2015 Build Condition with OPD - Mitigation Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	8.8	B	10.2	B	10.2	A	6.7
		T	B	18.3	E	79.3	F	114.7	E	62.8
		R	A	5.2	A	6.4	A	6.6	A	3.5
	WB	L	C	22.0	E	56.2	E	56.1	F	190.9
		TR	A	2.5	A	3.6	A	3.6	A	4.2
	NB	L	E	72.3	E	73.9	E	73.9	D	46.7
		TR	A	2.0	A	5.0	A	5.7	B	18.3
	SB	LTR	C	29.9	C	28.9	C	28.9	B	18.9
	Overall		**B**	**15.0**	**D**	**43.9**	**E**	**59.6**	**D**	**45.7**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	0.5	A	1.0	A	1.2	A	1.9
		TR	A	3.8	C	22.8	D	54.1	B	16.4
	WB	L	A	3.2	C	23.2	C	23.0	A	6.9
		TR	A	2.6	A	2.5	A	2.9	A	5.9
	NB	LT	E	74.8	E	76.5	E	77.3	D	43.3
		R	B	18.5	B	17.5	B	17.7	B	12.2
	SB	LTR	C	20.1	B	19.8	B	19.9	B	13.1
	Overall		**A**	**5.9**	**B**	**15.0**	**C**	**30.3**	**B**	**12.1**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	B	15.6	C	20.1	C	21.2	B	19.1
		T	E	71.0	F	199.0	F	228.4	C	28.2
		R	A	1.5	A	5.6	A	6.8	A	3.0
	WB	L	C	27.5	D	45.8	E	56.9	D	48.2
		TR	C	26.6	C	29.4	C	30.3	D	35.8
	NB	L	E	60.4	F	258.3	F	258.4	D	49.7
		T	E	63.6	F	90.8	F	113.4	C	33.1
		R	A	8.4	B	15.7	B	18.6	B	10.5
	SB	L	D	37.8	D	40.2	D	40.4	D	44.5
		TR	E	76.5	F	104.4	F	138.2		
		T							E	67.9
		R							A	4.7
	Overall		**D**	**46.6**	**F**	**101.8**	**F**	**114.4**	**C**	**32.5**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.1	C	29.2	C	29.2		
	NB	T	A	2.9	A	4.8	A	5.5		
	SB	L	C	21.0	C	28.1	C	28.1		
		T	A	1.6	A	2.4	A	2.7		
	Overall		**A**	**3.7**	**A**	**5.1**	**A**	**5.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.1	C	26.1	C	25.9		
		R	B	10.3	B	11.4	B	13.4		
	NB	T	A	5.3	A	9.8	B	11.5		
	SB	T	A	3.5	A	4.8	A	5.3		
	Overall		**A**	**5.1**	**A**	**8.0**	**A**	**9.2**		

Table 19: Level of Service Summary for Scenario 2 at Unsignalized Intersections PM Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	1.2	A	2.0	A	2.3	A	1.8
	WB	L	C	15.2	D	26.4	D	29.9	C	20.0
	NB	L	F	*	F	*	F	*	F	*
		R	D	33.3	F	181.4	F	261.2	F	71.4
	SB	L	F	823.9	F	*	F	*	F	*
		R	B	13.3	C	15.2	C	16.0	C	16.0
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	.6	A	0.9	A	0.9	A	0.9
	WB	LTR	A	1.1	A	3.4	A	3.6	A	2.4
	NB	LTR	F	653.5	F	*	F	*	F	*
	SB	LTR	C	20.5	E	48.9	F	54.6	D	30.0
Middle Country Rd (NYS 25) at Currans Rd	EB	L	B	10.3	B	11.4	B	11.5		
	SB	LR	F	208.4	F	667.8	F	742.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	12.6	C	15.2	C	16.0		
	WB	LTR	F	74.2	F	174.7	F	208.4		
	NB	L	A	8.9	A	9.6	A	9.8		
	SB	L	A	8.4	A	8.7	A	8.7		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	20.9	E	35.4	E	38.6		
	SB	L	A	9.2	A	9.9	A	10.0		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	21.9	E	45.7	F	52.3		
	NB	LT	A	0	A	0	A	0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	56.7	F	*	F	*		
	SB	L	B	13.4	F	794.9	F	1362.3		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	C	21.8	F	391.7	F	650.8		
	SB	LT	A	0.1	A	5.2	A	8.9		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	4.8	A	8.2	A	9.3		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			C	16.7	C	20.6		
	SB	L			F	*	F	*		
		R			C	17.4	C	17.9		
Middle Island Road at Sandy Hills Driveway	EB	LT					A	2.5		
	SB	LR					F	1118.1		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	74.1		
		TR					B	12.1		
	WB	L					F	147.4		
		TR					C	16.4		
	NB	LTR					A	0.6		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					A	9.9		
	WB	LTR					A	9.3		
	NB	LTR					A	0.0		
	SB	LTR					A	0.3		

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

** = The delay is incalculable by the Synchro software*

Table 20: Level of Service Summary for Scenario 2 at Signalized Intersections
Saturday Peak Hour

Signalized Intersection	Approach	Move-ment	2007 Existing Conditions LOS	2007 Existing Conditions Delay (sec.)	2015 No Build Condition with OPD LOS	2015 No Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD LOS	2015 Build Condition with OPD Delay (sec.)	2015 Build Condition with Mitigations - OPD LOS	2015 Build Condition with Mitigations - OPD Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	B	10.2	B	10.5	B	10.5	A	8.7
		T	B	19.9	E	71.7	F	98.0	F	98.0
		R	A	5.1	A	6.4	A	6.6	A	4.9
	WB	L	C	30.4	F	145.7	F	157.0	E	71.7
		TR	A	3.1	A	6.6	A	7.0	A	1.7
	NB	L	E	57.1	D	48.9	D	48.2	E	56.4
		TR	C	22.3	D	45.5	D	48.1	D	53.2
	SB	LTR	C	28.3	C	28.1	C	28.0	C	34.6
	Overall		**B**	**18.3**	**D**	**52.2**	**E**	**63.1**	**D**	**54.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.9	A	3.0	A	3.3	A	5.1
		TR	A	4.1	D	38.1	E	67.1	D	36.7
	WB	L	A	3.4	A	1.9	A	1.8	A	2.2
		TR	A	2.5	A	3.4	A	4.0	A	1.9
	NB	LT	E	57.9	E	59.4	E	59.7	D	44.9
		R	B	15.9	B	15.4	B	15.3	B	11.4
	SB	LTR	B	16.0	B	15.4	B	15.1	B	17.3
	Overall		**A**	**5.7**	**C**	**20.5**	**C**	**33.5**	**B**	**19.0**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	21.6	D	36.9	D	48.8	E	60.1
		T	F	83.1	F	247.5	F	288.4	D	35.1
		R	A	2.4	B	12.5	B	15.3	A	4.6
	WB	L	D	38.2	D	44.8	E	57.2	E	73.1
		TR	C	29.2	D	35.6	D	38.5	E	69.9
	NB	L	F	133.0	F	585.1	F	585.1	F	112.1
		T	D	39.4	D	41.8	D	45.9	C	31.6
		R	A	4.2	A	9.5	B	13.1	A	7.3
	SB	L	C	23.8	C	26.3	C	29.4	C	32.0
		TR	E	62.2	F	82.6	F	126.0		
		T							F	117.6
		R							B	15.7
	Overall		**D**	**50.9**	**F**	**143.8**	**F**	**155.4**	**E**	**56.6**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.8	C	30.0	C	30.0		
	NB	T	A	3.8	A	5.5	A	6.7		
	SB	L	A	3.5	C	22.7	C	22.7		
		T	A	2.4	A	3.7	A	4.2		
	Overall		**A**	**3.7**	**A**	**5.9**	**A**	**6.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.0	C	26.0	C	26.0		
		R	C	21.0	C	21.0	C	21.0		
	NB	T	A	1.9	A	3.5	A	4.4		
	SB	T	A	1.7	A	2.3	A	2.6		
	Overall		**A**	**1.9**	**A**	**3.0**	**A**	**3.6**		

Table 21: Level of Service Summary for Scenario 2 at Unsignalized Intersections
Saturday Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
`Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.6	A	1.0	A	1.3	A	1.0
	WB	L	B	14.9	D	25.4	D	30.1	C	23.3
	NB	L	F	*	F	*	F	*	F	*
		R	D	28.9	F	103.4	F	163.8	F	66.9
	SB	L	F	1539.0	F	*	F	*	F	*
		R	C	15.0	C	18.2	C	19.6	C	19.6
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	1.1	A	1.9	A	2.0	A	2.0
	WB	LTR	A	2.4	A	7.9	A	8.6	A	6.7
	NB	LTR	F	58.5	F	*	F	*	F	*
	SB	LTR	F	261.0	F	*	F	*	F	*
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.8	B	11.0	B	11.2		
	SB	LR	F	159.8	F	655.5	F	750.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	13.6	C	19.2	C	21.2		
	WB	LTR	C	23.7	F	52.1	F	65.4		
	NB	L	A	8.3	A	8.9	A	9.0		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	15.1	C	20.5	C	21.8		
	SB	L	A	8.8	A	9.4	A	9.6		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	23.8	F	61.5	F	76.3		
	NB	LT	A	0.0	A	0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	57.9	F	*	F	*		
	SB	L	B	10.2	F	69.3	F	117.6		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	A	0.0	A	0	A	0		
	SB	LT	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	0.1	A	0.1	A	0.1		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			E	38.6	F	54.9		
	SB	L			F	*	F	*		
		R			C	21.1	C	22.4		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	4.1		
	SB	LR					F	*		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	62.1		
		TR					B	12.8		
	WB	L					F	145.2		
		TR					B	14.1		
	NB	LTR					A	0.7		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					B	10.5		
	WB	LTR					A	9.6		
	NB	LTR					A	0.0		
	SB	LTR					A	0.2		

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

** = The delay is incalculable by the Synchro software*

Middle Country Road (NYS 25) at St. Margaret's Boulevard

During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at St. Margaret's Boulevard operates at overall LOS A, D and D during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project, the intersection will continue to operate at No Build LOS conditions during the weekday AM peak hour and will change from LOS D to E during the weekday PM and Saturday midday peak hour. However, optimizing the NYS Route 25 signalized intersection network cycle lengths, signal timings and phasing will mitigate the LOS E to LOS D during the weekday PM and Saturday midday peak hours.

Middle Country Road (NYS 25) at Middle Island Road

During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at Middle Island Road operates at overall LOS A, B and C during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project, the intersection will continue to operate at No Build LOS during the weekday AM and Saturday midday peak hours and will change from LOS B to LOS C during the weekday PM peak hour. However, optimizing the NYS Route 25 signalized intersection network cycle lengths, signal timings and phasing will mitigate the LOS C to LOS B during the weekday PM peak hour.

Middle Country Road (NYS 25) at Rocky Point Road (CR 21)

During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21) operates at LOS E, F and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the poor No Build LOS will be maintained during the analyzed peak periods. In order to improve the operation of this intersection, we recommend that Suffolk County and NYSDOT consider the following improvements:

- Construct a second eastbound NYS 25 through lane between Middle Island Road and the Middle Island shopping center west driveway.

- Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
- Optimize the traffic signal network cycle lengths, phasing and timings

Capacity analyses were conducted at this location for the Build Scenario 2 condition with the recommended improvements. The results of the capacity analyses with the recommended improvements reveal that, the intersection will operate at LOS D, C and E (better than No Build LOS) during the weekday AM, PM and Saturday midday peak hours respectively.

Rocky Point Road (CR 21) at Artist Lake Drive

During the No Build Scenario 2 Condition, the signalized intersection of Rocky Point Road (CR 21) at Artist Lake Drive will operate at LOS B during the weekday AM peak hour and at LOS A during the weekday PM and Saturday midday peak hours. After the completion of the project, the intersection will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS B to LOS C with a 3 second increase in delay during the weekday AM peak hour. The 3 seconds increase in delay should not significantly impact the operation of the intersection; hence no mitigation may be required.

Rocky Point Road (CR 21) at Longwood School Signalized Driveway

During the No Build Scenario 2 Condition, the signalized intersection of Rocky Point Road (CR 21) at Longwood School Signalized Driveway will operate at LOS B during the weekday AM peak hour and at LOS A during the weekday PM and Saturday midday peak hours. After the completion of the project, the intersection will continue to operate at No Build LOS conditions during the analyzed peak hours.

Middle Country Road at Middle Island Shopping Center westerly Driveway

During the No Build Scenario 2 Condition, the eastbound Middle Country Road approach operates at LOS A during the analyzed peak hours and the westbound Middle Country Road approach operates at LOS A, D and D during the weekday AM, weekday PM and Saturday midday peak hours respectively. The northbound left turn movement operates at LOS F during the analyzed peak hours and the northbound right turn movement operates at LOS B during the

weekday AM peak hour, and at LOS F during the weekday PM and Saturday midday peak hours. The southbound left turn movement operates at LOS A during the weekday AM peak hour, and at LOS F during the weekday PM and Saturday midday peak hours. The southbound right turn movement operates at LOS C during the weekday AM, weekday PM and Saturday midday peak hours. After the completion of the project, the approach movements to the intersection will continue to operate at No Build levels of service The traffic movements at the intersection that currently operate at failing levels of service will continue to operate at failing levels of service with increase in delays. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps. However with the mitigation measures recommended at the intersection of Middle Country Road (NYS 25) at Rocky Point Road, this intersection will operate at No Build LOS or better.

Middle Country Road at Tudor Lane/Shopping Center Driveway

During the No Build Scenario 2 Condition, the eastbound and westbound Middle Country Road approaches operate at LOS A and the northbound approach operates at LOS F during the analyzed peak hours. The southbound Tudor Place approach operates at LOS D, E and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the approach movements to the intersection will continue to operate at No Build levels of services except for the southbound Tudor Lane approach that will change from LOS E to LOS F during the weekday PM peak hour. However with the mitigation measures recommended at the intersection of NYS Route 25 and Rocky Point Road, the southbound approach will operate at a LOS D (better than No Build LOS) during the PM peak hour.

Middle Country Road at Currans Road

During the No Build Scenario 2 condition, the eastbound Middle Country Road left turn movement will operate at LOS A during the weekday AM peak hour and at LOS B during the weekday PM and Saturday midday peak hours. The southbound Currans Road approach will

operate at LOS F during the analyzed peak hours. After the completion of the project the intersection approach movements will continue to operate at No Build LOS.

Rocky Point Road (CR 21) at Miller Place Yaphank Road/Andrew Way

During the No Build Scenario 2 condition the northbound and southbound Rocky Point Road (CR 21) approaches operate at LOS A during the analyzed peak hours. The eastbound Miller Place-Yaphank Road approach operates at LOS D during the weekday AM peak hour and at LOS C during the weekday PM and Saturday midday peak hours. The westbound Andrew Way approach operates at LOS F during the weekday AM, PM and Saturday midday peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build LOS.

Rocky Point Road (CR 21) at Bailey Road

During the No Build Scenario 2 condition the southbound Rocky Point Road (CR 21) left turn movement operates at LOS A during the analyzed peak hours. The westbound Bailey Road approach will operate at LOS F, E and C during the weekday AM, PM and Saturday midday peak hours respectively. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Middle Island Road

During the No Build Scenario 2 condition, the northbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. The eastbound Middle Island Road approach operates at LOS D during the weekday AM peak hour, at LOS E during the weekday PM peak hour and at LOS F during the Saturday midday peak hour. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service except for the eastbound Middle Island Road approach that changes from LOS E to LOS F with a 6.6 second increase in delay during the weekday PM peak hour.

Rocky Point Road (CR 21) at Shopping Center Driveway

During the No Build Scenario 2 condition, the southbound Rocky Point Road (CR 21) left turn movement operates at LOS A during the weekday AM peak hour and at LOS F during the weekday PM and Saturday midday peak hours. The westbound Shopping Center driveway approach operates at LOS F during the analyzed peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build LOS.

Rocky Point Road (CR 21) at Longwood Middle School North Driveway

During the No Build Scenario 2 condition, the southbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. The westbound North School driveway approach operates at LOS B, F and A during the weekday AM, PM and Saturday midday peak hours respectively. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Rocky Point Road (CR 21) at Longwood Middle School South Driveway

During the No Build Scenario 2 condition, the southbound Rocky Point Road (CR 21) approach operates at LOS A during the analyzed peak hours. After the completion of the project, all the approach movements at the intersection will continue to operate at No Build levels of service.

Middle Country Road (NYS Route 25 at 4 B's Driveway

Prior to the construction of the proposed projects, the eastbound Middle Country Road approach at the proposed 4 B's driveway will operate at LOS A, C and E during the weekday AM, PM and Saturday midday peak hours respectively. The southbound 4 B's driveway right turn movement will operate with LOS C or better and the southbound left turn movement will operate at LOS F during the analyzed peak hours. After the completion of the proposed projects, the No Build LOS will generally be maintained.

CONCLUSION

Nelson & Pope has investigated the potential traffic impacts associated with the proposed applications to construct the "Condominium at Sandy Hills" and the "Middle Island Townhomes" developments to be located on Middle Island Road (NYS Route 25) in Middle Island, Town of Brookhaven, Suffolk County, New York. The proposed "Condominiums at Sandy Hills" project will be located on the northeast quadrant of the intersection of Middle Country Road (NYS Route 25) and Rocky Point Road (CR 21) on a parcel of land designated as District 200, Section 378, Block 02, Lot 33.3 on the Suffolk County Tax maps and comprised of 135 Condominium/Townhouse units and 13,000 SF of retail space. The proposed "Middle Island Townhomes" project will be located on Rocky Point Road (CR 21) between Middle Island Road and Middle Country Road (NYS Route 25) on a parcel of land designated as District 200, Section 378, Block 01, Lots 8, 12.4 and 13 on the Suffolk County Tax maps and comprised of 92 Condominium/Townhouse units. The following is a summary of this investigation and the findings thereof:

1. The following intersections were studied:

   - Middle Country Road (NYS Route 25) at St. Margaret's Boulevard
   - Middle Country Road (NYS Route 25) at Middle Island Road
   - Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)
   - Middle Country Road (NYS Route 25) at the Shopping Center driveway
   - Middle Country Road (NYS Route 25) at Tudor Lane (adjacent to site)
   - Middle Country Road (NYS Route 25) at Currans Road
   - Rocky Point Road (CR 21) at Miller Place-Yaphank Road
   - Rocky Point Road (CR 21) at Bailey Road
   - Rocky Point Road (CR 21) at Middle Island Road
   - Rocky Point Road (CR 21) at Shopping Center Driveway
   - Rocky Point Road (CR 21) at Artist Lake Drive
   - Rocky Point Road (CR 21)at North Longwood Middle School Driveway
   - Rocky Point Road (CR 21) at Signalized Longwood Middle School Driveway
   - Rocky Point Road (CR 21) at South Longwood Middle School Entering Only Driveway

2. The proposed developments (Condominium at Sandy Hills and Middle Island Townhomes) is projected to generate 160 trips during the AM peak hour (48 entering, 112 exiting), 296

trips during the PM peak hour (167 entering, 129 exiting) and 380 trips during the Saturday midday peak hour (200 entering, 180 exiting).

3. As depicted on the site plan, access to the "Condominiums at Sandy Hills" site will be provided via two full movement driveways; one driveway located on Rocky Point Road (CR 21) and one driveway located on Middle Country Road (NYS Route 25). Access to the "Middle Island Townhomes" site will be provided via one full movement driveway on Rocky Point Road directly opposite the "Condominiums at Sandy Hills" site driveway. This driveway will provide cross-access to the two sites.

4. Capacity analyses were conducted at all the study intersections and site access driveways for the 2007 Existing, 2015 No Build Scenario 1, 2015 Build Scenario 1, 2015 No Build Scenario 2 and 2015 Build Scenario 2 conditions during the weekday AM, weekday PM and Saturday midday peak hours. The Scenario 1 and Scenario 2 analyses conditions are described below:

   - 2015 No Build Scenario 1 Condition – This condition represents the analyses at the study intersections in 2015 assuming no developments get built in the study area. The 2015 No Build Scenario 1 traffic volumes were developed by applying a 1.5% per year growth factor to the 2007 existing traffic volumes for a period of 8 years to account for population growth.

   - 2015 Build Scenario 1 Condition – This condition represents the analyses of the study intersections in 2015 assuming only the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 1 traffic was developed by adding the traffic anticipated to be generated by the proposed projects to the 2015 No Build Scenario 1 traffic volumes.

   - 2015 No Build Scenario 2 Condition – This condition represents the analyses of the study intersections in 2015 assuming only the other planned projects provided to us by the Town of Brookhaven get built in the study area. The 2015 No Build Scenario 2 condition traffic was developed by adding the traffic anticipated to be generated by the other planned projects to the 2015 No Build Scenario 1 traffic volumes.

- 2015 Build Scenario 2 Condition – This condition represents the analyses of the study intersections in 2015 assuming the other planned projects and the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 2 traffic was developed by adding the traffic anticipated to be generated by the proposed projects to the 2015 No Build Scenario 2 traffic volumes.

5. After the completion of the projects under Scenario 1, three (3) of the five (5) signalized intersections studied (Middle Country Road at St. Margaret's Blvd, Middle Country Road at Middle Island Road and Rocky Point Road at Artist Lake Drive) will not experience changes in LOS from the No Build Scenario 1 Condition.

6. After the completion of the project under Scenario 1, the LOS at the intersection of Middle Country Road at Rocky Point Road will change from D to E during the AM peak hour and from E to F during the PM and Saturday midday peak hours. In order to mitigate the impacts created at this intersection, the following improvements may be considered:

   - Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
   - Optimize the traffic signal network cycle lengths, phasing and timings

   With these improvements, the intersection will operate at No Build LOS D, E and E during the weekday AM, PM and Saturday midday peak hours respectively.

7. After the completion of the project under Scenario 1, the intersection of Rocky Point Road at Longwood School signalized driveway will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change form LOS A to LOS B during the weekday AM peak hour with a 1.1 second increase in delay. The 1.1 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.

8. After the completion of the project under Scenario 2, the intersection of Middle Country Road at St. Margaret's Blvd will continue to operate at No Build LOS conditions during the weekday AM peak hour and will change from LOS D to E during the weekday PM and

Saturday midday peak hours. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS E to LOS D during the weekday PM and Saturday midday peak hours.

9. After the completion of the project under Scenario 2, the intersection of Middle Country Road at Middle Island Road will continue to operate at No Build LOS during the weekday AM and Saturday midday peak hours and will change from LOS B to LOS C during the weekday PM peak hour. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS C to LOS B during the weekday PM peak hour.

10. During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road at Rocky Point Road operates at LOS E, F and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the poor No Build LOS will be maintained during the analyzed peak periods. In order to improve the operation of this intersection, we recommend that, Suffolk County and NYSDOT consider the following improvements:

    - Construct a second eastbound NYS 25 through lane between Middle Island Road and the shopping center west driveway.
    - Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
    - Optimize the traffic signal network cycle length, phasing and timings

    With these recommended improvements the intersection will operate at LOS D, C and E (better than No Build LOS) during the weekday AM, PM and Saturday midday peak hours respectively.

11. After the completion of the project under Scenario 2, the intersection of Rocky Point Road at Artist Lake Drive will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS B to LOS C with an increase in delay of 3 seconds during the weekday AM peak hour. The 3 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.

12. After the completion of the project, the intersection of Rocky Point Road and Longwood Middle School signalized driveway will continue to operate at No Build LOS conditions during the analyzed peak hours.

13. The analyses of the unsignalized intersections showed that, the minor approaches of most of the unsignalized intersections currently operates at poor levels of service during the weekday PM and Saturday midday peak hours and will continue to operate at poor levels of service after the construction of the proposed projects. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps. It should be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

Based on the results of the Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Nelson & Pope that, the construction of the proposed developments (Condominiums at Sandy Hills and Middle Island Townhomes) will not result in an adverse traffic impact at the study intersections with the implementation of the proposed mitigation measures.

Appendix A: Existing Traffic Volume

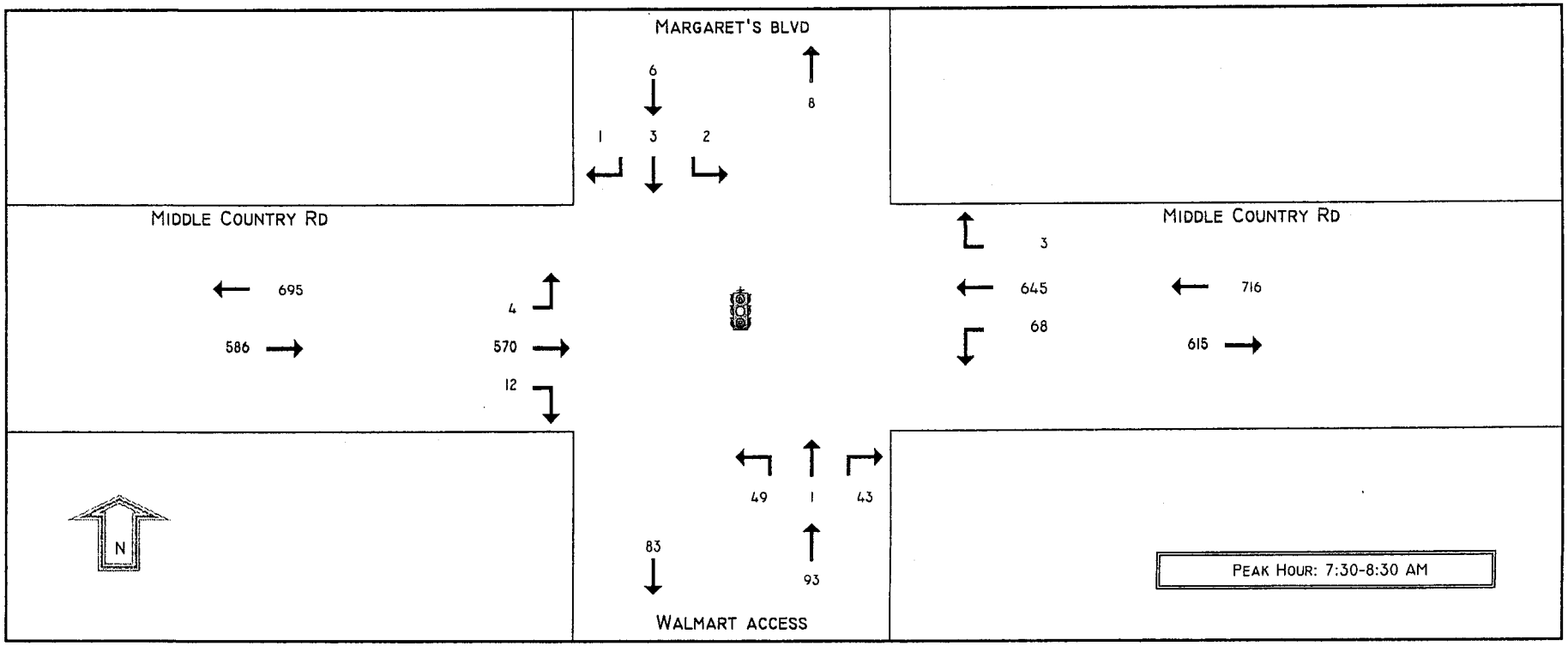
INTERSECTION: MIDDLE COUNTRY RD @ WALMART ACCESS

DATE COLLECTED: 5/22/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	1	128	0	0	129	0	16	150	2	0	168	0	6	0	3	3	12	0	0	0	0	0	0	309	
7:15 AM	0	0	150	0	0	150	0	8	140	0	0	148	0	7	2	0	6	15	0	4	0	0	0	4	317	
7:30 AM	0	1	146	5	1	153	0	13	176	1	0	190	0	7	0	2	8	17	0	1	0	0	1	2	362	
7:45 AM	0	1	134	2	0	137	0	30	145	0	0	175	0	11	0	2	9	22	0	0	0	0	0	0	334	1322
8:00 AM	0	0	148	2	0	150	0	17	160	1	0	178	0	14	0	3	7	24	0	1	3	0	0	4	356	1369
8:15 AM	0	2	142	2	0	146	0	8	164	1	0	173	0	17	1	4	8	30	0	0	0	0	0	0	349	1401
8:30 AM	0	2	145	5	0	152	0	22	152	2	0	176	0	12	2	7	5	26	0	3	1	0	0	4	358	1397
8:45 AM	0	6	125	2	0	133	0	37	144	3	0	184	0	9	0	5	8	22	0	2	0	1	0	3	342	1405
PEAK HOUR: 7:30-8:30 AM	0	4	570	11	1	586	0	68	645	3	0	716	0	49	1	11	32	93	0	2	3	0	1	6	1401	
PHF						0.96						0.94						0.78						0.38		
SEASONAL ADJUSTMENT FACTOR = 1	0	4	570	11	1	586	0	68	645	3	0	716	0	49	1	11	32	93	0	2	3	0	1	6		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	4	638	12	1	656	0	76	722	3	0	802	0	55	1	12	36	104	0	2	3	0	1	7		



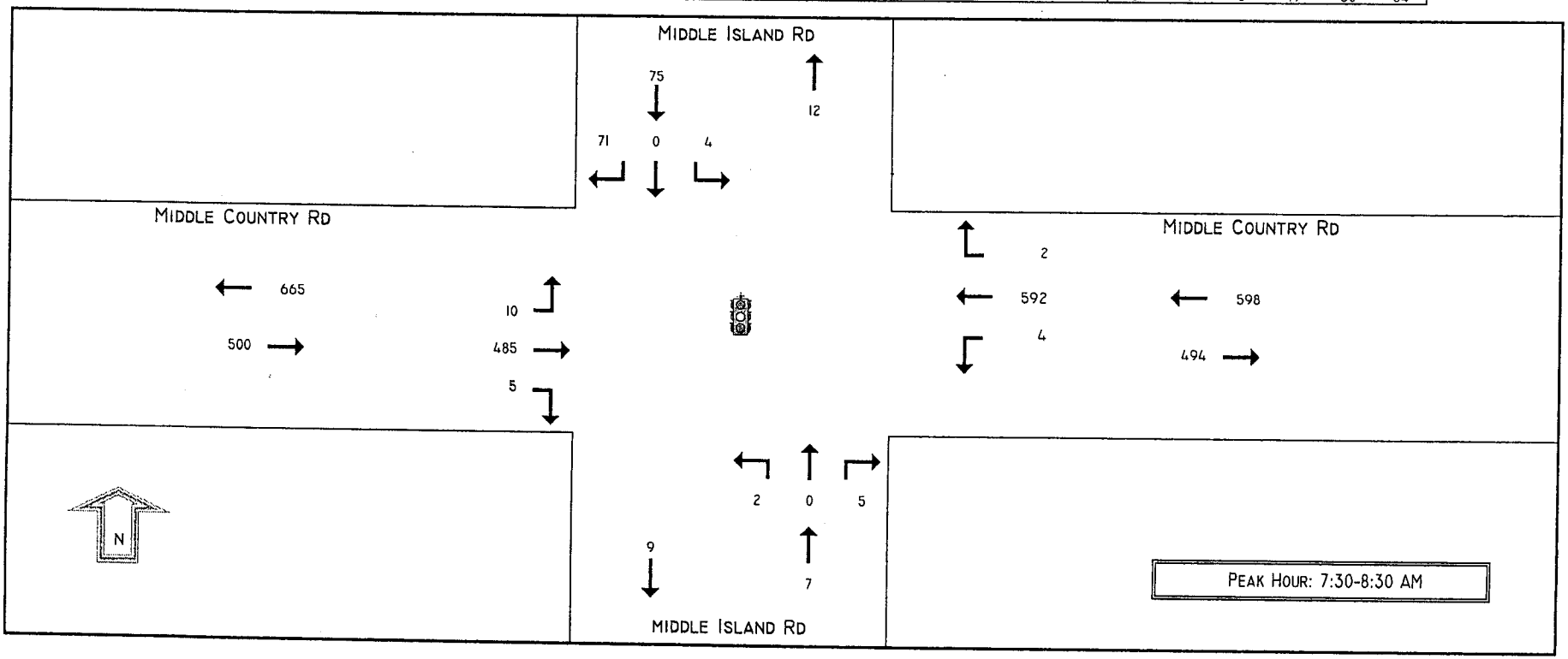
INTERSECTION: MIDDLE COUNTRY RD @ MIDDLE ISLAND RD

DATE COLLECTED: 3/20/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	103	0	0	103	0	1	144	0	0	145	0	0	0	1	0	1	0	2	0	5	7	14	263	
7:15 AM	0	0	139	0	0	139	0	0	139	1	0	140	0	0	0	0	0	0	0	0	0	3	6	9	288	
7:30 AM	0	3	133	0	0	136	0	0	163	0	0	163	0	0	0	0	0	0	0	2	0	4	21	27	326	
7:45 AM	0	1	132	2	0	135	0	2	144	1	0	147	0	1	0	0	2	3	0	0	0	5	10	15	300	1177
8:00 AM	0	5	115	1	0	121	0	1	136	0	0	137	0	0	0	0	1	1	0	1	0	2	7	10	269	1183
8:15 AM	0	1	105	2	0	108	0	1	149	1	0	151	0	1	0	1	1	3	0	1	0	6	16	23	285	1180
8:30 AM	0	0	119	3	0	122	0	5	143	0	0	148	0	1	0	0	0	1	0	1	0	5	8	14	285	1139
8:45 AM	0	3	124	8	0	135	0	14	151	1	0	166	0	2	0	0	1	3	0	1	0	6	22	29	333	1172
PEAK HOUR: 7:30-8:30 AM	0	10	485	5	0	500	0	4	592	2	0	598	0	2	0	1	4	7	0	4	0	17	54	75	1180	
PHF						0.92						0.92						0.58						0.69		
SEASONAL ADJUSTMENT FACTOR = 1	0	10	485	5	0	500	0	4	592	2	0	598	0	2	0	1	4	7	0	4	0	17	54	75		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	11	543	6	0	560	0	4	663	2	0	670	0	2	0	1	4	8	0	4	0	19	60	84		



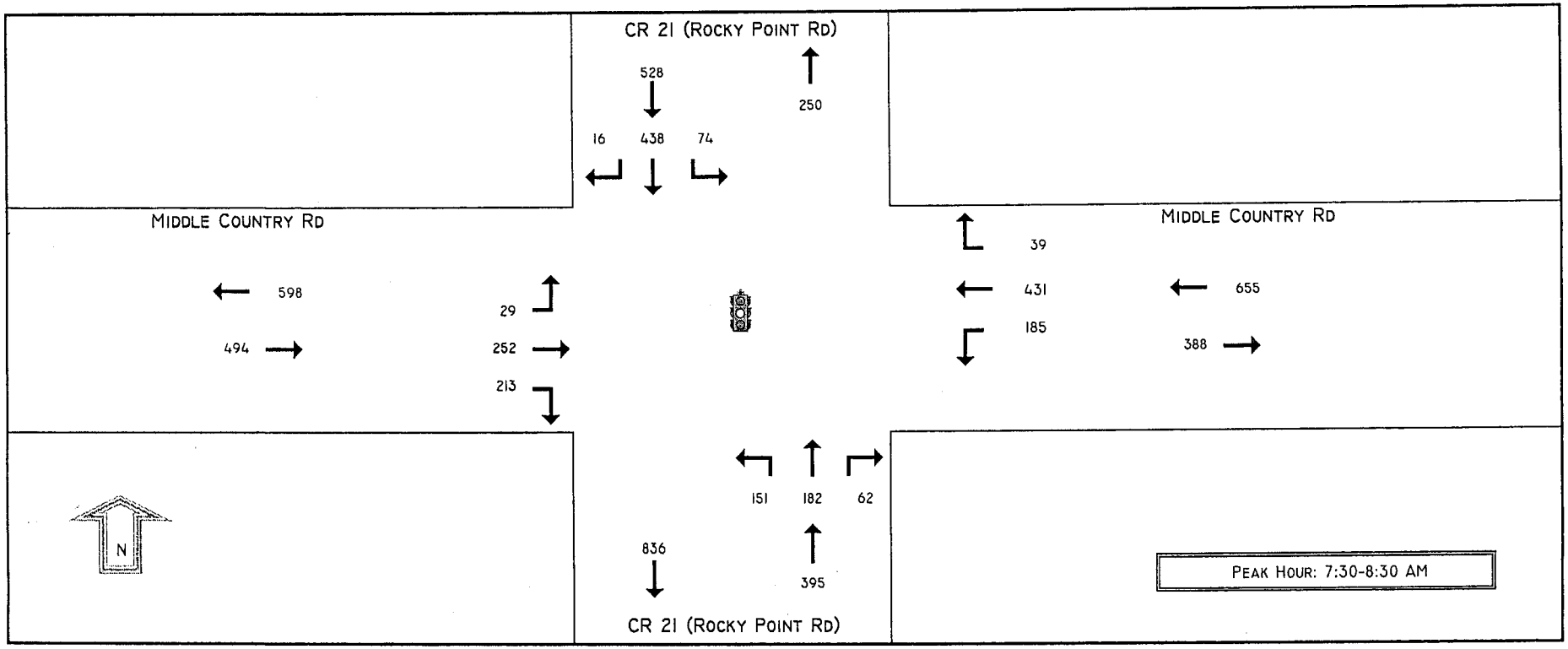
INTERSECTION: MIDDLE COUNTRY RD @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 3/20/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	6	63	36	1	106	0	35	89	4	0	128	0	55	39	12	1	107	0	8	111	1	0	120	461	
7:15 AM	0	7	85	40	7	139	0	38	89	9	1	137	0	49	39	5	7	100	0	10	110	2	0	122	498	
7:30 AM	0	4	61	64	6	135	0	50	128	10	1	189	0	33	39	11	3	86	0	18	124	1	1	144	554	
7:45 AM	0	11	65	54	4	134	0	43	104	8	1	156	0	39	47	16	0	102	0	24	128	4	0	156	548	2061
8:00 AM	0	9	64	44	0	117	0	47	104	8	0	159	0	29	33	9	0	71	0	8	98	4	0	110	457	2057
8:15 AM	0	5	62	40	1	108	0	45	95	11	0	151	0	50	63	23	0	136	0	24	88	6	0	118	513	2072
8:30 AM	0	7	72	35	6	120	0	39	103	18	0	160	0	41	52	18	1	112	0	18	71	4	0	93	485	2003
8:45 AM	0	8	86	31	1	126	0	25	99	16	0	140	0	52	37	16	2	107	0	22	103	15	0	140	513	1968
PEAK HOUR: 7:30-8:30 AM	0	29	252	202	11	494	0	185	431	37	2	655	0	151	182	59	3	395	0	74	438	15	1	528	2072	
PHF						0.91						0.87						0.73						0.85		
SEASONAL ADJUSTMENT FACTOR = 1	0	29	252	202	11	494	0	185	431	37	2	655	0	151	182	59	3	395	0	74	438	15	1	528		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	32	282	226	12	553	0	207	483	41	2	734	0	169	204	66	3	442	0	83	491	17	1	591		



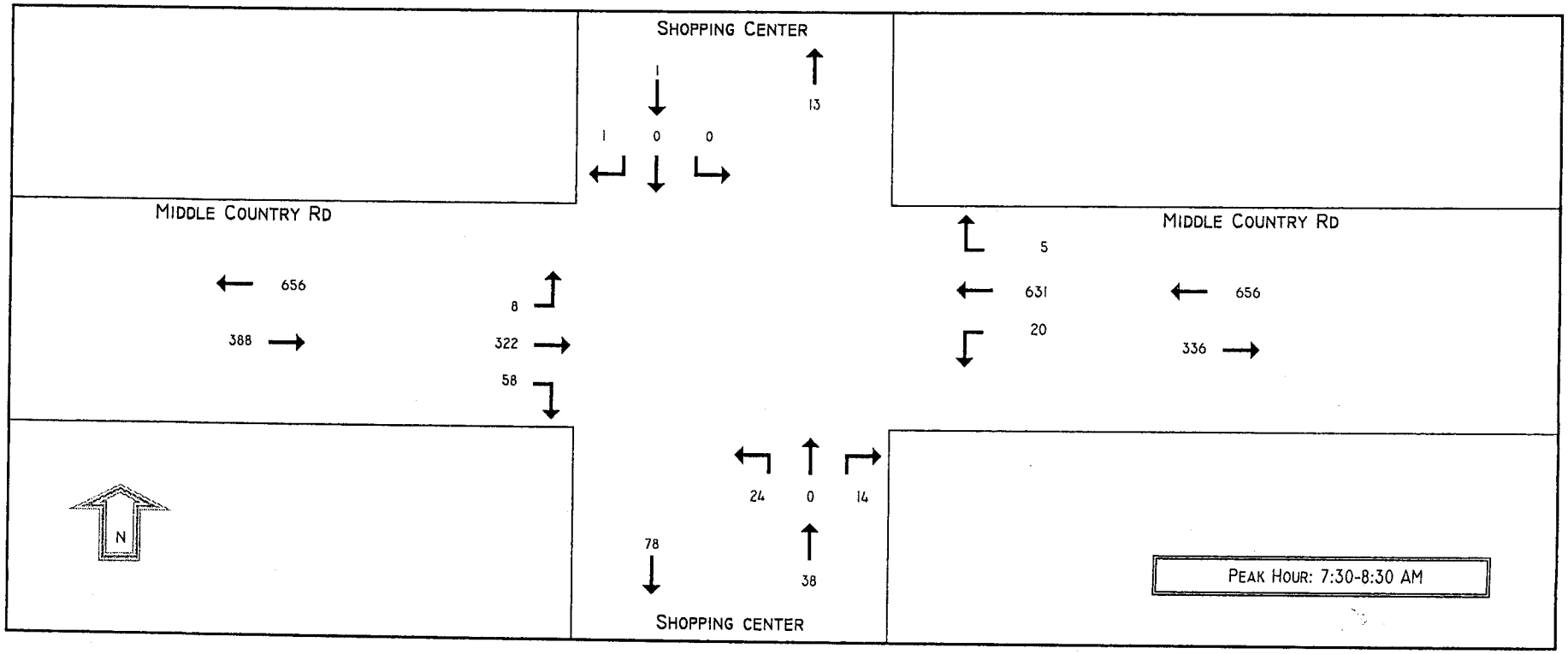
INTERSECTION: MIDDLE COUNTRY RD @ SHOPPING CENTER

DATE COLLECTED: 3/20/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	77	7	0	84	0	2	125	0	0	127	0	3	1	4	0	8	0	0	0	0	0	0	219	
7:15 AM	0	0	98	9	0	107	0	9	131	0	0	140	0	6	0	1	0	7	0	0	0	0	0	0	254	
7:30 AM	0	2	76	15	0	93	0	7	185	1	0	193	0	4	0	4	0	8	0	0	0	0	0	0	294	
7:45 AM	0	1	89	15	0	105	0	2	148	3	0	153	0	8	0	4	0	12	0	0	0	0	0	0	270	1037
8:00 AM	0	0	68	13	0	81	0	7	151	0	0	158	0	8	0	2	0	10	0	0	0	0	0	0	249	1067
8:15 AM	0	5	89	15	0	109	0	4	147	1	0	152	0	4	0	4	0	8	0	0	0	1	0	1	270	1083
8:30 AM	0	2	91	16	0	109	0	10	146	3	0	159	0	11	0	6	0	17	0	1	0	3	0	4	289	1078
8:45 AM	0	0	114	12	0	126	0	12	124	5	0	141	0	14	0	9	0	23	0	1	0	2	0	3	293	1101
PEAK HOUR: 7:30-8:30 AM	0	8	322	58	0	388	0	20	631	5	0	656	0	24	0	14	0	38	0	0	0	1	0	1	1083	
PHF						0.89						0.85						0.79						0.25		
SEASONAL ADJUSTMENT FACTOR = 1	0	8	322	58	0	388	0	20	631	5	0	656	0	24	0	14	0	38	0	0	0	1	0	1		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	9	361	65	0	435	0	22	707	6	0	735	0	27	0	16	0	43	0	0	0	1	0	1		



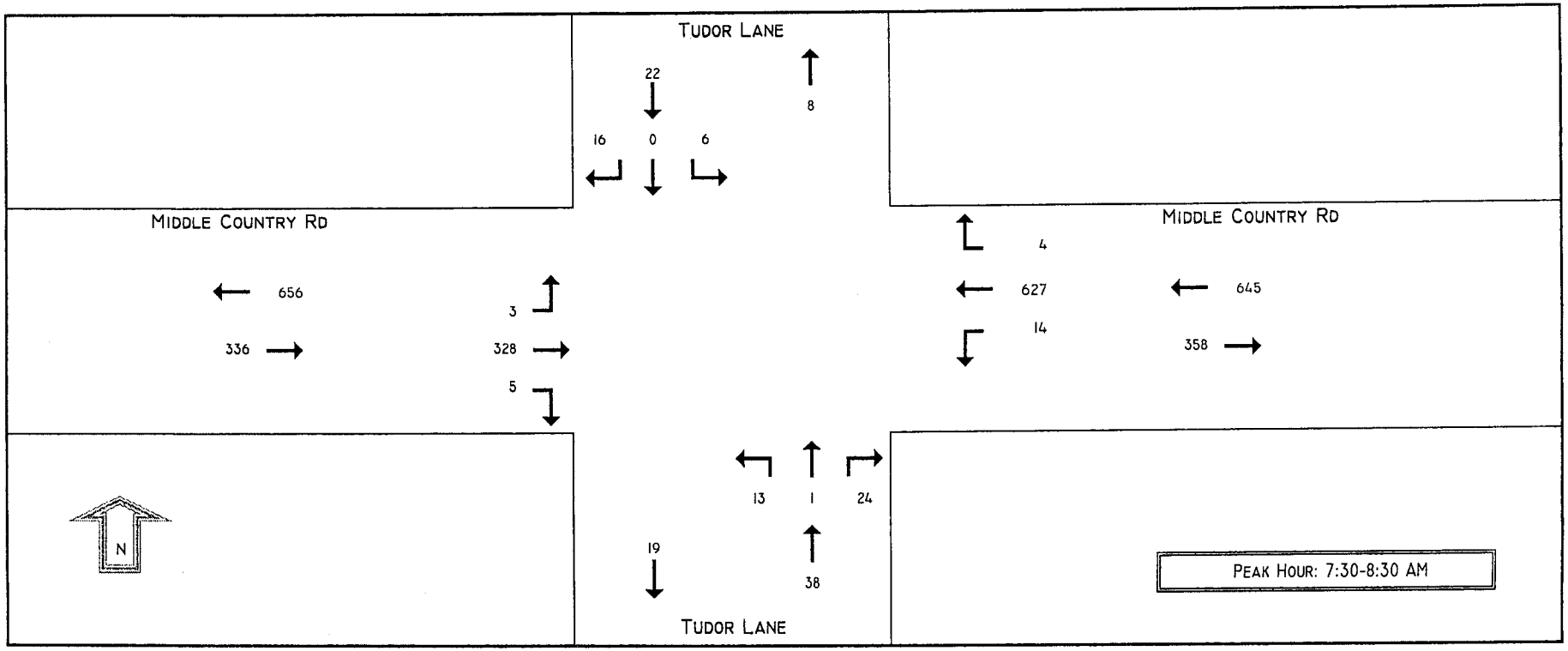
INTERSECTION: MIDDLE COUNTRY RD @ TUDOR LANE

DATE COLLECTED: 3/20/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	81	0	0	81	0	4	121	1	0	126	0	0	0	0	0	0	0	1	0	6	0	7	214	
7:15 AM	0	0	93	6	0	99	0	5	134	1	0	140	0	5	0	3	0	8	0	0	0	1	0	1	248	
7:30 AM	0	1	76	3	0	80	0	5	184	0	0	189	0	4	0	6	0	10	0	2	0	5	0	7	286	
7:45 AM	0	0	93	0	0	93	0	2	152	1	0	155	0	0	0	0	0	0	0	0	0	1	0	1	249	997
8:00 AM	0	0	68	2	0	70	0	2	145	1	0	148	0	6	1	13	0	20	0	3	0	7	0	10	248	1031
8:15 AM	0	2	91	0	0	93	0	5	146	2	0	153	0	3	0	5	0	8	0	1	0	3	0	4	258	1041
8:30 AM	0	0	97	1	0	98	0	2	153	2	0	157	0	3	0	1	0	4	0	1	0	3	0	4	263	1018
8:45 AM	0	0	122	2	0	124	0	6	126	0	0	132	0	1	0	4	0	5	0	0	0	14	0	14	275	1044
PEAK HOUR: 7:30-8:30 AM	0	3	328	5	0	336	0	14	627	4	0	645	0	13	1	24	0	38	0	6	0	16	0	22	1041	
PHF						0.90						0.85						0.48						0.55		
SEASONAL ADJUSTMENT FACTOR = 1	0	3	328	5	0	336	0	14	627	4	0	645	0	13	1	24	0	38	0	6	0	16	0	22		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	3	367	6	0	376	0	16	702	4	0	722	0	15	1	27	0	43	0	7	0	18	0	25		



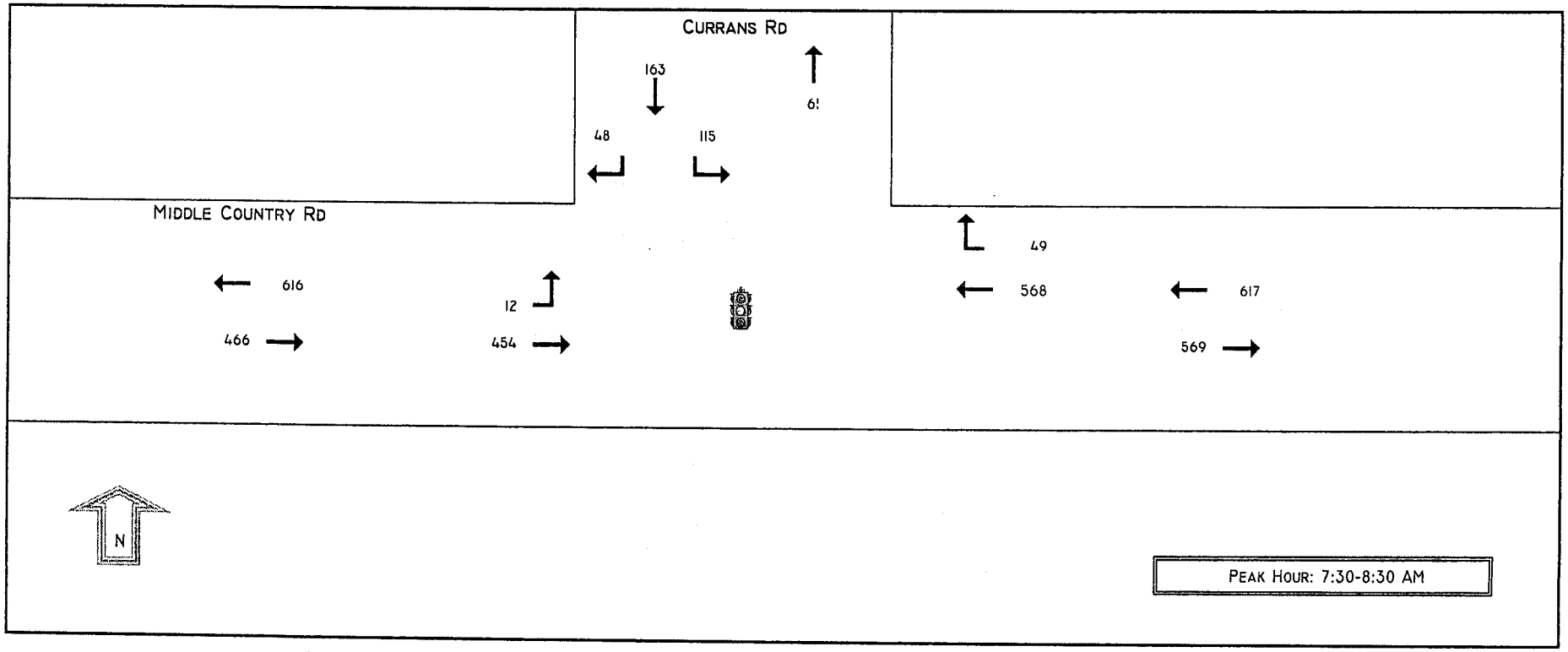
INTERSECTION: MIDDLE COUNTRY RD @ CURRANS RD

DATE COLLECTED: 6/12/07 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	2	57	0	0	59	0	0	103	11	0	114	0	0	0	0	0	0	0	13	0	6	0	19	192	
7:15 AM	0	2	84	0	0	86	0	0	168	22	0	190	0	0	0	0	0	0	0	17	0	13	0	30	306	
7:30 AM	0	2	101	0	0	103	0	0	171	13	0	184	0	0	0	0	0	0	0	35	0	16	0	51	338	
7:45 AM	0	2	107	0	0	109	0	0	141	14	0	155	0	0	0	0	0	0	0	28	0	10	0	38	302	1138
8:00 AM	0	4	138	0	0	142	0	0	139	13	0	152	0	0	0	0	0	0	0	27	0	12	0	39	333	1279
8:15 AM	0	4	108	0	0	112	0	0	117	9	0	126	0	0	0	0	0	0	0	25	0	10	0	35	273	1246
8:30 AM	0	10	137	0	0	147	0	0	126	16	0	142	0	0	0	0	0	0	0	27	0	10	0	37	326	1234
8:45 AM	0	5	91	0	0	96	0	0	144	15	0	159	0	0	0	0	0	0	0	18	0	11	0	29	284	1216
PEAK HOUR: 7:30-8:30 AM	0	12	454	0	0	466	0	0	568	49	0	617	0	0	0	0	0	0	0	115	0	48	0	163	1246	
PHF						0.82						0.84						####						0.80		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	12	454	0	0	466	0	0	568	49	0	617	0	0	0	0	0	0	0	115	0	48	0	163		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	13	508	0	0	522	0	0	636	55	0	691	0	0	0	0	0	0	0	129	0	54	0	183		



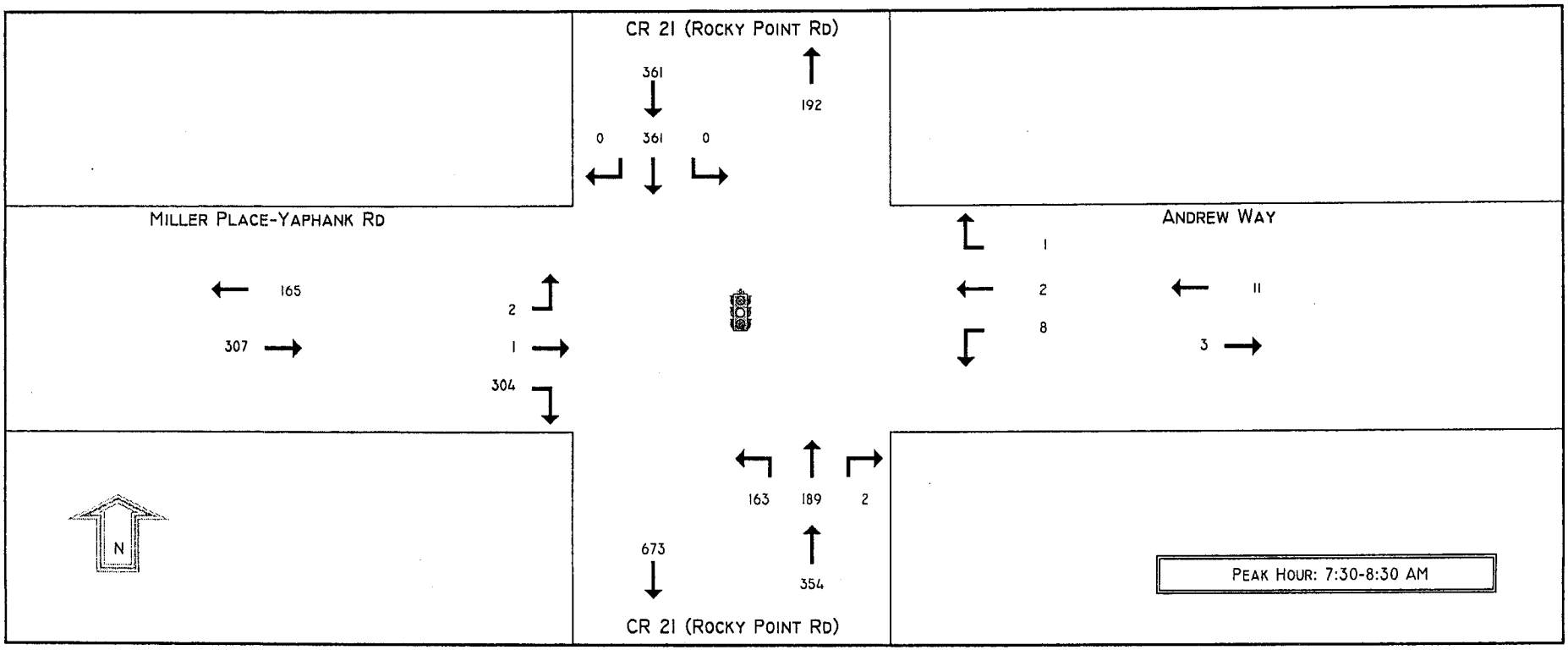
INTERSECTION: MILLER PLACE-YAPHANK RD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/07 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	75	0	75	0	1	0	0	0	1	0	43	43	0	0	86	0	0	95	0	0	95	257	
7:15 AM	0	0	0	90	0	90	0	2	0	0	0	2	0	60	44	2	0	106	0	0	101	0	0	101	299	
7:30 AM	0	0	1	99	0	100	0	3	1	1	0	5	0	40	49	1	0	90	0	0	91	0	0	91	286	
7:45 AM	0	0	0	90	0	90	0	2	1	0	0	3	0	45	40	1	0	86	0	0	82	0	0	82	261	1103
8:00 AM	0	1	0	69	0	70	0	3	0	0	0	3	0	41	36	0	0	77	0	0	82	0	0	82	232	1078
8:15 AM	0	1	0	46	0	47	0	0	0	0	0	0	0	37	64	0	0	101	0	0	106	0	0	106	254	1033
8:30 AM	0	0	0	50	0	50	0	1	1	0	0	2	0	48	69	0	0	117	0	0	89	0	0	89	258	1005
8:45 AM	0	1	0	36	0	37	0	2	0	1	0	3	0	49	61	0	0	110	0	1	75	0	0	76	226	970
PEAK HOUR: 7:30-8:30 AM	0	2	1	304	0	307	0	8	2	1	0	11	0	163	189	2	0	354	0	0	361	0	0	361	1033	
PHF						0.77						0.55						0.88						0.85		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	2	1	304	0	307	0	8	2	1	0	11	0	163	189	2	0	354	0	0	361	0	0	361		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	2	1	340	0	344	0	9	2	1	0	12	0	183	212	2	0	396	0	0	404	0	0	404		



TURNING MOVEMENT DATA

NELSON & POPE

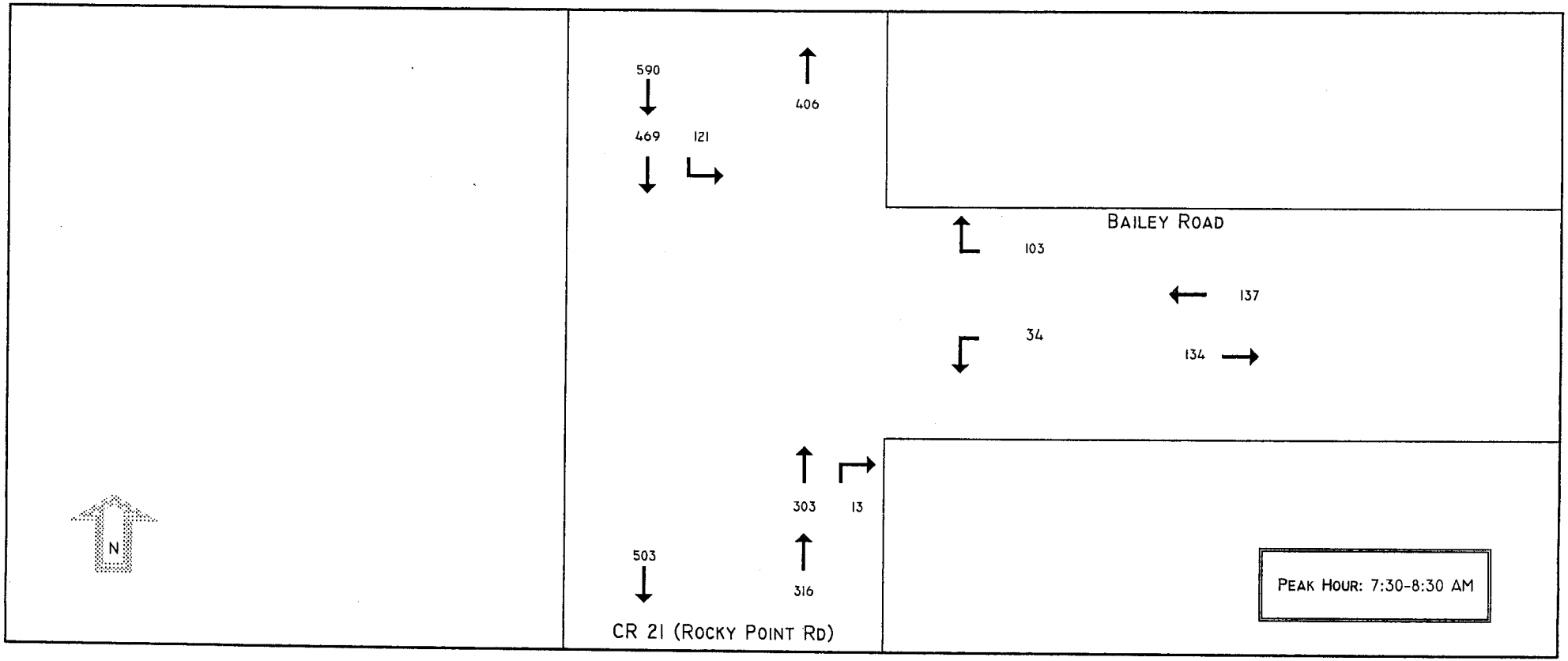
INTERSECTION: BAILEY ROAD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 3/20/2007 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	11	0	41	0	52	0	0	55	1	0	56	0	31	111	0	0	142	250	
7:15 AM	0	0	0	0	0	0	0	12	0	39	0	51	0	0	65	1	0	66	0	27	109	0	0	136	253	
7:30 AM	0	0	0	0	0	0	0	12	0	41	0	53	0	0	61	2	0	63	0	28	129	0	0	157	273	
7:45 AM	0	0	0	0	0	0	0	14	0	28	0	42	0	0	83	4	0	87	0	30	148	0	0	178	307	1083
8:00 AM	0	0	0	0	0	0	0	5	0	15	0	20	0	0	74	5	0	79	0	32	106	0	0	138	237	1070
8:15 AM	0	0	0	0	0	0	0	3	0	19	0	22	0	0	85	2	0	87	0	31	86	0	0	117	226	1043
8:30 AM	0	0	0	0	0	0	0	5	0	14	0	19	0	0	86	3	0	89	0	20	99	0	0	119	227	997
8:45 AM	0	0	0	0	0	0	0	15	0	33	0	48	0	0	75	4	0	79	0	38	126	0	0	164	291	981
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	34	0	103	0	137	0	0	303	13	0	316	0	121	469	0	0	590	1043	
PHF						####						0.65						0.91						0.83		
SEASONAL ADJUSTMENT FACTOR = 1	0	0	0	0	0	0	0	34	0	103	0	137	0	0	303	13	0	316	0	121	469	0	0	590		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	38	0	115	0	153	0	0	339	15	0	354	0	136	525	0	0	661		



I:\2000\00088\TRAFFIC\Counts\final network\Weekday_AM.xls

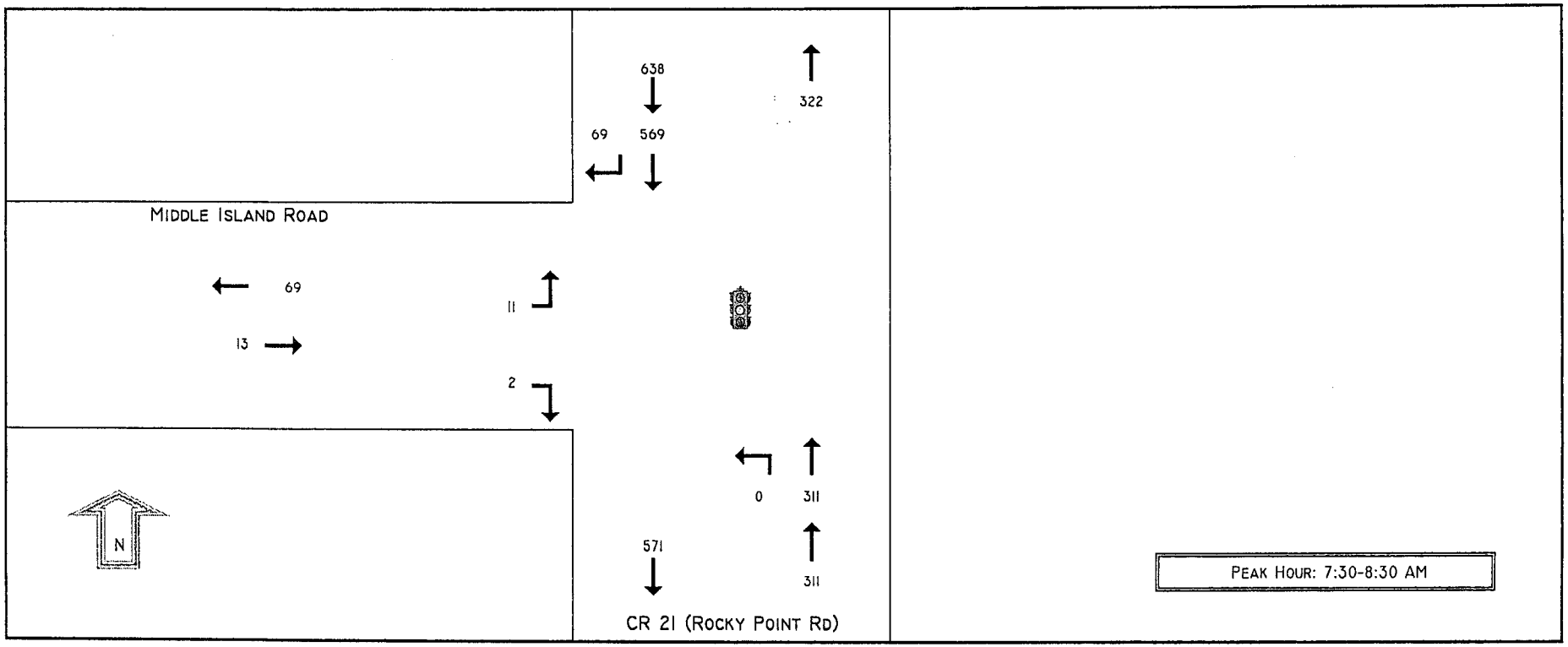
INTERSECTION: MIDDLE ISLAND ROAD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/07 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	67	0	0	67	0	0	112	12	0	124	193	
7:15 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	63	0	0	63	0	0	118	7	0	125	191	
7:30 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	89	0	0	89	0	0	148	15	0	163	255	
7:45 AM	0	4	0	1	0	5	0	0	0	0	0	0	0	0	75	0	0	75	0	0	149	22	0	171	251	890
8:00 AM	0	2	0	1	0	3	0	0	0	0	0	0	0	0	77	0	0	77	0	0	132	12	0	144	224	921
8:15 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	70	0	0	70	0	0	140	20	0	160	232	962
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	82	0	0	82	0	0	116	18	0	134	217	924
8:45 AM	0	4	0	1	0	5	0	0	0	0	0	0	0	0	92	0	0	92	0	0	110	14	0	124	221	894
PEAK HOUR: 7:30-8:30 AM	0	11	0	2	0	13	0	0	0	0	0	0	0	0	311	0	0	311	0	0	569	69	0	638	962	
PHF						0.65						####						0.87						0.93		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	11	0	2	0	13	0	0	0	0	0	0	0	0	311	0	0	311	0	0	569	69	0	638		
2015 AMBIENT NO BUILD =1.12*ROW 20	0	12	0	2	0	15	0	0	0	0	0	0	0	0	348	0	0	348	0	0	637	77	0	715		



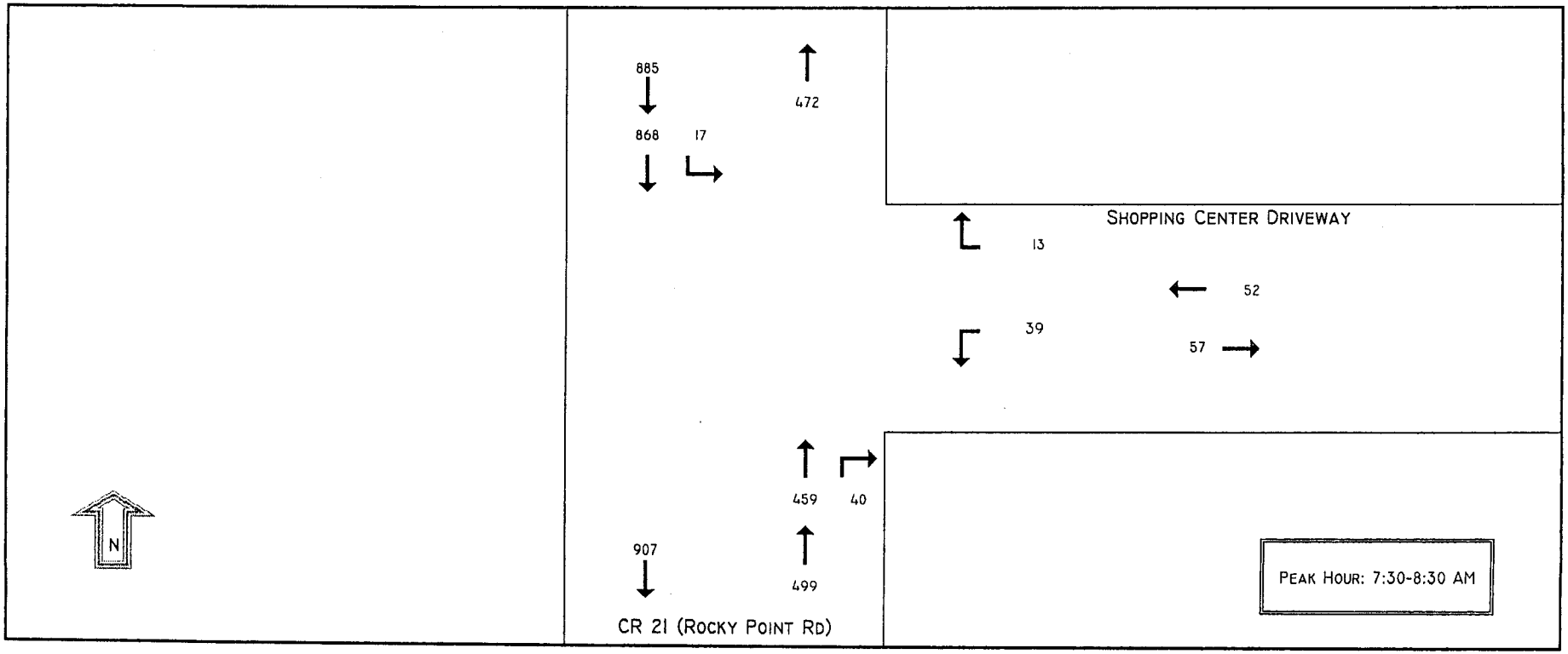
INTERSECTION: SHOPPING CENTER DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 5/22/2007 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	7	0	2	0	9	0	0	115	19	0	134	0	2	194	0	0	196	339	
7:15 AM	0	0	0	0	0	0	0	8	0	7	0	15	0	0	123	8	0	131	0	1	200	0	0	201	347	
7:30 AM	0	0	0	0	0	0	0	10	0	9	0	19	0	0	85	7	0	92	0	7	257	0	0	264	375	
7:45 AM	0	0	0	0	0	0	0	7	0	1	0	8	0	0	116	10	0	126	0	5	233	0	0	238	372	1433
8:00 AM	0	0	0	0	0	0	0	10	0	0	0	10	0	0	124	10	0	134	0	2	207	0	0	209	353	1447
8:15 AM	0	0	0	0	0	0	0	12	0	3	0	15	0	0	134	13	0	147	0	3	171	0	0	174	336	1436
8:30 AM	0	0	0	0	0	0	0	6	0	7	0	13	0	0	121	8	0	129	0	1	194	0	0	195	337	1398
8:45 AM	0	0	0	0	0	0	0	6	0	6	0	12	0	0	120	6	0	126	0	1	171	0	0	172	310	1336
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	39	0	13	0	52	0	0	459	40	0	499	0	17	868	0	0	885	1436	
PHF						####						0.68						0.85						0.84		
SEASONAL ADJUSTMENT	0	0	0	0	0	0	0	39	0	13	0	52	0	0	459	40	0	499	0	17	868	0	0	885		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	44	0	15	0	58	0	0	514	45	0	559	0	19	972	0	0	991		



TURNING MOVEMENT DATA

NELSON & POPE

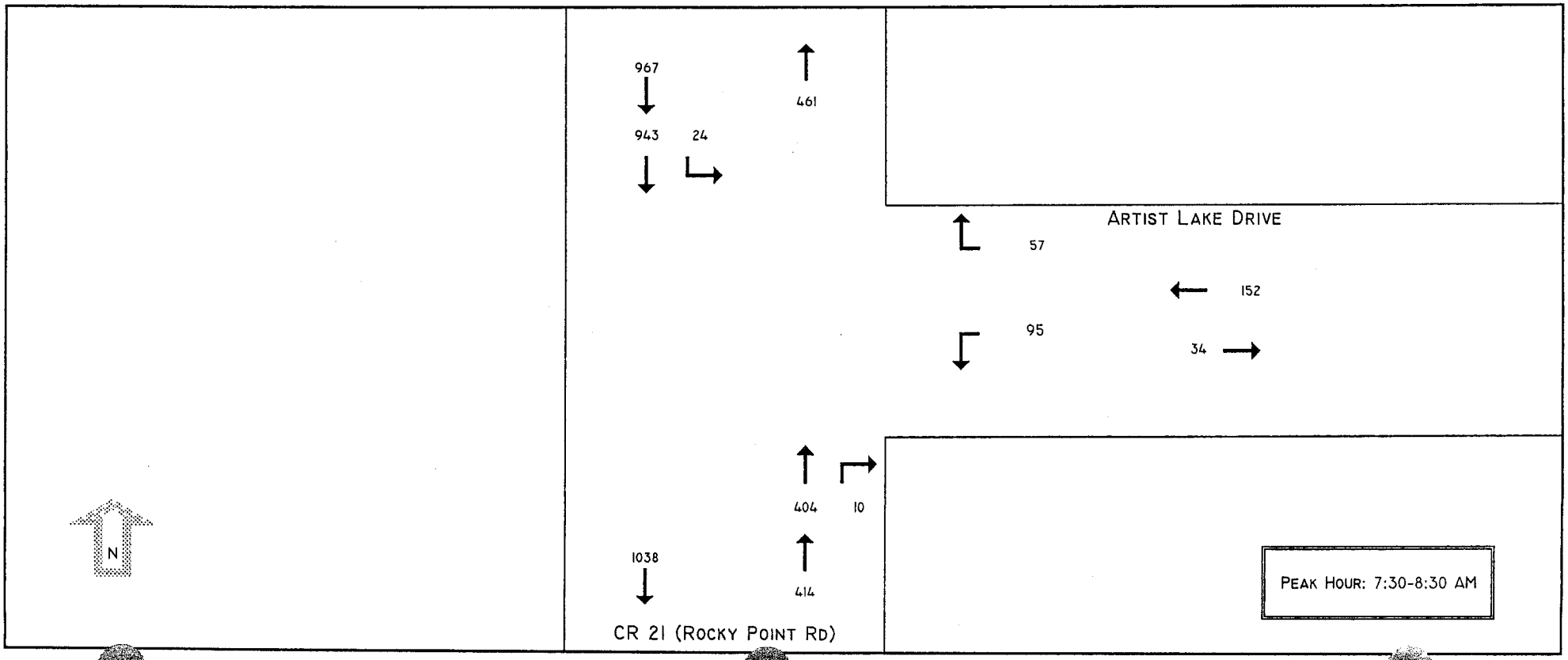
INTERSECTION: ARTIST LAKE DRIVE @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	25	0	15	0	40	0	0	74	3	0	77	0	4	167	0	0	171	288	
7:15 AM	0	0	0	0	0	0	0	23	0	22	0	45	0	0	97	2	0	99	0	6	194	0	0	200	344	
7:30 AM	0	0	0	0	0	0	0	26	0	14	0	40	0	0	84	3	0	87	0	4	279	0	0	283	410	
7:45 AM	0	0	0	0	0	0	0	23	0	11	0	34	0	0	107	1	0	108	0	8	245	0	0	253	395	1437
8:00 AM	0	0	0	0	0	0	0	29	0	10	0	39	0	0	96	5	0	101	0	5	200	0	0	205	345	1494
8:15 AM	0	0	0	0	0	0	0	17	0	22	0	39	0	0	117	1	0	118	0	7	219	0	0	226	383	1533
8:30 AM	0	0	0	0	0	0	0	18	0	24	0	42	0	0	145	3	0	148	0	5	140	0	0	145	335	1458
8:45 AM	0	0	0	0	0	0	0	15	0	15	0	30	0	0	110	4	0	114	0	9	158	0	0	167	311	1374
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	95	0	57	0	152	0	0	404	10	0	414	0	24	943	0	0	967	1533	
PHF						####						0.95						0.88						0.85		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	95	0	57	0	152	0	0	404	10	0	414	0	24	943	0	0	967		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	106	0	64	0	170	0	0	452	11	0	464	0	27	1056	0	0	1083		



TURNING MOVEMENT DATA

NELSON & POPE

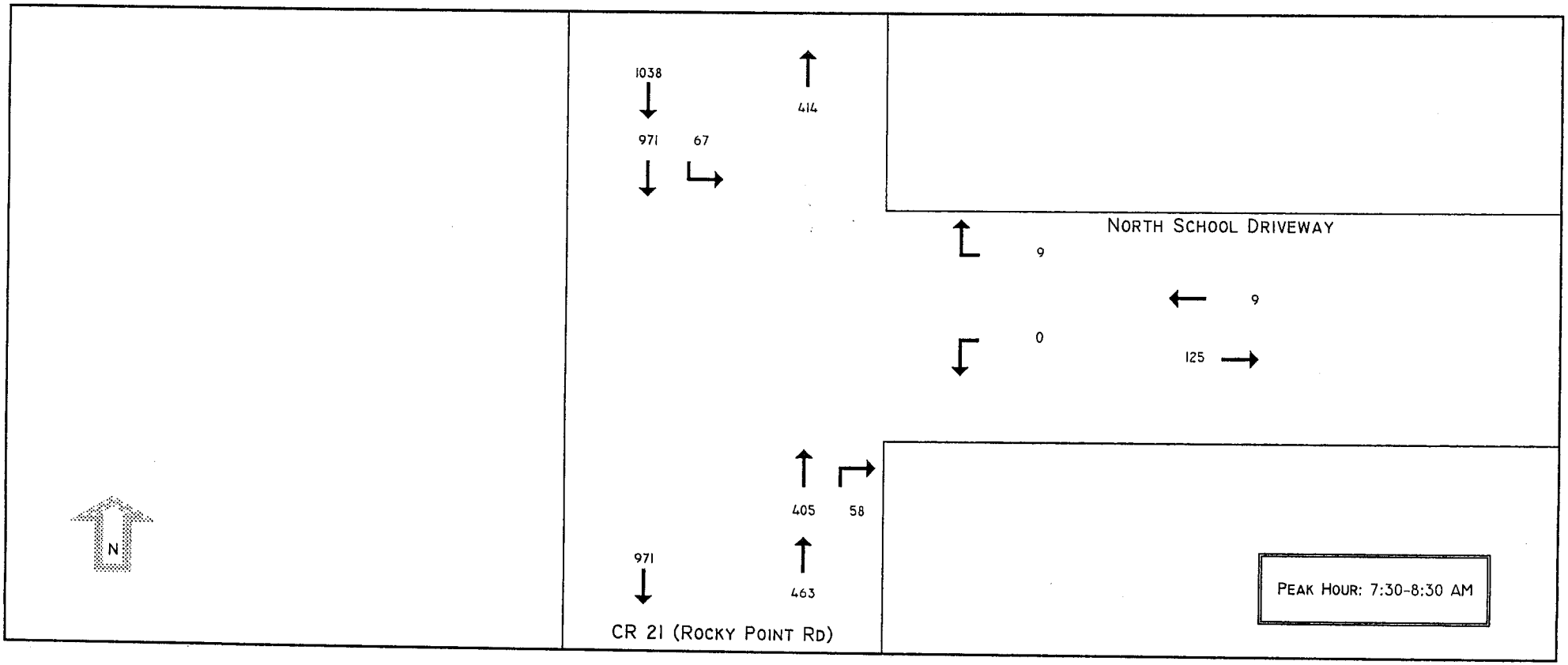
INTERSECTION: NORTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 6/12/2007 AM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	6	0	83	0	13	179	0	0	192	275	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	5	0	104	0	15	202	0	0	217	321	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	15	0	102	0	21	284	0	0	305	407	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	107	24	0	131	0	25	243	0	0	268	400	1403
8:00 AM	0	0	0	0	0	0	0	0	0	6	0	6	0	0	95	11	0	106	0	11	218	0	0	229	341	1469
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	116	8	0	124	0	10	226	0	0	236	362	1510
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	145	3	0	148	0	6	152	0	0	158	309	1412
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0	114	0	1	172	0	0	173	287	1299
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	0	0	9	0	9	0	0	405	58	0	463	0	67	971	0	0	1038	1510	
PHF						####						0.38						0.88						0.85		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	405	58	0	463	0	67	971	0	0	1038		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	0	0	10	0	10	0	0	454	65	0	519	0	75	1088	0	0	1163		



I:\2000\00088\TRAFFIC\Counts\final network\Weekday_AM.xls

TURNING MOVEMENT DATA

NELSON & POPE

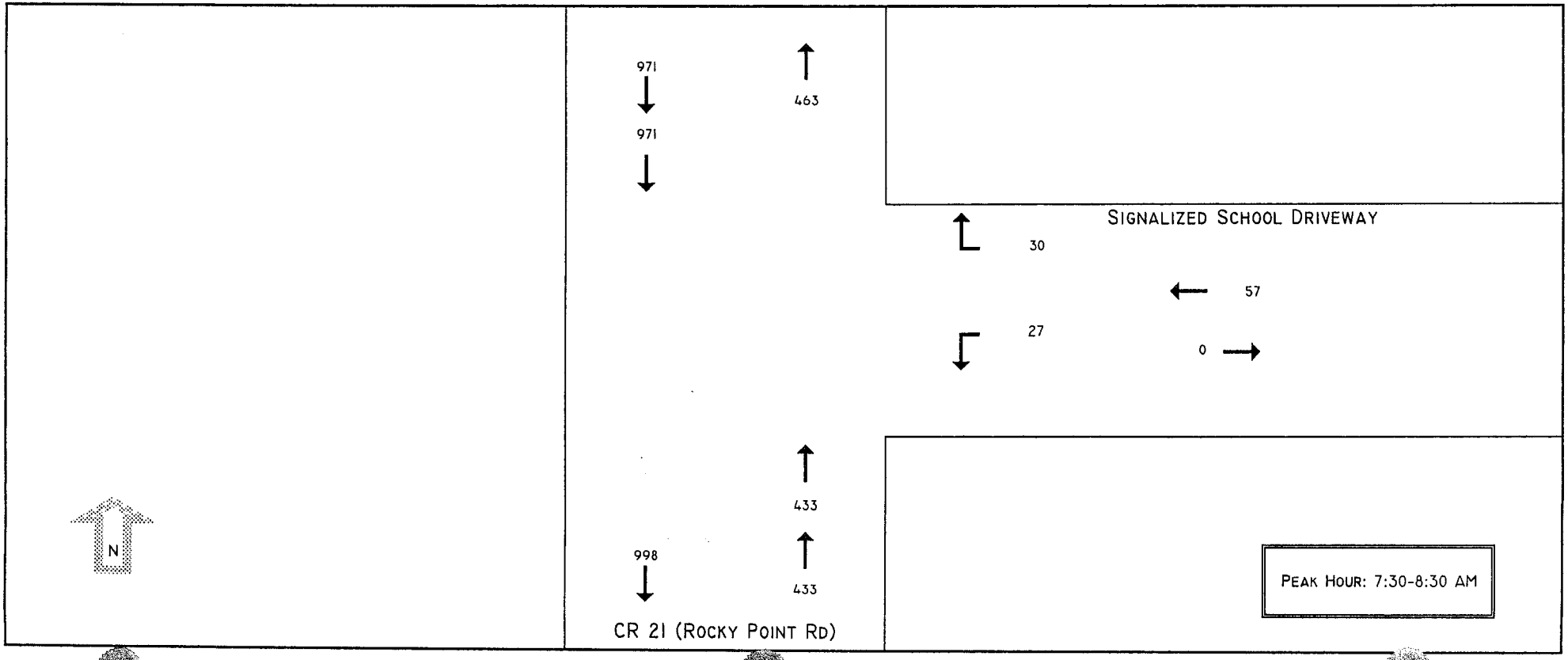
INTERSECTION: SIGNALIZED SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	82	0	0	82	0	0	179	0	0	179	263	
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	104	0	0	104	0	0	202	0	0	202	307	
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	101	0	0	101	0	0	284	0	0	284	387	
7:45 AM	0	0	0	0	0	0	0	2	0	2	0	4	0	0	129	0	0	129	0	0	243	0	0	243	376	1333
8:00 AM	0	0	0	0	0	0	0	9	0	8	0	17	0	0	98	0	0	98	0	0	218	0	0	218	333	1403
8:15 AM	0	0	0	0	0	0	0	15	0	19	0	34	0	0	105	0	0	105	0	0	226	0	0	226	365	1461
8:30 AM	0	0	0	0	0	0	0	21	0	35	0	56	0	0	113	0	0	113	0	0	152	0	0	152	321	1395
8:45 AM	0	0	0	0	0	0	0	5	0	12	0	17	0	0	102	0	0	102	0	0	172	0	0	172	291	1310
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	27	0	30	0	57	0	0	433	0	0	433	0	0	971	0	0	971	1461	
PHF						####						0.42						0.84						0.85		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	27	0	30	0	57	0	0	433	0	0	433	0	0	971	0	0	971		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	30	0	34	0	64	0	0	485	0	0	485	0	0	1088	0	0	1088		



TURNING MOVEMENT DATA

NELSON & POPE

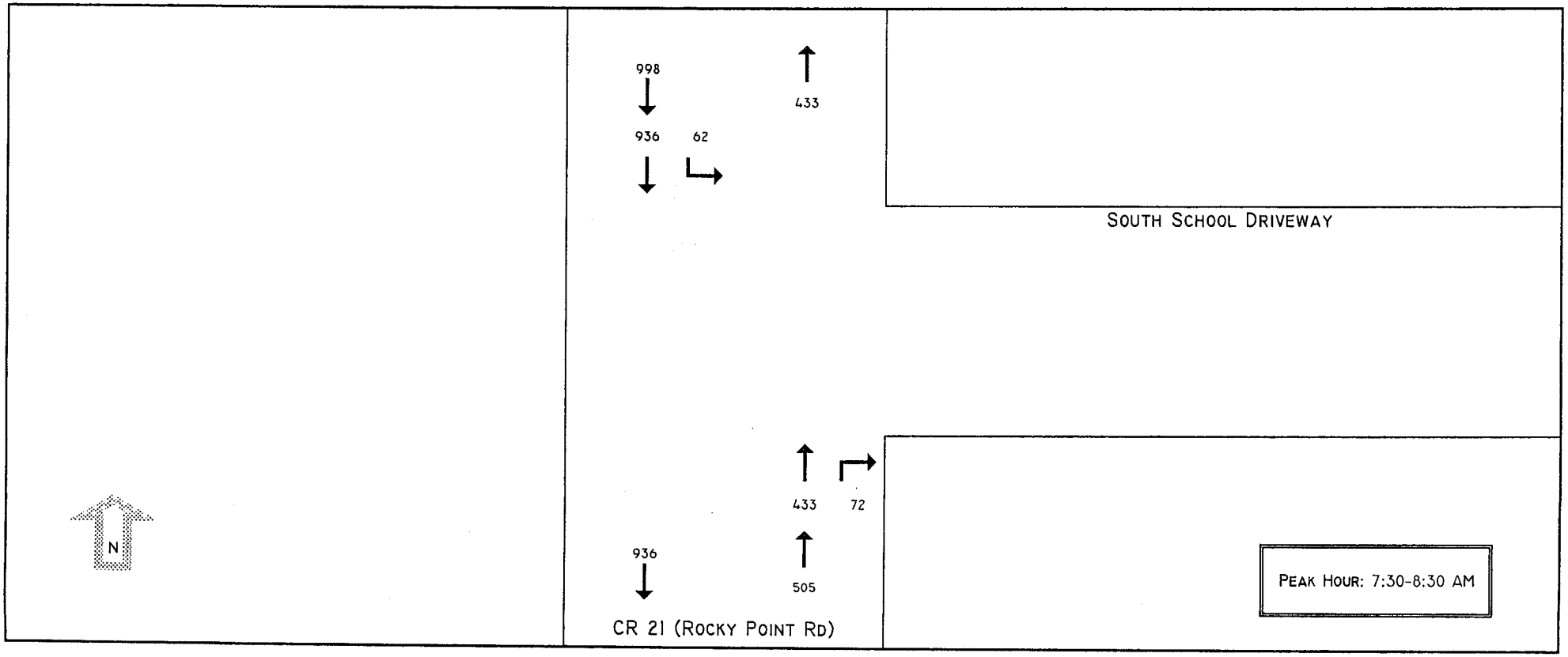
INTERSECTION: SOUTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 AM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	4	0	86	0	2	178	0	0	180	266	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	5	0	109	0	3	200	0	0	203	312	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	16	0	117	0	6	279	0	0	285	402	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129	12	0	141	0	10	235	0	0	245	386	1366
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	19	0	117	0	10	217	0	0	227	344	1444
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	25	0	130	0	36	205	0	0	241	371	1503
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113	7	0	120	0	13	160	0	0	173	293	1394
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	7	0	109	0	6	171	0	0	177	286	1294
PEAK HOUR: 7:30-8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	433	72	0	505	0	62	936	0	0	998	1503	
PHF						####						####						0.90						0.88		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	433	72	0	505	0	62	936	0	0	998		
2015 AMBIENT NO BUILD =1.12*ROW 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	485	81	0	566	0	69	1048	0	0	1118		



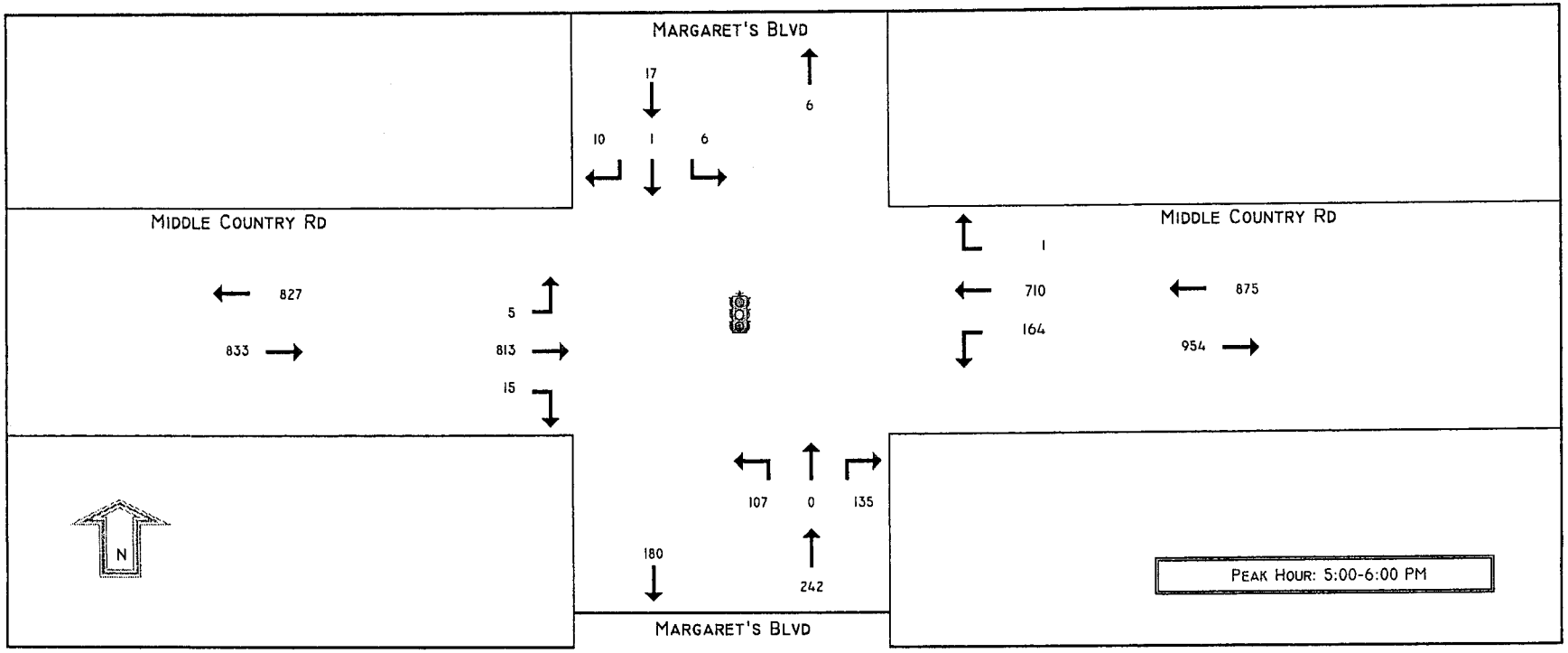
INTERSECTION: MIDDLE COUNTRY RD @ MARGARET'S BLVD

DATE COLLECTED: 5/22/07 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	2	185	3	0	190	0	41	198	2	0	241	0	33	0	34	23	90	0	3	1	0	1	5	526	
4:15 PM	0	5	182	2	0	189	0	39	219	2	0	260	0	19	0	21	16	56	0	2	0	1	0	3	508	
4:30 PM	0	1	202	6	0	209	0	48	172	0	0	220	0	26	0	17	23	66	0	2	0	0	2	4	499	
4:45 PM	0	2	162	2	0	166	0	36	159	2	0	197	0	30	0	33	11	74	0	3	0	0	0	3	440	1973
5:00 PM	0	0	233	4	0	237	0	44	170	0	0	214	0	28	0	29	12	69	0	0	0	0	2	2	522	1969
5:15 PM	0	2	171	3	0	176	0	42	178	0	0	220	0	27	0	18	11	56	0	3	0	0	0	3	455	1916
5:30 PM	0	2	194	5	0	201	0	39	173	1	0	213	0	25	0	15	11	51	0	0	1	2	2	5	470	1887
5:45 PM	0	1	215	3	0	219	0	39	189	0	0	228	0	27	0	35	4	66	0	3	0	1	3	7	520	1967
6:00 PM	0	1	194	5	0	200	0	39	158	2	0	199	0	27	0	22	9	58	0	1	0	0	0	1	458	1903
6:15 PM	0	1	170	11	0	182	0	46	167	1	0	214	0	28	0	21	20	69	0	2	1	1	0	4	469	1917
6:30 PM	0	0	169	4	0	173	0	34	145	0	0	179	0	14	0	20	16	50	0	4	1	0	0	5	407	1854
6:45 PM	0	1	214	6	0	221	0	40	153	1	1	195	0	10	0	10	31	51	0	1	1	1	1	4	471	1805
PEAK HOUR: 5:00-6:00 PM	0	5	813	15	0	833	0	164	710	1	0	875	0	107	0	97	38	242	0	6	1	3	7	17	1967	
PHF						0.88						0.96						0.88						0.61		
SEASONAL ADJUSTMENT FACTOR = 1	0	5	813	15	0	833	0	164	710	1	0	875	0	107	0	97	38	242	0	6	1	3	7	17		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	6	911	17	0	933	0	184	795	1	0	980	0	120	0	109	43	271	0	7	1	3	8	19		



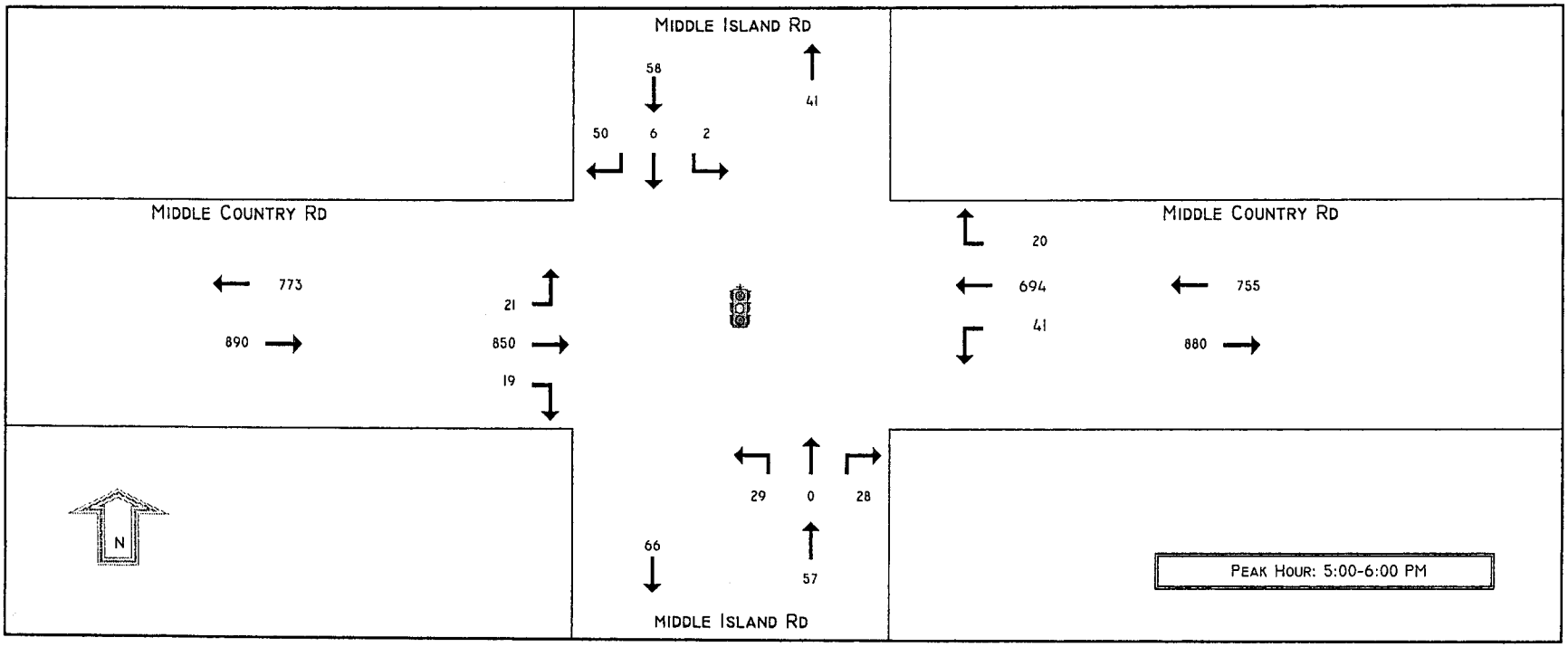
Intersection: Middle Country Rd @ Middle Island Rd

Date Collected: 3/20/07 PM

Project Title: Sandy Hills @ Middle Island

Jurisdiction: Town of Brookhaven

Start Time	Eastbound						Westbound						Northbound						Southbound						Total	Cum. Hourly
	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total		
4:00 PM	0	2	218	12	0	232	0	8	183	5	0	196	0	2	2	3	0	7	0	2	2	0	13	17	452	
4:15 PM	0	6	222	9	0	237	0	11	166	1	0	178	0	9	0	7	2	18	0	0	0	3	10	13	446	
4:30 PM	0	5	222	11	0	238	0	13	186	3	0	202	0	8	0	5	7	20	0	1	0	12	14	27	487	
4:45 PM	0	12	207	14	0	233	0	15	167	1	0	183	0	9	1	2	7	19	0	1	0	2	14	17	452	1837
5:00 PM	0	6	238	6	0	250	0	11	151	11	2	175	0	12	0	11	0	23	0	0	1	8	15	24	472	1857
5:15 PM	0	6	231	2	0	239	0	12	195	1	1	209	0	8	0	2	2	12	0	0	2	2	10	14	474	1885
5:30 PM	0	7	190	4	0	201	0	8	182	2	0	192	0	5	0	7	1	13	0	1	3	4	5	13	419	1817
5:45 PM	0	2	191	7	0	200	0	10	166	3	0	179	0	4	0	4	1	9	0	1	0	0	6	7	395	1760
6:00 PM	0	11	199	5	0	215	0	4	171	0	0	175	0	6	1	5	1	13	0	1	1	2	6	10	413	1701
6:15 PM	0	3	232	7	0	242	0	3	182	4	0	189	0	7	2	10	1	20	0	0	0	0	8	8	459	1686
6:30 PM	0	4	162	14	0	180	0	12	170	1	0	183	0	13	0	3	8	24	0	1	0	1	8	10	397	1664
6:45 PM	0	7	217	17	0	241	0	22	197	3	0	222	0	7	0	3	2	12	0	0	1	2	10	13	488	1757
Peak Hour: 5:00-6:00 PM	0	21	850	19	0	890	0	41	694	17	3	755	0	29	0	24	4	57	0	2	6	14	36	58	1885	
PHF						0.89						0.90						0.62						0.60		
Seasonal Adjustment Factor =1	0	21	850	19	0	890	0	41	694	17	3	755	0	29	0	24	4	57	0	2	6	14	36	58		
2015 Ambient No Build = 1.12 *Row 20	0	24	952	21	0	997	0	46	777	19	3	846	0	32	0	27	4	64	0	2	7	16	40	65		



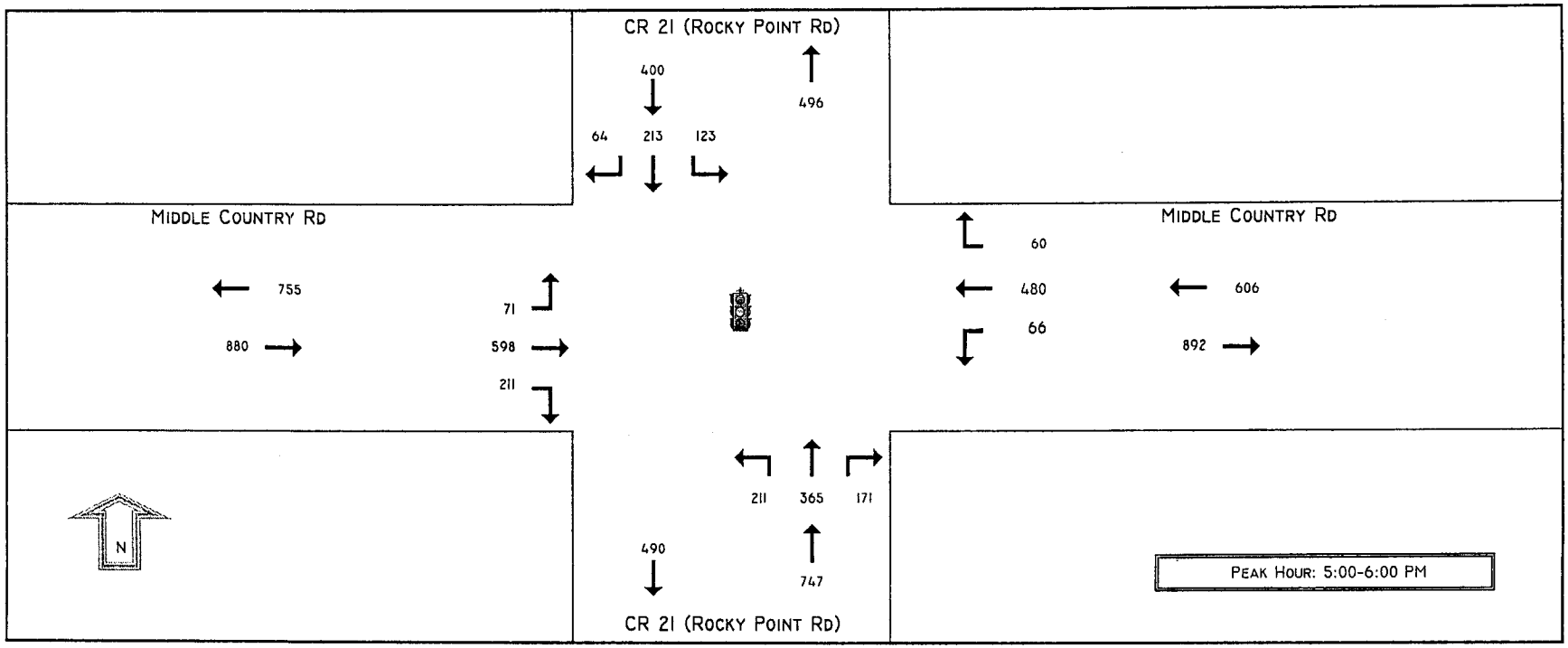
INTERSECTION: MIDDLE COUNTRY RD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 3/20/07 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	19	151	27	26	223	0	35	148	23	0	206	0	39	58	25	0	122	0	24	51	9	0	84	635	
4:15 PM	0	18	150	34	29	231	0	17	112	29	0	158	0	58	80	27	0	165	0	31	48	7	1	87	641	
4:30 PM	0	15	154	50	16	235	0	22	134	15	0	171	0	53	70	30	10	163	0	32	59	15	0	106	675	
4:45 PM	0	13	165	31	8	217	0	22	127	9	0	158	0	47	92	31	5	175	0	24	59	9	0	92	642	2593
5:00 PM	0	26	172	45	6	249	0	14	111	14	0	139	0	51	78	39	1	169	0	33	68	13	0	114	671	2629
5:15 PM	0	11	164	56	4	235	0	15	141	13	0	169	0	43	102	37	5	187	0	19	54	25	0	98	689	2677
5:30 PM	0	16	126	56	1	199	0	21	123	17	0	161	0	51	97	39	4	191	0	33	44	18	0	95	646	2648
5:45 PM	0	18	136	41	2	197	0	16	105	16	0	137	0	66	88	41	5	200	0	38	47	7	1	93	627	2633
6:00 PM	0	15	134	31	26	206	0	22	98	11	1	132	0	60	117	22	10	209	0	23	50	17	0	90	637	2599
6:15 PM	0	24	162	42	15	243	0	23	121	10	0	154	0	60	136	24	14	234	0	16	30	7	1	54	685	2595
6:30 PM	0	15	122	25	12	174	0	24	118	11	1	154	0	54	75	26	21	176	0	22	40	11	0	73	577	2526
6:45 PM	0	15	163	37	7	222	0	17	130	20	0	167	0	83	107	20	7	217	0	28	50	8	1	87	693	2592
PEAK HOUR: 5:00-6:00 PM	0	71	598	198	13	880	0	66	480	60	0	606	0	211	365	156	15	747	0	123	213	63	1	400	2677	
PHF						0.88						0.90						0.93						0.88		
SEASONAL ADJUSTMENT FACTOR =1	0	71	598	198	13	880	0	66	480	60	0	606	0	211	365	156	15	747	0	123	213	63	1	400		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	80	670	222	15	986	0	74	538	67	0	679	0	236	409	175	17	837	0	138	239	71	1	448		



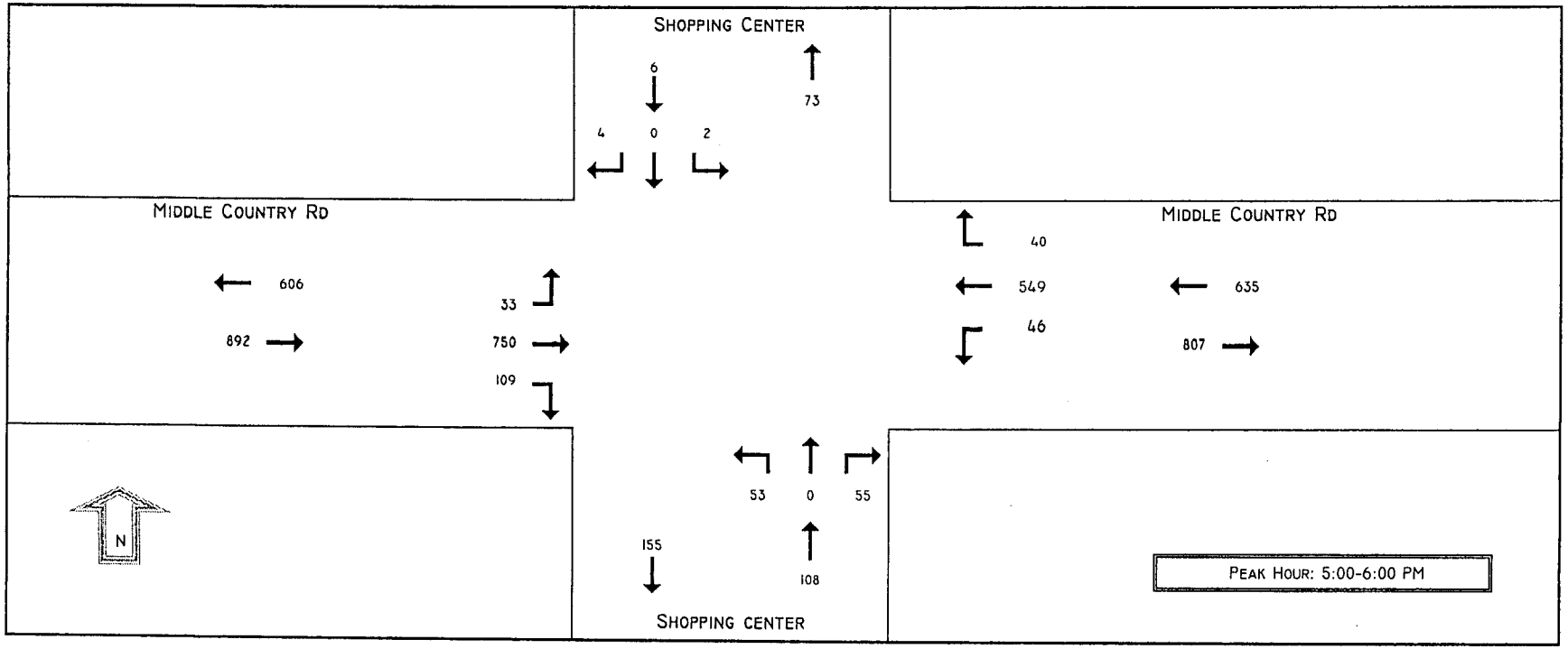
INTERSECTION: MIDDLE COUNTRY RD @ SHOPPING CENTER

DATE COLLECTED: 3/20/07 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	172	28	0	200	0	9	184	10	0	203	0	20	1	16	0	37	0	1	1	2	0	4	444	
4:15 PM	0	0	193	15	0	208	0	9	153	17	0	179	0	5	0	8	0	13	0	0	0	0	0	0	400	
4:30 PM	0	1	212	13	0	226	0	9	161	10	0	180	0	10	0	7	0	17	0	1	0	0	0	1	424	
4:45 PM	0	4	203	18	0	225	0	14	148	2	0	164	0	10	0	17	0	27	0	1	0	0	0	1	417	1685
5:00 PM	0	5	210	30	0	245	0	13	126	13	0	152	0	13	0	8	0	21	0	1	0	0	0	1	419	1660
5:15 PM	0	12	184	29	0	225	0	13	152	22	0	187	0	17	0	8	0	25	0	1	0	0	0	1	438	1698
5:30 PM	0	4	187	11	0	202	0	10	147	5	0	162	0	10	0	14	0	24	0	0	0	4	0	4	392	1666
5:45 PM	0	12	169	39	0	220	0	10	124	0	0	134	0	13	0	25	0	38	0	0	0	0	0	0	392	1641
6:00 PM	0	0	181	8	0	189	0	17	108	5	0	130	0	18	0	32	0	50	0	1	0	6	0	7	376	1598
6:15 PM	0	1	197	18	0	216	0	13	118	14	0	145	0	27	0	22	0	49	0	9	0	9	0	18	428	1588
6:30 PM	0	1	183	7	0	191	0	17	94	3	0	114	0	34	0	25	0	59	0	26	0	20	0	46	410	1606
6:45 PM	0	0	206	12	0	218	0	5	121	4	0	130	0	29	0	29	0	58	0	15	0	17	0	32	438	1652
PEAK HOUR: 5:00-6:00 PM	0	33	750	109	0	892	0	46	549	40	0	635	0	53	0	55	0	108	0	2	0	4	0	6	1698	
PHF						0.91						0.85						0.71						0.38		
SEASONAL ADJUSTMENT FACTOR =1	0	33	750	109	0	892	0	46	549	40	0	635	0	53	0	55	0	108	0	2	0	4	0	6		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	37	840	122	0	999	0	52	615	45	0	711	0	59	0	62	0	121	0	2	0	4	0	7		



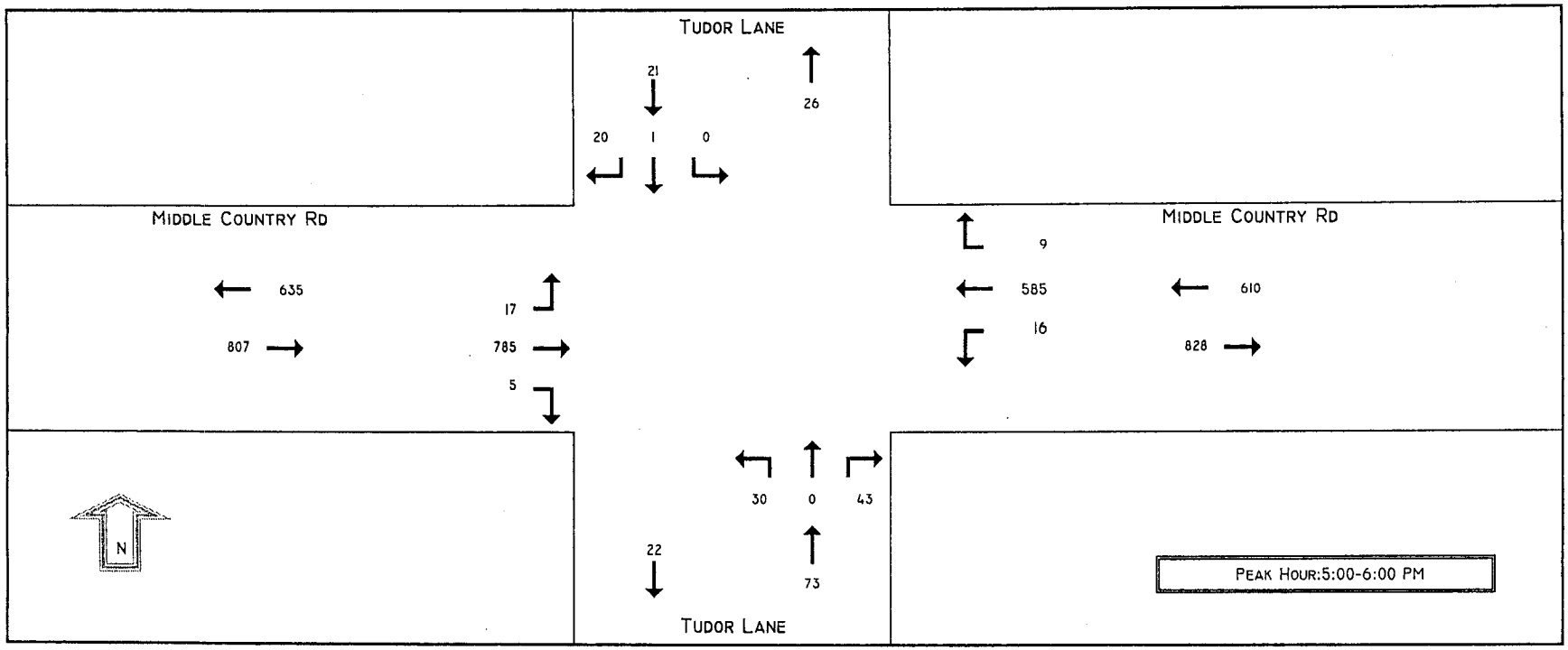
INTERSECTION: MIDDLE COUNTRY RD @ TUDOR LANE

DATE COLLECTED: 3/20/07 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	13	174	2	0	189	0	4	172	0	0	176	0	19	0	8	0	27	0	2	1	12	0	15	407	
4:15 PM	0	4	197	0	0	201	0	2	161	4	0	167	0	7	0	11	0	18	0	0	0	11	0	11	397	
4:30 PM	0	7	212	1	0	220	0	0	171	3	0	174	0	4	0	3	0	7	0	0	0	5	0	5	406	
4:45 PM	0	4	216	1	0	221	0	5	144	4	0	153	0	10	0	7	0	17	0	3	0	10	0	13	404	1614
5:00 PM	0	5	213	1	0	219	0	5	135	2	0	142	0	11	0	9	0	20	0	0	0	6	0	6	387	1594
5:15 PM	0	2	190	1	0	193	0	4	171	6	0	181	0	8	0	8	0	16	0	0	0	8	0	8	398	1595
5:30 PM	0	6	195	0	0	201	0	3	152	0	0	155	0	6	0	14	0	20	0	0	1	4	0	5	381	1570
5:45 PM	0	4	187	3	0	194	0	4	127	1	0	132	0	5	0	12	0	17	0	0	0	2	0	2	345	1511
6:00 PM	0	7	207	0	0	214	0	2	119	0	0	121	0	1	0	9	0	10	0	2	0	10	0	12	357	1481
6:15 PM	0	5	223	0	0	228	0	2	132	5	0	139	0	6	0	10	0	16	0	1	0	7	0	8	391	1474
6:30 PM	0	3	231	0	0	234	0	4	104	3	0	111	0	4	0	10	0	14	0	1	0	6	0	7	366	1459
6:45 PM	0	4	244	2	0	250	0	1	124	3	0	128	0	3	0	19	0	22	0	1	0	3	0	4	404	1518
PEAK HOUR:5:00-6:00 PM	0	17	785	5	0	807	0	16	585	9	0	610	0	30	0	43	0	73	0	0	1	20	0	21	1595	
PHF						0.92						0.84						0.91						0.66		
SEASONAL ADJUSTMENT FACTOR = 1	0	17	785	5	0	807	0	16	585	9	0	610	0	30	0	43	0	73	0	0	1	20	0	21		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	19	879	6	0	904	0	18	655	10	0	683	0	34	0	48	0	82	0	0	1	22	0	24		



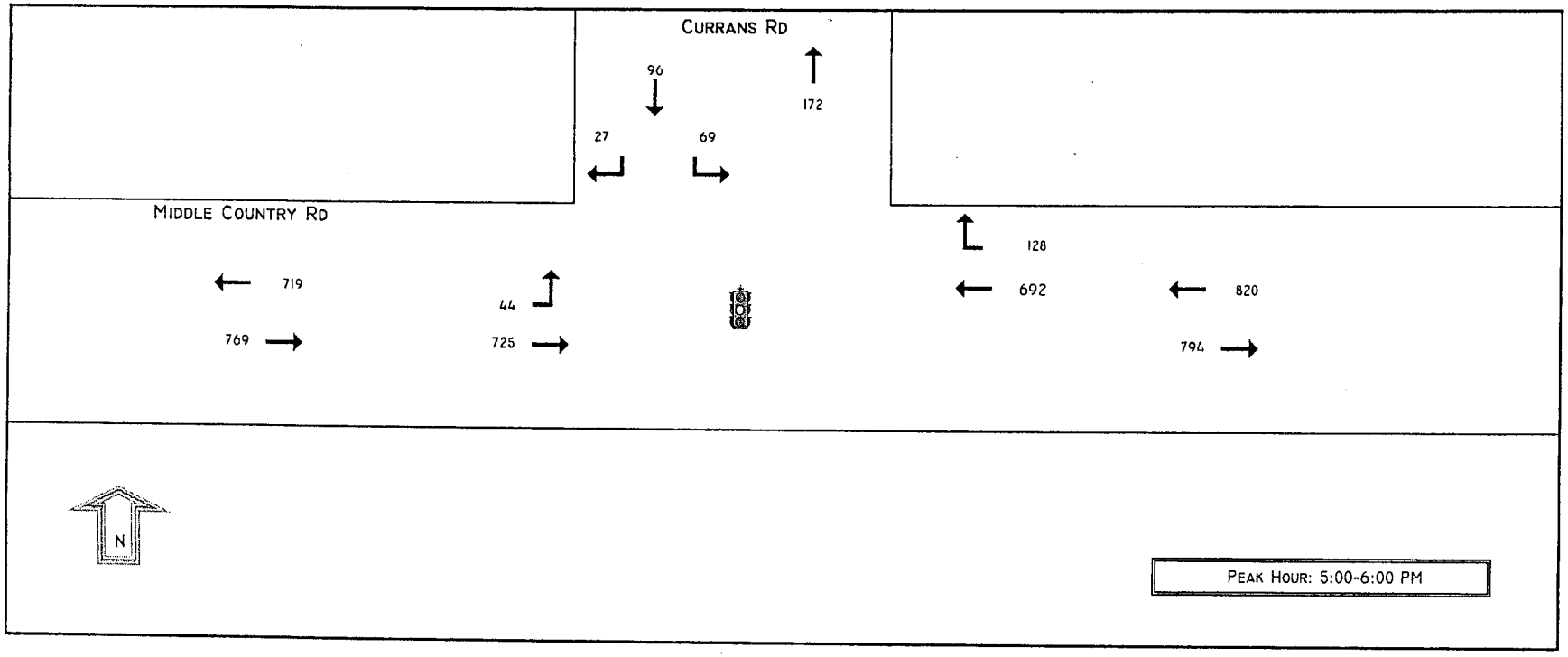
INTERSECTION: MIDDLE COUNTRY RD @ CURRANS RD

DATE COLLECTED: 6/12/07 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	6	177	0	0	183	0	0	175	28	0	203	0	0	0	0	0	0	0	12	0	7	0	19	405	
4:15 PM	0	12	195	0	0	207	0	0	184	23	0	207	0	0	0	0	0	0	0	20	0	7	0	27	441	
4:30 PM	0	11	176	0	0	187	0	0	170	25	0	195	0	0	0	0	0	0	0	20	0	2	0	22	404	
4:45 PM	0	13	183	0	0	196	0	0	173	25	0	198	0	0	0	0	0	0	0	24	0	3	0	27	421	1671
5:00 PM	0	12	180	0	0	192	0	0	152	29	0	181	0	0	0	0	0	0	0	13	0	3	0	16	389	1655
5:15 PM	0	10	181	0	0	191	0	0	194	42	0	236	0	0	0	0	0	0	0	21	0	15	0	36	463	1677
5:30 PM	0	13	178	0	0	191	0	0	178	29	0	207	0	0	0	0	0	0	0	15	0	4	0	19	417	1690
5:45 PM	0	9	186	0	0	195	0	0	168	28	0	196	0	0	0	0	0	0	0	20	0	5	0	25	416	1685
6:00 PM	0	13	187	0	0	200	0	0	133	32	0	165	0	0	0	0	0	0	0	15	0	8	0	23	388	1684
6:15 PM	0	12	180	0	0	192	0	0	125	15	0	140	0	0	0	0	0	0	0	27	0	7	0	34	366	1587
6:30 PM	0	8	156	0	0	164	0	0	127	10	0	137	0	0	0	0	0	0	0	14	0	11	0	25	326	1496
6:45 PM	0	10	168	0	0	178	0	0	144	18	0	162	0	0	0	0	0	0	0	21	0	5	0	26	366	1446
PEAK HOUR: 5:00-6:00 PM	0	44	725	0	0	769	0	0	692	128	0	820	0	0	0	0	0	0	0	69	0	27	0	96	1690	
PHF						0.99						0.87						####						0.67		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	44	725	0	0	769	0	0	692	128	0	820	0	0	0	0	0	0	0	69	0	27	0	96		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	49	812	0	0	861	0	0	775	143	0	918	0	0	0	0	0	0	0	77	0	30	0	108		



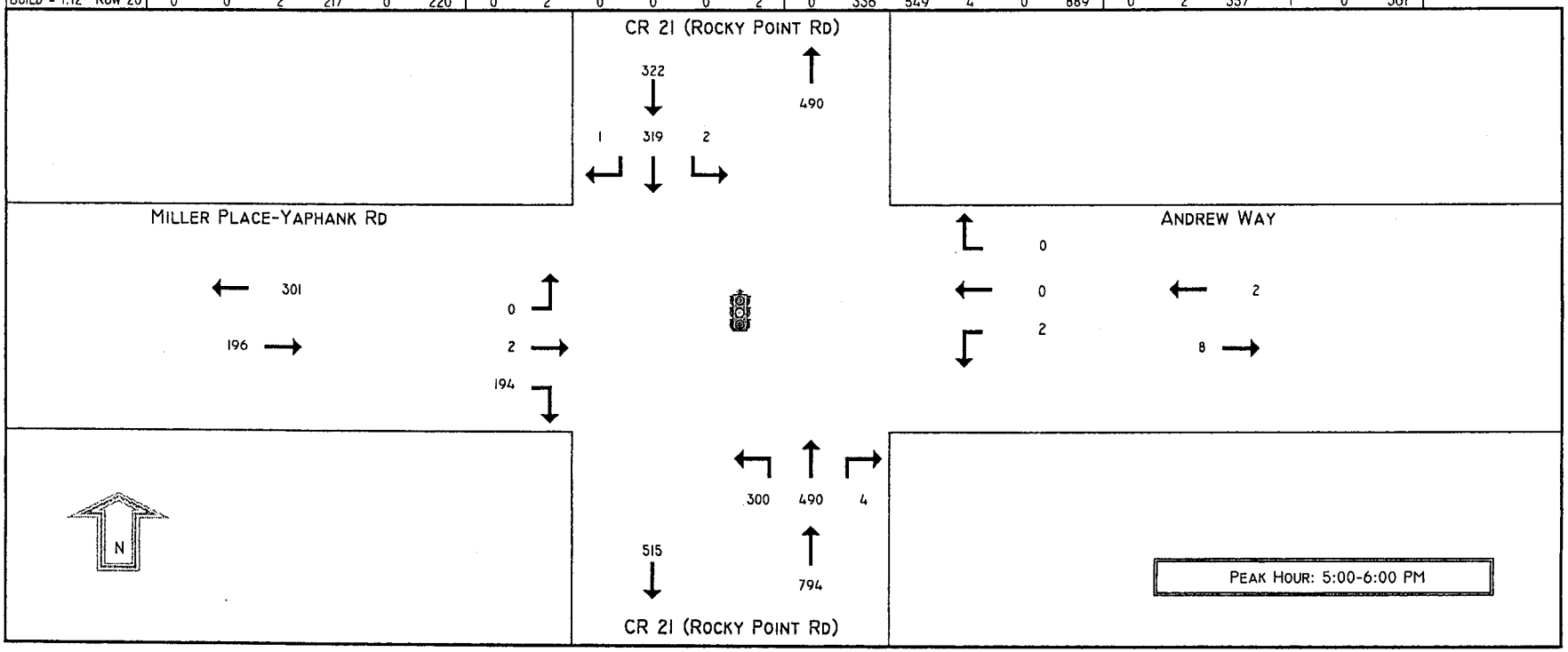
INTERSECTION: MILLER PLACE-YAPHANK RD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/07 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	1	0	40	0	41	0	1	0	0	0	1	0	57	116	2	0	175	0	1	63	0	0	64	281	
4:15 PM	0	0	0	49	0	49	0	2	0	0	0	2	0	80	110	2	0	192	0	0	69	0	0	69	312	
4:30 PM	0	0	0	51	0	51	0	5	0	0	0	5	0	68	120	1	0	189	0	0	70	0	0	70	315	
4:45 PM	0	0	0	48	0	48	0	0	1	0	0	1	0	66	126	2	0	194	0	0	70	1	0	71	314	1222
5:00 PM	0	0	0	56	0	56	0	1	0	0	0	1	0	75	123	0	0	198	0	0	76	0	0	76	331	1272
5:15 PM	0	0	0	45	0	45	0	0	0	0	0	0	0	80	127	1	0	208	0	1	82	0	0	83	336	1296
5:30 PM	0	0	1	54	0	55	0	0	0	0	0	0	0	75	120	2	0	197	0	0	80	1	0	81	333	1314
5:45 PM	0	0	1	39	0	40	0	1	0	0	0	1	0	70	120	1	0	191	0	1	81	0	0	82	314	1314
6:00 PM	0	0	0	42	0	42	0	1	0	0	0	1	0	80	125	3	0	208	0	0	61	0	0	61	312	1295
6:15 PM	0	0	0	32	0	32	0	0	0	0	0	0	0	58	109	3	0	170	0	0	64	0	0	64	266	1225
6:30 PM	0	0	0	37	0	37	0	4	0	1	0	5	0	44	119	4	0	167	0	0	50	0	0	50	259	1151
6:45 PM	0	0	0	42	0	42	0	0	0	0	0	0	0	44	75	2	0	121	0	0	54	0	0	54	217	1054
PEAK HOUR: 5:00-6:00 PM	0	0	2	194	0	196	0	2	0	0	0	2	0	300	490	4	0	794	0	2	319	1	0	322	1295	
PHF						0.88						0.50						0.95						0.97		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	2	194	0	196	0	2	0	0	0	2	0	300	490	4	0	794	0	2	319	1	0	322		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	2	217	0	220	0	2	0	0	0	2	0	336	549	4	0	889	0	2	357	1	0	361		



TURNING MOVEMENT DATA

NELSON POPE

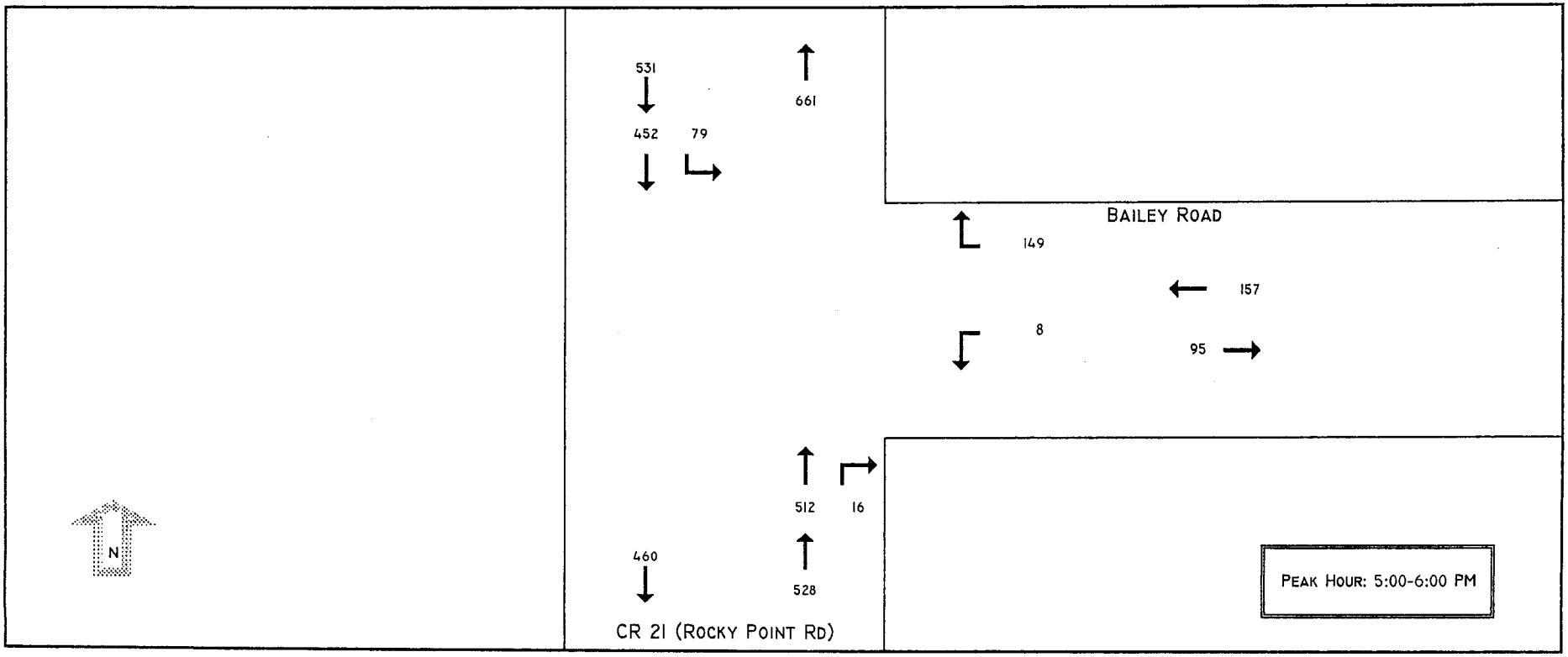
INTERSECTION: BAILEY ROAD @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 3/20/2007 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	1	0	30	0	31	0	0	107	15	0	122	0	15	106	0	0	121	274	
4:15 PM	0	0	0	0	0	0	0	1	0	31	0	32	0	0	134	1	0	135	0	19	100	0	0	119	286	
4:30 PM	0	0	0	0	0	0	0	2	0	37	0	39	0	0	116	8	0	124	0	19	117	0	0	136	299	
4:45 PM	0	0	0	0	0	0	0	0	0	26	0	26	0	0	128	0	0	128	0	18	119	0	0	137	291	1150
5:00 PM	0	0	0	0	0	0	0	2	0	31	0	33	0	0	119	5	0	124	0	17	135	0	0	152	309	1185
5:15 PM	0	0	0	0	0	0	0	3	0	43	0	46	0	0	132	3	0	135	0	22	102	0	0	124	305	1204
5:30 PM	0	0	0	0	0	0	0	1	0	51	0	52	0	0	135	6	0	141	0	26	102	0	0	128	321	1226
5:45 PM	0	0	0	0	0	0	0	2	0	24	0	26	0	0	126	2	0	128	0	14	113	0	0	127	281	1216
6:00 PM	0	0	0	0	0	0	0	0	0	16	0	16	0	0	146	2	0	148	0	19	93	0	0	112	276	1183
6:15 PM	0	0	0	0	0	0	0	1	0	16	0	17	0	0	176	3	0	179	0	13	70	0	0	83	279	1157
6:30 PM	0	0	0	0	0	0	0	1	0	27	0	28	0	0	133	0	0	133	0	12	79	0	0	91	252	1088
6:45 PM	0	0	0	0	0	0	0	0	0	21	0	21	0	0	129	2	0	131	0	9	100	0	0	109	261	1068
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	8	0	149	0	157	0	0	512	16	0	528	0	79	452	0	0	531	1216	
PHF						####						0.75						0.94						0.87		
SEASONAL ADJUSTMENT FACTOR =1	0	0	0	0	0	0	0	8	0	149	0	157	0	0	512	16	0	528	0	79	452	0	0	531		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	9	0	167	0	176	0	0	573	18	0	591	0	88	506	0	0	595		



I:\2000\00088\TRAFFIC\Counts\final network\Weekday_PM.xls

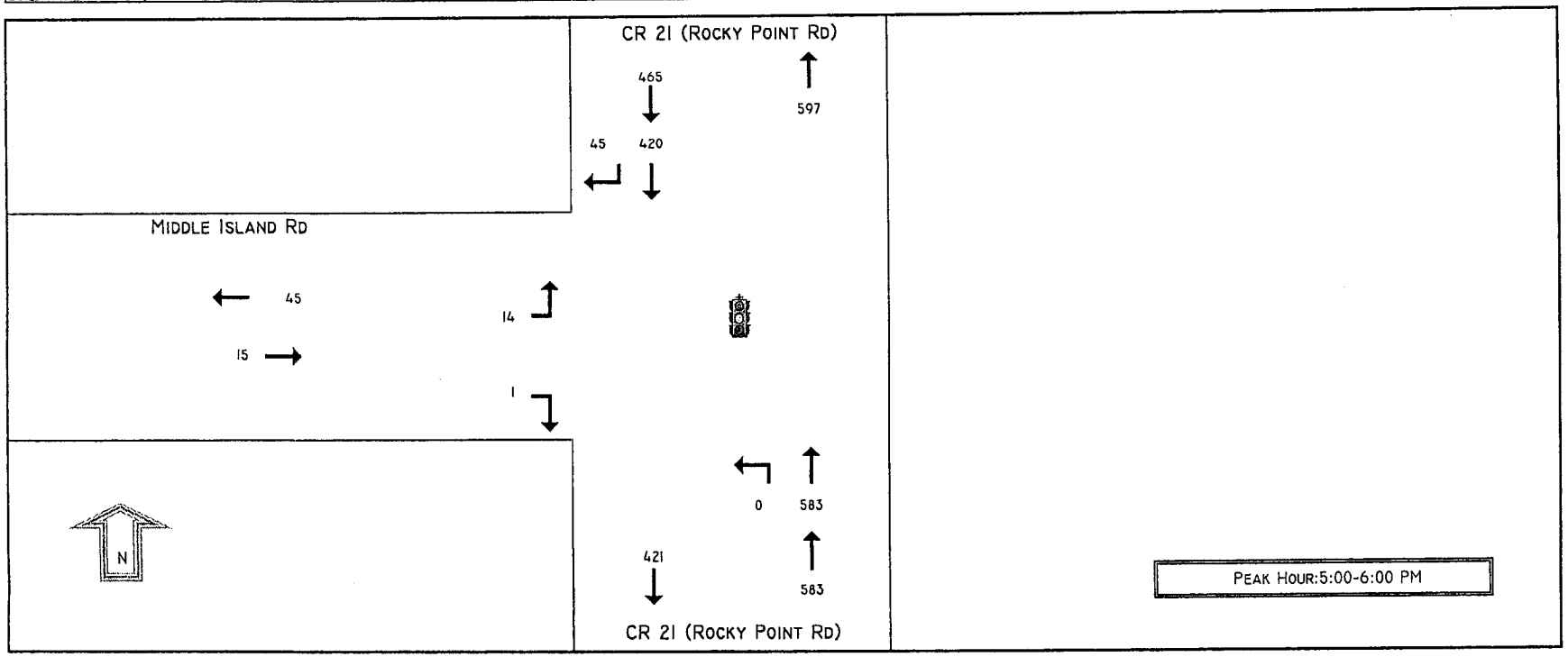
INTERSECTION: MIDDLE ISLAND RD @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 6/12/07 PM

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	1	106	0	0	107	0	0	78	17	0	95	205	
4:15 PM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	149	0	0	149	0	0	102	16	0	118	275	
4:30 PM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	143	0	0	143	0	0	104	22	0	126	275	
4:45 PM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	140	0	0	140	0	0	110	18	0	128	276	1031
5:00 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	148	0	0	148	0	0	120	11	0	131	284	1110
5:15 PM	0	3	0	1	0	4	0	0	0	0	0	0	0	0	147	0	0	147	0	0	109	13	0	122	273	1108
5:30 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	141	0	0	141	0	0	97	14	0	111	256	1089
5:45 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	147	0	0	147	0	0	94	7	0	101	250	1063
6:00 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	178	0	0	178	0	0	91	9	0	100	285	1064
6:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	135	0	0	135	0	0	87	15	0	102	238	1029
6:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	131	0	0	131	0	0	72	8	0	80	212	985
6:45 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	98	0	0	98	0	0	85	12	0	97	199	934
PEAK HOUR:5:00-6:00 PM	0	14	0	1	0	15	0	0	0	0	0	0	0	0	583	0	0	583	0	0	420	45	0	465	1064	
PHF						0.75						####						0.98						0.89		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	14	0	1	0	15	0	0	0	0	0	0	0	0	583	0	0	583	0	0	420	45	0	465		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	16	0	1	0	17	0	0	0	0	0	0	0	0	653	0	0	653	0	0	470	50	0	521		



TURNING MOVEMENT DATA

NELSON & POPE

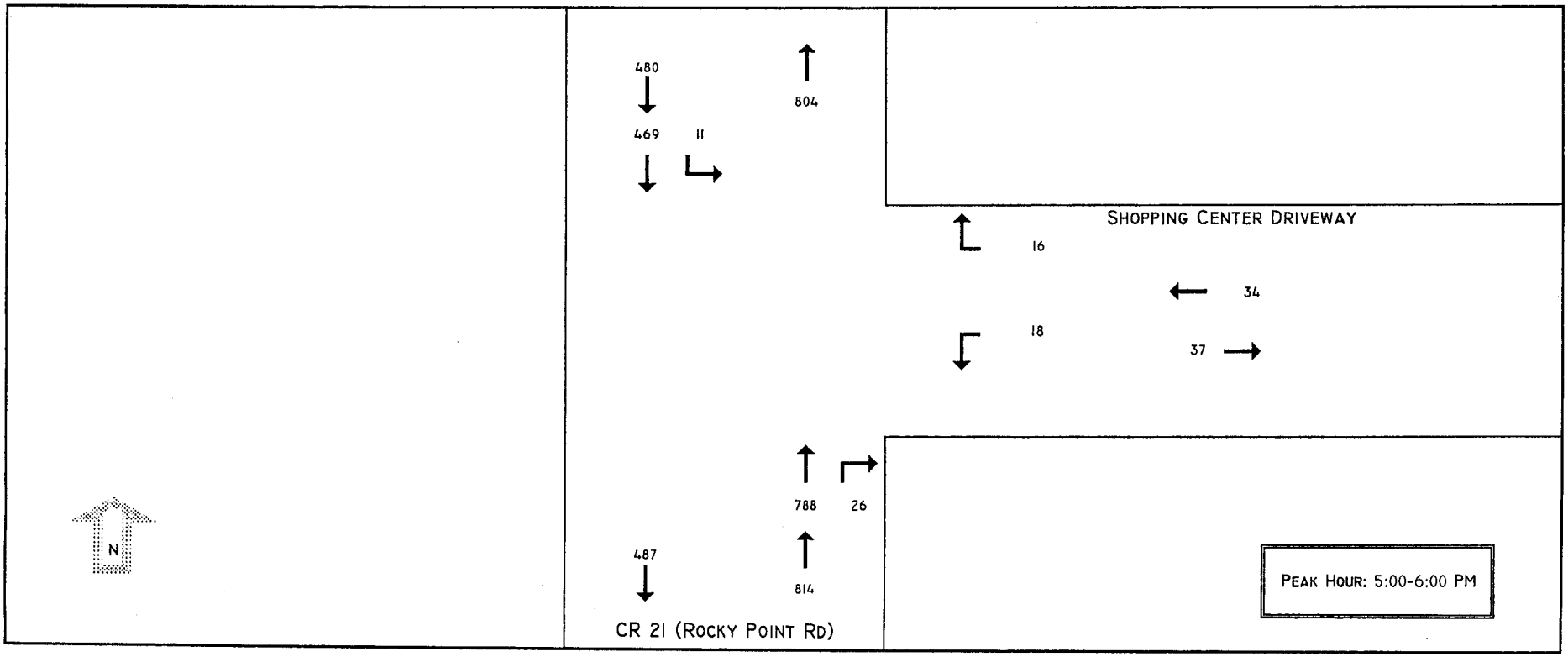
INTERSECTION: SHOPPING CENTER DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 5/22/2007 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	8	0	11	0	19	0	0	168	15	0	183	0	2	107	0	0	109	311	
4:15 PM	0	0	0	0	0	0	0	7	0	7	0	14	0	0	158	14	0	172	0	6	133	0	0	139	325	
4:30 PM	0	0	0	0	0	0	0	6	0	5	0	11	0	0	179	14	0	193	0	4	154	0	0	158	362	
4:45 PM	0	0	0	0	0	0	0	3	0	2	0	5	0	0	165	8	0	173	0	1	176	0	0	177	355	1353
5:00 PM	0	0	0	0	0	0	0	4	0	1	0	5	0	0	155	7	0	162	0	3	117	0	0	120	287	1329
5:15 PM	0	0	0	0	0	0	0	2	0	4	0	6	0	0	168	4	0	172	0	3	111	0	0	114	292	1296
5:30 PM	0	0	0	0	0	0	0	5	0	4	0	9	0	0	224	6	0	230	0	3	106	0	0	109	348	1282
5:45 PM	0	0	0	0	0	0	0	7	0	7	0	14	0	0	241	9	0	250	0	2	135	0	0	137	401	1328
6:00 PM	0	0	0	0	0	0	0	8	0	2	0	10	0	0	250	13	0	263	0	2	138	0	0	140	413	1454
6:15 PM	0	0	0	0	0	0	0	8	0	2	0	10	0	0	206	8	0	214	0	0	121	0	0	121	345	1507
6:30 PM	0	0	0	0	0	0	0	1	0	2	0	3	0	0	262	3	0	265	0	1	120	0	0	121	389	1548
6:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	168	2	0	170	0	1	94	0	0	95	267	1414
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	18	0	16	0	34	0	0	788	26	0	814	0	11	469	0	0	480	1454	
PHF						####						0.61						0.81						0.88		
SEASONAL ADJUSTMENT FACTOR = 1	0	0	0	0	0	0	0	18	0	16	0	34	0	0	788	26	0	814	0	11	469	0	0	480		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	20	0	18	0	38	0	0	883	29	0	912	0	12	525	0	0	538		



TURNING MOVEMENT DATA

NELSON & POPE

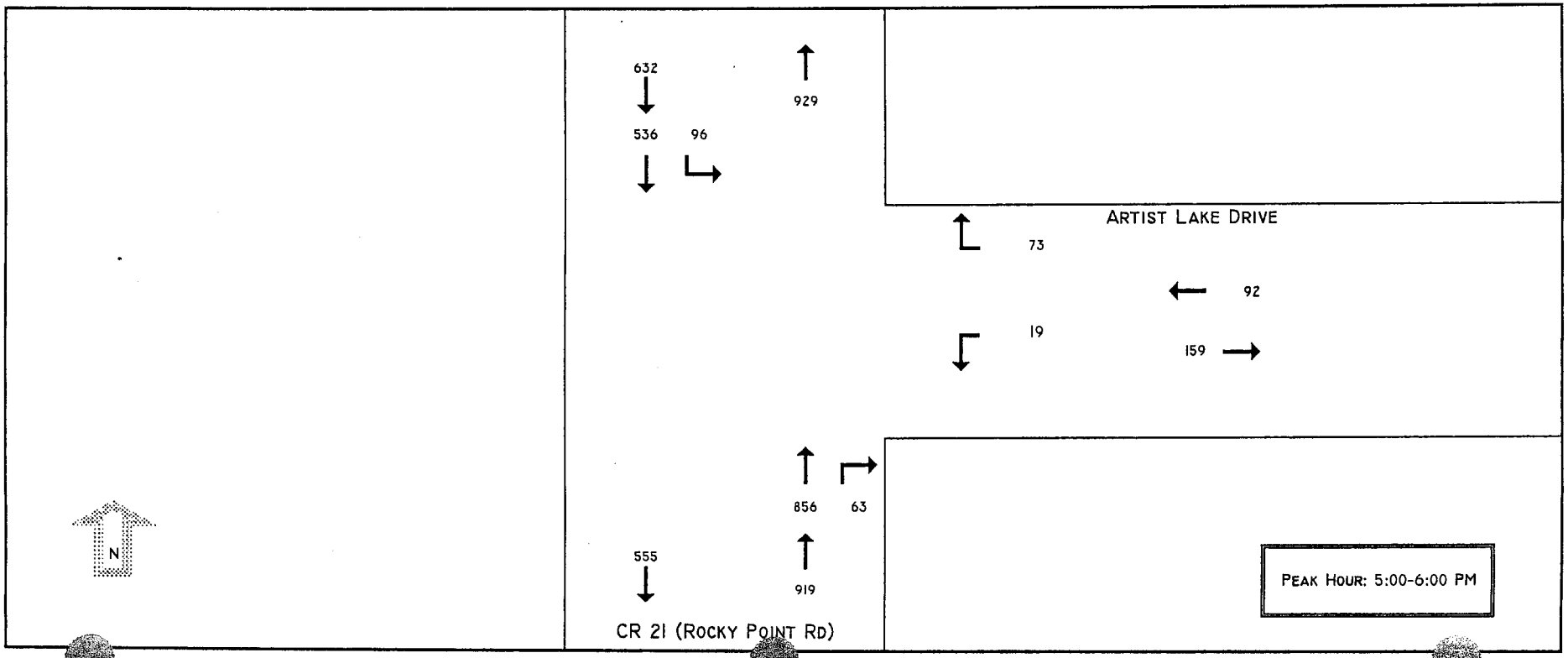
INTERSECTION: ARTIST LAKE DRIVE @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	6	0	8	0	14	0	0	169	12	0	181	0	17	116	0	0	133	328	
4:15 PM	0	0	0	0	0	0	0	11	0	7	0	18	0	0	221	13	0	234	0	18	128	0	0	146	398	
4:30 PM	0	0	0	0	0	0	0	5	0	12	0	17	0	0	148	17	0	165	0	24	110	0	0	134	316	
4:45 PM	0	0	0	0	0	0	0	1	0	16	0	17	0	0	177	15	0	192	0	17	102	0	0	119	328	1370
5:00 PM	0	0	0	0	0	0	0	2	0	18	0	20	0	0	186	15	0	201	0	19	137	0	0	156	377	1419
5:15 PM	0	0	0	0	0	0	0	4	0	18	0	22	0	0	229	14	0	243	0	29	162	0	0	191	456	1477
5:30 PM	0	0	0	0	0	0	0	7	0	24	0	31	0	0	229	19	0	248	0	28	112	0	0	140	419	1580
5:45 PM	0	0	0	0	0	0	0	6	0	13	0	19	0	0	212	15	0	227	0	20	125	0	0	145	391	1643
6:00 PM	0	0	0	0	0	0	0	4	0	20	0	24	0	0	235	19	0	254	0	30	114	0	0	144	422	1688
6:15 PM	0	0	0	0	0	0	0	9	0	14	0	23	0	0	173	11	0	184	0	33	104	0	0	137	344	1576
6:30 PM	0	0	0	0	0	0	0	4	0	18	0	22	0	0	187	16	0	203	0	30	86	0	0	116	341	1498
6:45 PM	0	0	0	0	0	0	0	8	0	13	0	21	0	0	163	17	0	180	0	33	106	0	0	139	340	1447
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	19	0	73	0	92	0	0	856	63	0	919	0	96	536	0	0	632	1643	
PHF						####						0.74						0.93						0.83		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	19	0	73	0	92	0	0	856	63	0	919	0	96	536	0	0	632		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	21	0	82	0	103	0	0	959	71	0	1029	0	108	600	0	0	708		



TURNING MOVEMENT DATA

NELSON & POPE

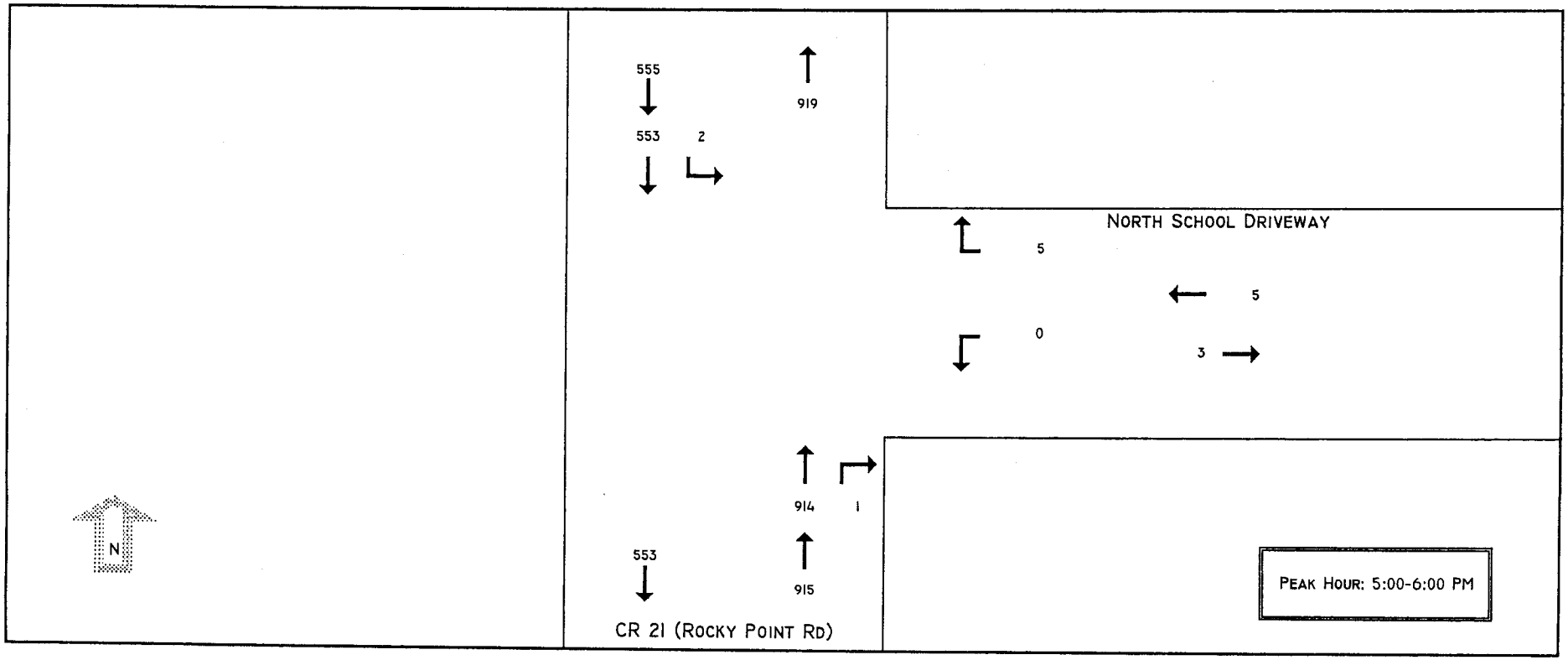
INTERSECTION: NORTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	0	0	181	0	1	121	0	0	122	303	
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	232	1	0	233	0	1	138	0	0	139	374	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165	0	0	165	0	0	115	0	0	115	280	
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	191	0	0	191	0	0	103	0	0	103	295	1252
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	200	1	0	201	0	1	138	0	0	139	341	1290
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	241	0	0	241	0	1	165	0	0	166	409	1325
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	246	0	0	246	0	0	119	0	0	119	367	1412
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227	0	0	227	0	0	131	0	0	131	358	1475
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	253	0	0	253	0	3	115	0	0	118	372	1506
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	183	0	0	183	0	0	113	0	0	113	297	1394
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	202	0	0	202	0	1	89	0	0	90	293	1320
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180	0	0	180	0	1	113	0	0	114	294	1256
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	0	0	5	0	5	0	0	914	1	0	915	0	2	553	0	0	555	1475	
PHF						####						0.63						0.93						0.84		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	914	1	0	915	0	2	553	0	0	555		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	0	0	6	0	6	0	0	1024	1	0	1025	0	2	619	0	0	622		



I:\2000\00088\TRAFFIC\Counts\final network\Weekday_PM.xls

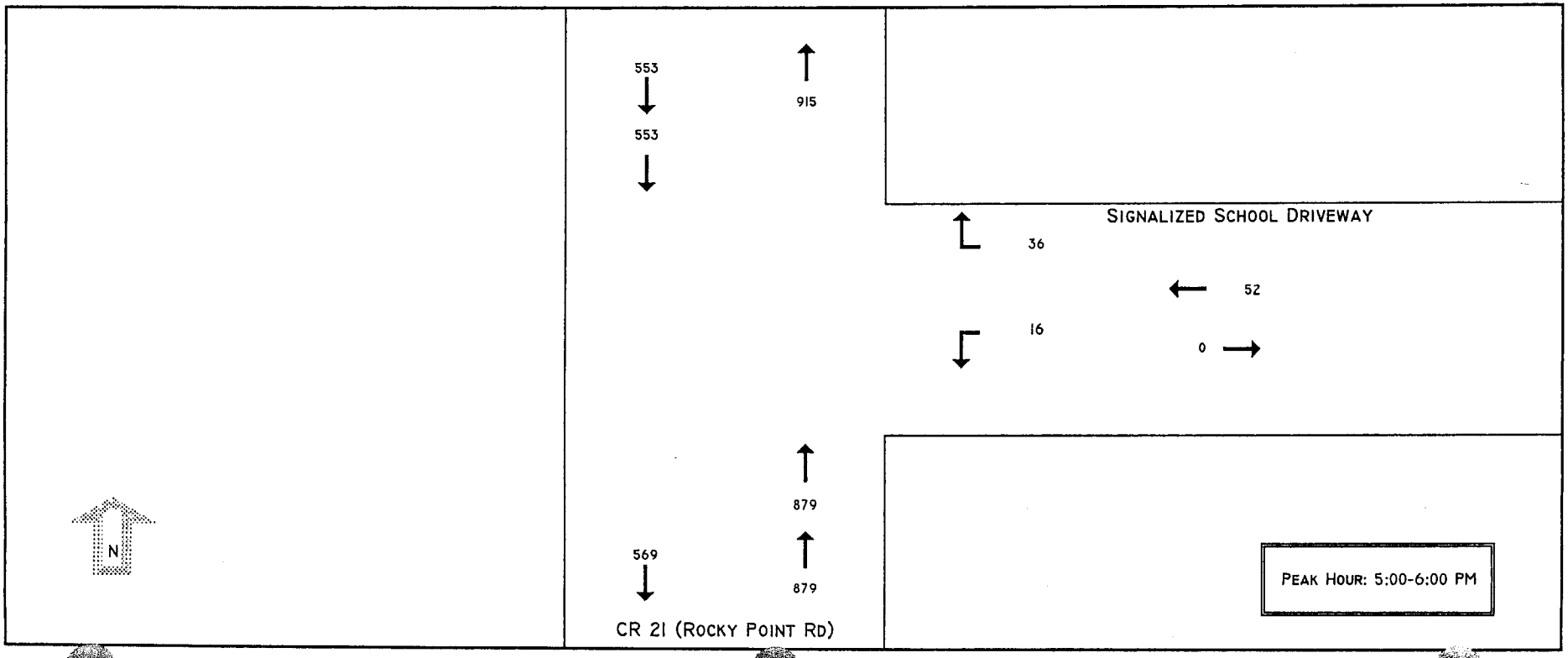
INTERSECTION: SIGNALIZED SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	7	0	1	0	8	0	0	180	0	0	180	0	0	121	0	0	121	309	
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	233	0	0	233	0	0	138	0	0	138	373	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	165	0	0	165	0	0	115	0	0	115	281	
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	191	0	0	191	0	0	103	0	0	103	295	1258
5:00 PM	0	0	0	0	0	0	0	2	0	2	0	4	0	0	199	0	0	199	0	0	138	0	0	138	341	1290
5:15 PM	0	0	0	0	0	0	0	3	0	8	0	11	0	0	233	0	0	233	0	0	165	0	0	165	409	1326
5:30 PM	0	0	0	0	0	0	0	1	0	21	0	22	0	0	225	0	0	225	0	0	119	0	0	119	366	1411
5:45 PM	0	0	0	0	0	0	0	10	0	5	0	15	0	0	222	0	0	222	0	0	131	0	0	131	368	1484
6:00 PM	0	0	0	0	0	0	0	1	0	3	0	4	0	0	250	0	0	250	0	0	115	0	0	115	369	1512
6:15 PM	0	0	0	0	0	0	0	1	0	5	0	6	0	0	178	0	0	178	0	0	113	0	0	113	297	1400
6:30 PM	0	0	0	0	0	0	0	3	0	6	0	9	0	0	196	0	0	196	0	0	89	0	0	89	294	1328
6:45 PM	0	0	0	0	0	0	0	6	0	3	0	9	0	0	177	0	0	177	0	0	113	0	0	113	299	1259
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	16	0	36	0	52	0	0	879	0	0	879	0	0	553	0	0	553	1484	
PHF						####						0.59						0.94						0.84		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	16	0	36	0	52	0	0	879	0	0	879	0	0	553	0	0	553		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	18	0	40	0	58	0	0	984	0	0	984	0	0	619	0	0	619		



TURNING MOVEMENT DATA

NELSON & POPE

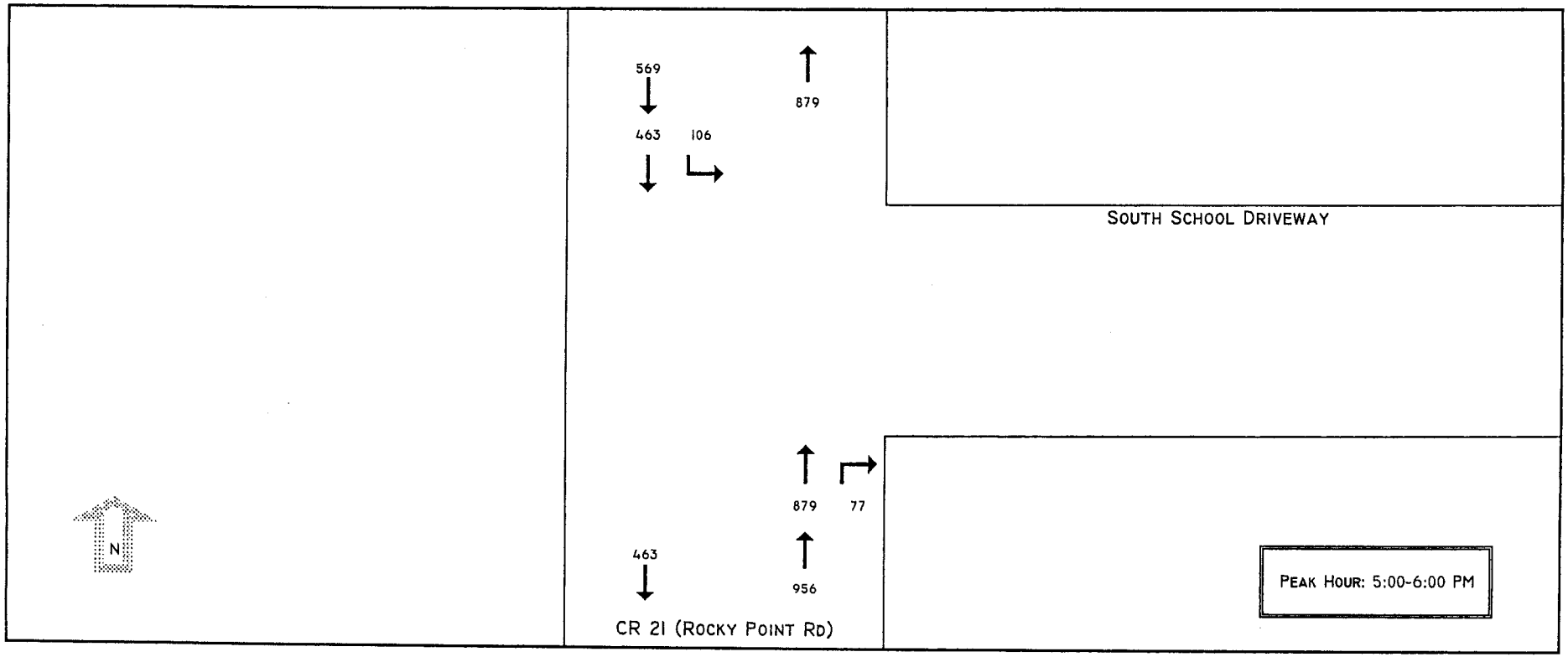
INTERSECTION: SOUTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/12/2007 PM

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180	1	0	181	0	0	128	0	0	128	309	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233	0	0	233	0	0	140	0	0	140	373	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165	3	0	168	0	2	114	0	0	116	284	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191	3	0	194	0	1	103	0	0	104	298	1264
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	199	16	0	215	0	13	127	0	0	140	355	1310
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233	30	0	263	0	51	117	0	0	168	431	1368
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	17	0	242	0	27	93	0	0	120	362	1446
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	222	14	0	236	0	15	126	0	0	141	377	1525
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	7	0	257	0	10	106	0	0	116	373	1543
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	11	0	189	0	5	109	0	0	114	303	1415
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195	9	0	204	0	6	86	0	0	92	296	1349
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177	3	0	180	0	19	100	0	0	119	299	1271
PEAK HOUR: 5:00-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	879	77	0	956	0	106	463	0	0	569	1525	
PHF						####						####						0.91						0.85		
SEASONAL ADJUSTMENT FACTOR = 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	879	77	0	956	0	106	463	0	0	569		
2015 AMBIENT NO BUILD = 1.12 *ROW 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	984	86	0	1071	0	119	519	0	0	637		



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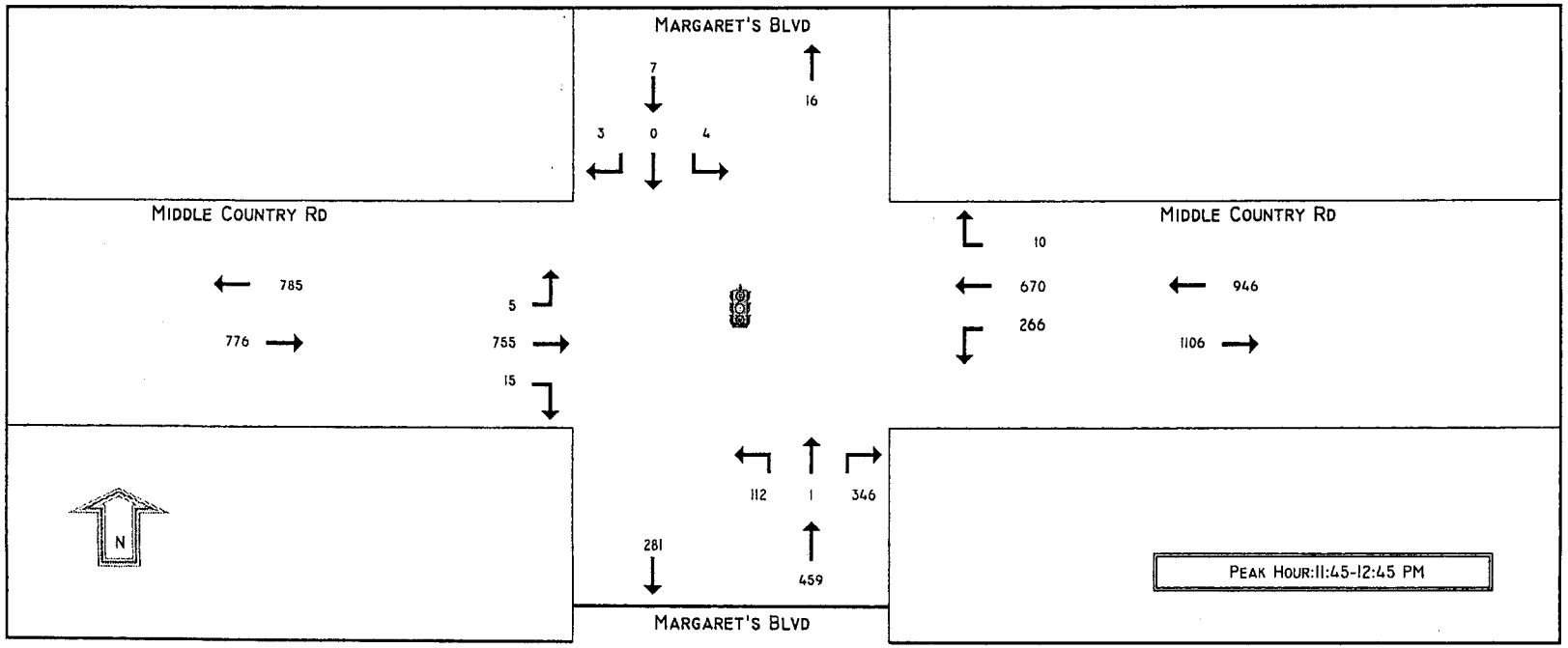
INTERSECTION: MIDDLE COUNTRY RD @ MARGARET'S BLVD

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/02/07 SAT

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	2	175	3	0	180	0	57	147	1	1	206	0	20	1	33	7	61	0	1	0	0	0	1	448	
11:15 AM	0	0	182	2	1	185	0	56	159	0	0	215	0	21	0	72	17	110	0	2	0	1	0	3	513	
11:30 AM	0	0	193	1	3	197	0	73	175	0	0	248	0	34	0	50	15	99	0	1	0	2	0	3	547	
11:45 AM	0	0	187	1	3	191	0	77	156	0	0	233	0	42	1	56	20	119	0	3	0	1	1	5	548	2056
12:00 PM	0	1	176	0	5	182	0	56	149	1	2	208	0	18	0	72	19	109	0	0	0	0	0	0	499	2107
12:15 PM	0	3	168	0	3	174	0	64	161	0	0	225	0	23	0	73	15	111	0	1	0	1	0	2	512	2106
12:30 PM	0	1	176	0	2	179	0	52	161	6	0	219	0	22	0	54	15	91	0	0	0	0	0	0	489	2048
12:45 PM	0	2	154	1	4	161	0	59	155	0	0	214	0	22	0	74	26	122	0	2	1	4	0	7	504	2004
1:00 PM	0	0	170	7	2	179	0	60	179	1	1	241	0	53	0	56	12	121	0	3	0	2	0	5	546	2051
1:15 PM	0	0	139	0	3	142	0	64	146	0	0	210	0	32	0	44	20	96	0	3	0	2	0	5	453	1992
1:30 PM	0	1	170	2	5	178	0	53	157	0	0	210	0	27	1	49	12	89	0	4	1	0	0	5	482	1985
1:45 PM	0	1	173	3	2	179	0	71	178	0	0	249	0	28	0	37	31	96	0	2	0	0	0	2	526	2007
2:00 PM	0	1	165	4	1	171	0	65	174	0	0	239	0	21	1	31	21	74	0	0	0	0	0	0	484	1945
2:15 PM	0	0	185	4	3	192	0	35	182	0	0	217	0	32	0	33	21	86	0	1	1	0	0	2	497	1989
2:30 PM	0	1	111	7	3	122	0	50	130	3	2	185	0	25	1	26	19	71	0	0	0	0	0	0	378	1885
2:45 PM	0	1	81	2	6	90	0	37	128	1	1	167	0	18	0	22	18	58	0	1	0	1	0	2	317	1676
PEAK HOUR:11:45-12:45 PM	0	5	707	1	13	726	0	249	627	7	2	885	0	105	1	255	69	430	0	4	0	2	1	7	2048	
PHF						0.95						0.95						0.90						0.35		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	5	755	1	14	776	0	266	670	7	2	946	0	112	1	272	74	459	0	4	0	2	1	7		
2015 AMBIENT NO BUILD = 1.12 *ROW 24	0	6	846	1	16	869	0	298	750	8	2	1059	0	126	1	305	83	515	0	5	0	2	1	8		



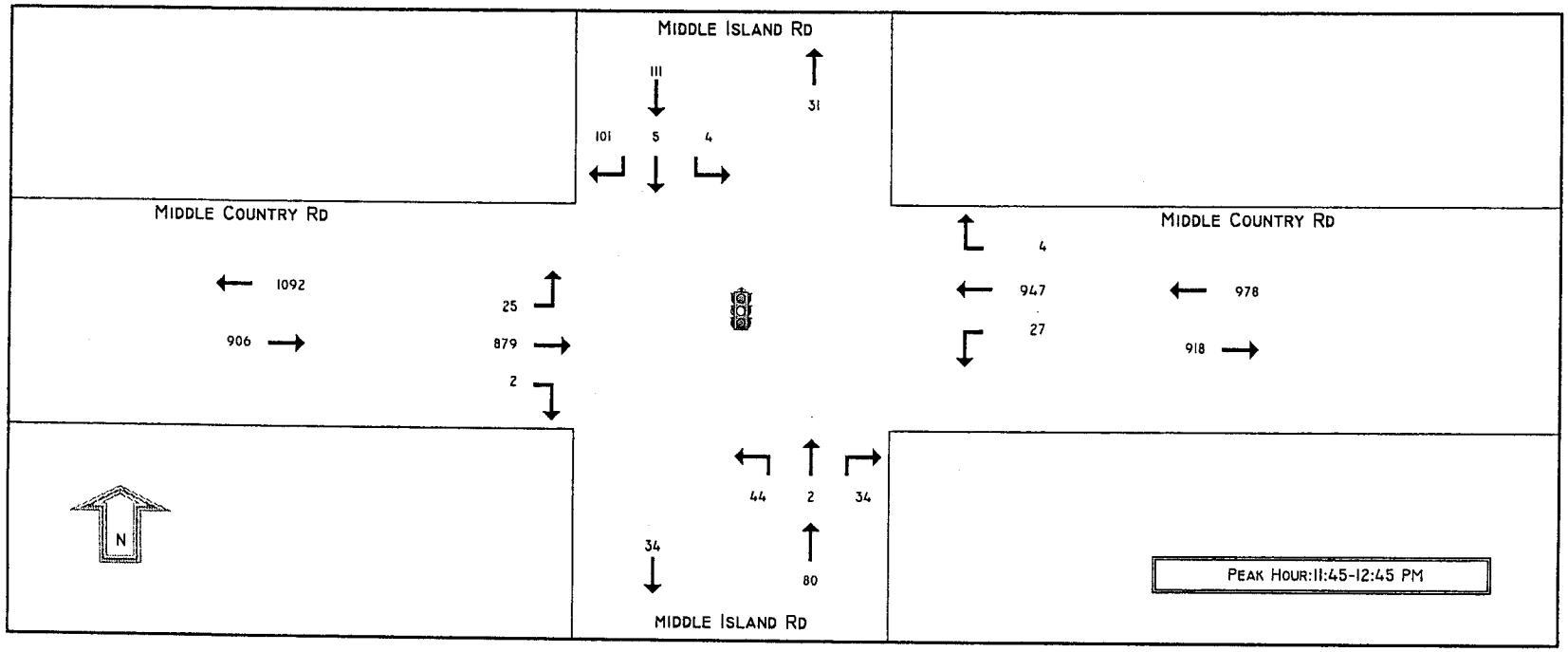
INTERSECTION: MIDDLE COUNTRY RD @ MIDDLE ISLAND RD

DATE COLLECTED: 6/02/07 SAT

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	1	230	3	0	234	0	1	228	2	1	232	0	3	0	3	0	6	0	1	0	6	13	20	492	
11:15 AM	0	0	206	1	0	207	0	5	207	0	0	212	0	11	0	3	1	15	0	0	1	7	21	29	463	
11:30 AM	0	0	183	0	0	183	0	6	222	1	0	229	0	9	0	5	1	15	0	2	3	7	19	31	458	
11:45 AM	0	0	169	0	0	169	0	4	210	1	0	215	0	10	0	4	4	18	0	1	1	6	20	28	430	1843
12:00 PM	0	0	230	1	0	231	0	3	229	0	0	232	0	13	0	9	2	24	0	2	2	2	18	24	511	1862
12:15 PM	0	10	216	1	0	227	0	10	217	1	0	228	0	12	1	4	0	17	0	0	1	11	18	30	502	1901
12:30 PM	0	13	208	0	0	221	0	8	230	2	0	240	0	6	1	6	3	16	0	1	1	8	12	22	499	1942
12:45 PM	0	8	197	1	0	206	0	11	229	0	0	240	0	6	1	3	4	14	0	1	0	6	13	20	480	1992
1:00 PM	0	12	192	0	0	204	0	14	197	8	0	219	0	8	0	9	1	18	0	0	1	6	19	26	467	1948
1:15 PM	0	11	201	1	0	213	0	14	229	1	0	244	0	7	1	3	2	13	0	0	0	4	31	35	505	1951
1:30 PM	0	16	202	0	0	218	0	11	207	2	0	220	0	9	0	10	0	19	0	4	3	4	15	26	483	1935
1:45 PM	0	9	176	0	0	185	0	12	211	2	0	225	0	7	0	2	5	14	0	3	4	5	16	28	452	1907
2:00 PM	0	10	167	0	0	177	0	8	209	3	0	220	0	8	1	3	5	17	0	1	3	7	13	24	438	1878
2:15 PM	0	4	187	0	0	191	0	11	201	1	0	213	0	11	0	5	0	16	0	0	0	3	7	10	430	1803
2:30 PM	0	7	178	1	0	186	0	8	185	2	0	195	0	5	0	0	6	11	0	1	0	4	9	14	406	1726
2:45 PM	0	8	197	0	0	205	0	5	161	1	0	167	0	5	0	3	4	12	0	3	0	4	13	20	404	1678
PEAK HOUR:11:45-12:45 PM	0	23	823	2	0	848	0	25	886	4	0	915	0	41	2	23	9	75	0	4	5	27	68	104	1942	
PHF						0.92						0.95						0.78						0.87		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	25	879	2	0	906	0	27	947	4	0	978	0	44	2	25	10	80	0	4	5	29	73	111		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	28	985	2	0	1015	0	30	1060	5	0	1095	0	49	2	28	11	90	0	5	6	32	81	124		



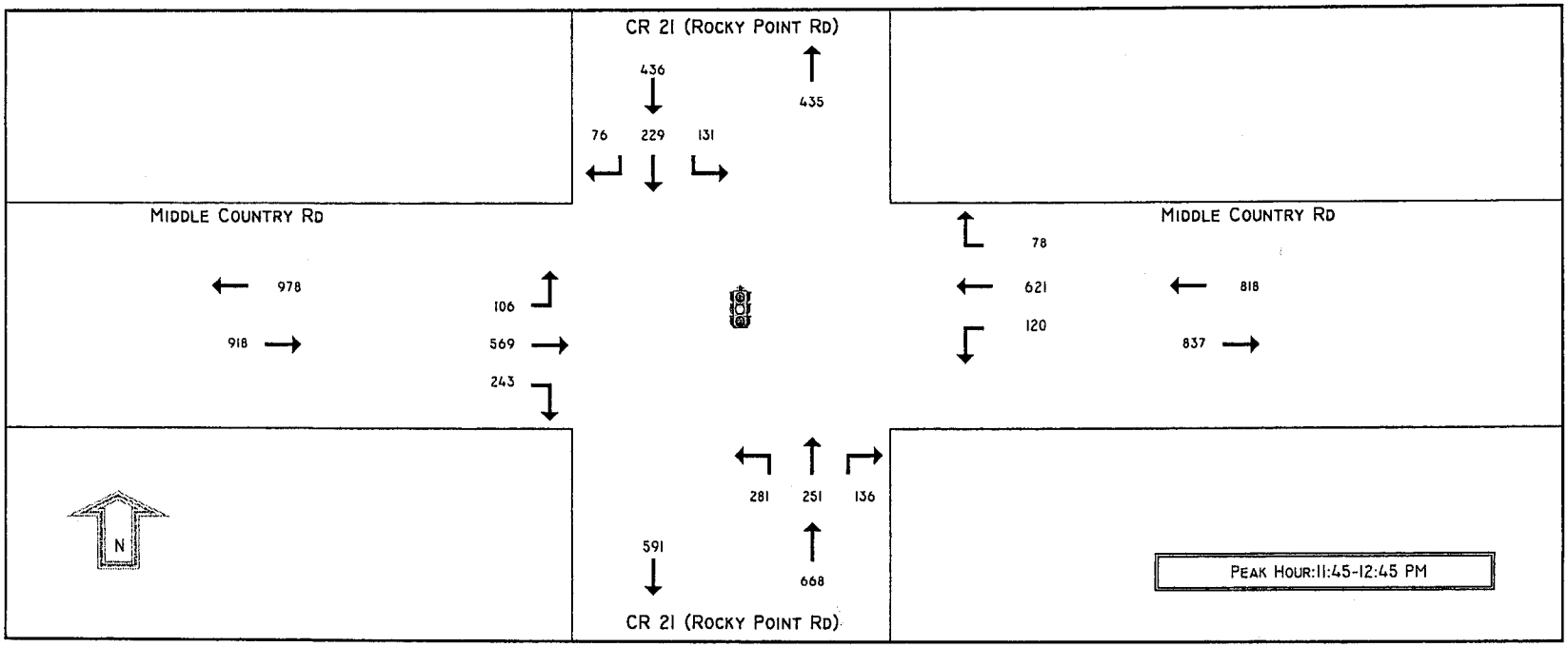
INTERSECTION: MIDDLE COUNTRY RD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/02/07 SAT

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	24	150	47	13	234	0	30	142	21	1	194	0	61	45	18	7	131	0	24	42	29	0	95	654	
11:15 AM	0	19	143	39	9	210	0	34	136	31	0	201	0	66	48	19	3	136	0	24	63	10	0	97	644	
11:30 AM	0	23	116	41	11	191	0	45	138	21	0	204	0	66	54	25	0	145	0	31	61	24	1	117	657	
11:45 AM	0	10	114	44	10	178	0	28	132	25	3	188	0	65	65	17	1	148	0	44	62	17	1	124	638	2593
12:00 PM	0	39	147	51	6	243	0	28	152	12	0	192	0	65	65	14	6	150	0	25	75	15	0	115	700	2639
12:15 PM	0	34	128	51	7	220	0	25	131	14	1	171	0	69	51	41	3	164	0	21	22	15	13	71	626	2621
12:30 PM	0	16	144	49	9	218	0	31	166	18	0	215	0	64	54	44	1	163	0	33	55	10	0	98	694	2658
12:45 PM	0	22	131	45	7	205	0	31	168	30	1	230	0	57	45	19	1	122	0	32	61	15	0	108	665	2685
1:00 PM	0	29	125	37	11	202	0	24	123	24	1	172	0	79	47	16	1	143	0	21	73	16	1	111	628	2613
1:15 PM	0	20	128	49	9	206	0	24	147	11	2	184	0	82	61	22	1	166	0	29	58	13	2	102	658	2645
1:30 PM	0	19	131	54	12	216	0	21	145	23	0	189	0	63	48	18	2	131	0	25	64	9	3	101	637	2588
1:45 PM	0	13	121	39	13	186	0	24	155	22	1	202	0	53	47	22	0	122	0	19	65	17	0	101	611	2534
2:00 PM	0	17	91	57	11	176	0	15	144	15	0	174	0	60	49	26	4	139	0	23	57	16	0	96	585	2491
2:15 PM	0	15	114	54	9	192	0	20	136	19	1	176	0	60	45	21	1	127	0	29	58	17	0	104	599	2432
2:30 PM	0	13	112	48	12	185	0	30	120	20	1	171	0	58	44	26	2	130	0	31	67	14	3	115	601	2396
2:45 PM	0	30	114	52	11	207	0	8	94	14	0	116	0	59	42	24	3	128	0	27	48	12	2	89	540	2325
PEAK HOUR:11:45-12:45 PM	0	99	533	195	32	859	0	112	581	69	4	766	0	263	235	116	11	625	0	123	214	57	14	408	2658	
PHF						0.88						0.89						0.95						0.82		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	106	569	208	34	918	0	120	621	74	4	818	0	281	251	124	12	668	0	131	229	61	15	436		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	118	638	233	38	1028	0	134	695	83	5	917	0	315	281	139	13	748	0	147	256	68	17	488		



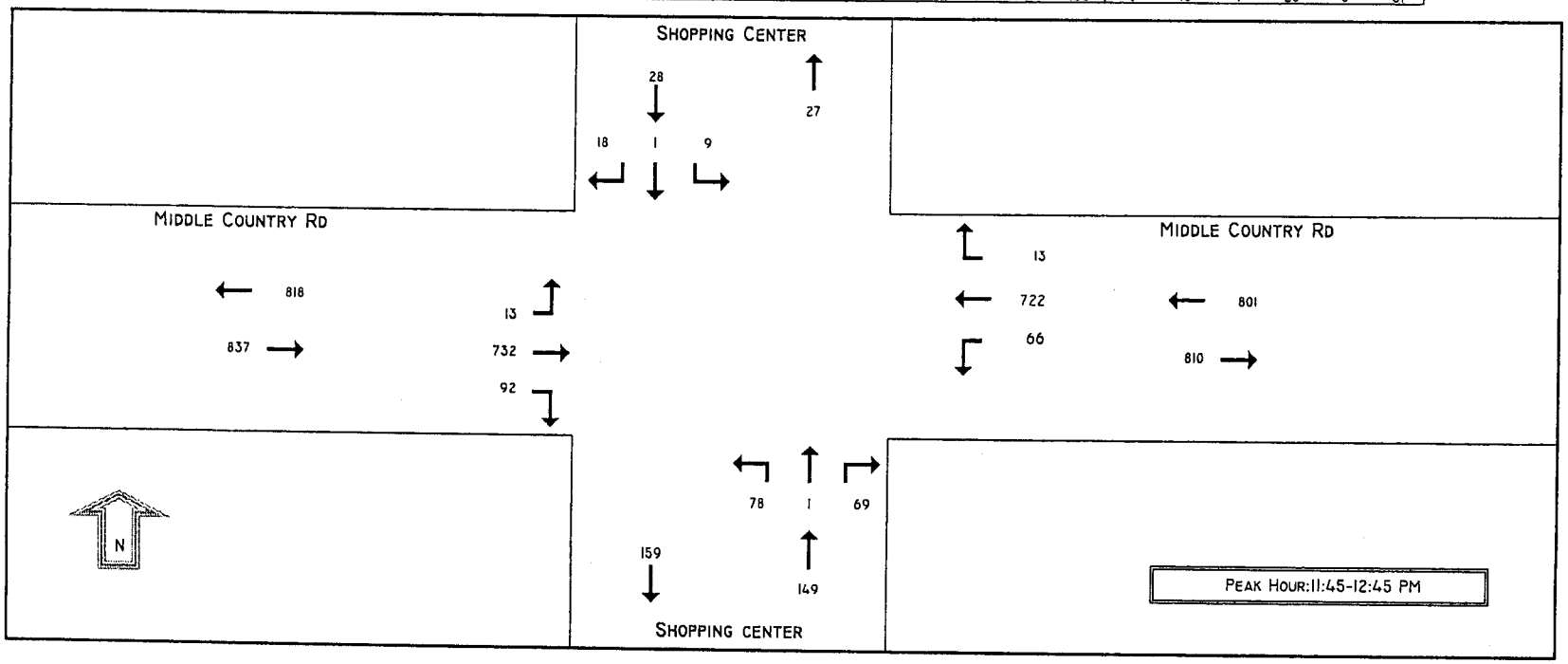
INTERSECTION: MIDDLE COUNTRY RD @ SHOPPING CENTER

DATE COLLECTED: 6/02/07 SAT

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	5	181	13	0	199	0	14	166	1	0	181	0	22	0	12	0	34	0	1	0	6	0	7	421	
11:15 AM	0	4	160	25	0	189	0	16	179	2	0	197	0	17	0	13	0	30	0	3	1	5	0	9	425	
11:30 AM	0	1	141	30	0	172	0	17	170	4	0	191	0	32	0	16	0	48	0	2	0	2	0	4	415	
11:45 AM	0	2	149	25	0	176	0	13	165	2	0	180	0	18	0	16	0	34	0	4	0	5	0	9	399	1660
12:00 PM	0	4	169	19	0	192	0	17	170	2	0	189	0	18	0	15	0	33	0	1	0	4	0	5	419	1658
12:15 PM	0	5	162	26	0	193	0	16	152	6	0	174	0	17	1	18	0	36	0	3	0	2	0	5	408	1641
12:30 PM	0	1	205	16	0	222	0	16	189	2	0	207	0	20	0	16	0	36	0	0	1	6	0	7	472	1698
12:45 PM	0	2	145	36	0	183	0	17	207	4	0	228	0	20	0	15	0	35	0	3	0	3	0	6	452	1751
1:00 PM	0	4	136	23	0	163	0	16	134	3	0	153	0	26	2	21	0	49	0	4	1	12	0	17	382	1714
1:15 PM	0	2	149	29	0	180	0	19	163	2	0	184	0	15	2	18	0	35	0	4	2	6	0	12	411	1717
1:30 PM	0	3	155	18	0	176	0	17	163	7	0	187	0	17	0	15	0	32	0	3	0	9	0	12	407	1652
1:45 PM	0	4	136	22	0	162	0	17	176	1	0	194	0	19	0	8	0	27	0	1	0	7	0	8	391	1591
2:00 PM	0	2	116	26	0	144	0	12	161	1	0	174	0	12	0	12	0	24	0	1	0	1	0	2	344	1553
2:15 PM	0	0	145	20	0	165	0	8	159	0	0	167	0	14	0	8	0	22	0	1	2	1	0	4	358	1500
2:30 PM	0	2	146	23	0	171	0	9	125	0	0	134	0	16	0	16	0	32	0	0	0	0	0	0	337	1430
2:45 PM	0	6	146	16	0	168	0	9	105	0	0	114	0	8	1	4	0	13	0	0	0	3	0	3	298	1337
PEAK HOUR:11:45-12:45 PM	0	12	685	86	0	783	0	62	676	12	0	750	0	73	1	65	0	139	0	8	1	17	0	26	1698	
PHF						0.88						0.91						0.97						0.72		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	13	732	92	0	837	0	66	722	13	0	801	0	78	1	69	0	149	0	9	1	18	0	28		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	14	820	103	0	937	0	74	809	14	0	897	0	87	1	78	0	166	0	10	1	20	0	31		



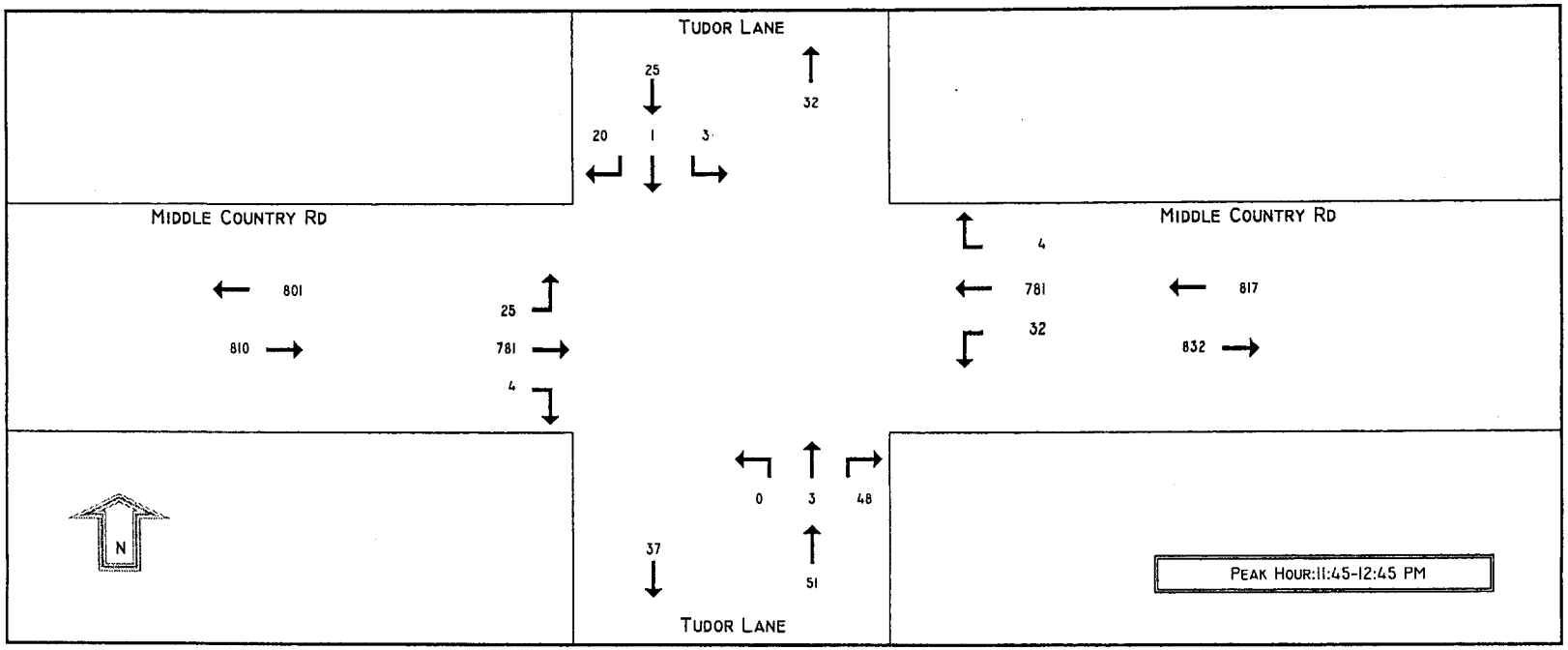
INTERSECTION: MIDDLE COUNTRY RD @ TUDOR LANE

DATE COLLECTED: 6/02/07 SAT

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

Start Time	Eastbound						Westbound						Northbound						Southbound						Total	Cum. Hourly
	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total	U-Turn	Left	Thru	Right	RTOR	Total		
11:00 AM	0	4	186	4	0	194	0	8	177	1	0	186	0	0	1	15	0	16	0	2	0	4	0	6	402	
11:15 AM	0	0	175	1	0	176	0	12	191	0	0	203	0	0	0	13	0	13	0	0	1	6	0	7	399	
11:30 AM	0	5	154	0	0	159	0	8	181	0	0	189	0	0	0	14	0	14	0	0	0	10	0	10	372	
11:45 AM	0	9	158	2	0	169	0	11	177	0	0	188	0	0	0	9	0	9	0	2	0	3	0	5	371	1544
12:00 PM	0	4	180	1	0	185	0	7	182	1	0	190	0	0	0	13	0	13	0	0	1	7	0	8	396	1538
12:15 PM	0	4	178	1	0	183	0	7	168	2	0	177	0	0	1	10	0	11	0	1	0	6	0	7	378	1517
12:30 PM	0	6	215	0	0	221	0	5	204	1	0	210	0	0	2	13	0	15	0	0	0	3	0	3	449	1594
12:45 PM	0	4	158	1	0	163	0	7	225	2	0	234	0	0	0	14	0	14	0	1	0	3	0	4	415	1638
1:00 PM	0	3	158	0	0	161	0	8	149	1	0	158	0	0	0	12	0	12	0	2	0	4	0	6	337	1579
1:15 PM	0	6	165	0	0	171	0	6	180	1	0	187	0	0	0	13	0	13	0	1	0	4	0	5	376	1577
1:30 PM	0	0	173	0	0	173	0	4	185	0	0	189	0	0	0	7	0	7	0	1	0	2	0	3	372	1500
1:45 PM	0	4	140	1	0	145	0	3	191	1	0	195	0	0	0	6	0	6	0	1	0	3	0	4	350	1435
2:00 PM	0	1	127	1	0	129	0	5	171	1	0	177	0	0	0	16	0	16	0	1	1	3	0	5	327	1425
2:15 PM	0	3	151	0	0	154	0	8	159	2	0	169	0	0	0	10	0	10	0	1	0	8	0	9	342	1391
2:30 PM	0	1	161	0	0	162	0	3	132	1	0	136	0	0	1	12	0	13	0	0	0	2	0	2	313	1332
2:45 PM	0	3	145	2	0	150	0	4	109	1	0	114	0	0	1	16	0	17	0	0	0	5	0	5	286	1268
Peak Hour:11:45-12:45 PM	0	23	731	4	0	758	0	30	731	4	0	765	0	0	3	45	0	48	0	3	1	19	0	23	1594	
PHF						0.86						0.91						0.80						0.72		
Seasonal Adjustment Factor = 0.936	0	25	781	4	0	810	0	32	781	4	0	817	0	0	3	48	0	51	0	3	1	20	0	25		
2015 Ambient No Build = 1.12 *Row 24	0	28	875	5	0	907	0	36	875	5	0	915	0	0	4	54	0	57	0	4	1	23	0	28		



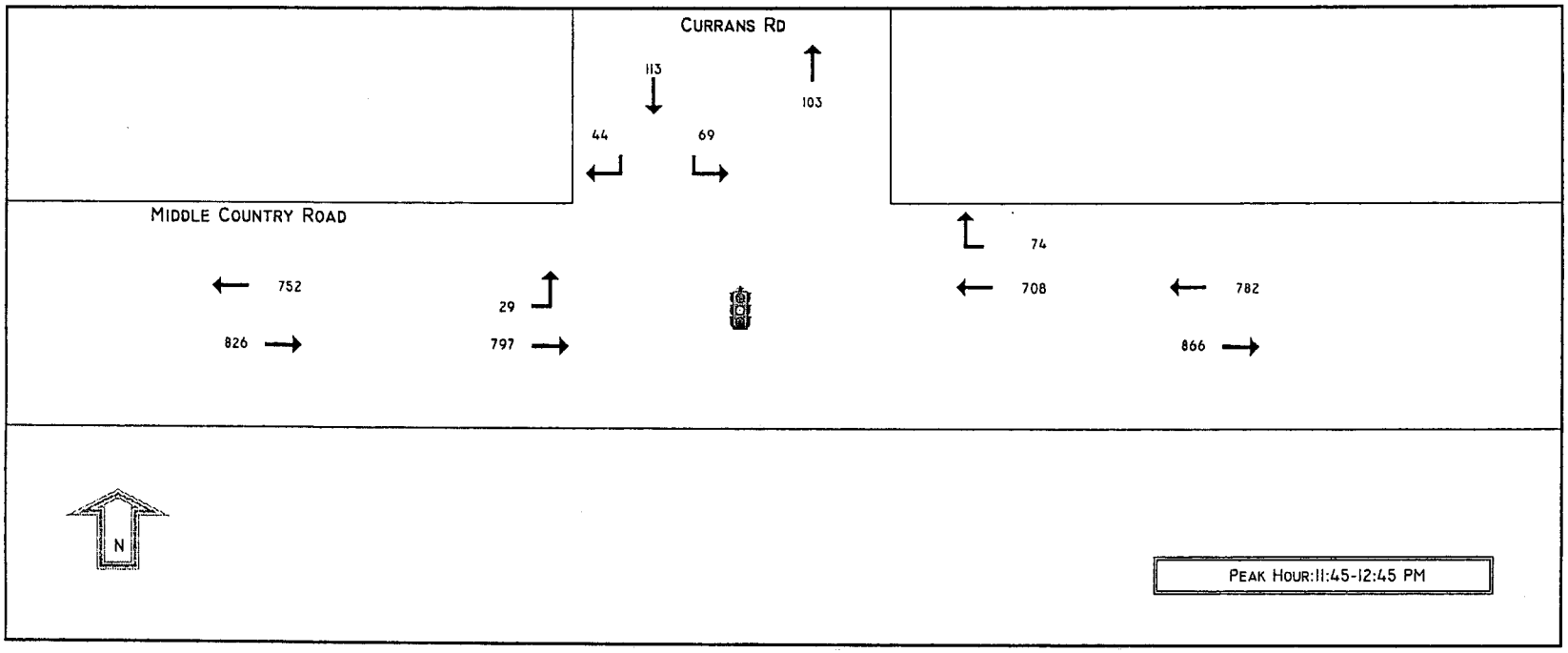
INTERSECTION: MIDDLE COUNTRY ROAD @ CURRANS RD

DATE COLLECTED: 6/16/07 SATURDAY

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	8	144	0	0	152	0	0	139	13	0	152	0	0	0	0	0	0	0	2	0	15	0	17	321	
11:15 AM	0	10	190	0	0	200	0	0	184	24	0	208	0	0	0	0	0	0	0	8	0	9	0	17	425	
11:30 AM	0	9	182	0	0	191	0	0	192	10	0	202	0	0	0	0	0	0	0	15	0	14	0	29	422	
11:45 AM	0	7	184	0	0	191	0	0	148	19	0	167	0	0	0	0	0	0	0	19	0	12	0	31	389	1557
12:00 PM	0	8	201	0	0	209	0	0	188	15	0	203	0	0	0	0	0	0	0	13	0	9	0	22	434	1670
12:15 PM	0	8	195	0	0	203	0	0	175	19	0	194	0	0	0	0	0	0	0	16	0	7	0	23	420	1665
12:30 PM	0	4	166	0	0	170	0	0	152	16	0	168	0	0	0	0	0	0	0	17	0	13	0	30	368	1611
12:45 PM	0	9	126	0	0	135	0	0	154	7	0	161	0	0	0	0	0	0	0	10	0	2	0	12	308	1530
1:00 PM	0	6	125	0	0	131	0	0	150	20	0	170	0	0	0	0	0	0	0	10	0	6	0	16	317	1413
1:15 PM	0	5	180	0	0	185	0	0	181	9	0	190	0	0	0	0	0	0	0	9	0	7	0	16	391	1384
1:30 PM	0	17	134	0	0	151	0	0	139	8	0	147	0	0	0	0	0	0	0	8	0	6	0	14	312	1328
1:45 PM	0	11	157	0	0	168	0	0	153	11	0	164	0	0	0	0	0	0	0	7	0	11	0	18	350	1370
2:00 PM	0	5	161	0	0	166	0	0	170	5	0	175	0	0	0	0	0	0	0	8	0	4	0	12	353	1406
2:15 PM	0	6	147	0	0	153	0	0	152	9	0	161	0	0	0	0	0	0	0	19	0	6	0	25	339	1354
2:30 PM	0	7	149	0	0	156	0	0	153	14	0	167	0	0	0	0	0	0	0	9	0	8	0	17	340	1382
2:45 PM	0	5	126	0	0	131	0	0	108	14	0	122	0	0	0	0	0	0	0	16	0	5	0	21	274	1306
PEAK HOUR:11:45-12:45 PM	0	27	746	0	0	773	0	0	663	69	0	732	0	0	0	0	0	0	0	65	0	41	0	106	1611	
PHF						0.92						0.90						####						0.85		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	29	797	0	0	826	0	0	708	74	0	782	0	0	0	0	0	0	0	69	0	44	0	113		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	32	893	0	0	925	0	0	793	83	0	876	0	0	0	0	0	0	0	78	0	49	0	127		



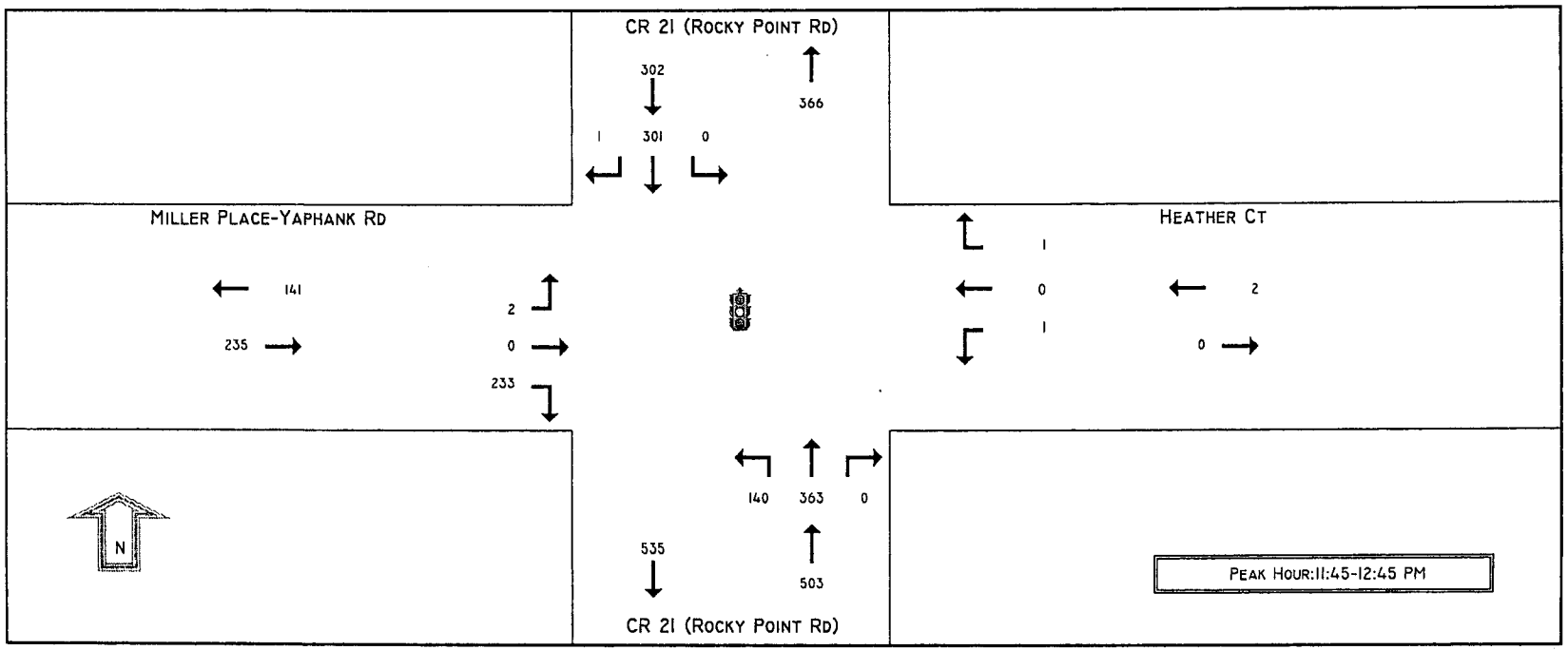
INTERSECTION: MILLER PLACE-YAPHANK RD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/16/07 SATURDAY

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	55	0	55	0	1	0	0	0	1	0	30	96	0	0	126	0	0	95	0	0	95	277	
11:15 AM	0	0	0	36	0	36	0	0	0	0	0	0	0	46	63	0	0	109	0	0	62	0	0	62	207	
11:30 AM	0	0	0	48	0	48	0	1	0	2	0	3	0	21	81	0	0	102	0	0	74	0	0	74	227	
11:45 AM	0	0	0	54	0	54	0	0	0	0	0	0	0	33	76	0	0	109	0	0	78	0	0	78	241	952
12:00 PM	0	1	0	67	0	68	0	0	0	0	0	0	0	33	93	0	0	126	0	0	67	1	0	68	262	937
12:15 PM	0	1	0	48	0	49	0	1	0	0	0	1	0	30	85	0	0	115	0	0	70	0	0	70	235	965
12:30 PM	0	0	0	49	0	49	0	0	0	1	0	1	0	35	86	0	0	121	0	0	67	0	0	67	238	976
12:45 PM	0	0	0	49	0	49	0	1	0	0	0	1	0	28	79	0	0	107	0	0	65	0	0	65	222	957
1:00 PM	0	0	0	57	0	57	0	0	0	2	0	2	0	35	75	0	0	110	0	0	61	0	0	61	230	925
1:15 PM	0	0	0	60	0	60	0	0	0	0	0	0	0	37	76	0	0	113	0	0	74	0	0	74	247	937
1:30 PM	0	0	0	74	0	74	0	0	0	0	0	0	0	20	53	4	0	77	0	0	53	1	0	54	205	904
1:45 PM	0	0	0	71	0	71	0	0	0	0	0	0	0	41	66	0	0	107	0	0	92	0	0	92	270	952
2:00 PM	0	0	0	39	0	39	0	1	0	1	0	2	0	35	68	0	0	103	0	0	50	0	0	50	194	916
2:15 PM	0	0	0	29	0	29	0	0	0	0	0	0	0	12	63	0	0	75	0	0	50	0	0	50	154	823
2:30 PM	0	0	0	35	0	35	0	0	0	1	0	1	0	17	106	0	0	123	0	0	72	0	0	72	231	849
2:45 PM	0	0	0	49	0	49	0	0	0	0	0	0	0	30	77	0	0	107	0	0	51	0	0	51	207	786
PEAK HOUR:11:45-12:45 PM	0	2	0	218	0	220	0	1	0	1	0	2	0	131	340	0	0	471	0	0	282	1	0	283	976	
PHF						0.81						0.50						0.93						0.91		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	2	0	233	0	235	0	1	0	1	0	2	0	140	363	0	0	503	0	0	301	1	0	302		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	2	0	261	0	263	0	1	0	1	0	2	0	157	407	0	0	564	0	0	337	1	0	339		



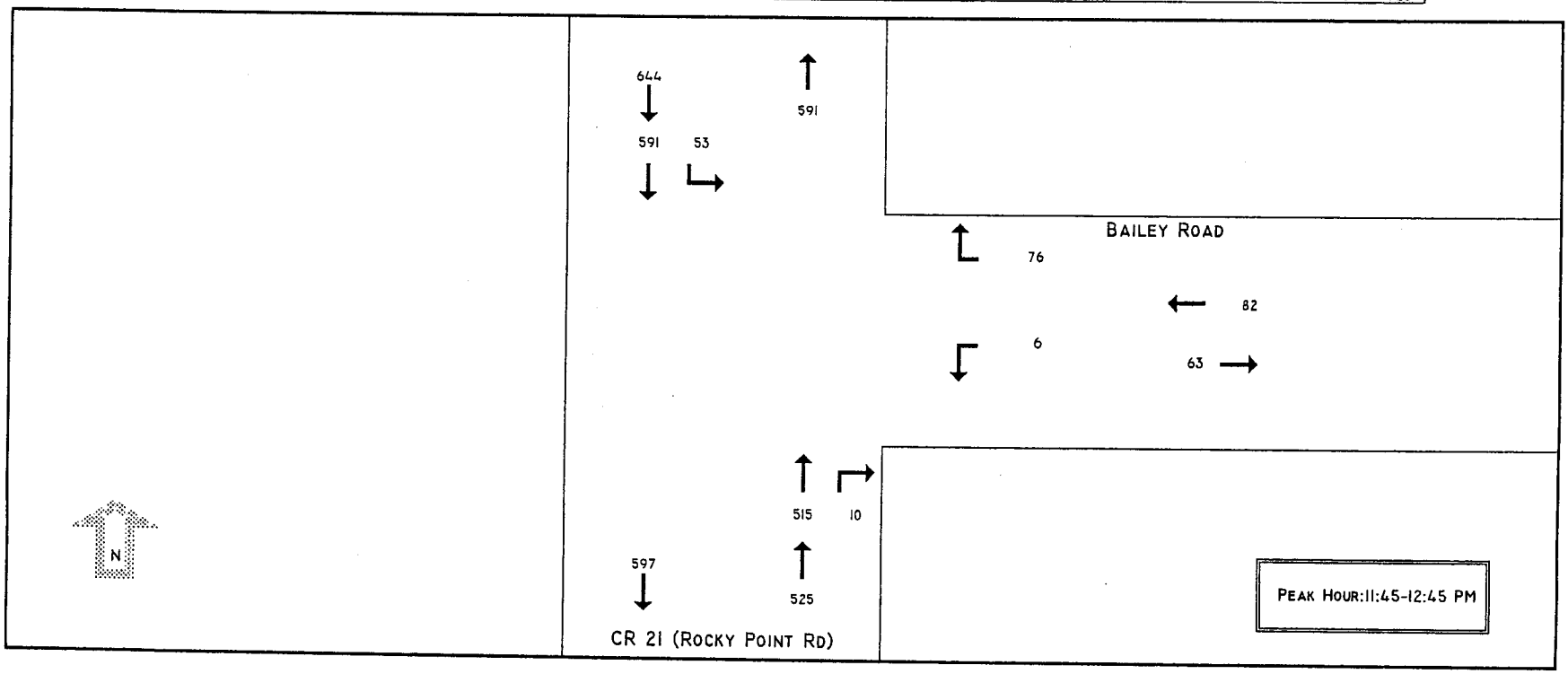
INTERSECTION: BAILEY ROAD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/02/07 SAT

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	1	0	24	0	25	0	0	109	8	0	117	0	14	150	0	0	164	306	
11:15 AM	0	0	0	0	0	0	0	4	0	24	0	28	0	0	117	6	0	123	0	20	124	0	0	144	295	
11:30 AM	0	0	0	0	0	0	0	4	0	13	0	17	0	0	109	1	0	110	0	17	163	0	0	180	307	
11:45 AM	0	0	0	0	0	0	0	1	0	21	0	22	0	0	112	3	0	115	0	8	125	0	0	133	268	1176
12:00 PM	0	0	0	0	0	0	0	3	0	17	0	20	0	0	130	3	0	133	0	12	122	0	0	134	287	1157
12:15 PM	0	0	0	0	0	0	0	2	0	17	0	19	0	0	130	3	0	133	0	15	155	0	0	170	322	1184
12:30 PM	0	0	0	0	0	0	0	0	0	16	0	16	0	0	112	0	0	112	0	15	151	1	0	167	295	1172
12:45 PM	0	0	0	0	0	0	0	2	0	15	0	17	0	0	117	0	0	117	0	16	101	1	0	118	252	1156
1:00 PM	0	0	0	0	0	0	0	0	0	9	0	9	0	0	139	3	0	142	0	7	136	0	0	145	296	1165
1:15 PM	0	0	0	0	0	0	0	0	0	21	0	21	0	0	135	3	0	138	0	7	164	0	0	171	330	1173
1:30 PM	0	0	0	0	0	0	0	1	0	16	0	17	0	0	122	3	0	125	0	18	144	0	0	162	304	1182
1:45 PM	0	0	0	0	0	0	0	3	0	24	0	27	0	0	106	3	0	109	0	14	133	0	0	147	283	1213
2:00 PM	0	0	0	0	0	0	0	2	0	14	0	16	0	0	105	0	0	105	0	10	127	0	0	137	258	1175
2:15 PM	0	0	0	0	0	0	0	2	0	31	0	33	0	0	106	0	0	106	0	8	115	0	0	123	262	1107
2:30 PM	0	0	0	0	0	0	0	1	0	17	0	18	0	1	112	1	0	114	0	19	116	0	0	135	267	1070
2:45 PM	0	0	0	0	0	0	0	2	0	18	0	20	0	0	93	0	0	93	0	16	144	0	0	160	273	1060
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	6	0	71	0	77	0	0	482	9	0	491	0	50	553	1	0	604	1172	
PHF						####						0.88						0.92						0.89		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	6	0	76	0	82	0	0	515	10	0	525	0	53	591	1	0	645		
2015 AMBIENT NO BUILD = 1.12*ROW Z4	0	0	0	0	0	0	0	7	0	85	0	92	0	0	577	11	0	588	0	60	662	1	0	723		



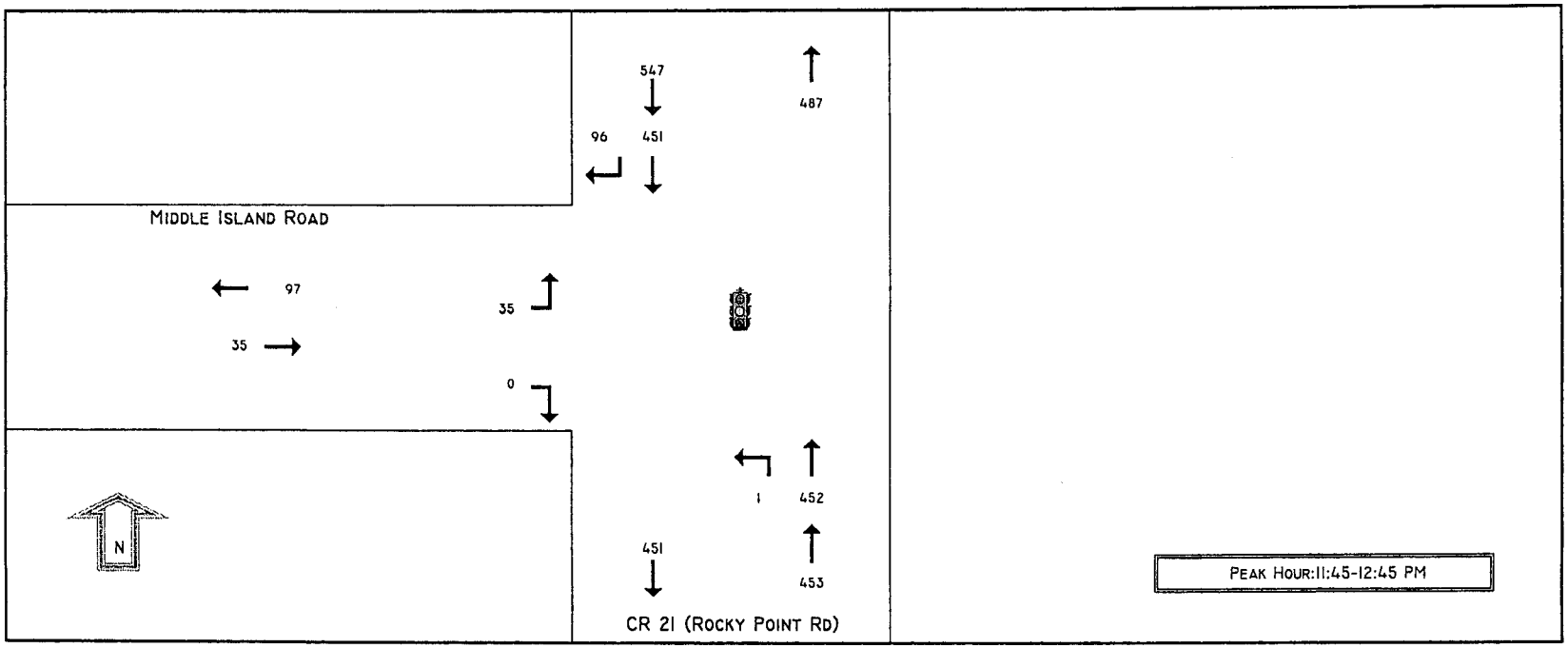
INTERSECTION: MIDDLE ISLAND ROAD @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/16/07 SAT

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	102	0	0	102	0	0	91	20	0	111	223	
11:15 AM	0	13	0	1	0	14	0	0	0	0	0	0	0	0	120	0	0	120	0	0	88	22	0	110	244	
11:30 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	102	0	0	102	0	0	116	24	0	140	249	
11:45 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	1	102	0	0	103	0	0	114	23	0	137	247	963
12:00 PM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	107	0	0	107	0	0	110	17	0	127	243	983
12:15 PM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	100	0	0	100	0	0	98	21	0	119	228	967
12:30 PM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	114	0	0	114	0	0	100	29	0	129	251	969
12:45 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	98	0	0	98	0	0	102	14	0	116	217	939
1:00 PM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	102	0	0	102	0	0	114	24	0	138	248	944
1:15 PM	0	8	0	1	0	9	0	0	0	0	0	0	0	0	101	0	0	101	0	0	97	19	0	116	226	942
1:30 PM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	87	0	0	87	0	0	110	30	0	140	233	924
1:45 PM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	102	0	0	102	0	0	120	22	0	142	253	960
2:00 PM	0	8	0	2	0	10	0	0	0	0	0	0	0	0	95	0	0	95	0	0	95	12	0	107	212	924
2:15 PM	0	6	0	0	0	6	0	0	0	0	0	0	0	0	113	0	0	113	0	0	91	17	0	108	227	925
2:30 PM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	116	0	0	116	0	0	91	17	0	108	234	926
2:45 PM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	112	0	0	112	0	0	90	18	0	108	230	903
PEAK HOUR:11:45-12:45 PM	0	33	0	0	0	33	0	0	0	0	0	0	0	1	423	0	0	424	0	0	422	90	0	512	969	
PHF						0.92						####						0.93						0.93		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	35	0	0	0	35	0	0	0	0	0	0	0	1	452	0	0	453	0	0	451	96	0	547		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	39	0	0	0	39	0	0	0	0	0	0	0	1	506	0	0	507	0	0	505	108	0	613		



TURNING MOVEMENT DATA

NELSON & POPE

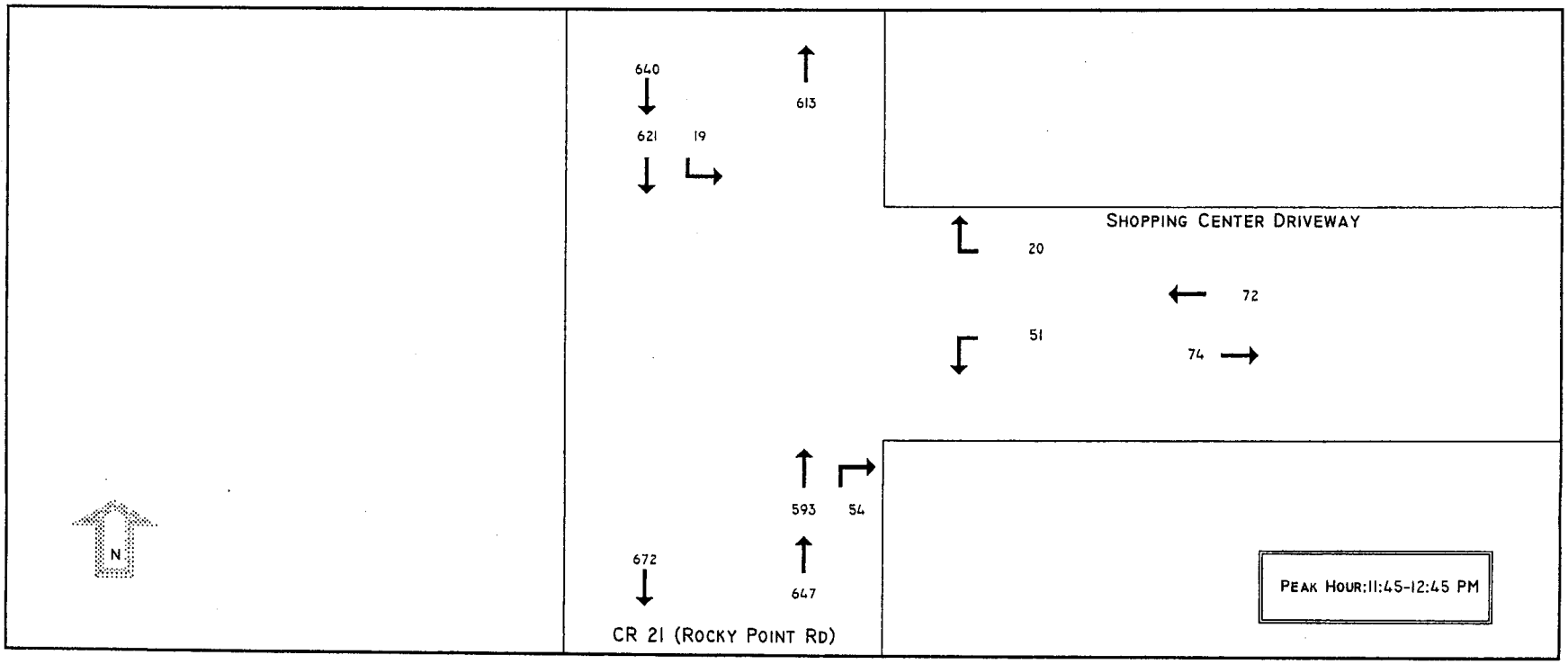
INTERSECTION: SHOPPING CENTER DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/02/2007 SAT

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	10	0	7	0	17	0	0	124	12	0	136	0	1	139	0	0	140	293	
11:15 AM	0	0	0	0	0	0	0	5	0	4	0	9	0	0	150	17	0	167	0	6	147	0	0	153	329	
11:30 AM	0	0	0	0	0	0	0	4	0	6	0	10	0	0	152	13	0	165	0	3	168	0	0	171	346	
11:45 AM	0	0	0	0	0	0	0	16	0	7	0	23	0	0	137	18	0	155	0	0	144	0	0	144	322	1290
12:00 PM	0	0	0	0	0	0	0	11	0	2	0	13	0	0	152	13	0	165	0	5	152	0	0	157	335	1332
12:15 PM	0	0	0	0	0	0	0	12	0	7	0	19	0	0	155	10	0	165	0	6	131	0	0	137	341	1344
12:30 PM	0	0	0	0	0	0	0	9	0	3	0	12	0	0	111	10	0	121	0	7	134	0	0	141	274	1272
12:45 PM	0	0	0	0	0	0	0	9		3	0	12	0	0	152	10	0	162	0	6	141	0	0	147	321	1271
1:00 PM	0	0	0	0	0	0	0	8	0	3	0	11	0	0	151	15	0	166	0	3	151	0	0	154	331	1267
1:15 PM	0	0	0	0	0	0	0	10	0	2	0	12	0	0	179	14	0	193	0	2	166	0	0	168	373	1299
1:30 PM	0	0	0	0	0	0	0	18	0	5	0	23	0	0	122	20	0	142	0	5	141	0	0	146	311	1336
1:45 PM	0	0	0	0	0	0	0	5	0	7	0	12	0	0	135	11	0	146	0	2	154	0	0	156	314	1329
2:00 PM	0	0	0	0	0	0	0	10	0	4	0	14	0	0	132	13	0	145	0	3	152	0	0	155	314	1312
2:15 PM	0	0	0	0	0	0	0	15	0	6	0	21	0	0	131	14	0	145	0	6	130	0	0	136	302	1241
2:30 PM	0	0	0	0	0	0	0	6	0	9	0	15	0	0	126	16	0	142	0	1	124	0	0	125	282	1212
2:45 PM	0	0	0	0	0	0	0	6	0	5	0	11	0	0	130	8	0	138	0	2	130	0	0	132	281	1179
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	48	0	19	0	67	0	0	555	51	0	606	0	18	581	0	0	599	1272	
PHF						####						0.73						0.92						0.95		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	51	0	20	0	72	0	0	593	54	0	647	0	19	621	0	0	640		
2015 AMBIENT NO BUILD = 1.12 *ROW 24	0	0	0	0	0	0	0	57	0	23	0	80	0	0	664	61	0	725	0	22	695	0	0	717		



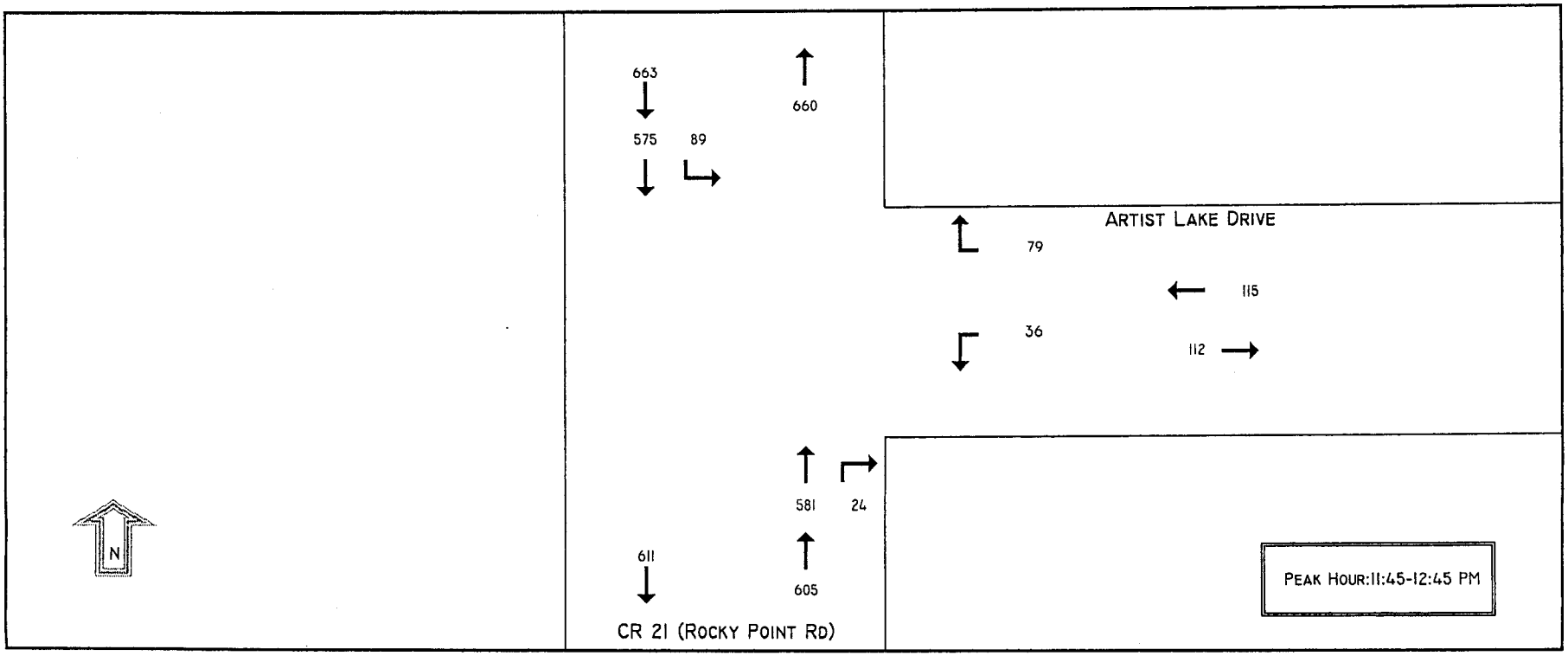
INTERSECTION: ARTIST LAKE DRIVE @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 6/16/07 SATURDAY

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	7	0	18	0	25	0	0	111	4	0	115	0	12	142	0	0	154	294	
11:15 AM	0	0	0	0	0	0	0	9	0	18	0	27	0	0	113	4	0	117	0	16	151	0	0	167	311	
11:30 AM	0	0	0	0	0	0	0	3	0	21	0	24	0	0	128	8	0	136	0	20	143	0	0	163	323	
11:45 AM	0	0	0	0	0	0	0	9	0	25	0	34	0	0	128	5	0	133	0	24	124	0	0	148	315	1243
12:00 PM	0	0	0	0	0	0	0	10	0	22	0	32	0	0	136	6	0	142	0	19	141	0	0	160	334	1283
12:15 PM	0	0	0	0	0	0	0	5	0	13	0	18	0	0	136	1	0	137	0	23	133	0	0	156	311	1283
12:30 PM	0	0	0	0	0	0	0	10	0	14	0	24	0	0	144	10	0	154	0	17	140	0	0	157	335	1295
12:45 PM	0	0	0	0	0	0	0	9	0	25	0	34	0	0	102	8	0	110	0	21	118	0	0	139	283	1263
1:00 PM	0	0	0	0	0	0	0	7	0	18	0	25	0	0	129	15	0	144	0	13	144	0	0	157	326	1255
1:15 PM	0	0	0	0	0	0	0	8	0	18	0	26	0	0	136	6	0	142	0	11	124	0	0	135	303	1247
1:30 PM	0	0	0	0	0	0	0	3	0	17	0	20	0	0	124	8	0	132	0	16	145	0	0	161	313	1225
1:45 PM	0	0	0	0	0	0	0	10	0	20	0	30	0	0	125	9	0	134	0	25	160	0	0	185	349	1291
2:00 PM	0	0	0	0	0	0	0	10	0	30	0	40	0	0	144	8	0	152	0	18	142	0	0	160	352	1317
2:15 PM	0	0	0	0	0	0	0	8	0	23	0	31	0	0	148	6	0	154	0	19	108	0	0	127	312	1326
2:30 PM	0	0	0	0	0	0	0	7	0	25	0	32	0	0	129	10	0	139	0	15	138	0	0	153	324	1337
2:45 PM	0	0	0	0	0	0	0	8	0	12	0	20	0	0	133	7	0	140	0	16	155	0	0	171	331	1319
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	34	0	74	0	108	0	0	544	22	0	566	0	83	538	0	0	621	1295	
PHF						####						0.79						0.92						0.97		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	36	0	79	0	115	0	0	581	24	0	605	0	89	575	0	0	663		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	0	0	0	0	0	0	41	0	89	0	129	0	0	651	26	0	677	0	99	644	0	0	743		



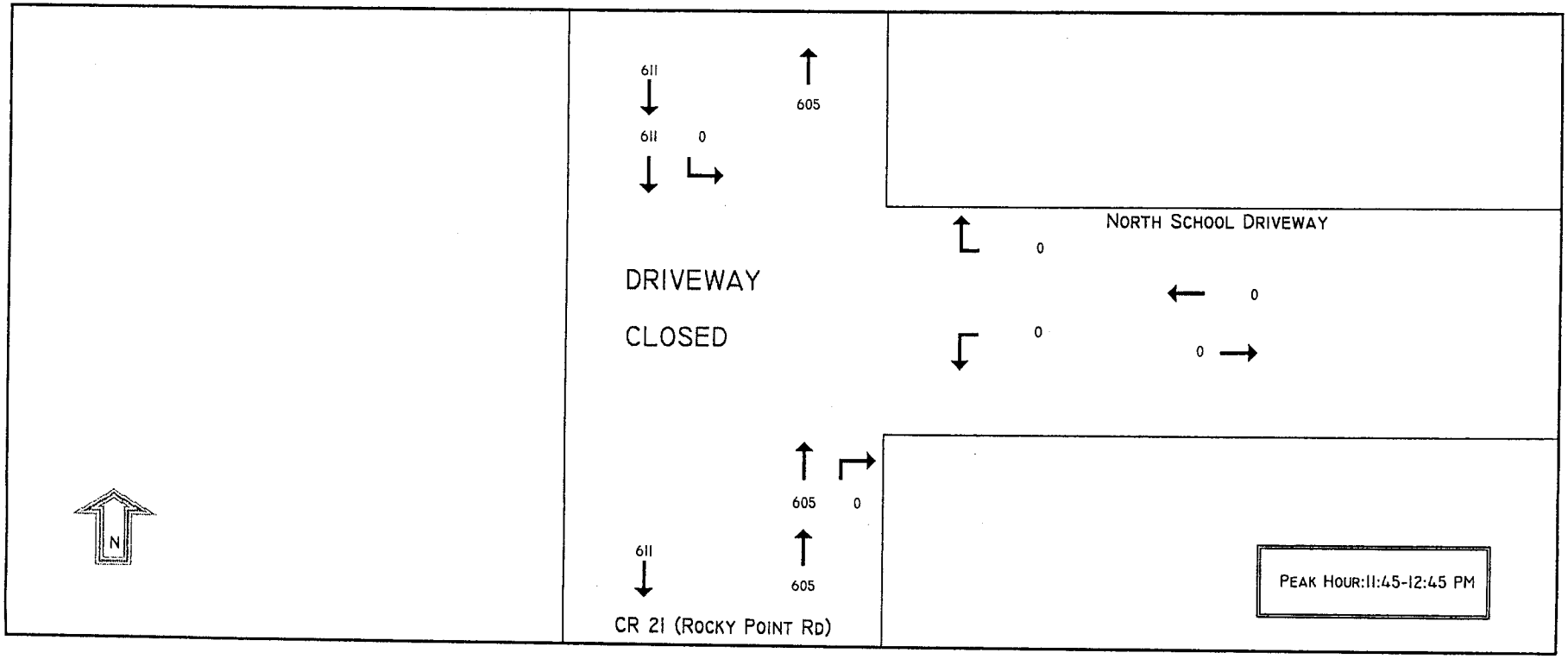
INTERSECTION: NORTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 6/16/07 SATURDAY

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	0	0	115	0	0	149	0	0	149	264	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	0	0	117	0	0	160	0	0	160	277	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	136	0	0	136	0	0	146	0	0	146	282	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133	0	0	133	0	0	133	0	0	133	266	1089
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	0	0	142	0	0	151	0	0	151	293	1118
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137	0	0	137	0	0	138	0	0	138	275	1116
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	0	0	154	0	0	150	0	0	150	304	1138
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	0	0	110	0	0	127	0	0	127	237	1109
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	0	0	144	0	0	151	0	0	151	295	1111
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	0	0	142	0	0	132	0	0	132	274	1110
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132	0	0	132	0	0	148	0	0	148	280	1086
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134	0	0	134	0	0	170	0	0	170	304	1153
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152	0	0	152	0	0	152	0	0	152	304	1162
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	0	0	154	0	0	116	0	0	116	270	1158
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139	0	0	139	0	0	145	0	0	145	284	1162
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	140	0	0	163	0	0	163	303	1161
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	566	0	0	566	0	0	572	0	0	572	1138	
PHF						####						####						0.92						0.95		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	605	0	0	605	0	0	611	0	0	611		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	677	0	0	677	0	0	684	0	0	684		



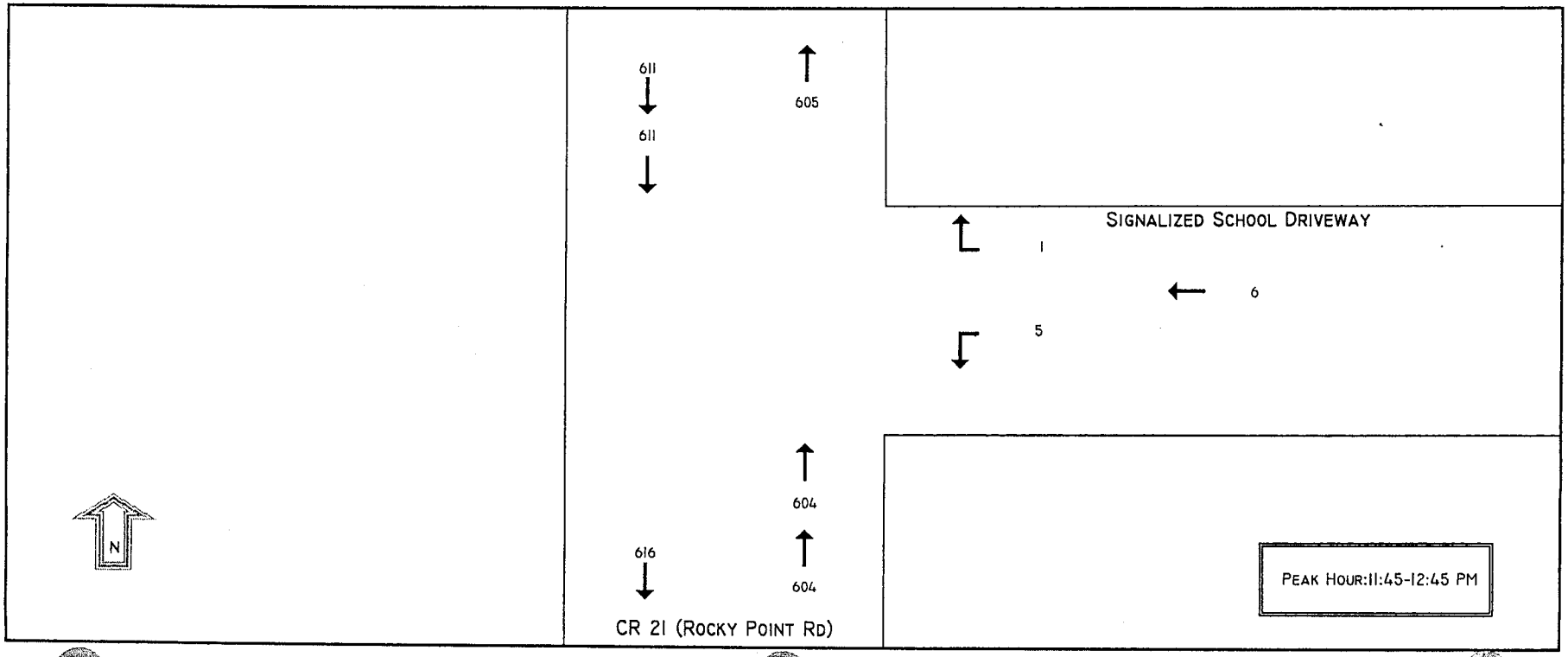
INTERSECTION: SIGNALIZED SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

DATE COLLECTED: 6/16/07 SATURDAY

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	1	0	2	0	3	0	0	113	0	0	113	0	0	149	0	0	149	265	
11:15 AM	0	0	0	0	0	0	0	1	0	4	0	5	0	0	113	0	0	113	0	0	160	0	0	160	278	
11:30 AM	0	0	0	0	0	0	0	2	0	2	0	4	0	0	134	0	0	134	0	0	146	0	0	146	284	
11:45 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	132	0	0	132	0	0	133	0	0	133	267	1094
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	142	0	0	142	0	0	151	0	0	151	294	1123
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	137	0	0	137	0	0	138	0	0	138	276	1121
12:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	154	0	0	154	0	0	150	0	0	150	306	1143
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	109	0	0	109	0	0	127	0	0	127	237	1113
1:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	143	0	0	143	0	0	151	0	0	151	295	1114
1:15 PM	0	0	0	0	0	0	0	1	0	2	0	3	0	0	140	0	0	140	0	0	132	0	0	132	275	1113
1:30 PM	0	0	0	0	0	0	0	5	0	4	0	9	0	0	128	0	0	128	0	0	148	0	0	148	285	1092
1:45 PM	0	0	0	0	0	0	0	3	0	4	0	7	0	0	130	0	0	130	0	0	170	0	0	170	307	1162
2:00 PM	0	0	0	0	0	0	0	2	0	2	0	4	0	0	150	0	0	150	0	0	152	0	0	152	306	1173
2:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	153	0	0	153	0	0	116	0	0	116	270	1168
2:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	139	0	0	139	0	0	145	0	0	145	285	1168
2:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	140	0	0	140	0	0	163	0	0	163	305	1166
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	5	0	1	0	6	0	0	565	0	0	565	0	0	572	0	0	572	1143	
PHF						####						0.75						0.92						0.95		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	5	0	1	0	6	0	0	604	0	0	604	0	0	611	0	0	611		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	0	0	0	0	0	0	6	0	1	0	7	0	0	676	0	0	676	0	0	684	0	0	684		



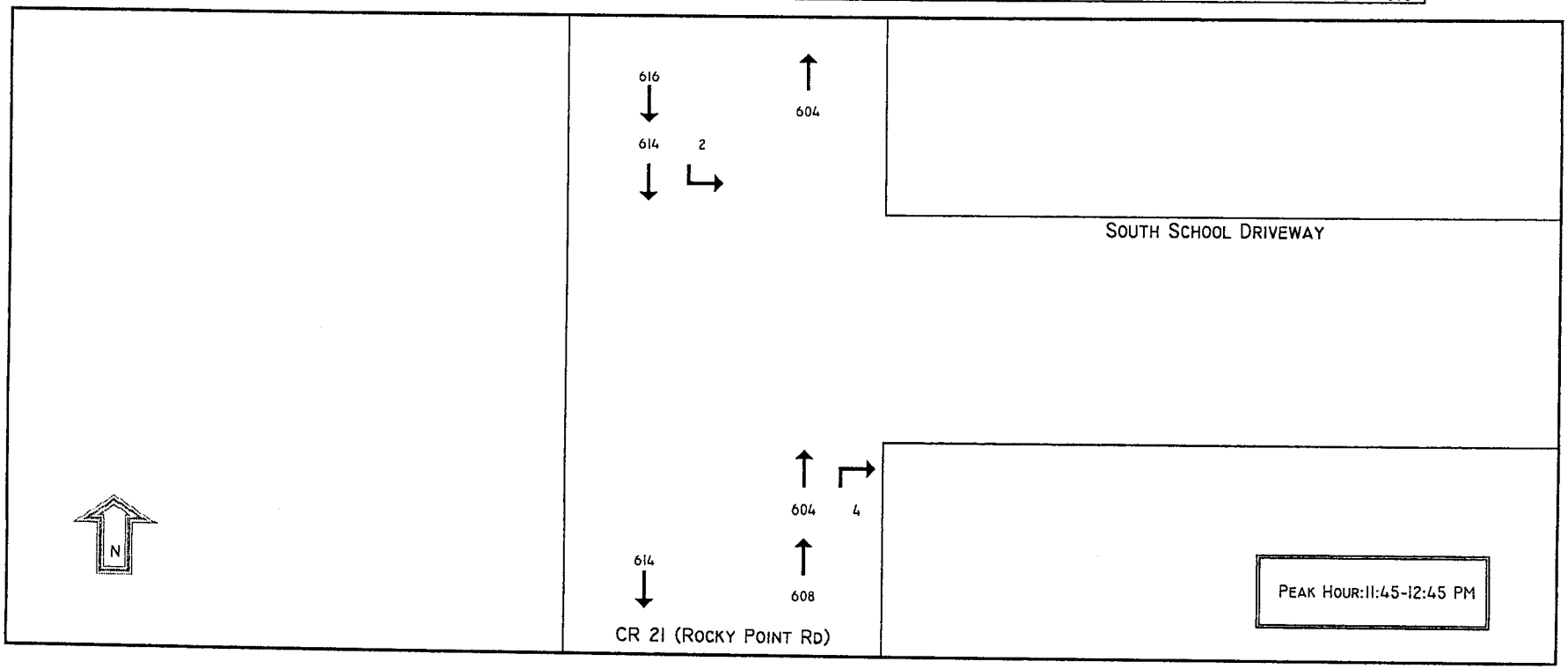
INTERSECTION: SOUTH SCHOOL DRIVEWAY @ CR 21 (ROCKY POINT RD)

DATE COLLECTED: 6/16/07 SATURDAY

PROJECT TITLE: SANDY HILLS @ MIDDLE ISLAND

JURISDICTION: TOWN OF BROOKHAVEN

START TIME	EASTBOUND						WESTBOUND						NORTHBOUND						SOUTHBOUND						TOTAL	CUM. HOURLY
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113	0	0	113	0	2	148	0	0	150	263	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113	1	0	114	0	3	158	0	0	161	275	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134	0	0	134	0	2	146	0	0	148	282	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132	0	0	132	0	0	134	0	0	134	266	1086
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	2	0	144	0	1	151	0	0	152	296	1119
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137	1	0	138	0	1	138	0	0	139	277	1121
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	1	0	155	0	0	152	0	0	152	307	1146
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	0	0	109	0	0	127	0	0	127	236	1116
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	1	0	144	0	0	151	0	0	151	295	1115
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	140	0	0	133	0	0	133	273	1111
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	2	0	130	0	0	153	0	0	153	283	1087
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	0	130	0	0	173	0	0	173	303	1154
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	0	0	150	0	0	154	0	0	154	304	1163
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153	4	0	157	0	1	115	0	0	116	273	1163
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139	2	0	141	0	0	146	0	0	146	287	1167
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	1	0	141	0	0	165	0	0	165	306	1170
PEAK HOUR:11:45-12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	565	4	0	569	0	2	575	0	0	577	1146	
PHF						####						####						0.92						0.95		
SEASONAL ADJUSTMENT FACTOR = 0.936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	604	4	0	608	0	2	614	0	0	616		
2015 AMBIENT NO BUILD = 1.12*ROW 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	676	5	0	681	0	2	688	0	0	690		



Appendix B: Accident Data Summaries

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *S of Whiskey Rd*

MUNICIPALITY: *Town of Broohaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *7/13/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	1	50.0%
4 PM - 7 PM	1	50.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**2**	

DIRECTION	# ACC	%
North	0	0.0%
South	2	66.7%
East	1	33.3%
West	0	0.0%
Total	**3**	

DIRECTION	# ACC	
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	1	50.0%
Cloudy	0	0.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	1	50.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**2**	

ACCIDENT TYPE	# ACC	%
Rear End	0	0.0%
Overtake	0	0.0%
Right Angle	1	50.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	1	50.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	0	0.0%
Unspecified	0	0.0%
Total	**2**	

SURFACE	# ACC	%
Dry	1	50.0%
Wet	0	0.0%
Mud/Slush	0	0.0%
Snow/Ice	1	50.0%
Unspecified	0	0.0%
Total	**2**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	50.0%
Property Damage	1	50.0%
Non-Reportable	0	0.0%
Total	**2**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	0	0.0%
Spring (Mar-May)	2	100.0%
Summer (Jun-Aug)	0	0.0%
Fall (Sep-Nov)	0	0.0%
Total	**2**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	3	100.0%
Commercial Vehicles	0	0.0%
Total	**3**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	0	0.0%
Tuesday	0	0.0%
Wednesday	0	0.0%
Thursday	1	50.0%
Friday	1	50.0%
Saturday	0	0.0%
Total	**2**	

LIGHT CONDITION	# ACC	%
Daylight	1	50.0%
Dawn/Dusk	1	50.0%
Night	0	0.0%
Unspecified	0	0.0%
Total	**2**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	1	0	0
Property Damage Accidents	0	0	0	1
Non-Reportable Accidents	0	0	0	0
Total Accidents	**0**	**1**	**0**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: S of Whiskey Rd
MUNICIPALITY: Town of Broohaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: S_of_Whiskey_Rd
BY: XHK
DATE: 7/13/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
2	3/19/2004	10:10	1	PDO	1	4	4	5	66	FixO	V1 skid on snowy/icy pavement struck tree	
1	3/14/2002	18:00	2	INJ	3	5	1	1	7	Rang	V2 EB struck V1 SB	

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *at Miller Place Yaphank Road*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	17	34.0%
10 AM - 4 PM	15	30.0%
4 PM - 7 PM	13	26.0%
7 PM - 12 AM	5	10.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**50**	

DIRECTION	# ACC	%
North	8	10.0%
South	34	42.5%
East	13	16.3%
West	1	1.3%
Total	**80**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	2	2.5%
Southeast	20	25.0%
Southwest	0	0.0%
Unspecified	2	2.5%

WEATHER	# ACC	%
Clear	31	62.0%
Cloudy	8	16.0%
Rain	6	12.0%
Snow	1	2.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	4	8.0%
Total	**50**	

ACCIDENT TYPE	# ACC	%
Rear End	28	56.0%
Overtake	1	2.0%
Right Angle	2	4.0%
Left Turn	2	4.0%
Right Turn	0	0.0%
Fixed Object	7	14.0%
Head On	1	2.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	1	2.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	3	6.0%
Unspecified	5	10.0%
Total	**50**	

SURFACE	# ACC	%
Dry	37	74.0%
Wet	6	12.0%
Mud/Slush	0	0.0%
Snow/Ice	2	4.0%
Unspecified	5	10.0%
Total	**50**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	14	28.0%
Property Damage	34	68.0%
Non-Reportable	2	4.0%
Total	**50**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	14	28.0%
Spring (Mar-May)	10	20.0%
Summer (Jun-Aug)	15	30.0%
Fall (Sep-Nov)	11	22.0%
Total	**50**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	88	98.9%
Commercial Vehicles	1	1.1%
Total	**89**	

DAY OF WEEK	# ACC	%
Sunday	4	8.0%
Monday	6	12.0%
Tuesday	13	26.0%
Wednesday	7	14.0%
Thursday	5	10.0%
Friday	10	20.0%
Saturday	5	10.0%
Total	**50**	

LIGHT CONDITION	# ACC	%
Daylight	39	78.0%
Dawn/Dusk	3	6.0%
Night	4	8.0%
Unspecified	4	8.0%
Total	**50**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	4	1	1	4
Property Damage Accidents	11	9	8	4
Non-Reportable Accidents	0	0	0	0
Total Accidents	**15**	**10**	**9**	**8**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Miller Place Yaphank Road
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_MillerYaphank
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
10	5/26/2001	13:30	2	PDO	1		1	1				
22	6/2/2002	12:30	2	PDO			1	1				
23	7/28/2002	13:30	2	PDO	1		1	1				
31	9/17/2003	7:55	2	PDO	1	1	1	1				
38	6/10/2004	16:00	2	PDO	1	1	1	1				
13	6/30/2001	12:34	1	PDO	1	4	1	1	4 14	Bike	V1 did not see B	
2	10/11/2002	21:05	1	PDO	4	4	2	3	66	FixO	V1 lost control on ice	
3	8/21/2001	7:15	1	INJ	1	1	1	2	4	FixO	V1 lost control hitting LIPA pole #1450	
4	8/7/2003	22:15	2	INJ	4	4	2	3	66	FixO	V1 slid on wet pavement hit tree	
5	1/28/2001	9:08	1	INJ	1	4	1	1	8	FixO	V1 fell asleep WB and struck a tree	
25	10/11/2002	15:23	1	PDO	1	4	2	3	19 66	FixO	V1 slid off road hit wooden fence	
27	2/7/2003	13:30	1	PDO	1		4	4		FixO		
41	10/10/2004	9:30	1	INJ	1	1	1	2	4 26	FixO	V1 SB hit a Fixed Object	
19	2/5/2002	8:15	2	INJ	1	1	1	1	4	HdOn	V2 NB served HO into V1 SB	
15	10/23/2001	11:40	2	PDO	1	1	1	1	18	Ltrn	V2 attempted left turn and colided with V1	
37	4/29/2004	7:35	2	INJ	1	1	1	1	7	Ltrn	V2 attempted turn hit V1	
43	1/25/2005	20:55	0	N/R						Othr	Non Reportable Accident	
48	10/21/2005	6:50	0	N/R						Othr	non Reportable Accident	
50	12/10/2005	13:25	2	INJ						Othr	Unknown Accident	
40	6/23/2004	19:20	2	INJ	1	1	1	1	13	Ovtk	V1 SB was hit by V2 SB Passing Improperly	
1	2/23/2001	6:45	2	INJ	1	1	4	2	6 9	Rang	V1 backing out V2 hit	
6	4/10/2001	15:01	2	INJ	1	1	1	1	7 8	Rang	V2 EB FTYROW V1 SB	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Miller Place Yaphank Road
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_MillerYaphank
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
7	4/26/2001	8:10	2	PDO	1	1	1	1	7	Rend	V2 EB RE V1 EB	
8	5/1/2001	12:50	2	PDO	1		1	1		Rend		
9	5/14/2001	12:00	2	PDO	4	1	1	1	40	Rend	V2 RE V1	
11	6/15/2001	8:53	2	PDO	1	4	1	2	4	Rend	V1 SE RE V2 SE	
12	6/22/2001	16:18	2	PDO	1	4	1	2	4 9	Rend	V2 SE RE V1 SE	
14	8/28/2001	17:20	2	PDO	1		1	2		Rend		
16	10/30/2001	13:20	2	PDO	1					Rend		
17	11/13/2001	17:05	2	PDO	3	1	1	1	9	Rend	V2 SB RE V1 Sb at stop sign	
18	1/28/2002	7:25	2	PDO	1	1	1	1	9 62	Rend	V2 SE RE V1 SE	
20	5/15/2002	17:40	2	PDO	1	1	1	1	4 9	Rend	V2 SE RE V1 SE	
21	5/29/2002	16:00	2	PDO	1	1	1	1	7	Rend	V2 EB RE V1 EB	
24	8/12/2002	6:45	2	PDO	1	3	1	1	9	Rend	V2 SE RE V1 SE	
26	10/25/2002	9:41	2	PDO	1	1	1	1	4 9	Rend		
28	6/16/2003	16:00	2	PDO	1	1	1	1	7	Rend	V2 SB RE V1 SB	
29	7/9/2003	19:40	2	PDO	1	1	1	1	4 9	Rend	V2 EB RE V1 EB	
30	7/23/2003	18:40	2	PDO	1	4	1	2	4	Rend	V2 SE RE V1 SE	
32	10/29/2003	8:55	2	PDO	1	1	2	3	9 66	Rend	V2 SB RE V1 SB	
33	12/16/2003	14:45	2	PDO	1	1	1	1		Rend		
34	12/15/2003	12:50	2	PDO	1	1	0	2	4	Rend	V2 SE RE V1 SE	
35	1/6/2004	13:30	2	PDO	1	1	1	1	4 9	Rend	V2 SE RE V1 SE	
36	2/7/2004	9:05	2	PDO	1	1	2	3	4 9	Rend	V2 EB RE V1 EB	
39	4/23/2004	18:00	2	PDO	1	1	1	1		Rend	V1 SB was hit by V2 SB	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Miller Place Yaphank Road
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_MillerYaphank
BY: XHK
DATE: 8/24/2007

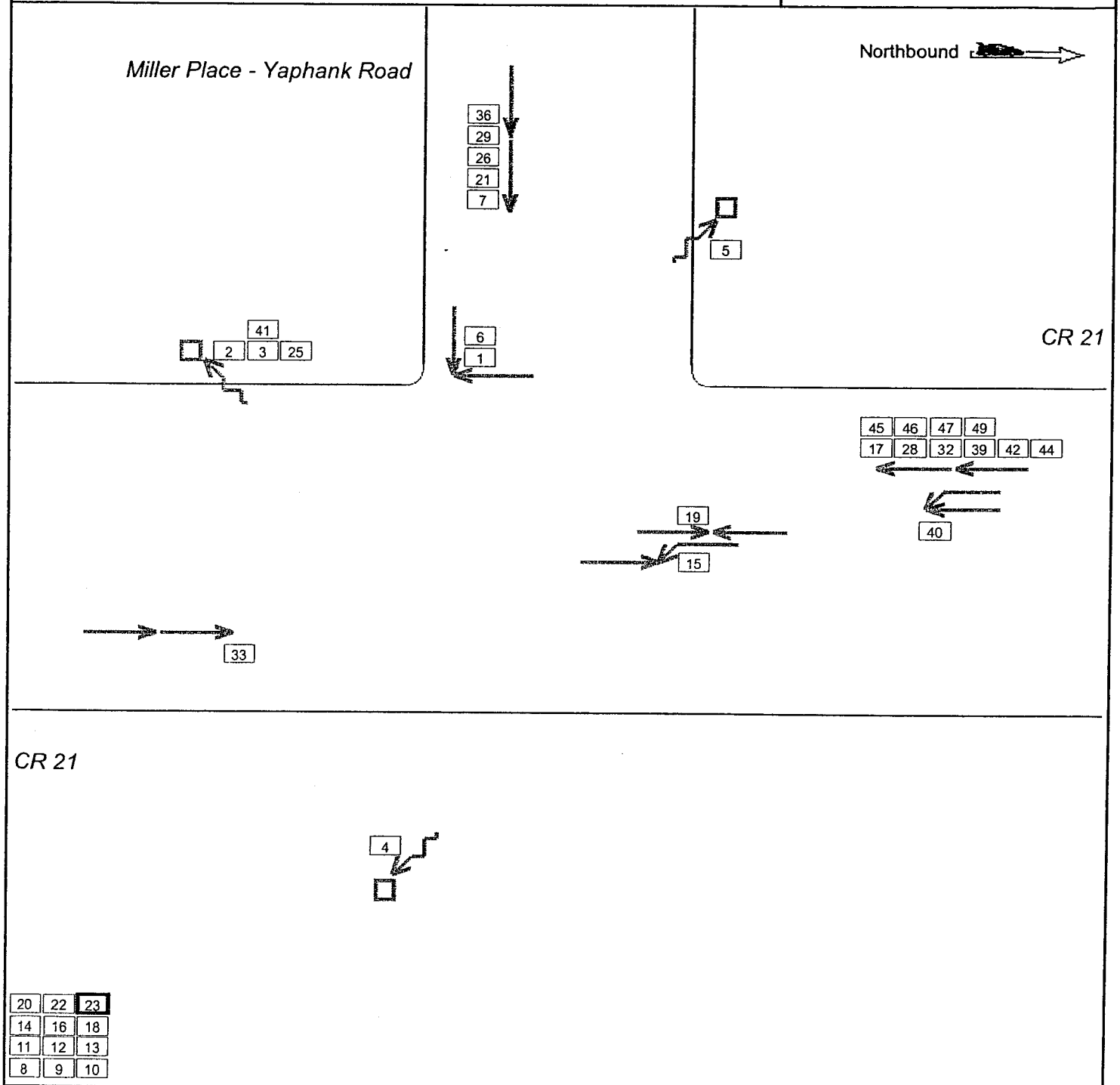
No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
42	12/7/2004	17:10	2	INJ	4	1	2	3	7	Rend	V1 SB was hit by V2 SB Making Left turn failing to yield ROW	
44	2/15/2005	7:30	2	PDO	1	1	1	1		Rend	V1 SB was hit by V2 SB	
45	5/16/2005	18:35	2	INJ	1	1	1	1		Rend	V1 SB was hit by V2 SB	
46	8/12/2005	9:20	2	PDO	1	3	1	1		Rend	V1 SB was hit by V2 SB	
47	10/20/2005	17:40	2	INJ	3	4	1	1	4	Rend	V1 SB was hit by V2 SB Driver Inattention	
49	12/3/2005	16:50	2	INJ	3	1	1	1		Rend	v1 SB was hit by V2 SB	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*
INTERSECTION: *CR 21*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_MillerYaphank*
CASE # : *00088*
BY: *XHK* DATE: *8/24/2007*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *at Bailey Rd*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	4	36.4%
10 AM - 4 PM	4	36.4%
4 PM - 7 PM	1	9.1%
7 PM - 12 AM	1	9.1%
12 AM - 6 AM	0	0.0%
Unspecified	1	9.1%
Total	**11**	

DIRECTION	# ACC	%	DIRECTION	# ACC	%
North	10	55.6%	Northeast	0	0.0%
South	3	16.7%	Northwest	0	0.0%
East	0	0.0%	Southeast	0	0.0%
West	5	27.8%	Southwest	0	0.0%
Total	**18**		Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	5	45.5%
Cloudy	1	9.1%
Rain	2	18.2%
Snow	2	18.2%
Sleet/Hail/Freezing Rain	1	9.1%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**11**	

ACCIDENT TYPE	# ACC	%	ACCIDENT TYPE	# ACC	%
Rear End	1	9.1%	Pedestrian	0	0.0%
Overtake	0	0.0%	Bicycle	0	0.0%
Right Angle	4	36.4%	Parked Vehicle	0	0.0%
Left Turn	0	0.0%	Backing	0	0.0%
Right Turn	0	0.0%	Run Off The Road	1	9.1%
Fixed Object	3	27.3%	Animal	0	0.0%
Head On	0	0.0%	Other	0	0.0%
Sideswipe	1	9.1%	Unspecified	1	9.1%
		Total		**11**	

SURFACE	# ACC	%
Dry	5	45.5%
Wet	2	18.2%
Mud/Slush	0	0.0%
Snow/Ice	4	36.4%
Unspecified	0	0.0%
Total	**11**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	3	27.3%
Property Damage	8	72.7%
Non-Reportable	0	0.0%
Total	**11**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	4	36.4%
Spring (Mar-May)	2	18.2%
Summer (Jun-Aug)	4	36.4%
Fall (Sep-Nov)	1	9.1%
Total	**11**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	18	100.0%
Commercial Vehicles	0	0.0%
Total	**18**	

DAY OF WEEK	# ACC	%
Sunday	1	9.1%
Monday	1	9.1%
Tuesday	2	18.2%
Wednesday	2	18.2%
Thursday	3	27.3%
Friday	2	18.2%
Saturday	0	0.0%
Total	**11**	

LIGHT CONDITION	# ACC	%
Daylight	9	81.8%
Dawn/Dusk	0	0.0%
Night	2	18.2%
Unspecified	0	0.0%
Total	**11**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	1	0	1
Property Damage Accidents	2	1	3	1
Non-Reportable Accidents	0	0	0	0
Total Accidents	**3**	**2**	**3**	**2**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Bailey Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_Bailey_Rd
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
5	6/2/2004	16:00	2	PDO	1	1	1	1				
2	8/20/2001		1	PDO	4	4	2	3		FixO	V1 struck tree NB	
4	2/7/2003	12:00	1	PDO	1	4	4	4	66	FixO	V1 slid oon ice hit LIPA pole	
7	12/5/2003	14:00	1	PDO	1	1	4	4	66	FixO	V1 slid off road hit a fence	
6	7/24/2003	13:00	2	PDO	1	1	1	1	4 4	Rang	V2 struck V1	
8	3/21/2002	7:30	2	INJ	1	1	1	1	7	Rang	V2 hit and run V1	
9	5/9/2002	6:55	2	PDO	1	1	2	3	69 7	Rang	V2 WB hit V1 NB	
10	7/25/2004	15:53	2	INJ	1	1	1	1	7	Rang	V2 WB failed to yield right of way and hit V1 NB	
3	9/5/2001	9:00	2	PDO	1	1	1	1		Rend	V2 NB RE V1 NB	
1	2/13/2001	7:45	1	INJ	1	1	4	2	66	RORd	V1 WB was run of the road	
11	1/11/2005	22:30	2	PDO	4	4	4	5		Side	V1 and V2 sideswiped	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*

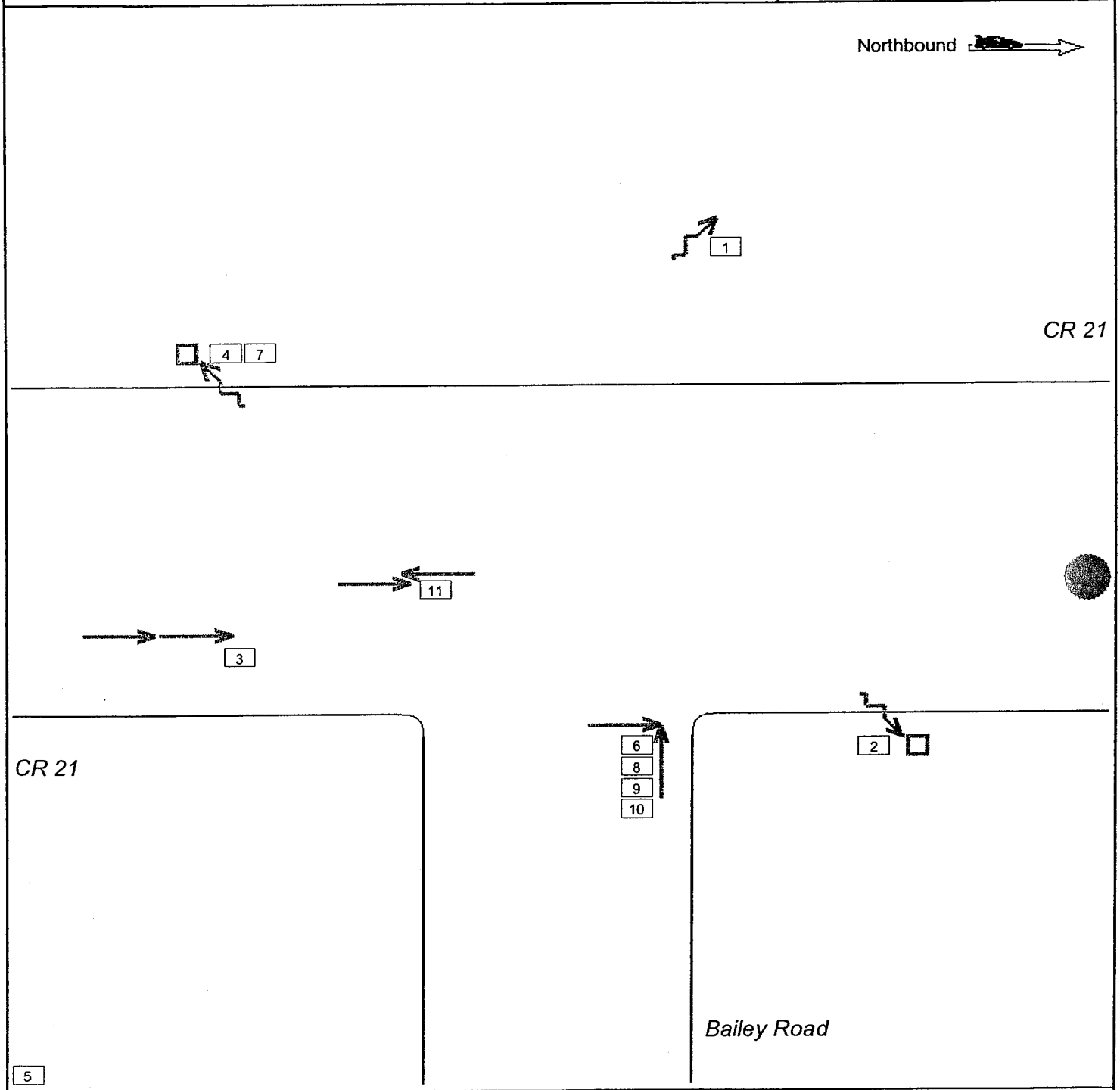
INTERSECTION: *CR 21*

PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_Bailey_Rd*

CASE # : *00088*

BY: *XHK* DATE: *8/24/20*



SYMBOLS			
MOVING VEHICLE	P	PEDESTRIAN	
TURNING VEHICLE	B	BICYCLIST	
BACKING VEHICLE	A	ANIMAL	
PARKED VEHICLE		FIXED OBJECT	
999 RECORD NUMBER		Fatal	

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *at Middle Island Rd*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	4	40.0%
10 AM - 4 PM	3	30.0%
4 PM - 7 PM	2	20.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	1	10.0%
Unspecified	0	0.0%
Total	**10**	

DIRECTION	# ACC	%
North	6	42.9%
South	5	35.7%
East	2	14.3%
West	0	0.0%
Total	**14**	

DIRECTION	# ACC	%
Northeast	1	7.1%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	9	90.0%
Cloudy	1	10.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**10**	

ACCIDENT TYPE	# ACC	%
Rear End	3	30.0%
Overtake	0	0.0%
Right Angle	2	20.0%
Left Turn	0	0.0%
Right Turn	1	10.0%
Fixed Object	2	20.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	2	20.0%
Other	0	0.0%
Unspecified	0	0.0%
Total	**10**	

SURFACE	# ACC	%
Dry	9	90.0%
Wet	0	0.0%
Mud/Slush	0	0.0%
Snow/Ice	1	10.0%
Unspecified	0	0.0%
Total	**10**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	10.0%
Property Damage	9	90.0%
Non-Reportable	0	0.0%
Total	**10**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	3	30.0%
Spring (Mar-May)	2	20.0%
Summer (Jun-Aug)	2	20.0%
Fall (Sep-Nov)	3	30.0%
Total	**10**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	17	100.0%
Commercial Vehicles	0	0.0%
Total	**17**	

DAY OF WEEK	# ACC	%
Sunday	1	10.0%
Monday	4	40.0%
Tuesday	1	10.0%
Wednesday	1	10.0%
Thursday	2	20.0%
Friday	0	0.0%
Saturday	1	10.0%
Total	**10**	

LIGHT CONDITION	# ACC	%
Daylight	8	80.0%
Dawn/Dusk	1	10.0%
Night	1	10.0%
Unspecified	0	0.0%
Total	**10**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	0	0	0
Property Damage Accidents	4	1	3	1
Non-Reportable Accidents	0	0	0	0
Total Accidents	**4**	**1**	**3**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Middle Island Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_MiddleIsland_
BY: XHK
DATE: 8/24/2007

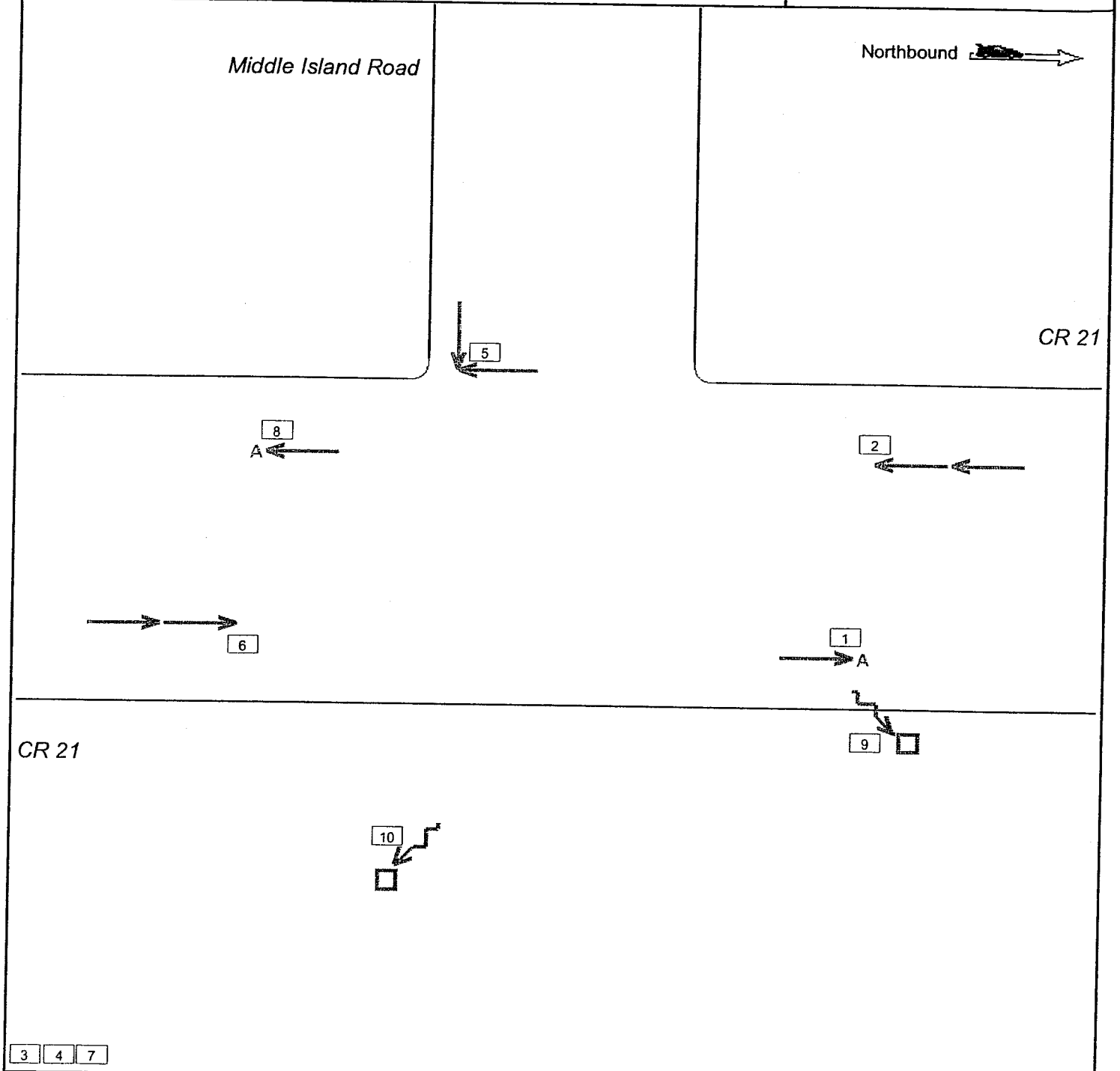
No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	10/25/2001	1:40	1	PDO	5	1	1	1	61	Anml	V1 NB struck deer	
8	3/22/2003	6:50	1	PDO	1	1	1	1	61	Anml	V1 struck a deer SB	
9	4/19/2004	14:44	2	PDO	1	1	1	1		FixO		
10	1/19/2006	7:50	1	INJ	1	4	4	1		FixO	V1 EB hit a Tree	
5	8/22/2001	8:10	2	PDO	1	4	1	1	7 4	Rang	V2 EB struck V1 SB making a left turn	
7	12/18/2001	16:35	2	PDO	3	1	1	2	7	Rang	V2 FTYROW V1	
2	11/25/2002	8:05	2	PDO	1	1	1	1	4	Rend	V2 SB RE V1 SB	
4	10/19/2003	14:10	2	PDO	1		1	1		Rend		
6	8/27/2001	10:50	2	PDO	1	1	1	1	4	Rend	V2 NB RE V1 NB	
3	1/13/2003	16:20	2	PDO	1	4	1	1	27 4	Rtrn	V2 SB made a wide right turn colliding with V1 NB	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*
INTERSECTION: *CR 21*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_MiddleIsland_*
CASE # : *00088*
BY: *XHK* DATE: *8/24/2007*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *N of SR 25*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	5	31.3%
10 AM - 4 PM	6	37.5%
4 PM - 7 PM	4	25.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	1	6.3%
Total	**16**	

DIRECTION	# ACC	%
North	4	12.1%
South	21	63.6%
East	6	18.2%
West	0	0.0%
Total	**33**	

DIRECTION	# ACC	%
Northeast	1	3.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	1	3.0%

WEATHER	# ACC	%
Clear	8	50.0%
Cloudy	6	37.5%
Rain	1	6.3%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	1	6.3%
Total	**16**	

ACCIDENT TYPE	# ACC	%
Rear End	9	56.3%
Overtake	0	0.0%
Right Angle	4	25.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	1	6.3%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	2	12.5%
Other	0	0.0%
Unspecified	0	0.0%
Total	**16**	

SURFACE	# ACC	%
Dry	13	81.3%
Wet	2	12.5%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	1	6.3%
Total	**16**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	5	31.3%
Property Damage	11	68.8%
Non-Reportable	0	0.0%
Total	**16**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	4	25.0%
Spring (Mar-May)	3	18.8%
Summer (Jun-Aug)	3	18.8%
Fall (Sep-Nov)	6	37.5%
Total	**16**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	33	100.0%
Commercial Vehicles	0	0.0%
Total	**33**	

DAY OF WEEK	# ACC	%
Sunday	2	12.5%
Monday	4	25.0%
Tuesday	1	6.3%
Wednesday	4	25.0%
Thursday	2	12.5%
Friday	3	18.8%
Saturday	0	0.0%
Total	**16**	

LIGHT CONDITION	# ACC	%
Daylight	13	81.3%
Dawn/Dusk	0	0.0%
Night	2	12.5%
Unspecified	1	6.3%
Total	**16**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	2	0	1	2
Property Damage Accidents	5	2	3	1
Non-Reportable Accidents	0	0	0	0
Total Accidents	**7**	**2**	**4**	**3**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: N of SR 25
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

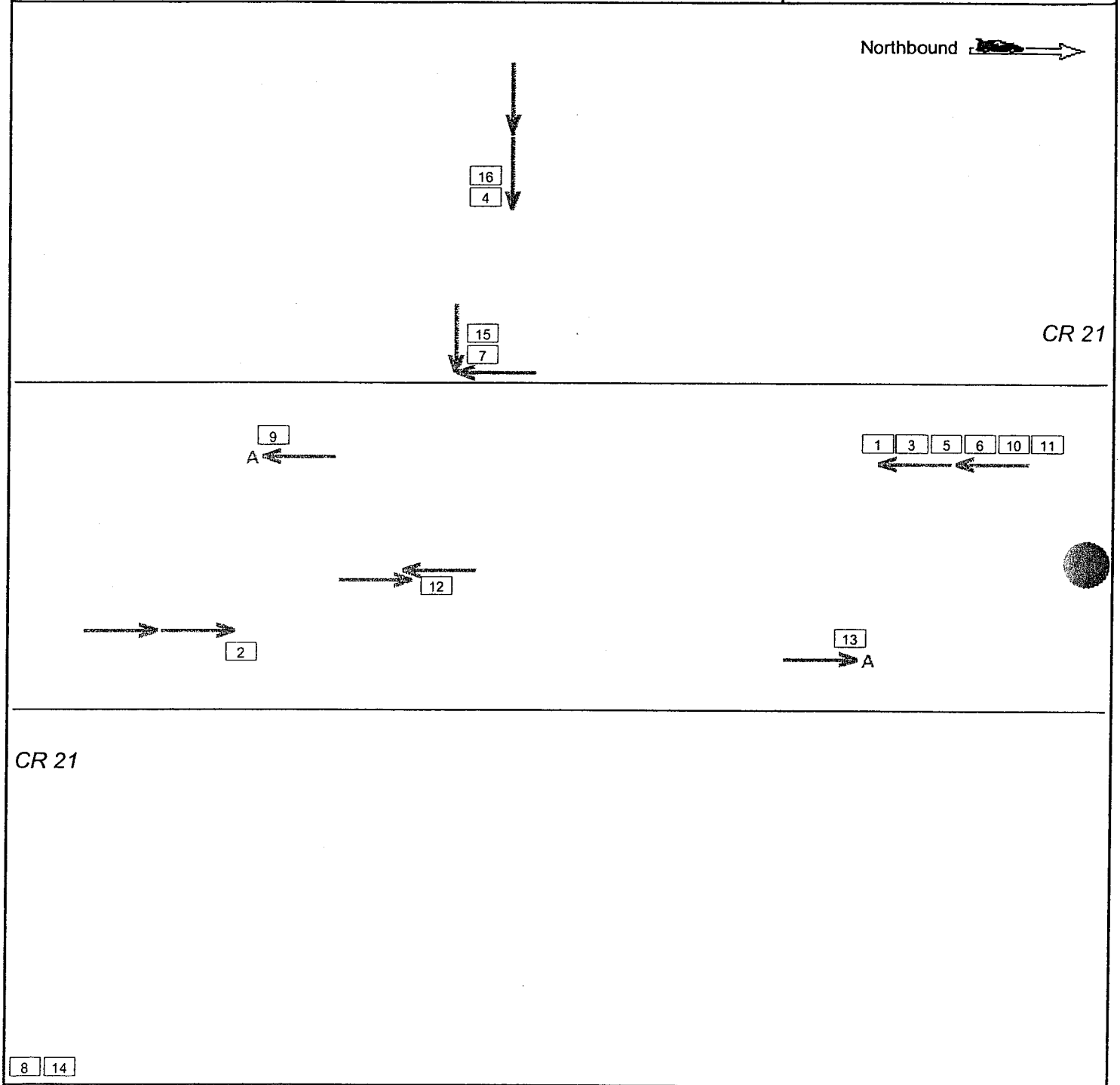
CASE No. 00088
FILE: N_of_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
9	2/18/2001	12:00	1	PDO	1	1	1	1		Anml	V1 collided with deer	
13	12/30/2002	16:25	1	PDO	4	1	1	2	61	Anml	V1 NB hit deer	
7	4/7/2003	10:11	2	PDO	1	1	1	2	4 7 4	Rang	V2 turning out of gas station collided with V1	
8	9/1/2002	12:15	2	PDO	1	1	2	3	7	Rang	V2 collided with V1 exiting Texaco	
14	1/7/2004		2	PDO						Rang	Unknown	
15	8/6/2004	15:00	2	INJ	1	1	1	1	7	Rang	V2 EB making LT was hit by V1 SB.	
1	7/1/2003	16:20	3	PDO	1	1	1	1	19	Rend	V3 SB RE V2 SB into RE V1 SB	
2	9/28/2001	16:35	2	PDO	1	2	1	2	4	Rend	V2 NB RE V1 NB	
3	10/20/2003	15:30	2	INJ	1	1	1	1	4	Rend	V2 SB RE V1 SB	
4	11/19/2003	18:05	2	PDO	4	1	1	2	4	Rend	V2 EB RE V1 EB	
5	5/30/2001	6:45	2	PDO	1	1	1	1	9	Rend	V2 SB RE V1 SB	
6	6/20/2001	8:35	2	PDO	1	4	1	1	4	Rend	V2 SB RE V1 SB	
10	2/16/2001	6:20	3	INJ	1	1	1	1	4	Rend	V3 SB RE V2 which then RE V1 SB	
11	5/24/2001	7:00	3	PDO	1	1	2	2	4	Rend	V3 RE V2 forcing RE V1	
16	10/14/2004	6:55	2	INJ	1	1	1	2	19	Rend	V1 EB was hit by V2 EB Unsafe Speed	
12	11/26/2001	10:15	2	INJ	1	1	1	1	22 4	Side	V2 went over double yellow lines SS V1	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*	FILE: *N_of_SR25*
INTERSECTION: *CR 21*	CASE # : *00088*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*	BY: *XHK* DATE: *8/24/2001*



SYMBOLS			MANNER OF COLLISION	
MOVING VEHICLE	P	PEDESTRIAN	REAR END	HEAD ON
TURNING VEHICLE	B	BICYCLIST	LEFT TURN	RIGHT TURN
BACKING VEHICLE	A	ANIMAL	LEFT TURN	RIGHT TURN
PARKED VEHICLE		FIXED OBJECT	OVERTAKE	RIGHT ANGLE
999 RECORD NUMBER		Fatal	OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *Cr 21* **LOCATION:** *at SR 25*

MUNICIPALITY: *Town of Brokhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	19	16.4%
10 AM - 4 PM	51	44.0%
4 PM - 7 PM	27	23.3%
7 PM - 12 AM	15	12.9%
12 AM - 6 AM	1	0.9%
Unspecified	3	2.6%
Total	**116**	

DIRECTION	# ACC	%
North	44	22.8%
South	33	17.1%
East	56	29.0%
West	44	22.8%
Total	**193**	

DIRECTION	# ACC	%
Northeast	4	2.1%
Northwest	4	2.1%
Southeast	7	3.6%
Southwest	1	0.5%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	70	60.3%
Cloudy	25	21.6%
Rain	15	12.9%
Snow	1	0.9%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	5	4.3%
Total	**116**	

ACCIDENT TYPE	# ACC	%
Rear End	46	39.7%
Overtake	5	4.3%
Right Angle	12	10.3%
Left Turn	20	17.2%
Right Turn	5	4.3%
Fixed Object	3	2.6%
Head On	0	0.0%
Sideswipe	4	3.4%

ACCIDENT TYPE	# ACC	%
Pedestrian	1	0.9%
Bicycle	1	0.9%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	1	0.9%
Animal	0	0.0%
Other	0	0.0%
Unspecified	18	15.5%
Total	**116**	

SURFACE	# ACC	%
Dry	82	70.7%
Wet	26	22.4%
Mud/Slush	2	1.7%
Snow/Ice	2	1.7%
Unspecified	4	3.4%
Total	**116**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	21	18.1%
Property Damage	95	81.9%
Non-Reportable	0	0.0%
Total	**116**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	27	23.7%
Spring (Mar-May)	35	30.7%
Summer (Jun-Aug)	29	25.4%
Fall (Sep-Nov)	23	20.2%
Total	**114**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	227	99.1%
Commercial Vehicles	2	0.9%
Total	**229**	

DAY OF WEEK	# ACC	%
Sunday	13	11.2%
Monday	11	9.5%
Tuesday	16	13.8%
Wednesday	23	19.8%
Thursday	16	13.8%
Friday	17	14.7%
Saturday	18	15.5%
Total	**114**	

LIGHT CONDITION	# ACC	%
Daylight	90	77.6%
Dawn/Dusk	4	3.4%
Night	19	16.4%
Unspecified	3	2.6%
Total	**116**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	8	6	3	3
Property Damage Accidents	34	29	19	10
Non-Reportable Accidents	0	0	0	0
Total Accidents	**42**	**35**	**22**	**13**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
11	3/31/2001	9:00	2	PDO	1		1	1				
12	4/6/2001	13:35	2	PDO	1		2	3				
16				PDO								
20	6/1/2001	18:15	2	PDO	1		1	1				
24				PDO								
27	7/3/2001	16:00	2	PDO	1		1	0				
28	7/10/2001	21:20	2	PDO	4		1	1				
33	8/29/2001	13:20	2	PDO	1		1	1				
36	10/13/2001	12:15	2	PDO	1							
54	5/14/2002	16:15	2	PDO	1		1	2				
62	7/18/2002	19:30	2	PDO	1		1	1				
64	8/10/2002	20:35	2	PDO			1	1				
76	12/4/2002	15:50	2	PDO	1	1	1	1				
83	4/11/2003	15:50	2	PDO	1		2	3				
84	4/24/2003	17:15	2	PDO	1	1	1	1				
86	5/5/2003	18:15	2	PDO	1		2	3				
99	11/16/2003	8:00	2	PDO	1	1	1	1	4			
104	2/10/2004	7:50	2	PDO	1	1	4	1				
26	7/1/2001	14:30	1	INJ	1	2	1	1	40	Bike	V1 blinded by bushes struck bicycle	
77	12/5/2002	10:24	2	PDO	1		1	1		FixO		
89	5/22/2003	21:30	2	PDO	4	1	1	1	26	FixO		
98	10/29/2003	23:28	1	INJ	4	3	1	2	19	FixO	V1 speeding hit LIPA pole #602	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
6	2/14/2001	18:50	2	INJ	4	3	2	2	17	Ltrn	V1 was struck by V2 attemoting to turn	
8	2/23/2001	11:15	2	PDO	1	2	4	1	7	Ltrn	V2 SB struck V1 WB exiting a gas station	
18	5/22/2001	13:20	2	PDO	1	2	2	3	7	Ltrn	Whilt turning V2 struck V1	
37	10/28/2001	19:20	2	PDO	4	2	1	1	69 7	Ltrn	V2 EB attempting turn hit V1 WB	
44	12/22/2001	17:17	2	PDO	4	1	1	1	7 18	Ltrn	V2 attempted LT stuck V1	
45	1/9/2002	16:20	2	PDO	3	2	2	2	26 18 69 20	Ltrn	V2 hit V1 turning into library	
51	3/9/2002	16:44	2	PDO	1	3	1	2	18 7	Ltrn	V2 attempting to turn hit V1	
55	5/21/2002	13:00	2	PDO	1	2	1	1	7	Ltrn	V2 attempt LT hit V1	
56	5/22/2002	8:28	2	PDO	1	3	1	1	7	Ltrn	V2 attempted turn hit V1	
57	5/23/2002	11:30	2	INJ	1	2	1	1	7 18	Ltrn	V2 attempted turn hit V1	
63	8/9/2002	13:00	2	PDO	1	2	1	1	7	Ltrn	V2 EB struck V1 while turning	
73	11/1/2002	8:10	2	INJ	1	1	1	1	7	Ltrn	V2 struck V1	
80	1/27/2003	13:58	2	PDO	1	1	2	1	4 17	Ltrn	V2 disregarded red light hitting V1	
81	3/1/2003	11:00	2	PDO	1	1	1	2	7	Ltrn	V2 attempted turn hitting V1	
82	3/5/2003	15:50	2	INJ	1	3	1	2	7	Ltrn	V2 attempted turn collided V1	
97	9/24/2003	6:35	2	PDO	2	2	1	1	7	Ltrn	V2 FTYROW causing V1 to collide	
105	2/11/2004	15:20	2	PDO	1	1	1	1	69	Ltrn	V2 attempted turn and hit V1	
109	3/28/2004	20:35	2	PDO	4	1	1	2	5 18	Ltrn	V2 attempted turn collided with V1	
110	3/31/2004	21:15	2	INJ	4	2	2	3	7	Ltrn	V2 hit V1 while turning	
113	5/10/2004	9:00	2	INJ	1	1	1	1	19 7	Ltrn	V2 attempted turn hit collided with V1	
13	4/21/2001	8:00	2	PDO	1	2	2	3	5	Ovtk	V2 served to avoid turning truck and struck V1	
40	11/15/2001	15:30	2	PDO	1	2	1	1	7	Ovtk	V2 OT V1 collided	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
47	1/22/2002	11:25	2	PDO	1	1	5	1	7	Ovtk	V2 OT V1 SB	
96	9/12/2003	17:00	2	PDO	1	1	1	2	13	Ovtk	V2 SB OT V1 SB	
108	3/8/2004	20:10	2	PDO	4	1	2	2	13	Ovtk		
9	3/8/2001	14:10	1	INJ	1	1	1	1	40	Ped	V1 exiting post office stopped short of pedesterian	
5	2/14/2001	11:28	2	PDO	1	2	1	2	7 4	Rang	V2 collided with V1 FTYROW	
10	3/22/2001	17:20	2	PDO	3	1	2	3	4 5	Rang	V2 SB struck V1 making a right turn	
14	4/21/2001	9:00	2	PDO	1		2	2		Rang		
21	6/5/2001	21:15	2	INJ	4	2	1	2	21	Rang	V2 NB pulls out in front of V1 EB	
31	7/30/2001	8:55	2	INJ	1	1	1	1	17	Rang	V2 EB disregarded red light hit V1 NB	
38	11/4/2001	0:42	2	PDO	4	2	1	1	18	Rang	V1 making right turn struck V2	
39	11/5/2001	15:02	2	INJ	1	3	1	2	19 7	Rang	V2 coming out of parkin lot hit by V1 traveling high speed	
58	6/14/2002	7:00	2	PDO	1	1	1	1	7 60	Rang	V2 drove BTWN Vs and could not see V1	
59	6/27/2002	16:30	2	PDO	1	1	1	1		Rang	V2 struck V1 and fled scene	
69	9/27/2002	16:50	2	INJ	1	1	1	2	17 5	Rang	V2 blow red light and hit V1	
75	11/25/2002	17:20	2	PDO	4	3	1	1	7	Rang	V2 FTYROW V1	
94	8/30/2003	12:50	2	PDO	1	1	1	1	7	Rang	V2 EB truning struck V1 SB	
1	1/6/2001		2	PDO	1	1	5	1	66	Rend	V2 NB RE V1 NB	
2	1/21/2001	18:10	2	PDO	4	1	2	2	66	Rend	V2 NB RE V1 NB	
3	1/31/2001	11:15	2	PDO	1	2	1	2	9	Rend	V2 EB RE V1 EB	
7	2/17/2001	17:00	2	PDO	1	2	1	1		Rend	V2 WB RE V1 WB	
15	4/30/2001	14:05	2	PDO	1					Rend		
17	5/4/2001	12:40	2	INJ	1	1	1	1	9 17	Rend	V2 WB RE V1 WB	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
19	5/29/2001	17:20	2	PDO	1	2	2	3	9	Rend	V2 NB RE V1 NB	
22	6/7/2001	18:15	2	PDO	1	1	1	1	4	Rend	V2 SB RE V1 SB	
23	6/9/2001	14:55	2	PDO	1	2	1	1	4	Rend	V2 EB RE V1 EB	
25	6/18/2001	11:05	2	PDO	1	2	1	1	9	Rend	V2 NB RE V1 NB	
29	7/25/2001	12:25	2	PDO	1	1	1	1	4	Rend	V2 WB RE V1 WB	
30	7/25/2001	17:15	2	PDO	1		1	1		Rend		
35	9/20/2001	8:30	2	PDO	1		1	1		Rend		
41	11/22/2001	7:50	2	INJ	1	2	1	1	9 4	Rend	V2 WB RE V1 WB	
43	12/18/2001	17:00	2	PDO	3	2	1	2	9	Rend	V2 EB RE V1 EB	
46	1/17/2002	10:05	3	PDO	1	3	2	2	19 9	Rend	V3 EB RE V2 causing RE V1 EB	
48	2/2/2002	17:50	2	PDO	4	1	1	1		Rend	V2 WB RE V1 WB	
49	2/27/2002	10:55	2	PDO	1	2	2	4	66	Rend	V2 EB RE V1 EB	
50	2/27/2002	15:45	2	PDO	1	1	1	1		Rend		
52	4/14/2002	17:36	2	PDO	1	1	1	2	4	Rend	V2 NB RE V1 NB	
53	5/12/2002	7:50	2	PDO	1	1	2	2	21 66	Rend	V2 was fatigued and slid on wet pavement into V1	
61	7/2/2002	19:00	2	PDO	1	3	1	1	40 4	Rend	V2 NB RE V1 NB	
65	8/13/2002	14:40	3	PDO	1	1	1	1		Rend	V3 RE V2 RE V1 EB	
67	9/10/2002	18:00	2	PDO	1	2	1	1	4	Rend	V2 RE V1	
70	10/3/2002	8:15	2	PDO	1	1	1	1		Rend	V2 RE V1 and fled scene	
71	10/16/2002	12:15	3	PDO	1		2	3		Rend	V3 RE V2 which RE V1	
72	10/28/2002	17:50	3	PDO	4	1	1	1	4 9	Rend		
74	11/17/2002	12:40	2	INJ	1	3	2	2		Rend	V2 WB RE V1 WB	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
79	12/14/2002	11:02	2	INJ	1	1	2	3	66	Rend	V2 EB RE V1 EB	
85	4/28/2003	10:15	2	INJ	1	3	1	1	9	Rend	V2 WB RE V1 WB	
87	5/21/2003	14:25	2	PDO	1	1	2	3	66	Rend	V1 skid RE V2	
88	5/22/2003	11:00	2	PDO	1		2	3		Rend		
90	6/6/2003	14:50	2	PDO	1	1	1	1	4	Rend	V2 NB RE V1 NB	
91	7/5/2003	23:30	2	PDO	4	1	1	1	4 9	Rend		
92	7/15/2003	7:30	2	PDO	1	1	1	1		Rend		
95	8/31/2003	20:05	2	PDO	4	2	1	1	4	Rend	V2 NB RE V1 NB	
100	11/20/2003	11:59	2	PDO	1	2	1	2		Rend	V2 EB RE V1 EB	
102	1/7/2004	15:45	2	PDO	1	1	1	1	9	Rend	V2 EB RE V1 EB	
103	1/16/2004	10:30	2	PDO	1	1	2	1	4	Rend	V2 NB RE V1 NB	
106	2/18/2004	14:00	2	PDO	1	1	1	1	4 9	Rend		
107	3/6/2004	10:10	2	PDO	1	1	2	3	9	Rend	V2 SB RE V1 SB stopped abrubtly	
111	4/25/2004	17:10	2	PDO	1	1	1	2	4 9	Rend		
112	5/2/2004	9:56	2	INJ	1	2	2	3		Rend	V2 EB RE V1 EB	
114	5/21/2004	16:30	2	PDO	1	1	1	1	4 9	Rend	V2 EB RE V1 EB	
115	4/1/2005	13:05	2	INJ	1	2	1	1	4	Rend	V1 NB was hit by V2 NB Driver Inattention	
116	6/3/2005	14:45	2	PDO	1	1	1	1		Rend	V1 NB was hit by V2 NB	
68	9/24/2002	20:09	1	INJ	4	2	1	1	26	RORd	V1 avoided EB V and ended up off road	
4	2/7/2001	11:00	2	PDO	1	2	1	1	7	Rtrn	V2 attempting to complete turn hit V1	
42	12/5/2001	6:40	2	PDO	1	2	1	1	7	Rtrn	V2 attempting right turn hit V1	
60	6/30/2002	10:40	3	PDO	1	1	1	1	48	Rtrn	V3 turning tow hitch broke and ht V1 and V2	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Cr 21
LOCATION: at SR 25
MUNICIPALITY: Town of Brokhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
66	8/30/2002	10:45	2	PDO	1	2	2	3	7	Rtrn	V1 hit V2 attempting to turn	
101	12/16/2003	8:10	2	PDO	1	3	1	1	7 4	Rtrn	V2 hit V1 and fled scene	
32	8/11/2001	12:24	2	PDO	1	1	1	2	4 7 4	Side	V2 sideswiped V1	
34	9/7/2001	16:30	2	PDO	1	2	1	1	42	Side	V2 EB lost brakes and SS V1	
78	10/9/2002	23:00	2	PDO	4	1	1	1	27	Side	V2 EB crossed into V1 lane WB SS	
93	8/16/2003	14:51	2	PDO	1	1	1	1	7	Side	V2 NB SS V1 SB	

ACCIDENT RATE CALCULATIONS

○ Segment

◉ Intersection

ROUTE: *Cr 21*

LOCATION: *at SR 25*

REFERENCE MARKERS / NODES: -

TIME PERIOD: *1/1/2001* - *6/12/2004*

REMARKS: *All Accidents*

ACCIDENT RATE = (116 total accidents in 3.5 years) * (1,000,000) / (365 days/yr.) * (3.5 years) * (35625 veh./day)

= 2.55 accidents per million entering vehicles

(Statewide average rate = 0.46)

HSA Software 3.0

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brokhaven* COUNTY: *Suffolk*

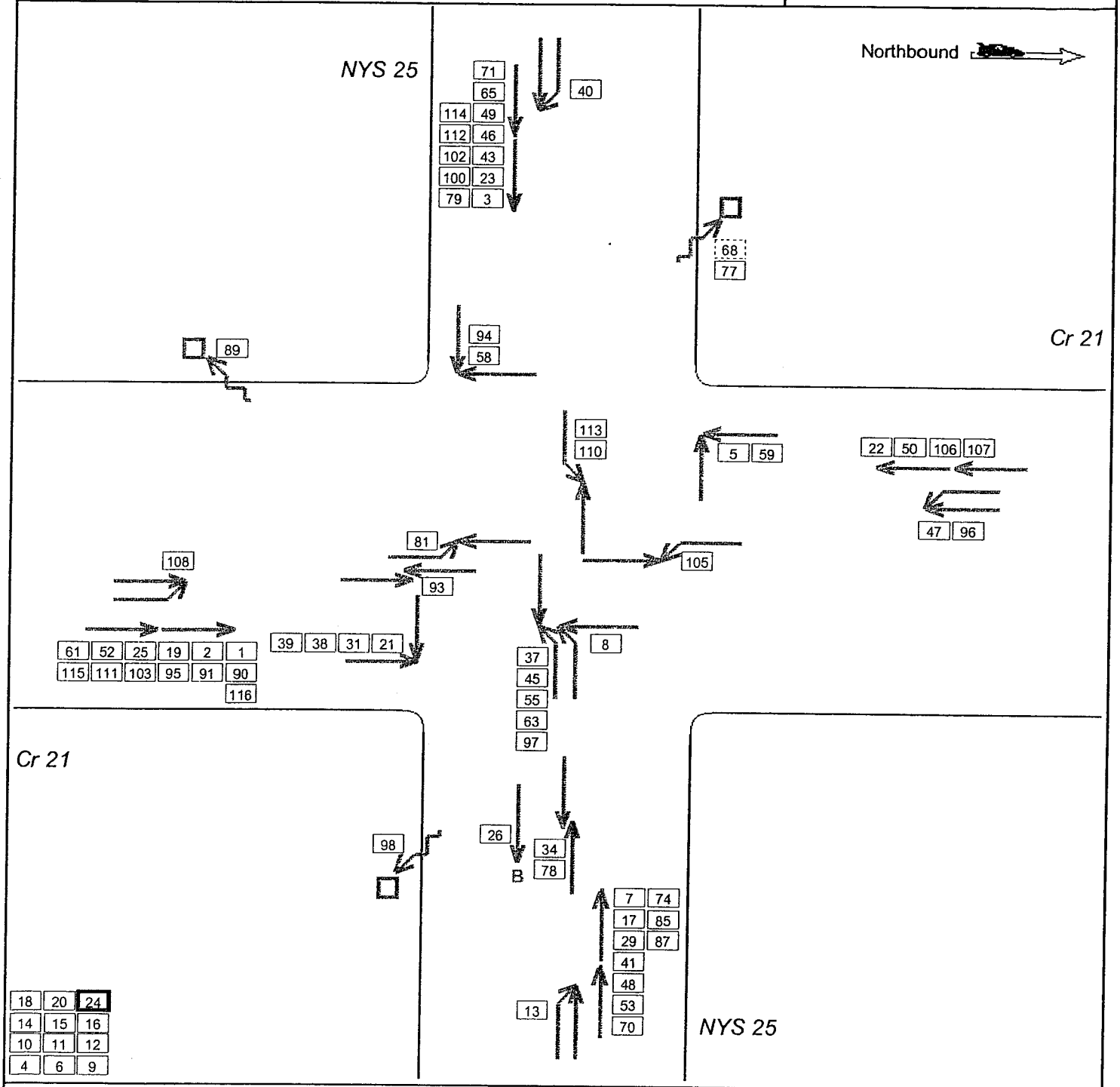
INTERSECTION: *Cr 21*

PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_SR25*

CASE # : *00088*

BY: *XHK* DATE: *8/24/2007*



SYMBOLS			
MOVING VEHICLE	P	PEDESTRIAN	
TURNING VEHICLE	B	BICYCLIST	
BACKING VEHICLE	A	ANIMAL	
PARKED VEHICLE		FIXED OBJECT	
999 RECORD NUMBER		Fatal	

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *S of SR 25*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	3	10.0%
10 AM - 4 PM	12	40.0%
4 PM - 7 PM	8	26.7%
7 PM - 12 AM	3	10.0%
12 AM - 6 AM	3	10.0%
Unspecified	1	3.3%
Total	**30**	

DIRECTION	# ACC	%	DIRECTION	# ACC	%
North	18	34.0%	Northeast	1	1.9%
South	23	43.4%	Northwest	0	0.0%
East	8	15.1%	Southeast	0	0.0%
West	2	3.8%	Southwest	1	1.9%
Total	**53**		Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	13	43.3%
Cloudy	11	36.7%
Rain	4	13.3%
Snow	1	3.3%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	1	3.3%
Total	**30**	

ACCIDENT TYPE	# ACC	%	ACCIDENT TYPE	# ACC	%
Rear End	11	36.7%	Pedestrian	0	0.0%
Overtake	1	3.3%	Bicycle	0	0.0%
Right Angle	8	26.7%	Parked Vehicle	0	0.0%
Left Turn	0	0.0%	Backing	0	0.0%
Right Turn	0	0.0%	Run Off The Road	1	3.3%
Fixed Object	8	26.7%	Animal	0	0.0%
Head On	0	0.0%	Other	0	0.0%
Sideswipe	0	0.0%	Unspecified	1	3.3%
		Total		**30**	

SURFACE	# ACC	%
Dry	21	70.0%
Wet	7	23.3%
Mud/Slush	0	0.0%
Snow/Ice	1	3.3%
Unspecified	1	3.3%
Total	**30**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	15	50.0%
Property Damage	15	50.0%
Non-Reportable	0	0.0%
Total	**30**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	7	24.1%
Spring (Mar-May)	9	31.0%
Summer (Jun-Aug)	5	17.2%
Fall (Sep-Nov)	8	27.6%
Total	**29**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	52	98.1%
Commercial Vehicles	1	1.9%
Total	**53**	

DAY OF WEEK	# ACC	%
Sunday	1	3.3%
Monday	2	6.7%
Tuesday	6	20.0%
Wednesday	4	13.3%
Thursday	4	13.3%
Friday	8	26.7%
Saturday	4	13.3%
Total	**29**	

LIGHT CONDITION	# ACC	%
Daylight	20	66.7%
Dawn/Dusk	1	3.3%
Night	7	23.3%
Unspecified	2	6.7%
Total	**30**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	2	7	3
Property Damage Accidents	3	2	2	3
Non-Reportable Accidents	0	0	0	0
Total Accidents	**3**	**4**	**9**	**6**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: S of SR 25
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: S_of_SR25
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
15				PDO								
1	6/14/2002	0:02	1	INJ	4	4	1	2	8	FixO	V1 driver fell asleep and hit pole 58	
4	5/2/2003	0:36	1	INJ	4	4	1	1	19 27	FixO	V1 NB failed to maintain lane strinking tree on SB side of road	
5	4/10/2004	12:20	1	PDO	1	1	1	1	14 25	FixO	V1 SB was struck by a rock on the pass window side hit FO	
6	1/20/2003	15:47	1	INJ	1	4	1	1	4	FixO	V1 NB ran off road struck LILCo utility pole	
7	11/15/2002	3:08	1	INJ	4	1	1	2	8	FixO	V1 fell asleep at wheel and struck a tree, caught fire	
16	2/9/2001	23:10	1	PDO	4	1	2	2	13	FixO	V1 NB NY Tel Pole #379	
21	11/2/2005	10:19	1	INJ	1	4	1	1	8	FixO	V2 SB fell asleep and hit a Fixed Object	
28	7/7/2006	8:50	1	INJ	1	4	1	1	19	FixO	V1 SB hit a Fixed Object	
17	5/4/2004	14:25	2	PDO	1	1	1	1	13	Ovtk	V2 struck V1 changing lanes	
3	6/1/2004	19:07	2	INJ	3	1	2	3	7	Rang	V1 SB was cut off by V2 EB backed into driveway and ran	
10	4/3/2004	16:45	2	INJ	1	1	1	2		Rang	V2 EB struck V1 SB	
14	1/23/2001	15:40	2	PDO	1	2	2	1	5	Rang	V2 attemping left turn SB struck V1 NB	
18	2/14/2002	14:35	2	PDO	1	1	1	1	7 26	Rang	V2 hit V1 turning into parking lot	
24	4/3/2004	16:45	2	INJ	1	1	1	2		Rang	V2 EB was hit by V1 SB making Left Turn	
25	6/22/2004	15:45	2	PDO	0	1	2	2		Rang	V1 EB was hit by V2 SB	
27	12/23/2005	16:30	2	PDO	1	1	1	1		Rang	V1 SB was hit by V2 EB	
29	8/21/2006	16:05	2	PDO	1	2	1	1	4	Rang	V1 SB was hit by V2 EB Making Left Turn Driver Inattention	
2	10/24/2003	11:00	2	INJ	1	1	1	2	9	Rend	V2 SB RE V1 SB stopped in traffic	
8	5/20/2003	15:00	3	INJ	1	1	1	1	4	Rend	V3 SB RE V2 SB which RE V1 SB	
9	5/22/2003	8:00	3	INJ	1	1	2	3	66	Rend	V3 SB RE V2 SB which RE V1 SB	
12	10/22/2003	16:00	2	PDO	1	1	1	2	9	Rend	Stopped in traffic V2 hit V1	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: S of SR 25
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: S_of_SR25
BY: XHK
DATE: 8/24/2007

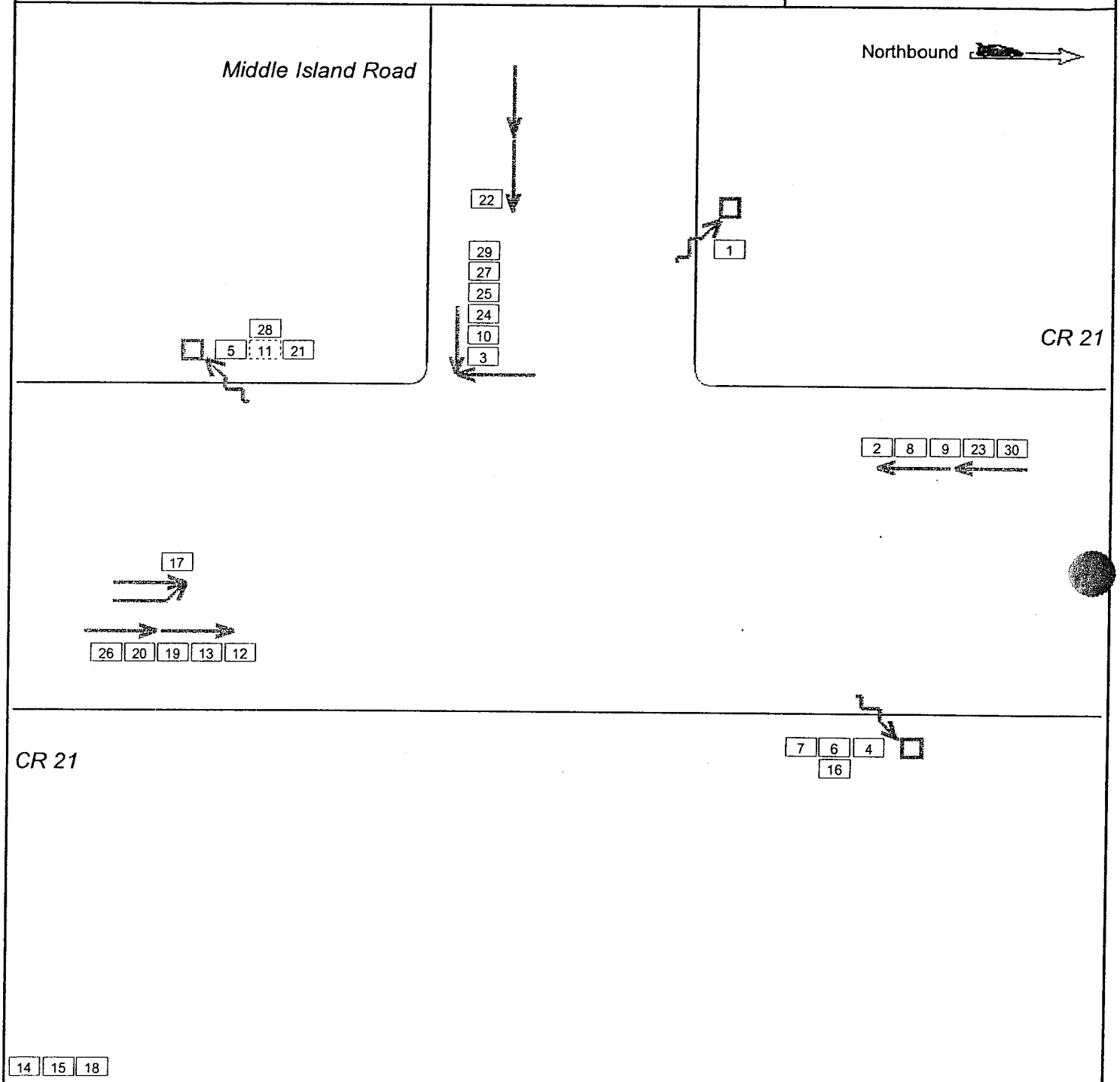
No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
13	11/26/2003	17:15	3	PDO	5	1	1	2	4	Rend	V1 caused intial collision with V2 then V3	
19	11/20/2003	7:00	2	INJ	1	1	2	3	66	Rend	V2 slid on wet pavement and collided with V1	
20	3/10/2002	15:55	2	PDO	1	2	1	2	4	Rend	V2 collided with V1 RE	
22	12/14/2005	17:00	2	PDO	4	1	1	1		Rend	V1 EB was hit by V2 EB	
23	10/24/2003	11:00	2	INJ	1	1	1	2	9	Rend	V1 SB was hit by V2 SB Following too closely	
26	4/26/2005	18:10	3	INJ	1	1	1	1	4 19	Rend	V2 WB was hit by V1 NB hit by V3 NB Speeding	
30	9/2/2006	14:45	2	PDO	1	1	2	3		Rend	V1 NB was hit by V2 NB	
11	2/22/2001	21:00	1	PDO	4	4	4	4	66 19	RORd	Roadway very slipery with snow and ice	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*
INTERSECTION: *CR 21*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *S_of_SR25*
CASE # : *00088*
BY: *XHK* DATE: *8/24/2004*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *At Artist Lake Drive (N and S)*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *8/24/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	7	26.9%
10 AM - 4 PM	7	26.9%
4 PM - 7 PM	9	34.6%
7 PM - 12 AM	1	3.8%
12 AM - 6 AM	1	3.8%
Unspecified	1	3.8%
Total	**26**	

DIRECTION	# ACC	%
North	17	37.8%
South	15	33.3%
East	1	2.2%
West	5	11.1%
Total	**45**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	4	8.9%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	3	6.7%

WEATHER	# ACC	%
Clear	14	53.8%
Cloudy	6	23.1%
Rain	2	7.7%
Snow	1	3.8%
Sleet/Hail/Freezing Rain	1	3.8%
Fog/Smog/Smoke	0	0.0%
Unspecified	2	7.7%
Total	**26**	

ACCIDENT TYPE	# ACC	%
Rear End	13	50.0%
Overtake	1	3.8%
Right Angle	2	7.7%
Left Turn	3	11.5%
Right Turn	0	0.0%
Fixed Object	3	11.5%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	1	3.8%
Unspecified	3	11.5%
Total	**26**	

SURFACE	# ACC	%
Dry	18	69.2%
Wet	3	11.5%
Mud/Slush	0	0.0%
Snow/Ice	3	11.5%
Unspecified	2	7.7%
Total	**26**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	8	30.8%
Property Damage	17	65.4%
Non-Reportable	0	0.0%
Total	**26**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	5	20.0%
Spring (Mar-May)	9	36.0%
Summer (Jun-Aug)	4	16.0%
Fall (Sep-Nov)	7	28.0%
Total	**25**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	49	100.0%
Commercial Vehicles	0	0.0%
Total	**49**	

DAY OF WEEK	# ACC	%
Sunday	2	7.7%
Monday	1	3.8%
Tuesday	5	19.2%
Wednesday	5	19.2%
Thursday	4	15.4%
Friday	6	23.1%
Saturday	2	7.7%
Total	**25**	

LIGHT CONDITION	# ACC	%
Daylight	18	69.2%
Dawn/Dusk	3	11.5%
Night	2	7.7%
Unspecified	3	11.5%
Total	**26**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	2	0	3
Property Damage Accidents	5	7	2	2
Non-Reportable Accidents	0	0	0	0
Total Accidents	**6**	**9**	**2**	**5**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: At Artist Lake Drive (N and S)
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_ArtistLake_Dr
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
4	1/23/2001	9:20	3	PDO	1		2	1				
15	9/2/2003	12:55	2	PDO	1	1	1	1				
26												
1	1/18/2004	15:05	1	INJ	3	4	4	4	19	FixO	V1 SB lost control due to snow hit a tree	
20	3/16/2004	17:25	1	INJ	3	1	4	5	19	FixO	V1 lost control on ice and hit tree	
23	5/6/2005	5:30	1	INJ	3	1	1	1	21	FixO	V1 EB was fatigued and hit a Fixed Object	
2	1/17/2002	17:50	2	PDO	4	1	1	1	18	Ltrn	V2 left turn agaisnt traffic hit V1 SB	
9	5/17/2002	16:08	2	INJ	1	4	1	2	17 7	Ltrn	V2 ,issed a turn trying for a u turn striking v1	
17	5/6/2004	17:40	2	PDO	1	1	1	1	6 7	Ltrn	V2 SB FTYROW V1 NB	
22	10/20/2004	7:05	2	INJ						Othr	Unknown	
6	5/1/2001	15:45	2	INJ	1	1	1	1	4 4	Ovtk	V1 pulled into traffic hittin V2 passenger side	
5	4/21/2001	16:35	2	PDO	1		1	2		Rang		
8	4/11/2002	23:05	2	PDO	4	1	1	1	7	Rang	V1 NB right turn when struck by unknown V	
3	1/22/2001	8:30	2	PDO	1	4	4	1	66	Rend	V2 NW slid on ice RE V1 NW	
7	3/9/2002	11:37	2	PDO	1	1	1	1		Rend	V2 RE V1	
11	6/19/2002	9:00	2	PDO	1	4	1	1	7	Rend	V2 SB RE V1 SB green light	
12	8/21/2002	18:40	2	INJ	1	1	1	1	9	Rend	V2 NB RE V1 NB	
13	10/24/2002	16:30	2	PDO	1	1	1	2	9	Rend	V2 RE V1	
14	10/25/2002	17:25	2	PDO	1	1	1	1	4	Rend	V2 NB RE V1 NB	
16	12/10/2003	13:10	2	PDO	1	1	1	2	13 4	Rend	V2 SB RE V1 SB	
18	6/3/2001	10:00	2	PDO	1	2	2	3	16	Rend	V2 NB RE V1 NB Wet roads	
19	9/14/2001	15:15	2	PDO	1	1	2	3	4	Rend	V2 SB RE V1 SB	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: At Artist Lake Drive (N and S)
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_ArtistLake_Dr
BY: XHK
DATE: 8/24/2007

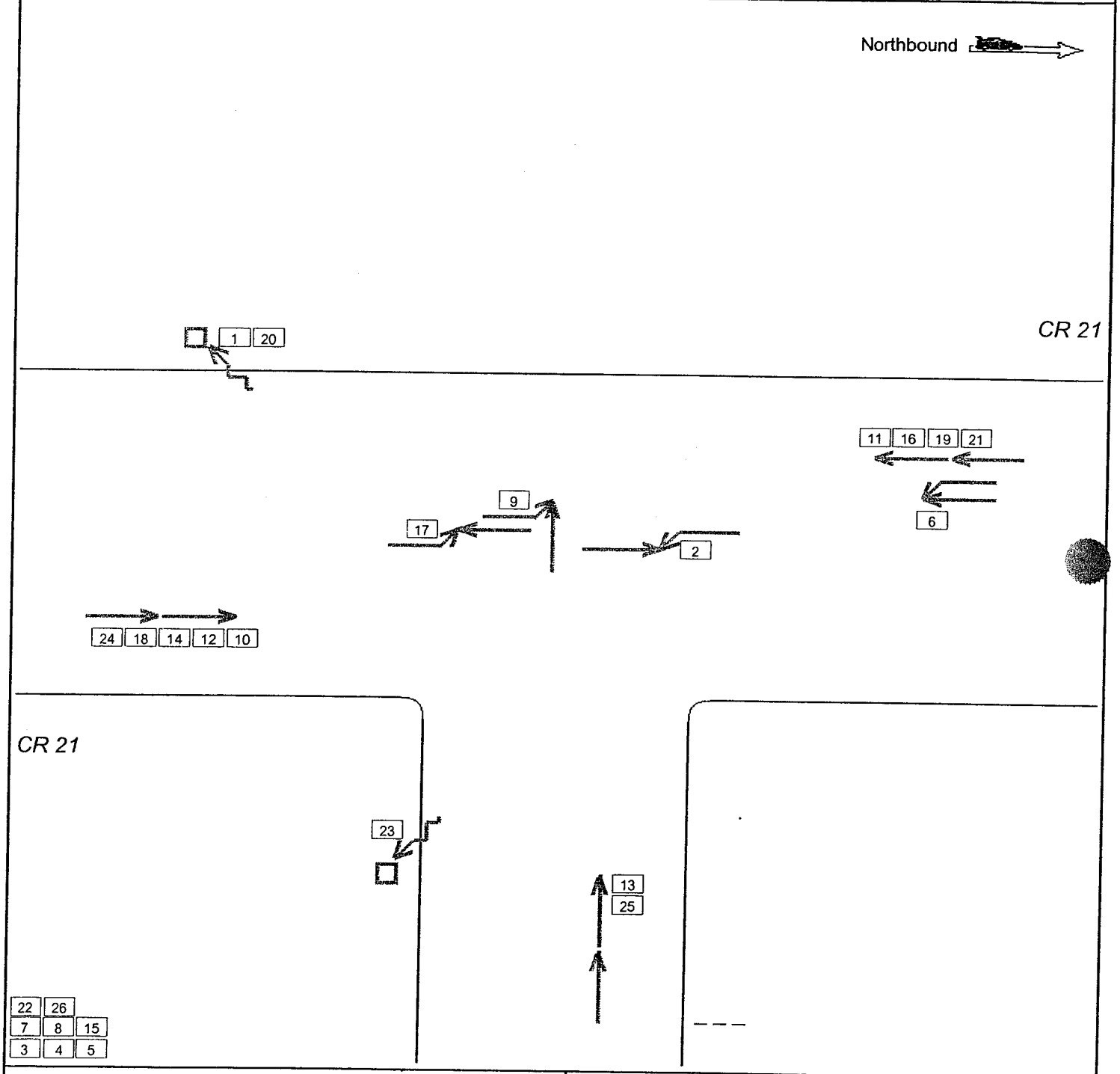
No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
21	10/1/2004	7:05	2	PDO	0	4	1	1		Rend	Unknown	
24	9/28/2005	9:20	2	INJ	1	1	1	1		Rend	V1 NB was hit by V2 NB	
25	8/29/2006	8:05	2	PDO	1	1	1	2	4	Rend	V1 WB was hit by V2 WB Driver Inattention	
10	5/17/2002	17:25	3	PDO	1	4	1	2	9	Rend	V3 NB caused RE V2 and V1 NB	51

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*
INTERSECTION: *CR 21*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_ArtistLake_Dr*
CASE # : *00088*
BY: *XHK* DATE: *8/24/2001*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: CR 21 **LOCATION:** at Island Bay Av (incl. N of and S of)

MUNICIPALITY: Town Of Brookhaven **COUNTY:** Suffolk

TIME PERIOD COVERED: 1/1/2001 - 6/12/2004 **REFERENCE MARKERS / NODES:** -

REMARKS: All Accidents

DATE: 7/16/2007

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	3	75.0%
4 PM - 7 PM	1	25.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**4**	

DIRECTION	# ACC	%
North	3	60.0%
South	2	40.0%
East	0	0.0%
West	0	0.0%
Total	**5**	

DIRECTION	# ACC	
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	2	50.0%
Cloudy	1	25.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	1	25.0%
Total	**4**	

ACCIDENT TYPE	# ACC	%
Rear End	2	50.0%
Overtake	0	0.0%
Right Angle	1	25.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	1	25.0%
Unspecified	0	0.0%
Total	**4**	

SURFACE	# ACC	%
Dry	2	50.0%
Wet	1	25.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	1	25.0%
Total	**4**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	25.0%
Property Damage	3	75.0%
Non-Reportable	0	0.0%
Total	**4**	

TIME OF YEAR		# ACC	%
Winter	(Dec-Feb)	0	0.0%
Spring	(Mar-May)	1	25.0%
Summer	(Jun-Aug)	1	25.0%
Fall	(Sep-Nov)	2	50.0%
Total		**4**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	9	100.0%
Commercial Vehicles	0	0.0%
Total	**9**	

DAY OF WEEK	# ACC	%
Sunday	1	25.0%
Monday	0	0.0%
Tuesday	0	0.0%
Wednesday	3	75.0%
Thursday	0	0.0%
Friday	0	0.0%
Saturday	0	0.0%
Total	**4**	

LIGHT CONDITION	# ACC	%
Daylight	2	50.0%
Dawn/Dusk	0	0.0%
Night	1	25.0%
Unspecified	1	25.0%
Total	**4**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	1	0	0
Property Damage Accidents	1	0	2	0
Non-Reportable Accidents	0	0	0	0
Total Accidents	**1**	**1**	**2**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: at Island Bay Av (incl. N of and S of)
MUNICIPALITY: Town Of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_IslandBay_Av
BY: XHK
DATE: 7/16/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
2	6/17/2001	12:09	2	PDO						Othr		
4	10/1/2003	13:35	2	PDO	1		1	1		Rang		
1	5/21/2003	18:50	2	PDO	4	1	2	2	9	Rend	V2 SB RE V1 Sb	
3	9/18/2002	15:10	3	INJ	1	1	1	1	4	Rend	V1,2,3 NB where V3 RE V2 causin RE V1	

ACCIDENT SUMMARY SHEET

ROUTE: CR 21 **LOCATION:** N of E Bartlett Rd

MUNICIPALITY: Town of Brookhaven **COUNTY:** Suffolk

TIME PERIOD COVERED: 1/1/2001 - 6/12/2004 **REFERENCE MARKERS / NODES:** -

REMARKS: All Accidents **DATE:** 7/13/2007

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	0	0.0%
4 PM - 7 PM	0	0.0%
7 PM - 12 AM	2	66.7%
12 AM - 6 AM	1	33.3%
Unspecified	0	0.0%
Total	**3**	

DIRECTION	# ACC	%
North	1	33.3%
South	2	66.7%
East	0	0.0%
West	0	0.0%
Total	**3**	

DIRECTION	# ACC	
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	1	33.3%
Cloudy	1	33.3%
Rain	1	33.3%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**3**	

ACCIDENT TYPE	# ACC	%
Rear End	0	0.0%
Overtake	0	0.0%
Right Angle	0	0.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	1	33.3%
Head On	0	0.0%
Sideswipe	1	33.3%

ACCIDENT TYPE	# ACC	
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	0	0.0%
Unspecified	1	33.3%
Total	**3**	

SURFACE	# ACC	%
Dry	1	33.3%
Wet	2	66.7%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	0	0.0%
Total	**3**	

ACCIDENT SEVERITY	# ACC	%
Fatal	1	33.3%
Injury	0	0.0%
Property Damage	2	66.7%
Non-Reportable	0	0.0%
Total	**3**	

TIME OF YEAR		# ACC	%
Winter	(Dec-Feb)	1	33.3%
Spring	(Mar-May)	1	33.3%
Summer	(Jun-Aug)	0	0.0%
Fall	(Sep-Nov)	1	33.3%
Total		**3**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	5	100.0%
Commercial Vehicles	0	0.0%
Total	**5**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	0	0.0%
Tuesday	0	0.0%
Wednesday	0	0.0%
Thursday	1	33.3%
Friday	1	33.3%
Saturday	1	33.3%
Total	**3**	

LIGHT CONDITION	# ACC	%
Daylight	0	0.0%
Dawn/Dusk	0	0.0%
Night	3	100.0%
Unspecified	0	0.0%
Total	**3**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	1	0
Injury Accidents	0	0	0	0
Property Damage Accidents	1	0	0	1
Non-Reportable Accidents	0	0	0	0
Total Accidents	**1**	**0**	**1**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: N of E Bartlett Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: N_of_EBartlett_R
BY: XHK
DATE: 7/13/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	11/29/2001	20:00	2	PDO	4	4	2	2	5			
2	3/29/2003	21:45	1	FAT	4		2	3		FixO	Fatality	
3	2/13/2004	0:01	2	PDO	4	5	1	1		Side	V1 SB had sideswiped with V2 NB	

ACCIDENT SUMMARY SHEET

ROUTE: CR 21 **LOCATION:** N of Longwood Rd

MUNICIPALITY: Town of Brookhaven **COUNTY:** Suffolk

TIME PERIOD COVERED: 1/1/2001 - 6/12/2004 **REFERENCE MARKERS / NODES:** -

REMARKS: All Accidents **DATE:** 8/24/2007

TIME OF DAY	# ACC	%
6 AM - 10 AM	1	11.1%
10 AM - 4 PM	3	33.3%
4 PM - 7 PM	2	22.2%
7 PM - 12 AM	1	11.1%
12 AM - 6 AM	2	22.2%
Unspecified	0	0.0%
Total	**9**	

DIRECTION	# ACC	%
North	7	58.3%
South	3	25.0%
East	0	0.0%
West	0	0.0%
Total	**12**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	2	16.7%

WEATHER	# ACC	%
Clear	3	33.3%
Cloudy	0	0.0%
Rain	4	44.4%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	1	11.1%
Unspecified	1	11.1%
Total	**9**	

ACCIDENT TYPE	# ACC	%
Rear End	1	11.1%
Overtake	0	0.0%
Right Angle	0	0.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	4	44.4%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	1	11.1%
Other	3	33.3%
Unspecified	0	0.0%
Total	**9**	

SURFACE	# ACC	%
Dry	4	44.4%
Wet	4	44.4%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	1	11.1%
Total	**9**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	4	44.4%
Property Damage	5	55.6%
Non-Reportable	0	0.0%
Total	**9**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	1	11.1%
Spring (Mar-May)	2	22.2%
Summer (Jun-Aug)	6	66.7%
Fall (Sep-Nov)	0	0.0%
Total	**9**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	10	100.0%
Commercial Vehicles	0	0.0%
Total	**10**	

DAY OF WEEK	# ACC	%
Sunday	3	33.3%
Monday	0	0.0%
Tuesday	1	11.1%
Wednesday	2	22.2%
Thursday	2	22.2%
Friday	0	0.0%
Saturday	1	11.1%
Total	**9**	

LIGHT CONDITION	# ACC	%
Daylight	4	44.4%
Dawn/Dusk	0	0.0%
Night	4	44.4%
Unspecified	1	11.1%
Total	**9**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	0	0	1
Property Damage Accidents	1	3	0	0
Non-Reportable Accidents	0	0	0	0
Total Accidents	**2**	**3**	**0**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: N of Longwood Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: N_of_Longwood_Rd
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
6	7/20/2002	23:05	1	PDO	4		1	1		Anml	V1 NB collided with deer	
2	6/10/2001	9:40	1	INJ	1	4	1	1	8	FixO	V1 NB driver fell asleep hitting fixed objects	
4	3/10/2004	1:40	1	INJ	4	4	2	3	2	FixO	V1 NB run off road and struck a LIPA utiity pole	
7	5/8/2005	2:00	1	INJ	4	4	2	3	66	FixO	V1 NB hit a Fixed Object	
9	8/27/2006	17:30	1	INJ	1	4	2	3	19	FixO	V1 SB hit a Fixed Object	
1	12/19/2001	12:39	1	PDO	5	4	1	6	61	Othr	V1 SB struck deer	
3	8/29/2002	12:35	2	PDO	1	1	2	3	3 4	Othr	V2 was backing up in traffic and hit V1 SB	
8	8/4/2005	12:15	0	PDO						Othr	Unknown	
5	6/4/2002	16:38	2	PDO	1	1	1	1	9	Rend	V2 NB RE V1 NB	

ACCIDENT SUMMARY SHEET

ROUTE: CR 21 **LOCATION:** At Longwoood Rd

MUNICIPALITY: Town of Brookhaven **COUNTY:** Suffolk

TIME PERIOD COVERED: 1/1/2001 - 6/12/2004 **REFERENCE MARKERS / NODES:** -

REMARKS: All Accidents **DATE:** 8/24/2007

TIME OF DAY	# ACC	%
6 AM - 10 AM	10	27.0%
10 AM - 4 PM	14	37.8%
4 PM - 7 PM	7	18.9%
7 PM - 12 AM	5	13.5%
12 AM - 6 AM	1	2.7%
Unspecified	0	0.0%
Total	**37**	

DIRECTION	# ACC	%
North	11	20.8%
South	20	37.7%
East	1	1.9%
West	18	34.0%
Total	**53**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	1	1.9%
Unspecified	2	3.8%

WEATHER	# ACC	%
Clear	17	45.9%
Cloudy	11	29.7%
Rain	4	10.8%
Snow	1	2.7%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	4	10.8%
Total	**37**	

ACCIDENT TYPE	# ACC	%
Rear End	17	45.9%
Overtake	2	5.4%
Right Angle	2	5.4%
Left Turn	1	2.7%
Right Turn	0	0.0%
Fixed Object	2	5.4%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	4	10.8%
Other	2	5.4%
Unspecified	7	18.9%
Total	**37**	

SURFACE	# ACC	%
Dry	20	54.1%
Wet	9	24.3%
Mud/Slush	0	0.0%
Snow/Ice	4	10.8%
Unspecified	4	10.8%
Total	**37**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	10	27.0%
Property Damage	27	73.0%
Non-Reportable	0	0.0%
Total	**37**	

TIME OF YEAR		# ACC	%
Winter	(Dec-Feb)	9	24.3%
Spring	(Mar-May)	10	27.0%
Summer	(Jun-Aug)	9	24.3%
Fall	(Sep-Nov)	9	24.3%
Total		**37**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	75	98.7%
Commercial Vehicles	1	1.3%
Total	**76**	

DAY OF WEEK	# ACC	%
Sunday	3	8.1%
Monday	10	27.0%
Tuesday	5	13.5%
Wednesday	2	5.4%
Thursday	6	16.2%
Friday	8	21.6%
Saturday	3	8.1%
Total	**37**	

LIGHT CONDITION	# ACC	%
Daylight	27	73.0%
Dawn/Dusk	0	0.0%
Night	7	18.9%
Unspecified	3	8.1%
Total	**37**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	2	2	0	0
Property Damage Accidents	6	10	7	2
Non-Reportable Accidents	0	0	0	0
Total Accidents	**8**	**12**	**7**	**2**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: At Longwoood Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_Longwood_Rd
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
2	6/11/2001	15:45	2	PDO	1							
3	6/14/2001	15:05	2	PDO	1							
7	1/18/2002	18:00	3	INJ								
12	6/6/2002	7:30	2	PDO	1		2	2				
18	12/5/2002	13:00	2	PDO			1	1				
23	11/24/2003	6:50	2	PDO	1		1	1				
28	3/12/2001	14:17	2	PDO	1		1	1				
8	3/25/2002	22:00	1	PDO	4	1	1	2		Anml	V1 SB hit a deer	
11	5/18/2002	0:59	1	PDO	4	1	2	3	61	Anml	V1 SB struck deer head on	
24	12/8/2003	9:00	2	PDO	1		4	1		Anml		
26	3/15/2004	18:20	2	PDO	4	1	1	2	61	Anml		
17	10/4/2002	10:05	1	PDO	1	1	2	2	46	FixO	V1 making a left turn lost control and hit a tree	
20	2/23/2003	19:36	1	PDO	4	4	4	1	66	FixO	V1 hit fixed pole on icy road	
32	12/23/2005	7:00	2	INJ	1	1	1	1	4 18	Ltrn	V2 SB making Left turn was hit by V1 NB	
34	4/1/2006	12:00	2	INJ						Othr	Unknown	
35	6/8/2006	6:54	3	PDO	1	1	1	2		Othr	Unknown	
21	8/12/2003	6:55	2	PDO	1	1	1	1	8	Ovtk	V2 WB Sideswiped V1 WB while falling asleep	
29	12/5/2003	14:15	2	PDO	1	5	4	4		Ovtk	V1 SB was hit by V2 SB Changing Lanes	
33	4/1/2006	15:30	2	INJ	1	1	2	2	47	Rang	V2 WB Making Right turn had a bad Tire and hit V1 SB	
37	10/22/2006	16:26	2	PDO	1	1	1	1	7	Rang	V1 NB was hit by V2 EB Making Left failing to yield ROW	
1	3/28/2001	19:20	2	INJ	4		1	1		Rend	V2 rear ended V1	
4	9/9/2001	14:10	3	PDO	1	1	1	1	4 9	Rend	V2 RE V1 into RE V3	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: At Longwoood Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: At_Longwood_Rd
BY: XHK
DATE: 8/24/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
5	11/5/2001	7:20	2	PDO	1	1	1	1	9	Rend	V2 WB RE V1 WB	
6	12/18/2001	12:05	2	INJ	1	4	2	2	19 9	Rend	V2 WB RE V1 WB	
9	4/25/2002	16:15	2	PDO	1	1	2	3	66	Rend	V2 NB RE V1 due to wet roads	
10	5/2/2002	16:30	2	PDO	1		2	2		Rend		
13	6/7/2002	22:40	2	PDO	4	1	1	2	9	Rend	V2 WB struck V2 WB	
14	7/23/2002	20:55	2	PDO	4	4	2	3	66	Rend	V2 SB RE V1 SB from wet conditions	
15	8/9/2002	6:00	2	INJ	1	4	1	1	4	Rend	V2 WB RE V1 NB	
16	9/27/2002	11:15	2	PDO	1	4	2	3	4 66	Rend	V2 SB RE V1 SB	
19	1/21/2003	6:50	2	PDO	1	1	1	1	4 9	Rend	V2 WB RE V1 WB	
22	11/10/2003	8:16	4	PDO	1	1	1	1	19	Rend	V4 SB unable to stop in traffic hit V3 ans atarted chain reacti	
25	1/16/2004	16:10	2	PDO	1	1	4	1	66 62	Rend	V2 NB RE V1 NB	
27	3/12/2001	13:30	2	PDO	1	1	1	1	4	Rend	V2 SB RE V1	
30	6/29/2005	11:50	2	INJ	1	4	1	2	9	Rend	V1 NB was hit by V2 NB Following too closely	
31	9/26/2005	11:15	2	INJ	1	1	1	2	9	Rend	V1 WB was hit by V2 WB Following too closely	
36	10/3/2006	17:17	3	INJ	1	1	1	1		Rend	V3 WB was hit by V2 hit by V1 WB	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Town of Brookhaven* COUNTY: *Suffolk*

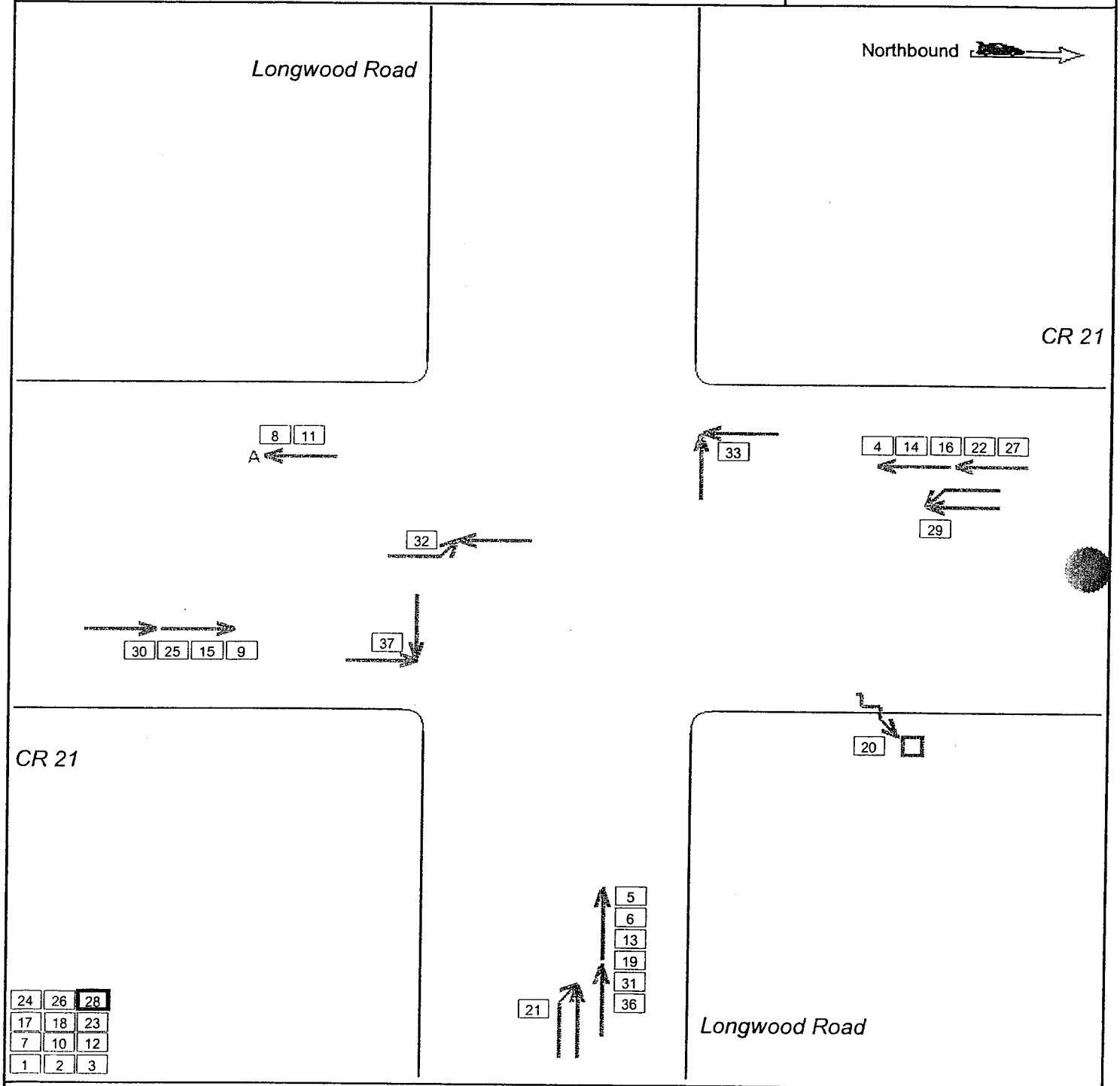
INTERSECTION: *CR 21*

PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *At_Longwood_Rd*

CASE # : *00088*

BY: *XHK* DATE: *8/24/2001*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *CR 21* **LOCATION:** *S of Longwood Rd*

MUNICIPALITY: *Town of Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** -

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	0	0.0%
4 PM - 7 PM	0	0.0%
7 PM - 12 AM	1	100.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**1**	

DIRECTION	# ACC	%
North	1	50.0%
South	1	50.0%
East	0	0.0%
West	0	0.0%
Total	**2**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	1	100.0%
Cloudy	0	0.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT TYPE	# ACC	%
Rear End	0	0.0%
Overtake	0	0.0%
Right Angle	0	0.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	1	100.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	0	0.0%
Unspecified	0	0.0%
Total	**1**	

SURFACE	# ACC	%
Dry	1	100.0%
Wet	0	0.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	100.0%
Property Damage	0	0.0%
Non-Reportable	0	0.0%
Total	**1**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	0	0.0%
Spring (Mar-May)	0	0.0%
Summer (Jun-Aug)	0	0.0%
Fall (Sep-Nov)	1	100.0%
Total	**1**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	2	100.0%
Commercial Vehicles	0	0.0%
Total	**2**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	0	0.0%
Tuesday	0	0.0%
Wednesday	0	0.0%
Thursday	0	0.0%
Friday	1	100.0%
Saturday	0	0.0%
Total	**1**	

LIGHT CONDITION	# ACC	%
Daylight	0	0.0%
Dawn/Dusk	0	0.0%
Night	1	100.0%
Unspecified	0	0.0%
Total	**1**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	1	0	0
Property Damage Accidents	0	0	0	0
Non-Reportable Accidents	0	0	0	0
Total Accidents	**0**	**1**	**0**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: CR 21
LOCATION: S of Longwood Rd
MUNICIPALITY: Town of Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: -

CASE No. 00088
FILE: S_of_Longwood_R
BY: XHK
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	10/18/2002	19:15	2	INJ	4	1	1	1	27 26	HdOn		

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Between Margarets Blvd and Middle Island Rd.*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1278 - 0704-1281*

REMARKS: *All Accidents* **DATE:** *9/14/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	4	7.0%
10 AM - 4 PM	32	56.1%
4 PM - 7 PM	12	21.1%
7 PM - 12 AM	4	7.0%
12 AM - 6 AM	2	3.5%
Unspecified	3	5.3%
Total	**57**	

DIRECTION	# ACC	%
North	5	5.0%
South	14	13.9%
East	42	41.6%
West	35	34.7%
Total	**101**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	5	5.0%

WEATHER	# ACC	%
Clear	33	57.9%
Cloudy	12	21.1%
Rain	5	8.8%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	7	12.3%
Total	**57**	

ACCIDENT TYPE	# ACC	%
Rear End	20	35.1%
Overtake	0	0.0%
Right Angle	13	22.8%
Left Turn	2	3.5%
Right Turn	2	3.5%
Fixed Object	2	3.5%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	2	3.5%
Parked Vehicle	4	7.0%
Backing	3	5.3%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	9	15.8%
Unspecified	0	0.0%
Total	**57**	

SURFACE	# ACC	%
Dry	43	75.4%
Wet	7	12.3%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	7	12.3%
Total	**57**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	22	38.6%
Property Damage	28	49.1%
Non-Reportable	7	12.3%
Total	**57**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	11	19.3%
Spring (Mar-May)	15	26.3%
Summer (Jun-Aug)	14	24.6%
Fall (Sep-Nov)	17	29.8%
Total	**57**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	111	99.1%
Commercial Vehicles	1	0.9%
Total	**112**	

DAY OF WEEK	# ACC	%
Sunday	7	12.3%
Monday	5	8.8%
Tuesday	11	19.3%
Wednesday	11	19.3%
Thursday	3	5.3%
Friday	11	19.3%
Saturday	9	15.8%
Total	**57**	

LIGHT CONDITION	# ACC	%
Daylight	39	68.4%
Dawn/Dusk	1	1.8%
Night	7	12.3%
Unspecified	10	17.5%
Total	**57**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	5	9	5	3
Property Damage Accidents	6	6	16	0
Non-Reportable Accidents	3	4	0	0
Total Accidents	**14**	**19**	**21**	**3**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Between Margarets Blvd and Middle Island Rd.
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1278 - 0704-1281

CASE No.
FILE: 0704-1278to1281
BY: ME
DATE: 9/14/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
3	7/8/2002	5:20	2	PDO	1		1	1	4 4	Rang	V1 WB making LT was hit by V2 NB Driver Inattention	
4	7/20/2002	13:08	1	INJ	1	1	1	1	4	Rang	V1 SB Making LT was hit by V2 EB	
5	8/11/2002		2	INJ	1	2	1	1	7	Rang	V1 WB was hit by V2 SB Making LT Failing to Yield ROW	
10	7/26/2003	10:10	2	PDO	1		1	1	13	Rang	V1 EB was hit by V2 SB Making LT Failing to Yield ROW	
16	9/2/2003	18:00	2	PDO	1		2	3	4	Rang	V1 EB was hit by V2 SB Making LT Driver Inattention	
28	8/22/2003	10:38	2	INJ	1	1	1	1		Rang	V1 WB was hit by V2 NB Making LT	
29	8/30/2003	12:50	2	PDO	1		1	1	7	Rang	V1 SB was hit by V2 EB Failing to Yield ROW	
34	2/14/2001	11:00	2	PDO	1	2	1	2	7	Rang	V1 WB was hit by V2 SB Making LT Failing to Yield ROW	
35	3/28/2001	16:00	2	PDO	0	1	1	1		Rang	V1 SB Making LT was hit by V2 WB	
41	10/30/2001	16:30	2	INJ	1	2	1	1	7	Rang	V1 EB was hit by V2 NB Making LT Failing to Yield ROW	
47	2/24/2002	16:50	2	PDO	1	2	1	1	62	Rang	V1 SB was hit by V2 WB due to Glare	
49	8/31/2002	13:10	2	INJ	1	1	1	2	7	Rang	V1 WB was hit by V2 SB Making LT Failing to Yield ROW	
56	2/3/2004	15:42	2	INJ	1	1	2	3	7	Rang	V1 WB was hit by V2 NB Failing to Yield ROW	
6	11/16/2002	17:20	2	INJ	4	1	2	3	66	Rend	V1 EB was hit by V2 EB Slippery Pavement	
7	4/21/2003	16:00	2	PDO	1		1	1	4	Rend	V1 W B was hit by V2 WB Driver Inattention	
17	1/31/2001	11:00	2	PDO	1	2	1	2	9	Rend	V1 EB was hit by V2 EB Following too Closely	
18	5/1/2001	16:05	3	INJ	1	1	1	1	4	Rend	V1 EB was hit by V2 EB hit by V3 EB Driver Inattention	
21	6/26/2002	15:22	2	INJ	1	2	1	1	9	Rend	V1 EB was hit by V2 EB Following too Closely	
22	8/5/2002	13:15	2	PDO	1		1	1	7	Rend	V1 EB was hit by V2 EB Starting from Parking	
26	6/13/2003	11:28	2	INJ	1	1	2	2	9	Rend	V1 WB was hit by V2 WB Following too Closely	
27	7/25/2003	11:45	2	PDO	1		1	1	4	Rend	V1 EB was hit by V2 EB Driver Inattention	
30	10/6/2003	14:54	2	INJ	1		1	1	9	Rend	V1 WB was hit by V2 WB Following too Closely	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Between Margarets Blvd and Middle Island Rd.
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1278 - 0704-1281

CASE No.
FILE: 0704-1278to1281
BY: ME
DATE: 9/14/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
32	11/19/2003	18:05	2	PDO	4		1	2	4	Rend	V1 EB was hit by V2 EB Driver Inattention	
33	11/17/2002	12:40	2	INJ	1	3	2	2		Rend	V1 WB was hit by V2 WB	
36	4/3/2001	14:00	3	INJ	1	1	1	1	9	Rend	V1 EB was hit by V2 EB hit by V3 EB Following too Close	
38	4/28/2001	10:00	2	PDO	1	3	1	1	9	Rend	V1 WB was hit by V2 EB Following too Closely	
44	11/30/2001	13:20	4	INJ	1	1	1	2	4	Rend	V1 EB was hit by V2 hit by V3, V4 all EB Driver Inattention	
48	3/1/2002	22:45	2	INJ	4	2	1	1	9	Rend	V1 EB was hit by V2 EB Following too Closely	
50	9/24/2002	8:10	2	INJ	0	2	1	1		Rend	V1 EB was hit by V2 EB	
51	10/2/2002	9:00	2	PDO	1		1	1	5 4	Rend	V1 WB was hit by V2 WB Driver Inattention	
53	2/21/2003	14:10	2	PDO	1		1	2	9	Rend	V1 EB was hit by V2 EB Following too Closely	
54	10/31/2003	23:15	2	PDO	4		1	1	18	Rend	V2 WB was hit by V1 WB	
55	12/23/2003	13:45	2	PDO	1		1	1	4	Rend	V1 EB was hit by V2 EB Driver Inattention	
9	6/4/2003		2	INJ	2	3	2	3	7	Rtrn	V1 WB was hit by V2 SB Making RT Failing to Yield ROW	
40	10/14/2001	13:45	2	PDO	0	1	1	2		Rtrn	V1 WB was hit by V2 SB Making RT	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Brookhaven* COUNTY: *Suffolk*

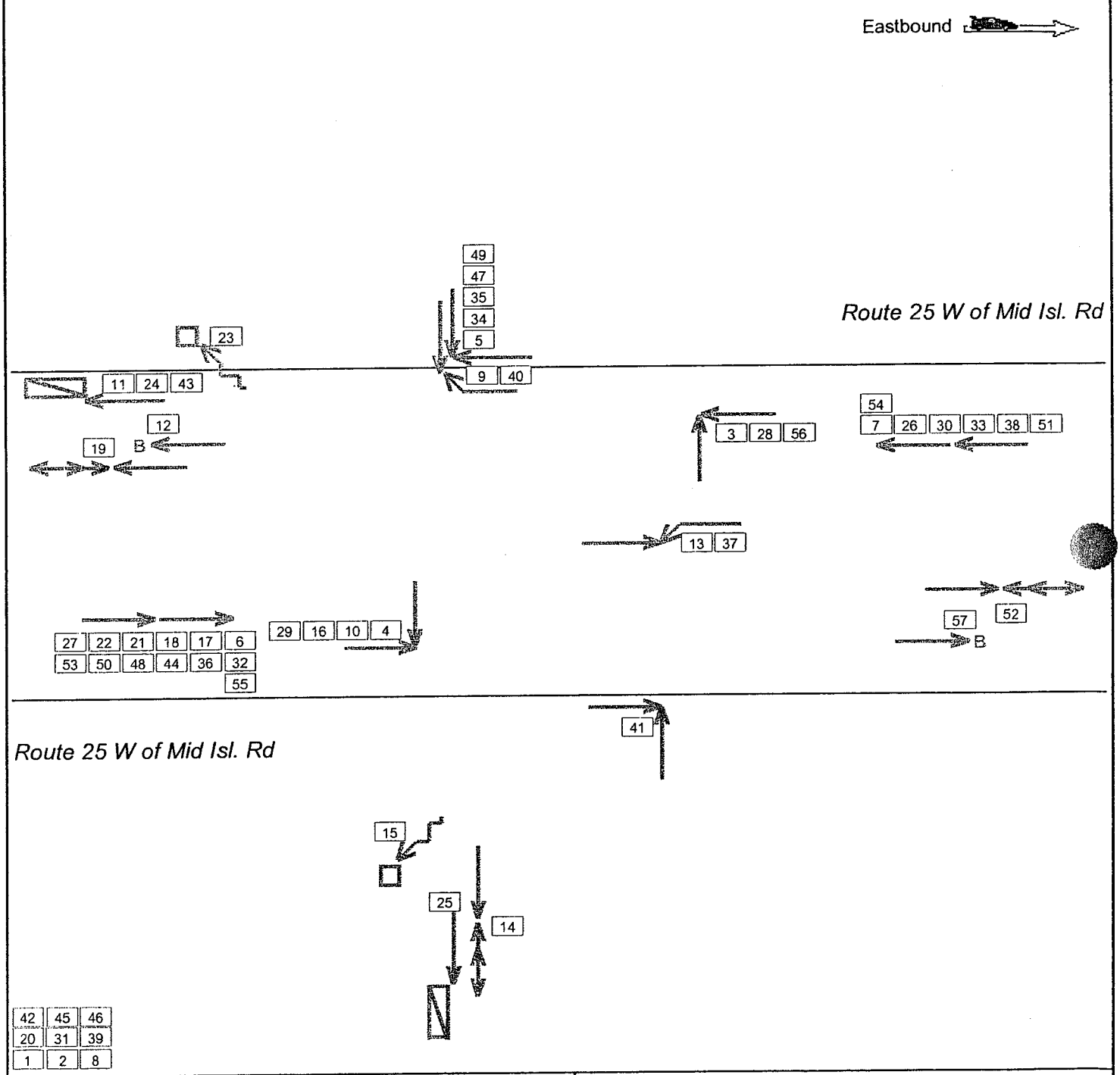
INTERSECTION: *Route 25 W of Mid Isl. Rd*

PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *0704-1278to1281*

CASE # : *00088*

BY: *ME* DATE: *9/21/2007*



SYMBOLS			
MOVING VEHICLE	P	PEDESTRIAN	
TURNING VEHICLE	B	BICYCLIST	
BACKING VEHICLE	A	ANIMAL	
PARKED VEHICLE		FIXED OBJECT	
999 RECORD NUMBER		Fatal	

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Route 25 @ Middle Island Rd*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1281 - 0704-1281*

REMARKS: *All Accidents* **DATE:** *9/14/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	10	66.7%
4 PM - 7 PM	1	6.7%
7 PM - 12 AM	2	13.3%
12 AM - 6 AM	1	6.7%
Unspecified	1	6.7%
Total	**15**	

DIRECTION	# ACC	%
North	3	12.0%
South	4	16.0%
East	7	28.0%
West	9	36.0%
Total	**25**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	2	8.0%

WEATHER	# ACC	%
Clear	5	33.3%
Cloudy	2	13.3%
Rain	4	26.7%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	4	26.7%
Total	**15**	

ACCIDENT TYPE	# ACC	%
Rear End	5	33.3%
Overtake	0	0.0%
Right Angle	4	26.7%
Left Turn	1	6.7%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	5	33.3%
Unspecified	0	0.0%
Total	**15**	

SURFACE	# ACC	%
Dry	7	46.7%
Wet	4	26.7%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	4	26.7%
Total	**15**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	8	53.3%
Property Damage	4	26.7%
Non-Reportable	3	20.0%
Total	**15**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	1	6.7%
Spring (Mar-May)	5	33.3%
Summer (Jun-Aug)	3	20.0%
Fall (Sep-Nov)	6	40.0%
Total	**15**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	28	96.6%
Commercial Vehicles	1	3.4%
Total	**29**	

DAY OF WEEK	# ACC	%
Sunday	3	20.0%
Monday	0	0.0%
Tuesday	3	20.0%
Wednesday	2	13.3%
Thursday	2	13.3%
Friday	3	20.0%
Saturday	2	13.3%
Total	**15**	

LIGHT CONDITION	# ACC	%
Daylight	8	53.3%
Dawn/Dusk	1	6.7%
Night	0	0.0%
Unspecified	6	40.0%
Total	**15**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	2	2	4	0
Property Damage Accidents	1	1	2	0
Non-Reportable Accidents	3	0	0	0
Total Accidents	**6**	**3**	**6**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Route 25 @ Middle Island Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1281 - 0704-1281

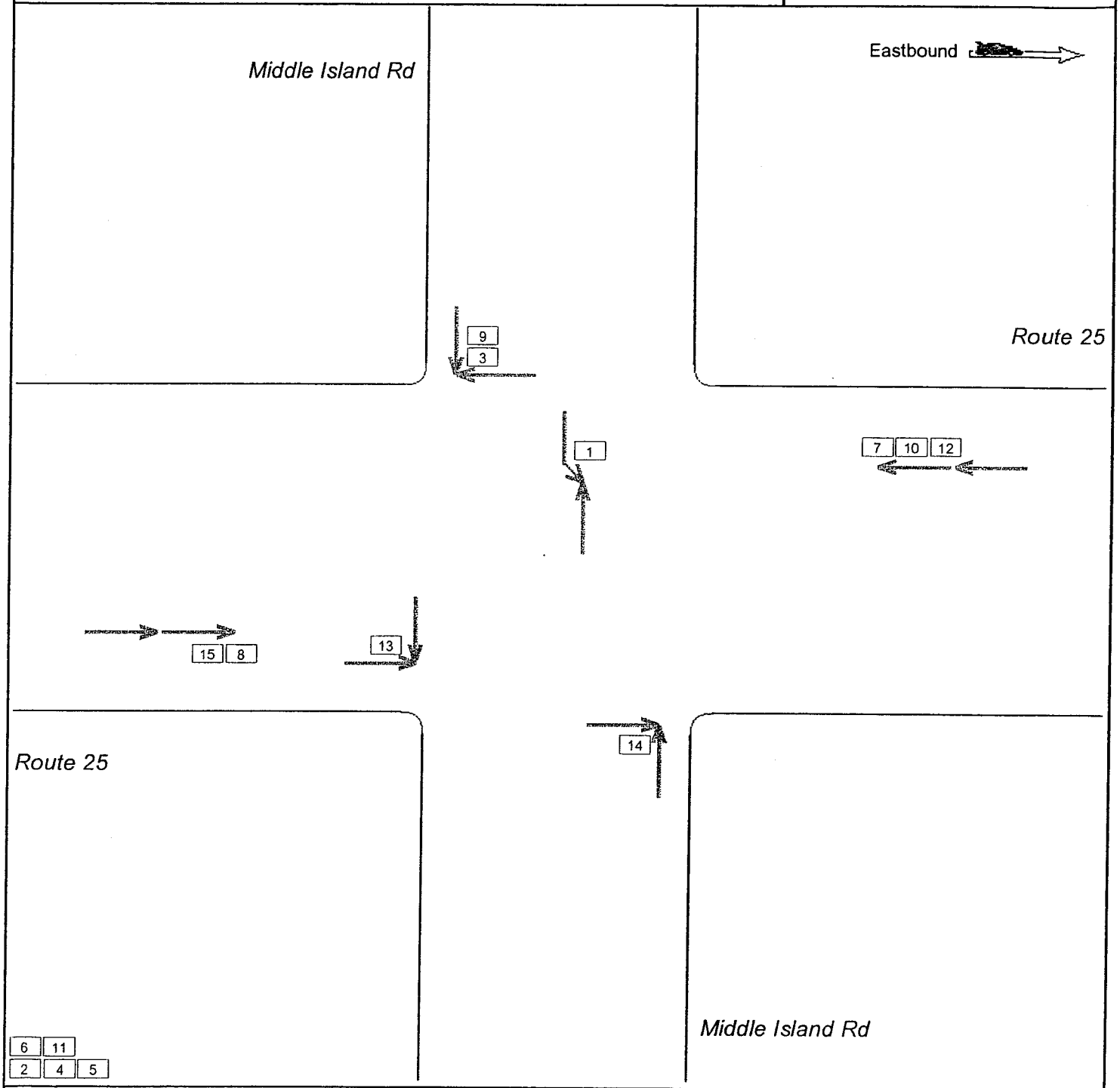
CASE No. 00088
FILE: 0704-1281
BY: ME
DATE: 9/14/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	5/22/2001	13:15	2	PDO	1	2	2	3	7	Ltrn	V1 SB was hit by V2 NB Making LT Failing to Yield ROW	
2	6/13/2001		0	N/R						Othr	Non Reportable Accident	
4	10/14/2001	14:10	2	INJ		3	2	3		Othr	Unknown	
5	10/20/2001	14:00	3	N/R						Othr	Non Reportable Accident	
6	11/4/2001	0:42	2	N/R						Othr	Non Reportable Accident	
11	5/22/2003	10:55	2	PDO						Othr	Unknown	
3	6/20/2001	14:00	2	INJ	1	3	1	1	7	Rang	V1 SB Stopped was hit by V2 WB hit by V3 NB Failing to YROW	
9	9/27/2002	16:50	2	INJ	1	1	1	2	17 4	Rang	V1 SB Making LT was hit by V2 WB Traffic Device Disregarded	
13	8/31/2003	23:30	2	PDO	1	2	1	1		Rang	V1 EB hit V2 SB	
14	9/2/2003	14:38	2	INJ	1	1	2	3	7 69	Rang	V1 EB was hit by V2 NB Making LT Failing to Yield ROW	
7	1/29/2002	14:30	2	PDO		2	1	2		Rend	V1 WB was hit by V2 WB	
8	5/3/2002	11:40	2	INJ	1	1	1	1	7 4	Rend	V1 EB was hit by V2 EB Driver Inattention	
10	4/26/2003	19:10	2	INJ	2	2	2	3	9 66	Rend	V1 WB was hit by V2 WB Following too Close, Pavement Slippery	
12	5/30/2003	14:05	2	INJ	1	1	1	1	4 17	Rend	V1 WB was hit by V2 WB Driver Inattentn, Traffic Dvice Ignored	
15	9/18/2003	14:25	2	INJ	1	1	1	1	7	Rend	V1 EB was hit by V2 EB Following too Closely	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Brookhaven* COUNTY: *Suffolk*	FILE: *0704-1281*
INTERSECTION: *Route 25*	CASE # : *00088*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*	BY: *ME* DATE: *9/14/2007*



SYMBOLS			
MOVING VEHICLE	P	PEDESTRIAN	
TURNING VEHICLE	B	BICYCLIST	
BACKING VEHICLE	A	ANIMAL	
PARKED VEHICLE		FIXED OBJECT	
999 RECORD NUMBER		Fatal	

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TURN
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: Route 25 **LOCATION:** Rt 25 Btwn Middle Island Rd and Rocky Point Rd

MUNICIPALITY: Brookhaven **COUNTY:** Suffolk

TIME PERIOD COVERED: 1/1/2001 - 6/12/2004 **REFERENCE MARKERS / NODES:** 0704-1281 - 0704-1282

REMARKS: All Accidents **DATE:** 9/21/2007

TIME OF DAY	# ACC	%
6 AM - 10 AM	3	12.0%
10 AM - 4 PM	14	56.0%
4 PM - 7 PM	4	16.0%
7 PM - 12 AM	1	4.0%
12 AM - 6 AM	0	0.0%
Unspecified	3	12.0%
Total	**25**	

DIRECTION	# ACC	%	DIRECTION	# ACC	%
North	3	6.5%	Northeast	0	0.0%
South	9	19.6%	Northwest	0	0.0%
East	14	30.4%	Southeast	0	0.0%
West	13	28.3%	Southwest	0	0.0%
Total	**46**		Unspecified	7	15.2%

WEATHER	# ACC	%
Clear	12	48.0%
Cloudy	3	12.0%
Rain	4	16.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	6	24.0%
Total	**25**	

ACCIDENT TYPE	# ACC	%	ACCIDENT TYPE	# ACC	%
Rear End	10	40.0%	Pedestrian	0	0.0%
Overtake	0	0.0%	Bicycle	0	0.0%
Right Angle	4	16.0%	Parked Vehicle	1	4.0%
Left Turn	1	4.0%	Backing	2	8.0%
Right Turn	0	0.0%	Run Off The Road	0	0.0%
Fixed Object	1	4.0%	Animal	0	0.0%
Head On	0	0.0%	Other	6	24.0%
Sideswipe	0	0.0%	Unspecified	0	0.0%
		Total		**25**	

SURFACE	# ACC	%
Dry	15	60.0%
Wet	4	16.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	6	24.0%
Total	**25**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	8	32.0%
Property Damage	14	56.0%
Non-Reportable	3	12.0%
Total	**25**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	2	8.0%
Spring (Mar-May)	8	32.0%
Summer (Jun-Aug)	7	28.0%
Fall (Sep-Nov)	8	32.0%
Total	**25**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	52	100.0%
Commercial Vehicles	0	0.0%
Total	**52**	

DAY OF WEEK	# ACC	%
Sunday	3	12.0%
Monday	4	16.0%
Tuesday	5	20.0%
Wednesday	2	8.0%
Thursday	2	8.0%
Friday	4	16.0%
Saturday	5	20.0%
Total	**25**	

LIGHT CONDITION	# ACC	%
Daylight	15	60.0%
Dawn/Dusk	1	4.0%
Night	3	12.0%
Unspecified	6	24.0%
Total	**25**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	1	5	1
Property Damage Accidents	4	3	7	0
Non-Reportable Accidents	0	2	1	0
Total Accidents	**5**	**6**	**13**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Rt 25 Btwn Middle Island Rd and Rocky Point Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1281 - 0704-1282

CASE No. 00088
FILE: 0704-1281to1282
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
5	8/7/2001	16:00	2	PDO	1	1	1	1	4	Back	V2 EB Driver Inattention was hit by V1 WB backing	
15	6/28/2003	12:45	2	INJ	1	1	1	1	3	Back	V1 SB was hit by V2 SB Backing Unsafely	
20	10/29/2003	23:22	1	INJ	4	3	1	2	40	FixO	V1 EB hit a Fixed Object	
25	3/6/2004	13:15	2	INJ	1	1	2	3	7	Ltrn	V1 EB was hit by V2 WB Making LT Failing to Yield ROW	
6	3/18/2002	15:10	4	N/R						Othr	Non Reportable Accident	
7	5/24/2002	13:30	2	N/R						Othr	Non Reportable Accident	
8	6/30/2002		3	INJ	1	1	1	1	48	Othr	V1 and V2 SB were hit by V1 NB Tow Hitch Defective	
9	7/19/2002	13:30	2	PDO						Othr	Unknown Accident	
10	8/9/2002	13:00	2	PDO						Othr	Unknown Accident	
21	10/31/2003	14:30	2	N/R						Othr	Non-Reportable Accident	
14	5/17/2003	13:30	2	PDO	1		1	1	4	Park	V1 EB parked was hit by V2 EB Driver Inattention	
3	5/26/2001	12:25	2	INJ	1	1	2	3	7	Rang	V1 EB was hit by V2 SB Making LT Failing to Yield ROW	
4	7/3/2001		2	PDO						Rang	Unknown	
13	3/5/2003	15:50	2	INJ	1	3	1	1	7	Rang	V1 WB was hit by V2 NB making LT Failure to Yield ROW	
18	10/7/2003		2	PDO	3		1	1	17 15	Rang	V1 NB was hit by V2 EB Disregarded Traffic Device, Disability	
1	4/21/2001	8:00	2	PDO	1	2	2	3	5	Rend	V2 WB was hit by V1 WB Driver Inexperience	
2	5/20/2001	16:30	2	PDO	1	2	1	1	19	Rend	V1 WB was hit by V2 WB Unsafe Speed	
11	11/25/2002	17:20	2	PDO	4		1	1	7	Rend	V1 SB was hit by V2 SB	
12	2/23/2003	18:50	2	PDO	4		1	1	26	Rend	V1 WB was hit by V2 WB Reaction to Uninvolved vehicle	
16	8/11/2003	13:55	2	PDO	1		1	2	4	Rend	V1 EB was hit by V2 EB Driver Inattention	
17	9/2/2003	13:05	2	INJ	1	3	2	3	9 66	Rend	V1 WB was hit by V2 WB Following too Closely, Pavement Slippery	
19	10/16/2003	9:10	2	INJ	1	1	1	1	8	Rend	V1 WB was hit by V2 WB Fell Asleep	

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Rt 25 Btwn Middle Island Rd and Rocky Point Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1281 - 0704-1282

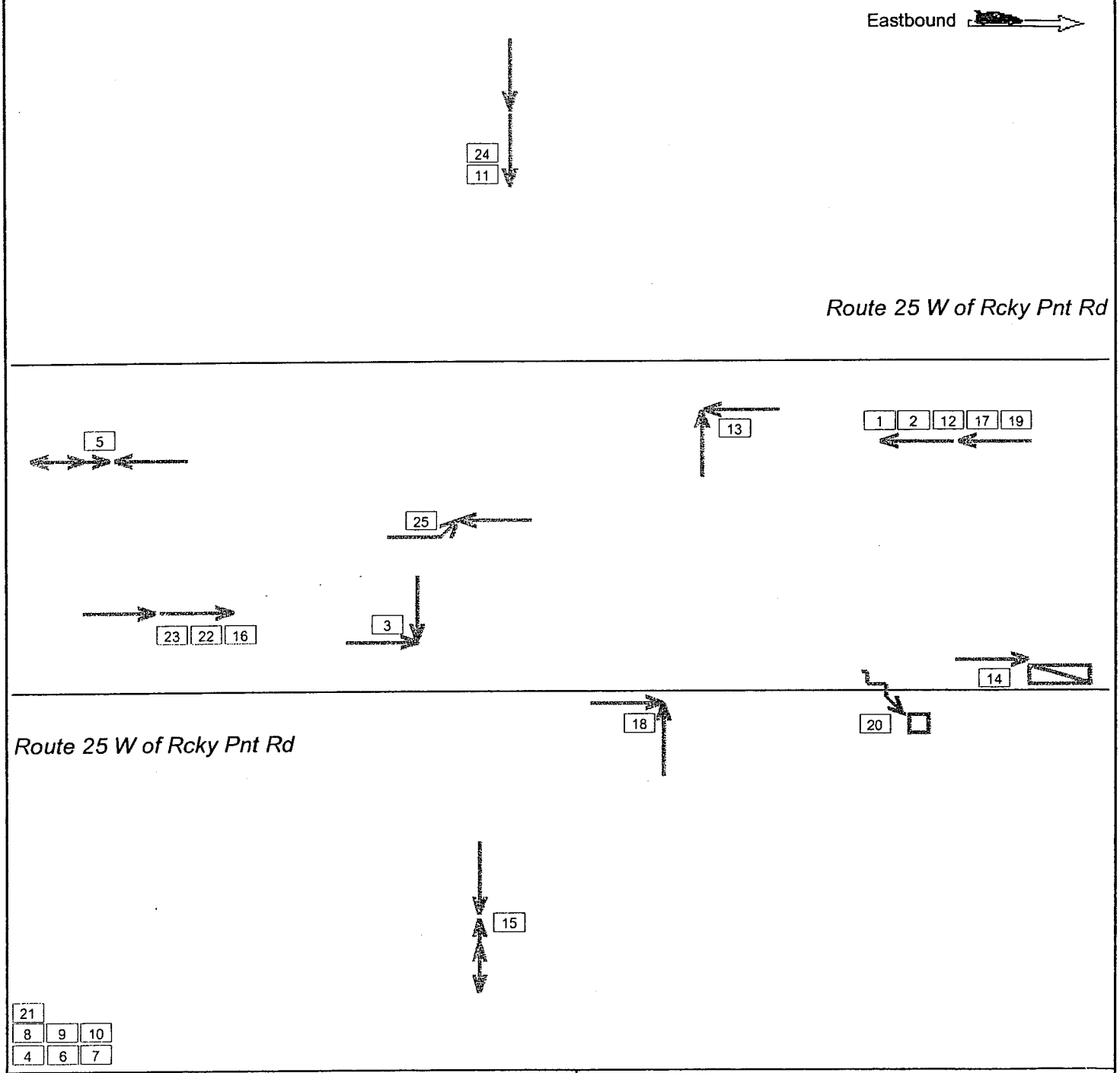
CASE No. 00088
FILE: 0704-1281to1282
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
22	11/10/2003	13:30	2	PDO	1		1	1	4	Rend	V1 EB was hit by V2 EB Driver Inattention	
23	11/20/2003	11:59	2	PDO	1		1	2		Rend	V1 EB was hit by V2 EB	
24	12/16/2003	8:10	2	PDO	1		1	1	7 4	Rend	V1 SB was hit by V2 SB Driver Inattention, Failure to YROW	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Brookhaven* COUNTY: *Suffolk*	FILE: *0704-1281to1282*
INTERSECTION: *Route 25 W of Rcky Pnt Rd*	CASE # : *00088*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*	BY: *ME* DATE: *9/21/2007*



SYMBOLS				MANNER OF COLLISION			
	MOVING VEHICLE	P	PEDESTRIAN		REAR END		HEAD ON
	TURNING VEHICLE	B	BICYCLIST		LEFT TURN		RIGHT TURN
	BACKING VEHICLE	A	ANIMAL		LEFT TURN		RIGHT TURN
	PARKED VEHICLE		FIXED OBJECT		OVERTAKE		RIGHT ANGLE
999	RECORD NUMBER		Fatal		OUT OF CONTROL		SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Between Rocky Point Rd and Tudor Lane*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1282 - 0704-1284*

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	3	30.0%
4 PM - 7 PM	6	60.0%
7 PM - 12 AM	1	10.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**10**	

DIRECTION	# ACC	%
North	3	21.4%
South	0	0.0%
East	4	28.6%
West	7	50.0%
Total	**14**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	3	30.0%
Cloudy	5	50.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	2	20.0%
Total	**10**	

ACCIDENT TYPE	# ACC	%
Rear End	2	20.0%
Overtake	0	0.0%
Right Angle	1	10.0%
Left Turn	0	0.0%
Right Turn	1	10.0%
Fixed Object	1	10.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	1	10.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	4	40.0%
Unspecified	0	0.0%
Total	**10**	

SURFACE	# ACC	%
Dry	4	40.0%
Wet	4	40.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	2	20.0%
Total	**10**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	4	40.0%
Property Damage	4	40.0%
Non-Reportable	2	20.0%
Total	**10**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	2	20.0%
Spring (Mar-May)	4	40.0%
Summer (Jun-Aug)	2	20.0%
Fall (Sep-Nov)	2	20.0%
Total	**10**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	19	100.0%
Commercial Vehicles	0	0.0%
Total	**19**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	1	10.0%
Tuesday	0	0.0%
Wednesday	1	10.0%
Thursday	3	30.0%
Friday	3	30.0%
Saturday	2	20.0%
Total	**10**	

LIGHT CONDITION	# ACC	%
Daylight	4	40.0%
Dawn/Dusk	3	30.0%
Night	1	10.0%
Unspecified	2	20.0%
Total	**10**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	2	1	0	1
Property Damage Accidents	2	1	1	0
Non-Reportable Accidents	1	1	0	0
Total Accidents	**5**	**3**	**1**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Between Rocky Point Rd and Tudor Lane
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1282 - 0704-1284

CASE No. 00088
FILE: 0704-1282to1284
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
4	6/7/2002	20:10	1	INJ	3	2	1	1	14	Bike	V1 NB Making RT Hit a Bicyclist	
1	7/26/2001	17:00	1	INJ	1	3	2	2	5 42	FixO	V1 EB hit a Fixed Object Driver Inexperience, Brakes Defective	
2	11/15/2001	15:15	3	N/R						Othr	Non-Reportable Accident	
3	1/9/2002	16:20	2	PDO	3	2	2	2	26 20 69	Othr	V1 WB Making LT hit V2 EB Making RT Unsafe Lane Change	
8	3/8/2002	17:55	1	N/R						Othr	Non-Reportable Accident	
9	3/8/2003	16:45	2	PDO	1		2	2		Othr	Unknown Accident	
7	12/22/2001	17:17	2	PDO	4	1	1	1	7 18	Rang	V1 WB was hit by V2 NB Making LT Failing to Yield ROW	
5	5/25/2001	18:20	3	PDO	3	2	2	2	66	Rend	V1 WB was hit by V2 WB hit by V3 WB Pavement Slippery	
10	5/20/2004	12:55	2	INJ	1	1	1	1	4	Rend	V1 WB was hit by V2 WB Driver Inattention	
6	11/5/2001	15:02	2	INJ	1	3	1	2	19 7	Rtrn	V1 EB was hit by V2 NB Making RT Failing to Yield ROW	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Brookhaven* COUNTY: *Suffolk*

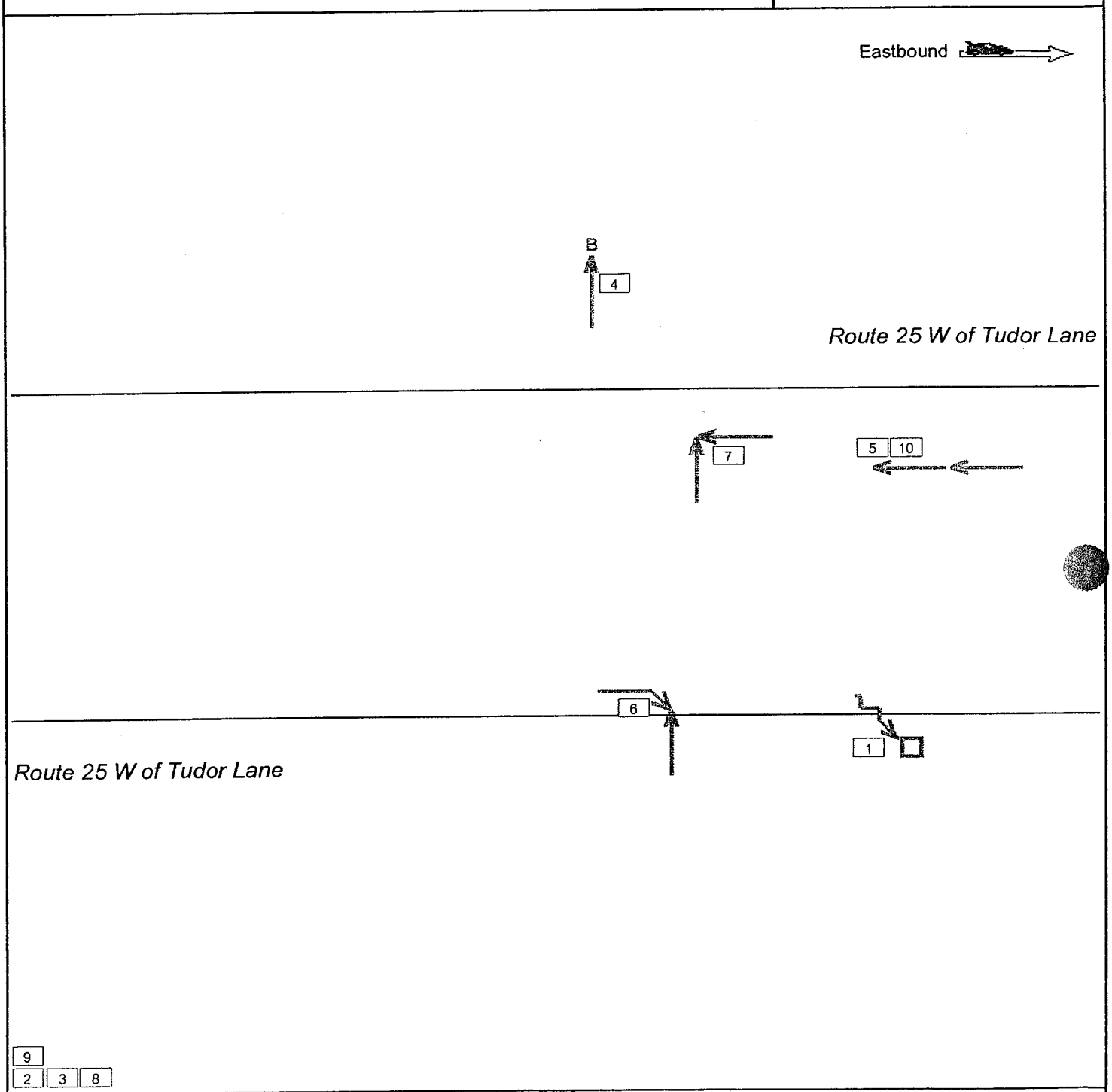
INTERSECTION: *Route 25 W of Tudor Lane*

PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*

FILE: *0704-1282to1284*

CASE # : *00088*

BY: *ME* DATE: *9/21/2007*



SYMBOLS			
MOVING VEHICLE		P	PEDESTRIAN
TURNING VEHICLE		B	BICYCLIST
BACKING VEHICLE		A	ANIMAL
PARKED VEHICLE			FIXED OBJECT
999	RECORD NUMBER		Fatal

MANNER OF COLLISION	
REAR END	HEAD ON
LEFT TURN	RIGHT TUR
LEFT TURN	RIGHT TURN
OVERTAKE	RIGHT ANGLE
OUT OF CONTROL	SIDE SWIPE

HSA Software 3.0

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Route 25 at Tudor Lane*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1284 - 0704-1284*

REMARKS: *Selected Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	0	0.0%
4 PM - 7 PM	1	100.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**1**	

DIRECTION	# ACC	%
North	0	0.0%
South	0	0.0%
East	0	0.0%
West	2	100.0%
Total	**2**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	1	100.0%
Cloudy	0	0.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT TYPE	# ACC	%
Rear End	1	100.0%
Overtake	0	0.0%
Right Angle	0	0.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	0	0.0%
Unspecified	0	0.0%
Total	**1**	

SURFACE	# ACC	%
Dry	1	100.0%
Wet	0	0.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	0	0.0%
Property Damage	1	100.0%
Non-Reportable	0	0.0%
Total	**1**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	1	100.0%
Spring (Mar-May)	0	0.0%
Summer (Jun-Aug)	0	0.0%
Fall (Sep-Nov)	0	0.0%
Total	**1**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	2	100.0%
Commercial Vehicles	0	0.0%
Total	**2**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	1	100.0%
Tuesday	0	0.0%
Wednesday	0	0.0%
Thursday	0	0.0%
Friday	0	0.0%
Saturday	0	0.0%
Total	**1**	

LIGHT CONDITION	# ACC	%
Daylight	0	0.0%
Dawn/Dusk	1	100.0%
Night	0	0.0%
Unspecified	0	0.0%
Total	**1**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	0	0	0	0
Property Damage Accidents	1	0	0	0
Non-Reportable Accidents	0	0	0	0
Total Accidents	**1**	**0**	**0**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Route 25 at Tudor Lane
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1284 - 0704-1284

CASE No. 00088
FILE: 0704-1284
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	1/29/2001	16:00	2	PDO	3	2	1	1	4	Rend	V1 WB was hit by V2 WB	

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Between Tudor Lane and Lakeview Rd*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1284 - 0704-1285*

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	1	14.3%
10 AM - 4 PM	3	42.9%
4 PM - 7 PM	1	14.3%
7 PM - 12 AM	1	14.3%
12 AM - 6 AM	0	0.0%
Unspecified	1	14.3%
Total	**7**	

DIRECTION	# ACC	%
North	1	7.7%
South	2	15.4%
East	1	7.7%
West	6	46.2%
Total	**13**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	3	23.1%

WEATHER	# ACC	%
Clear	3	42.9%
Cloudy	1	14.3%
Rain	1	14.3%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	2	28.6%
Total	**7**	

ACCIDENT TYPE	# ACC	%
Rear End	2	28.6%
Overtake	0	0.0%
Right Angle	1	14.3%
Left Turn	1	14.3%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	1	14.3%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	2	28.6%
Unspecified	0	0.0%
Total	**7**	

SURFACE	# ACC	%
Dry	4	57.1%
Wet	1	14.3%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	2	28.6%
Total	**7**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	14.3%
Property Damage	5	71.4%
Non-Reportable	1	14.3%
Total	**7**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	1	14.3%
Spring (Mar-May)	2	28.6%
Summer (Jun-Aug)	1	14.3%
Fall (Sep-Nov)	3	42.9%
Total	**7**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	13	100.0%
Commercial Vehicles	0	0.0%
Total	**13**	

DAY OF WEEK	# ACC	%
Sunday	3	42.9%
Monday	1	14.3%
Tuesday	0	0.0%
Wednesday	0	0.0%
Thursday	1	14.3%
Friday	1	14.3%
Saturday	1	14.3%
Total	**7**	

LIGHT CONDITION	# ACC	%
Daylight	5	71.4%
Dawn/Dusk	0	0.0%
Night	0	0.0%
Unspecified	2	28.6%
Total	**7**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	0	0	0
Property Damage Accidents	0	2	2	1
Non-Reportable Accidents	1	0	0	0
Total Accidents	**2**	**2**	**2**	**1**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Between Tudor Lane and Lakeview Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1284 - 0704-1285

CASE No. 00088
FILE: 0704-1284to1285
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
4	11/17/2002	14:25	2	PDO	1		2	3	4	Ltrn	V1 NB was hit by V2 SB Making LT Driver Inattention	
2	11/10/2001	21:08	1	N/R						Othr	Non-Reportable Accident	
7	1/11/2004	13:10	2	PDO						Othr	Unknown Accident	
6	3/10/2003	11:30	2	PDO	1		1	2		Park	V1 WB Parked was hit by V2 WB	
1	6/14/2002	7:00	2	PDO	1		1	1	7	Rang	V1 EB was hit by V2 SB Making LT Failing to Yield ROW	
3	11/22/2001		2	INJ	1	2	1	1	9 4	Rend	V1 WB was hit by V2 WB Driver Inattention, Following too Close	
5	3/9/2003	16:55	2	PDO	1		1	1	2 7	Rend	V1 WB was hit by V2 WB Alcohol Involvement	

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Route 25 at Lakeview Road*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1285 - 0704-1285*

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	1	100.0%
4 PM - 7 PM	0	0.0%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	0	0.0%
Total	**1**	

DIRECTION	# ACC	%
North	0	0.0%
South	0	0.0%
East	2	100.0%
West	0	0.0%
Total	**2**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	0	0.0%
Cloudy	0	0.0%
Rain	1	100.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT TYPE	# ACC	%
Rear End	1	100.0%
Overtake	0	0.0%
Right Angle	0	0.0%
Left Turn	0	0.0%
Right Turn	0	0.0%
Fixed Object	0	0.0%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	0	0.0%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	0	0.0%
Unspecified	0	0.0%
Total	**1**	

SURFACE	# ACC	%
Dry	0	0.0%
Wet	1	100.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	0	0.0%
Total	**1**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	100.0%
Property Damage	0	0.0%
Non-Reportable	0	0.0%
Total	**1**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	0	0.0%
Spring (Mar-May)	0	0.0%
Summer (Jun-Aug)	0	0.0%
Fall (Sep-Nov)	1	100.0%
Total	**1**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	2	100.0%
Commercial Vehicles	0	0.0%
Total	**2**	

DAY OF WEEK	# ACC	%
Sunday	0	0.0%
Monday	0	0.0%
Tuesday	1	100.0%
Wednesday	0	0.0%
Thursday	0	0.0%
Friday	0	0.0%
Saturday	0	0.0%
Total	**1**	

LIGHT CONDITION	# ACC	%
Daylight	1	100.0%
Dawn/Dusk	0	0.0%
Night	0	0.0%
Unspecified	0	0.0%
Total	**1**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	0	0	0
Property Damage Accidents	0	0	0	0
Non-Reportable Accidents	0	0	0	0
Total Accidents	**1**	**0**	**0**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Route 25 at Lakeview Road
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1285 - 0704-1285

CASE No. 00088
FILE: 0704-1285
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	9/25/2001	14:10	2	INJ	1	2	2	3	4	Rend	V1 EB was hit by V2 EB Driver Inattention	

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Between Lakeview Rd and Currans Rd*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1286 - 0704-1287*

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	1	9.1%
10 AM - 4 PM	5	45.5%
4 PM - 7 PM	3	27.3%
7 PM - 12 AM	0	0.0%
12 AM - 6 AM	0	0.0%
Unspecified	2	18.2%
Total	**11**	

DIRECTION	# ACC	%
North	0	0.0%
South	4	25.0%
East	6	37.5%
West	6	37.5%
Total	**16**	

DIRECTION	# ACC	%
Northeast	0	0.0%
Northwest	0	0.0%
Southeast	0	0.0%
Southwest	0	0.0%
Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	4	36.4%
Cloudy	1	9.1%
Rain	3	27.3%
Snow	1	9.1%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	2	18.2%
Total	**11**	

ACCIDENT TYPE	# ACC	%
Rear End	4	36.4%
Overtake	1	9.1%
Right Angle	1	9.1%
Left Turn	0	0.0%
Right Turn	1	9.1%
Fixed Object	1	9.1%
Head On	0	0.0%
Sideswipe	0	0.0%

ACCIDENT TYPE	# ACC	%
Pedestrian	1	9.1%
Bicycle	0	0.0%
Parked Vehicle	0	0.0%
Backing	0	0.0%
Run Off The Road	0	0.0%
Animal	0	0.0%
Other	2	18.2%
Unspecified	0	0.0%
Total	**11**	

SURFACE	# ACC	%
Dry	4	36.4%
Wet	5	45.5%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	2	18.2%
Total	**11**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	6	54.5%
Property Damage	3	27.3%
Non-Reportable	2	18.2%
Total	**11**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	3	27.3%
Spring (Mar-May)	4	36.4%
Summer (Jun-Aug)	2	18.2%
Fall (Sep-Nov)	2	18.2%
Total	**11**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	17	100.0%
Commercial Vehicles	0	0.0%
Total	**17**	

DAY OF WEEK	# ACC	%
Sunday	1	9.1%
Monday	1	9.1%
Tuesday	3	27.3%
Wednesday	3	27.3%
Thursday	0	0.0%
Friday	2	18.2%
Saturday	1	9.1%
Total	**11**	

LIGHT CONDITION	# ACC	%
Daylight	9	81.8%
Dawn/Dusk	0	0.0%
Night	0	0.0%
Unspecified	2	18.2%
Total	**11**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	3	2	1	0
Property Damage Accidents	0	2	1	0
Non-Reportable Accidents	0	2	0	0
Total Accidents	**3**	**6**	**2**	**0**

DETAILS OF ACCIDENT HISTORY

PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Between Lakeview Rd and Currans Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1286 - 0704-1287

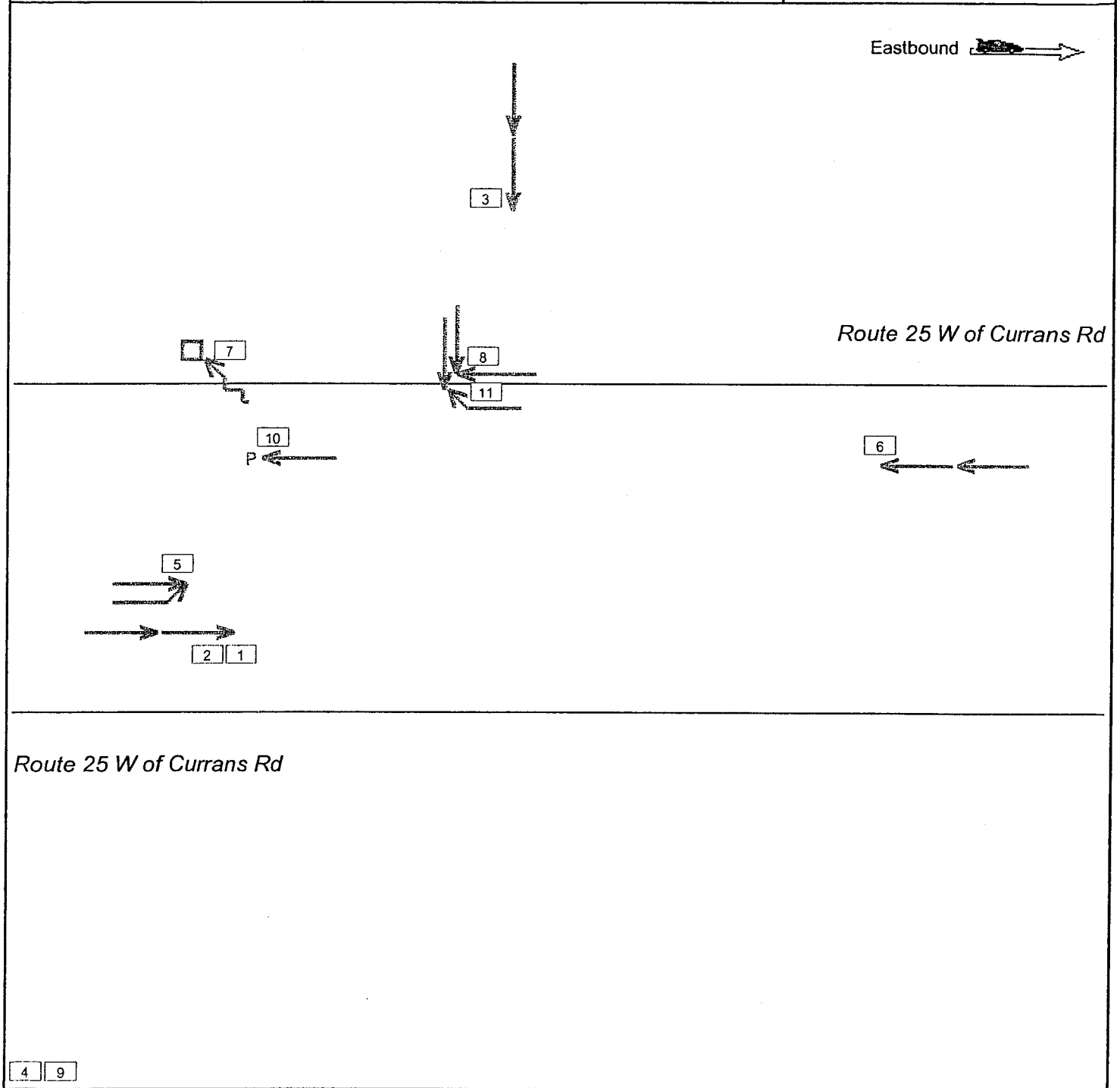
CASE No. 00088
FILE: 0704-1286to1287
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
7	9/22/2001	17:00	1	INJ	1	1	1	1	62	FixO	V1 WB hit a Fixed Object due to a Glare	
4	11/4/2002	14:20	0	N/R						Othr	Non-Reportable Accident	
9	1/15/2002		1	N/R						Othr	Non-Reportable Accident	
5	5/9/2003	11:55	2	PDO	1		1	1	7 20	Ovtk	V1 EB was hit by V2 EB Unsafe Lane Change	
10	3/13/2002	16:00	1	INJ	1	1	2	3	66	Ped	V1 WB hit a Pedestrian	
8	12/9/2001		2	INJ	1	4	2	2	7 69	Rang	V2 WB was hit by V1 SB Making LT Failing to Yield ROW	
1	2/27/2002	10:55	2	INJ	1	2	2	4	66	Rend	V1 EB was hit by V2 EB Pavement Slippery	
2	7/31/2002	17:48	2	PDO	1		1	1	9	Rend	V1 EB was hit by V2 EB Following too Closely	
3	8/30/2002	10:45	2	PDO	1		2	3		Rend	V1 SB was hit by V2 SB	
6	5/22/2001	10:55	2	INJ	1	1	2	3	2	Rend	V1 WB was hit by V2 WB Alcohol Involvement	
11	4/29/2003	7:02	2	INJ	1	1	1	1	7 62	Rtrn	V1 WB was hit by V2 SB Making RT Failing to Yield ROW	

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Brookhaven* COUNTY: *Suffolk*	FILE: *0704-1286to1287*
INTERSECTION: *Route 25 W of Currans Rd*	CASE # : *00088*
PERIOD: *3* YEARS *6* MONTHS FROM *1/1/2001* TO *6/12/2004*	BY: *ME* DATE: *9/21/2007*



SYMBOLS				MANNER OF COLLISION			
	MOVING VEHICLE	P	PEDESTRIAN		REAR END		HEAD ON
	TURNING VEHICLE	B	BICYCLIST		LEFT TURN		RIGHT TURN
	BACKING VEHICLE	A	ANIMAL		LEFT TURN		RIGHT TURN
	PARKED VEHICLE		FIXED OBJECT		OVERTAKE		RIGHT ANGLE
999	RECORD NUMBER		Fatal		OUT OF CONTROL		SIDE SWIPE

ACCIDENT SUMMARY SHEET

ROUTE: *Route 25* **LOCATION:** *Route 25 at Currans Rd*

MUNICIPALITY: *Brookhaven* **COUNTY:** *Suffolk*

TIME PERIOD COVERED: *1/1/2001 - 6/12/2004* **REFERENCE MARKERS / NODES:** *0704-1287 - 0704-1287*

REMARKS: *All Accidents* **DATE:** *9/21/2007*

TIME OF DAY	# ACC	%
6 AM - 10 AM	0	0.0%
10 AM - 4 PM	2	40.0%
4 PM - 7 PM	0	0.0%
7 PM - 12 AM	1	20.0%
12 AM - 6 AM	0	0.0%
Unspecified	2	40.0%
Total	**5**	

DIRECTION	# ACC	%	DIRECTION	# ACC	%
North	0	0.0%	Northeast	0	0.0%
South	2	33.3%	Northwest	0	0.0%
East	0	0.0%	Southeast	0	0.0%
West	4	66.7%	Southwest	0	0.0%
Total	**6**		Unspecified	0	0.0%

WEATHER	# ACC	%
Clear	2	40.0%
Cloudy	1	20.0%
Rain	0	0.0%
Snow	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%
Fog/Smog/Smoke	0	0.0%
Unspecified	2	40.0%
Total	**5**	

ACCIDENT TYPE	# ACC	%	ACCIDENT TYPE	# ACC	%
Rear End	1	20.0%	Pedestrian	0	0.0%
Overtake	0	0.0%	Bicycle	0	0.0%
Right Angle	2	40.0%	Parked Vehicle	0	0.0%
Left Turn	0	0.0%	Backing	0	0.0%
Right Turn	0	0.0%	Run Off The Road	0	0.0%
Fixed Object	0	0.0%	Animal	0	0.0%
Head On	0	0.0%	Other	2	40.0%
Sideswipe	0	0.0%	Unspecified	0	0.0%
		Total		**5**	

SURFACE	# ACC	%
Dry	2	40.0%
Wet	1	20.0%
Mud/Slush	0	0.0%
Snow/Ice	0	0.0%
Unspecified	2	40.0%
Total	**5**	

ACCIDENT SEVERITY	# ACC	%
Fatal	0	0.0%
Injury	1	20.0%
Property Damage	2	40.0%
Non-Reportable	2	40.0%
Total	**5**	

TIME OF YEAR	# ACC	%
Winter (Dec-Feb)	1	20.0%
Spring (Mar-May)	2	40.0%
Summer (Jun-Aug)	1	20.0%
Fall (Sep-Nov)	1	20.0%
Total	**5**	

TYPE OF VEHICLE	# ACC	%
Passenger Cars	7	100.0%
Commercial Vehicles	0	0.0%
Total	**7**	

DAY OF WEEK	# ACC	%
Sunday	1	20.0%
Monday	0	0.0%
Tuesday	1	20.0%
Wednesday	0	0.0%
Thursday	0	0.0%
Friday	0	0.0%
Saturday	3	60.0%
Total	**5**	

LIGHT CONDITION	# ACC	%
Daylight	3	60.0%
Dawn/Dusk	0	0.0%
Night	0	0.0%
Unspecified	2	40.0%
Total	**5**	

SUMMARY OF ACCIDENT SEVERITY BY YEAR:

	2001	2002	2003	2004
Fatal Accidents	0	0	0	0
Injury Accidents	1	0	0	0
Property Damage Accidents	1	0	0	1
Non-Reportable Accidents	1	1	0	0
Total Accidents	**3**	**1**	**0**	**1**

DETAILS OF ACCIDENT HISTORY

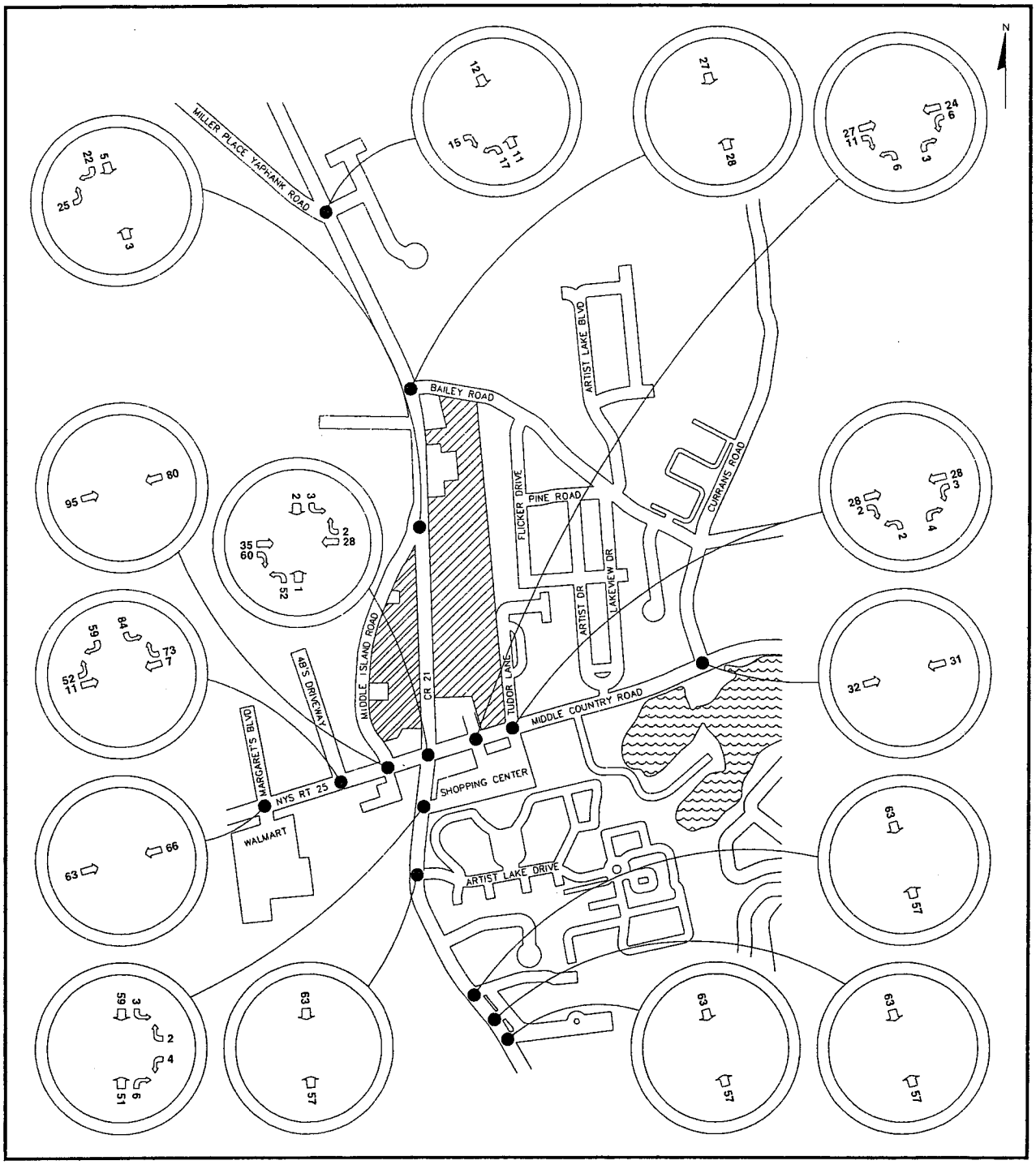
PERIOD STUDIED:
FROM: 1/1/2001
TO: 6/12/2004
42 MONTHS

ROUTE NUMBER/STREET NAME: Route 25
LOCATION: Route 25 at Currans Rd
MUNICIPALITY: Brookhaven COUNTY: Suffolk
REFERENCE MARKERS / NODES: 0704-1287 - 0704-1287

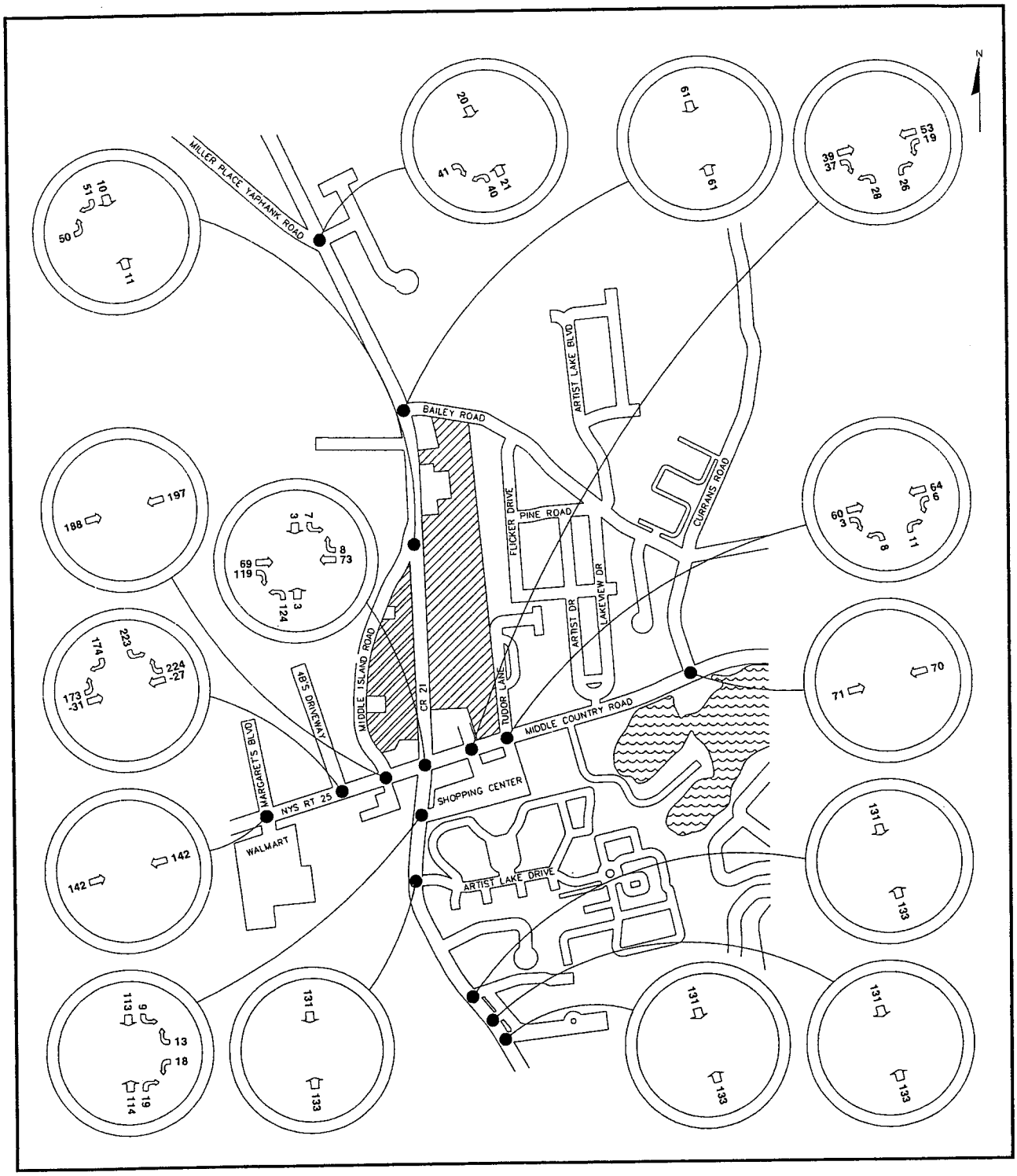
CASE No. 00088
FILE: 0704-1287
BY: ME
DATE: 9/21/2007

No.	DATE	TIME	# VEHICLES	SEVERITY	LIGHT COND	ROAD CHAR	SURFACE	WEATHER	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION	KEY #
1	7/3/2001		0	N/R						Othr	Non-Reportable Accident	
4	3/2/2002	21:20	1	N/R						Othr	Non-Reportable Accident	
2	11/18/2001		2	INJ	1	1	1	1	7	Rang	V1 WB was hit by V2 SB Making LT Failing to Yield ROW	
5	3/6/2004	12:15	2	PDO	1	2	2	2		Rang	V1 WB was hit by V2 SB Making LT	
3	12/8/2001	14:00	2	PDO	1	1	1	1		Rend	V1 WB was hit by V2 WB	

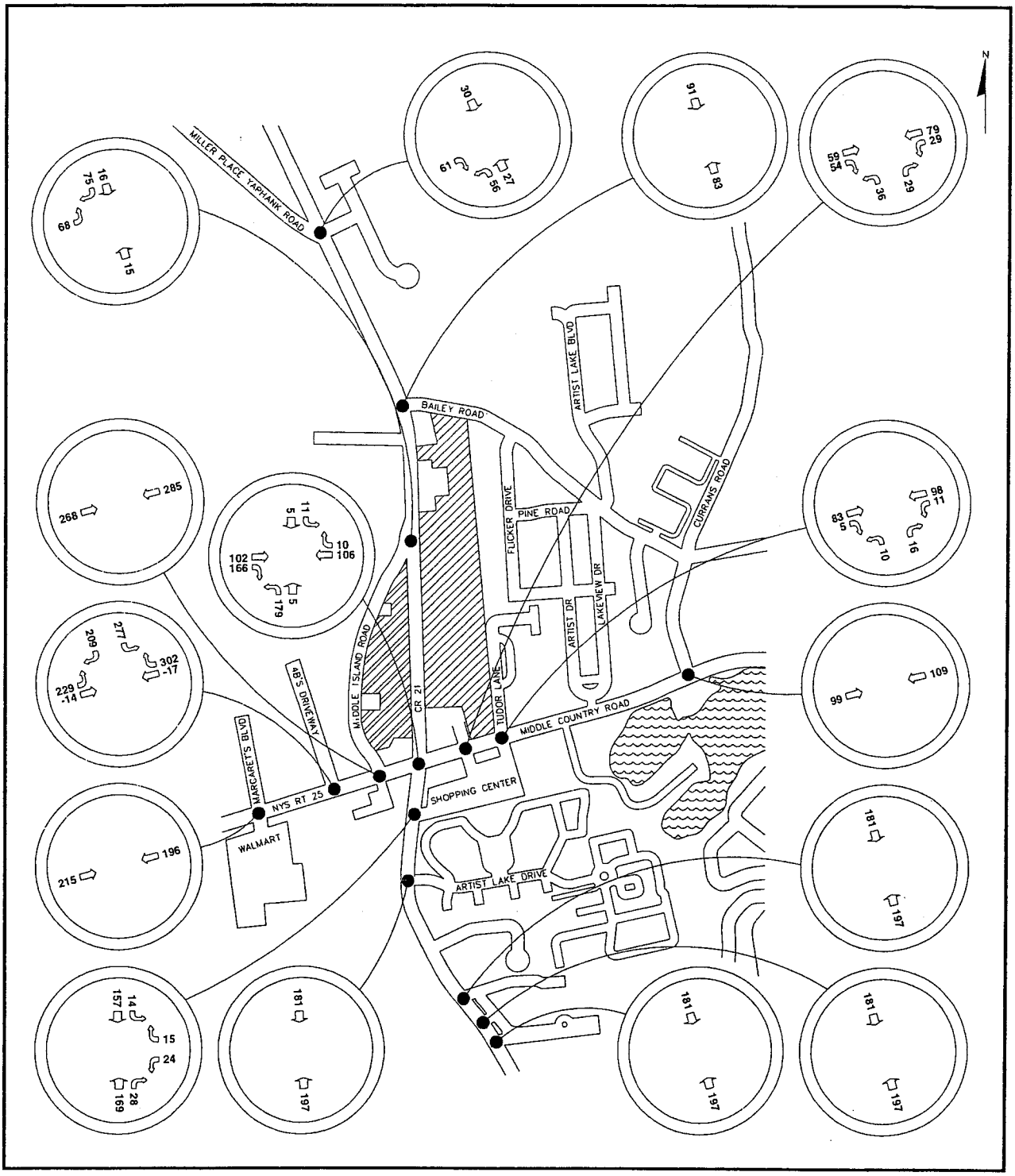
Appendix C: Other Planned Developments



Other Planned Development AM Volumes



Other Planned Development PM Volumes



Other Planned Development Saturday Volumes

Other Planned Projects- Middle Island Shopping Center
Summary of Pass-By Trips
For 16.55 T.G.L.A. of Shopping Center
September 24, 2007

	Driveway Volume	Pass-By Trips	Volume Added to Adjacent Streets
Average Weekday			
7-9 AM Peak Hour Enter	32	0	32
7-9 AM Peak Hour Exit	21	0	21
7-9 AM Peak Hour Total	53	0	53
4-6 PM Peak Hour Enter	92	60	32
4-6 PM Peak Hour Exit	99	65	34
4-6 PM Peak Hour Total	191	125	66
Saturday			
Saturday Peak Hour Enter	140	53	87
Saturday Peak Hour Exit	129	49	80
Saturday Peak Hour Total	269	103	166

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Handbook, March, 2001

TRIP GENERATION BY MICROTRANS

To perform conservative Analyses
Assume:

30% pass by for pm peak hour
20% passby for Saturday midday peak hour
No pass by for Am peak hour

Other Planned Projects- Middle Island Shopping Center
Summary of Trip Generation Calculation
For 4.088 Th.Gr.Sq.Ft. of General Office Building
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	27.83	0.00	1.00	114
7-9 AM Peak Hour Enter	3.13	0.00	1.00	13
7-9 AM Peak Hour Exit	0.43	0.00	1.00	2
7-9 AM Peak Hour Total	3.56	0.00	1.00	15
4-6 PM Peak Hour Enter	3.47	0.00	1.00	14
4-6 PM Peak Hour Exit	16.93	0.00	1.00	69
4-6 PM Peak Hour Total	20.40	0.00	1.00	83
AM Pk Hr, Generator, Enter	3.13	0.00	1.00	13
AM Pk Hr, Generator, Exit	0.43	0.00	1.00	2
AM Pk Hr, Generator, Total	3.56	0.00	1.00	15
PM Pk Hr, Generator, Enter	3.47	0.00	1.00	14
PM Pk Hr, Generator, Exit	16.93	0.00	1.00	69
PM Pk Hr, Generator, Total	20.40	0.00	1.00	83
Saturday 2-Way Volume	6.66	0.00	1.00	27
Saturday Peak Hour Enter	0.37	0.00	1.00	1
Saturday Peak Hour Exit	0.31	0.00	1.00	1
Saturday Peak Hour Total	0.68	0.00	1.00	3
Sunday 2-Way Volume	1.12	0.00	1.00	5
Sunday Peak Hour Enter	0.27	0.00	1.00	1
Sunday Peak Hour Exit	0.19	0.00	1.00	1
Sunday Peak Hour Total	0.46	0.00	1.00	2

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .77LN(X) + 3.65, R^2 = 0.8
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + 1.55
	R^2 = 0.83 , 0.88 Enter, 0.12 Exit
4-6 PM Peak Hr. Total:	T = 1.12(X) + 78.81
	R^2 = 0.82 , 0.17 Enter, 0.83 Exit
AM Gen Pk Hr. Total:	LN(T) = .8LN(X) + 1.55
	R^2 = 0.83 , 0.88 Enter, 0.12 Exit
PM Gen Pk Hr. Total:	T = 1.12(X) + 78.81
	R^2 = 0.82 , 0.17 Enter, 0.83 Exit
Sat. 2-Way Volume:	T = 2.14(X) + 18.47, R^2 = 0.66
Sat. Pk Hr. Total:	LN(T) = .81LN(X) + -.12
	R^2 = 0.59 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	LN(T) = .86LN(X) + .31, R^2 = 0.5
Sun. Pk Hr. Total:	LN(T) = .61LN(X) + -.23
	R^2 = 0.56 , 0.58 Enter, 0.42 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Other Planned Projects- Middle Island Shopping Center
Summary of Trip Generation Calculation
For 4.088 Th.Gr.Sq.Ft. of General Office Building
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	11.01	6.13	1.00	45
7-9 AM Peak Hour Enter	1.36	0.00	1.00	6
7-9 AM Peak Hour Exit	0.19	0.00	1.00	1
7-9 AM Peak Hour Total	1.55	1.39	1.00	6
4-6 PM Peak Hour Enter	0.25	0.00	1.00	1
4-6 PM Peak Hour Exit	1.24	0.00	1.00	5
4-6 PM Peak Hour Total	1.49	1.37	1.00	6
AM Pk Hr, Generator, Enter	1.36	0.00	1.00	6
AM Pk Hr, Generator, Exit	0.19	0.00	1.00	1
AM Pk Hr, Generator, Total	1.55	1.39	1.00	6
PM Pk Hr, Generator, Enter	0.25	0.00	1.00	1
PM Pk Hr, Generator, Exit	1.24	0.00	1.00	5
PM Pk Hr, Generator, Total	1.49	1.37	1.00	6
Saturday 2-Way Volume	2.37	2.08	1.00	10
Saturday Peak Hour Enter	0.22	0.00	1.00	1
Saturday Peak Hour Exit	0.19	0.00	1.00	1
Saturday Peak Hour Total	0.41	0.68	1.00	2
Sunday 2-Way Volume	0.98	1.29	1.00	4
Sunday Peak Hour Enter	0.08	0.00	1.00	0
Sunday Peak Hour Exit	0.06	0.00	1.00	0
Sunday Peak Hour Total	0.14	0.38	1.00	1

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Other Planned Projects- 4B's Mixed Use Development
Summary of Pass-By Trips
For 130 T.G.L.A. of Shopping Center
September 24, 2007

	Driveway Volume	Pass-By Trips	Volume Added to Adjacent Streets
Average Weekday			
7-9 AM Peak Hour Enter	112	0	112
7-9 AM Peak Hour Exit	71	0	71
7-9 AM Peak Hour Total	183	0	183
4-6 PM Peak Hour Enter	357	129	228
4-6 PM Peak Hour Exit	387	139	248
4-6 PM Peak Hour Total	744	268	476
Saturday			
Saturday Peak Hour Enter	534	189	345
Saturday Peak Hour Exit	493	175	318
Saturday Peak Hour Total	1026	364	662

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Handbook, March, 2001

TRIP GENERATION BY MICROTRANS

To perform a Conservative analysis

Assume:

30% passby for pm peak hour
20% passby for saturday midday peak hour
No passby for AM peak hour

Other Planned Projects- 4B's Mixed Use Development
Summary of Trip Generation Calculation
For 17 Th.Gr.Sq.Ft. of Recreation Community Center
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	22.88	0.00	1.00	389
7-9 AM Peak Hour Enter	0.99	0.00	1.00	17
7-9 AM Peak Hour Exit	0.63	0.00	1.00	11
7-9 AM Peak Hour Total	1.62	1.45	1.00	28
4-6 PM Peak Hour Enter	0.48	0.00	1.00	8
4-6 PM Peak Hour Exit	1.16	0.00	1.00	20
4-6 PM Peak Hour Total	1.64	1.35	1.00	28
AM Pk Hr, Generator, Enter	1.43	0.00	1.00	24
AM Pk Hr, Generator, Exit	1.26	0.00	1.00	21
AM Pk Hr, Generator, Total	2.69	1.64	1.00	46
PM Pk Hr, Generator, Enter	0.96	0.00	1.00	16
PM Pk Hr, Generator, Exit	1.43	0.00	1.00	24
PM Pk Hr, Generator, Total	2.39	0.00	1.00	41
Saturday 2-Way Volume	9.10	0.00	1.00	155
Saturday Peak Hour Enter	0.63	0.00	1.00	11
Saturday Peak Hour Exit	0.65	0.00	1.00	11
Saturday Peak Hour Total	1.28	1.21	1.00	22
Sunday 2-Way Volume	13.60	0.00	1.00	231
Sunday Peak Hour Enter	0.83	0.00	1.00	14
Sunday Peak Hour Exit	0.65	0.00	1.00	11
Sunday Peak Hour Total	1.48	0.00	1.00	25

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Other Planned Projects- 4B's Mixed Use Development
Summary of Trip Generation Calculation
For 240 Dwelling Units of Residential Condominium / Townhouse
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	5.63	0.00	1.00	1351
7-9 AM Peak Hour Enter	0.07	0.00	1.00	18
7-9 AM Peak Hour Exit	0.36	0.00	1.00	86
7-9 AM Peak Hour Total	0.43	0.00	1.00	104
4-6 PM Peak Hour Enter	0.34	0.00	1.00	83
4-6 PM Peak Hour Exit	0.17	0.00	1.00	41
4-6 PM Peak Hour Total	0.51	0.00	1.00	123
AM Pk Hr, Generator, Enter	0.08	0.00	1.00	19
AM Pk Hr, Generator, Exit	0.36	0.00	1.00	87
AM Pk Hr, Generator, Total	0.44	0.00	1.00	106
PM Pk Hr, Generator, Enter	0.32	0.00	1.00	77
PM Pk Hr, Generator, Exit	0.18	0.00	1.00	43
PM Pk Hr, Generator, Total	0.50	0.00	1.00	120
Saturday 2-Way Volume	5.40	0.00	1.00	1297
Saturday Peak Hour Enter	0.25	0.00	1.00	61
Saturday Peak Hour Exit	0.22	0.00	1.00	52
Saturday Peak Hour Total	0.47	0.00	1.00	112
Sunday 2-Way Volume	4.62	0.00	1.00	1108
Sunday Peak Hour Enter	0.21	0.00	1.00	52
Sunday Peak Hour Exit	0.22	0.00	1.00	54
Sunday Peak Hour Total	0.44	0.00	1.00	105

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.55, R^2 = 0.83
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + .26
	R^2 = 0.76 , 0.17 Enter, 0.83 Exit
4-6 PM Peak Hr. Total:	LN(T) = .82LN(X) + .32
	R^2 = 0.8 , 0.67 Enter, 0.33 Exit
AM Gen Pk Hr. Total:	LN(T) = .82LN(X) + .17
	R^2 = 0.8 , 0.18 Enter, 0.82 Exit
PM Gen Pk Hr. Total:	T = .34(X) + 38.31
	R^2 = 0.83 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	T = 3.62(X) + 427.93, R^2 = 0.84
Sat. Pk Hr. Total:	T = .29(X) + 42.63
	R^2 = 0.84 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 3.13(X) + 357.26, R^2 = 0.88
Sun. Pk Hr. Total:	T = .23(X) + 50.01
	R^2 = 0.78 , 0.49 Enter, 0.51 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Appendix D: Trip Generation

Middle Island Townhomes
Summary of Trip Generation Calculation
For 92 Dwelling Units of Residential Condominium / Townhouse
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.50	0.00	1.00	598
7-9 AM Peak Hour Enter	0.09	0.00	1.00	8
7-9 AM Peak Hour Exit	0.44	0.00	1.00	40
7-9 AM Peak Hour Total	0.52	0.00	1.00	48
4-6 PM Peak Hour Enter	0.41	0.00	1.00	38
4-6 PM Peak Hour Exit	0.20	0.00	1.00	19
4-6 PM Peak Hour Total	0.61	0.00	1.00	56
AM Pk Hr, Generator, Enter	0.09	0.00	1.00	9
AM Pk Hr, Generator, Exit	0.43	0.00	1.00	40
AM Pk Hr, Generator, Total	0.53	0.00	1.00	48
PM Pk Hr, Generator, Enter	0.48	0.00	1.00	45
PM Pk Hr, Generator, Exit	0.27	0.00	1.00	25
PM Pk Hr, Generator, Total	0.76	0.00	1.00	70
Saturday 2-Way Volume	8.27	0.00	1.00	761
Saturday Peak Hour Enter	0.41	0.00	1.00	37
Saturday Peak Hour Exit	0.35	0.00	1.00	32
Saturday Peak Hour Total	0.75	0.00	1.00	69
Sunday 2-Way Volume	7.01	0.00	1.00	645
Sunday Peak Hour Enter	0.38	0.00	1.00	35
Sunday Peak Hour Exit	0.39	0.00	1.00	36
Sunday Peak Hour Total	0.77	0.00	1.00	71

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.55, R^2 = 0.83
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + .26
	R^2 = 0.76 , 0.17 Enter, 0.83 Exit
4-6 PM Peak Hr. Total:	LN(T) = .82LN(X) + .32
	R^2 = 0.8 , 0.67 Enter, 0.33 Exit
AM Gen Pk Hr. Total:	LN(T) = .82LN(X) + .17
	R^2 = 0.8 , 0.18 Enter, 0.82 Exit
PM Gen Pk Hr. Total:	T = .34(X) + 38.31
	R^2 = 0.83 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	T = 3.62(X) + 427.93, R^2 = 0.84
Sat. Pk Hr. Total:	T = .29(X) + 42.63
	R^2 = 0.84 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 3.13(X) + 357.26, R^2 = 0.88
Sun. Pk Hr. Total:	T = .23(X) + 50.01
	R^2 = 0.78 , 0.49 Enter, 0.51 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Condominiums at Sandy Hills
Summary of Trip Generation Calculation
For 13 T.G.L.A. of Shopping Center
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	138.69	0.00	1.00	1803
7-9 AM Peak Hour Enter	2.16	0.00	1.00	28
7-9 AM Peak Hour Exit	1.38	0.00	1.00	18
7-9 AM Peak Hour Total	3.54	0.00	1.00	46
4-6 PM Peak Hour Enter	6.01	0.00	1.00	78
4-6 PM Peak Hour Exit	6.51	0.00	1.00	85
4-6 PM Peak Hour Total	12.53	0.00	1.00	163
AM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
AM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
AM Pk Hr, Generator, Total	0.00	0.00	1.00	0
PM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
PM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
PM Pk Hr, Generator, Total	0.00	0.00	1.00	0
Saturday 2-Way Volume	196.56	0.00	1.00	2555
Saturday Peak Hour Enter	9.19	0.00	1.00	119
Saturday Peak Hour Exit	8.48	0.00	1.00	110
Saturday Peak Hour Total	17.68	0.00	1.00	230
Sunday 2-Way Volume	339.82	0.00	1.00	4418
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .65LN(X) + 5.83, R^2 = 0.78
7-9 AM Peak Hr. Total:	LN(T) = .6LN(X) + 2.29
	R^2 = 0.52 , 0.61 Enter, 0.39 Exit
4-6 PM Peak Hr. Total:	LN(T) = .66LN(X) + 3.4
	R^2 = 0.81 , 0.48 Enter, 0.52 Exit
AM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
PM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
Sat. 2-Way Volume:	LN(T) = .63LN(X) + 6.23, R^2 = 0.82
Sat. Pk Hr. Total:	LN(T) = .65LN(X) + 3.77
	R^2 = 0.84 , 0.52 Enter, 0.48 Exit
Sun. 2-Way Volume:	T = 15.63(X) + 4214.46, R^2 = 0.52
Sun. Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Condominiums at Sandy Hills
Summary of Trip Generation Calculation
For 135 Dwelling Units of Residential Condominium / Townhouse
September 24, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.14	0.00	1.00	828
7-9 AM Peak Hour Enter	0.08	0.00	1.00	11
7-9 AM Peak Hour Exit	0.40	0.00	1.00	54
7-9 AM Peak Hour Total	0.49	0.00	1.00	66
4-6 PM Peak Hour Enter	0.38	0.00	1.00	52
4-6 PM Peak Hour Exit	0.19	0.00	1.00	25
4-6 PM Peak Hour Total	0.57	0.00	1.00	77
AM Pk Hr, Generator, Enter	0.09	0.00	1.00	12
AM Pk Hr, Generator, Exit	0.40	0.00	1.00	54
AM Pk Hr, Generator, Total	0.49	0.00	1.00	66
PM Pk Hr, Generator, Enter	0.40	0.00	1.00	54
PM Pk Hr, Generator, Exit	0.22	0.00	1.00	30
PM Pk Hr, Generator, Total	0.62	0.00	1.00	84
Saturday 2-Way Volume	6.79	0.00	1.00	917
Saturday Peak Hour Enter	0.33	0.00	1.00	44
Saturday Peak Hour Exit	0.28	0.00	1.00	38
Saturday Peak Hour Total	0.61	0.00	1.00	82
Sunday 2-Way Volume	5.78	0.00	1.00	780
Sunday Peak Hour Enter	0.29	0.00	1.00	40
Sunday Peak Hour Exit	0.31	0.00	1.00	41
Sunday Peak Hour Total	0.60	0.00	1.00	81

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.55, R^2 = 0.83
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + .26
	R^2 = 0.76 , 0.17 Enter, 0.83 Exit
4-6 PM Peak Hr. Total:	LN(T) = .82LN(X) + .32
	R^2 = 0.8 , 0.67 Enter, 0.33 Exit
AM Gen Pk Hr. Total:	LN(T) = .82LN(X) + .17
	R^2 = 0.8 , 0.18 Enter, 0.82 Exit
PM Gen Pk Hr. Total:	T = .34(X) + 38.31
	R^2 = 0.83 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	T = 3.62(X) + 427.93, R^2 = 0.84
Sat. Pk Hr. Total:	T = .29(X) + 42.63
	R^2 = 0.84 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 3.13(X) + 357.26, R^2 = 0.88
Sun. Pk Hr. Total:	T = .23(X) + 50.01
	R^2 = 0.78 , 0.49 Enter, 0.51 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Appendix E: Level of Service Definitions

LEVEL OF SERVICE: SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The levels of service range between level of service A (relatively congestion-free) and level of service F (congested).

The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents at an intersection. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road. The portion of the total delay attributed to the control facility is called the control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Control delay may also be referred to as signal delay for signalized intersections.

Level of service criteria for signalized intersections is determined in terms of the average control delay per vehicle. The following average control delays are used to determine approach levels of service:

Level of Service A	≤ 10.0 seconds per vehicle
Level of Service B	> 10.0 and ≤ 20.0 seconds per vehicle
Level of Service C	> 20.0 and ≤ 35.0 seconds per vehicle
Level of Service D	> 35.0 and ≤ 55.0 seconds per vehicle
Level of Service E	> 55.0 and ≤ 80.0 seconds per vehicle
Level of Service F	> 80.0 seconds per vehicle

Level of Service A describes operations with very low control delay. This occurs when progression is extremely favorable; most vehicles arrive during the green phase and do not stop at all. Short traffic signal cycles may contribute to low delay.

Level of Service B generally occurs with good progression and/or short traffic signal cycle lengths. More vehicles stop than for level of service A, causing higher average delays.

Level of Service C has higher delays than level of service B. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures, where motorists are required to wait through an entire signal cycle, may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

Level of Service D At this level, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume-to-capacity ratios. The proportion of stopping vehicles increases. Individual cycle failures are noticeable.

Level of Service E is considered the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures occur frequently.

Level of Service F is considered unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may occur at volume to capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

LEVEL OF SERVICE: TWO WAY STOP CONTROLLED INTERSECTIONS

The quality of traffic service at a two-way stop controlled, or "TWSC," intersection is measured according to the level of service and capacity of individual legs. The level of service ranges from LOS A to LOS F, just as with signalized intersections.

The right of way at the TWSC intersection is controlled by stop signs on two opposing legs of an intersection (on one leg of a "T"-type intersection). The capacity of a controlled leg is based on the distribution of gaps in the major street traffic flow, driver judgment in selecting a gap through which to execute the desired maneuver and the follow up time required by each driver in a queue.

The level of service for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during conditions with ideal geometry and in the absence of incidents, control, and traffic. This program only quantifies that portion of the total delay attributed to traffic control measures, either traffic signals or stop signs. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Average control delay for any particular minor movement is a function of the approach and the degree of saturation.

The expectation is that TWSC intersections are designed to carry smaller traffic volumes than signalized intersections. Therefore, the delay threshold times are lower for the same LOS grades. The following average control delays are used to determine approach levels of service:

Level of Service A	$\leq$ 10 seconds per vehicle
Level of Service B	> 10 and $\leq$ 15 seconds per vehicle
Level of Service C	> 15 and $\leq$ 25 seconds per vehicle
Level of Service D	> 25 and $\leq$ 35 seconds per vehicle
Level of Service E	> 35 and $\leq$ 50 seconds per vehicle
Level of Service F	> 50 seconds per vehicle

Appendix F: Capacity Analysis/Level of Service Worksheets & Summary Tables

Level of Service Summary for Scenario 1 at Signalized Intersections
AM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	5.0	A	5.2	A	5.2	A	5.2
		T	A	6.9	A	7.8	A	8.0	A	8.0
		R	A	2.4	A	2.6	A	2.6	A	2.6
	WB	L	A	1.2	A	1.5	A	1.6	A	1.5
		TR	A	0.8	A	0.9	A	1.0	A	0.8
	NB	L	E	60.3	E	60.8	E	60.8	E	60.8
		TR	B	16.1	B	15.1	B	15.1	B	15.1
	SB	LTR	D	41.5	D	40.7	D	40.7	D	40.7
	Overall		**A**	**6.8**	**A**	**7.1**	**A**	**7.1**	**A**	**7.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.3	A	1.4	A	1.4	A	1.4
		TR	A	2.2	A	2.3	A	2.4	A	2.4
	WB	L	A	0.5	A	0.5	A	0.5	A	0.5
		TR	A	1.6	A	2.1	A	2.0	A	1.4
	NB	LT	D	51.0	D	51.0	D	51.0	D	51.0
		R	C	27.4	C	27.4	C	27.2	C	27.2
	SB	LTR	B	18.7	B	18.4	B	18.2	B	18.1
	Overall		**A**	**3.5**	**A**	**3.7**	**A**	**3.8**	**A**	**3.5**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	29.3	C	29.5	C	30.1	C	29.9
		T	D	45.4	D	50.3	D	52.0	D	49.9
		R	A	7.5	B	12.9	B	14.3	B	14.1
	WB	L	C	27.7	C	32.1	C	34.8	D	38.4
		TR	C	28.6	C	29.7	C	31.6	C	32.4
	NB	L	D	46.9	E	57.5	E	57.6	E	57.9
		T	C	30.6	C	33.8	C	34.8	C	33.6
		R	A	3.4	A	3.3	A	3.3	A	3.4
	SB	L	B	18.2	B	18.9	B	19.3	B	18.6
		TR	F	84.4	F	128.5	F	159.3		
		T							F	122.8
		R							A	7.3
	Overall		**D**	**41.2**	**D**	**54.0**	**E**	**62.5**	**D**	**53.1**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	31.0	C	31.2	C	31.2		
	NB	T	A	6..0	A	7.1	A	7.4		
	SB	L	A	2.8	A	3.0	A	3.0		
		T	B	11.1	B	17.0	C	19.6		
	Overall		**B**	**10.2**	**B**	**14.2**	**B**	**16.1**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.7	C	26.8	C	26.8		
		R	A	9.2	A	8.9	A	8.9		
	NB	T	A	4.0	A	4.5	A	4.6		
	SB	T	A	7.0	B	10.9	B	12.6		
	Overall		**A**	**6.9**	**A**	**9.4**	**B**	**10.5**		

Level of Service Summary for Scenario 1 at Unsignalized Intersections
AM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Unsignalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	0.4	A	0.4		
	WB	L	A	8.5	A	8.8	A	8.9		
	NB	L	E	45.6	F	73.3	F	90.5		
		R	B	10.8	B	11.3	B	11.6		
	SB	L	A	0.0	A	0.0	A	0.0		
		R	B	14.1	C	15.3	C	15.8		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.1	A	0.1	A	0.1		
	WB	LTR	A	0.4	A	0.4	A	0.5		
	NB	LTR	C	24.2	E	35.2	E	37.9		
	SB	LTR	C	22.3	D	29.0	D	30.2		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.2	A	9.6	A	9.6		
	SB	LR	F	94.8	F	221.3	F	242.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	C	19.9	D	27.1	D	28.1		
	WB	LTR	F	57.2	F	130.7	F	155.5		
	NB	L	A	8.8	A	9.1	A	9.2		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	D	31.3	F	59.2	F	65.8		
	SB	L	A	8.5	A	8.7	A	8.7		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	19.2	C	22.2	C	23.7		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	837.7	F	1032.2		
	SB	L	A	8.9	A	9.3	A	9.4		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	B	12.2	B	13.1	B	13.4		
	SB	LT	A	2.8	A	4.3	A	4.9		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	2.2	A	3.1	A	3.4		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	0.7		
	SB	LR					C	21.6		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					D	31.9		
		TR					B	13.9		
	WB	L					E	39.5		
		TR					B	10.8		
	NB	LTR					A	0.2		
	SB	LTR					A	0.2		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	8.9		
	SB	LT					A	0.1		

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

Level of Service Summary for Scenario 1 at Siganlized Intersections
PM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	8.8	A	9.8	A	10.0	A	10.0
		T	B	18.3	C	28.5	D	41.2	D	41.4
		R	A	5.2	A	6.0	A	6.1	A	6.1
	WB	L	C	22.0	D	47.9	E	58.6	E	56.5
		TR	A	2.5	A	2.9	A	3.6	A	3.1
	NB	L	E	72.3	E	73.9	E	73.9	E	73.9
		TR	A	2.0	A	2.7	A	3.6	A	3.6
	SB	LTR	C	29.9	C	28.9	C	28.9	C	28.9
	Overall		**B**	**15.0**	**C**	**21.6**	**C**	**27.8**	**C**	**27.8**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	0.5	A	0.5	A	0.6	A	0.6
		TR	A	3.8	A	5.3	A	6.6	A	6.6
	WB	L	A	3.2	C	25.9	C	26.8	B	29.1
		TR	A	2.6	A	2.5	A	3.0	A	1.9
	NB	LT	E	74.8	E	76.5	E	77.3	E	77.3
		R	B	18.5	B	17.2	B	17.0	B	17.0
	SB	LTR	C	20.1	B	19.3	B	18.5	B	18.5
	Overall		**A**	**5.9**	**A**	**7.0**	**A**	**7.7**	**A**	**7.4**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	B	15.6	B	18.6	C	20.1	C	20.1
		T	E	71.0	F	130.8	F	158.3	F	158.3
		R	A	1.5	A	2.9	A	3.6	A	3.4
	WB	L	C	27.5	D	45.6	E	56.8	E	56.8
		TR	C	26.6	C	27.9	C	28.8	C	28.8
	NB	L	E	60.4	F	96.7	F	96.9	E	76.9
		T	E	63.6	F	86.2	F	107.3	F	107.0
		R	A	8.4	B	12.9	B	15.8	B	14.9
	SB	L	D	37.8	D	39.4	D	39.7	D	40.1
		TR	E	76.5	F	102.7	F	134.9		
		T							F	80.9
		R							A	6.7
	Overall		**D**	**46.6**	**E**	**69.9**	**F**	**83.6**	**E**	**73.5**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.1	C	29.2	C	29.2		
	NB	T	A	2.9	A	3.3	A	3.9		
	SB	L	C	21.0	C	28.1	C	28.1		
		T	A	1.6	A	1.8	A	2.0		
	Overall		**A**	**3.7**	**A**	**4.4**	**A**	**4.6**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.1	C	26.2	C	26.2		
		R	B	10.3	B	10.0	B	10.0		
	NB	T	A	5.3	A	6.6	A	7.9		
	SB	T	A	3.5	A	3.9	A	4.2		
	Overall		**A**	**5.1**	**A**	**6.0**	**A**	**6.8**		

Level of Service Summary for Scenario 1 at Unsiganlized Intersections
PM Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Unsignalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	1.2	A	1.6	A	1.9		
	WB	L	C	15.2	C	20.5	C	22.6		
	NB	L	F	*	F	*	F	*		
		R	D	33.3	F	69.3	F	96.1		
	SB	L	F	823.9	F	*	F	*		
		R	B	13.3	B	14.3	C	15.1		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.6	A	0.8	A	0.8		
	WB	LTR	A	1.1	A	2.0	A	2.1		
	NB	LTR	F	653.5	F	*	F	*		
	SB	LTR	C	20.5	D	32.4	E	35.1		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	B	10.3	B	10.9	B	11.1		
	SB	LR	F	208.4	F	463.1	F	521.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	12.6	B	13.8	B	14.3		
	WB	LTR	F	74.2	F	113.9	F	132.6		
	NB	L	A	8.9	A	9.3	A	9.4		
	SB	L	A	8.4	A	8.6	A	8.7		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	20.9	D	28.4	D	30.5		
	SB	L	A	9.2	A	9.6	A	9.7		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	21.9	D	26.2	D	28.3		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	56.7	F	*	F	*		
	SB	L	B	13.4	F	148.6	F	253.1		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	C	21.8	F	123.9	F	199.3		
	SB	LT	A	0.1	A	1.5	A	2.5		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	4.8	A	6.3	A	6.9		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	2.2		
	SB	LR					F	595.0		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	71.0		
		TR					B	12.0		
	WB	L					F	136.8		
		TR					C	16.1		
	NB	LTR					A	0.6		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	9.1		
	SB	LT					A	0.4		

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

** = The delay is incalculable by the Synchro software*

Level of Service Summary for Scenario 1 at Signalized Intersections
Saturday Midday Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Signalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	B	10.2	B	10.3	B	10.5	B	10.5
		T	B	19.9	C	29.5	D	36.7	D	44.5
		R	A	5.1	A	5.4	A	5.8	A	5.8
	WB	L	C	30.4	D	54.3	F	97.2	D	53.1
		TR	A	3.1	A	4.2	A	4.6	A	2.2
	NB	L	E	57.1	D	53.5	D	51.8	D	47.9
		TR	C	22.3	D	35.4	D	39.5	D	28.0
	SB	LTR	C	28.3	C	28.9	C	28.6	C	27.1
	Overall		**B**	**18.3**	**C**	**26.8**	**C**	**34.4**	**C**	**29.3**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.9	A	2.4	A	2.5	A	2.3
		TR	A	4.1	A	6.6	A	7.5	A	7.7
	WB	L	A	3.4	A	3.5	A	3.1	A	4.6
		TR	A	2.5	A	2.6	A	2.9	A	3.9
	NB	LT	E	57.9	E	59.4	E	59.7	D	44.9
		R	B	15.9	B	15.1	B	15.3	B	11.4
	SB	LTR	B	16.0	B	14.5	B	15.2	B	12.3
	Overall		**A**	**5.7**	**A**	**6.7**	**A**	**7.2**	**A**	**7.2**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	21.6	C	28.2	D	37.8	C	24.2
		T	F	83.1	F	148.6	F	185.6	F	139.1
		R	A	2.4	A	5.2	A	7.6	A	3.6
	WB	L	D	38.2	D	44.5	E	56.5	D	51.4
		TR	C	29.2	C	32.0	C	33.6	C	26.2
	NB	L	F	133.0	F	237.7	F	238.2	F	262.1
		T	D	39.4	D	41.2	D	45.1	D	42.7
		R	A	4.2	A	6.4	B	10.3	B	10.2
	SB	L	C	23.8	C	25.3	C	27.7	C	33.5
		TR	E	62.2	E	79.2	F	122.6		
		T							E	70.0
		R							A	7.2
	Overall		**D**	**50.9**	**E**	**76.9**	**F**	**91.3**	**E**	**72.1**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.8	C	30.0	C	30.0		
	NB	T	A	3.8	A	4.4	A	4.9		
	SB	L	A	3.5	A	6.4	B	15.3		
		T	A	2.4	A	2.7	A	3.0		
	Overall		**A**	**3.7**	**A**	**4.3**	**A**	**5.0**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.0	C	26.0	C	26.0		
		R	C	21.0	C	21.0	C	21.0		
	NB	T	A	1.9	A	2.2	A	2.6		
	SB	T	A	1.7	A	1.8	A	2.0		
	Overall		**A**	**1.9**	**A**	**2.2**	**A**	**2.4**		

Level of Service Summary for Scenario 1 at Unsignalized Intersections
Saturday Midday Peak Hour

			2007 Existing Conditions		2015 Ambient No Build Condition		2015 Build Condition		2015 Build Condition with Mitigations	
Unsignalized Intersection	Approach	Move-ment	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.6	A	0.8	A	1.0		
	WB	L	B	14.9	C	18.0	C	20.3		
	NB	L	F	*	F	*	F	*		
		R	D	28.9	E	44.2	F	60.5		
	SB	L	F	1539.0	F	*	F	*		
		R	C	15.0	C	16.6	C	17.8		
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	1.1	A	1.5	A	1.6		
	WB	LTR	A	2.4	A	4.0	A	4.2		
	NB	LTR	F	58.5	F	162.7	F	182.1		
	SB	LTR	F	261.0	F	1528.4	F	*		
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.8	B	10.3	B	10.5		
	SB	LR	F	159.8	F	374.1	F	439.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	13.6	C	15.2	C	16.3		
	WB	LTR	C	23.7	D	30.5	E	35.7		
	NB	L	A	8.3	A	8.5	A	8.6		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	15.1	C	17.4	C	18.3		
	SB	L	A	8.8	A	9.1	A	9.2		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	23.8	D	29.3	D	32.6		
	NB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	57.9	F	109.5	F	146.9		
	SB	L	B	10.2	B	11.1	B	12.1		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	A	0.0	A	0.0	A	0.0		
	SB	LT	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	0.1	A	0.1	A	0.1		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	3.2		
	SB	LR					F	*		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	57.3		
		TR					B	12.6		
	WB	L					F	124.1		
		TR					B	13.8		
	NB	LTR					A	0.7		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	WB	LR					A	9.3		
	SB	LT					A	0.3		

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

** = The delay is incalculable by the Synchro software*

Level of Service Summary for Scenario 2 at Signalized Intersections
AM Peak Hour

Signalized Intersection	Approach	Move-ment	2007 Existing Conditions LOS	2007 Existing Conditions Delay (sec.)	2015 No Build Condition with OPD LOS	2015 No Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD LOS	2015 Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD - Mitigation LOS	2015 Build Condition with OPD - Mitigation Delay (sec.)
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	5.0	A	5.2	A	5.2	A	5.8
		T	A	6.9	A	8.6	A	8.8	A	10.0
		R	A	2.4	A	2.6	A	2.6	A	3.1
	WB	L	A	1.2	A	1.9	A	2.0	A	3.2
		TR	A	0.8	A	1.0	A	1.1	A	1.8
	NB	L	E	60.3	E	60.8	E	60.8	D	36.5
		TR	B	16.1	B	15.1	B	15.1	B	10.8
	SB	LTR	D	41.5	D	40.7	D	40.7	C	25.5
	Overall		**A**	**6.8**	**A**	**7.3**	**A**	**7.3**	**A**	**7.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.3	A	1.4	A	1.4	A	0.6
		TR	A	2.2	A	2.6	A	2.7	A	2.0
	WB	L	A	0.5	A	0.5	A	0.5	A	0.5
		TR	A	1.6	A	2.1	A	2.0	A	1.0
	NB	LT	D	51.0	D	51.0	D	51.0	C	31.0
		R	C	27.4	C	27.4	C	27.2	B	18.2
	SB	LTR	B	18.7	B	18.5	B	18.2	B	12.1
	Overall		**A**	**3.5**	**A**	**3.7**	**A**	**3.7**	**A**	**2.4**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	29.3	C	29.2	C	29.8	C	29.2
		T	D	45.4	D	54.0	E	56.1	D	37.1
		R	A	7.5	B	16.6	B	17.8	B	12.7
	WB	L	C	27.7	D	35.7	D	40.0	E	56.8
		TR	C	28.6	C	30.2	C	32.1	D	38.4
	NB	L	D	46.9	F	123.1	F	123.2	E	64.4
		T	C	30.6	C	34.0	C	34.9	B	15.6
		R	A	3.4	A	3.3	A	3.3	A	1.5
	SB	L	B	18.2	B	19.0	B	19.4	A	9.0
		TR	F	84.4	F	130.6	F	161.4		
		T							E	57.2
		R							A	2.4
	Overall		**D**	**41.2**	**E**	**60.7**	**E**	**68.8**	**D**	**37.9**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	31.0	C	31.2	C	31.2		
	NB	T	A	6..0	A	8.0	A	8.2		
	SB	L	A	2.8	A	3.1	A	3.2		
		T	B	11.1	C	22.3	C	27.1		
	Overall		**B**	**10.2**	**B**	**17.5**	**C**	**20.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.7	C	26.8	C	26.8		
		R	A	9.2	A	8.9	A	8.9		
	NB	T	A	4.0	A	4.9	A	5.1		
	SB	T	A	7.0	B	13.8	B	16.8		
	Overall		**A**	**6.9**	**B**	**11.3**	**B**	**13.2**		

Level of Service Summary for Scenario 2 at Unsignalized Intersections
AM Peak Hour

Unsignalized Intersection	Approach	Move-ment	2007 Existing Conditions LOS	2007 Existing Conditions Delay (sec.)	2015 No Build Condition with OPD LOS	2015 No Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD LOS	2015 Build Condition with OPD Delay (sec.)	2015 Build Condition with OPD - Mitigation LOS	2015 Build Condition with OPD - Mitigation Delay (sec.)
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	0.4	A	0.4	A	0.4
	WB	L	A	8.5	A	9.0	A	9.2	A	8.9
	NB	L	E	45.6	F	120.1	F	157.3	F	96.4
		R	B	10.8	B	11.8	B	12.1	B	11.5
	SB	L	A	0.0	A	0.0	A	0.0	A	0.0
		R	B	14.1	C	15.7	C	16.2	C	16.2
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	0.1	A	0.1	A	0.1	A	0.1
	WB	LTR	A	0.4	A	0.6	A	0.6	A	0.6
	NB	LTR	C	24.2	F	50.4	F	54.8	F	52.1
	SB	LTR	C	22.3	D	34.7	E	36.2	E	35.3
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.2	A	9.7	A	9.7		
	SB	LR	F	94.8	F	281.4	F	306.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	C	19.9	D	31.2	D	32.6		
	WB	LTR	F	57.2	F	219.4	F	262.4		
	NB	L	A	8.8	A	9.3	A	9.3		
	SB	L	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	D	31.3	F	74.6	F	83.4		
	SB	L	A	8.5	A	8.8	A	8.9		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	19.2	D	28.2	D	30.3		
	NB	LT	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	1157.3	F	*		
	SB	L	A	8.9	A	9.7	A	9.9		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	B	12.2	B	14.1	B	14.4		
	SB	LT	A	2.8	A	5.8	A	6.8		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	2.2	A	3.7	A	4.2		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			A	2.1	A	2.2		
	SB	L			F	282.7	F	352.5		
		R			B	12.0	B	12.2		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	0.6		
	SB	LR					C	23.7		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					D	32.4		
		TR					B	13.9		
	WB	L					E	40.3		
		TR					B	10.9		
	NB	LTR					A	0.2		
	SB	LTR					A	0.2		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					A	9.4		
	WB	LTR					A	9.0		
	NB	LTR					A	0.0		
	SB	LTR					A	0.1		

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

** = The delay is incalculable by the Synchro software*

Level of Service Summary for Scenario 2 at Signalized Intersections
PM Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Signalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	A	8.8	B	10.2	B	10.2	A	6.7
		T	B	18.3	E	79.3	F	114.7	E	62.8
		R	A	5.2	A	6.4	A	6.6	A	3.5
	WB	L	C	22.0	E	56.2	E	56.1	F	190.9
		TR	A	2.5	A	3.6	A	3.6	A	4.2
	NB	L	E	72.3	E	73.9	E	73.9	D	46.7
		TR	A	2.0	A	5.0	A	5.7	B	18.3
	SB	LTR	C	29.9	C	28.9	C	28.9	B	18.9
	Overall		**B**	**15.0**	**D**	**43.9**	**E**	**59.6**	**D**	**45.7**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	0.5	A	1.0	A	1.2	A	1.9
		TR	A	3.8	C	22.8	D	54.1	B	16.4
	WB	L	A	3.2	C	23.2	C	23.0	A	6.9
		TR	A	2.6	A	2.5	A	2.9	A	5.9
	NB	LT	E	74.8	E	76.5	E	77.3	D	43.3
		R	B	18.5	B	17.5	B	17.7	B	12.2
	SB	LTR	C	20.1	B	19.8	B	19.9	B	13.1
	Overall		**A**	**5.9**	**B**	**15.0**	**C**	**30.3**	**B**	**12.1**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	B	15.6	C	20.1	C	21.2	B	19.1
		T	E	71.0	F	199.0	F	228.4	C	28.2
		R	A	1.5	A	5.6	A	6.8	A	3.0
	WB	L	C	27.5	D	45.8	E	56.9	D	48.2
		TR	C	26.6	C	29.4	C	30.3	D	35.8
	NB	L	E	60.4	F	258.3	F	258.4	D	49.7
		T	E	63.6	F	90.8	F	113.4	C	33.1
		R	A	8.4	B	15.7	B	18.6	B	10.5
	SB	L	D	37.8	D	40.2	D	40.4	D	44.5
		TR	E	76.5	F	104.4	F	138.2		
		T							E	67.9
		R							A	4.7
	Overall		**D**	**46.6**	**F**	**101.8**	**F**	**114.4**	**C**	**32.5**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.1	C	29.2	C	29.2		
	NB	T	A	2.9	A	4.8	A	5.5		
	SB	L	C	21.0	C	28.1	C	28.1		
		T	A	1.6	A	2.4	A	2.7		
	Overall		**A**	**3.7**	**A**	**5.1**	**A**	**5.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.1	C	26.1	C	25.9		
		R	B	10.3	B	11.4	B	13.4		
	NB	T	A	5.3	A	9.8	B	11.5		
	SB	T	A	3.5	A	4.8	A	5.3		
	Overall		**A**	**5.1**	**A**	**8.0**	**A**	**9.2**		

Level of Service Summary for Scenario 2 at Unsignalized Intersections
PM Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Unsignalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	1.2	A	2.0	A	2.3	A	1.8
	WB	L	C	15.2	D	26.4	D	29.9	C	20.0
	NB	L	F	*	F	*	F	*	F	*
		R	D	33.3	F	181.4	F	261.2	F	71.4
	SB	L	F	823.9	F	*	F	*	F	*
		R	B	13.3	C	15.2	C	16.0	C	16.0
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	.6	A	0.9	A	0.9	A	0.9
	WB	LTR	A	1.1	A	3.4	A	3.6	A	2.4
	NB	LTR	F	653.5	F	*	F	*	F	*
	SB	LTR	C	20.5	E	48.9	F	54.6	D	30.0
Middle Country Rd (NYS 25) at Currans Rd	EB	L	B	10.3	B	11.4	B	11.5		
	SB	LR	F	208.4	F	667.8	F	742.1		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	12.6	C	15.2	C	16.0		
	WB	LTR	F	74.2	F	174.7	F	208.4		
	NB	L	A	8.9	A	9.6	A	9.8		
	SB	L	A	8.4	A	8.7	A	8.7		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	20.9	E	35.4	E	38.6		
	SB	L	A	9.2	A	9.9	A	10.0		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	21.9	E	45.7	F	52.3		
	NB	LT	A	0	A	0	A	0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	56.7	F	*	F	*		
	SB	L	B	13.4	F	794.9	F	1362.3		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	C	21.8	F	391.7	F	650.8		
	SB	LT	A	0.1	A	5.2	A	8.9		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	4.8	A	8.2	A	9.3		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			C	16.7	C	20.6		
	SB	L			F	*	F	*		
		R			C	17.4	C	17.9		
Middle Island Road at Sandy Hills Driveway	EB	LT					A	2.5		
	SB	LR					F	1118.1		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	74.1		
		TR					B	12.1		
	WB	L					F	147.4		
		TR					C	16.4		
	NB	LTR					A	0.6		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					A	9.9		
	WB	LTR					A	9.3		
	NB	LTR					A	0.0		
	SB	LTR					A	0.3		

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

** = The delay is incalculable by the Synchro software*

Level of Service Summary for Scenario 2 at Signalized Intersections
Saturday Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with Mitigations - OPD	
Signalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
Middle Country Rd (NYS 25) at Margaret's Boulevard	EB	L	B	10.2	B	10.5	B	10.5	A	8.7
		T	B	19.9	E	71.7	F	98.0	F	98.0
		R	A	5.1	A	6.4	A	6.6	A	4.9
	WB	L	C	30.4	F	145.7	F	157.0	E	71.7
		TR	A	3.1	A	6.6	A	7.0	A	1.7
	NB	L	E	57.1	D	48.9	D	48.2	E	56.4
		TR	C	22.3	D	45.5	D	48.1	D	53.2
	SB	LTR	C	28.3	C	28.1	C	28.0	C	34.6
	Overall		**B**	**18.3**	**D**	**52.2**	**E**	**63.1**	**D**	**54.0**
Middle Country Rd (NYS 25) at Middle Island Rd	EB	L	A	1.9	A	3.0	A	3.3	A	5.1
		TR	A	4.1	D	38.1	E	67.1	D	36.7
	WB	L	A	3.4	A	1.9	A	1.8	A	2.2
		TR	A	2.5	A	3.4	A	4.0	A	1.9
	NB	LT	E	57.9	E	59.4	E	59.7	D	44.9
		R	B	15.9	B	15.4	B	15.3	B	11.4
	SB	LTR	B	16.0	B	15.4	B	15.1	B	17.3
	Overall		**A**	**5.7**	**C**	**20.5**	**C**	**33.5**	**B**	**19.0**
Middle Country Rd (NYS 25) at Rocky Point Rd (CR 21)	EB	L	C	21.6	D	36.9	D	48.8	E	60.1
		T	F	83.1	F	247.5	F	288.4	D	35.1
		R	A	2.4	B	12.5	B	15.3	A	4.6
	WB	L	D	38.2	D	44.8	E	57.2	E	73.1
		TR	C	29.2	D	35.6	D	38.5	E	69.9
	NB	L	F	133.0	F	585.1	F	585.1	F	112.1
		T	D	39.4	D	41.8	D	45.9	C	31.6
		R	A	4.2	A	9.5	B	13.1	A	7.3
	SB	L	C	23.8	C	26.3	C	29.4	C	32.0
		TR	E	62.2	F	82.6	F	126.0		
		T							F	117.6
		R							B	15.7
	Overall		**D**	**50.9**	**F**	**143.8**	**F**	**155.4**	**E**	**56.6**
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L	C	29.8	C	30.0	C	30.0		
	NB	T	A	3.8	A	5.5	A	6.7		
	SB	L	A	3.5	C	22.7	C	22.7		
		T	A	2.4	A	3.7	A	4.2		
	Overall		**A**	**3.7**	**A**	**5.9**	**A**	**6.5**		
Rocky Point Road (CR 21) at Longwood School Signalized Drw	WB	L	C	26.0	C	26.0	C	26.0		
		R	C	21.0	C	21.0	C	21.0		
	NB	T	A	1.9	A	3.5	A	4.4		
	SB	T	A	1.7	A	2.3	A	2.6		
	Overall		**A**	**1.9**	**A**	**3.0**	**A**	**3.6**		

Level of Service Summary for Scenario 2 at Unsignalized Intersections
Saturday Peak Hour

			2007 Existing Conditions		2015 No Build Condition with OPD		2015 Build Condition with OPD		2015 Build Condition with OPD - Mitigation	
Unsignalized Intersection	**Approach**	**Move-ment**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**
'Middle Country Rd (NYS 25) at Shopping Center Driveway	EB	LTR	A	0.6	A	1.0	A	1.3	A	1.0
	WB	L	B	14.9	D	25.4	D	30.1	C	23.3
	NB	L	F	*	F	*	F	*	F	*
		R	D	28.9	F	103.4	F	163.8	F	66.9
	SB	L	F	1539.0	F	*	F	*	F	*
		R	C	15.0	C	18.2	C	19.6	C	19.6
Middle Country Rd (NYS 25) at Tudor Lane	EB	LTR	A	1.1	A	1.9	A	2.0	A	2.0
	WB	LTR	A	2.4	A	7.9	A	8.6	A	6.7
	NB	LTR	F	58.5	F	*	F	*	F	*
	SB	LTR	F	261.0	F	*	F	*	F	*
Middle Country Rd (NYS 25) at Currans Rd	EB	L	A	9.8	B	11.0	B	11.2		
	SB	LR	F	159.8	F	655.5	F	750.6		
Rocky Point Road (CR 21) at Millee Place –Yaphank Rd	EB	LT	B	13.6	C	19.2	C	21.2		
	WB	LTR	C	23.7	F	52.1	F	65.4		
	NB	L	A	8.3	A	8.9	A	9.0		
	SB	L	A	0.0	A	0.0	A	0.0		
Rocky Point Road (CR 21) at Bailey Rd	WB	LR	C	15.1	C	20.5	C	21.8		
	SB	L	A	8.8	A	9.4	A	9.6		
Rocky Point Road (CR 21) at Middle Island Rd	EB	LR	C	23.8	F	61.5	F	76.3		
	NB	LT	A	0.0	A	0	A	0.0		
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	57.9	F	*	F	*		
	SB	L	B	10.2	F	69.3	F	117.6		
Rocky Point Road (CR 21) at Longwood Sch North Driveway	WB	R	A	0.0	A	0	A	0		
	SB	LT	A	0.0	A	0	A	0		
Rocky Point Road (CR 21) at Longwood Sch South Driveway	SB	LT	A	0.1	A	0.1	A	0.1		
Middle Country Rd (NYS 25) at Proposed 4B's Driveway	EB	LT			E	38.6	F	54.9		
	SB	L			F	*	F	*		
		R			C	21.1	C	22.4		
Middle Country Rd (NYS 25) at Sandy Hills Driveway	EB	LT					A	4.1		
	SB	LR					F	*		
Rocky Point Rd (CR 21) at Middle Island Townhomes Driveway	EB	L					F	62.1		
		TR					B	12.8		
	WB	L					F	145.2		
		TR					B	14.1		
	NB	LTR					A	0.7		
	SB	LTR					A	0.9		
Middle Island Road at Middle Island Townhomes Driveway	EB	LTR					B	10.5		
	WB	LTR					A	9.6		
	NB	LTR					A	0.0		
	SB	LTR					A	0.2		

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

** = The delay is incalculable by the Synchro software*

Existing Condition

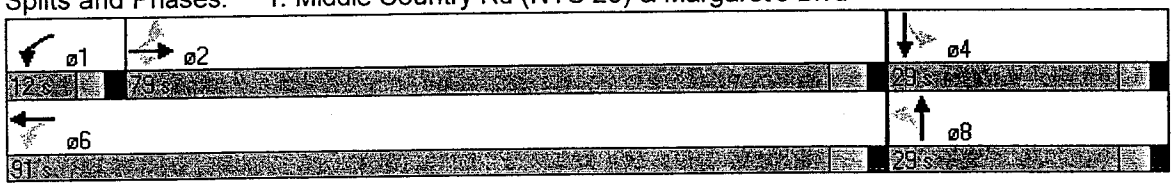
Existing AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	570	12	68	645	49	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	12.0	91.0	29.0	29.0	29.0	29.0
Total Split (%)	65.8%	65.8%	65.8%	10.0%	75.8%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	94.4	94.4	94.4	102.3	103.1	12.0	12.0		11.9
Actuated g/C Ratio	0.79	0.79	0.79	0.85	0.86	0.10	0.10		0.10
v/c Ratio	0.01	0.42	0.01	0.14	0.23	0.45	0.27		0.08
Control Delay	5.0	6.9	2.4	1.2	0.8	60.3	16.1		41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.0	6.9	2.4	1.2	0.8	60.3	16.1		41.5
LOS	A	A	A	A	A	E	B		D
Approach Delay		6.8			0.9		39.5		41.5
Approach LOS		A			A		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 50.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

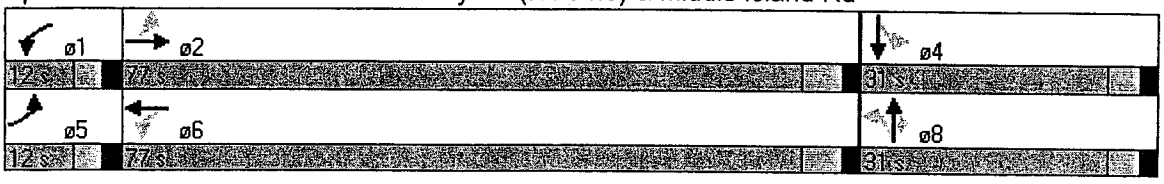


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	10	513	4	592	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	77.0	12.0	77.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	64.2%	10.0%	64.2%	25.8%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	102.8	101.4	102.6	101.3		8.5	8.5		8.5
Actuated g/C Ratio	0.86	0.84	0.86	0.84		0.07	0.07		0.07
v/c Ratio	0.02	0.33	0.01	0.22		0.04	0.07		0.48
Control Delay	1.3	2.2	0.5	1.4		51.0	27.4		18.7
Queue Delay	0.0	0.0	0.0	0.3		0.0	0.0		0.0
Total Delay	1.3	2.2	0.5	1.6		51.0	27.4		18.7
LOS	A	A	A	A		D	C		B
Approach Delay		2.2		1.6		33.3			18.7
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 3.5 Intersection LOS: A
Intersection Capacity Utilization 46.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

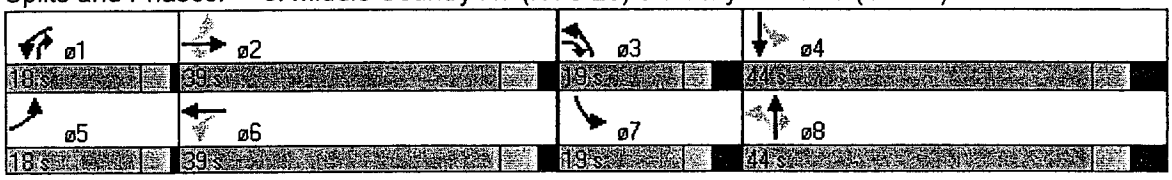


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	29	252	241	209	431	151	259	62	74	495
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	18.0	39.0	19.0	18.0	39.0	19.0	44.0	18.0	19.0	44.0
Total Split (%)	15.0%	32.5%	15.8%	15.0%	32.5%	15.8%	36.7%	15.0%	15.8%	36.7%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	42.2	36.0	54.5	53.0	46.4	58.9	47.9	64.9	49.8	40.5
Actuated g/C Ratio	0.35	0.30	0.45	0.44	0.39	0.49	0.40	0.54	0.42	0.34
v/c Ratio	0.13	0.53	0.34	0.57	0.41	0.78	0.48	0.10	0.23	1.03
Control Delay	27.3	43.9	7.0	27.7	28.6	46.9	30.6	3.4	18.2	84.4
Queue Delay	0.0	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	45.4	7.5	27.7	28.6	46.9	30.6	3.4	18.2	84.4
LOS	C	D	A	C	C	D	C	A	B	F
Approach Delay		26.9			28.3		32.3			76.0
Approach LOS		C			C		C			E

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 41.2 Intersection LOS: D
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	322	58	20	654	5	24	0	14	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	9	362	65	24	769	6	30	0	18	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.85			0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	775			427			1233	1235	394	1232	1264	772
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	775			327			1273	1276	289	1272	1310	772
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			74	100	97	100	100	99
cM capacity (veh/h)	841			1050			118	137	639	117	131	399

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	436	24	775	30	18	0	4
Volume Left	9	24	0	30	0	0	0
Volume Right	65	0	6	0	18	0	4
cSH	841	1050	1700	118	639	1700	399
Volume to Capacity	0.01	0.02	0.46	0.26	0.03	0.00	0.01
Queue Length 95th (ft)	1	2	0	24	2	0	1
Control Delay (s)	0.3	8.5	0.0	45.6	10.8	0.0	14.1
Lane LOS	A	A		E	B	A	B
Approach Delay (s)	0.3	0.3		32.8		14.1	
Approach LOS				D		B	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	328	5	14	650	4	13	1	24	6	0	16
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	364	6	16	765	5	27	2	50	11	0	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.90			0.90	0.90	0.90	0.90	0.90	
vC, conflicting volume	769			370			1203	1176	367	1225	1177	767
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	769			303			1225	1195	300	1249	1195	767
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			79	99	93	91	100	93
cM capacity (veh/h)	845			1137			129	165	669	122	165	402

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	373	786	79	40
Volume Left	3	16	27	11
Volume Right	6	5	50	29
cSH	845	1137	266	248
Volume to Capacity	0.00	0.01	0.30	0.16
Queue Length 95th (ft)	0	1	30	14
Control Delay (s)	0.1	0.4	24.2	22.3
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.4	24.2	22.3
Approach LOS			C	C

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	12	454	568	49	115	48
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	15	554	676	58	144	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	735				1288	705
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	735				1288	705
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				19	86
cM capacity (veh/h)	871				178	436

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	15	554	735	204
Volume Left	15	0	0	144
Volume Right	0	0	58	60
cSH	871	1700	1700	215
Volume to Capacity	0.02	0.33	0.43	0.95
Queue Length 95th (ft)	1	0	0	201
Control Delay (s)	9.2	0.0	0.0	94.8
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	94.8
Approach LOS				F

Intersection Summary			
Average Delay	12.9		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	304	8	2	1	163	189	2	0	361	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	395	15	4	2	185	215	2	0	425	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1014	1012	425	1012	1011	216	425			217		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1014	1012	425	1012	1011	216	425			217		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	37	79	98	100	84			100		
cM capacity (veh/h)	187	200	629	71	200	824	1135			1353		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	399	20	185	217	0	425
Volume Left	3	15	185	0	0	0
Volume Right	395	2	0	2	0	0
cSH	636	88	1135	1700	1700	1700
Volume to Capacity	0.63	0.23	0.16	0.13	0.00	0.25
Queue Length 95th (ft)	110	20	15	0	0	0
Control Delay (s)	19.9	57.2	8.8	0.0	0.0	0.0
Lane LOS	C	F	A			
Approach Delay (s)	19.9	57.2	4.0		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	381	14	136	699
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	419	15	164	842
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1596	426			434	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1596	426			434	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	42	72			85	
cM capacity (veh/h)	100	628			1126	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	434	164	842
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	272	1700	1126	1700
Volume to Capacity	0.87	0.26	0.15	0.50
Queue Length 95th (ft)	184	0	13	0
Control Delay (s)	65.8	0.0	8.7	0.0
Lane LOS	F		A	
Approach Delay (s)	65.8	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	10.1		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	379	659	78	16	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	436	709	84	25	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	792				1186	751
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792				1186	751
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	99
cM capacity (veh/h)	828				208	411

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	436	792	28
Volume Left	0	0	25
Volume Right	0	84	3
cSH	828	1700	221
Volume to Capacity	0.00	0.47	0.13
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.0	23.7
Lane LOS			C
Approach Delay (s)	0.0	0.0	23.7
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	14	531	45	19	1078
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	65	21	625	53	23	1283
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.61	0.89			0.89	
vC, conflicting volume	1980	651			678	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2324	607			636	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	95			97	
cM capacity (veh/h)	24	440			840	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	85	678	23	1283
Volume Left	65	0	23	0
Volume Right	21	53	0	0
cSH	32	1700	840	1700
Volume to Capacity	2.69	0.40	0.03	0.75
Queue Length 95th (ft)	248	0	2	0
Control Delay (s)	1032.2	0.0	9.4	0.0
Lane LOS	F		A	
Approach Delay (s)	1032.2	0.0	0.2	
Approach LOS	F			

Intersection Summary			
Average Delay	42.7		
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

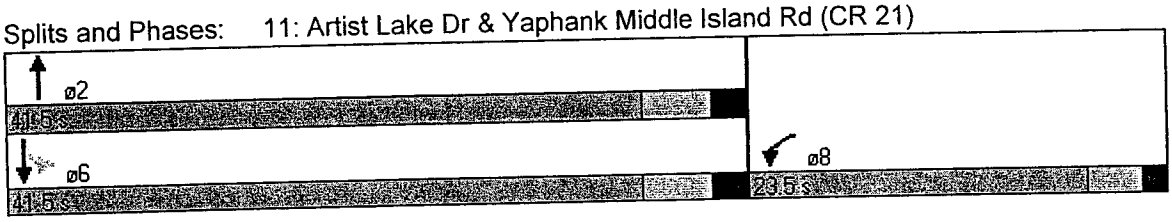
11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	512	11	27	1095
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.41	0.01	0.06	0.90
Control Delay	31.2	0.0	7.4	0.0	3.0	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	7.4	0.0	3.0	20.0
LOS	C	A	A	A	A	C
Approach Delay	19.6		7.2			19.6
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 16.1 — Intersection LOS: B
Intersection Capacity Utilization 70.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	513	65	75	1126
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	583	74	88	1325
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.87			0.87	
vC, conflicting volume	2121	620			657	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3589	562			604	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			90	
cM capacity (veh/h)	2	457			845	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	657	1413
Volume Left	0	0	88
Volume Right	26	74	0
cSH	457	1700	845
Volume to Capacity	0.06	0.39	0.10
Queue Length 95th (ft)	5	0	9
Control Delay (s)	13.4	0.0	4.9
Lane LOS	B		A
Approach Delay (s)	13.4	0.0	4.9
Approach LOS	B		

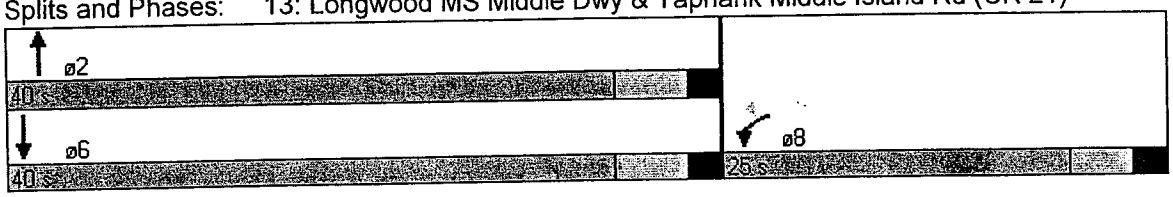
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	544	1126
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.44	0.91
Control Delay	26.8	8.9	4.6	12.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	4.6	12.6
LOS	C	A	A	B
Approach Delay	17.3		4.6	12.6
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	544	81	69	1087
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	604	90	78	1235
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	2041	649			694	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4974	649			694	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	469			901	

Direction, Lane #	NB 1	SB 1
Volume Total	694	1314
Volume Left	0	78
Volume Right	90	0
cSH	1700	901
Volume to Capacity	0.41	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	3.4
Lane LOS		A
Approach Delay (s)	0.0	3.4
Approach LOS		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	382	762	6	11	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	415	828	7	12	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		659				
pX, platoon unblocked					0.87	
vC, conflicting volume	835				1282	832
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	835				1324	832
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				92	91
cM capacity (veh/h)	799				146	369

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	433	835	43
Volume Left	17	0	12
Volume Right	0	7	32
cSH	799	1700	260
Volume to Capacity	0.02	0.49	0.17
Queue Length 95th (ft)	2	0	15
Control Delay (s)	0.7	0.0	21.6
Lane LOS	A		C
Approach Delay (s)	0.7	0.0	21.6
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	34	103	325	13	121	618
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	52	158	357	14	146	745
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1400	364			371	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1400	364			371	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	77			88	
cM capacity (veh/h)	136	681			1187	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	211	371	146	745
Volume Left	52	0	146	0
Volume Right	158	14	0	0
cSH	341	1700	1187	1700
Volume to Capacity	0.62	0.22	0.12	0.44
Queue Length 95th (ft)	98	0	10	0
Control Delay (s)	31.3	0.0	8.5	0.0
Lane LOS	D		A	
Approach Delay (s)	31.3	0.0	1.4	
Approach LOS	D			

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	327	583	69	11	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	376	627	74	17	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	701				1040	664
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	701				1040	664
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	99
cM capacity (veh/h)	896				255	461

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	376	701	20
Volume Left	0	0	17
Volume Right	0	74	3
cSH	896	1700	274
Volume to Capacity	0.00	0.41	0.07
Queue Length 95th (ft)	0	0	6
Control Delay (s)	0.0	0.0	19.2
Lane LOS			C
Approach Delay (s)	0.0	0.0	19.2
Approach LOS			C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	39	13	459	40	17	928
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	57	19	540	47	20	1105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.61	0.92			0.92	
vC, conflicting volume	1709	564			587	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1982	528			553	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	96			98	
cM capacity (veh/h)	40	509			940	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	76	587	20	1105
Volume Left	57	0	20	0
Volume Right	19	47	0	0
cSH	52	1700	940	1700
Volume to Capacity	1.47	0.35	0.02	0.65
Queue Length 95th (ft)	177	0	2	0
Control Delay (s)	417.7	0.0	8.9	0.0
Lane LOS	F		A	
Approach Delay (s)	417.7	0.0	0.2	
Approach LOS	F			

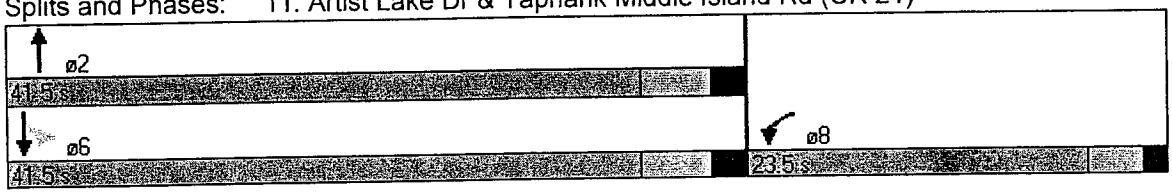
Intersection Summary			
Average Delay	18.0		
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	95	57	442	10	24	943
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	7.8	65.0	51.8	65.0	51.8	51.8
Actuated g/C Ratio	0.12	1.00	0.80	1.00	0.80	0.80
v/c Ratio	0.41	0.03	0.35	0.01	0.05	0.77
Control Delay	31.0	0.0	6.0	0.0	2.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	0.0	6.0	0.0	2.8	11.1
LOS	C	A	A	A	A	B
Approach Delay	19.4		5.9			10.9
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 10.2 Intersection LOS: B
Intersection Capacity Utilization 61.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	9	443	58	67	971
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	24	503	66	79	1142
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.90			0.90	
vC, conflicting volume	1836	536			569	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2904	484			521	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			92	
cM capacity (veh/h)	6	524			940	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	569	1221
Volume Left	0	0	79
Volume Right	24	66	0
cSH	524	1700	940
Volume to Capacity	0.05	0.33	0.08
Queue Length 95th (ft)	4	0	7
Control Delay (s)	12.2	0.0	2.8
Lane LOS	B		A
Approach Delay (s)	12.2	0.0	2.8
Approach LOS	B		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

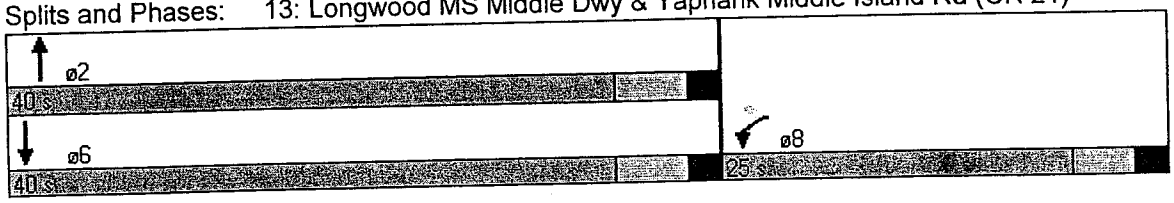
13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	27	30	471	971
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	51.1	51.1
Actuated g/C Ratio	0.14	0.14	0.79	0.79
v/c Ratio	0.24	0.24	0.38	0.78
Control Delay	26.7	9.2	4.0	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.7	9.2	4.0	7.0
LOS	C	A	A	A
Approach Delay	17.5		4.0	7.0
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 6.9 — Intersection LOS: A
Intersection Capacity Utilization 61.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	471	72	62	936
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	523	80	70	1064
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	1768	563			603	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3922	563			603	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			93	
cM capacity (veh/h)	1	526			974	

Direction, Lane #	NB 1	SB 1
Volume Total	603	1134
Volume Left	0	70
Volume Right	80	0
cSH	1700	974
Volume to Capacity	0.35	0.07
Queue Length 95th (ft)	0	6
Control Delay (s)	0.0	2.2
Lane LOS		A
Approach Delay (s)	0.0	2.2
Approach LOS		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

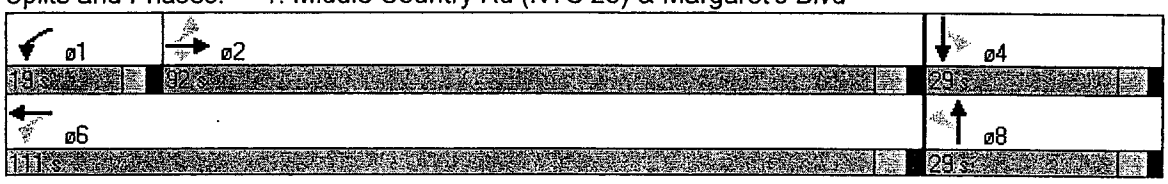
Existing PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	813	15	164	710	107	0	6	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	19.0	111.0	29.0	29.0	29.0	29.0
Total Split (%)	65.7%	65.7%	65.7%	13.6%	79.3%	20.7%	20.7%	20.7%	20.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	99.2	99.2	99.2	114.0	114.0	18.0	18.0		18.0
Actuated g/C Ratio	0.71	0.71	0.71	0.81	0.81	0.13	0.13		0.13
v/c Ratio	0.01	0.72	0.02	0.59	0.27	0.64	0.34		0.12
Control Delay	8.8	18.3	5.2	22.0	2.5	72.3	2.0		29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	8.8	18.3	5.2	22.0	2.5	72.3	2.0		29.9
LOS	A	B	A	C	A	E	A		C
Approach Delay		18.0			6.1		33.2		29.9
Approach LOS		B			A		C		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 74.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

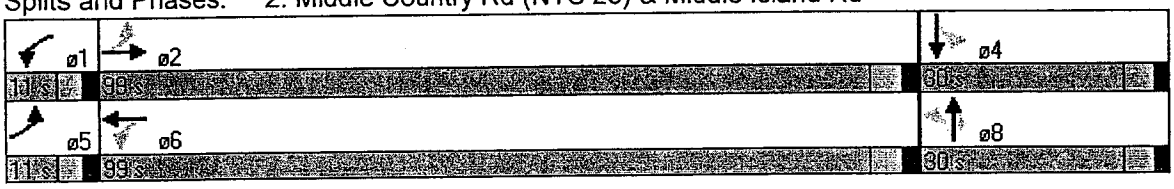


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	21	908	41	740	29	0	28	2	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	11.0	99.0	11.0	99.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	7.9%	70.7%	7.9%	70.7%	21.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	115.9	110.7	117.3	113.1		12.6	12.6		12.6
Actuated g/C Ratio	0.83	0.79	0.84	0.81		0.09	0.09		0.09
v/c Ratio	0.05	0.64	0.19	0.30		0.47	0.25		0.40
Control Delay	0.5	3.5	3.2	2.4		74.8	18.4		19.9
Queue Delay	0.0	0.3	0.0	0.2		0.0	0.1		0.2
Total Delay	0.5	3.8	3.2	2.6		74.8	18.5		20.1
LOS	A	A	A	A		E	B		C
Approach Delay		3.7		2.6		47.3			20.1
Approach LOS		A		A		D			C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 35 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 5.9 Intersection LOS: A
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

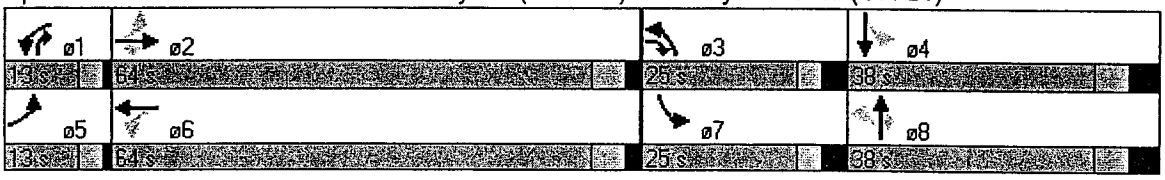


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	71	598	269	84	480	257	452	210	123	272
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	13.0	64.0	25.0	13.0	64.0	25.0	38.0	13.0	25.0	38.0
Total Split (%)	9.3%	45.7%	17.9%	9.3%	45.7%	17.9%	27.1%	9.3%	17.9%	27.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	67.6	61.2	85.8	70.4	62.6	59.0	42.1	53.9	47.3	34.4
Actuated g/C Ratio	0.48	0.44	0.61	0.50	0.45	0.42	0.30	0.38	0.34	0.25
v/c Ratio	0.25	0.89	0.30	0.52	0.40	0.88	0.87	0.33	0.59	0.91
Control Delay	15.6	39.7	0.8	27.5	26.6	60.4	63.6	8.4	37.8	76.5
Queue Delay	0.0	31.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	71.0	1.5	27.5	26.6	60.4	63.6	8.4	37.8	76.5
LOS	B	E	A	C	C	E	E	A	D	E
Approach Delay		46.9			26.7		50.1			66.1
Approach LOS		D			C		D			E

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 32 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 46.6 Intersection LOS: D
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	33	784	114	46	567	40	53	0	55	2	0	4
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	36	862	125	54	667	47	75	0	77	5	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.58			0.58	0.58	0.58	0.58	0.58	
vC, conflicting volume	714			987			1783	1819	924	1796	1858	691
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	714			977			2356	2419	869	2378	2487	691
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			87			0	100	62	29	100	98
cM capacity (veh/h)	886			407			12	16	203	7	14	445

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1023	54	714	75	77	5	11
Volume Left	36	54	0	75	0	5	0
Volume Right	125	0	47	0	77	0	11
cSH	886	407	1700	12	203	7	445
Volume to Capacity	0.04	0.13	0.42	6.14	0.38	0.71	0.02
Queue Length 95th (ft)	3	11	0	Err	42	32	2
Control Delay (s)	1.2	15.2	0.0	Err	33.3	823.9	13.3
Lane LOS	A	C		F	D	F	B
Approach Delay (s)	1.2	1.1		4923.9		283.5	
Approach LOS				F		F	

Intersection Summary			
Average Delay	385.6		
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	819	5	16	603	9	30	0	43	0	1	20
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	18	890	5	19	718	11	33	0	47	0	2	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.63			0.63	0.63	0.63	0.63	0.63	
vC, conflicting volume	729			896			1722	1697	893	1738	1694	723
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	729			834			2146	2105	830	2171	2101	723
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			0	100	80	100	95	93
cM capacity (veh/h)	875			504			19	31	233	16	31	426

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	914	748	80	32
Volume Left	18	19	33	0
Volume Right	5	11	47	30
cSH	875	504	41	264
Volume to Capacity	0.02	0.04	1.94	0.12
Queue Length 95th (ft)	2	3	211	10
Control Delay (s)	0.6	1.1	653.5	20.5
Lane LOS	A	A	F	C
Approach Delay (s)	0.6	1.1	653.5	20.5
Approach LOS			F	C

Intersection Summary			
Average Delay	30.7		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	44	725	692	128	69	27
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	44	732	795	147	103	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	943				1690	869
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	943				1690	869
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				0	89
cM capacity (veh/h)	728				96	351

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	44	732	943	143
Volume Left	44	0	0	103
Volume Right	0	0	147	40
cSH	728	1700	1700	121
Volume to Capacity	0.06	0.43	0.55	1.18
Queue Length 95th (ft)	5	0	0	221
Control Delay (s)	10.3	0.0	0.0	208.4
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	208.4
Approach LOS				F

Intersection Summary			
Average Delay	16.3		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	194	2	0	0	300	490	4	2	319	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	220	4	0	0	316	516	4	2	329	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1481	1485	329	1484	1483	518	330			520		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1481	1485	329	1484	1483	518	330			520		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	69	93	100	100	74			100		
cM capacity (veh/h)	83	92	712	56	93	558	1230			1046		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	223	4	316	520	2	330
Volume Left	0	4	316	0	2	0
Volume Right	220	0	0	4	0	1
cSH	719	56	1230	1700	1046	1700
Volume to Capacity	0.31	0.07	0.26	0.31	0.00	0.19
Queue Length 95th (ft)	33	6	26	0	0	0
Control Delay (s)	12.6	74.2	8.9	0.0	8.4	0.0
Lane LOS	B	F	A		A	
Approach Delay (s)	12.6	74.2	3.4		0.1	
Approach LOS	B	F				

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	8	149	581	16	79	495
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	11	199	618	17	91	569
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1377	627			635	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1377	627			635	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	59			90	
cM capacity (veh/h)	144	484			948	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	209	635	91	569
Volume Left	11	0	91	0
Volume Right	199	17	0	0
cSH	432	1700	948	1700
Volume to Capacity	0.48	0.37	0.10	0.33
Queue Length 95th (ft)	65	0	8	0
Control Delay (s)	20.9	0.0	9.2	0.0
Lane LOS	C		A	
Approach Delay (s)	20.9	0.0	1.3	
Approach LOS	C			

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	583	458	45	14	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	595	515	51	19	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	565				1135	540
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	565				1135	540
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	100
cM capacity (veh/h)	1007				224	542

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	595	565	20
Volume Left	0	0	19
Volume Right	0	51	1
cSH	1007	1700	233
Volume to Capacity	0.00	0.33	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	21.9
Lane LOS			C
Approach Delay (s)	0.0	0.0	21.9
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	18	16	903	26	11	614
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	30	26	1115	32	12	698
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.87	0.76			0.76	
vC, conflicting volume	1854	1131			1147	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1613	1173			1194	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	85			97	
cM capacity (veh/h)	96	177			443	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	56	1147	12	698
Volume Left	30	0	12	0
Volume Right	26	32	0	0
cSH	123	1700	443	1700
Volume to Capacity	0.45	0.67	0.03	0.41
Queue Length 95th (ft)	50	0	2	0
Control Delay (s)	56.7	0.0	13.4	0.0
Lane LOS	F		B	
Approach Delay (s)	56.7	0.0	0.2	
Approach LOS	F			

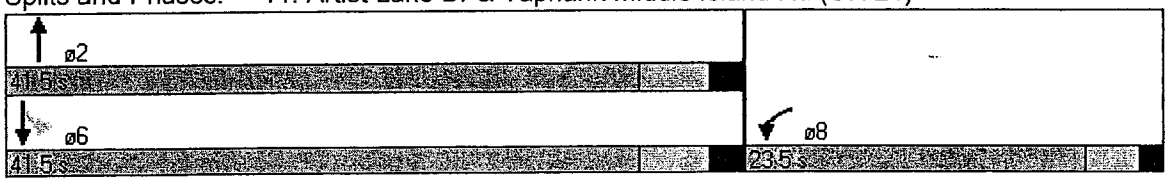
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	19	73	856	63	96	536
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.15	0.06	0.54	0.04	0.59	0.38
Control Delay	29.1	0.1	2.9	0.0	21.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	0.1	2.9	0.0	21.0	1.6
LOS	C	A	A	A	C	A
Approach Delay	6.1		2.7			4.5
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 3.7 Intersection LOS: A
Intersection Capacity Utilization 75.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	5	914	1	2	553
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	8	983	1	2	658
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.73	0.73			0.73	
vC, conflicting volume	1646	983			984	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1884	977			978	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	57	222			516	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	984	661
Volume Left	0	0	2
Volume Right	8	1	0
cSH	222	1700	516
Volume to Capacity	0.04	0.58	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	21.8	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	21.8	0.0	0.1
Approach LOS	C		

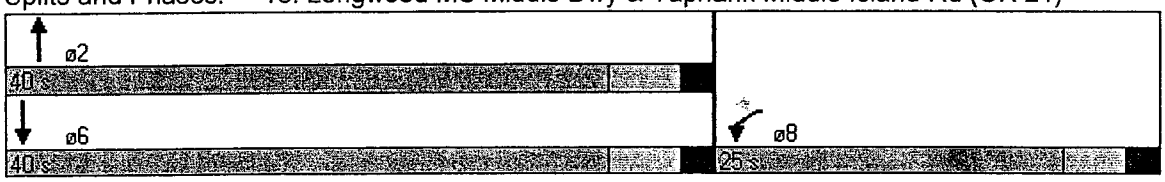
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	16	36	879	553
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.9	7.9	55.1	55.1
Actuated g/C Ratio	0.12	0.12	0.85	0.85
v/c Ratio	0.11	0.23	0.59	0.42
Control Delay	26.1	10.3	5.3	3.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.1	10.3	5.3	3.5
LOS	C	B	A	A
Approach Delay	15.1		5.3	3.5
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 5.1 Intersection LOS: A
Intersection Capacity Utilization 57.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	879	77	106	463
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	966	85	125	545
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.88					
vC, conflicting volume	1802	1008			1051	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1917	1008			1051	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			81	
cM capacity (veh/h)	53	292			662	

Direction, Lane #	NB 1	SB 1
Volume Total	1051	669
Volume Left	0	125
Volume Right	85	0
cSH	1700	662
Volume to Capacity	0.62	0.19
Queue Length 95th (ft)	0	17
Control Delay (s)	0.0	4.8
Lane LOS		A
Approach Delay (s)	0.0	4.8
Approach LOS		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

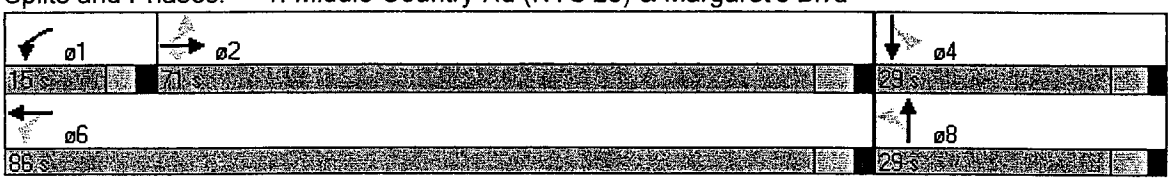
Existing Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	755	15	266	670	112	1	4	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	71.0	71.0	71.0	15.0	86.0	29.0	29.0	29.0	29.0
Total Split (%)	61.7%	61.7%	61.7%	13.0%	74.8%	25.2%	25.2%	25.2%	25.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	72.3	72.3	72.3	90.0	90.0	17.0	17.0		17.0
Actuated g/C Ratio	0.63	0.63	0.63	0.78	0.78	0.15	0.15		0.15
v/c Ratio	0.01	0.70	0.02	0.71	0.26	0.60	0.78		0.12
Control Delay	10.2	19.9	5.1	30.4	3.1	57.1	22.3		28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.2	19.9	5.1	30.4	3.1	57.1	22.3		28.3
LOS	B	B	A	C	A	E	C		C
Approach Delay		19.5			10.8		30.8		28.3
Approach LOS		B			B		C		C

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 7 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 85.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

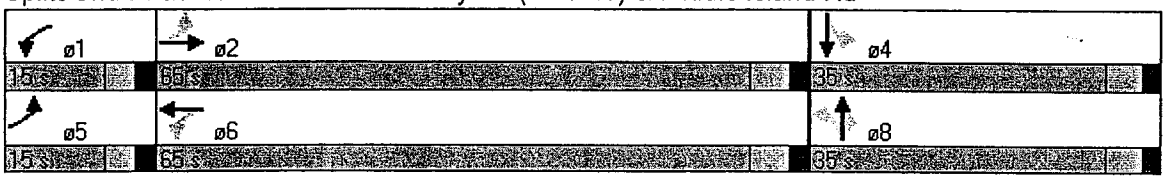


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	25	879	27	947	44	2	34	4	5
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	15.0	65.0	15.0	65.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	56.5%	13.0%	56.5%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	93.2	89.1	93.1	89.0		11.5	11.5		11.5
Actuated g/C Ratio	0.81	0.77	0.81	0.77		0.10	0.10		0.10
v/c Ratio	0.07	0.60	0.15	0.37		0.44	0.22		0.44
Control Delay	1.9	4.0	3.4	2.2		57.9	15.9		15.4
Queue Delay	0.0	0.2	0.0	0.3		0.0	0.1		0.1
Total Delay	1.9	4.1	3.4	2.5		57.9	16.0		15.5
LOS	A	A	A	A		E	B		B
Approach Delay		4.1		2.5		40.0			15.5
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

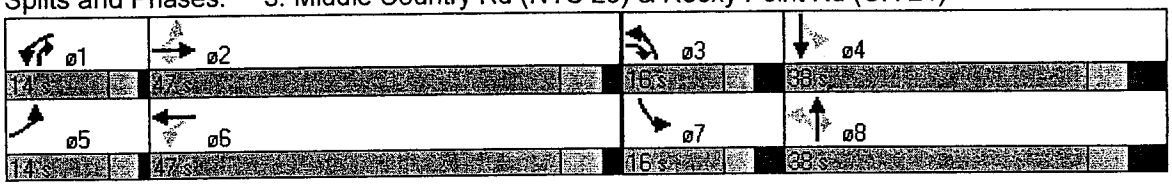


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	106	569	243	120	621	281	305	136	131	294
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	14.0	47.0	16.0	14.0	47.0	16.0	38.0	14.0	16.0	38.0
Total Split (%)	12.2%	40.9%	13.9%	12.2%	40.9%	13.9%	33.0%	12.2%	13.9%	33.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	52.7	44.9	60.9	54.7	45.9	46.1	34.1	46.9	44.5	33.3
Actuated g/C Ratio	0.46	0.39	0.53	0.48	0.40	0.40	0.30	0.41	0.39	0.29
v/c Ratio	0.47	0.95	0.30	0.69	0.58	1.16	0.58	0.21	0.41	0.91
Control Delay	21.6	52.2	2.0	38.2	29.2	133.0	39.4	4.2	23.8	62.2
Queue Delay	0.0	30.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	83.1	2.4	38.2	29.2	133.0	39.4	4.2	23.8	62.2
LOS	C	F	A	D	C	F	D	A	C	E
Approach Delay		54.7			30.5		69.2			52.2
Approach LOS		D			C		E			D

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 18 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 50.9 Intersection LOS: D
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	732	92	66	722	13	78	0	69	9	0	18
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	16	832	105	73	793	14	80	0	71	12	0	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.57			0.57	0.57	0.57	0.57	0.57	
vC, conflicting volume	808			936			1880	1869	884	1862	1914	801
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	808			888			2545	2526	797	2513	2605	801
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			83			0	100	68	0	100	94
cM capacity (veh/h)	817			434			8	13	220	6	11	385

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	953	73	808	80	71	12	25
Volume Left	16	73	0	80	0	12	0
Volume Right	105	0	14	0	71	0	25
cSH	817	434	1700	8	220	6	385
Volume to Capacity	0.02	0.17	0.48	9.71	0.32	1.98	0.06
Queue Length 95th (ft)	2	15	0	Err	33	65	5
Control Delay (s)	0.6	14.9	0.0	Err	28.9	1539.0	15.0
Lane LOS	A	B		F	D	F	C
Approach Delay (s)	0.6	1.2		5319.2		523.0	
Approach LOS				F		F	

Intersection Summary			
Average Delay	409.2		
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	25	781	4	32	781	4	0	3	48	3	1	20
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	29	908	5	35	858	4	0	4	60	4	1	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.61			0.61	0.61	0.61	0.61	0.61	
vC, conflicting volume	863			913			1928	1902	910	1961	1902	860
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	863			858			2511	2468	854	2565	2468	860
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			93			100	77	73	30	92	92
cM capacity (veh/h)	780			481			9	17	220	6	17	355

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	942	898	64	33
Volume Left	29	35	0	4
Volume Right	5	4	60	28
cSH	780	481	128	39
Volume to Capacity	0.04	0.07	0.50	0.86
Queue Length 95th (ft)	3	6	58	81
Control Delay (s)	1.1	2.4	58.5	261.0
Lane LOS	A	A	F	F
Approach Delay (s)	1.1	2.4	58.5	261.0
Approach LOS			F	F

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	29	797	708	74	69	44
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	32	866	787	82	81	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	869				1757	828
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869				1757	828
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				9	86
cM capacity (veh/h)	775				90	371

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	32	866	869	133
Volume Left	32	0	0	81
Volume Right	0	0	82	52
cSH	775	1700	1700	127
Volume to Capacity	0.04	0.51	0.51	1.05
Queue Length 95th (ft)	3	0	0	186
Control Delay (s)	9.8	0.0	0.0	159.8
Lane LOS	A			F
Approach Delay (s)	0.3		0.0	159.8
Approach LOS				F

Intersection Summary			
Average Delay	11.3		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	233	1	0	1	140	363	0	0	301	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	288	2	0	2	151	390	0	0	331	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1025	1023	331	1022	1023	390	332			390		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1025	1023	331	1022	1023	390	332			390		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	60	98	100	100	88			100		
cM capacity (veh/h)	193	207	710	116	207	658	1228			1168		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	290	4	151	390	0	332
Volume Left	2	2	151	0	0	0
Volume Right	288	2	0	0	0	1
cSH	716	197	1228	1700	1700	1700
Volume to Capacity	0.40	0.02	0.12	0.23	0.00	0.20
Queue Length 95th (ft)	49	2	10	0	0	0
Control Delay (s)	13.6	23.7	8.3	0.0	0.0	0.0
Lane LOS	B	C	A			
Approach Delay (s)	13.6	23.7	2.3		0.0	
Approach LOS	B	C				

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	6	76	514	10	53	591
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	7	86	559	11	60	664
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1347	564			570	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1347	564			570	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	84			94	
cM capacity (veh/h)	157	525			1003	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	93	570	60	664
Volume Left	7	0	60	0
Volume Right	86	11	0	0
cSH	448	1700	1003	1700
Volume to Capacity	0.21	0.34	0.06	0.39
Queue Length 95th (ft)	19	0	5	0
Control Delay (s)	15.1	0.0	8.8	0.0
Lane LOS	C		A	
Approach Delay (s)	15.1	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	488	501	96	35	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	525	539	103	38	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	642				1117	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	642				1117	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				83	100
cM capacity (veh/h)	943				229	507

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	526	642	38
Volume Left	1	0	38
Volume Right	0	103	0
cSH	943	1700	229
Volume to Capacity	0.00	0.38	0.17
Queue Length 95th (ft)	0	0	15
Control Delay (s)	0.0	0.0	23.8
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	23.8
Approach LOS			C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	51	20	702	54	19	637
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	70	27	763	59	20	671
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.83	0.86			0.86	
vC, conflicting volume	1503	792			822	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1363	760			794	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	92			97	
cM capacity (veh/h)	131	351			716	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	97	822	20	671
Volume Left	70	0	20	0
Volume Right	27	59	0	0
cSH	159	1700	716	1700
Volume to Capacity	0.61	0.48	0.03	0.39
Queue Length 95th (ft)	83	0	2	0
Control Delay (s)	57.9	0.0	10.2	0.0
Lane LOS	F		B	
Approach Delay (s)	57.9	0.0	0.3	
Approach LOS	F			

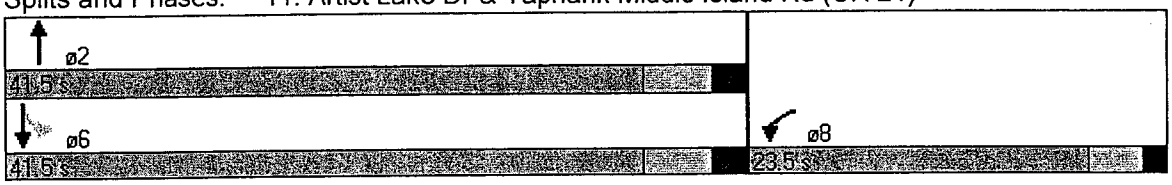
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	36	79	677	24	89	600
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.2	65.0	58.8	65.0	58.8	58.8
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.24	0.06	0.45	0.02	0.24	0.38
Control Delay	29.8	0.1	3.8	0.0	3.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	0.1	3.8	0.0	3.5	2.4
LOS	C	A	A	A	A	A
Approach Delay	9.4		3.7			2.5
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 3.7 Intersection LOS: A
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	701	0	0	636
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	762	0	0	669
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1431	762			762	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1501	724			724	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	116	367			757	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	762	669
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	757
Volume to Capacity	0.00	0.45	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

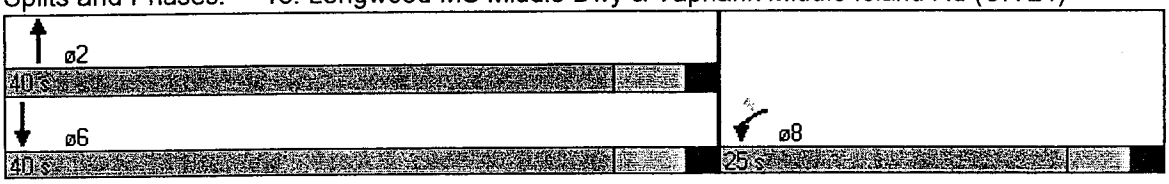
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	5	1	700	636
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.03	0.01	0.43	0.38
Control Delay	26.0	21.0	1.9	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	1.9	1.7
LOS	C	C	A	A
Approach Delay	25.4		1.9	1.7
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 1.9 Intersection LOS: A
Intersection Capacity Utilization 47.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	700	4	2	639
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	761	4	2	673
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.90					
vC, conflicting volume	1440	763			765	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1491	763			765	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	121	404			848	

Direction, Lane #	NB 1	SB 1
Volume Total	765	675
Volume Left	0	2
Volume Right	4	0
cSH	1700	848
Volume to Capacity	0.45	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Scenario 1

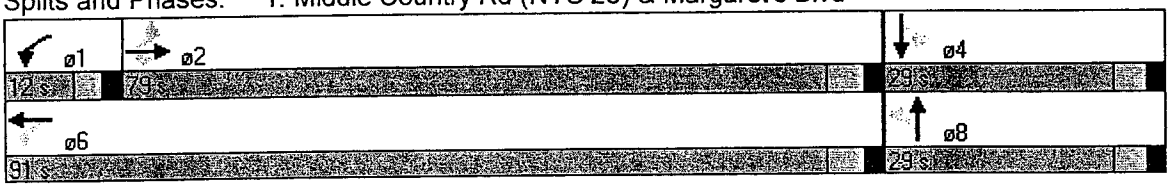
No Build Condition Scenario 1 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	638	12	76	722	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	12.0	91.0	29.0	29.0	29.0	29.0
Total Split (%)	65.8%	65.8%	65.8%	10.0%	75.8%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	93.8	93.8	93.8	101.7	102.5	12.6	12.6		12.5
Actuated g/C Ratio	0.78	0.78	0.78	0.85	0.85	0.10	0.10		0.10
v/c Ratio	0.01	0.47	0.01	0.17	0.26	0.49	0.28		0.08
Control Delay	5.2	7.9	2.6	1.6	0.9	60.8	15.1		40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.2	7.9	2.6	1.6	0.9	60.8	15.1		40.7
LOS	A	A	A	A	A	E	B		D
Approach Delay		7.7			1.0		39.3		40.7
Approach LOS		A			A		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 55.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

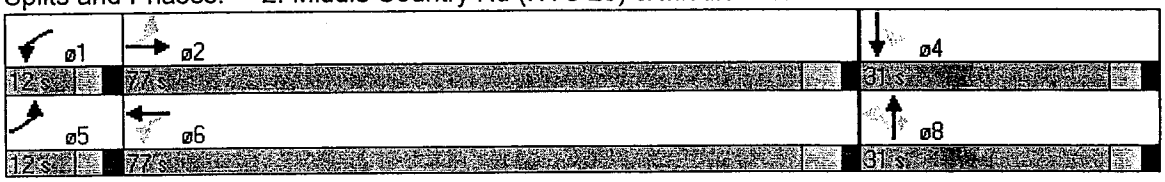


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	11	575	4	664	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	77.0	12.0	77.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	64.2%	10.0%	64.2%	25.8%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	102.7	101.3	101.7	99.1		8.6	8.6		8.6
Actuated g/C Ratio	0.86	0.84	0.85	0.83		0.07	0.07		0.07
v/c Ratio	0.02	0.37	0.01	0.25		0.04	0.07		0.51
Control Delay	1.4	2.3	0.5	1.7		51.0	27.4		18.4
Queue Delay	0.0	0.0	0.0	0.3		0.0	0.0		0.0
Total Delay	1.4	2.3	0.5	2.1		51.0	27.4		18.4
LOS	A	A	A	A		D	C		B
Approach Delay		2.3		2.1		33.3			18.4
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 3.7 Intersection LOS: A
Intersection Capacity Utilization 49.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

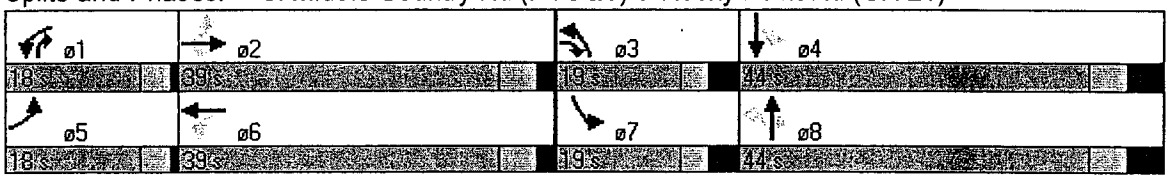


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	32	282	270	234	483	169	290	69	83	554
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	18.0	39.0	19.0	18.0	39.0	19.0	44.0	18.0	19.0	44.0
Total Split (%)	15.0%	32.5%	15.8%	15.0%	32.5%	15.8%	36.7%	15.0%	15.8%	36.7%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	42.0	35.6	54.5	53.0	46.3	58.8	45.3	62.7	49.8	40.1
Actuated g/C Ratio	0.35	0.30	0.45	0.44	0.39	0.49	0.38	0.52	0.42	0.33
v/c Ratio	0.16	0.60	0.39	0.68	0.46	0.86	0.56	0.12	0.28	1.16
Control Delay	29.5	48.2	12.3	32.1	29.7	57.5	33.8	3.3	18.9	128.5
Queue Delay	0.0	2.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.5	50.3	12.9	32.1	29.7	57.5	33.8	3.3	18.9	128.5
LOS	C	D	B	C	C	E	C	A	B	F
Approach Delay		31.9			30.4		37.4			114.6
Approach LOS		C			C		D			F

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 54.0 Intersection LOS: D
Intersection Capacity Utilization 80.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	360	65	22	733	6	27	0	16	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	404	73	26	862	7	34	0	20	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.83			0.83	0.83	0.83	0.83	0.83	
vC, conflicting volume	869			478			1379	1382	441	1379	1415	866
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	869			368			1459	1463	324	1458	1503	866
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			60	100	97	100	100	99
cM capacity (veh/h)	775			984			85	102	593	83	97	353

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	488	26	869	34	20	0	4
Volume Left	10	26	0	34	0	0	0
Volume Right	73	0	7	0	20	0	4
cSH	775	984	1700	85	593	1700	353
Volume to Capacity	0.01	0.03	0.51	0.40	0.03	0.00	0.01
Queue Length 95th (ft)	1	2	0	40	3	0	1
Control Delay (s)	0.4	8.8	0.0	73.3	11.3	0.0	15.3
Lane LOS	A	A		F	B	A	C
Approach Delay (s)	0.4	0.3		50.2		15.3	
Approach LOS				F		C	

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	367	6	14	728	4	15	1	27	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	408	7	16	856	5	31	2	56	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.88			0.88	0.88	0.88	0.88	0.88	
vC, conflicting volume	861			414			1342	1312	411	1367	1313	859
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	861			338			1387	1352	334	1415	1354	859
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			67	98	91	86	100	91
cM capacity (veh/h)	781			1080			95	130	626	90	130	356

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	418	878	90	45
Volume Left	3	16	31	13
Volume Right	7	5	56	33
cSH	781	1080	206	195
Volume to Capacity	0.00	0.02	0.43	0.23
Queue Length 95th (ft)	0	1	51	22
Control Delay (s)	0.1	0.4	35.2	29.0
Lane LOS	A	A	E	D
Approach Delay (s)	0.1	0.4	35.2	29.0
Approach LOS			E	D

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	508	636	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	620	757	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	823				1441	790
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1441	790
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	83
cM capacity (veh/h)	807				143	390

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	620	823	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	807	1700	1700	176
Volume to Capacity	0.02	0.36	0.48	1.30
Queue Length 95th (ft)	2	0	0	328
Control Delay (s)	9.6	0.0	0.0	221.3
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	221.3
Approach LOS				F

Intersection Summary			
Average Delay	30.1		
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	340	9	2	1	183	212	2	0	404	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	442	16	4	2	208	241	2	0	475	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1136	1134	475	1134	1133	242	475			243		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1136	1134	475	1134	1133	242	475			243		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	25	57	98	100	81			100		
cM capacity (veh/h)	150	164	589	38	164	797	1087			1323		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	445	22	208	243	0	475
Volume Left	3	16	208	0	0	0
Volume Right	442	2	0	2	0	0
cSH	595	48	1087	1700	1700	1700
Volume to Capacity	0.75	0.45	0.19	0.14	0.00	0.28
Queue Length 95th (ft)	165	41	18	0	0	0
Control Delay (s)	27.1	130.7	9.1	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	27.1	130.7	4.2		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	12.1		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	364	14	136	692
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	400	15	164	834
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1569	408			415	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1569	408			415	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	44	73			86	
cM capacity (veh/h)	104	644			1144	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	415	164	834
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	282	1700	1144	1700
Volume to Capacity	0.83	0.24	0.14	0.49
Queue Length 95th (ft)	173	0	12	0
Control Delay (s)	59.2	0.0	8.7	0.0
Lane LOS	F		A	
Approach Delay (s)	59.2	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	366	653	77	12	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	421	702	83	18	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	785				1164	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	785				1164	744
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				91	99
cM capacity (veh/h)	834				215	415

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	421	785	22
Volume Left	0	0	18
Volume Right	0	83	3
cSH	834	1700	231
Volume to Capacity	0.00	0.46	0.09
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	22.2
Lane LOS			C
Approach Delay (s)	0.0	0.0	22.2
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	14	514	45	19	1039
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	65	21	605	53	23	1237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.62	0.90			0.90	
vC, conflicting volume	1913	631			658	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2227	588			618	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	95			97	
cM capacity (veh/h)	28	456			862	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	85	658	23	1237
Volume Left	65	0	23	0
Volume Right	21	53	0	0
cSH	37	1700	862	1700
Volume to Capacity	2.32	0.39	0.03	0.73
Queue Length 95th (ft)	236	0	2	0
Control Delay (s)	837.7	0.0	9.3	0.0
Lane LOS	F		A	
Approach Delay (s)	837.7	0.0	0.2	
Approach LOS	F			

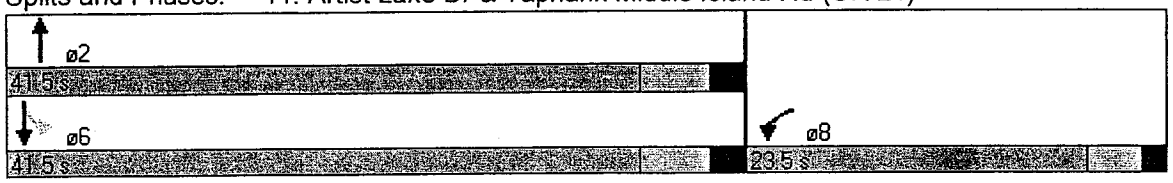
Intersection Summary			
Average Delay	35.8		
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	495	11	27	1056
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.39	0.01	0.06	0.87
Control Delay	31.2	0.0	7.1	0.0	3.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	7.1	0.0	3.0	17.0
LOS	C	A	A	A	A	B
Approach Delay	19.6		7.0			16.7
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	496	65	75	1087
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	564	74	88	1279
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.88			0.88	
vC, conflicting volume	2056	601			638	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3410	544			586	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			90	
cM capacity (veh/h)	3	472			866	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	638	1367
Volume Left	0	0	88
Volume Right	26	74	0
cSH	472	1700	866
Volume to Capacity	0.06	0.38	0.10
Queue Length 95th (ft)	4	0	8
Control Delay (s)	13.1	0.0	4.3
Lane LOS	B		A
Approach Delay (s)	13.1	0.0	4.3
Approach LOS	B		

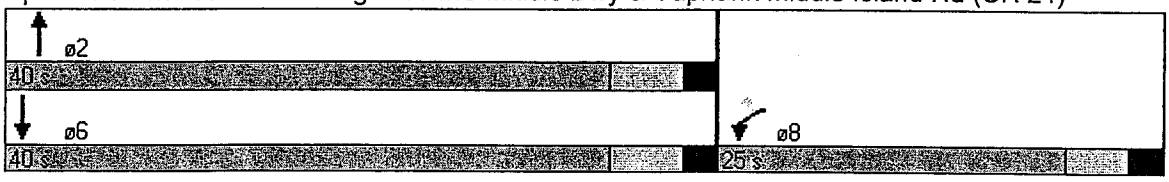
Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	527	1087
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.43	0.88
Control Delay	26.8	8.9	4.5	10.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	4.5	10.9
LOS	C	A	A	B
Approach Delay	17.3		4.5	10.9
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 9.4 Intersection LOS: A
Intersection Capacity Utilization 68.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	527	81	69	1048
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	586	90	78	1191
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	1978	631			676	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4719	631			676	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	481			916	

Direction, Lane #	NB 1	SB 1
Volume Total	676	1269
Volume Left	0	78
Volume Right	90	0
cSH	1700	916
Volume to Capacity	0.40	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	3.1
Lane LOS		A
Approach Delay (s)	0.0	3.1
Approach LOS		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

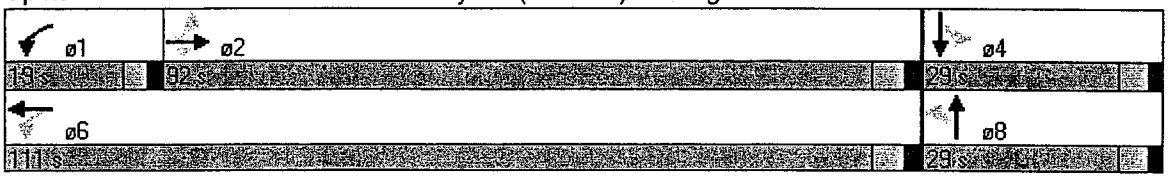
No Build Condition Scenario 1 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	911	17	184	795	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	19.0	111.0	29.0	29.0	29.0	29.0
Total Split (%)	65.7%	65.7%	65.7%	13.6%	79.3%	20.7%	20.7%	20.7%	20.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	94.3	94.3	94.3	112.9	112.9	19.1	19.1		19.1
Actuated g/C Ratio	0.67	0.67	0.67	0.81	0.81	0.14	0.14		0.14
v/c Ratio	0.02	0.85	0.02	0.77	0.30	0.68	0.39		0.12
Control Delay	9.8	27.8	6.0	47.9	2.9	73.9	2.6		28.9
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	9.8	28.5	6.0	47.9	2.9	73.9	2.7		28.9
LOS	A	C	A	D	A	E	A		C
Approach Delay		28.0			11.3		34.0		28.9
Approach LOS		C			B		C		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

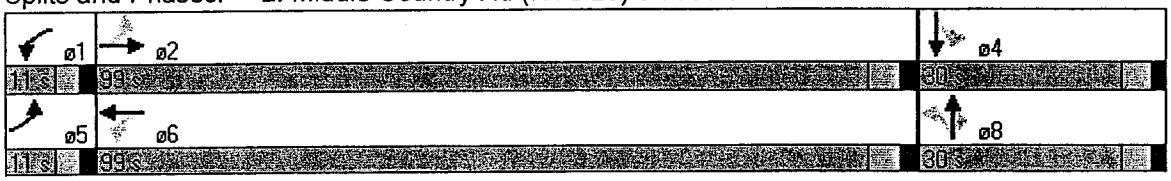


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	24	1018	46	829	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	11.0	99.0	11.0	99.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	7.9%	70.7%	7.9%	70.7%	21.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	114.1	108.9	117.2	112.2		13.5	13.5		13.5
Actuated g/C Ratio	0.82	0.78	0.84	0.80		0.10	0.10		0.10
v/c Ratio	0.06	0.74	0.34	0.34		0.51	0.25		0.41
Control Delay	0.5	4.6	25.9	2.3		76.5	17.1		19.1
Queue Delay	0.0	0.7	0.0	0.2		0.0	0.1		0.2
Total Delay	0.5	5.3	25.9	2.5		76.5	17.2		19.3
LOS	A	A	C	A		E	B		B
Approach Delay		5.2		3.7		47.4			19.3
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 35 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

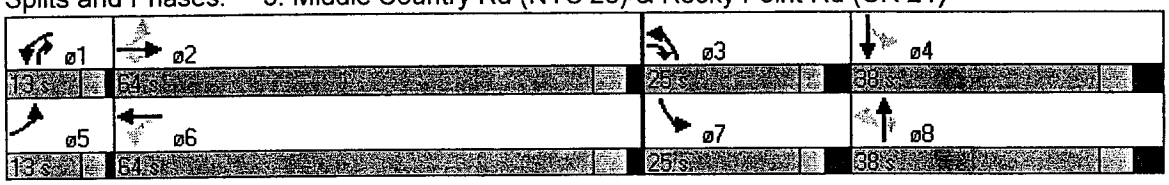


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	670	301	94	538	288	506	235	138	305
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	13.0	64.0	25.0	13.0	64.0	25.0	38.0	13.0	25.0	38.0
Total Split (%)	9.3%	45.7%	17.9%	9.3%	45.7%	17.9%	27.1%	9.3%	17.9%	27.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	67.7	60.8	85.8	70.3	62.1	58.6	41.1	53.3	47.9	34.0
Actuated g/C Ratio	0.48	0.43	0.61	0.50	0.44	0.42	0.29	0.38	0.34	0.24
v/c Ratio	0.30	1.01	0.34	0.68	0.45	1.02	0.99	0.38	0.62	1.03
Control Delay	18.6	60.6	2.0	45.6	27.9	96.7	86.2	12.9	39.4	102.7
Queue Delay	0.0	70.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	130.8	2.9	45.6	27.9	96.7	86.2	12.9	39.4	102.7
LOS	B	F	A	D	C	F	F	B	D	F
Approach Delay		85.6			30.3		72.4			85.7
Approach LOS		F			C		E			F

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 32 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 69.9 Intersection LOS: E
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	878	128	52	635	45	59	0	62	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	965	141	61	747	53	83	0	87	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.51			0.51	0.51	0.51	0.51	0.51	
vC, conflicting volume	800			1105			1999	2039	1035	2012	2083	774
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	800			1208			2968	3046	1069	2994	3133	774
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			79			0	100	36	0	100	97
cM capacity (veh/h)	823			293			4	5	137	1	4	399

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1146	61	800	83	87	5	13
Volume Left	41	61	0	83	0	5	0
Volume Right	141	0	53	0	87	0	13
cSH	823	293	1700	4	137	1	399
Volume to Capacity	0.05	0.21	0.47	23.60	0.64	4.19	0.03
Queue Length 95th (ft)	4	19	0	Err	86	Err	3
Control Delay (s)	1.6	20.5	0.0	Err	69.3	Err	14.3
Lane LOS	A	C		F	F	F	B
Approach Delay (s)	1.6	1.5		4911.1		2867.1	
Approach LOS				F		F	

Intersection Summary			
Average Delay	406.6		
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	917	6	18	676	10	34	0	48	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	997	7	21	805	12	37	0	53	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	817			1003			1929	1901	1000	1948	1898	811
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	817			1006			2670	2620	1000	2704	2615	811
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			0	100	68	100	88	91
cM capacity (veh/h)	811			383			6	12	164	5	12	380

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1024	838	90	35
Volume Left	21	21	37	0
Volume Right	7	12	53	33
cSH	811	383	14	166
Volume to Capacity	0.03	0.06	6.22	0.21
Queue Length 95th (ft)	2	4	Err	19
Control Delay (s)	0.8	2.0	Err	32.4
Lane LOS	A	A	F	D
Approach Delay (s)	0.8	2.0	Err	32.4
Approach LOS			F	D

Intersection Summary			
Average Delay	455.2		
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	812	775	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	820	891	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1055				1892	973
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1055				1892	973
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	85
cM capacity (veh/h)	660				71	306

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	820	1055	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	660	1700	1700	91
Volume to Capacity	0.08	0.48	0.62	1.76
Queue Length 95th (ft)	6	0	0	329
Control Delay (s)	10.9	0.0	0.0	463.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	463.1
Approach LOS				F

Intersection Summary			
Average Delay	35.7		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	217	2	0	0	336	549	4	2	357	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	247	4	0	0	354	578	4	2	368	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1658	1662	369	1661	1661	580	369			582		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1658	1662	369	1661	1661	580	369			582		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	64	89	100	100	70			100		
cM capacity (veh/h)	60	68	677	37	68	514	1189			992		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	249	4	354	582	2	369
Volume Left	0	4	354	0	2	0
Volume Right	247	0	0	4	0	1
cSH	683	37	1189	1700	992	1700
Volume to Capacity	0.36	0.11	0.30	0.34	0.00	0.22
Queue Length 95th (ft)	42	8	31	0	0	0
Control Delay (s)	13.8	113.9	9.3	0.0	8.6	0.0
Lane LOS	B	F	A		A	
Approach Delay (s)	13.8	113.9	3.5		0.0	
Approach LOS	B	F				

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	651	18	88	555
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	693	19	101	638
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1542	702			712	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1542	702			712	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	49			89	
cM capacity (veh/h)	112	438			888	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	712	101	638
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	381	1700	888	1700
Volume to Capacity	0.62	0.42	0.11	0.38
Queue Length 95th (ft)	99	0	10	0
Control Delay (s)	28.4	0.0	9.6	0.0
Lane LOS	D		A	
Approach Delay (s)	28.4	0.0	1.3	
Approach LOS	D			

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	653	514	50	16	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	666	578	56	21	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	634				1272	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	634				1272	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	100
cM capacity (veh/h)	949				185	497

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	666	634	23
Volume Left	0	0	21
Volume Right	0	56	1
cSH	949	1700	192
Volume to Capacity	0.00	0.37	0.12
Queue Length 95th (ft)	0	0	10
Control Delay (s)	0.0	0.0	26.2
Lane LOS			D
Approach Delay (s)	0.0	0.0	26.2
Approach LOS			D

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	18	1011	30	12	688
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	33	30	1248	37	14	782
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.32	0.20			0.20	
vC, conflicting volume	2076	1267			1285	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3224	2357			2451	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			64	
cM capacity (veh/h)	2	9			37	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	62	1285	14	782
Volume Left	33	0	14	0
Volume Right	30	37	0	0
cSH	3	1700	37	1700
Volume to Capacity	18.39	0.76	0.36	0.46
Queue Length 95th (ft)	Err	0	31	0
Control Delay (s)	Err	0.0	148.6	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	2.5	
Approach LOS	F			

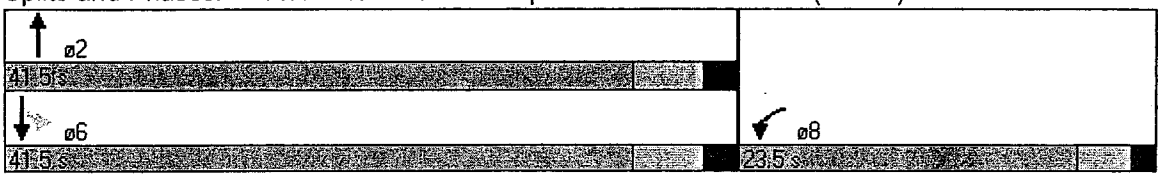
Intersection Summary			
Average Delay	291.6		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	959	71	108	600
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.60	0.04	0.68	0.42
Control Delay	29.2	0.1	3.3	0.0	28.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	3.3	0.0	28.1	1.8
LOS	C	A	A	A	C	A
Approach Delay	5.9		3.1			5.8
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 4.4 Intersection LOS: A
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1024	1	2	619
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1101	1	2	737
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.25	0.24			0.24	
vC, conflicting volume	1843	1102			1102	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4319	1428			1430	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	76			98	
cM capacity (veh/h)	0	39			113	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1102	739
Volume Left	0	0	2
Volume Right	10	1	0
cSH	39	1700	113
Volume to Capacity	0.24	0.65	0.02
Queue Length 95th (ft)	20	0	2
Control Delay (s)	123.9	0.0	1.5
Lane LOS	F		A
Approach Delay (s)	123.9	0.0	1.5
Approach LOS	F		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	985	619
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.0	8.0	55.0	55.0
Actuated g/C Ratio	0.12	0.12	0.85	0.85
v/c Ratio	0.13	0.25	0.66	0.47
Control Delay	26.2	10.0	6.6	3.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.2	10.0	6.6	3.9
LOS	C	B	A	A
Approach Delay	15.1		6.6	3.9
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

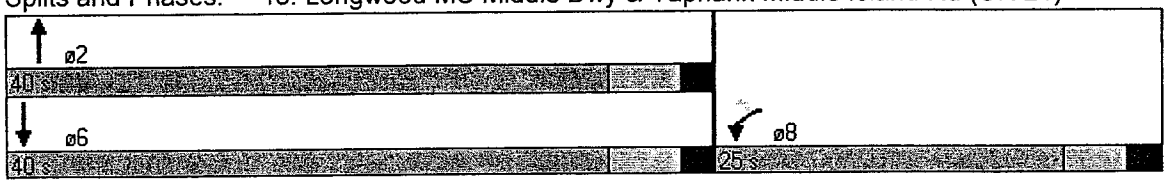
Maximum v/c Ratio: 0.66

Intersection Signal Delay: 6.0 Intersection LOS: A

Intersection Capacity Utilization 62.7% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	985	86	119	518
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1082	95	140	609
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.85					
vC, conflicting volume	2019	1130			1177	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2203	1130			1177	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			76	
cM capacity (veh/h)	32	248			593	

Direction, Lane #	NB 1	SB 1
Volume Total	1177	749
Volume Left	0	140
Volume Right	95	0
cSH	1700	593
Volume to Capacity	0.69	0.24
Queue Length 95th (ft)	0	23
Control Delay (s)	0.0	6.3
Lane LOS		A
Approach Delay (s)	0.0	6.3
Approach LOS		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

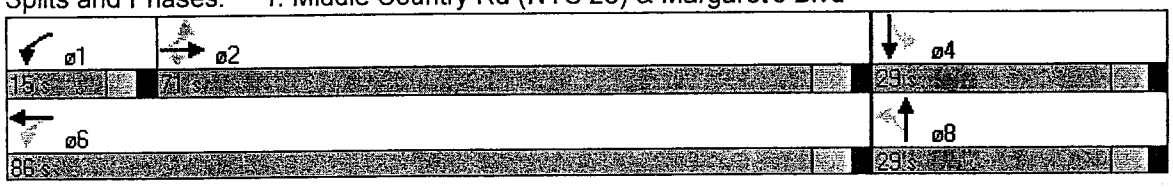
No Build Condition Scenario 1 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	846	17	298	750	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	71.0	71.0	71.0	15.0	86.0	29.0	29.0	29.0	29.0
Total Split (%)	61.7%	61.7%	61.7%	13.0%	74.8%	25.2%	25.2%	25.2%	25.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	87.5	87.5	19.5	19.5		19.5
Actuated g/C Ratio	0.58	0.58	0.58	0.76	0.76	0.17	0.17		0.17
v/c Ratio	0.02	0.85	0.02	0.88	0.30	0.59	0.87		0.16
Control Delay	10.3	29.5	5.4	54.3	4.2	53.5	35.4		28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.3	29.5	5.4	54.3	4.2	53.5	35.4		28.9
LOS	B	C	A	D	A	D	D		C
Approach Delay		28.9			18.3		39.8		28.9
Approach LOS		C			B		D		C

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 7 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 95.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

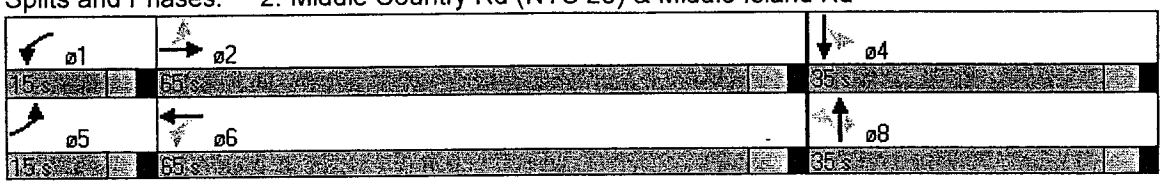


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	28	984	30	1061	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	15.0	65.0	15.0	65.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	56.5%	13.0%	56.5%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	92.3	88.1	92.2	88.1		12.4	12.4		12.4
Actuated g/C Ratio	0.80	0.77	0.80	0.77		0.11	0.11		0.11
v/c Ratio	0.09	0.68	0.18	0.41		0.49	0.23		0.45
Control Delay	2.4	5.9	3.5	2.1		59.4	15.0		14.4
Queue Delay	0.0	0.6	0.0	0.5		0.0	0.1		0.2
Total Delay	2.4	6.6	3.5	2.6		59.4	15.1		14.5
LOS	A	A	A	A		E	B		B
Approach Delay		6.4		2.6		40.5			14.5
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 6.7 Intersection LOS: A
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

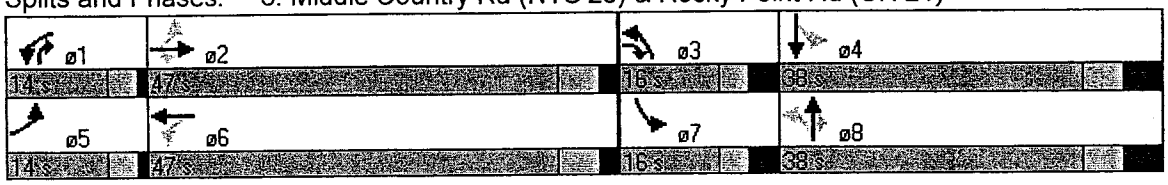


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	119	637	272	134	696	315	342	152	147	329
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	14.0	47.0	16.0	14.0	47.0	16.0	38.0	14.0	16.0	38.0
Total Split (%)	12.2%	40.9%	13.9%	12.2%	40.9%	13.9%	33.0%	12.2%	13.9%	33.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	52.1	43.7	59.7	53.9	44.7	46.6	34.6	47.9	45.4	34.0
Actuated g/C Ratio	0.45	0.38	0.52	0.47	0.39	0.41	0.30	0.42	0.39	0.30
v/c Ratio	0.59	1.10	0.35	0.74	0.67	1.42	0.64	0.23	0.49	1.00
Control Delay	28.2	91.6	4.5	44.5	32.0	237.7	41.2	6.4	25.3	79.2
Queue Delay	0.0	57.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	148.6	5.2	44.5	32.0	237.7	41.2	6.4	25.3	79.2
LOS	C	F	A	D	C	F	D	A	C	E
Approach Delay		96.7			33.8		111.3			65.1
Approach LOS		F			C		F			E

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 18 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 76.9 Intersection LOS: E
Intersection Capacity Utilization 94.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	820	103	74	809	15	87	0	77	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	932	117	81	889	16	90	0	79	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	905			1049			2107	2096	990	2088	2146	897
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	905			1088			2988	2967	983	2952	3058	897
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			77			0	100	53	0	100	92
cM capacity (veh/h)	751			357			4	6	168	2	5	338

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1068	81	905	90	79	14	28
Volume Left	19	81	0	90	0	14	0
Volume Right	117	0	16	0	79	0	28
cSH	751	357	1700	4	168	2	338
Volume to Capacity	0.02	0.23	0.53	25.26	0.47	6.41	0.08
Queue Length 95th (ft)	2	22	0	Err	56	Err	7
Control Delay (s)	0.8	18.0	0.0	Err	44.2	Err	16.6
Lane LOS	A	C		F	E	F	C
Approach Delay (s)	0.8	1.5		5325.1		3344.1	
Approach LOS				F		F	

Intersection Summary			
Average Delay	460.0		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	875	4	36	875	4	0	3	54	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1017	5	40	962	4	0	4	68	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.59			0.59	0.59	0.59	0.59	0.59	
vC, conflicting volume	966			1022			2159	2130	1020	2197	2130	964
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	966			1038			2971	2922	1034	3036	2922	964
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			90			100	51	59	0	82	90
cM capacity (veh/h)	713			394			4	8	166	2	8	310

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1055	1005	71	36
Volume Left	33	40	0	4
Volume Right	5	4	68	31
cSH	713	394	80	12
Volume to Capacity	0.05	0.10	0.89	2.99
Queue Length 95th (ft)	4	8	117	137
Control Delay (s)	1.5	4.0	162.7	1528.4
Lane LOS	A	A	F	F
Approach Delay (s)	1.5	4.0	162.7	1528.4
Approach LOS			F	F

Intersection Summary			
Average Delay	33.4		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	893	793	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	971	881	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	973				1967	927
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973				1967	927
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	82
cM capacity (veh/h)	708				66	325

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	971	973	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	708	1700	1700	95
Volume to Capacity	0.05	0.57	0.57	1.56
Queue Length 95th (ft)	4	0	0	287
Control Delay (s)	10.3	0.0	0.0	374.1
Lane LOS	B			F
Approach Delay (s)	0.4		0.0	374.1
Approach LOS				F

Intersection Summary			
Average Delay	26.2		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	261	1	0	1	157	407	0	0	337	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	322	2	0	2	169	438	0	0	370	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1148	1146	371	1146	1147	438	371			438		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1148	1146	371	1146	1147	438	371			438		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	52	98	100	100	86			100		
cM capacity (veh/h)	156	171	675	82	171	619	1187			1122		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	325	4	169	438	0	371
Volume Left	2	2	169	0	0	0
Volume Right	322	2	0	0	0	1
cSH	680	145	1187	1700	1700	1700
Volume to Capacity	0.48	0.03	0.14	0.26	0.00	0.22
Queue Length 95th (ft)	65	2	12	0	0	0
Control Delay (s)	15.2	30.5	8.5	0.0	0.0	0.0
Lane LOS	C	D	A			
Approach Delay (s)	15.2	30.5	2.4		0.0	
Approach LOS	C	D				

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	576	11	59	662
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	626	12	66	744
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1508	632			638	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1508	632			638	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	80			93	
cM capacity (veh/h)	123	480			946	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	638	66	744
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	394	1700	946	1700
Volume to Capacity	0.27	0.38	0.07	0.44
Queue Length 95th (ft)	26	0	6	0
Control Delay (s)	17.4	0.0	9.1	0.0
Lane LOS	C		A	
Approach Delay (s)	17.4	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	547	561	108	39	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	588	603	116	42	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	719				1252	661
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719				1252	661
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				78	100
cM capacity (veh/h)	882				190	462

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	589	719	42
Volume Left	1	0	42
Volume Right	0	116	0
cSH	882	1700	190
Volume to Capacity	0.00	0.42	0.22
Queue Length 95th (ft)	0	0	21
Control Delay (s)	0.0	0.0	29.3
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	29.3
Approach LOS			D

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	57	22	786	60	21	713
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	78	30	854	65	22	751
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.81	0.82			0.82	
vC, conflicting volume	1682	887			920	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1501	861			901	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	25	90			96	
cM capacity (veh/h)	104	289			615	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	108	920	22	751
Volume Left	78	0	22	0
Volume Right	30	65	0	0
cSH	127	1700	615	1700
Volume to Capacity	0.85	0.54	0.04	0.44
Queue Length 95th (ft)	133	0	3	0
Control Delay (s)	109.5	0.0	11.1	0.0
Lane LOS	F		B	
Approach Delay (s)	109.5	0.0	0.3	
Approach LOS	F			

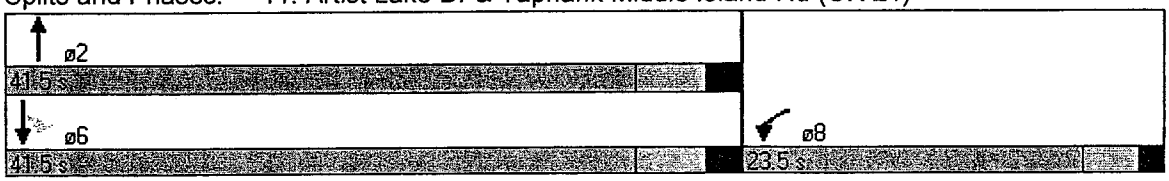
Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	758	27	100	672
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.51	0.02	0.35	0.43
Control Delay	30.0	0.1	4.4	0.0	6.4	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	4.4	0.0	6.4	2.7
LOS	C	A	A	A	A	A
Approach Delay	9.5		4.3			3.2
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 4.3 Intersection LOS: A
Intersection Capacity Utilization 69.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	785	0	0	712
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	853	0	0	749
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.85	0.82			0.82	
vC, conflicting volume	1603	853			853	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1623	822			822	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	96	308			664	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	853	749
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	664
Volume to Capacity	0.00	0.50	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

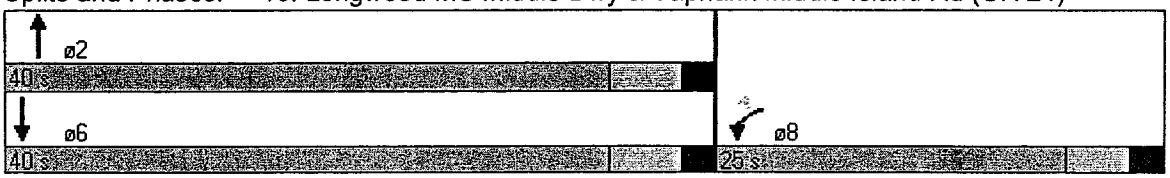
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	784	712
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.48	0.42
Control Delay	26.0	21.0	2.2	1.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	2.2	1.8
LOS	C	C	A	A
Approach Delay	25.4		2.2	1.8
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 2.2 Intersection LOS: A
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	784	4	2	716
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	852	4	2	754
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.87					
vC, conflicting volume	1612	854			857	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1703	854			857	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	87	358			784	

Direction, Lane #	NB 1	SB 1
Volume Total	857	756
Volume Left	0	2
Volume Right	4	0
cSH	1700	784
Volume to Capacity	0.50	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

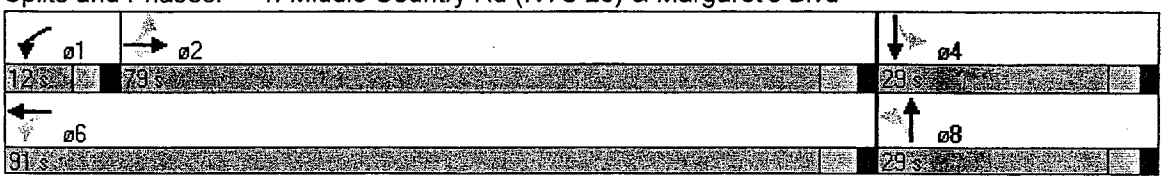
Build Condition Scenario 1 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	655	12	76	761	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	12.0	91.0	29.0	29.0	29.0	29.0
Total Split (%)	65.8%	65.8%	65.8%	10.0%	75.8%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	93.7	93.7	93.7	101.7	102.5	12.6	12.6		12.5
Actuated g/C Ratio	0.78	0.78	0.78	0.85	0.85	0.10	0.10		0.10
v/c Ratio	0.01	0.49	0.01	0.18	0.27	0.49	0.28		0.08
Control Delay	5.2	8.1	2.6	1.7	1.0	60.8	15.1		40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.2	8.1	2.6	1.7	1.0	60.8	15.1		40.7
LOS	A	A	A	A	A	E	B		D
Approach Delay		8.0			1.0		39.3		40.7
Approach LOS		A			A		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 56.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

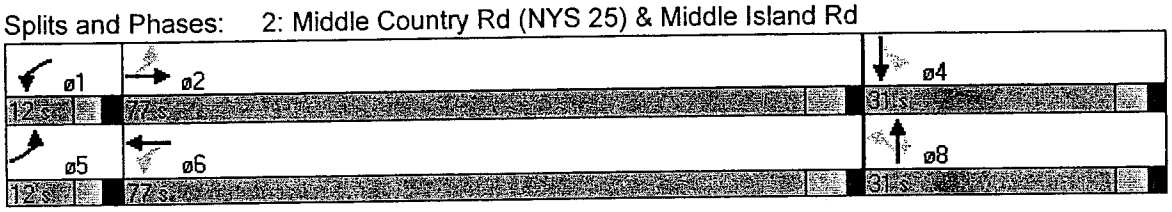


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	13	590	4	693	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	77.0	12.0	77.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	64.2%	10.0%	64.2%	25.8%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	102.6	101.2	101.6	99.0		8.7	8.7		8.7
Actuated g/C Ratio	0.86	0.84	0.85	0.82		0.07	0.07		0.07
v/c Ratio	0.03	0.38	0.01	0.26		0.04	0.07		0.54
Control Delay	1.4	2.4	0.5	1.6		51.0	27.2		18.1
Queue Delay	0.0	0.0	0.0	0.4		0.0	0.0		0.2
Total Delay	1.4	2.4	0.5	2.0		51.0	27.2		18.2
LOS	A	A	A	A		D	C		B
Approach Delay		2.3		2.0		33.2			18.2
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 3.8 Intersection LOS: A
Intersection Capacity Utilization 51.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

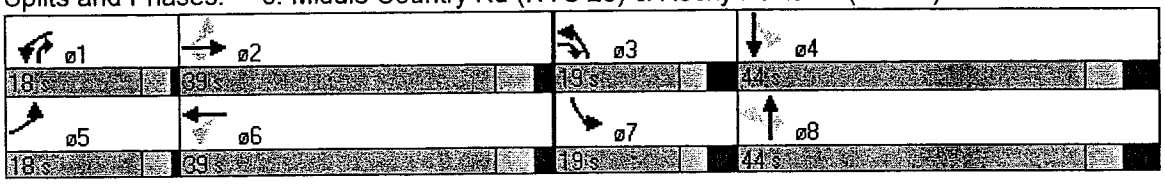


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	37	292	270	245	501	169	301	75	89	582
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	18.0	39.0	19.0	18.0	39.0	19.0	44.0	18.0	19.0	44.0
Total Split (%)	15.0%	32.5%	15.8%	15.0%	32.5%	15.8%	36.7%	15.0%	15.8%	36.7%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	42.1	35.4	54.3	53.0	44.1	58.7	45.0	62.6	50.0	40.1
Actuated g/C Ratio	0.35	0.30	0.45	0.44	0.37	0.49	0.38	0.52	0.42	0.33
v/c Ratio	0.19	0.63	0.39	0.72	0.50	0.86	0.59	0.13	0.31	1.24
Control Delay	30.1	49.6	13.7	34.8	31.6	57.6	34.8	3.3	19.3	159.3
Queue Delay	0.0	2.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	52.0	14.3	34.8	31.6	57.6	34.8	3.3	19.3	159.3
LOS	C	D	B	C	C	E	C	A	B	F
Approach Delay		33.7			32.6		37.5			141.4
Approach LOS		C			C		D			F

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 62.5 Intersection LOS: E
Intersection Capacity Utilization 84.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	382	65	22	763	6	27	0	16	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	429	73	26	898	7	34	0	20	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.82			0.82	0.82	0.82	0.82	0.82	
vC, conflicting volume	905			502			1439	1442	466	1439	1475	901
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	905			390			1539	1542	345	1538	1583	901
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			54	100	96	100	100	99
cM capacity (veh/h)	752			953			74	90	569	72	85	337

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	512	26	905	34	20	0	4
Volume Left	10	26	0	34	0	0	0
Volume Right	73	0	7	0	20	0	4
cSH	752	953	1700	74	569	1700	337
Volume to Capacity	0.01	0.03	0.53	0.46	0.04	0.00	0.01
Queue Length 95th (ft)	1	2	0	47	3	0	1
Control Delay (s)	0.4	8.9	0.0	90.5	11.6	0.0	15.8
Lane LOS	A	A		F	B	A	C
Approach Delay (s)	0.4	0.2		61.1		15.8	
Approach LOS				F		C	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	384	6	16	735	4	15	1	27	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	427	7	19	865	5	31	2	56	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	869			433			1374	1344	430	1399	1345	867
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	869			361			1422	1388	357	1449	1389	867
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			65	98	91	85	100	91
cM capacity (veh/h)	775			1062			90	124	609	85	124	352

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	437	888	90	45
Volume Left	3	19	31	13
Volume Right	7	5	56	33
cSH	775	1062	196	187
Volume to Capacity	0.00	0.02	0.46	0.24
Queue Length 95th (ft)	0	1	54	23
Control Delay (s)	0.1	0.5	37.9	30.2
Lane LOS	A	A	E	D
Approach Delay (s)	0.1	0.5	37.9	30.2
Approach LOS			E	D

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	525	643	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	640	765	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	831				1470	798
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	831				1470	798
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	83
cM capacity (veh/h)	801				137	386

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	640	831	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	801	1700	1700	170
Volume to Capacity	0.02	0.38	0.49	1.35
Queue Length 95th (ft)	2	0	0	342
Control Delay (s)	9.6	0.0	0.0	242.6
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	242.6
Approach LOS				F

Intersection Summary			
Average Delay	32.4		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	345	9	2	1	194	218	2	0	406	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	448	16	4	2	220	248	2	0	478	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1170	1169	478	1168	1167	249	478			250		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1170	1169	478	1168	1167	249	478			250		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	24	52	98	100	80			100		
cM capacity (veh/h)	140	154	588	34	154	790	1085			1316		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	452	22	220	250	0	478
Volume Left	3	16	220	0	0	0
Volume Right	448	2	0	2	0	0
cSH	593	43	1085	1700	1700	1700
Volume to Capacity	0.76	0.51	0.20	0.15	0.00	0.28
Queue Length 95th (ft)	173	46	19	0	0	0
Control Delay (s)	28.1	155.5	9.2	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	28.1	155.5	4.3		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	24	21	0	11	5	366	12	6	655	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	26	23	0	12	5	398	13	7	712	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1152	1147	712	1166	1140	404	712			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1181	1175	712	1198	1167	291	712			298		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	94	82	100	98	99			99		
cM capacity (veh/h)	136	159	432	127	161	629	888			1060		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	26	23	12	416	718
Volume Left	2	0	23	0	5	7
Volume Right	0	26	0	12	13	0
cSH	136	432	127	629	888	1060
Volume to Capacity	0.02	0.06	0.18	0.02	0.01	0.01
Queue Length 95th (ft)	1	5	16	1	0	0
Control Delay (s)	31.9	13.9	39.5	10.8	0.2	0.2
Lane LOS	D	B	E	B	A	A
Approach Delay (s)	15.2		29.6		0.2	0.2
Approach LOS	C		D			

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	4	13	2	1	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	4	14	2	1	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			988			
pX, platoon unblocked						
vC, conflicting volume	108	15			16	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108	15			16	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	889	1064			1601	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	15	16	91
Volume Left	11	0	1
Volume Right	4	2	0
cSH	933	1700	1601
Volume to Capacity	0.02	0.01	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.9	0.0	0.1
Lane LOS	A		A
Approach Delay (s)	8.9	0.0	0.1
Approach LOS	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

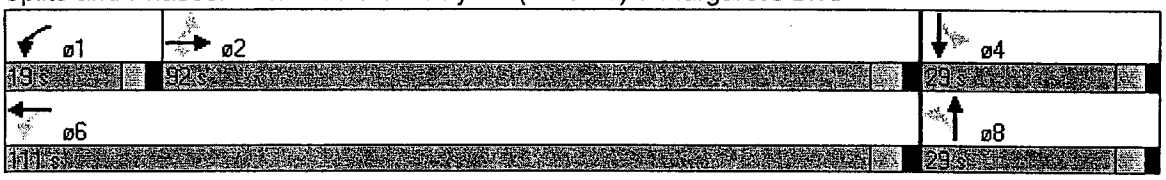
Build Condition Scenario 1 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	970	17	184	841	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	19.0	111.0	29.0	29.0	29.0	29.0
Total Split (%)	65.7%	65.7%	65.7%	13.6%	79.3%	20.7%	20.7%	20.7%	20.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	92.2	92.2	92.2	112.9	112.9	19.1	19.1		19.1
Actuated g/C Ratio	0.66	0.66	0.66	0.81	0.81	0.14	0.14		0.14
v/c Ratio	0.02	0.93	0.02	0.80	0.32	0.68	0.41		0.12
Control Delay	10.0	36.9	6.1	58.6	2.9	73.9	3.6		28.9
Queue Delay	0.0	4.3	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.0	41.2	6.1	58.6	2.9	73.9	3.6		28.9
LOS	A	D	A	E	A	E	A		C
Approach Delay		40.4			12.9		34.6		28.9
Approach LOS		D			B		C		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 84.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

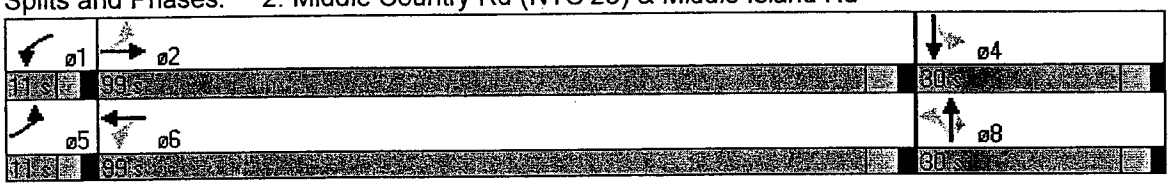


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	33	1068	46	870	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	11.0	99.0	11.0	99.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	7.9%	70.7%	7.9%	70.7%	21.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	113.7	108.5	116.2	109.7		13.8	13.8		13.8
Actuated g/C Ratio	0.81	0.78	0.83	0.78		0.10	0.10		0.10
v/c Ratio	0.09	0.77	0.34	0.36		0.53	0.25		0.43
Control Delay	0.6	5.0	26.8	2.8		77.3	16.8		18.2
Queue Delay	0.0	1.6	0.0	0.2		0.0	0.1		0.3
Total Delay	0.6	6.6	26.8	3.0		77.3	17.0		18.5
LOS	A	A	C	A		E	B		B
Approach Delay		6.4		4.1		47.7			18.5
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 35 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

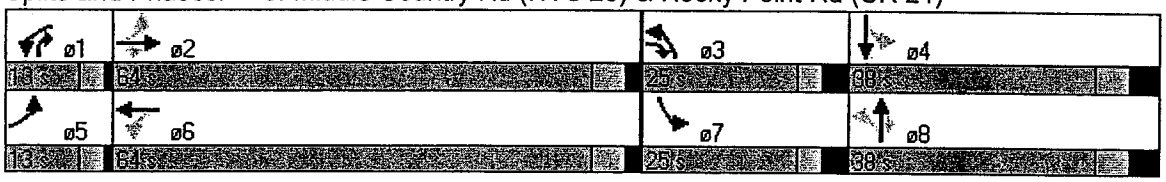


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	97	703	301	110	566	288	545	254	141	333
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	13.0	64.0	25.0	13.0	64.0	25.0	38.0	13.0	25.0	38.0
Total Split (%)	9.3%	45.7%	17.9%	9.3%	45.7%	17.9%	27.1%	9.3%	17.9%	27.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	67.7	60.4	85.4	70.3	61.7	58.6	40.9	53.5	48.1	34.0
Actuated g/C Ratio	0.48	0.43	0.61	0.50	0.44	0.42	0.29	0.38	0.34	0.24
v/c Ratio	0.38	1.07	0.34	0.77	0.48	1.03	1.08	0.41	0.63	1.14
Control Delay	20.1	77.4	2.5	56.8	28.8	96.9	107.3	15.8	39.7	134.9
Queue Delay	0.0	81.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	158.3	3.6	56.8	28.8	96.9	107.3	15.8	39.7	134.9
LOS	C	F	A	E	C	F	F	B	D	F
Approach Delay		103.9			32.9		83.2			111.0
Approach LOS		F			C		F			F

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 32 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 83.6 Intersection LOS: F
Intersection Capacity Utilization 95.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	933	128	52	684	45	59	0	62	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	1025	141	61	805	53	83	0	87	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.51			0.51	0.51	0.51	0.51	0.51	
vC, conflicting volume	858			1166			2117	2157	1096	2130	2201	831
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858			1326			3198	3276	1188	3224	3362	831
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			77			0	100	25	0	100	96
cM capacity (veh/h)	783			265			2	3	117	1	3	369

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1207	61	858	83	87	5	13
Volume Left	41	61	0	83	0	5	0
Volume Right	141	0	53	0	87	0	13
cSH	783	265	1700	2	117	1	369
Volume to Capacity	0.05	0.23	0.50	35.76	0.75	9.12	0.04
Queue Length 95th (ft)	4	22	0	Err	105	Err	3
Control Delay (s)	1.9	22.6	0.0	Err	96.1	Err	15.1
Lane LOS	A	C		F	F	F	C
Approach Delay (s)	1.9	1.5		4924.8		2867.6	
Approach LOS				F		F	

Intersection Summary			
Average Delay	387.1		
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	936	6	18	699	10	34	0	48	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	1017	7	21	832	12	37	0	53	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		816										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	844			1024			1977	1949	1021	1996	1946	838
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844			1043			2743	2693	1037	2776	2688	838
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			0	100	67	100	86	91
cM capacity (veh/h)	792			374			6	11	157	4	11	366

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1045	865	90	35
Volume Left	21	21	37	0
Volume Right	7	12	53	33
cSH	792	374	13	154
Volume to Capacity	0.03	0.06	7.05	0.23
Queue Length 95th (ft)	2	5	Err	21
Control Delay (s)	0.8	2.1	Err	35.1
Lane LOS	A	A	F	E
Approach Delay (s)	0.8	2.1	Err	35.1
Approach LOS			F	E

Intersection Summary			
Average Delay	444.7		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	831	799	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	839	918	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1083				1939	1001
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1083				1939	1001
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	85
cM capacity (veh/h)	644				66	295

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	839	1083	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	644	1700	1700	85
Volume to Capacity	0.08	0.49	0.64	1.88
Queue Length 95th (ft)	6	0	0	343
Control Delay (s)	11.1	0.0	0.0	521.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	521.1
Approach LOS				F

Intersection Summary			
Average Delay	39.3		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	234	2	0	0	349	556	4	2	366	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	266	4	0	0	367	585	4	2	377	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1702	1706	378	1705	1705	587	378			589		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1702	1706	378	1705	1705	587	378			589		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	60	88	100	100	69			100		
cM capacity (veh/h)	55	63	669	32	63	509	1180			986		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	268	4	367	589	2	378
Volume Left	0	4	367	0	2	0
Volume Right	266	0	0	4	0	1
cSH	675	32	1180	1700	986	1700
Volume to Capacity	0.40	0.12	0.31	0.35	0.00	0.22
Queue Length 95th (ft)	48	10	33	0	0	0
Control Delay (s)	14.3	132.6	9.4	0.0	8.7	0.0
Lane LOS	B	F	A		A	
Approach Delay (s)	14.3	132.6	3.6		0.0	
Approach LOS	B	F				

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	18	1069	30	12	732
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	33	30	1320	37	14	832
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.32	0.19			0.19	
vC, conflicting volume	2197	1338			1357	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3502	2752			2848	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			47	
cM capacity (veh/h)	1	5			26	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	62	1357	14	832
Volume Left	33	0	14	0
Volume Right	30	37	0	0
cSH	2	1700	26	1700
Volume to Capacity	37.01	0.80	0.53	0.49
Queue Length 95th (ft)	Err	0	41	0
Control Delay (s)	Err	0.0	253.1	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	4.1	
Approach LOS	F			

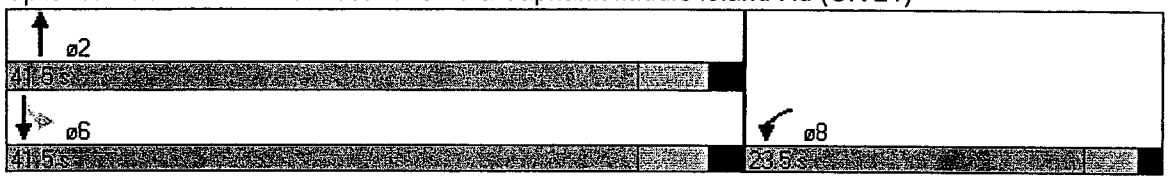
Intersection Summary			
Average Delay	276.6		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	1017	71	108	644
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.64	0.04	0.68	0.45
Control Delay	29.2	0.1	3.9	0.0	28.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	3.9	0.0	28.1	2.0
LOS	C	A	A	A	C	A
Approach Delay	5.9		3.6			5.7
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1082	1	2	663
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1163	1	2	789
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.27	0.24			0.24	
vC, conflicting volume	1958	1164			1165	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4239	1697			1699	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	65			97	
cM capacity (veh/h)	1	27			88	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1165	792
Volume Left	0	0	2
Volume Right	10	1	0
cSH	27	1700	88
Volume to Capacity	0.35	0.69	0.03
Queue Length 95th (ft)	27	0	2
Control Delay (s)	199.3	0.0	2.5
Lane LOS	F		A
Approach Delay (s)	199.3	0.0	2.5
Approach LOS	F		

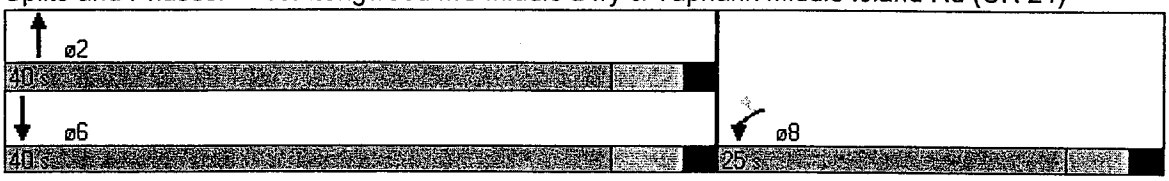
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	1043	663
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.0	8.0	55.0	55.0
Actuated g/C Ratio	0.12	0.12	0.85	0.85
v/c Ratio	0.13	0.25	0.70	0.50
Control Delay	26.2	10.0	7.9	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.2	10.0	7.9	4.2
LOS	C	B	A	A
Approach Delay	15.1		7.9	4.2
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1043	86	119	562
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1146	95	140	661
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.83					
vC, conflicting volume	2135	1193			1241	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2374	1193			1241	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			75	
cM capacity (veh/h)	24	228			561	

Direction, Lane #	NB 1	SB 1
Volume Total	1241	801
Volume Left	0	140
Volume Right	95	0
cSH	1700	561
Volume to Capacity	0.73	0.25
Queue Length 95th (ft)	0	24
Control Delay (s)	0.0	6.9
Lane LOS		A
Approach Delay (s)	0.0	6.9
Approach LOS		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	945	737	19	16	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	1027	801	21	17	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		660				
pX, platoon unblocked					0.54	
vC, conflicting volume	822				1952	811
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	822				2767	811
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				0	87
cM capacity (veh/h)	808				11	379

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1084	822	65
Volume Left	57	0	17
Volume Right	0	21	48
cSH	808	1700	37
Volume to Capacity	0.07	0.48	1.75
Queue Length 95th (ft)	6	0	175
Control Delay (s)	2.2	0.0	595.0
Lane LOS	A		F
Approach Delay (s)	2.2	0.0	595.0
Approach LOS			F

Intersection Summary			
Average Delay	20.9		
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	0	11	33	0	17	22	653	39	20	515	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	12	36	0	18	24	710	42	22	560	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.69	0.69		0.69	0.69	0.69				0.69		
vC, conflicting volume	1402	1404	561	1395	1384	731	562			752		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1578	1582	561	1569	1553	613	562			643		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	39	100	95	98			97		
cM capacity (veh/h)	56	71	527	58	74	342	1009			654		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	12	36	18	776	584
Volume Left	1	0	36	0	24	22
Volume Right	0	12	0	18	42	2
cSH	56	527	58	342	1009	654
Volume to Capacity	0.02	0.02	0.61	0.05	0.02	0.03
Queue Length 95th (ft)	1	2	63	4	2	3
Control Delay (s)	71.0	12.0	136.8	16.1	0.6	0.9
Lane LOS	F	B	F	C	A	A
Approach Delay (s)	16.9		95.8		0.6	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	2	47	9	4	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	51	10	4	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			988			
pX, platoon unblocked						
vC, conflicting volume	135	56			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	135	56			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	856	1011			1542	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	61	75
Volume Left	5	0	4
Volume Right	2	10	0
cSH	895	1700	1542
Volume to Capacity	0.01	0.04	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.1	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.1	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

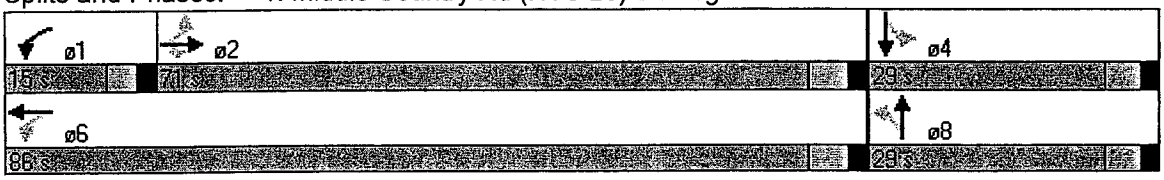
Build Condition Scenario 1 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	916	17	298	813	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	71.0	71.0	71.0	15.0	86.0	29.0	29.0	29.0	29.0
Total Split (%)	61.7%	61.7%	61.7%	13.0%	74.8%	25.2%	25.2%	25.2%	25.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	86.8	86.8	20.2	20.2		20.2
Actuated g/C Ratio	0.58	0.58	0.58	0.75	0.75	0.18	0.18		0.18
v/c Ratio	0.02	0.92	0.02	1.04	0.33	0.57	0.89		0.15
Control Delay	10.5	36.7	5.8	97.2	4.6	51.8	39.5		28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.5	36.7	5.8	97.2	4.6	51.8	39.5		28.6
LOS	B	D	A	F	A	D	D		C
Approach Delay		36.0			29.2		42.5		28.6
Approach LOS		D			C		D		C

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 7 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 34.4 Intersection LOS: C
Intersection Capacity Utilization 98.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

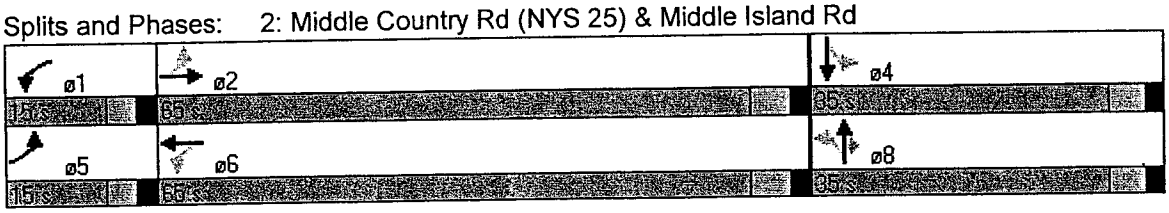


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	37	1045	30	1116	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	15.0	65.0	15.0	65.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	56.5%	13.0%	56.5%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	92.2	87.9	92.0	87.9		12.5	12.5		12.5
Actuated g/C Ratio	0.80	0.76	0.80	0.76		0.11	0.11		0.11
v/c Ratio	0.14	0.73	0.18	0.44		0.49	0.23		0.47
Control Delay	2.5	6.5	3.1	2.3		59.7	14.9		14.2
Queue Delay	0.0	1.0	0.0	0.6		0.0	0.4		1.0
Total Delay	2.5	7.5	3.1	2.9		59.7	15.3		15.2
LOS	A	A	A	A		E	B		B
Approach Delay		7.4		2.9		40.8			15.2
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 7.2 Intersection LOS: A
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

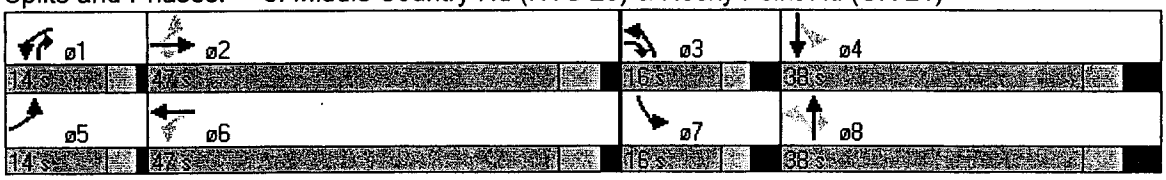


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	139	678	272	156	733	315	388	176	152	370
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	14.0	47.0	16.0	14.0	47.0	16.0	38.0	14.0	16.0	38.0
Total Split (%)	12.2%	40.9%	13.9%	12.2%	40.9%	13.9%	33.0%	12.2%	13.9%	33.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	52.1	43.2	59.2	53.9	44.1	46.6	34.6	48.3	45.4	34.0
Actuated g/C Ratio	0.45	0.38	0.51	0.47	0.38	0.41	0.30	0.42	0.39	0.30
v/c Ratio	0.71	1.18	0.36	0.84	0.71	1.42	0.73	0.27	0.57	1.14
Control Delay	37.8	123.5	6.8	56.6	33.6	238.2	45.1	10.3	27.7	122.6
Queue Delay	0.0	62.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	185.6	7.6	56.6	33.6	238.2	45.1	10.3	27.7	122.6
LOS	D	F	A	E	C	F	D	B	C	F
Approach Delay		122.3			37.3		107.5			99.6
Approach LOS		F			D		F			F

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 18 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 91.3 Intersection LOS: F
Intersection Capacity Utilization 100.8% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	890	103	74	873	15	87	0	77	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	1011	117	81	959	16	90	0	79	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	976			1128			2257	2246	1070	2238	2296	968
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976			1230			3251	3231	1125	3216	3321	968
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			74			0	100	43	0	100	91
cM capacity (veh/h)	707			316			2	4	139	1	3	308

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1147	81	976	90	79	14	28
Volume Left	19	81	0	90	0	14	0
Volume Right	117	0	16	0	79	0	28
cSH	707	316	1700	2	139	1	308
Volume to Capacity	0.03	0.26	0.57	41.02	0.57	12.65	0.09
Queue Length 95th (ft)	2	25	0	Err	72	Err	7
Control Delay (s)	1.0	20.3	0.0	Err	60.5	Err	17.8
Lane LOS	A	C		F	F	F	C
Approach Delay (s)	1.0	1.6		5332.7		3344.9	
Approach LOS				F		F	

Intersection Summary			
Average Delay	432.2		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	902	4	36	904	4	0	3	54	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1049	5	40	993	4	0	4	68	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.60			0.60	0.60	0.60	0.60	0.60	
vC, conflicting volume	998			1053			2222	2193	1051	2260	2193	996
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	998			1089			3026	2978	1085	3089	2978	996
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			90			100	48	58	0	81	90
cM capacity (veh/h)	694			387			3	7	159	1	7	297

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1086	1037	71	36
Volume Left	33	40	0	4
Volume Right	5	4	68	31
cSH	694	387	76	11
Volume to Capacity	0.05	0.10	0.94	3.42
Queue Length 95th (ft)	4	8	123	Err
Control Delay (s)	1.6	4.2	182.1	Err
Lane LOS	A	A	F	F
Approach Delay (s)	1.6	4.2	182.1	Err
Approach LOS			F	F

Intersection Summary			
Average Delay	170.4		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	920	822	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	1000	913	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1006				2029	959
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1006				2029	959
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	81
cM capacity (veh/h)	689				60	311

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	1000	1006	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	689	1700	1700	87
Volume to Capacity	0.05	0.59	0.59	1.70
Queue Length 95th (ft)	4	0	0	304
Control Delay (s)	10.5	0.0	0.0	439.6
Lane LOS	B			F
Approach Delay (s)	0.4		0.0	439.6
Approach LOS				F

Intersection Summary			
Average Delay	29.9		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	282	1	0	1	175	416	0	0	347	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	348	2	0	2	188	447	0	0	381	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1208	1206	382	1205	1206	447	382			447		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1208	1206	382	1205	1206	447	382			447		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	48	97	100	100	84			100		
cM capacity (veh/h)	140	154	665	67	154	611	1176			1113		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	351	4	188	447	0	382
Volume Left	2	2	188	0	0	0
Volume Right	348	2	0	0	0	1
cSH	670	121	1176	1700	1700	1700
Volume to Capacity	0.52	0.03	0.16	0.26	0.00	0.22
Queue Length 95th (ft)	76	3	14	0	0	0
Control Delay (s)	16.3	35.7	8.6	0.0	0.0	0.0
Lane LOS	C	E	A			
Approach Delay (s)	16.3	35.7	2.6		0.0	
Approach LOS	C	E				

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

8: Bailey Rd & Rocky Point Rd (CR 21)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	603	11	59	693
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	655	12	66	779
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1573	661			667	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1573	661			667	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	79			93	
cM capacity (veh/h)	113	462			922	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	667	66	779
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	374	1700	922	1700
Volume to Capacity	0.28	0.39	0.07	0.46
Queue Length 95th (ft)	28	0	6	0
Control Delay (s)	18.3	0.0	9.2	0.0
Lane LOS	C		A	
Approach Delay (s)	18.3	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	571	588	112	42	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	614	632	120	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753				1309	692
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753				1309	692
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				74	100
cM capacity (veh/h)	857				176	444

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	615	753	46
Volume Left	1	0	46
Volume Right	0	120	0
cSH	857	1700	176
Volume to Capacity	0.00	0.44	0.26
Queue Length 95th (ft)	0	0	25
Control Delay (s)	0.0	0.0	32.6
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	32.6
Approach LOS			D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	57	22	856	60	21	776
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	78	30	930	65	22	817
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.81	0.76			0.76	
vC, conflicting volume	1824	963			996	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1575	951			994	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	16	87			96	
cM capacity (veh/h)	93	239			528	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	108	996	22	817
Volume Left	78	0	22	0
Volume Right	30	65	0	0
cSH	112	1700	528	1700
Volume to Capacity	0.96	0.59	0.04	0.48
Queue Length 95th (ft)	153	0	3	0
Control Delay (s)	146.9	0.0	12.1	0.0
Lane LOS	F		B	
Approach Delay (s)	146.9	0.0	0.3	
Approach LOS	F			

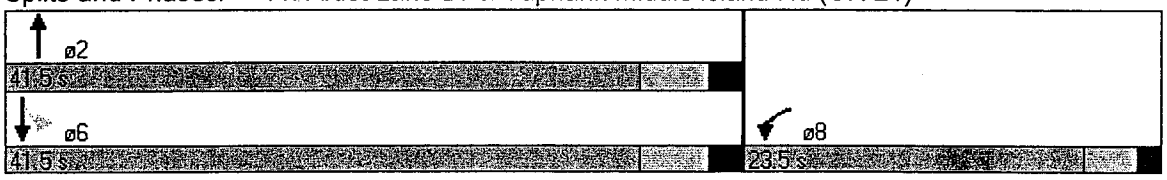
Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	828	27	100	735
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.55	0.02	0.49	0.47
Control Delay	30.0	0.1	4.9	0.0	15.3	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	4.9	0.0	15.3	3.0
LOS	C	A	A	A	B	A
Approach Delay	9.5		4.7			4.5
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 5.0 Intersection LOS: A
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	855	0	0	775
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	929	0	0	816
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.83	0.78			0.78	
vC, conflicting volume	1745	929			929	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1711	909			909	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	82	258			581	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	929	816
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	581
Volume to Capacity	0.00	0.55	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

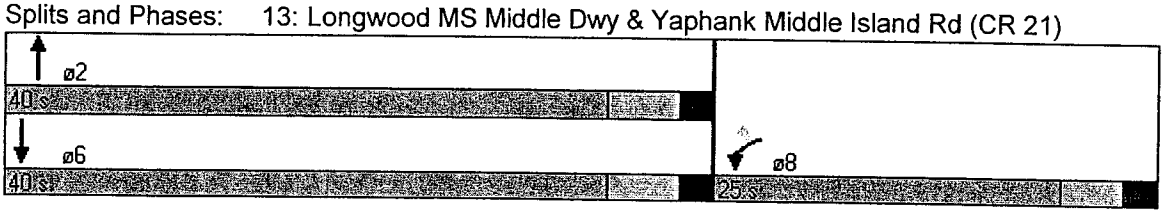
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	854	775
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.52	0.46
Control Delay	26.0	21.0	2.6	2.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	2.6	2.0
LOS	C	C	A	A
Approach Delay	25.4		2.6	2.0
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 2.4 Intersection LOS: A
Intersection Capacity Utilization 55.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



14: Longwood MS South Dwy & Yaphank Middle Island Rd (CR 21)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	854	4	2	779
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	928	4	2	820
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.85					
vC, conflicting volume	1755	930			933	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1891	930			933	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	65	324			734	

Direction, Lane #	NB 1	SB 1
Volume Total	933	822
Volume Left	0	2
Volume Right	4	0
cSH	1700	734
Volume to Capacity	0.55	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	65	912	903	24	22	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	991	982	26	24	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		662				
pX, platoon unblocked					0.58	
vC, conflicting volume	1008				2127	995
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008				2947	995
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				0	78
cM capacity (veh/h)	688				8	297

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1062	1008	88
Volume Left	71	0	24
Volume Right	0	26	64
cSH	688	1700	29
Volume to Capacity	0.10	0.59	3.04
Queue Length 95th (ft)	9	0	Err
Control Delay (s)	3.2	0.0	Err
Lane LOS	A		F
Approach Delay (s)	3.2	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	409.6		
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	19	45	0	22	22	548	49	25	561	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	21	49	0	24	24	596	53	27	610	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.75	0.75		0.75	0.75	0.75				0.75		
vC, conflicting volume	1359	1362	611	1356	1336	622	612			649		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1476	1479	611	1472	1446	500	612			535		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	96	33	100	94	98			97		
cM capacity (veh/h)	71	89	494	73	94	431	967			780		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	21	49	24	673	639
Volume Left	2	0	49	0	24	27
Volume Right	0	21	0	24	53	2
cSH	71	494	73	431	967	780
Volume to Capacity	0.03	0.04	0.67	0.06	0.02	0.03
Queue Length 95th (ft)	2	3	76	4	2	3
Control Delay (s)	57.3	12.6	124.1	13.8	0.7	0.9
Lane LOS	F	B	F	B	A	A
Approach Delay (s)	16.9		87.9		0.7	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	8	3	34	9	4	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	3	37	10	4	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			957			
pX, platoon unblocked						
vC, conflicting volume	184	42			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	184	42			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	803	1029			1561	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	12	47	138
Volume Left	9	0	4
Volume Right	3	10	0
cSH	854	1700	1561
Volume to Capacity	0.01	0.03	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.3	0.0	0.3
Lane LOS	A		A
Approach Delay (s)	9.3	0.0	0.3
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	19.7%	ICU Level of Service	A
Analysis Period (min)	15		

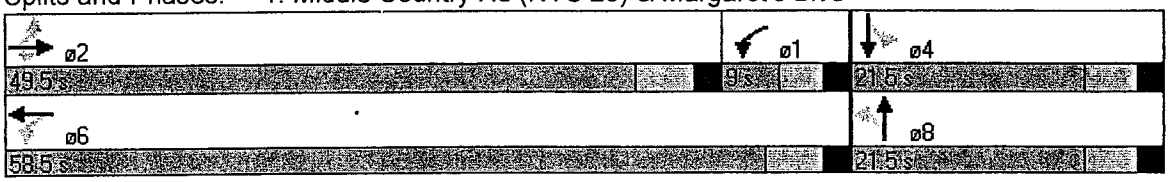
Build Condition with Mitigation Scenario 1 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	655	12	76	761	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	49.5	49.5	49.5	9.0	58.5	21.5	21.5	21.5	21.5
Total Split (%)	61.9%	61.9%	61.9%	11.3%	73.1%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	57.0	57.0	57.0	63.4	64.2	10.8	10.8		10.8
Actuated g/C Ratio	0.71	0.71	0.71	0.79	0.80	0.14	0.14		0.14
v/c Ratio	0.01	0.53	0.01	0.18	0.29	0.38	0.24		0.06
Control Delay	6.0	9.7	3.3	2.5	1.6	36.5	10.8		25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	6.0	9.7	3.3	2.5	1.6	36.5	10.8		25.5
LOS	A	A	A	A	A	D	B		C
Approach Delay		9.6			1.7		24.4		25.5
Approach LOS		A			A		C		C

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 52 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 56.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

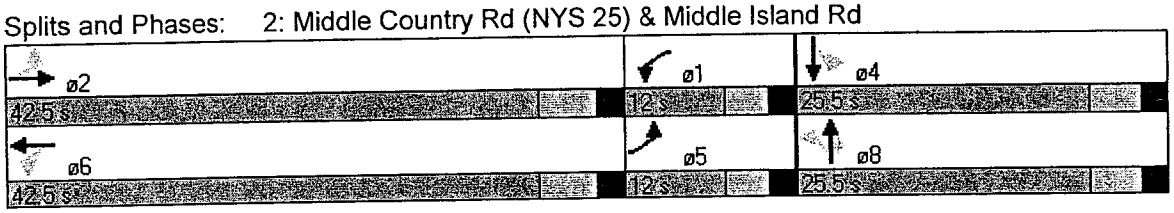


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	13	590	4	693	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	42.5	12.0	42.5	25.5	25.5	25.5	25.5	25.5
Total Split (%)	15.0%	53.1%	15.0%	53.1%	31.9%	31.9%	31.9%	31.9%	31.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	69.0	64.6	69.0	64.6		8.3	8.3		8.3
Actuated g/C Ratio	0.86	0.81	0.86	0.81		0.10	0.10		0.10
v/c Ratio	0.03	0.39	0.01	0.26		0.02	0.05		0.44
Control Delay	0.5	1.4	0.5	0.9		31.0	18.2		12.1
Queue Delay	0.0	0.0	0.0	0.1		0.0	0.0		0.0
Total Delay	0.5	1.4	0.5	1.0		31.0	18.2		12.1
LOS	A	A	A	A		C	B		B
Approach Delay		1.4		1.0		21.4			12.1
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 74 (93%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 2.3 Intersection LOS: A
Intersection Capacity Utilization 51.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

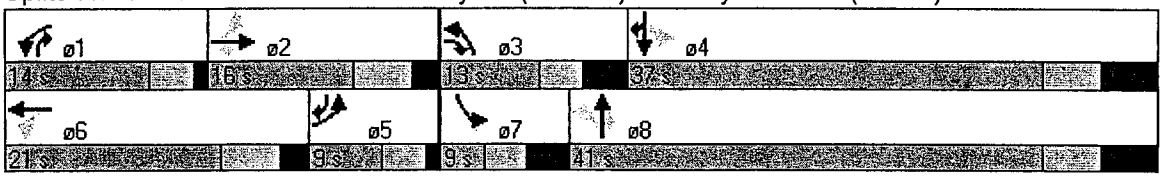


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	37	292	270	245	501	169	301	75	89	582	29
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pt+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	4 5
Permitted Phases	2		2	6		8		8	4		
Detector Phases	5	2	3	1	6	3	8	1	7	4	4 5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	
Total Split (s)	9.0	16.0	13.0	14.0	21.0	13.0	41.0	14.0	9.0	37.0	46.0
Total Split (%)	11.3%	20.0%	16.3%	17.5%	26.3%	16.3%	51.3%	17.5%	11.3%	46.3%	57.5%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	
Act Effct Green (s)	12.0	12.0	25.0	20.6	20.6	46.0	38.8	52.8	38.0	33.0	38.0
Actuated g/C Ratio	0.15	0.15	0.31	0.26	0.26	0.58	0.48	0.66	0.48	0.41	0.48
v/c Ratio	0.22	0.65	0.53	0.81	0.71	0.85	0.46	0.10	0.21	0.96	0.04
Control Delay	28.0	33.2	8.6	48.9	33.6	44.8	16.4	1.5	9.2	49.3	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	33.2	8.6	48.9	33.6	44.8	16.4	1.5	9.2	49.3	3.1
LOS	C	C	A	D	C	D	B	A	A	D	A
Approach Delay		21.8			38.4		23.2			42.3	
Approach LOS		C			D		C			D	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 32.3 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	382	65	22	763	6	27	0	16	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	429	73	26	898	7	34	0	20	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.88			0.88	0.88	0.88	0.88	0.88	
vC, conflicting volume	905			502			1403	1406	429	1402	1475	901
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	905			436			1457	1460	353	1456	1539	901
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			62	100	97	100	100	99
cM capacity (veh/h)	752			992			91	109	609	89	98	337

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	439	73	26	905	34	20	0	4
Volume Left	10	0	26	0	34	0	0	0
Volume Right	0	73	0	7	0	20	0	4
cSH	752	1700	992	1700	91	609	1700	337
Volume to Capacity	0.01	0.04	0.03	0.53	0.38	0.03	0.00	0.01
Queue Length 95th (ft)	1	0	2	0	37	3	0	1
Control Delay (s)	0.4	0.0	8.7	0.0	66.6	11.1	0.0	15.8
Lane LOS	A		A		F	B	A	C
Approach Delay (s)	0.3		0.2		46.0		15.8	
Approach LOS					E		C	

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	384	6	16	735	4	15	1	27	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	427	7	19	865	5	31	2	56	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	869			433			1374	1344	430	1399	1345	867
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	869			364			1420	1386	360	1447	1387	867
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			66	98	91	85	100	91
cM capacity (veh/h)	775			1064			91	125	610	86	125	352

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	437	888	90	45
Volume Left	3	19	31	13
Volume Right	7	5	56	33
cSH	775	1064	198	188
Volume to Capacity	0.00	0.02	0.45	0.24
Queue Length 95th (ft)	0	1	54	23
Control Delay (s)	0.1	0.5	37.5	30.1
Lane LOS	A	A	E	D
Approach Delay (s)	0.1	0.5	37.5	30.1
Approach LOS			E	D

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	525	643	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	640	765	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	831				1470	798
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	831				1470	798
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	83
cM capacity (veh/h)	801				137	386

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	640	831	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	801	1700	1700	170
Volume to Capacity	0.02	0.38	0.49	1.35
Queue Length 95th (ft)	2	0	0	342
Control Delay (s)	9.6	0.0	0.0	242.6
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	242.6
Approach LOS				F

Intersection Summary			
Average Delay	32.4		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	345	9	2	1	194	218	2	0	406	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	448	16	4	2	220	248	2	0	478	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1170	1169	478	1168	1167	249	478			250		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1170	1169	478	1168	1167	249	478			250		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	24	52	98	100	80			100		
cM capacity (veh/h)	140	154	588	34	154	790	1085			1316		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	452	22	220	250	0	478
Volume Left	3	16	220	0	0	0
Volume Right	448	2	0	2	0	0
cSH	593	43	1085	1700	1700	1700
Volume to Capacity	0.76	0.51	0.20	0.15	0.00	0.28
Queue Length 95th (ft)	173	46	19	0	0	0
Control Delay (s)	28.1	155.5	9.2	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	28.1	155.5	4.3		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

8: Bailey Rd & Rocky Point Rd (CR 21)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	381	14	136	699
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	419	15	164	842
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1596	426			434	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1596	426			434	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	42	72			85	
cM capacity (veh/h)	100	628			1126	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	434	164	842
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	272	1700	1126	1700
Volume to Capacity	0.87	0.26	0.15	0.50
Queue Length 95th (ft)	184	0	13	0
Control Delay (s)	65.8	0.0	8.7	0.0
Lane LOS	F		A	
Approach Delay (s)	65.8	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	10.1		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	379	659	78	16	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	436	709	84	25	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	792				1186	751
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792				1186	751
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	99
cM capacity (veh/h)	828				208	411

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	436	792	28
Volume Left	0	0	25
Volume Right	0	84	3
cSH	828	1700	221
Volume to Capacity	0.00	0.47	0.13
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.0	23.7
Lane LOS			C
Approach Delay (s)	0.0	0.0	23.7
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

10: Shopping Center Dwy & Yaphank Middle Island Rd (CR 21)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	14	531	45	19	1078
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	65	21	625	53	23	1283
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.53	0.89			0.89	
vC, conflicting volume	1980	651			678	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2525	607			636	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	95			97	
cM capacity (veh/h)	16	440			840	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	85	678	23	1283
Volume Left	65	0	23	0
Volume Right	21	53	0	0
cSH	21	1700	840	1700
Volume to Capacity	4.15	0.40	0.03	0.75
Queue Length 95th (ft)	Err	0	2	0
Control Delay (s)	Err	0.0	9.4	0.0
Lane LOS	F		A	
Approach Delay (s)	Err	0.0	0.2	
Approach LOS	F			

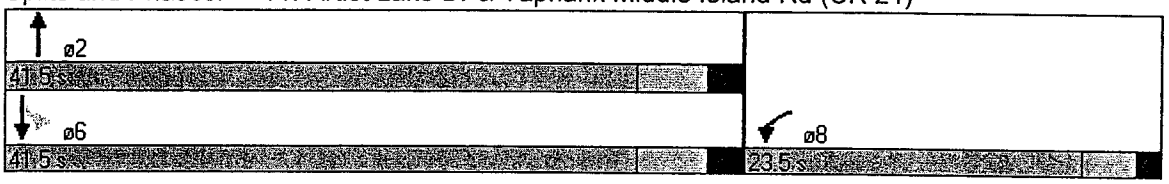
Intersection Summary			
Average Delay	412.3		
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	512	11	27	1095
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.41	0.01	0.06	0.90
Control Delay	31.2	0.0	7.4	0.0	3.0	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	7.4	0.0	3.0	20.0
LOS	C	A	A	A	A	C
Approach Delay	19.6		7.2			19.6
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	513	65	75	1126
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	583	74	88	1325
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.87			0.87	
vC, conflicting volume	2121	620			657	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3589	562			604	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			90	
cM capacity (veh/h)	2	457			845	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	657	1413
Volume Left	0	0	88
Volume Right	26	74	0
cSH	457	1700	845
Volume to Capacity	0.06	0.39	0.10
Queue Length 95th (ft)	5	0	9
Control Delay (s)	13.4	0.0	4.9
Lane LOS	B		A
Approach Delay (s)	13.4	0.0	4.9
Approach LOS	B		

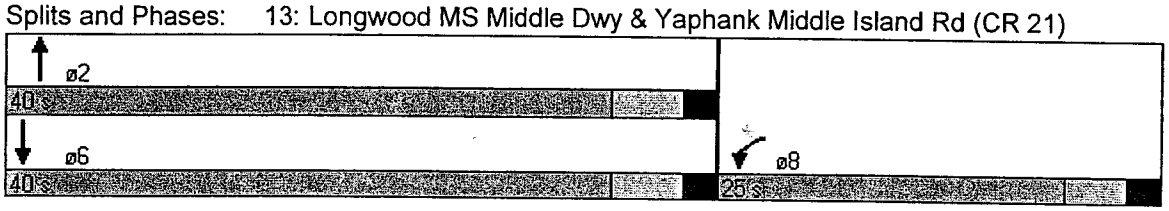
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	544	1126
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.44	0.91
Control Delay	26.8	8.9	4.6	12.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	4.6	12.6
LOS	C	A	A	B
Approach Delay	17.3		4.6	12.6
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	544	81	69	1087
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	604	90	78	1235
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	2041	649			694	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4974	649			694	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	469			901	

Direction, Lane #	NB 1	SB 1
Volume Total	694	1314
Volume Left	0	78
Volume Right	90	0
cSH	1700	901
Volume to Capacity	0.41	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	3.4
Lane LOS		A
Approach Delay (s)	0.0	3.4
Approach LOS		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	382	762	6	11	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	415	828	7	12	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		659				
pX, platoon unblocked					0.89	
vC, conflicting volume	835				1282	832
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	835				1318	832
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				92	91
cM capacity (veh/h)	799				150	369

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	433	835	43
Volume Left	17	0	12
Volume Right	0	7	32
cSH	799	1700	264
Volume to Capacity	0.02	0.49	0.16
Queue Length 95th (ft)	2	0	15
Control Delay (s)	0.7	0.0	21.3
Lane LOS	A		C
Approach Delay (s)	0.7	0.0	21.3
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	24	21	0	11	5	366	12	6	655	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	26	23	0	12	5	398	13	7	712	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.88	0.88		0.88	0.88	0.88				0.88		
vC, conflicting volume	1152	1147	712	1166	1140	404	712			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1172	1166	712	1188	1159	326	712			333		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	94	83	100	98	99			99		
cM capacity (veh/h)	145	169	432	136	171	632	888			1083		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	26	23	12	416	718
Volume Left	2	0	23	0	5	7
Volume Right	0	26	0	12	13	0
cSH	145	432	136	632	888	1083
Volume to Capacity	0.01	0.06	0.17	0.02	0.01	0.01
Queue Length 95th (ft)	1	5	15	1	0	0
Control Delay (s)	30.1	13.9	36.8	10.8	0.2	0.2
Lane LOS	D	B	E	B	A	A
Approach Delay (s)	15.1		27.9		0.2	0.2
Approach LOS	C		D			

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	4	13	2	1	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	4	14	2	1	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			988			
pX, platoon unblocked						
vC, conflicting volume	108	15			16	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108	15			16	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	889	1064			1601	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	15	16	91
Volume Left	11	0	1
Volume Right	4	2	0
cSH	933	1700	1601
Volume to Capacity	0.02	0.01	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.9	0.0	0.1
Lane LOS	A		A
Approach Delay (s)	8.9	0.0	0.1
Approach LOS	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

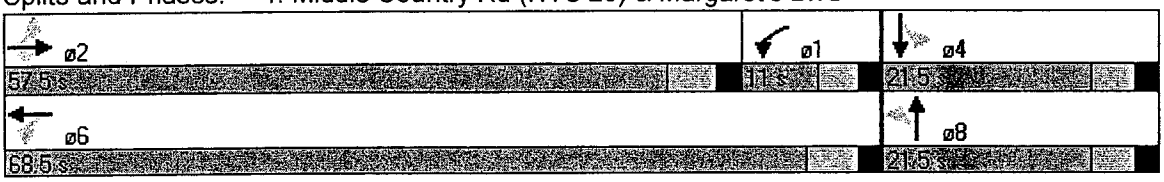
Build Condition with Mitigation Scenario 1 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	970	17	184	841	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	57.5	57.5	57.5	11.0	68.5	21.5	21.5	21.5	21.5
Total Split (%)	63.9%	63.9%	63.9%	12.2%	76.1%	23.9%	23.9%	23.9%	23.9%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	56.5	56.5	56.5	67.5	67.5	14.5	14.5		14.5
Actuated g/C Ratio	0.63	0.63	0.63	0.75	0.75	0.16	0.16		0.16
v/c Ratio	0.02	0.98	0.02	0.94	0.34	0.61	0.42		0.11
Control Delay	7.7	40.2	4.2	79.3	7.5	46.7	8.0		18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	7.7	40.2	4.2	79.3	7.5	46.7	8.0		18.9
LOS	A	D	A	E	A	D	A		B
Approach Delay		39.4			20.4		25.0		18.9
Approach LOS		D			C		C		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 66 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 29.3 Intersection LOS: C
Intersection Capacity Utilization 84.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

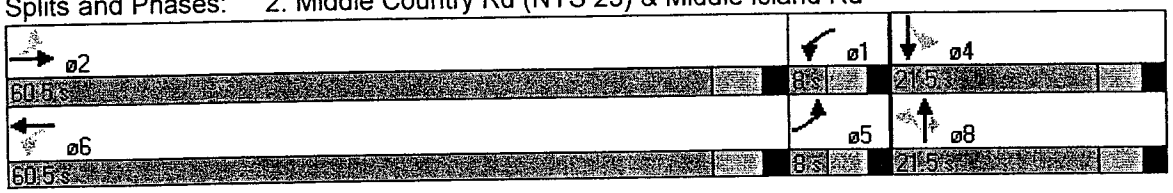


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	33	1068	46	870	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	8.0	60.5	8.0	60.5	21.5	21.5	21.5	21.5	21.5
Total Split (%)	8.9%	67.2%	8.9%	67.2%	23.9%	23.9%	23.9%	23.9%	23.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	71.7	69.3	71.7	69.3		10.9	10.9		10.9
Actuated g/C Ratio	0.80	0.77	0.80	0.77		0.12	0.12		0.12
v/c Ratio	0.09	0.78	0.31	0.37		0.38	0.21		0.37
Control Delay	0.9	4.5	10.4	2.5		43.3	12.2		13.1
Queue Delay	0.0	0.2	0.0	0.1		0.0	0.0		0.0
Total Delay	0.9	4.7	10.4	2.6		43.3	12.2		13.1
LOS	A	A	B	A		D	B		B
Approach Delay		4.6		3.0		28.1			13.1
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 80 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

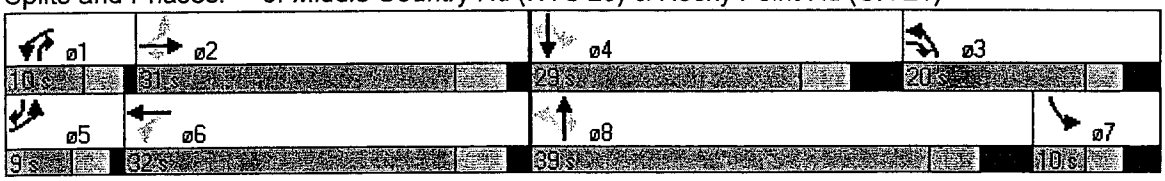


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	97	703	301	110	566	288	545	254	141	333	85
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	5
Permitted Phases	2		2	6		8		8	4		4
Detector Phases	5	2	3	1	6	3	8	1	7	4	5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	9.0
Total Split (s)	9.0	31.0	20.0	10.0	32.0	20.0	39.0	10.0	10.0	29.0	9.0
Total Split (%)	10.0%	34.4%	22.2%	11.1%	35.6%	22.2%	43.3%	11.1%	11.1%	32.2%	10.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	32.6	27.6	43.9	34.4	28.5	44.5	34.2	40.2	30.5	24.2	29.2
Actuated g/C Ratio	0.36	0.31	0.49	0.38	0.32	0.49	0.38	0.45	0.34	0.27	0.32
v/c Ratio	0.52	0.79	0.40	0.62	0.66	0.68	0.83	0.40	0.71	0.81	0.17
Control Delay	17.8	25.2	4.6	32.5	29.6	32.5	36.7	9.8	45.1	45.7	3.3
Queue Delay	0.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	26.2	4.6	32.5	29.6	32.5	36.7	9.8	45.1	45.7	3.3
LOS	B	C	A	C	C	C	D	A	D	D	A
Approach Delay		19.6			30.0		29.3			39.0	
Approach LOS		B			C		C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 12 (13%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	933	128	52	684	45	59	0	62	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	1025	141	61	805	53	83	0	87	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.68			0.68	0.68	0.68	0.68	0.68	
vC, conflicting volume	858			1166			2047	2087	1025	2060	2201	831
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858			1244			2541	2600	1037	2561	2768	831
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			84			0	100	54	4	100	96
cM capacity (veh/h)	783			380			10	13	191	5	10	369

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1066	141	61	858	83	87	5	13
Volume Left	41	0	61	0	83	0	5	0
Volume Right	0	141	0	53	0	87	0	13
cSH	783	1700	380	1700	10	191	5	369
Volume to Capacity	0.05	0.08	0.16	0.50	8.28	0.46	0.96	0.04
Queue Length 95th (ft)	4	0	14	0	Err	54	35	3
Control Delay (s)	1.6	0.0	16.3	0.0	Err	38.9	1190.7	15.1
Lane LOS	A		C		F	E	F	C
Approach Delay (s)	1.4		1.1		4895.5		351.0	
Approach LOS					F		F	

Intersection Summary			
Average Delay	364.5		
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	936	6	18	699	10	34	0	48	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	1017	7	21	832	12	37	0	53	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		816										
pX, platoon unblocked				0.71			0.71	0.71	0.71	0.71	0.71	
vC, conflicting volume	844			1024			1977	1949	1021	1996	1946	838
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844			1034			2370	2331	1029	2396	2327	838
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			0	100	74	100	94	91
cM capacity (veh/h)	792			479			14	25	202	12	25	366

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1045	865	90	35
Volume Left	21	21	37	0
Volume Right	7	12	53	33
cSH	792	479	31	229
Volume to Capacity	0.03	0.04	2.90	0.15
Queue Length 95th (ft)	2	4	264	13
Control Delay (s)	0.8	1.4	1124.5	23.6
Lane LOS	A	A	F	C
Approach Delay (s)	0.8	1.4	1124.5	23.6
Approach LOS			F	C

Intersection Summary			
Average Delay	51.2		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

6: Middle Country Rd (NYS 25) & Currans Rd

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	831	799	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	839	918	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1083				1939	1001
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1083				1939	1001
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	85
cM capacity (veh/h)	644				66	295

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	839	1083	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	644	1700	1700	85
Volume to Capacity	0.08	0.49	0.64	1.88
Queue Length 95th (ft)	6	0	0	343
Control Delay (s)	11.1	0.0	0.0	521.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	521.1
Approach LOS				F

Intersection Summary			
Average Delay	39.3		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	234	2	0	0	349	556	4	2	366	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	266	4	0	0	367	585	4	2	377	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1702	1706	378	1705	1705	587	378			589		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1702	1706	378	1705	1705	587	378			589		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	60	88	100	100	69			100		
cM capacity (veh/h)	55	63	669	32	63	509	1180			986		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	268	4	367	589	2	378
Volume Left	0	4	367	0	2	0
Volume Right	266	0	0	4	0	1
cSH	675	32	1180	1700	986	1700
Volume to Capacity	0.40	0.12	0.31	0.35	0.00	0.22
Queue Length 95th (ft)	48	10	33	0	0	0
Control Delay (s)	14.3	132.6	9.4	0.0	8.7	0.0
Lane LOS	B	F	A		A	
Approach Delay (s)	14.3	132.6	3.6		0.0	
Approach LOS	B	F				

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	671	18	88	581
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	714	19	101	668
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1594	723			733	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1594	723			733	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	48			88	
cM capacity (veh/h)	104	426			872	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	733	101	668
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	368	1700	872	1700
Volume to Capacity	0.64	0.43	0.12	0.39
Queue Length 95th (ft)	105	0	10	0
Control Delay (s)	30.5	0.0	9.7	0.0
Lane LOS	D		A	
Approach Delay (s)	30.5	0.0	1.3	
Approach LOS	D			

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	671	536	54	18	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	685	602	61	24	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	663				1317	633
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	663				1317	633
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				86	100
cM capacity (veh/h)	926				174	480

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	685	663	25
Volume Left	0	0	24
Volume Right	0	61	1
cSH	926	1700	180
Volume to Capacity	0.00	0.39	0.14
Queue Length 95th (ft)	0	0	12
Control Delay (s)	0.0	0.0	28.3
Lane LOS			D
Approach Delay (s)	0.0	0.0	28.3
Approach LOS			D

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	18	1069	30	12	732
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	33	30	1320	37	14	832
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.31	0.19			0.19	
vC, conflicting volume	2197	1338			1357	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3774	2752			2848	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			47	
cM capacity (veh/h)	1	5			26	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	62	1357	14	832
Volume Left	33	0	14	0
Volume Right	30	37	0	0
cSH	1	1700	26	1700
Volume to Capacity	55.48	0.80	0.53	0.49
Queue Length 95th (ft)	Err	0	41	0
Control Delay (s)	Err	0.0	253.1	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	4.1	
Approach LOS	F			

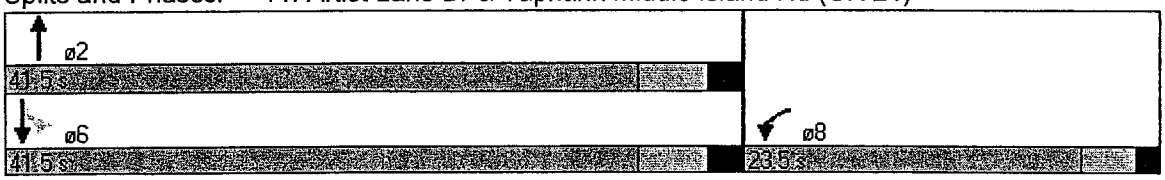
Intersection Summary			
Average Delay	276.6		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	1017	71	108	644
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.64	0.04	0.68	0.45
Control Delay	29.2	0.1	3.9	0.0	28.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	3.9	0.0	28.1	2.0
LOS	C	A	A	A	C	A
Approach Delay	5.9		3.6			5.7
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1082	1	2	663
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1163	1	2	789
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.27	0.24			0.24	
vC, conflicting volume	1958	1164			1165	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4239	1697			1699	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	65			97	
cM capacity (veh/h)	1	27			88	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1165	792
Volume Left	0	0	2
Volume Right	10	1	0
cSH	27	1700	88
Volume to Capacity	0.35	0.69	0.03
Queue Length 95th (ft)	27	0	2
Control Delay (s)	199.3	0.0	2.5
Lane LOS	F		A
Approach Delay (s)	199.3	0.0	2.5
Approach LOS	F		

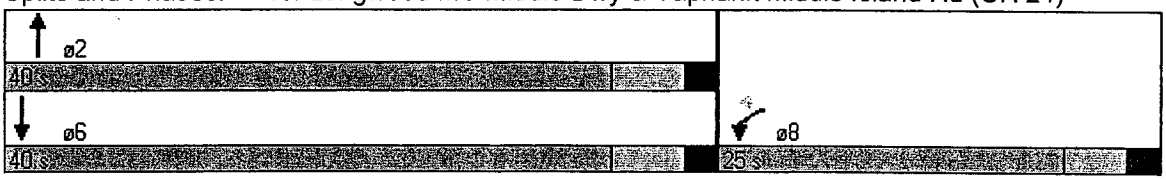
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	1043	663
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.0	8.0	55.0	55.0
Actuated g/C Ratio	0.12	0.12	0.85	0.85
v/c Ratio	0.13	0.25	0.70	0.50
Control Delay	26.2	10.0	7.9	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.2	10.0	7.9	4.2
LOS	C	B	A	A
Approach Delay	15.1		7.9	4.2
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1043	86	119	562
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1146	95	140	661
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.83					
vC, conflicting volume	2135	1193			1241	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2374	1193			1241	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			75	
cM capacity (veh/h)	24	228			561	

Direction, Lane #	NB 1	SB 1
Volume Total	1241	801
Volume Left	0	140
Volume Right	95	0
cSH	1700	561
Volume to Capacity	0.73	0.25
Queue Length 95th (ft)	0	24
Control Delay (s)	0.0	6.9
Lane LOS		A
Approach Delay (s)	0.0	6.9
Approach LOS		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	945	737	19	16	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	1027	801	21	17	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		660				
pX, platoon unblocked					0.69	
vC, conflicting volume	822				1952	811
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	822				2374	811
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				29	87
cM capacity (veh/h)	808				25	379

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1084	822	65
Volume Left	57	0	17
Volume Right	0	21	48
cSH	808	1700	78
Volume to Capacity	0.07	0.48	0.83
Queue Length 95th (ft)	6	0	105
Control Delay (s)	2.2	0.0	150.2
Lane LOS	A		F
Approach Delay (s)	2.2	0.0	150.2
Approach LOS			F

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	0	11	33	0	17	22	653	39	20	515	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	12	36	0	18	24	710	42	22	560	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.69	0.69		0.69	0.69	0.69				0.69		
vC, conflicting volume	1402	1404	561	1395	1384	731	562			752		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1581	1585	561	1572	1556	611	562			641		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	38	100	95	98			97		
cM capacity (veh/h)	55	71	527	58	74	341	1009			652		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	12	36	18	776	584
Volume Left	1	0	36	0	24	22
Volume Right	0	12	0	18	42	2
cSH	55	527	58	341	1009	652
Volume to Capacity	0.02	0.02	0.62	0.05	0.02	0.03
Queue Length 95th (ft)	1	2	64	4	2	3
Control Delay (s)	71.7	12.0	139.1	16.2	0.6	0.9
Lane LOS	F	B	F	C	A	A
Approach Delay (s)	17.0		97.3		0.6	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	2	47	9	4	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	51	10	4	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			988			
pX, platoon unblocked						
vC, conflicting volume	135	56			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	135	56			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	856	1011			1542	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	61	75
Volume Left	5	0	4
Volume Right	2	10	0
cSH	895	1700	1542
Volume to Capacity	0.01	0.04	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.1	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.1	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

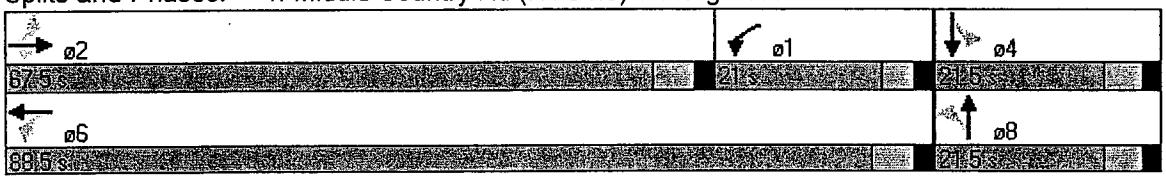
Build Condition with Mitigation Scenario 1 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	916	17	298	813	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	67.5	67.5	67.5	21.0	88.5	21.5	21.5	21.5	21.5
Total Split (%)	61.4%	61.4%	61.4%	19.1%	80.5%	19.5%	19.5%	19.5%	19.5%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	65.3	65.3	65.3	86.3	86.3	15.7	15.7		15.7
Actuated g/C Ratio	0.59	0.59	0.59	0.78	0.78	0.14	0.14		0.14
v/c Ratio	0.02	0.90	0.02	0.91	0.31	0.71	0.88		0.23
Control Delay	10.3	33.4	5.8	47.2	1.5	64.2	33.2		34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.3	33.4	5.8	47.2	1.5	64.2	33.2		34.9
LOS	B	C	A	D	A	E	C		C
Approach Delay		32.7			13.7		40.7		34.9
Approach LOS		C			B		D		C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 90 (82%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 26.3 Intersection LOS: C
Intersection Capacity Utilization 98.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

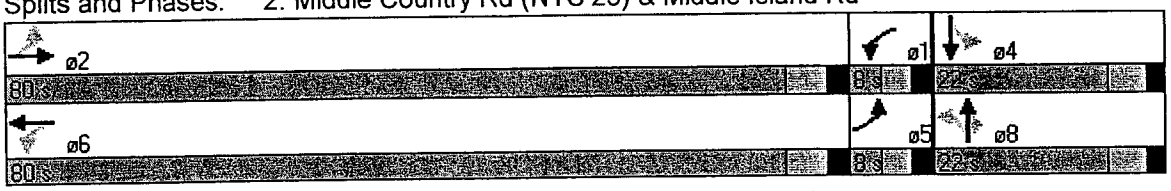


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	37	1045	30	1116	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	8.0	80.0	8.0	80.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	7.3%	72.7%	7.3%	72.7%	20.0%	20.0%	20.0%	20.0%	20.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	87.1	83.1	87.1	83.1		14.1	14.1		14.1
Actuated g/C Ratio	0.79	0.76	0.79	0.76		0.13	0.13		0.13
v/c Ratio	0.12	0.73	0.20	0.44		0.60	0.20		0.42
Control Delay	1.4	3.5	3.4	1.6		66.4	13.3		12.4
Queue Delay	0.0	0.2	0.0	0.3		0.0	0.0		0.0
Total Delay	1.4	3.7	3.4	1.9		66.4	13.3		12.5
LOS	A	A	A	A		E	B		B
Approach Delay		3.6		1.9		43.8			12.5
Approach LOS		A		A		D			B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 5.1 Intersection LOS: A
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

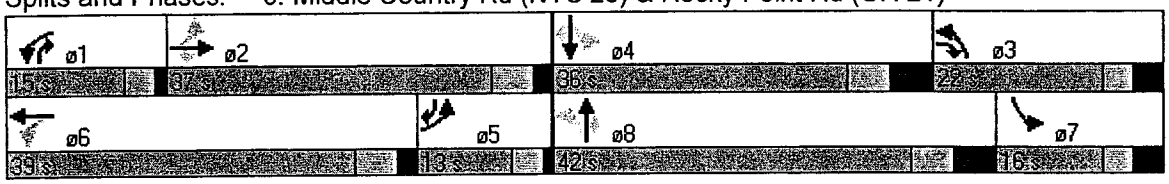


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	139	678	272	156	733	315	388	176	152	370	103
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	5
Permitted Phases	2		2	6		8		8	4		4
Detector Phases	5	2	3	1	6	3	8	1	7	4	5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	9.0
Total Split (s)	13.0	37.0	22.0	15.0	39.0	22.0	42.0	15.0	16.0	36.0	13.0
Total Split (%)	11.8%	33.6%	20.0%	13.6%	35.5%	20.0%	38.2%	13.6%	14.5%	32.7%	11.8%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	1.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	34.3	34.3	52.0	35.7	35.7	50.8	33.8	44.3	47.0	31.5	44.5
Actuated g/C Ratio	0.31	0.31	0.47	0.32	0.32	0.46	0.31	0.40	0.43	0.29	0.40
v/c Ratio	0.74	0.75	0.38	0.75	0.84	0.90	0.71	0.28	0.44	0.91	0.19
Control Delay	47.3	27.3	4.2	49.9	42.6	65.3	40.8	5.8	29.5	61.3	11.0
Queue Delay	0.0	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	30.2	4.4	49.9	42.6	65.3	40.8	5.8	29.5	61.3	11.0
LOS	D	C	A	D	D	E	D	A	C	E	B
Approach Delay		26.0			43.7		42.6			45.2	
Approach LOS		C			D		D			D	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 24 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 38.3 Intersection LOS: D
Intersection Capacity Utilization 81.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	890	103	74	873	15	87	0	77	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	1011	117	81	959	16	90	0	79	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.68			0.68	0.68	0.68	0.68	0.68	
vC, conflicting volume	976			1128			2199	2187	1011	2179	2296	968
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976			1189			2761	2745	1017	2733	2905	968
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			80			0	100	60	0	100	91
cM capacity (veh/h)	707			400			6	11	196	4	8	308

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1030	117	81	976	90	79	14	28
Volume Left	19	0	81	0	90	0	14	0
Volume Right	0	117	0	16	0	79	0	28
cSH	707	1700	400	1700	6	196	4	308
Volume to Capacity	0.03	0.07	0.20	0.57	13.93	0.40	3.14	0.09
Queue Length 95th (ft)	2	0	19	0	Err	45	Err	7
Control Delay (s)	0.8	0.0	16.3	0.0	Err	35.2	Err	17.8
Lane LOS	A		C		F	E	F	C
Approach Delay (s)	0.8		1.3		5320.9		3344.9	
Approach LOS					F		F	

Intersection Summary			
Average Delay	431.1		
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	902	4	36	904	4	0	3	54	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1049	5	40	993	4	0	4	68	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.70			0.70	0.70	0.70	0.70	0.70	
vC, conflicting volume	998			1053			2222	2193	1051	2260	2193	996
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	998			1076			2747	2705	1073	2801	2705	996
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			91			100	71	64	0	89	90
cM capacity (veh/h)	694			453			7	13	187	4	13	297

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1086	1037	71	36
Volume Left	33	40	0	4
Volume Right	5	4	68	31
cSH	694	453	109	27
Volume to Capacity	0.05	0.09	0.65	1.34
Queue Length 95th (ft)	4	7	83	107
Control Delay (s)	1.6	3.3	85.1	508.4
Lane LOS	A	A	F	F
Approach Delay (s)	1.6	3.3	85.1	508.4
Approach LOS			F	F

Intersection Summary			
Average Delay	13.2		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	920	822	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	1000	913	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1006				2029	959
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1006				2029	959
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	81
cM capacity (veh/h)	689				60	311

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	1000	1006	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	689	1700	1700	87
Volume to Capacity	0.05	0.59	0.59	1.70
Queue Length 95th (ft)	4	0	0	304
Control Delay (s)	10.5	0.0	0.0	439.6
Lane LOS	B			F
Approach Delay (s)	0.4		0.0	439.6
Approach LOS				F

Intersection Summary			
Average Delay	29.9		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	282	1	0	1	175	416	0	0	347	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	348	2	0	2	188	447	0	0	381	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1208	1206	382	1205	1206	447	382			447		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1208	1206	382	1205	1206	447	382			447		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	48	97	100	100	84			100		
cM capacity (veh/h)	140	154	665	67	154	611	1176			1113		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	351	4	188	447	0	382
Volume Left	2	2	188	0	0	0
Volume Right	348	2	0	0	0	1
cSH	670	121	1176	1700	1700	1700
Volume to Capacity	0.52	0.03	0.16	0.26	0.00	0.22
Queue Length 95th (ft)	76	3	14	0	0	0
Control Delay (s)	16.3	35.7	8.6	0.0	0.0	0.0
Lane LOS	C	E	A			
Approach Delay (s)	16.3	35.7	2.6		0.0	
Approach LOS	C	E				

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	603	11	59	693
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	655	12	66	779
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1573	661			667	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1573	661			667	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	79			93	
cM capacity (veh/h)	113	462			922	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	667	66	779
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	374	1700	922	1700
Volume to Capacity	0.28	0.39	0.07	0.46
Queue Length 95th (ft)	28	0	6	0
Control Delay (s)	18.3	0.0	9.2	0.0
Lane LOS	C		A	
Approach Delay (s)	18.3	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	571	588	112	42	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	614	632	120	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753				1309	692
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753				1309	692
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				74	100
cM capacity (veh/h)	857				176	444

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	615	753	46
Volume Left	1	0	46
Volume Right	0	120	0
cSH	857	1700	176
Volume to Capacity	0.00	0.44	0.26
Queue Length 95th (ft)	0	0	25
Control Delay (s)	0.0	0.0	32.6
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	32.6
Approach LOS			D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	57	22	856	60	21	776
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	78	30	930	65	22	817
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.83	0.76			0.76	
vC, conflicting volume	1824	963			996	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1560	951			994	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	20	87			96	
cM capacity (veh/h)	98	239			528	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	108	996	22	817
Volume Left	78	0	22	0
Volume Right	30	65	0	0
cSH	117	1700	528	1700
Volume to Capacity	0.92	0.59	0.04	0.48
Queue Length 95th (ft)	146	0	3	0
Control Delay (s)	132.7	0.0	12.1	0.0
Lane LOS	F		B	
Approach Delay (s)	132.7	0.0	0.3	
Approach LOS	F			

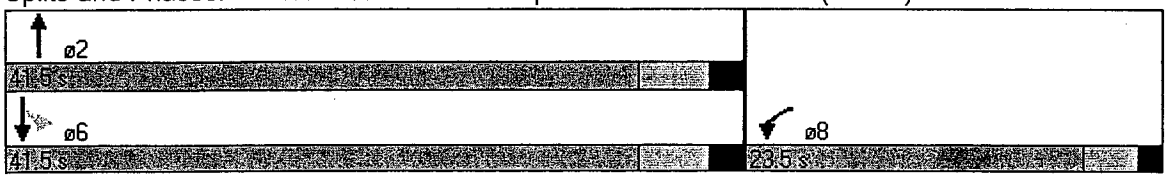
Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	828	27	100	735
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.55	0.02	0.49	0.47
Control Delay	30.0	0.1	4.9	0.0	15.3	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	4.9	0.0	15.3	3.0
LOS	C	A	A	A	B	A
Approach Delay	9.5		4.7			4.5
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 5.0 Intersection LOS: A
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	855	0	0	775
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	929	0	0	816
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.83	0.78			0.78	
vC, conflicting volume	1745	929			929	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1711	909			909	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	82	258			581	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	929	816
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	581
Volume to Capacity	0.00	0.55	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

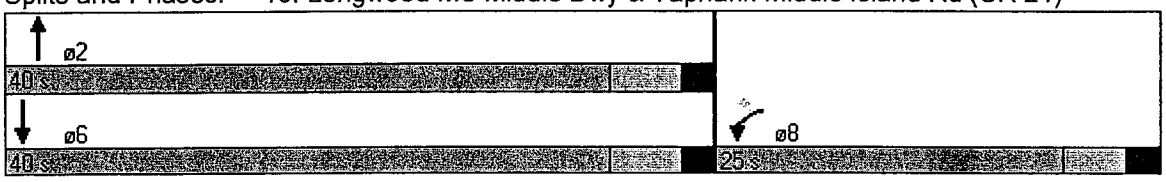
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	854	775
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.52	0.46
Control Delay	26.0	21.0	2.6	2.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	2.6	2.0
LOS	C	C	A	A
Approach Delay	25.4		2.6	2.0
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 2.4 Intersection LOS: A
Intersection Capacity Utilization 55.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	854	4	2	779
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	928	4	2	820
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.85					
vC, conflicting volume	1755	930			933	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1891	930			933	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	65	324			734	

Direction, Lane #	NB 1	SB 1
Volume Total	933	822
Volume Left	0	2
Volume Right	4	0
cSH	1700	734
Volume to Capacity	0.55	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	65	912	903	24	22	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	991	982	26	24	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		662				
pX, platoon unblocked					0.68	
vC, conflicting volume	1008				2127	995
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008				2648	995
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				0	78
cM capacity (veh/h)	688				16	297

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1062	1008	88
Volume Left	71	0	24
Volume Right	0	26	64
cSH	688	1700	50
Volume to Capacity	0.10	0.59	1.75
Queue Length 95th (ft)	9	0	214
Control Delay (s)	3.2	0.0	535.0
Lane LOS	A		F
Approach Delay (s)	3.2	0.0	535.0
Approach LOS			F

Intersection Summary			
Average Delay	23.4		
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	19	45	0	22	22	548	49	25	561	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	21	49	0	24	24	596	53	27	610	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.75	0.75		0.75	0.75	0.75				0.75		
vC, conflicting volume	1359	1362	611	1356	1336	622	612			649		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1479	1483	611	1475	1449	496	612			532		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	96	32	100	94	98			97		
cM capacity (veh/h)	70	88	494	72	93	430	967			777		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	21	49	24	673	639
Volume Left	2	0	49	0	24	27
Volume Right	0	21	0	24	53	2
cSH	70	494	72	430	967	777
Volume to Capacity	0.03	0.04	0.68	0.06	0.02	0.03
Queue Length 95th (ft)	2	3	77	4	2	3
Control Delay (s)	57.9	12.6	126.9	13.9	0.7	0.9
Lane LOS	F	B	F	B	A	A
Approach Delay (s)	16.9		89.8		0.7	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	8	3	34	9	4	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	3	37	10	4	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			957			
pX, platoon unblocked						
vC, conflicting volume	184	42			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	184	42			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	803	1029			1561	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	12	47	138
Volume Left	9	0	4
Volume Right	3	10	0
cSH	854	1700	1561
Volume to Capacity	0.01	0.03	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.3	0.0	0.3
Lane LOS	A		A
Approach Delay (s)	9.3	0.0	0.3
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	19.7%	ICU Level of Service	A
Analysis Period (min)	15		

Scenario 2

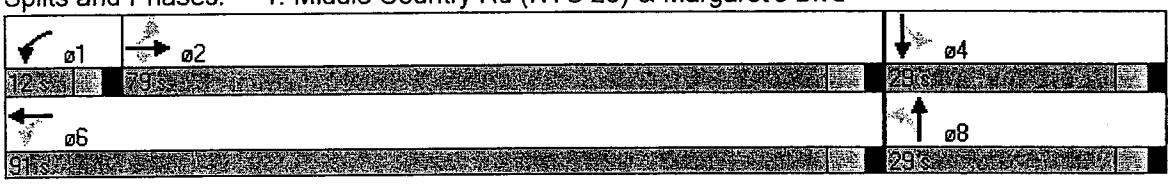
No Build Condition Scenario 2 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	701	12	76	788	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	12.0	91.0	29.0	29.0	29.0	29.0
Total Split (%)	65.8%	65.8%	65.8%	10.0%	75.8%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	93.7	93.7	93.7	101.7	102.5	12.6	12.6		12.5
Actuated g/C Ratio	0.78	0.78	0.78	0.85	0.85	0.10	0.10		0.10
v/c Ratio	0.01	0.52	0.01	0.19	0.28	0.49	0.28		0.08
Control Delay	5.2	8.6	2.6	1.9	1.0	60.8	15.1		40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.2	8.6	2.6	1.9	1.0	60.8	15.1		40.7
LOS	A	A	A	A	A	E	B		D
Approach Delay		8.5			1.1		39.3		40.7
Approach LOS		A			A		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 58.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

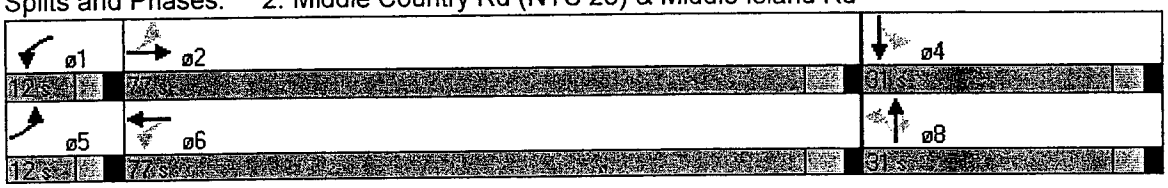


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	11	670	4	744	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	77.0	12.0	77.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	64.2%	10.0%	64.2%	25.8%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	102.7	101.3	101.7	99.1		8.6	8.6		8.6
Actuated g/C Ratio	0.86	0.84	0.85	0.83		0.07	0.07		0.07
v/c Ratio	0.02	0.43	0.01	0.28		0.04	0.07		0.51
Control Delay	1.4	2.6	0.5	1.6		51.0	27.4		18.4
Queue Delay	0.0	0.0	0.0	0.5		0.0	0.0		0.1
Total Delay	1.4	2.6	0.5	2.1		51.0	27.4		18.5
LOS	A	A	A	A		D	C		B
Approach Delay		2.6		2.1		33.3			18.5
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 3.7 Intersection LOS: A
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

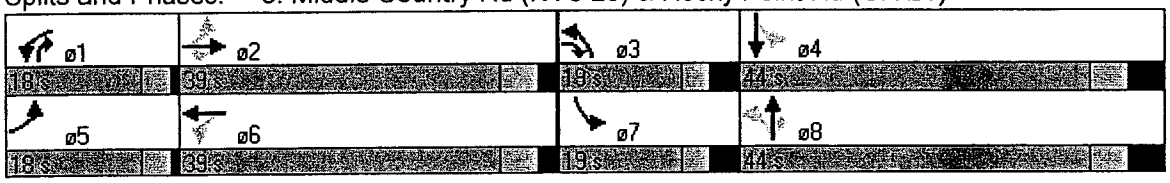


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	32	317	330	234	511	221	291	69	86	556
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	18.0	39.0	19.0	18.0	39.0	19.0	44.0	18.0	19.0	44.0
Total Split (%)	15.0%	32.5%	15.8%	15.0%	32.5%	15.8%	36.7%	15.0%	15.8%	36.7%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	41.8	35.5	54.5	53.0	46.3	58.7	45.2	62.7	49.8	40.0
Actuated g/C Ratio	0.35	0.30	0.45	0.44	0.39	0.49	0.38	0.52	0.42	0.33
v/c Ratio	0.17	0.68	0.48	0.73	0.49	1.12	0.57	0.12	0.29	1.17
Control Delay	29.2	50.8	15.9	35.7	30.2	123.1	34.0	3.3	19.0	130.6
Queue Delay	0.0	3.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	54.0	16.6	35.7	30.2	123.1	34.0	3.3	19.0	130.6
LOS	C	D	B	D	C	F	C	A	B	F
Approach Delay		34.7			31.8		64.2			116.1
Approach LOS		C			C		E			F

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 60.7 Intersection LOS: E
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	387	76	28	757	6	33	0	19	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	435	85	33	891	7	42	0	24	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.80			0.80	0.80	0.80	0.80	0.80	
vC, conflicting volume	898			520			1458	1461	478	1458	1500	894
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	898			400			1573	1577	347	1572	1626	894
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			39	100	96	100	100	99
cM capacity (veh/h)	756			927			68	83	557	66	78	340

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	530	33	898	42	24	0	4
Volume Left	10	33	0	42	0	0	0
Volume Right	85	0	7	0	24	0	4
cSH	756	927	1700	68	557	1700	340
Volume to Capacity	0.01	0.04	0.53	0.61	0.04	0.00	0.01
Queue Length 95th (ft)	1	3	0	66	3	0	1
Control Delay (s)	0.4	9.0	0.0	120.1	11.8	0.0	15.7
Lane LOS	A	A		F	B	A	C
Approach Delay (s)	0.4	0.3		80.5		15.7	
Approach LOS				F		C	

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	395	8	19	756	4	17	1	31	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	439	9	22	889	5	35	2	65	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	894			448			1419	1389	443	1452	1391	892
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	894			359			1487	1451	354	1525	1454	892
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			55	98	89	82	100	90
cM capacity (veh/h)	759			1033			78	110	594	72	109	341

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	451	916	102	45
Volume Left	3	22	35	13
Volume Right	9	5	65	33
cSH	759	1033	176	166
Volume to Capacity	0.00	0.02	0.58	0.27
Queue Length 95th (ft)	0	2	78	26
Control Delay (s)	0.1	0.6	50.4	34.7
Lane LOS	A	A	F	D
Approach Delay (s)	0.1	0.6	50.4	34.7
Approach LOS			F	D

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

6: Middle Country Rd (NYS 25) & Currans Rd

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	540	667	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	659	794	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	860				1517	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860				1517	827
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	82
cM capacity (veh/h)	782				129	372

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	659	860	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	782	1700	1700	159
Volume to Capacity	0.02	0.39	0.51	1.44
Queue Length 95th (ft)	2	0	0	364
Control Delay (s)	9.7	0.0	0.0	281.4
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	281.4
Approach LOS				F

Intersection Summary			
Average Delay	36.6		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	355	9	2	1	200	233	2	0	416	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	461	16	4	2	227	265	2	0	489	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1212	1211	489	1211	1210	266	489			267		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1212	1211	489	1211	1210	266	489			267		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	20	39	97	100	79			100		
cM capacity (veh/h)	130	144	579	27	144	773	1074			1297		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	465	22	227	267	0	489
Volume Left	3	16	227	0	0	0
Volume Right	461	2	0	2	0	0
cSH	584	34	1074	1700	1700	1700
Volume to Capacity	0.80	0.64	0.21	0.16	0.00	0.29
Queue Length 95th (ft)	193	55	20	0	0	0
Control Delay (s)	31.2	219.4	9.3	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	31.2	219.4	4.3		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	14.6		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	392	14	136	719
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	431	15	164	866
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1632	438			446	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1632	438			446	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	38	71			85	
cM capacity (veh/h)	95	618			1114	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	446	164	866
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	261	1700	1114	1700
Volume to Capacity	0.90	0.26	0.15	0.51
Queue Length 95th (ft)	198	0	13	0
Control Delay (s)	74.6	0.0	8.8	0.0
Lane LOS	F		A	
Approach Delay (s)	74.6	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	11.1		
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

9: Rocky Point Rd (CR 21) & Middle Island Rd

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	369	658	99	37	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	424	708	106	57	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	814				1185	761
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	814				1185	761
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				73	99
cM capacity (veh/h)	813				209	405

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	424	814	60
Volume Left	0	0	57
Volume Right	0	106	3
cSH	813	1700	214
Volume to Capacity	0.00	0.48	0.28
Queue Length 95th (ft)	0	0	28
Control Delay (s)	0.0	0.0	28.2
Lane LOS			D
Approach Delay (s)	0.0	0.0	28.2
Approach LOS			D

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	48	16	565	51	22	1098
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	71	24	665	60	26	1307
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.63	0.87			0.87	
vC, conflicting volume	2054	695			725	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2350	648			682	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	94			97	
cM capacity (veh/h)	24	408			789	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	94	725	26	1307
Volume Left	71	0	26	0
Volume Right	24	60	0	0
cSH	32	1700	789	1700
Volume to Capacity	2.98	0.43	0.03	0.77
Queue Length 95th (ft)	275	0	3	0
Control Delay (s)	1157.3	0.0	9.7	0.0
Lane LOS	F		A	
Approach Delay (s)	1157.3	0.0	0.2	
Approach LOS	F			

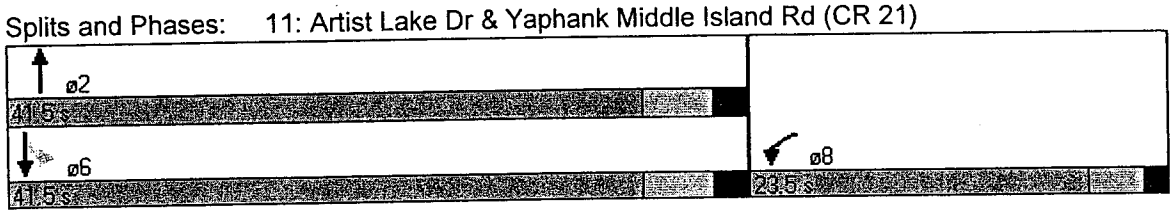
Intersection Summary			
Average Delay	50.7		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	552	11	27	1119
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.44	0.01	0.07	0.92
Control Delay	31.2	0.0	8.0	0.0	3.1	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	8.0	0.0	3.1	22.3
LOS	C	A	A	A	A	C
Approach Delay	19.6		7.8			21.8
Approach LOS	B		A			C

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 71.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	553	65	75	1150
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	628	74	88	1353
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.85			0.85	
vC, conflicting volume	2195	665			702	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3696	606			649	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			89	
cM capacity (veh/h)	2	422			795	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	702	1441
Volume Left	0	0	88
Volume Right	26	74	0
cSH	422	1700	795
Volume to Capacity	0.06	0.41	0.11
Queue Length 95th (ft)	5	0	9
Control Delay (s)	14.1	0.0	5.8
Lane LOS	B		A
Approach Delay (s)	14.1	0.0	5.8
Approach LOS	B		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

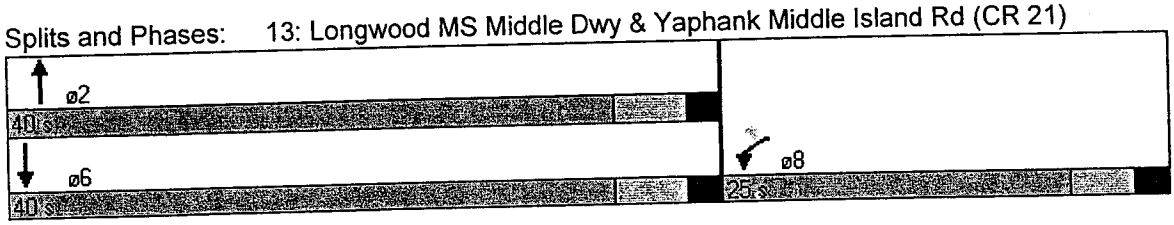
13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	584	1150
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.48	0.93
Control Delay	26.8	8.9	4.9	13.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	4.9	13.8
LOS	C	A	A	B
Approach Delay	17.3		4.9	13.8
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 11.3 — Intersection LOS: B
Intersection Capacity Utilization 71.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	584	81	69	1111
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	649	90	78	1262
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	2113	694			739	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5259	694			739	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	443			867	

Direction, Lane #	NB 1	SB 1
Volume Total	739	1341
Volume Left	0	78
Volume Right	90	0
cSH	1700	867
Volume to Capacity	0.43	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	3.7
Lane LOS		A
Approach Delay (s)	0.0	3.7
Approach LOS		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	603	808	73	84	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	655	878	79	91	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.94				0.86	0.94
vC, conflicting volume	958				1686	479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	894				1629	386
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	89
cM capacity (veh/h)	711				73	577

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	712	586	372	91	64
Volume Left	57	0	0	91	0
Volume Right	0	0	79	0	64
cSH	711	1700	1700	73	577
Volume to Capacity	0.08	0.34	0.22	1.24	0.11
Queue Length 95th (ft)	6	0	0	177	9
Control Delay (s)	2.1	0.0	0.0	282.7	12.0
Lane LOS	A			F	B
Approach Delay (s)	2.1	0.0		171.0	
Approach LOS				F	

Intersection Summary			
Average Delay	15.4		
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

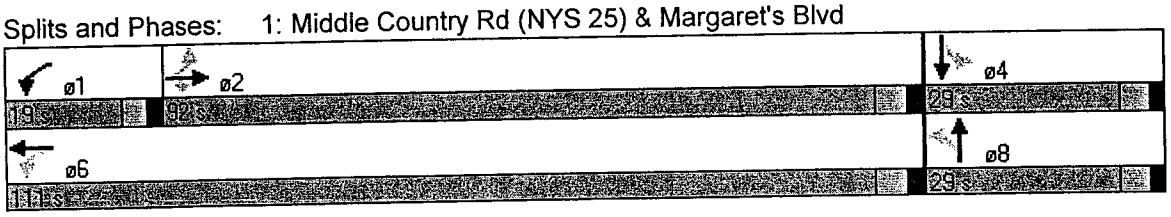
No Build Condition Scenario 2 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1053	17	184	937	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	19.0	111.0	29.0	29.0	29.0	29.0
Total Split (%)	65.7%	65.7%	65.7%	13.6%	79.3%	20.7%	20.7%	20.7%	20.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	92.4	92.4	92.4	112.9	112.9	19.1	19.1		19.1
Actuated g/C Ratio	0.66	0.66	0.66	0.81	0.81	0.14	0.14		0.14
v/c Ratio	0.02	1.01	0.02	0.80	0.35	0.68	0.42		0.12
Control Delay	10.2	52.9	6.4	56.2	3.6	73.9	4.9		28.9
Queue Delay	0.0	26.4	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.2	79.3	6.4	56.2	3.6	73.9	5.0		28.9
LOS	B	E	A	E	A	E	A		C
Approach Delay		77.8			12.2		35.3		28.9
Approach LOS		E			B		D		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 43.9 Intersection LOS: D
Intersection Capacity Utilization 88.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

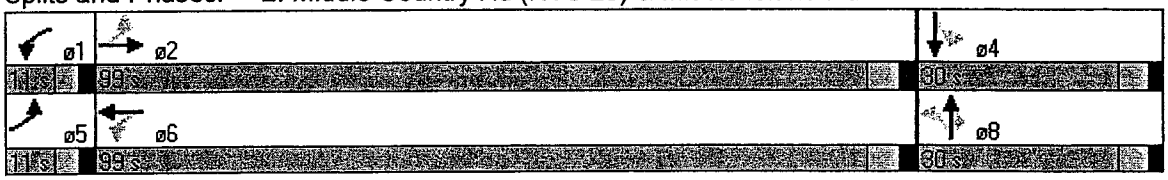


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	24	1206	46	1026	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	11.0	99.0	11.0	99.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	7.9%	70.7%	7.9%	70.7%	21.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	114.1	108.8	117.3	112.1		13.5	13.5		13.5
Actuated g/C Ratio	0.82	0.78	0.84	0.80		0.10	0.10		0.10
v/c Ratio	0.08	0.87	0.34	0.41		0.51	0.25		0.41
Control Delay	1.0	11.1	23.2	2.2		76.5	17.1		19.1
Queue Delay	0.0	11.6	0.0	0.2		0.0	0.4		0.7
Total Delay	1.0	22.8	23.2	2.5		76.5	17.5		19.8
LOS	A	C	C	A		E	B		B
Approach Delay		22.3		3.3		47.6			19.8
Approach LOS		C		A		D			B

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 35 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 83.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

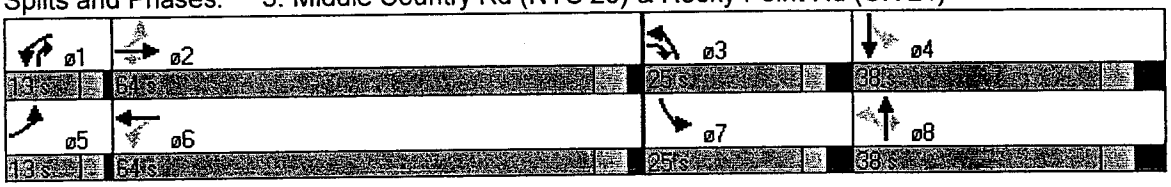


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	739	420	94	611	412	509	235	145	308
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	13.0	64.0	25.0	13.0	64.0	25.0	38.0	13.0	25.0	38.0
Total Split (%)	9.3%	45.7%	17.9%	9.3%	45.7%	17.9%	27.1%	9.3%	17.9%	27.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	68.0	60.8	85.8	70.0	61.9	58.5	40.6	52.8	48.4	34.0
Actuated g/C Ratio	0.49	0.43	0.61	0.50	0.44	0.42	0.29	0.38	0.35	0.24
v/c Ratio	0.34	1.11	0.47	0.68	0.51	1.47	1.01	0.39	0.64	1.04
Control Delay	20.1	93.0	3.7	45.8	29.4	258.3	90.8	15.7	40.2	104.4
Queue Delay	0.0	106.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	199.0	5.6	45.8	29.4	258.3	90.8	15.7	40.2	104.4
LOS	C	F	A	D	C	F	F	B	D	F
Approach Delay		121.9			31.3		135.2			86.6
Approach LOS		F			C		F			F

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 32 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.47
Intersection Signal Delay: 101.8 Intersection LOS: F
Intersection Capacity Utilization 100.8% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	917	165	71	688	45	87	0	88	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	1008	181	84	809	53	123	0	124	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.50			0.50	0.50	0.50	0.50	0.50	
vC, conflicting volume	862			1189			2169	2209	1098	2183	2273	836
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	862			1376			3324	3403	1195	3351	3531	836
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			67			0	100	0	0	100	96
cM capacity (veh/h)	780			251			2	2	114	0	2	367

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1230	84	862	123	124	5	13
Volume Left	41	84	0	123	0	5	0
Volume Right	181	0	53	0	124	0	13
cSH	780	251	1700	2	114	0	367
Volume to Capacity	0.05	0.33	0.51	73.29	1.09	Err	0.04
Queue Length 95th (ft)	4	35	0	Err	186	Err	3
Control Delay (s)	2.0	26.4	0.0	Err	181.4	Err	15.2
Lane LOS	A	D		F	F	F	C
Approach Delay (s)	2.0	2.3		5062.1		Err	
Approach LOS				F		F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	977	9	24	739	10	42	0	59	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	1062	10	29	880	12	46	0	65	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.55			0.55	0.55	0.55	0.55	0.55	
vC, conflicting volume	892			1072			2085	2057	1067	2116	2056	886
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	892			1131			2978	2927	1122	3034	2925	886
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			92			0	100	53	100	80	90
cM capacity (veh/h)	760			339			3	7	137	2	7	344

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1092	920	111	35
Volume Left	21	29	46	0
Volume Right	10	12	65	33
cSH	760	339	8	116
Volume to Capacity	0.03	0.08	14.26	0.30
Queue Length 95th (ft)	2	7	Err	29
Control Delay (s)	0.9	3.4	Err	48.9
Lane LOS	A	A	F	E
Approach Delay (s)	0.9	3.4	9999.0	48.9
Approach LOS			F	E

Intersection Summary			
Average Delay	516.8		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	883	845	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	892	971	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1136				2044	1053
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1136				2044	1053
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	84
cM capacity (veh/h)	615				57	275

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	892	1136	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	615	1700	1700	73
Volume to Capacity	0.08	0.52	0.67	2.19
Queue Length 95th (ft)	7	0	0	372
Control Delay (s)	11.4	0.0	0.0	667.8
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	667.8
Approach LOS				F

Intersection Summary			
Average Delay	47.9		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

7: Miller Place Yaphank Rd & Rocky Point Rd (CR 21)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	258	2	0	0	376	570	4	2	377	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	293	4	0	0	396	600	4	2	389	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1785	1789	389	1788	1787	602	390			604		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1785	1789	389	1788	1787	602	390			604		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	56	84	100	100	66			100		
cM capacity (veh/h)	47	53	659	25	54	500	1169			974		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	295	4	396	604	2	390
Volume Left	0	4	396	0	2	0
Volume Right	293	0	0	4	0	1
cSH	664	25	1169	1700	974	1700
Volume to Capacity	0.44	0.16	0.34	0.36	0.00	0.23
Queue Length 95th (ft)	57	12	38	0	0	0
Control Delay (s)	15.2	174.7	9.6	0.0	8.7	0.0
Lane LOS	C	F	A		A	
Approach Delay (s)	15.2	174.7	3.8		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	712	18	88	616
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	757	19	101	708
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1677	767			777	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1677	767			777	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	45			88	
cM capacity (veh/h)	92	402			840	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	777	101	708
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	343	1700	840	1700
Volume to Capacity	0.68	0.46	0.12	0.42
Queue Length 95th (ft)	120	0	10	0
Control Delay (s)	35.4	0.0	9.9	0.0
Lane LOS	E		A	
Approach Delay (s)	35.4	0.0	1.2	
Approach LOS	E			

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	664	524	101	66	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	678	589	113	88	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	702				1323	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702				1323	646
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				49	100
cM capacity (veh/h)	895				172	472

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	678	702	89
Volume Left	0	0	88
Volume Right	0	113	1
cSH	895	1700	174
Volume to Capacity	0.00	0.41	0.51
Queue Length 95th (ft)	0	0	64
Control Delay (s)	0.0	0.0	45.7
Lane LOS			E
Approach Delay (s)	0.0	0.0	45.7
Approach LOS			E

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	31	1125	49	21	801
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	62	51	1389	60	24	910
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.31	0.19			0.19	
vC, conflicting volume	2377	1419			1449	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4249	3219			3379	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			0	
cM capacity (veh/h)	0	2			15	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	113	1449	24	910
Volume Left	62	0	24	0
Volume Right	51	60	0	0
cSH	0	1700	15	1700
Volume to Capacity	Err	0.85	1.56	0.54
Queue Length 95th (ft)	Err	0	89	0
Control Delay (s)	Err	0.0	794.9	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	20.3	
Approach LOS	F			

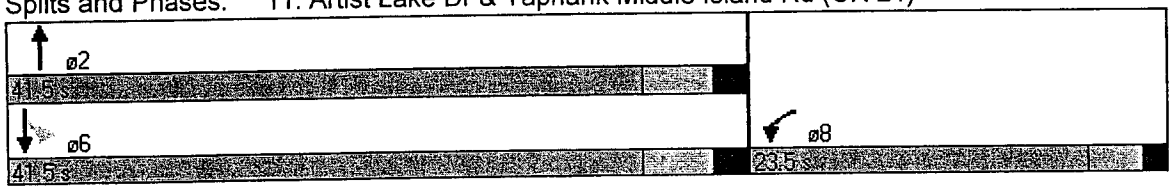
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	1092	71	108	731
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.68	0.04	0.68	0.51
Control Delay	29.2	0.1	4.8	0.0	28.1	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	4.8	0.0	28.1	2.4
LOS	C	A	A	A	C	A
Approach Delay	5.9		4.5			5.7
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 5.1 Intersection LOS: A
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1157	1	2	750
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1244	1	2	893
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.32	0.23			0.23	
vC, conflicting volume	2142	1245			1245	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3743	2050			2053	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	41			96	
cM capacity (veh/h)	1	16			64	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1245	895
Volume Left	0	0	2
Volume Right	10	1	0
cSH	16	1700	64
Volume to Capacity	0.59	0.73	0.04
Queue Length 95th (ft)	38	0	3
Control Delay (s)	391.7	0.0	5.2
Lane LOS	F		A
Approach Delay (s)	391.7	0.0	5.2
Approach LOS	F		

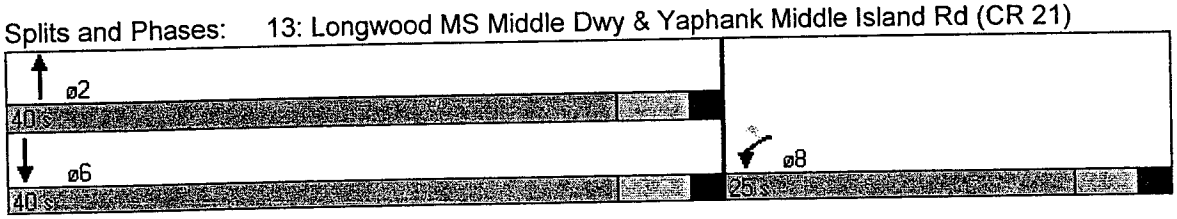
Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	1118	750
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.0	8.0	55.0	55.0
Actuated g/C Ratio	0.12	0.12	0.85	0.85
v/c Ratio	0.13	0.25	0.75	0.57
Control Delay	26.1	11.4	9.8	4.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.1	11.4	9.8	4.8
LOS	C	B	A	A
Approach Delay	16.0		9.8	4.8
Approach LOS	B		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 8.0 Intersection LOS: A
Intersection Capacity Utilization 69.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1118	86	119	649
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1229	95	140	764
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.77					
vC, conflicting volume	2319	1276			1323	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2706	1276			1323	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			73	
cM capacity (veh/h)	13	204			522	

Direction, Lane #	NB 1	SB 1
Volume Total	1323	904
Volume Left	0	140
Volume Right	95	0
cSH	1700	522
Volume to Capacity	0.78	0.27
Queue Length 95th (ft)	0	27
Control Delay (s)	0.0	8.2
Lane LOS		A
Approach Delay (s)	0.0	8.2
Approach LOS		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	173	1032	953	224	223	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	1122	1036	243	242	189
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.89				0.40	0.89
vC, conflicting volume	1279				2655	640
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1193				4430	477
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	64				0	60
cM capacity (veh/h)	519				0	477

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1310	691	589	242	189
Volume Left	188	0	0	242	0
Volume Right	0	0	243	0	189
cSH	519	1700	1700	0	477
Volume to Capacity	0.36	0.41	0.35	947.84	0.40
Queue Length 95th (ft)	41	0	0	Err	47
Control Delay (s)	16.7	0.0	0.0	Err	17.4
Lane LOS	C			F	C
Approach Delay (s)	16.7	0.0		5624.2	
Approach LOS				F	

Intersection Summary			
Average Delay	810.7		
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		

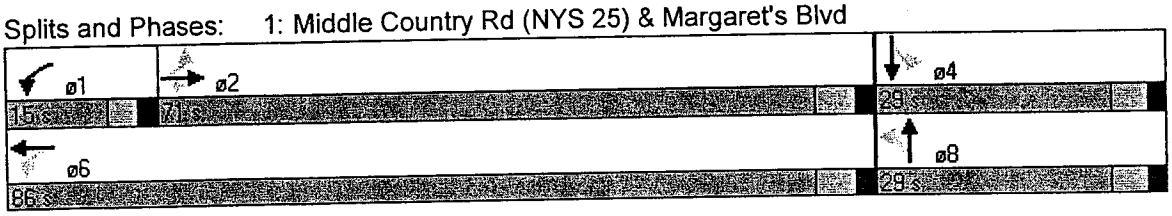
No Build Condition Scenario 2 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1061	17	298	946	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	71.0	71.0	71.0	15.0	86.0	29.0	29.0	29.0	29.0
Total Split (%)	61.7%	61.7%	61.7%	13.0%	74.8%	25.2%	25.2%	25.2%	25.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	85.2	85.2	21.8	21.8		21.8
Actuated g/C Ratio	0.58	0.58	0.58	0.74	0.74	0.19	0.19		0.19
v/c Ratio	0.02	1.06	0.02	1.19	0.39	0.53	0.90		0.14
Control Delay	10.5	71.7	6.4	145.7	6.6	48.9	45.4		28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.5	71.7	6.4	145.7	6.6	48.9	45.4		28.1
LOS	B	E	A	F	A	D	D		C
Approach Delay		70.4			39.6		46.2		28.1
Approach LOS		E			D		D		C

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 7 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 52.2 Intersection LOS: D
Intersection Capacity Utilization 106.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

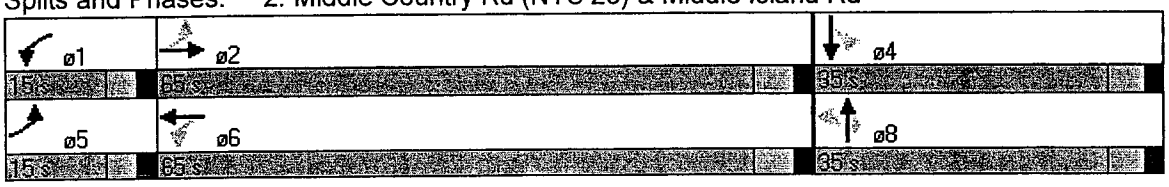


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	28	1252	30	1346	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	15.0	65.0	15.0	65.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	56.5%	13.0%	56.5%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	92.3	88.1	92.2	88.1		12.4	12.4		12.4
Actuated g/C Ratio	0.80	0.77	0.80	0.77		0.11	0.11		0.11
v/c Ratio	0.14	0.87	0.18	0.52		0.49	0.23		0.45
Control Delay	3.0	13.1	1.9	2.1		59.4	15.0		14.4
Queue Delay	0.0	25.0	0.0	1.2		0.0	0.4		1.0
Total Delay	3.0	38.1	1.9	3.4		59.4	15.4		15.4
LOS	A	D	A	A		E	B		B
Approach Delay		37.3		3.3		40.6			15.4
Approach LOS		D		A		D			B

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 20.5 Intersection LOS: C
Intersection Capacity Utilization 87.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

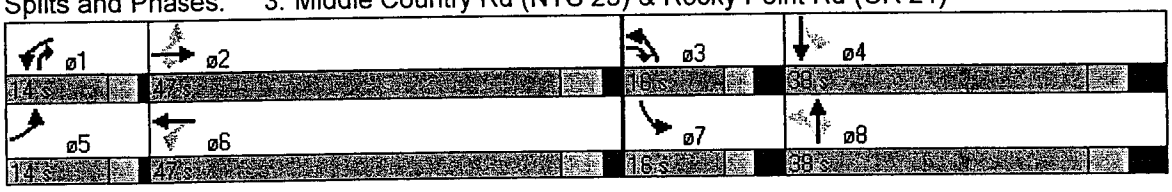


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	119	739	438	134	802	494	347	152	158	334
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	14.0	47.0	16.0	14.0	47.0	16.0	38.0	14.0	16.0	38.0
Total Split (%)	12.2%	40.9%	13.9%	12.2%	40.9%	13.9%	33.0%	12.2%	13.9%	33.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	52.3	43.7	59.7	53.7	44.4	46.5	34.5	47.7	45.5	34.0
Actuated g/C Ratio	0.45	0.38	0.52	0.47	0.39	0.40	0.30	0.41	0.40	0.30
v/c Ratio	0.69	1.27	0.56	0.75	0.77	2.22	0.65	0.24	0.53	1.01
Control Delay	36.9	160.5	10.4	44.8	35.6	585.1	41.8	9.5	26.3	82.6
Queue Delay	0.0	87.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	247.5	12.5	44.8	35.6	585.1	41.8	9.5	26.3	82.6
LOS	D	F	B	D	D	F	D	A	C	F
Approach Delay		148.7			36.8		307.2			67.2
Approach LOS		F			D		F			E

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 18 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.22
Intersection Signal Delay: 143.8 Intersection LOS: F
Intersection Capacity Utilization 109.8% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	879	157	103	888	15	123	0	106	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	999	178	113	976	16	127	0	109	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.55			0.55	0.55	0.55	0.55	0.55	
vC, conflicting volume	992			1177			2356	2344	1088	2336	2425	984
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	992			1322			3463	3443	1160	3428	3590	984
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			61			0	100	17	0	100	91
cM capacity (veh/h)	697			288			1	2	131	0	2	301

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1196	113	992	127	109	14	28
Volume Left	19	113	0	127	0	14	0
Volume Right	178	0	16	0	109	0	28
cSH	697	288	1700	1	131	0	301
Volume to Capacity	0.03	0.39	0.58	98.25	0.83	55.45	0.09
Queue Length 95th (ft)	2	45	0	Err	130	Err	8
Control Delay (s)	1.0	25.4	0.0	Err	103.4	Err	18.2
Lane LOS	A	D		F	F	F	C
Approach Delay (s)	1.0	2.6		5418.5		3345.1	
Approach LOS				F		F	

Intersection Summary			
Average Delay	551.6		
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	958	9	47	973	4	10	3	70	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1114	10	52	1069	4	12	4	88	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.58			0.58	0.58	0.58	0.58	0.58	
vC, conflicting volume	1074			1124			2390	2361	1119	2448	2364	1071
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1074			1214			3395	3345	1205	3495	3350	1071
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			85			0	0	33	0	63	89
cM capacity (veh/h)	649			333			1	4	130	0	4	268

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1157	1125	104	36
Volume Left	33	52	12	4
Volume Right	10	4	88	31
cSH	649	333	9	0
Volume to Capacity	0.05	0.15	11.02	Err
Queue Length 95th (ft)	4	14	Err	Err
Control Delay (s)	1.9	7.9	Err	Err
Lane LOS	A	A	F	F
Approach Delay (s)	1.9	7.9	Err	Err
Approach LOS			F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

6: Middle Country Rd (NYS 25) & Currans Rd

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	992	902	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	1078	1002	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1094				2196	1048
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1094				2196	1048
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	79
cM capacity (veh/h)	638				47	277

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	1078	1094	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	638	1700	1700	69
Volume to Capacity	0.05	0.63	0.64	2.14
Queue Length 95th (ft)	4	0	0	347
Control Delay (s)	11.0	0.0	0.0	655.5
Lane LOS	B			F
Approach Delay (s)	0.3		0.0	655.5
Approach LOS				F

Intersection Summary			
Average Delay	41.4		
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	322	1	0	1	213	434	0	0	367	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	398	2	0	2	229	467	0	0	403	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1331	1329	404	1328	1329	467	404			467		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1331	1329	404	1328	1329	467	404			467		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	39	95	100	100	80			100		
cM capacity (veh/h)	111	124	647	43	124	596	1154			1095		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	400	4	229	467	0	404
Volume Left	2	2	229	0	0	0
Volume Right	398	2	0	0	0	1
cSH	651	80	1154	1700	1700	1700
Volume to Capacity	0.61	0.05	0.20	0.27	0.00	0.24
Queue Length 95th (ft)	105	4	18	0	0	0
Control Delay (s)	19.2	52.1	8.9	0.0	0.0	0.0
Lane LOS	C	F	A			
Approach Delay (s)	19.2	52.1	2.9		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	659	11	59	753
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	716	12	66	846
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1701	722			728	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1701	722			728	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	77			92	
cM capacity (veh/h)	93	427			875	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	728	66	846
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	336	1700	875	1700
Volume to Capacity	0.31	0.43	0.08	0.50
Queue Length 95th (ft)	32	0	6	0
Control Delay (s)	20.5	0.0	9.4	0.0
Lane LOS	C		A	
Approach Delay (s)	20.5	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

9: Rocky Point Rd (CR 21) & Middle Island Rd

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	562	577	183	107	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	604	620	197	116	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	817				1325	719
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	817				1325	719
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				32	100
cM capacity (veh/h)	811				172	429

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	605	817	116
Volume Left	1	0	116
Volume Right	0	197	0
cSH	811	1700	172
Volume to Capacity	0.00	0.48	0.68
Queue Length 95th (ft)	0	0	100
Control Delay (s)	0.0	0.0	61.5
Lane LOS	A		F
Approach Delay (s)	0.0	0.0	61.5
Approach LOS			F

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	81	37	955	88	35	870
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	111	51	1038	96	37	916
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.37	0.22			0.22	
vC, conflicting volume	2075	1086			1134	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2765	1386			1601	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			59	
cM capacity (veh/h)	5	39			91	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	162	1134	37	916
Volume Left	111	0	37	0
Volume Right	51	96	0	0
cSH	6	1700	91	1700
Volume to Capacity	25.12	0.67	0.41	0.54
Queue Length 95th (ft)	Err	0	41	0
Control Delay (s)	Err	0.0	69.3	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	2.7	
Approach LOS	F			

Intersection Summary			
Average Delay	720.1		
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

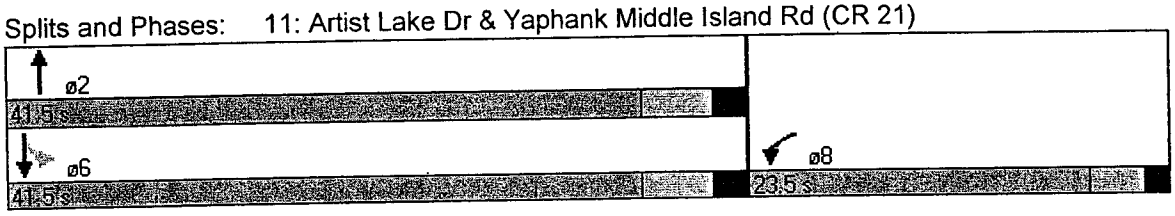
11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	955	27	100	853
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.64	0.02	0.57	0.54
Control Delay	30.0	0.1	5.7	0.0	22.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	5.7	0.0	22.7	3.7
LOS	C	A	A	A	C	A
Approach Delay	9.5		5.5			5.7
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 5.9 — Intersection LOS: A
Intersection Capacity Utilization 80.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	982	0	0	893
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	1067	0	0	940
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.31	0.19			0.19	
vC, conflicting volume	2007	1067			1067	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3115	1355			1355	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	4	35			96	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	1067	940
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	96
Volume to Capacity	0.00	0.63	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

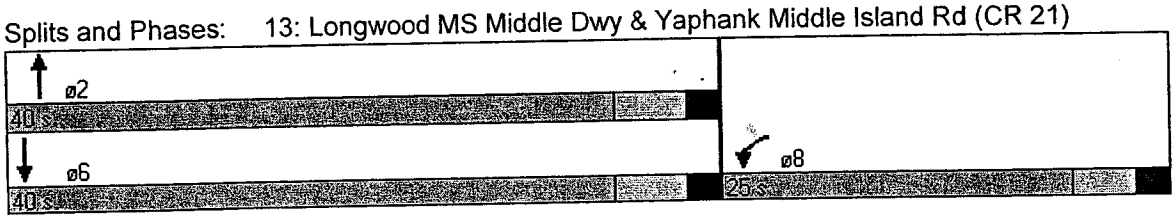
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	982	893
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.60	0.53
Control Delay	26.0	21.0	3.5	2.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	3.5	2.3
LOS	C	C	A	A
Approach Delay	25.4		3.5	2.3
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 3.0 Intersection LOS: A
Intersection Capacity Utilization 62.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	981	4	2	897
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	1066	4	2	944
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.78					
vC, conflicting volume	2017	1068			1071	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2301	1068			1071	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	33	269			651	

Direction, Lane #	NB 1	SB 1
Volume Total	1071	946
Volume Left	0	2
Volume Right	4	0
cSH	1700	651
Volume to Capacity	0.63	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

15: Middle Country Rd (NYS 25) & Proposed 4B's Driveway

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	229	1000	1042	302	277	209
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	1087	1133	328	301	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.83				0.52	0.83
vC, conflicting volume	1461				2882	730
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1351				3809	472
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	41				0	49
cM capacity (veh/h)	420				1	447

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1336	755	706	301	227
Volume Left	249	0	0	301	0
Volume Right	0	0	328	0	227
cSH	420	1700	1700	1	447
Volume to Capacity	0.59	0.44	0.42	506.90	0.51
Queue Length 95th (ft)	93	0	0	Err	70
Control Delay (s)	38.6	0.0	0.0	Err	21.1
Lane LOS	E			F	C
Approach Delay (s)	38.6	0.0		5708.1	
Approach LOS				F	

Intersection Summary			
Average Delay	922.4		
Intersection Capacity Utilization	129.1%	ICU Level of Service	H
Analysis Period (min)	15		

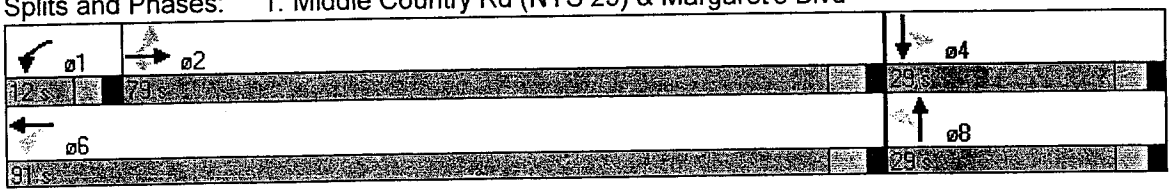
Build Condition Scenario 2 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	718	12	76	827	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	12.0	91.0	29.0	29.0	29.0	29.0
Total Split (%)	65.8%	65.8%	65.8%	10.0%	75.8%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	93.6	93.6	93.6	101.7	102.5	12.6	12.6		12.5
Actuated g/C Ratio	0.78	0.78	0.78	0.85	0.85	0.10	0.10		0.10
v/c Ratio	0.01	0.53	0.01	0.20	0.29	0.49	0.28		0.08
Control Delay	5.2	8.8	2.6	2.0	1.1	60.8	15.1		40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.2	8.8	2.6	2.0	1.1	60.8	15.1		40.7
LOS	A	A	A	A	A	E	B		D
Approach Delay		8.7			1.2		39.3		40.7
Approach LOS		A			A		D		D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 59.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

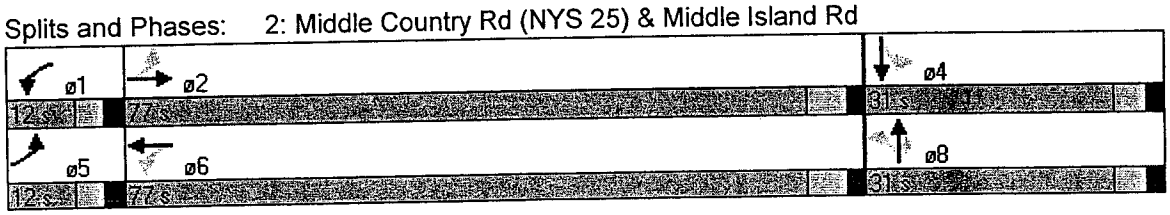


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	13	685	4	773	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	12.0	77.0	12.0	77.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	64.2%	10.0%	64.2%	25.8%	25.8%	25.8%	25.8%	25.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	102.6	101.2	101.6	99.0		8.7	8.7		8.7
Actuated g/C Ratio	0.86	0.84	0.85	0.82		0.07	0.07		0.07
v/c Ratio	0.03	0.44	0.01	0.29		0.04	0.07		0.54
Control Delay	1.4	2.6	0.5	1.5		51.0	27.2		18.1
Queue Delay	0.0	0.0	0.0	0.5		0.0	0.0		0.2
Total Delay	1.4	2.7	0.5	2.0		51.0	27.2		18.2
LOS	A	A	A	A		D	C		B
Approach Delay		2.6		2.0		33.2			18.2
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 3.7 Intersection LOS: A
Intersection Capacity Utilization 56.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

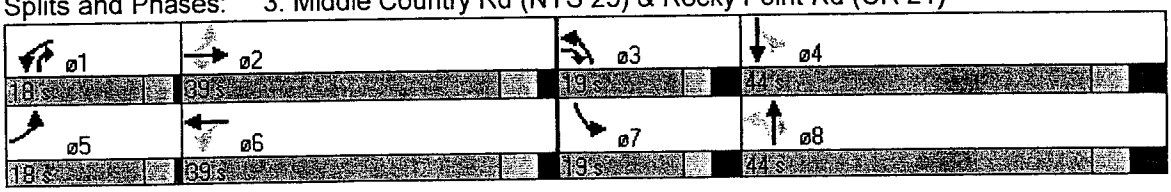


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	37	327	330	245	529	221	302	75	92	584
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	18.0	39.0	19.0	18.0	39.0	19.0	44.0	18.0	19.0	44.0
Total Split (%)	15.0%	32.5%	15.8%	15.0%	32.5%	15.8%	36.7%	15.0%	15.8%	36.7%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	41.9	35.3	54.3	53.0	44.1	58.6	44.9	62.6	50.1	40.0
Actuated g/C Ratio	0.35	0.29	0.45	0.44	0.37	0.49	0.37	0.52	0.42	0.33
v/c Ratio	0.20	0.70	0.49	0.79	0.53	1.12	0.59	0.13	0.32	1.25
Control Delay	29.8	52.3	17.1	40.0	32.1	123.2	34.9	3.3	19.4	161.4
Queue Delay	0.0	4.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	56.3	17.8	40.0	32.1	123.2	34.9	3.3	19.4	161.4
LOS	C	E	B	D	C	F	C	A	B	F
Approach Delay		36.6			34.5		63.6			142.9
Approach LOS		D			C		E			F

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 22 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 68.8 Intersection LOS: E
Intersection Capacity Utilization 88.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	409	76	28	787	6	33	0	19	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	460	85	33	926	7	42	0	24	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.79			0.79	0.79	0.79	0.79	0.79	
vC, conflicting volume	933			545			1518	1521	502	1518	1560	929
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	933			423			1657	1661	369	1656	1711	929
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			28	100	95	100	100	99
cM capacity (veh/h)	734			896			58	73	534	57	68	324

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	555	33	933	42	24	0	4
Volume Left	10	33	0	42	0	0	0
Volume Right	85	0	7	0	24	0	4
cSH	734	896	1700	58	534	1700	324
Volume to Capacity	0.01	0.04	0.55	0.72	0.05	0.00	0.01
Queue Length 95th (ft)	1	3	0	76	4	0	1
Control Delay (s)	0.4	9.2	0.0	157.3	12.1	0.0	16.2
Lane LOS	A	A		F	B	A	C
Approach Delay (s)	0.4	0.3		104.2		16.2	
Approach LOS				F		C	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

5: Middle Country Rd (NYS 25) & Tudor La

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	412	8	19	763	4	17	1	31	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	458	9	22	898	5	35	2	65	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	902			467			1446	1416	462	1479	1418	900
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	902			382			1517	1482	377	1555	1485	900
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			52	98	89	81	100	90
cM capacity (veh/h)	753			1015			75	105	578	68	105	337

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	470	925	102	45
Volume Left	3	22	35	13
Volume Right	9	5	65	33
cSH	753	1015	168	160
Volume to Capacity	0.00	0.02	0.61	0.28
Queue Length 95th (ft)	0	2	83	28
Control Delay (s)	0.1	0.6	54.8	36.2
Lane LOS	A	A	F	E
Approach Delay (s)	0.1	0.6	54.8	36.2
Approach LOS			F	E

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	557	674	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	679	802	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868				1546	835
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868				1546	835
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	82
cM capacity (veh/h)	776				123	367

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	679	868	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	776	1700	1700	153
Volume to Capacity	0.02	0.40	0.51	1.49
Queue Length 95th (ft)	2	0	0	377
Control Delay (s)	9.7	0.0	0.0	306.1
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	306.1
Approach LOS				F

Intersection Summary			
Average Delay	39.2		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	360	9	2	1	211	229	2	0	418	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	468	16	4	2	240	260	2	0	492	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1235	1234	492	1233	1233	261	492			262		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1235	1234	492	1233	1233	261	492			262		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	19	32	97	100	78			100		
cM capacity (veh/h)	124	137	577	24	137	777	1072			1302		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	471	22	240	262	0	492
Volume Left	3	16	240	0	0	0
Volume Right	468	2	0	2	0	0
cSH	582	31	1072	1700	1700	1700
Volume to Capacity	0.81	0.71	0.22	0.15	0.00	0.29
Queue Length 95th (ft)	202	59	21	0	0	0
Control Delay (s)	32.6	262.4	9.3	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	32.6	262.4	4.5		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	15.7		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	409	14	136	726
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	449	15	164	875
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1660	457			465	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1660	457			465	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	36	71			85	
cM capacity (veh/h)	91	604			1097	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	465	164	875
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	252	1700	1097	1700
Volume to Capacity	0.93	0.27	0.15	0.51
Queue Length 95th (ft)	210	0	13	0
Control Delay (s)	83.4	0.0	8.9	0.0
Lane LOS	F		A	
Approach Delay (s)	83.4	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	12.1		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	382	664	100	41	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	439	714	108	63	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	822				1207	768
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	822				1207	768
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				69	99
cM capacity (veh/h)	808				203	402

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	439	822	66
Volume Left	0	0	63
Volume Right	0	108	3
cSH	808	1700	207
Volume to Capacity	0.00	0.48	0.32
Queue Length 95th (ft)	0	0	33
Control Delay (s)	0.0	0.0	30.3
Lane LOS			D
Approach Delay (s)	0.0	0.0	30.3
Approach LOS			D

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	48	16	582	51	22	1137
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	71	24	685	60	26	1354
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.63	0.86			0.86	
vC, conflicting volume	2121	715			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2443	667			702	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	94			97	
cM capacity (veh/h)	21	393			767	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	94	745	26	1354
Volume Left	71	0	26	0
Volume Right	24	60	0	0
cSH	27	1700	767	1700
Volume to Capacity	3.44	0.44	0.03	0.80
Queue Length 95th (ft)	Err	0	3	0
Control Delay (s)	Err	0.0	9.9	0.0
Lane LOS	F		A	
Approach Delay (s)	Err	0.0	0.2	
Approach LOS	F			

Intersection Summary			
Average Delay	424.3		
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

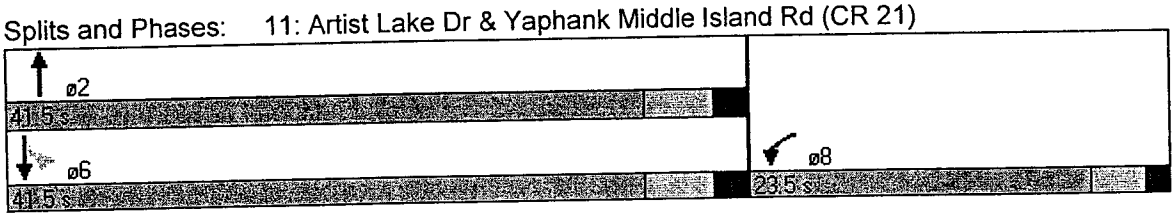
11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	569	11	27	1158
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.45	0.01	0.07	0.96
Control Delay	31.2	0.0	8.2	0.0	3.2	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	8.2	0.0	3.2	27.1
LOS	C	A	A	A	A	C
Approach Delay	19.6		8.1			26.5
Approach LOS	B		A			C

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 20.5 — Intersection LOS: C
Intersection Capacity Utilization 73.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	570	65	75	1189
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	648	74	88	1399
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.35	0.84			0.84	
vC, conflicting volume	2260	685			722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3933	625			669	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			89	
cM capacity (veh/h)	1	408			775	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	722	1487
Volume Left	0	0	88
Volume Right	26	74	0
cSH	408	1700	775
Volume to Capacity	0.06	0.42	0.11
Queue Length 95th (ft)	5	0	10
Control Delay (s)	14.4	0.0	6.8
Lane LOS	B		A
Approach Delay (s)	14.4	0.0	6.8
Approach LOS	B		

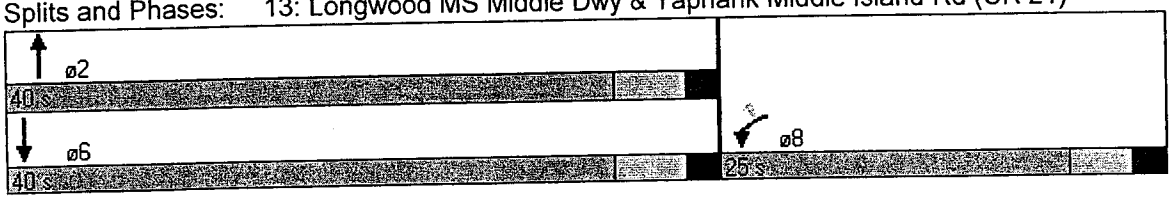
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	601	1189
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.49	0.96
Control Delay	26.8	8.9	5.1	16.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	5.1	16.8
LOS	C	A	A	B
Approach Delay	17.3		5.1	16.8
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 73.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	601	81	69	1150
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	668	90	78	1307
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	2176	713			758	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5600	713			758	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	432			853	

Direction, Lane #	NB 1	SB 1
Volume Total	758	1385
Volume Left	0	78
Volume Right	90	0
cSH	1700	853
Volume to Capacity	0.45	0.09
Queue Length 95th (ft)	0	8
Control Delay (s)	0.0	4.2
Lane LOS		A
Approach Delay (s)	0.0	4.2
Approach LOS		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	620	847	73	84	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	674	921	79	91	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.94				0.85	0.94
vC, conflicting volume	1000				1747	500
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	935				1695	402
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	89
cM capacity (veh/h)	684				66	561

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	730	614	386	91	64
Volume Left	57	0	0	91	0
Volume Right	0	0	79	0	64
cSH	684	1700	1700	66	561
Volume to Capacity	0.08	0.36	0.23	1.39	0.11
Queue Length 95th (ft)	7	0	0	192	10
Control Delay (s)	2.2	0.0	0.0	353.5	12.2
Lane LOS	A			F	B
Approach Delay (s)	2.2	0.0		212.7	
Approach LOS				F	

Intersection Summary			
Average Delay	18.4		
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	412	792	6	11	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	448	861	7	12	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		659				
pX, platoon unblocked					0.84	
vC, conflicting volume	867				1347	864
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867				1411	864
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				90	91
cM capacity (veh/h)	776				126	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	465	867	43
Volume Left	17	0	12
Volume Right	0	7	32
cSH	776	1700	236
Volume to Capacity	0.02	0.51	0.18
Queue Length 95th (ft)	2	0	16
Control Delay (s)	0.6	0.0	23.7
Lane LOS	A		C
Approach Delay (s)	0.6	0.0	23.7
Approach LOS			C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	24	21	0	11	5	369	12	6	660	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	26	23	0	12	5	401	13	7	717	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1161	1155	717	1175	1149	408	717			414		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1192	1185	717	1209	1178	293	717			301		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	94	82	100	98	99			99		
cM capacity (veh/h)	134	156	429	125	158	625	884			1056		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	26	23	12	420	724
Volume Left	2	0	23	0	5	7
Volume Right	0	26	0	12	13	0
cSH	134	429	125	625	884	1056
Volume to Capacity	0.02	0.06	0.18	0.02	0.01	0.01
Queue Length 95th (ft)	1	5	16	1	0	0
Control Delay (s)	32.4	13.9	40.3	10.9	0.2	0.2
Lane LOS	D	B	E	B	A	A
Approach Delay (s)	15.3		30.2		0.2	0.2
Approach LOS	C		D			

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	25	0	0	10	0	4	0	13	2	1	83	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	0	11	0	4	0	14	2	1	90	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								988				
pX, platoon unblocked												
vC, conflicting volume	124	121	102	120	132	15	114			16		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	124	121	102	120	132	15	114			16		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	99	100	100	100			100		
cM capacity (veh/h)	846	769	953	855	759	1064	1475			1601		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	15	16	115
Volume Left	27	11	0	1
Volume Right	0	4	2	24
cSH	846	906	1475	1601
Volume to Capacity	0.03	0.02	0.00	0.00
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	9.4	9.0	0.0	0.1
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.0	0.0	0.1
Approach LOS	A	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

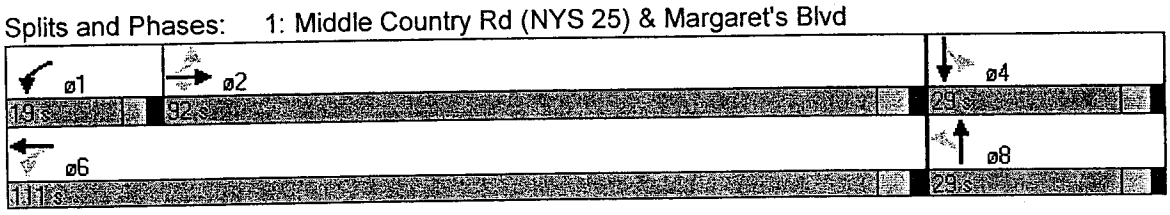
Build Condition Scenario 2 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1112	17	184	983	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	19.0	111.0	29.0	29.0	29.0	29.0
Total Split (%)	65.7%	65.7%	65.7%	13.6%	79.3%	20.7%	20.7%	20.7%	20.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	92.4	92.4	92.4	112.9	112.9	19.1	19.1		19.1
Actuated g/C Ratio	0.66	0.66	0.66	0.81	0.81	0.14	0.14		0.14
v/c Ratio	0.02	1.06	0.02	0.80	0.37	0.68	0.43		0.12
Control Delay	10.2	69.8	6.6	56.1	3.6	73.9	5.7		28.9
Queue Delay	0.0	45.0	0.0	0.0	0.0	0.0	0.1		0.0
Total Delay	10.2	114.7	6.6	56.1	3.6	73.9	5.7		28.9
LOS	B	F	A	E	A	E	A		C
Approach Delay		112.6			11.9		35.7		28.9
Approach LOS		F			B		D		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 59.6 Intersection LOS: E
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

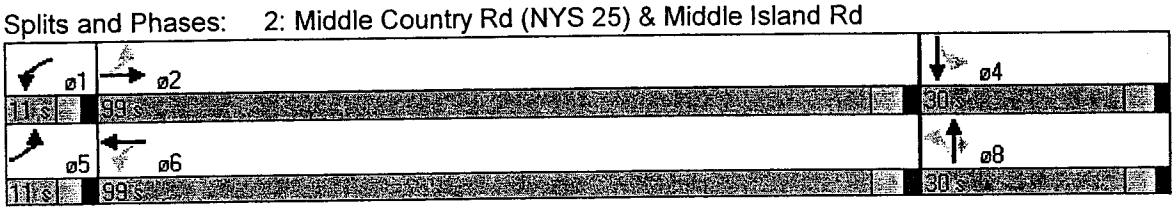


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	33	1256	46	1067	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	11.0	99.0	11.0	99.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	7.9%	70.7%	7.9%	70.7%	21.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	113.8	108.5	116.1	109.7		13.8	13.8		13.8
Actuated g/C Ratio	0.81	0.78	0.83	0.78		0.10	0.10		0.10
v/c Ratio	0.11	0.91	0.34	0.44		0.53	0.25		0.43
Control Delay	1.2	13.4	23.0	2.6		77.3	16.8		18.2
Queue Delay	0.0	40.7	0.0	0.3		0.0	0.9		1.7
Total Delay	1.2	54.1	23.0	2.9		77.3	17.7		19.9
LOS	A	D	C	A		E	B		B
Approach Delay		52.8		3.7		48.1			19.9
Approach LOS		D		A		D			B

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 35 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 85.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

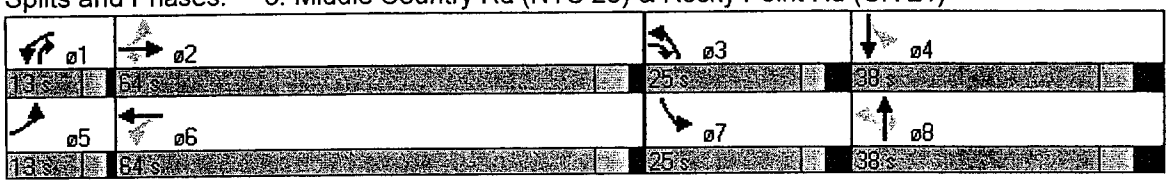


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	97	772	420	110	639	412	548	254	148	336
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	13.0	64.0	25.0	13.0	64.0	25.0	38.0	13.0	25.0	38.0
Total Split (%)	9.3%	45.7%	17.9%	9.3%	45.7%	17.9%	27.1%	9.3%	17.9%	27.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	68.0	60.4	85.4	70.0	61.4	58.4	40.4	53.0	48.6	34.0
Actuated g/C Ratio	0.49	0.43	0.61	0.50	0.44	0.42	0.29	0.38	0.35	0.24
v/c Ratio	0.42	1.17	0.48	0.77	0.54	1.47	1.09	0.42	0.64	1.15
Control Delay	21.2	115.7	4.4	56.9	30.3	258.4	113.4	18.6	40.4	138.2
Queue Delay	0.0	112.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	228.4	6.8	56.9	30.3	258.4	113.4	18.6	40.4	138.2
LOS	C	F	A	E	C	F	F	B	D	F
Approach Delay		140.6			33.8		142.8			112.8
Approach LOS		F			C		F			F

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 32 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.47
Intersection Signal Delay: 114.4 Intersection LOS: F
Intersection Capacity Utilization 105.7% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	972	165	71	737	45	87	0	88	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	1068	181	84	867	53	123	0	124	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.50			0.50	0.50	0.50	0.50	0.50	
vC, conflicting volume	920			1249			2287	2327	1159	2301	2391	894
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	920			1495			3552	3631	1315	3578	3758	894
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			63			0	100	0	0	100	96
cM capacity (veh/h)	742			226			1	2	97	0	1	340

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1290	84	920	123	124	5	13
Volume Left	41	84	0	123	0	5	0
Volume Right	181	0	53	0	124	0	13
cSH	742	226	1700	1	97	0	340
Volume to Capacity	0.05	0.37	0.54	113.11	1.27	Err	0.04
Queue Length 95th (ft)	4	40	0	Err	217	Err	3
Control Delay (s)	2.3	29.9	0.0	Err	261.2	Err	16.0
Lane LOS	A	D		F	F	F	C
Approach Delay (s)	2.3	2.5		5102.3		Err	
Approach LOS				F		F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	996	9	24	763	10	42	0	59	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	1083	10	29	908	12	46	0	65	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		816										
pX, platoon unblocked				0.55			0.55	0.55	0.55	0.55	0.55	
vC, conflicting volume	920			1092			2134	2106	1088	2165	2105	914
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	920			1167			3052	3001	1158	3108	2999	914
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			91			0	100	51	100	77	90
cM capacity (veh/h)	742			331			3	7	132	2	7	331

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1113	949	111	35
Volume Left	21	29	46	0
Volume Right	10	12	65	33
cSH	742	331	7	106
Volume to Capacity	0.03	0.09	16.45	0.33
Queue Length 95th (ft)	2	7	Err	32
Control Delay (s)	0.9	3.6	Err	54.6
Lane LOS	A	A	F	F
Approach Delay (s)	0.9	3.6	9999.0	54.6
Approach LOS			F	F

Intersection Summary			
Average Delay	505.6		
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	902	869	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	911	999	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1163				2091	1081
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1163				2091	1081
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	83
cM capacity (veh/h)	601				53	265

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	911	1163	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	601	1700	1700	68
Volume to Capacity	0.08	0.54	0.68	2.34
Queue Length 95th (ft)	7	0	0	383
Control Delay (s)	11.5	0.0	0.0	742.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	742.1
Approach LOS				F

Intersection Summary			
Average Delay	52.1		
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	275	2	0	0	389	577	4	2	386	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	312	4	0	0	409	607	4	2	398	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1829	1833	398	1832	1832	609	399			612		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1829	1833	398	1832	1832	609	399			612		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	52	81	100	100	65			100		
cM capacity (veh/h)	43	49	651	21	49	495	1160			967		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	315	4	409	612	2	399
Volume Left	0	4	409	0	2	0
Volume Right	312	0	0	4	0	1
cSH	656	21	1160	1700	967	1700
Volume to Capacity	0.48	0.19	0.35	0.36	0.00	0.23
Queue Length 95th (ft)	65	14	40	0	0	0
Control Delay (s)	16.0	208.4	9.8	0.0	8.7	0.0
Lane LOS	C	F	A		A	
Approach Delay (s)	16.0	208.4	3.9		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	732	18	88	642
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	779	19	101	738
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1729	788			798	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1729	788			798	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	43			88	
cM capacity (veh/h)	85	391			824	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	798	101	738
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	330	1700	824	1700
Volume to Capacity	0.71	0.47	0.12	0.43
Queue Length 95th (ft)	129	0	10	0
Control Delay (s)	38.6	0.0	10.0	0.0
Lane LOS	E		A	
Approach Delay (s)	38.6	0.0	1.2	
Approach LOS	E			

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	682	546	105	68	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	696	613	118	91	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	731				1368	672
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	731				1368	672
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				44	100
cM capacity (veh/h)	873				162	455

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	696	731	92
Volume Left	0	0	91
Volume Right	0	118	1
cSH	873	1700	163
Volume to Capacity	0.00	0.43	0.56
Queue Length 95th (ft)	0	0	73
Control Delay (s)	0.0	0.0	52.3
Lane LOS			F
Approach Delay (s)	0.0	0.0	52.3
Approach LOS			F

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

10: Shopping Center Dwy & Yaphank Middle Island Rd (CR 21)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	31	1183	49	21	845
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	62	51	1460	60	24	960
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.32	0.19			0.19	
vC, conflicting volume	2499	1491			1521	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4515	3641			3804	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			0	
cM capacity (veh/h)	0	1			10	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	113	1521	24	960
Volume Left	62	0	24	0
Volume Right	51	60	0	0
cSH	0	1700	10	1700
Volume to Capacity	Err	0.89	2.37	0.56
Queue Length 95th (ft)	Err	0	99	0
Control Delay (s)	Err	0.0	1362.3	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	33.0	
Approach LOS	F			

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

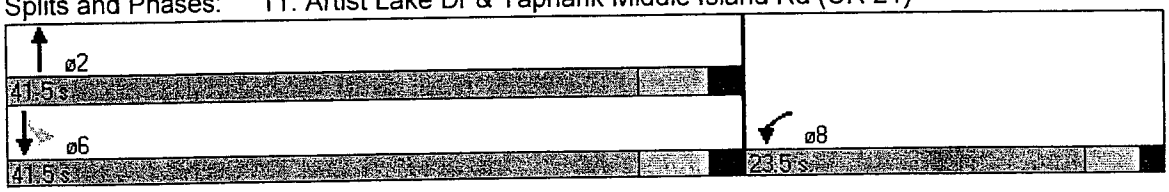
11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	1150	71	108	775
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.72	0.04	0.68	0.54
Control Delay	29.2	0.1	5.5	0.0	28.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	5.5	0.0	28.1	2.7
LOS	C	A	A	A	C	A
Approach Delay	5.9		5.1			5.8
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 5.5 — Intersection LOS: A
Intersection Capacity Utilization 90.5% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1215	1	2	794
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1306	1	2	945
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.23			0.23	
vC, conflicting volume	2257	1307			1308	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3414	2319			2322	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	14			95	
cM capacity (veh/h)	3	11			50	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1308	948
Volume Left	0	0	2
Volume Right	10	1	0
cSH	11	1700	50
Volume to Capacity	0.86	0.77	0.05
Queue Length 95th (ft)	45	0	4
Control Delay (s)	650.8	0.0	8.9
Lane LOS	F		A
Approach Delay (s)	650.8	0.0	8.9
Approach LOS	F		

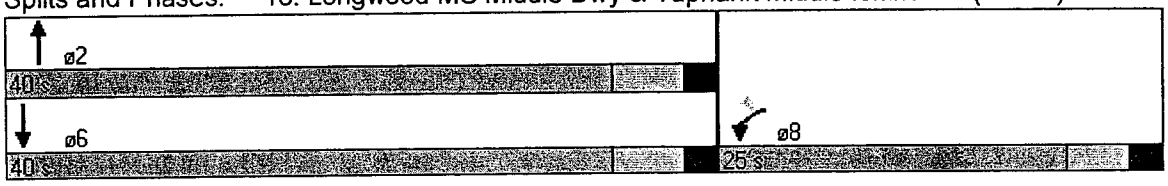
Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	1176	794
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.1	8.1	54.9	54.9
Actuated g/C Ratio	0.12	0.12	0.84	0.84
v/c Ratio	0.13	0.26	0.79	0.60
Control Delay	25.9	13.4	11.5	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.9	13.4	11.5	5.3
LOS	C	B	B	A
Approach Delay	17.3		11.5	5.3
Approach LOS	B		B	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 9.2 Intersection LOS: A
Intersection Capacity Utilization 72.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1176	86	119	693
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1292	95	140	815
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.74					
vC, conflicting volume	2435	1340			1387	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2947	1340			1387	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			72	
cM capacity (veh/h)	9	187			494	

Direction, Lane #	NB 1	SB 1
Volume Total	1387	955
Volume Left	0	140
Volume Right	95	0
cSH	1700	494
Volume to Capacity	0.82	0.28
Queue Length 95th (ft)	0	29
Control Delay (s)	0.0	9.3
Lane LOS		A
Approach Delay (s)	0.0	9.3
Approach LOS		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	173	1091	999	224	223	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	1186	1086	243	242	189
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.88				0.41	0.88
vC, conflicting volume	1329				2770	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1239				4623	485
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	62				0	59
cM capacity (veh/h)	492				0	466

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1374	724	605	242	189
Volume Left	188	0	0	242	0
Volume Right	0	0	243	0	189
cSH	492	1700	1700	0	466
Volume to Capacity	0.38	0.43	0.36	1348.29	0.41
Queue Length 95th (ft)	44	0	0	Err	49
Control Delay (s)	20.6	0.0	0.0	Err	17.9
Lane LOS	C			F	C
Approach Delay (s)	20.6	0.0		5624.4	
Approach LOS				F	

Intersection Summary			
Average Delay	783.3		
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	1008	809	19	16	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	1096	879	21	17	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		660				
pX, platoon unblocked					0.53	
vC, conflicting volume	900				2098	890
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900				3062	890
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				0	86
cM capacity (veh/h)	755				7	342

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1152	900	65
Volume Left	57	0	17
Volume Right	0	21	48
cSH	755	1700	24
Volume to Capacity	0.07	0.53	2.72
Queue Length 95th (ft)	6	0	204
Control Delay (s)	2.5	0.0	1118.1
Lane LOS	A		F
Approach Delay (s)	2.5	0.0	1118.1
Approach LOS			F

Intersection Summary			
Average Delay	35.8		
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	0	11	33	0	17	22	664	39	20	525	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	12	36	0	18	24	722	42	22	571	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.70	0.70		0.70	0.70	0.70				0.70		
vC, conflicting volume	1424	1427	572	1418	1407	743	573			764		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1608	1612	572	1599	1583	632	573			662		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	36	100	94	98			97		
cM capacity (veh/h)	53	69	520	56	71	335	1000			647		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	12	36	18	788	595
Volume Left	1	0	36	0	24	22
Volume Right	0	12	0	18	42	2
cSH	53	520	56	335	1000	647
Volume to Capacity	0.02	0.02	0.64	0.06	0.02	0.03
Queue Length 95th (ft)	2	2	66	4	2	3
Control Delay (s)	74.1	12.1	147.4	16.4	0.6	0.9
Lane LOS	F	B	F	C	A	A
Approach Delay (s)	17.3		102.8		0.6	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	50	0	0	5	0	2	0	47	9	4	65	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	0	5	0	2	0	51	10	4	71	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								988				
pX, platoon unblocked												
vC, conflicting volume	165	168	98	163	191	56	126			61		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	165	168	98	163	191	56	126			61		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	100	99	100	100	100			100		
cM capacity (veh/h)	796	723	958	800	702	1011	1460			1542		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	8	61	130
Volume Left	54	5	0	4
Volume Right	0	2	10	55
cSH	796	851	1460	1542
Volume to Capacity	0.07	0.01	0.00	0.00
Queue Length 95th (ft)	5	1	0	0
Control Delay (s)	9.9	9.3	0.0	0.3
Lane LOS	A	A		A
Approach Delay (s)	9.9	9.3	0.0	0.3
Approach LOS	A	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		

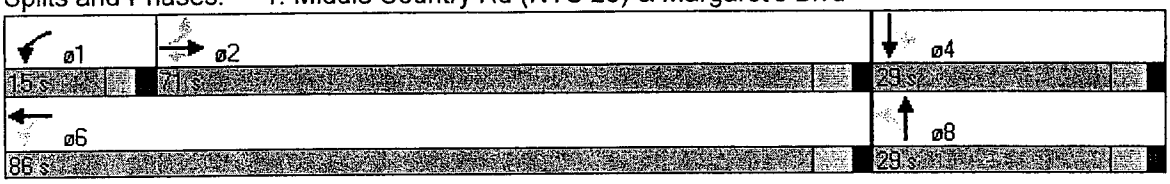
Build Condition Scenario 2 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1131	17	298	1009	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	71.0	71.0	71.0	15.0	86.0	29.0	29.0	29.0	29.0
Total Split (%)	61.7%	61.7%	61.7%	13.0%	74.8%	25.2%	25.2%	25.2%	25.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	84.8	84.8	22.2	22.2		22.2
Actuated g/C Ratio	0.58	0.58	0.58	0.74	0.74	0.19	0.19		0.19
v/c Ratio	0.02	1.14	0.02	1.22	0.41	0.52	0.91		0.14
Control Delay	10.5	98.0	6.6	157.0	7.0	48.2	48.1		28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.5	98.0	6.6	157.0	7.0	48.2	48.1		28.0
LOS	B	F	A	F	A	D	D		C
Approach Delay		96.2			40.9		48.1		28.0
Approach LOS		F			D		D		C

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 7 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 63.1 Intersection LOS: E
Intersection Capacity Utilization 110.1% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

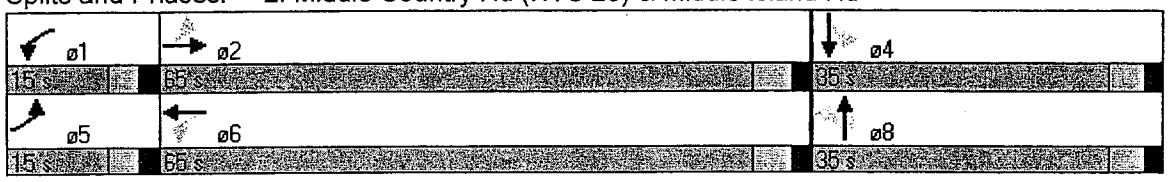


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	37	1313	30	1401	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	15.0	65.0	15.0	65.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	56.5%	13.0%	56.5%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	92.2	88.0	92.0	87.8		12.5	12.5		12.5
Actuated g/C Ratio	0.80	0.77	0.80	0.76		0.11	0.11		0.11
v/c Ratio	0.21	0.91	0.18	0.55		0.49	0.23		0.47
Control Delay	3.3	15.3	1.8	2.3		59.7	14.9		14.1
Queue Delay	0.0	51.7	0.0	1.6		0.0	0.4		1.1
Total Delay	3.3	67.1	1.8	4.0		59.7	15.3		15.1
LOS	A	E	A	A		E	B		B
Approach Delay		65.3		3.9		40.8			15.1
Approach LOS		E		A		D			B

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 91.4% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

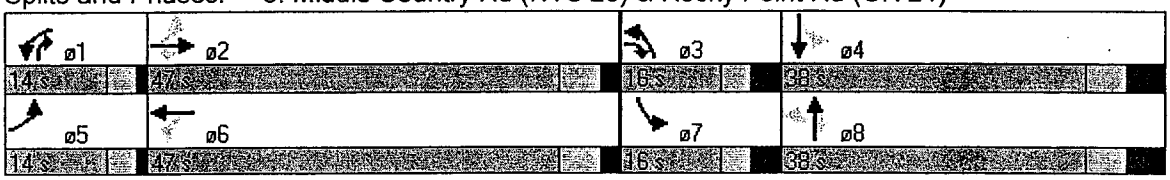


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	139	780	438	156	839	494	393	176	163	375
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt	
Protected Phases	5	2	3	1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phases	5	2	3	1	6	3	8	1	7	4
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0
Total Split (s)	14.0	47.0	16.0	14.0	47.0	16.0	38.0	14.0	16.0	38.0
Total Split (%)	12.2%	40.9%	13.9%	12.2%	40.9%	13.9%	33.0%	12.2%	13.9%	33.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effct Green (s)	52.6	43.2	59.2	53.4	43.6	46.4	34.4	48.2	45.6	34.0
Actuated g/C Ratio	0.46	0.38	0.51	0.46	0.38	0.40	0.30	0.42	0.40	0.30
v/c Ratio	0.81	1.35	0.58	0.84	0.82	2.22	0.74	0.28	0.61	1.15
Control Delay	48.8	196.5	12.5	57.2	38.5	585.1	45.9	13.1	29.4	126.0
Queue Delay	0.0	91.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	288.4	15.3	57.2	38.5	585.1	45.9	13.1	29.4	126.0
LOS	D	F	B	E	D	F	D	B	C	F
Approach Delay		175.6			41.1		291.0			101.4
Approach LOS		F			D		F			F

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 18 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.22
Intersection Signal Delay: 155.4 Intersection LOS: F
Intersection Capacity Utilization 116.4% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	949	157	103	952	15	123	0	106	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	1078	178	113	1046	16	127	0	109	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.55			0.55	0.55	0.55	0.55	0.55	
vC, conflicting volume	1063			1257			2505	2494	1168	2486	2575	1054
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1063			1466			3729	3708	1304	3693	3855	1054
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			55			0	100	0	0	100	90
cM capacity (veh/h)	656			254			1	1	108	0	1	274

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1276	113	1063	127	109	14	28
Volume Left	19	113	0	127	0	14	0
Volume Right	178	0	16	0	109	0	28
cSH	656	254	1700	1	108	0	274
Volume to Capacity	0.03	0.45	0.63	166.87	1.01	Err	0.10
Queue Length 95th (ft)	2	54	0	Err	162	Err	8
Control Delay (s)	1.3	30.1	0.0	Err	163.8	Err	19.6
Lane LOS	A	D		F	F	F	C
Approach Delay (s)	1.3	2.9		5446.5		Err	
Approach LOS				F		F	

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	985	9	47	1002	4	10	3	70	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1145	10	52	1101	4	12	4	88	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.59			0.59	0.59	0.59	0.59	0.59	
vC, conflicting volume	1105			1156			2454	2424	1151	2512	2428	1103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1105			1263			3452	3403	1254	3551	3409	1103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			84			0	0	30	0	60	88
cM capacity (veh/h)	632			326			1	3	124	0	3	257

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1188	1157	104	36
Volume Left	33	52	12	4
Volume Right	10	4	88	31
cSH	632	326	8	0
Volume to Capacity	0.05	0.16	12.33	Err
Queue Length 95th (ft)	4	14	Err	Err
Control Delay (s)	2.0	8.6	Err	Err
Lane LOS	A	A	F	F
Approach Delay (s)	2.0	8.6	Err	Err
Approach LOS			F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	1019	931	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	1108	1034	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1127				2258	1081
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1127				2258	1081
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				0	78
cM capacity (veh/h)	620				43	265

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	1108	1127	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	620	1700	1700	63
Volume to Capacity	0.06	0.65	0.66	2.34
Queue Length 95th (ft)	4	0	0	361
Control Delay (s)	11.2	0.0	0.0	750.6
Lane LOS	B			F
Approach Delay (s)	0.3		0.0	750.6
Approach LOS				F

Intersection Summary			
Average Delay	46.2		
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	343	1	0	1	231	443	0	0	377	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	423	2	0	2	248	476	0	0	414	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1390	1388	415	1387	1389	476	415			476		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1390	1388	415	1387	1389	476	415			476		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	34	94	100	100	78			100		
cM capacity (veh/h)	99	112	638	34	112	589	1144			1086		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	426	4	248	476	0	415
Volume Left	2	2	248	0	0	0
Volume Right	423	2	0	0	0	1
cSH	641	64	1144	1700	1700	1700
Volume to Capacity	0.66	0.06	0.22	0.28	0.00	0.24
Queue Length 95th (ft)	125	5	21	0	0	0
Control Delay (s)	21.2	65.4	9.0	0.0	0.0	0.0
Lane LOS	C	F	A			
Approach Delay (s)	21.2	65.4	3.1		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	686	11	59	784
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	746	12	66	881
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1765	752			758	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1765	752			758	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	76			92	
cM capacity (veh/h)	85	410			854	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	758	66	881
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	318	1700	854	1700
Volume to Capacity	0.33	0.45	0.08	0.52
Queue Length 95th (ft)	35	0	6	0
Control Delay (s)	21.8	0.0	9.6	0.0
Lane LOS	C		A	
Approach Delay (s)	21.8	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	586	604	187	110	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	630	649	201	120	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851				1382	750
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851				1382	750
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				24	100
cM capacity (veh/h)	788				158	411

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	631	851	120
Volume Left	1	0	120
Volume Right	0	201	0
cSH	788	1700	158
Volume to Capacity	0.00	0.50	0.76
Queue Length 95th (ft)	0	0	117
Control Delay (s)	0.0	0.0	76.3
Lane LOS	A		F
Approach Delay (s)	0.0	0.0	76.3
Approach LOS			F

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	81	37	1025	88	35	933
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	111	51	1114	96	37	982
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.38	0.22			0.22	
vC, conflicting volume	2218	1162			1210	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2980	1742			1961	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			43	
cM capacity (veh/h)	3	23			65	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	162	1210	37	982
Volume Left	111	0	37	0
Volume Right	51	96	0	0
cSH	3	1700	65	1700
Volume to Capacity	46.38	0.71	0.57	0.58
Queue Length 95th (ft)	Err	0	59	0
Control Delay (s)	Err	0.0	117.6	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	4.3	
Approach LOS	F			

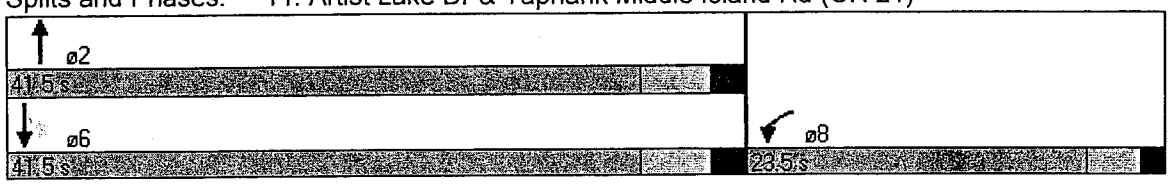
Intersection Summary			
Average Delay	678.0		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	1025	27	100	914
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.69	0.02	0.57	0.58
Control Delay	30.0	0.1	6.7	0.0	22.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	6.7	0.0	22.7	4.2
LOS	C	A	A	A	C	A
Approach Delay	9.5		6.5			6.0
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1052	0	0	956
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	1143	0	0	1006
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.19			0.19	
vC, conflicting volume	2150	1143			1143	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2713	1766			1766	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	8	19			66	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	1143	1006
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	66
Volume to Capacity	0.00	0.67	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

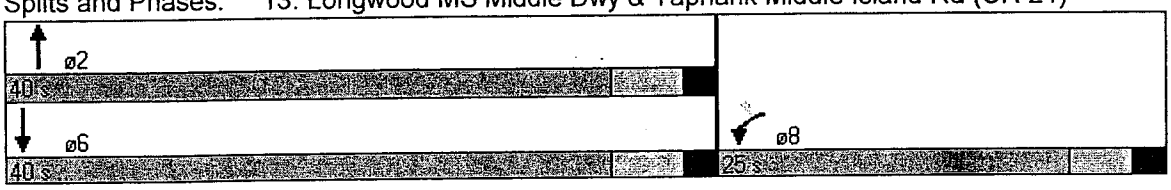
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	1052	956
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.65	0.57
Control Delay	26.0	21.0	4.4	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	4.4	2.6
LOS	C	C	A	A
Approach Delay	25.4		4.4	2.6
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 3.6 Intersection LOS: A
Intersection Capacity Utilization 66.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1051	4	2	960
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	1142	4	2	1011
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.19					
vC, conflicting volume	2159	1145			1147	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7244	1145			1147	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	0	243			609	

Direction, Lane #	NB 1	SB 1
Volume Total	1147	1013
Volume Left	0	2
Volume Right	4	0
cSH	1700	609
Volume to Capacity	0.67	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	229	1070	1105	302	277	209
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	1163	1201	328	301	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.82				0.52	0.82
vC, conflicting volume	1529				3026	765
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1423				4014	486
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	36				0	47
cM capacity (veh/h)	387				0	430

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1412	801	729	301	227
Volume Left	249	0	0	301	0
Volume Right	0	0	328	0	227
cSH	387	1700	1700	0	430
Volume to Capacity	0.64	0.47	0.43	814.29	0.53
Queue Length 95th (ft)	108	0	0	Err	75
Control Delay (s)	54.9	0.0	0.0	Err	22.4
Lane LOS	F			F	C
Approach Delay (s)	54.9	0.0		5708.6	
Approach LOS				F	

Intersection Summary			
Average Delay	891.5		
Intersection Capacity Utilization	134.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	65	1000	1011	24	22	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	1087	1099	26	24	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		662				
pX, platoon unblocked					0.58	
vC, conflicting volume	1125				2340	1112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1125				3329	1112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	75
cM capacity (veh/h)	621				5	254

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1158	1125	88
Volume Left	71	0	24
Volume Right	0	26	64
cSH	621	1700	16
Volume to Capacity	0.11	0.66	5.38
Queue Length 95th (ft)	10	0	Err
Control Delay (s)	4.1	0.0	Err
Lane LOS	A		F
Approach Delay (s)	4.1	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	373.4		
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	19	45	0	22	22	563	49	25	577	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	21	49	0	24	24	612	53	27	627	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.75	0.75		0.75	0.75	0.75				0.75		
vC, conflicting volume	1393	1396	628	1390	1370	639	629			665		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1524	1527	628	1519	1493	518	629			554		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	96	27	100	94	97			96		
cM capacity (veh/h)	65	83	483	67	87	418	953			763		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	21	49	24	689	657
Volume Left	2	0	49	0	24	27
Volume Right	0	21	0	24	53	2
cSH	65	483	67	418	953	763
Volume to Capacity	0.03	0.04	0.73	0.06	0.03	0.04
Queue Length 95th (ft)	3	3	83	5	2	3
Control Delay (s)	62.1	12.8	145.2	14.1	0.7	0.9
Lane LOS	F	B	F	B	A	A
Approach Delay (s)	17.5		102.2		0.7	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	68	0	0	8	0	3	0	34	9	4	123	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	0	0	9	0	3	0	37	10	4	134	82
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								957				
pX, platoon unblocked												
vC, conflicting volume	228	230	174	225	266	42	215			47		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	228	230	174	225	266	42	215			47		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	100	99	100	100	100			100		
cM capacity (veh/h)	723	668	869	729	638	1029	1355			1561		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	74	12	47	220
Volume Left	74	9	0	4
Volume Right	0	3	10	82
cSH	723	792	1355	1561
Volume to Capacity	0.10	0.02	0.00	0.00
Queue Length 95th (ft)	9	1	0	0
Control Delay (s)	10.5	9.6	0.0	0.2
Lane LOS	B	A		A
Approach Delay (s)	10.5	9.6	0.0	0.2
Approach LOS	B	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

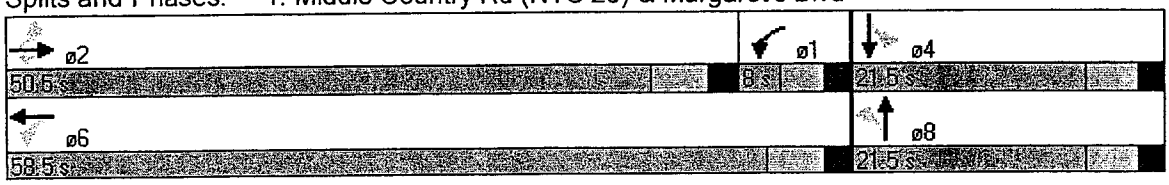
Build Condition with Mitigation Scenario 2 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	4	718	12	76	827	55	1	2	3
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	50.5	50.5	50.5	8.0	58.5	21.5	21.5	21.5	21.5
Total Split (%)	63.1%	63.1%	63.1%	10.0%	73.1%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	57.8	57.8	57.8	63.4	64.2	10.8	10.8		10.8
Actuated g/C Ratio	0.72	0.72	0.72	0.79	0.80	0.14	0.14		0.14
v/c Ratio	0.01	0.57	0.01	0.21	0.31	0.38	0.24		0.06
Control Delay	5.8	10.0	3.1	3.2	1.9	36.5	10.8		25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	5.8	10.0	3.1	3.2	1.9	36.5	10.8		25.5
LOS	A	A	A	A	A	D	B		C
Approach Delay		9.8			2.0		24.4		25.5
Approach LOS		A			A		C		C

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 52 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 59.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

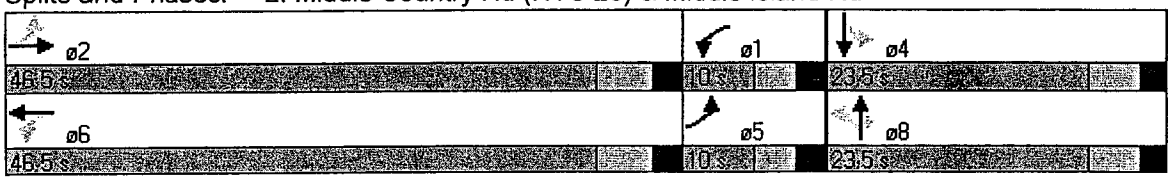


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	13	685	4	773	2	0	5	4	0
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	10.0	46.5	10.0	46.5	23.5	23.5	23.5	23.5	23.5
Total Split (%)	12.5%	58.1%	12.5%	58.1%	29.4%	29.4%	29.4%	29.4%	29.4%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	68.7	64.7	68.7	64.7		8.3	8.3		8.3
Actuated g/C Ratio	0.86	0.81	0.86	0.81		0.10	0.10		0.10
v/c Ratio	0.03	0.45	0.01	0.29		0.02	0.05		0.44
Control Delay	0.6	2.0	0.5	0.8		31.0	18.2		12.1
Queue Delay	0.0	0.0	0.0	0.2		0.0	0.0		0.0
Total Delay	0.6	2.0	0.5	1.0		31.0	18.2		12.1
LOS	A	A	A	A		C	B		B
Approach Delay		2.0		1.0		21.4			12.1
Approach LOS		A		A		C			B

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 70 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 2.4 Intersection LOS: A
Intersection Capacity Utilization 56.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

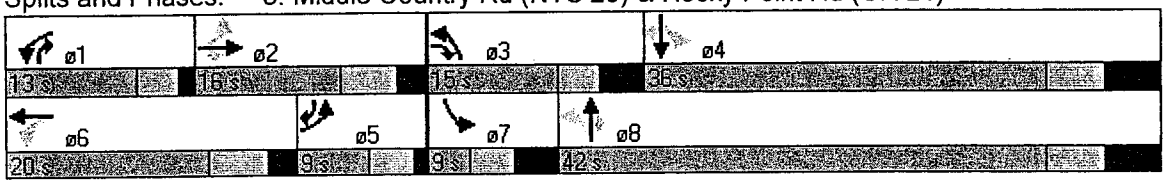


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	37	327	330	245	529	221	302	75	92	584	29
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	5
Permitted Phases	2		2	6		8		8	4		4
Detector Phases	5	2	3	1	6	3	8	1	7	4	5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	9.0
Total Split (s)	9.0	16.0	15.0	13.0	20.0	15.0	42.0	13.0	9.0	36.0	9.0
Total Split (%)	11.3%	20.0%	18.8%	16.3%	25.0%	18.8%	52.5%	16.3%	11.3%	45.0%	11.3%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	1.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	12.0	12.0	27.0	19.6	19.6	47.0	39.8	52.8	37.0	32.0	37.0
Actuated g/C Ratio	0.15	0.15	0.34	0.24	0.24	0.59	0.50	0.66	0.46	0.40	0.46
v/c Ratio	0.22	0.73	0.61	0.86	0.79	0.96	0.45	0.10	0.21	0.99	0.05
Control Delay	29.2	37.1	12.4	56.8	38.4	64.4	15.6	1.5	9.0	57.2	3.2
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	37.1	12.7	56.8	38.4	64.4	15.6	1.5	9.0	57.2	3.2
LOS	C	D	B	E	D	E	B	A	A	E	A
Approach Delay		25.1			43.9		31.9			48.7	
Approach LOS		C			D		C			D	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 37.9 Intersection LOS: D
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	409	76	28	787	6	33	0	19	0	0	1
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.92	0.79	0.25	0.92	0.25
Hourly flow rate (vph)	10	460	85	33	926	7	42	0	24	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.87			0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	933			545			1476	1479	460	1475	1560	929
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	933			478			1546	1549	380	1545	1643	929
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			46	100	96	100	100	99
cM capacity (veh/h)	734			945			77	95	581	75	83	324

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	470	85	33	933	42	24	0	4
Volume Left	10	0	33	0	42	0	0	0
Volume Right	0	85	0	7	0	24	0	4
cSH	734	1700	945	1700	77	581	1700	324
Volume to Capacity	0.01	0.05	0.03	0.55	0.54	0.04	0.00	0.01
Queue Length 95th (ft)	1	0	3	0	58	3	0	1
Control Delay (s)	0.4	0.0	8.9	0.0	96.4	11.5	0.0	16.2
Lane LOS	A		A		F	B	A	C
Approach Delay (s)	0.3		0.3		65.3		16.2	
Approach LOS					F		C	

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	412	8	19	763	4	17	1	31	7	0	18
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.48	0.48	0.48	0.55	0.55	0.55
Hourly flow rate (vph)	3	458	9	22	898	5	35	2	65	13	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.88			0.88	0.88	0.88	0.88	0.88	
vC, conflicting volume	902			467			1446	1416	462	1479	1418	900
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	902			393			1508	1474	388	1546	1476	900
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			54	98	89	82	100	90
cM capacity (veh/h)	753			1024			77	108	580	70	108	337

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	470	925	102	45
Volume Left	3	22	35	13
Volume Right	9	5	65	33
cSH	753	1024	173	163
Volume to Capacity	0.00	0.02	0.59	0.28
Queue Length 95th (ft)	0	2	80	27
Control Delay (s)	0.1	0.6	52.1	35.3
Lane LOS	A	A	F	E
Approach Delay (s)	0.1	0.6	52.1	35.3
Approach LOS			F	E

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	557	674	55	129	54
Peak Hour Factor	0.82	0.82	0.84	0.84	0.80	0.80
Hourly flow rate (vph)	16	679	802	65	161	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868				1546	835
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868				1546	835
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	82
cM capacity (veh/h)	776				123	367

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	16	679	868	229
Volume Left	16	0	0	161
Volume Right	0	0	65	68
cSH	776	1700	1700	153
Volume to Capacity	0.02	0.40	0.51	1.49
Queue Length 95th (ft)	2	0	0	377
Control Delay (s)	9.7	0.0	0.0	306.1
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	306.1
Approach LOS				F

Intersection Summary			
Average Delay	39.2		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	1	360	9	2	1	211	229	2	0	418	0
Peak Hour Factor	0.77	0.77	0.77	0.55	0.55	0.55	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	3	1	468	16	4	2	240	260	2	0	492	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1235	1234	492	1233	1233	261	492			262		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1235	1234	492	1233	1233	261	492			262		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	19	32	97	100	78			100		
cM capacity (veh/h)	124	137	577	24	137	777	1072			1302		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	471	22	240	262	0	492
Volume Left	3	16	240	0	0	0
Volume Right	468	2	0	2	0	0
cSH	582	31	1072	1700	1700	1700
Volume to Capacity	0.81	0.71	0.22	0.15	0.00	0.29
Queue Length 95th (ft)	202	59	21	0	0	0
Control Delay (s)	32.6	262.4	9.3	0.0	0.0	0.0
Lane LOS	D	F	A			
Approach Delay (s)	32.6	262.4	4.5		0.0	
Approach LOS	D	F				

Intersection Summary			
Average Delay	15.7		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	115	409	14	136	726
Peak Hour Factor	0.65	0.65	0.91	0.91	0.83	0.83
Hourly flow rate (vph)	58	177	449	15	164	875
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1660	457			465	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1660	457			465	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	36	71			85	
cM capacity (veh/h)	91	604			1097	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	465	164	875
Volume Left	58	0	164	0
Volume Right	177	15	0	0
cSH	252	1700	1097	1700
Volume to Capacity	0.93	0.27	0.15	0.51
Queue Length 95th (ft)	210	0	13	0
Control Delay (s)	83.4	0.0	8.9	0.0
Lane LOS	F		A	
Approach Delay (s)	83.4	0.0	1.4	
Approach LOS	F			

Intersection Summary			
Average Delay	12.1		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	382	664	100	41	2
Peak Hour Factor	0.87	0.87	0.93	0.93	0.65	0.65
Hourly flow rate (vph)	0	439	714	108	63	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	822				1207	768
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	822				1207	768
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				69	99
cM capacity (veh/h)	808				203	402

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	439	822	66
Volume Left	0	0	63
Volume Right	0	108	3
cSH	808	1700	207
Volume to Capacity	0.00	0.48	0.32
Queue Length 95th (ft)	0	0	33
Control Delay (s)	0.0	0.0	30.3
Lane LOS			D
Approach Delay (s)	0.0	0.0	30.3
Approach LOS			D

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	48	16	582	51	22	1137
Peak Hour Factor	0.68	0.68	0.85	0.85	0.84	0.84
Hourly flow rate (vph)	71	24	685	60	26	1354
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.54	0.86			0.86	
vC, conflicting volume	2121	715			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2670	667			702	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	94			97	
cM capacity (veh/h)	13	393			767	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	94	745	26	1354
Volume Left	71	0	26	0
Volume Right	24	60	0	0
cSH	17	1700	767	1700
Volume to Capacity	5.53	0.44	0.03	0.80
Queue Length 95th (ft)	Err	0	3	0
Control Delay (s)	Err	0.0	9.9	0.0
Lane LOS	F		A	
Approach Delay (s)	Err	0.0	0.2	
Approach LOS	F			

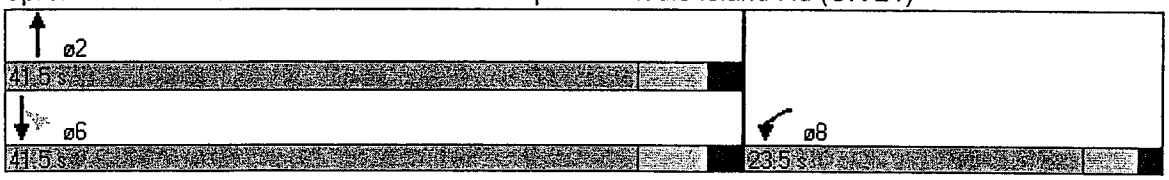
Intersection Summary			
Average Delay	424.3		
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	64	569	11	27	1158
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	8.2	65.0	51.4	65.0	51.4	51.4
Actuated g/C Ratio	0.13	1.00	0.79	1.00	0.79	0.79
v/c Ratio	0.44	0.04	0.45	0.01	0.07	0.96
Control Delay	31.2	0.0	8.2	0.0	3.2	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	0.0	8.2	0.0	3.2	27.1
LOS	C	A	A	A	A	C
Approach Delay	19.6		8.1			26.5
Approach LOS	B		A			C

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 45 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 20.5 Intersection LOS: C
Intersection Capacity Utilization 73.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	10	570	65	75	1189
Peak Hour Factor	0.92	0.38	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	0	26	648	74	88	1399
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.35	0.84			0.84	
vC, conflicting volume	2260	685			722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3933	625			669	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			89	
cM capacity (veh/h)	1	408			775	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	722	1487
Volume Left	0	0	88
Volume Right	26	74	0
cSH	408	1700	775
Volume to Capacity	0.06	0.42	0.11
Queue Length 95th (ft)	5	0	10
Control Delay (s)	14.4	0.0	6.8
Lane LOS	B		A
Approach Delay (s)	14.4	0.0	6.8
Approach LOS	B		

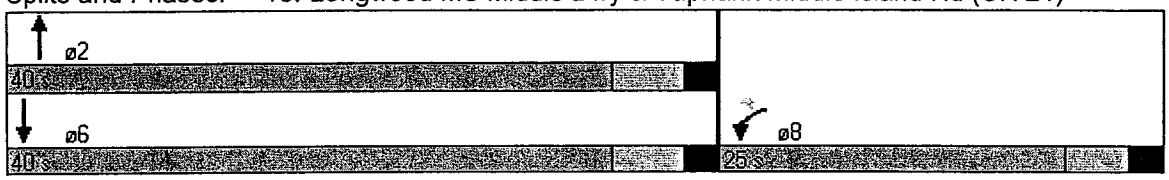
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	30	34	601	1189
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	9.1	9.1	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.78	0.78
v/c Ratio	0.26	0.26	0.49	0.96
Control Delay	26.8	8.9	5.1	16.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	8.9	5.1	16.8
LOS	C	A	A	B
Approach Delay	17.3		5.1	16.8
Approach LOS	B		A	B

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 73.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	601	81	69	1150
Peak Hour Factor	0.92	0.92	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	0	0	668	90	78	1307
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.26					
vC, conflicting volume	2176	713			758	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5600	713			758	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	0	432			853	

Direction, Lane #	NB 1	SB 1
Volume Total	758	1385
Volume Left	0	78
Volume Right	90	0
cSH	1700	853
Volume to Capacity	0.45	0.09
Queue Length 95th (ft)	0	8
Control Delay (s)	0.0	4.2
Lane LOS		A
Approach Delay (s)	0.0	4.2
Approach LOS		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	620	847	73	84	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	674	921	79	91	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.92				0.81	0.92
vC, conflicting volume	1000				1747	500
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	913				1671	369
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	89
cM capacity (veh/h)	683				65	578

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	730	614	386	91	64
Volume Left	57	0	0	91	0
Volume Right	0	0	79	0	64
cSH	683	1700	1700	65	578
Volume to Capacity	0.08	0.36	0.23	1.41	0.11
Queue Length 95th (ft)	7	0	0	193	9
Control Delay (s)	2.2	0.0	0.0	361.5	12.0
Lane LOS	A			F	B
Approach Delay (s)	2.2	0.0		217.3	
Approach LOS				F	

Intersection Summary			
Average Delay	18.8		
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	412	792	6	11	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	448	861	7	12	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		659				
pX, platoon unblocked					0.87	
vC, conflicting volume	867				1347	864
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867				1397	864
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				91	91
cM capacity (veh/h)	776				133	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	465	867	43
Volume Left	17	0	12
Volume Right	0	7	32
cSH	776	1700	243
Volume to Capacity	0.02	0.51	0.18
Queue Length 95th (ft)	2	0	16
Control Delay (s)	0.6	0.0	23.0
Lane LOS	A		C
Approach Delay (s)	0.6	0.0	23.0
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	24	21	0	11	5	369	12	6	660	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	26	23	0	12	5	401	13	7	717	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.89	0.89		0.89	0.89	0.89				0.89		
vC, conflicting volume	1161	1155	717	1175	1149	408	717			414		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1181	1175	717	1197	1168	332	717			339		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	94	83	100	98	99			99		
cM capacity (veh/h)	144	168	429	134	169	629	884			1082		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	26	23	12	420	724
Volume Left	2	0	23	0	5	7
Volume Right	0	26	0	12	13	0
cSH	144	429	134	629	884	1082
Volume to Capacity	0.02	0.06	0.17	0.02	0.01	0.01
Queue Length 95th (ft)	1	5	15	1	0	0
Control Delay (s)	30.4	13.9	37.2	10.8	0.2	0.2
Lane LOS	D	B	E	B	A	A
Approach Delay (s)	15.2		28.2		0.2	0.2
Approach LOS	C		D			

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	25	0	0	10	0	4	0	13	2	1	83	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	0	11	0	4	0	14	2	1	90	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								988				
pX, platoon unblocked												
vC, conflicting volume	124	121	102	120	132	15	114			16		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	124	121	102	120	132	15	114			16		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	99	100	100	100			100		
cM capacity (veh/h)	846	769	953	855	759	1064	1475			1601		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	15	16	115
Volume Left	27	11	0	1
Volume Right	0	4	2	24
cSH	846	906	1475	1601
Volume to Capacity	0.03	0.02	0.00	0.00
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	9.4	9.0	0.0	0.1
Lane LOS	A	A		A
Approach Delay (s)	9.4	9.0	0.0	0.1
Approach LOS	A	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

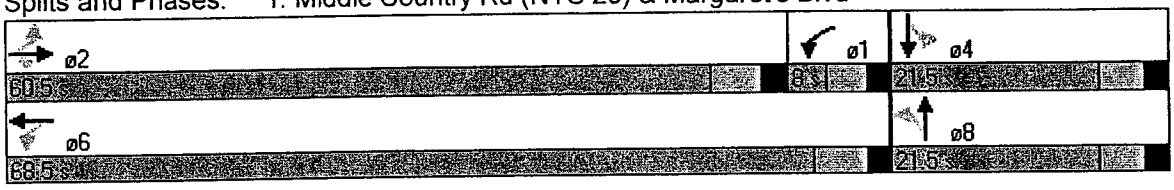
Build Condition with Mitigation Scenario 2 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1112	17	184	983	120	0	7	1
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	21.5	21.5
Total Split (s)	60.5	60.5	60.5	8.0	68.5	21.5	21.5	21.5	21.5
Total Split (%)	67.2%	67.2%	67.2%	8.9%	76.1%	23.9%	23.9%	23.9%	23.9%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	59.5	59.5	59.5	67.5	67.5	14.5	14.5		14.5
Actuated g/C Ratio	0.66	0.66	0.66	0.75	0.75	0.16	0.16		0.16
v/c Ratio	0.03	1.06	0.02	1.28	0.40	0.61	0.50		0.11
Control Delay	6.7	62.8	3.5	190.9	4.2	46.7	18.3		18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	6.7	62.8	3.5	190.9	4.2	46.7	18.3		18.9
LOS	A	E	A	F	A	D	B		B
Approach Delay		61.6			33.7		30.8		18.9
Approach LOS		E			C		C		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 70 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 45.7 Intersection LOS: D
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

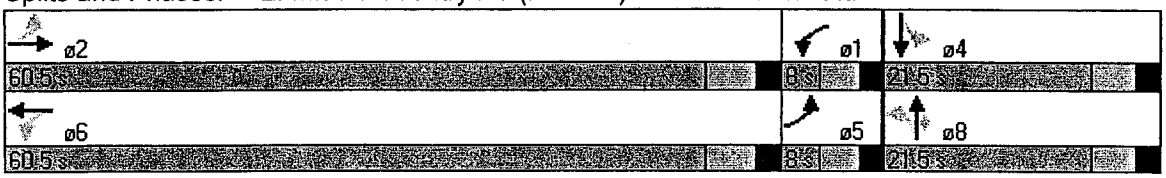


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	33	1256	46	1067	32	0	31	2	7
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	8.0	60.5	8.0	60.5	21.5	21.5	21.5	21.5	21.5
Total Split (%)	8.9%	67.2%	8.9%	67.2%	23.9%	23.9%	23.9%	23.9%	23.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	71.7	69.3	71.7	69.3		10.9	10.9		10.9
Actuated g/C Ratio	0.80	0.77	0.80	0.77		0.12	0.12		0.12
v/c Ratio	0.12	0.91	0.31	0.45		0.38	0.21		0.37
Control Delay	1.9	13.6	6.9	5.6		43.3	12.2		13.1
Queue Delay	0.0	2.8	0.0	0.3		0.0	0.0		0.0
Total Delay	1.9	16.4	6.9	5.9		43.3	12.2		13.1
LOS	A	B	A	A		D	B		B
Approach Delay		16.1		6.0		28.1			13.1
Approach LOS		B		A		C			B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 88 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 12.1 Intersection LOS: B
Intersection Capacity Utilization 85.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

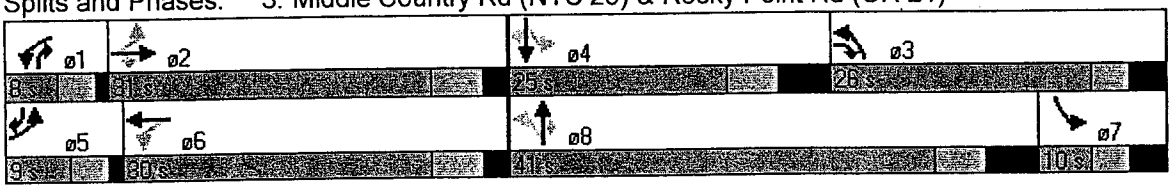


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	97	772	420	110	639	412	548	254	148	336	85
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	5
Permitted Phases	2		2	6		8		8	4		4
Detector Phases	5	2	3	1	6	3	8	1	7	4	5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	9.0
Total Split (s)	9.0	31.0	26.0	8.0	30.0	26.0	41.0	8.0	10.0	25.0	9.0
Total Split (%)	10.0%	34.4%	28.9%	8.9%	33.3%	28.9%	45.6%	8.9%	11.1%	27.8%	10.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	32.4	27.3	48.5	31.2	26.7	46.2	35.7	40.2	27.5	21.0	26.1
Actuated g/C Ratio	0.36	0.30	0.54	0.35	0.30	0.51	0.40	0.45	0.31	0.23	0.29
v/c Ratio	0.64	0.88	0.54	0.73	0.79	0.89	0.80	0.40	0.73	0.94	0.19
Control Delay	19.1	24.7	3.0	48.2	35.8	49.7	33.1	10.5	44.5	67.9	4.7
Queue Delay	0.0	3.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	28.2	3.0	48.2	35.8	49.7	33.1	10.5	44.5	67.9	4.7
LOS	B	C	A	D	D	D	C	B	D	E	A
Approach Delay		19.3			37.4		34.0			52.4	
Approach LOS		B			D		C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 34 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 32.5 Intersection LOS: C
Intersection Capacity Utilization 81.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	37	972	165	71	737	45	87	0	88	2	0	5
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.71	0.71	0.71	0.38	0.38	0.38
Hourly flow rate (vph)	41	1068	181	84	867	53	123	0	124	5	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.65			0.65	0.65	0.65	0.65	0.65	
vC, conflicting volume	920			1249			2197	2237	1068	2210	2391	894
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	920			1383			2839	2900	1105	2859	3138	894
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			74			0	100	26	0	100	96
cM capacity (veh/h)	742			322			5	7	167	1	5	340

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1109	181	84	920	123	124	5	13
Volume Left	41	0	84	0	123	0	5	0
Volume Right	0	181	0	53	0	124	0	13
cSH	742	1700	322	1700	5	167	1	340
Volume to Capacity	0.05	0.11	0.26	0.54	23.11	0.74	3.84	0.04
Queue Length 95th (ft)	4	0	25	0	Err	116	Err	3
Control Delay (s)	1.8	0.0	20.0	0.0	Err	71.4	Err	16.0
Lane LOS	A		C		F	F	F	C
Approach Delay (s)	1.6		1.7		5006.8		2868.3	
Approach LOS					F		F	

Intersection Summary			
Average Delay	504.4		
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	996	9	24	763	10	42	0	59	0	1	22
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.91	0.91	0.91	0.66	0.66	0.66
Hourly flow rate (vph)	21	1083	10	29	908	12	46	0	65	0	2	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		816										
pX, platoon unblocked				0.70			0.70	0.70	0.70	0.70	0.70	
vC, conflicting volume	920			1092			2134	2106	1088	2165	2105	914
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	920			1133			2627	2587	1126	2672	2586	914
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			0	100	63	100	91	90
cM capacity (veh/h)	742			430			9	16	174	6	16	331

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1113	949	111	35
Volume Left	21	29	46	0
Volume Right	10	12	65	33
cSH	742	430	19	178
Volume to Capacity	0.03	0.07	5.79	0.20
Queue Length 95th (ft)	2	5	Err	18
Control Delay (s)	0.9	2.4	Err	30.0
Lane LOS	A	A	F	D
Approach Delay (s)	0.9	2.4	9999.0	30.0
Approach LOS			F	D

Intersection Summary			
Average Delay	504.7		
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	49	902	869	143	77	30
Peak Hour Factor	0.99	0.99	0.87	0.87	0.67	0.67
Hourly flow rate (vph)	49	911	999	164	115	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1163				2091	1081
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1163				2091	1081
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	83
cM capacity (veh/h)	601				53	265

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	49	911	1163	160
Volume Left	49	0	0	115
Volume Right	0	0	164	45
cSH	601	1700	1700	68
Volume to Capacity	0.08	0.54	0.68	2.34
Queue Length 95th (ft)	7	0	0	383
Control Delay (s)	11.5	0.0	0.0	742.1
Lane LOS	B			F
Approach Delay (s)	0.6		0.0	742.1
Approach LOS				F

Intersection Summary			
Average Delay	52.1		
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	275	2	0	0	389	577	4	2	386	1
Peak Hour Factor	0.88	0.88	0.88	0.50	0.50	0.50	0.95	0.95	0.95	0.97	0.97	0.97
Hourly flow rate (vph)	0	2	312	4	0	0	409	607	4	2	398	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1829	1833	398	1832	1832	609	399			612		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1829	1833	398	1832	1832	609	399			612		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	52	81	100	100	65			100		
cM capacity (veh/h)	43	49	651	21	49	495	1160			967		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	315	4	409	612	2	399
Volume Left	0	4	409	0	2	0
Volume Right	312	0	0	4	0	1
cSH	656	21	1160	1700	967	1700
Volume to Capacity	0.48	0.19	0.35	0.36	0.00	0.23
Queue Length 95th (ft)	65	14	40	0	0	0
Control Delay (s)	16.0	208.4	9.8	0.0	8.7	0.0
Lane LOS	C	F	A		A	
Approach Delay (s)	16.0	208.4	3.9		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	732	18	88	642
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	779	19	101	738
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1729	788			798	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1729	788			798	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	43			88	
cM capacity (veh/h)	85	391			824	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	798	101	738
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	330	1700	824	1700
Volume to Capacity	0.71	0.47	0.12	0.43
Queue Length 95th (ft)	129	0	10	0
Control Delay (s)	38.6	0.0	10.0	0.0
Lane LOS	E		A	
Approach Delay (s)	38.6	0.0	1.2	
Approach LOS	E			

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	682	546	105	68	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	696	613	118	91	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	731				1368	672
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	731				1368	672
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				44	100
cM capacity (veh/h)	873				162	455

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	696	731	92
Volume Left	0	0	91
Volume Right	0	118	1
cSH	873	1700	163
Volume to Capacity	0.00	0.43	0.56
Queue Length 95th (ft)	0	0	73
Control Delay (s)	0.0	0.0	52.3
Lane LOS			F
Approach Delay (s)	0.0	0.0	52.3
Approach LOS			F

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	38	31	1183	49	21	845
Peak Hour Factor	0.61	0.61	0.81	0.81	0.88	0.88
Hourly flow rate (vph)	62	51	1460	60	24	960
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.31	0.19			0.19	
vC, conflicting volume	2499	1491			1521	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4729	3641			3804	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			0	
cM capacity (veh/h)	0	1			10	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	113	1521	24	960
Volume Left	62	0	24	0
Volume Right	51	60	0	0
cSH	0	1700	10	1700
Volume to Capacity	Err	0.89	2.37	0.56
Queue Length 95th (ft)	Err	0	99	0
Control Delay (s)	Err	0.0	1362.3	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	33.0	
Approach LOS	F			

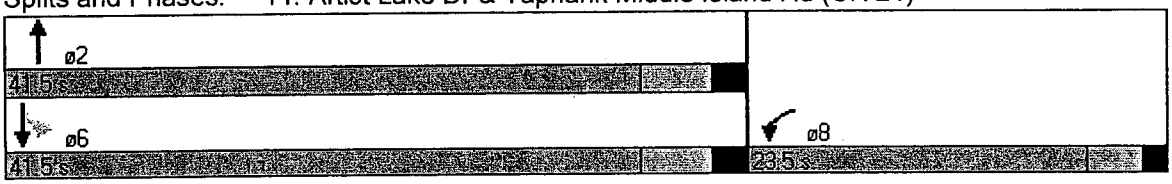
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	21	82	1150	71	108	775
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	5.6	65.0	62.0	65.0	62.0	62.0
Actuated g/C Ratio	0.09	1.00	0.95	1.00	0.95	0.95
v/c Ratio	0.16	0.06	0.72	0.04	0.68	0.54
Control Delay	29.2	0.1	5.5	0.0	28.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	0.1	5.5	0.0	28.1	2.7
LOS	C	A	A	A	C	A
Approach Delay	5.9		5.1			5.8
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 5.5 Intersection LOS: A
Intersection Capacity Utilization 90.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	6	1215	1	2	794
Peak Hour Factor	0.63	0.63	0.93	0.93	0.84	0.84
Hourly flow rate (vph)	0	10	1306	1	2	945
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.23			0.23	
vC, conflicting volume	2257	1307			1308	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3414	2319			2322	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	14			95	
cM capacity (veh/h)	3	11			50	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	10	1308	948
Volume Left	0	0	2
Volume Right	10	1	0
cSH	11	1700	50
Volume to Capacity	0.86	0.77	0.05
Queue Length 95th (ft)	45	0	4
Control Delay (s)	650.8	0.0	8.9
Lane LOS	F		A
Approach Delay (s)	650.8	0.0	8.9
Approach LOS	F		

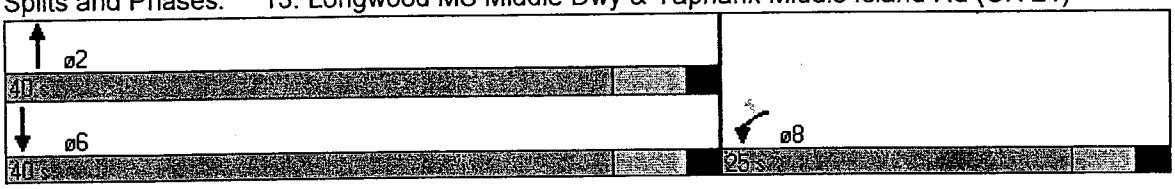
Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	18	40	1176	794
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	8.1	8.1	54.9	54.9
Actuated g/C Ratio	0.12	0.12	0.84	0.84
v/c Ratio	0.13	0.26	0.79	0.60
Control Delay	25.9	13.4	11.5	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.9	13.4	11.5	5.3
LOS	C	B	B	A
Approach Delay	17.3		11.5	5.3
Approach LOS	B		B	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 9.2 Intersection LOS: A
Intersection Capacity Utilization 72.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1176	86	119	693
Peak Hour Factor	0.92	0.92	0.91	0.91	0.85	0.85
Hourly flow rate (vph)	0	0	1292	95	140	815
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.74					
vC, conflicting volume	2435	1340			1387	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2947	1340			1387	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			72	
cM capacity (veh/h)	9	187			494	

Direction, Lane #	NB 1	SB 1
Volume Total	1387	955
Volume Left	0	140
Volume Right	95	0
cSH	1700	494
Volume to Capacity	0.82	0.28
Queue Length 95th (ft)	0	29
Control Delay (s)	0.0	9.3
Lane LOS		A
Approach Delay (s)	0.0	9.3
Approach LOS		

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	173	1091	999	224	223	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	1186	1086	243	242	189
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.85				0.42	0.85
vC, conflicting volume	1329				2770	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1215				4323	437
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	61				0	61
cM capacity (veh/h)	487				0	485

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1374	724	605	242	189
Volume Left	188	0	0	242	0
Volume Right	0	0	243	0	189
cSH	487	1700	1700	0	485
Volume to Capacity	0.39	0.43	0.36	786.26	0.39
Queue Length 95th (ft)	45	0	0	Err	46
Control Delay (s)	21.0	0.0	0.0	Err	17.1
Lane LOS	C			F	C
Approach Delay (s)	21.0	0.0		5624.1	
Approach LOS				F	

Intersection Summary			
Average Delay	783.4		
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	1008	809	19	16	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	1096	879	21	17	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		660				
pX, platoon unblocked					0.67	
vC, conflicting volume	900				2098	890
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900				2632	890
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				0	86
cM capacity (veh/h)	755				16	342

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1152	900	65
Volume Left	57	0	17
Volume Right	0	21	48
cSH	755	1700	54
Volume to Capacity	0.07	0.53	1.21
Queue Length 95th (ft)	6	0	143
Control Delay (s)	2.5	0.0	315.5
Lane LOS	A		F
Approach Delay (s)	2.5	0.0	315.5
Approach LOS			F

Intersection Summary			
Average Delay	11.1		
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	0	11	33	0	17	22	664	39	20	525	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	12	36	0	18	24	722	42	22	571	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.70	0.70		0.70	0.70	0.70				0.70		
vC, conflicting volume	1424	1427	572	1418	1407	743	573			764		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1610	1614	572	1601	1585	631	573			661		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	35	100	94	98			97		
cM capacity (veh/h)	53	68	520	56	71	335	1000			645		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	12	36	18	788	595
Volume Left	1	0	36	0	24	22
Volume Right	0	12	0	18	42	2
cSH	53	520	56	335	1000	645
Volume to Capacity	0.02	0.02	0.65	0.06	0.02	0.03
Queue Length 95th (ft)	2	2	66	4	2	3
Control Delay (s)	74.5	12.1	148.9	16.4	0.6	0.9
Lane LOS	F	B	F	C	A	A
Approach Delay (s)	17.3		103.8		0.6	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	50	0	0	5	0	2	0	47	9	4	65	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	0	5	0	2	0	51	10	4	71	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								988				
pX, platoon unblocked												
vC, conflicting volume	165	168	98	163	191	56	126			61		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	165	168	98	163	191	56	126			61		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	100	99	100	100	100			100		
cM capacity (veh/h)	796	723	958	800	702	1011	1460			1542		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	8	61	130
Volume Left	54	5	0	4
Volume Right	0	2	10	55
cSH	796	851	1460	1542
Volume to Capacity	0.07	0.01	0.00	0.00
Queue Length 95th (ft)	5	1	0	0
Control Delay (s)	9.9	9.3	0.0	0.3
Lane LOS	A	A		A
Approach Delay (s)	9.9	9.3	0.0	0.3
Approach LOS	A	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		

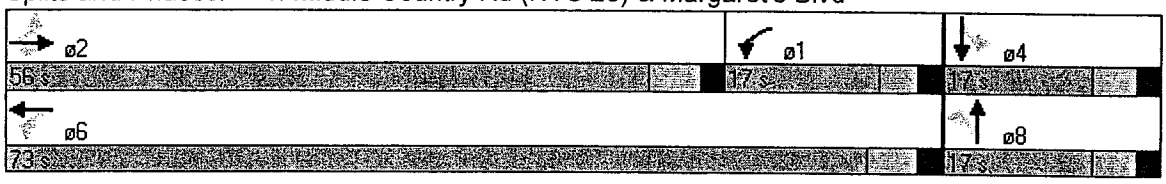
Build Condition with Mitigation Scenario 2 Saturday Midday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	1131	17	298	1009	125	1	5	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm	
Protected Phases		2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phases	2	2	2	1	6	8	8	4	4
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0	10.5	10.5	17.0	17.0
Total Split (s)	56.0	56.0	56.0	17.0	73.0	17.0	17.0	17.0	17.0
Total Split (%)	62.2%	62.2%	62.2%	18.9%	81.1%	18.9%	18.9%	18.9%	18.9%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	52.0	52.0	52.0	69.0	69.0	13.0	13.0		13.0
Actuated g/C Ratio	0.58	0.58	0.58	0.77	0.77	0.14	0.14		0.14
v/c Ratio	0.03	1.14	0.02	1.00	0.40	0.70	0.97		0.28
Control Delay	8.7	98.0	4.9	71.7	1.7	56.4	53.2		34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	8.7	98.0	4.9	71.7	1.7	56.4	53.2		34.6
LOS	A	F	A	E	A	E	D		C
Approach Delay		96.2			17.5		54.0		34.6
Approach LOS		F			B		D		C

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 88 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 54.0 Intersection LOS: D
Intersection Capacity Utilization 110.1% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 1: Middle Country Rd (NYS 25) & Margaret's Blvd

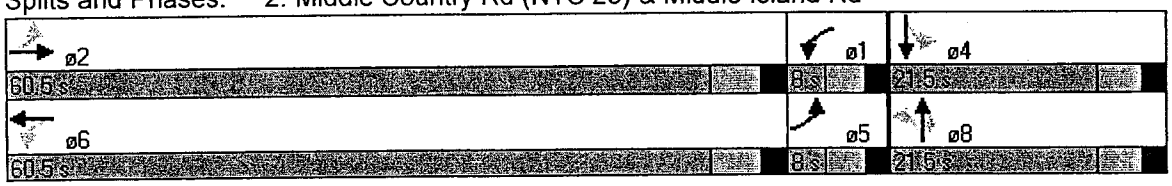


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	37	1313	30	1401	49	2	38	4	6
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phases	5	2	1	6	8	8	8	4	4
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	11.0	8.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	8.0	60.5	8.0	60.5	21.5	21.5	21.5	21.5	21.5
Total Split (%)	8.9%	67.2%	8.9%	67.2%	23.9%	23.9%	23.9%	23.9%	23.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lead	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	69.0	65.0	69.0	65.0		12.2	12.2		12.2
Actuated g/C Ratio	0.77	0.72	0.77	0.72		0.14	0.14		0.14
v/c Ratio	0.18	0.97	0.20	0.58		0.46	0.19		0.45
Control Delay	5.1	24.5	2.2	1.5		44.9	11.4		17.3
Queue Delay	0.0	12.2	0.0	0.4		0.0	0.0		0.0
Total Delay	5.1	36.7	2.2	1.9		44.9	11.4		17.3
LOS	A	D	A	A		D	B		B
Approach Delay		35.8		1.9		30.6			17.3
Approach LOS		D		A		C			B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 80 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 91.4% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Middle Country Rd (NYS 25) & Middle Island Rd

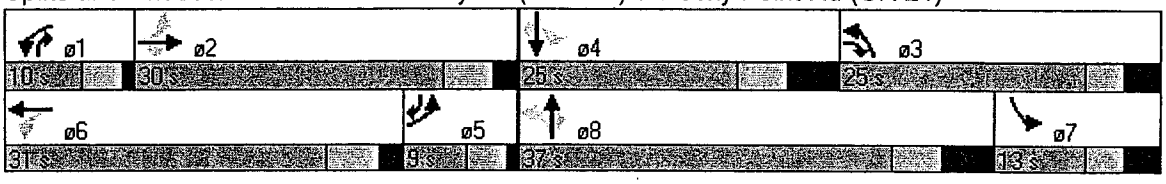


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	139	780	438	156	839	494	393	176	163	375	103
Turn Type	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	5	2	3	1	6	3	8	1	7	4	5
Permitted Phases	2		2	6		8		8	4		4
Detector Phases	5	2	3	1	6	3	8	1	7	4	5
Minimum Initial (s)	5.0	10.0	5.0	3.0	10.0	5.0	5.0	3.0	3.0	5.0	5.0
Minimum Split (s)	9.0	16.0	11.0	7.0	16.0	11.0	13.0	7.0	9.0	13.0	9.0
Total Split (s)	9.0	30.0	25.0	10.0	31.0	25.0	37.0	10.0	13.0	25.0	9.0
Total Split (%)	10.0%	33.3%	27.8%	11.1%	34.4%	27.8%	41.1%	11.1%	14.4%	27.8%	10.0%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	3.0	1.0	2.0	3.0	4.0	1.0	3.0	4.0	1.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	26.0	26.0	47.0	27.0	27.0	45.6	29.7	35.7	33.3	21.0	30.0
Actuated g/C Ratio	0.29	0.29	0.52	0.30	0.30	0.51	0.33	0.40	0.37	0.23	0.33
v/c Ratio	0.93	0.93	0.59	0.90	1.04	1.13	0.67	0.30	0.55	1.13	0.23
Control Delay	60.1	30.0	4.6	73.1	69.9	112.1	31.6	7.3	32.0	117.6	15.7
Queue Delay	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	35.2	4.6	73.1	69.9	112.1	31.6	7.3	32.0	117.6	15.7
LOS	E	D	A	E	E	F	C	A	C	F	B
Approach Delay		27.9			70.3		65.0			79.4	
Approach LOS		C			E		E			E	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 24 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 56.6 Intersection LOS: E
Intersection Capacity Utilization 94.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Middle Country Rd (NYS 25) & Rocky Point Rd (CR 21)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	949	157	103	952	15	123	0	106	10	0	20
Peak Hour Factor	0.80	0.88	0.88	0.91	0.91	0.91	0.97	0.97	0.97	0.72	0.72	0.72
Hourly flow rate (vph)	19	1078	178	113	1046	16	127	0	109	14	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		460										
pX, platoon unblocked				0.63			0.63	0.63	0.63	0.63	0.63	
vC, conflicting volume	1063			1257			2416	2405	1078	2397	2575	1054
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1063			1405			3231	3213	1124	3201	3482	1054
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			63			0	100	31	0	100	90
cM capacity (veh/h)	656			308			2	4	159	1	3	274

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	1097	178	113	1063	127	109	14	28
Volume Left	19	0	113	0	127	0	14	0
Volume Right	0	178	0	16	0	109	0	28
cSH	656	1700	308	1700	2	159	1	274
Volume to Capacity	0.03	0.10	0.37	0.63	56.10	0.69	16.83	0.10
Queue Length 95th (ft)	2	0	41	0	Err	100	Err	8
Control Delay (s)	1.0	0.0	23.3	0.0	Err	66.9	Err	19.6
Lane LOS	A		C		F	F	F	C
Approach Delay (s)	0.9		2.2		5401.6		3346.1	
Approach LOS					F		F	

Intersection Summary			
Average Delay	519.7		
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	985	9	47	1002	4	10	3	70	3	1	22
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.80	0.80	0.80	0.72	0.72	0.72
Hourly flow rate (vph)	33	1145	10	52	1101	4	12	4	88	4	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		817										
pX, platoon unblocked				0.67			0.67	0.67	0.67	0.67	0.67	
vC, conflicting volume	1105			1156			2454	2424	1151	2512	2428	1103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1105			1233			3171	3127	1225	3258	3132	1103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			86			0	39	40	0	77	88
cM capacity (veh/h)	632			378			3	6	146	1	6	257

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1188	1157	104	36
Volume Left	33	52	12	4
Volume Right	10	4	88	31
cSH	632	378	17	5
Volume to Capacity	0.05	0.14	5.94	6.73
Queue Length 95th (ft)	4	12	Err	Err
Control Delay (s)	2.0	6.7	Err	Err
Lane LOS	A	A	F	F
Approach Delay (s)	2.0	6.7	Err	Err
Approach LOS			F	F

Intersection Summary			
Average Delay	566.8		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	1019	931	83	77	49
Peak Hour Factor	0.92	0.92	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	35	1108	1034	92	91	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1127				2258	1081
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1127				2258	1081
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				0	78
cM capacity (veh/h)	620				43	265

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	35	1108	1127	148
Volume Left	35	0	0	91
Volume Right	0	0	92	58
cSH	620	1700	1700	63
Volume to Capacity	0.06	0.65	0.66	2.34
Queue Length 95th (ft)	4	0	0	361
Control Delay (s)	11.2	0.0	0.0	750.6
Lane LOS	B			F
Approach Delay (s)	0.3		0.0	750.6
Approach LOS				F

Intersection Summary			
Average Delay	46.2		
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	343	1	0	1	231	443	0	0	377	1
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.93	0.93	0.93	0.91	0.91	0.91
Hourly flow rate (vph)	2	0	423	2	0	2	248	476	0	0	414	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			10									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1390	1388	415	1387	1389	476	415			476		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1390	1388	415	1387	1389	476	415			476		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	34	94	100	100	78			100		
cM capacity (veh/h)	99	112	638	34	112	589	1144			1086		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	426	4	248	476	0	415
Volume Left	2	2	248	0	0	0
Volume Right	423	2	0	0	0	1
cSH	641	64	1144	1700	1700	1700
Volume to Capacity	0.66	0.06	0.22	0.28	0.00	0.24
Queue Length 95th (ft)	125	5	21	0	0	0
Control Delay (s)	21.2	65.4	9.0	0.0	0.0	0.0
Lane LOS	C	F	A			
Approach Delay (s)	21.2	65.4	3.1		0.0	
Approach LOS	C	F				

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	85	686	11	59	784
Peak Hour Factor	0.88	0.88	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	8	97	746	12	66	881
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1765	752			758	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1765	752			758	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	76			92	
cM capacity (veh/h)	85	410			854	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	105	758	66	881
Volume Left	8	0	66	0
Volume Right	97	12	0	0
cSH	318	1700	854	1700
Volume to Capacity	0.33	0.45	0.08	0.52
Queue Length 95th (ft)	35	0	6	0
Control Delay (s)	21.8	0.0	9.6	0.0
Lane LOS	C		A	
Approach Delay (s)	21.8	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	586	604	187	110	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	1	630	649	201	120	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851				1382	750
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851				1382	750
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				24	100
cM capacity (veh/h)	788				158	411

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	631	851	120
Volume Left	1	0	120
Volume Right	0	201	0
cSH	788	1700	158
Volume to Capacity	0.00	0.50	0.76
Queue Length 95th (ft)	0	0	117
Control Delay (s)	0.0	0.0	76.3
Lane LOS	A		F
Approach Delay (s)	0.0	0.0	76.3
Approach LOS			F

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	81	37	1025	88	35	933
Peak Hour Factor	0.73	0.73	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	111	51	1114	96	37	982
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			551			510
pX, platoon unblocked	0.35	0.22			0.22	
vC, conflicting volume	2218	1162			1210	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3283	1742			1961	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	0			43	
cM capacity (veh/h)	1	23			65	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	162	1210	37	982
Volume Left	111	0	37	0
Volume Right	51	96	0	0
cSH	2	1700	65	1700
Volume to Capacity	76.41	0.71	0.57	0.58
Queue Length 95th (ft)	Err	0	59	0
Control Delay (s)	Err	0.0	117.6	0.0
Lane LOS	F		F	
Approach Delay (s)	Err	0.0	4.3	
Approach LOS	F			

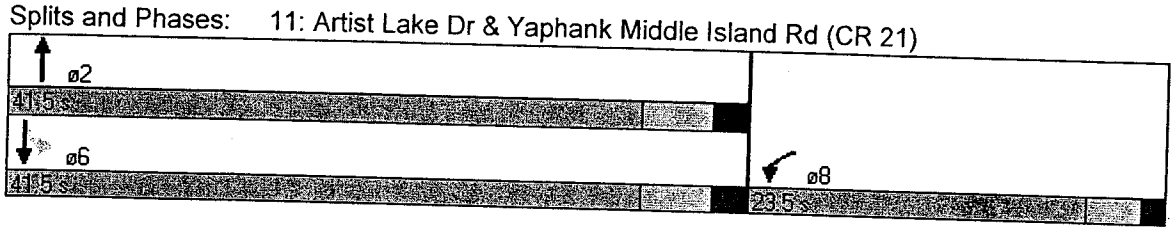
Intersection Summary			
Average Delay	678.0		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	88	1025	27	100	914
Turn Type		Free		Free	Perm	
Protected Phases	8		2			6
Permitted Phases		Free		Free	6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		20.0		20.0	20.0
Minimum Split (s)	23.5		26.0		26.0	26.0
Total Split (s)	23.5	0.0	41.5	0.0	41.5	41.5
Total Split (%)	36.2%	0.0%	63.8%	0.0%	63.8%	63.8%
Yellow Time (s)	3.0		4.0		4.0	4.0
All-Red Time (s)	1.5		2.0		2.0	2.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max		C-Max	C-Max
Act Effct Green (s)	6.3	65.0	58.7	65.0	58.7	58.7
Actuated g/C Ratio	0.10	1.00	0.90	1.00	0.90	0.90
v/c Ratio	0.26	0.06	0.69	0.02	0.57	0.58
Control Delay	30.0	0.1	6.7	0.0	22.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	6.7	0.0	22.7	4.2
LOS	C	A	A	A	C	A
Approach Delay	9.5		6.5			6.0
Approach LOS	A		A			A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 34 (52%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Artist Lake Dr & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1052	0	0	956
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.95
Hourly flow rate (vph)	0	0	1143	0	0	1006
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			281			1164
pX, platoon unblocked	0.36	0.19			0.19	
vC, conflicting volume	2150	1143			1143	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2713	1766			1766	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	8	19			66	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	1143	1006
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	66
Volume to Capacity	0.00	0.67	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

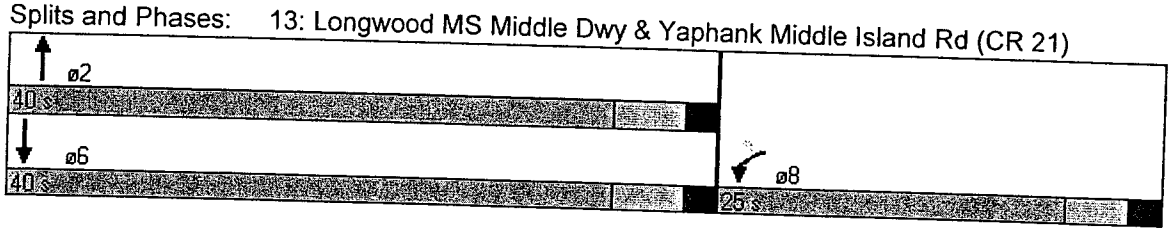
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBT
Lane Configurations				
Volume (vph)	6	1	1052	956
Turn Type		Perm		
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phases	8	8	2	6
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	22.5	22.5	26.0	26.0
Total Split (s)	25.0	25.0	40.0	40.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%
Yellow Time (s)	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effct Green (s)	7.2	7.2	61.8	61.8
Actuated g/C Ratio	0.11	0.11	0.95	0.95
v/c Ratio	0.04	0.01	0.65	0.57
Control Delay	26.0	21.0	4.4	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	21.0	4.4	2.6
LOS	C	C	A	A
Approach Delay	25.4		4.4	2.6
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 3.6 Intersection LOS: A
Intersection Capacity Utilization 66.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Longwood MS Middle Dwy & Yaphank Middle Island Rd (CR 21)



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1051	4	2	960
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	0	0	1142	4	2	1011
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						198
pX, platoon unblocked	0.19					
vC, conflicting volume	2159	1145			1147	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7244	1145			1147	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	0	243			609	

Direction, Lane #	NB 1	SB 1
Volume Total	1147	1013
Volume Left	0	2
Volume Right	4	0
cSH	1700	609
Volume to Capacity	0.67	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	229	1070	1105	302	277	209
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	1163	1201	328	301	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		778	378			
pX, platoon unblocked	0.78				0.54	0.78
vC, conflicting volume	1529				3026	765
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1399				3729	421
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	34				0	50
cM capacity (veh/h)	379				1	454

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	1412	801	729	301	227
Volume Left	249	0	0	301	0
Volume Right	0	0	328	0	227
cSH	379	1700	1700	1	454
Volume to Capacity	0.66	0.47	0.43	503.30	0.50
Queue Length 95th (ft)	112	0	0	Err	68
Control Delay (s)	58.3	0.0	0.0	Err	20.6
Lane LOS	F			F	C
Approach Delay (s)	58.3	0.0		5707.9	
Approach LOS				F	

Intersection Summary			
Average Delay	892.8		
Intersection Capacity Utilization	134.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	65	1000	1011	24	22	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	1087	1099	26	24	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		662				
pX, platoon unblocked					0.65	
vC, conflicting volume	1125				2340	1112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1125				3069	1112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	75
cM capacity (veh/h)	621				8	254

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1158	1125	88
Volume Left	71	0	24
Volume Right	0	26	64
cSH	621	1700	26
Volume to Capacity	0.11	0.66	3.32
Queue Length 95th (ft)	10	0	Err
Control Delay (s)	4.1	0.0	Err
Lane LOS	A		F
Approach Delay (s)	4.1	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	373.4		
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

17: Middle Island Townhomes Drw & Rocky Point Rd (CR 21)

9/21/2007

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	19	45	0	22	22	563	49	25	577	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	21	49	0	24	24	612	53	27	627	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								800				
pX, platoon unblocked	0.76	0.76		0.76	0.76	0.76				0.76		
vC, conflicting volume	1393	1396	628	1390	1370	639	629			665		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1518	1522	628	1514	1488	523	629			558		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	96	28	100	94	97			96		
cM capacity (veh/h)	67	84	483	68	88	420	953			768		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	2	21	49	24	689	657
Volume Left	2	0	49	0	24	27
Volume Right	0	21	0	24	53	2
cSH	67	483	68	420	953	768
Volume to Capacity	0.03	0.04	0.72	0.06	0.03	0.04
Queue Length 95th (ft)	3	3	81	5	2	3
Control Delay (s)	60.9	12.8	140.2	14.1	0.7	0.9
Lane LOS	F	B	F	B	A	A
Approach Delay (s)	17.4		98.8		0.7	0.9
Approach LOS	C		F			

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	68	0	0	8	0	3	0	34	9	4	123	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	0	0	9	0	3	0	37	10	4	134	82
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								957				
pX, platoon unblocked												
vC, conflicting volume	228	230	174	225	266	42	215			47		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	228	230	174	225	266	42	215			47		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	100	99	100	100	100			100		
cM capacity (veh/h)	723	668	869	729	638	1029	1355			1561		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	74	12	47	220
Volume Left	74	9	0	4
Volume Right	0	3	10	82
cSH	723	792	1355	1561
Volume to Capacity	0.10	0.02	0.00	0.00
Queue Length 95th (ft)	9	1	0	0
Control Delay (s)	10.5	9.6	0.0	0.2
Lane LOS	B	A		A
Approach Delay (s)	10.5	9.6	0.0	0.2
Approach LOS	B	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	167	671	18	88	581
Peak Hour Factor	0.75	0.75	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	12	223	714	19	101	668
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1594	723			733	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1594	723			733	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	48			88	
cM capacity (veh/h)	104	426			872	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	235	733	101	668
Volume Left	12	0	101	0
Volume Right	223	19	0	0
cSH	368	1700	872	1700
Volume to Capacity	0.64	0.43	0.12	0.39
Queue Length 95th (ft)	105	0	10	0
Control Delay (s)	30.5	0.0	9.7	0.0
Lane LOS	D		A	
Approach Delay (s)	30.5	0.0	1.3	
Approach LOS	D			

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	671	536	54	18	1
Peak Hour Factor	0.98	0.98	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	0	685	602	61	24	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	663				1317	633
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	663				1317	633
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				86	100
cM capacity (veh/h)	926				174	480

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	685	663	25
Volume Left	0	0	24
Volume Right	0	61	1
cSH	926	1700	180
Volume to Capacity	0.00	0.39	0.14
Queue Length 95th (ft)	0	0	12
Control Delay (s)	0.0	0.0	28.3
Lane LOS			D
Approach Delay (s)	0.0	0.0	28.3
Approach LOS			D

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX H

AIR AND NOISE DOCUMENTS

Appendix H-1

Noise Reading Data Sheets

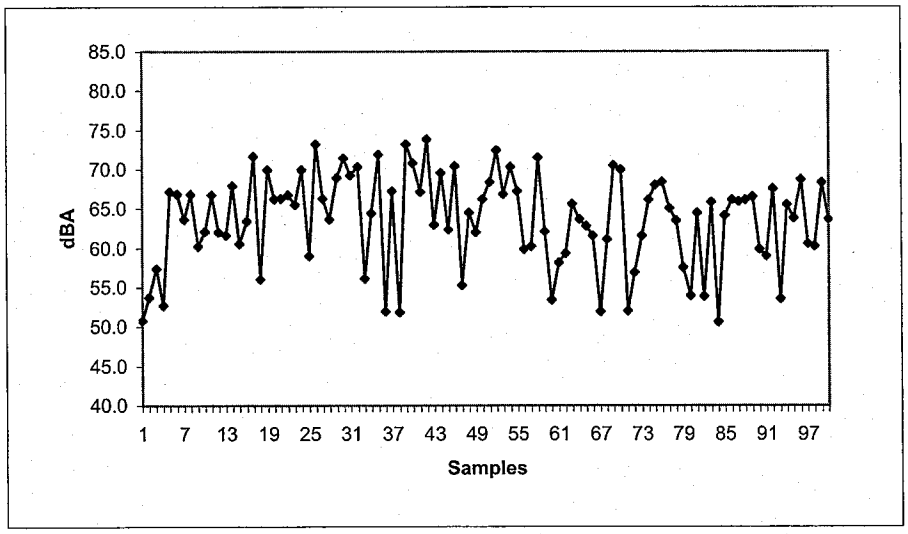
NOISE SURVEY DATA SHEET

STATION 1

Date:	10/17/07	**Field Notes:**	
Time:	2:10 P.M.	CR 25 had consistent flow of traffic.	
Interval:	10 seconds	Cars passing increased level	
Location:	Sandy Hills	Trucks had most noticeable change	
Weather:	71 degrees, 90% Cloud Cover		
Description:	Corner facing Middle Country Road, corner of proposed live work unit		

1	50.7	nc	**18**	56.0		**35**	71.9	c	**51**	68.4	tr,c	**68**	61.1	c	**85**	64.1	c
2	53.7	c	**19**	69.9	c	**36**	51.9		**52**	72.4	c	**69**	70.5	tr	**86**	66.1	c
3	57.3	c	**20**	66.2	c	**37**	67.2	c	**53**	66.8	c	**70**	69.9	c	**87**	65.9	c
4	52.7	c	**21**	66.3		**38**	51.8		**54**	70.3	c	**71**	52.0		**88**	66.1	c
5	67.1	c	**22**	66.7		**39**	73.2	tr	**55**	67.2	c,a	**72**	56.9		**89**	66.5	c
6	66.8	c	**23**	65.5		**40**	70.8	c	**56**	59.8		**73**	61.5	c	**90**	59.8	c
7	63.6	c	**24**	69.9	c	**41**	67.1	c	**57**	60.2	c	**74**	66.1	c	**91**	59.0	c
8	66.8	c	**25**	59.0	c	**42**	73.8	tr	**58**	71.5	c	**75**	68.0	c	**92**	67.5	c
9	60.2		**26**	73.2	tr	**43**	62.9		**59**	62.1	c	**76**	68.4	c	**93**	53.5	
10	62.1		**27**	66.3		**44**	69.5	tr	**60**	53.4		**77**	65.0	c	**94**	65.5	c
11	66.7		**28**	63.6	c	**45**	62.3	c	**61**	58.1	c	**78**	63.5	c	**95**	63.8	c
12	62.0		**29**	68.9	c	**46**	70.4	tr	**62**	59.3	c	**79**	57.5	c	**96**	68.7	c
13	61.6		**30**	71.4	tr	**47**	55.2		**63**	65.6	c	**80**	53.9		**97**	60.5	c
14	67.9	c	**31**	69.2	c	**48**	64.5	c	**64**	63.6	c	**81**	64.4	c	**98**	60.2	c
15	60.5		**32**	70.3	tr	**49**	62.0	c	**65**	62.8	tr,c	**82**	53.8		**99**	68.3	tr
16	63.4	c	**33**	56.1		**50**	66.2	tr	**66**	61.5	c	**83**	65.8	c	**100**	63.6	c
17	71.6	c	**34**	64.4	c				**67**	51.9		**84**	50.6		**Leq:**	**66.6**	

c: car(s) tr: truck d: dog a: aircraft



Maximum Value:	73.8
Minimum Value:	50.6

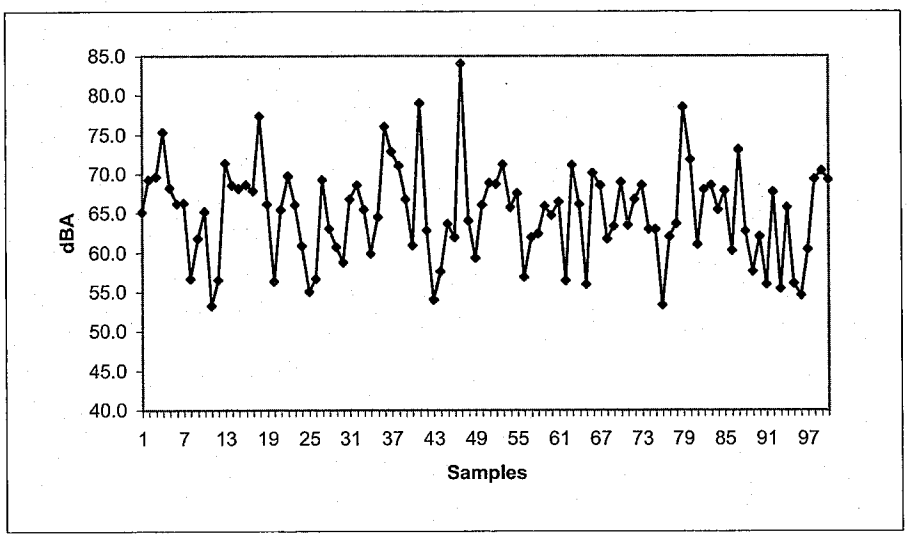
NOISE SURVEY DATA SHEET

STATION 1

Date:	11/14/07	**Field Notes:**	
Time:	2:00 P.M.	CR 25 had consistent flow of traffic	
Interval:	10 seconds	Cars passing increased level	
Location:	Sandy Hills	Trucks had most noticeable change	
Weather:	Cloudy, 60 degrees		
Description:	Facing Middle Country Road, corner of proposed live work unit		

1	65.1	c:	**18**	77.3	tr:	**35**	64.5	c	**51**	68.8	c	**68**	61.7	c	**85**	67.8	c
2	69.2	c:	**19**	66.1	c	**36**	76.0	tr	**52**	68.7	c	**69**	63.3	c	**86**	60.2	c
3	69.6	c:	**20**	56.3		**37**	72.8	tr	**53**	71.2	tr	**70**	68.9	c	**87**	73.0	tr
4	75.3	tr	**21**	65.4	c	**38**	71.0	tr	**54**	65.7	c	**71**	63.5	c	**88**	62.7	c
5	68.2	c:	**22**	69.7	c	**39**	66.7	c	**55**	67.5	c	**72**	66.7	c	**89**	57.6	
6	66.2	c:	**23**	66.0	c	**40**	60.9	c	**56**	56.9		**73**	68.5	c	**90**	62.0	c
7	66.3	c:	**24**	60.8	c	**41**	78.9	tr	**57**	61.9	c	**74**	62.9	c	**91**	55.9	
8	56.6		**25**	55.0		**42**	62.8	c	**58**	62.4	c	**75**	62.9	c	**92**	67.7	c
9	61.8		**26**	56.6		**43**	54.0		**59**	65.9	c	**76**	53.3		**93**	55.4	
10	65.2	c:	**27**	69.2	c	**44**	57.6		**60**	64.7	c	**77**	62.0	c	**94**	65.7	c
11	53.2		**28**	63.0	c	**45**	63.6	c	**61**	66.4	c	**78**	63.6	c	**95**	56.0	
12	56.5		**29**	60.7		**46**	61.9	c	**62**	56.4		**79**	78.5	tr	**96**	54.5	
13	71.3	tr	**30**	58.7		**47**	84.0	tr	**63**	71.1	c	**80**	71.8	tr	**97**	60.4	c
14	68.5	c:	**31**	66.7	c	**48**	64.0	c	**64**	66.1	c	**81**	61.0	c	**98**	69.3	c
15	68.1	c:	**32**	68.5	c	**49**	59.3		**65**	55.9		**82**	68.0	c	**99**	70.4	c
16	68.6	c:	**33**	65.4	c	**50**	66.0	c	**66**	70.1	c	**83**	68.5	c	**100**	69.2	c
17	67.8	c:	**34**	59.8					**67**	68.5	c	**84**	65.4	c	**Leq:**	**69.7**	

c: car(s) tr: truck d: dog a: aircraft



Maximum Value:	84.0
Minimum Value:	53.2

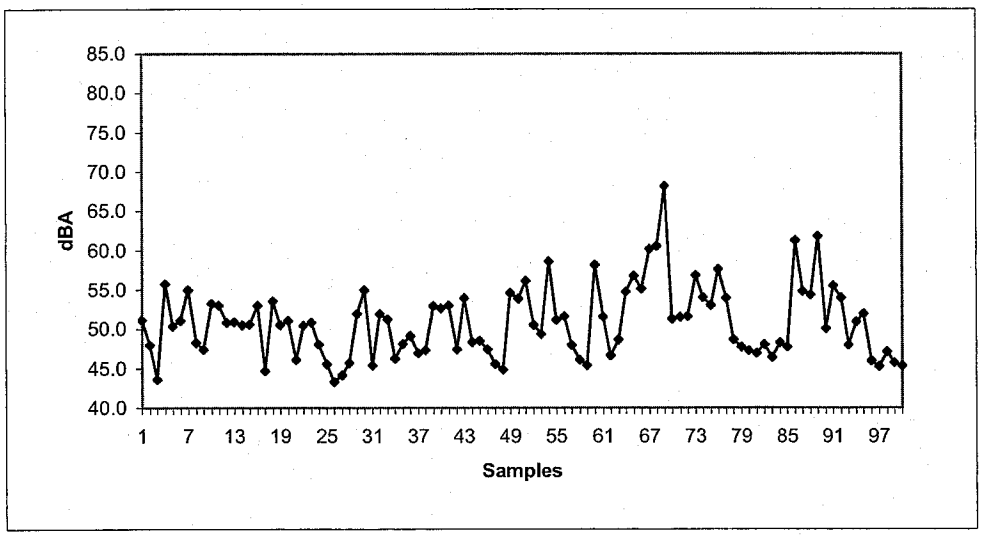
NOISE SURVEY DATA SHEET

STATION 2

Date:	10/17/07	**Field Notes:**	
Time:	1:43 PM	several birds heard	
Interval:	10 seconds	sound attenuated by vegetation buffer	
Location:	Sandy Hills		
Weather:	71 degrees, 90% cloud cover		
Description:	corner of first unit on proposed boulevard, approximately 150' e/o CR 21		

1	51.1		**18**	53.5	c	**35**	48.1		**51**	56.1	tr,c,a	**68**	60.5	tr	**85**	47.7	
2	47.9		**19**	50.5		**36**	49.1	c	**52**	50.5	a	**69**	68.1	tr	**86**	61.2	tr
3	43.6		**20**	51.0	c	**37**	46.9	c	**53**	49.3	a	**70**	51.3	c	**87**	54.8	c
4	55.7	tr	**21**	46.1		**38**	47.3	c	**54**	58.6	a	**71**	51.5	c	**88**	54.3	c,tr
5	50.3	tr	**22**	50.4	c	**39**	52.9	c	**55**	51.1	c,a	**72**	51.6		**89**	61.8	tr
6	51.0	c	**23**	50.8	c	**40**	52.6	c	**56**	51.6	c,a	**73**	56.8	c	**90**	50.0	
7	54.9	c	**24**	48.0	b	**41**	53.0	c	**57**	47.9		**74**	54.0		**91**	55.5	c
8	48.2		**25**	45.5		**42**	47.4		**58**	46.1		**75**	53.0		**92**	53.9	c
9	47.4		**26**	43.3		**43**	53.9	tr	**59**	45.4		**76**	57.6	tr	**93**	47.9	b
10	53.2	c	**27**	44.1		**44**	48.3		**60**	58.1	tr,c	**77**	53.9		**94**	50.9	c
11	53.0	c	**28**	45.7		**45**	48.5		**61**	51.5	tr,c	**78**	48.6		**95**	51.9	c
12	50.8	c	**29**	51.9	c	**46**	47.4		**62**	46.6		**79**	47.7		**96**	45.9	
13	50.9	c:	**30**	54.9	c	**47**	45.5	b	**63**	48.6		**80**	47.2		**97**	45.2	
14	50.5	c:	**31**	45.4		**48**	44.8		**64**	54.7	tr,c	**81**	46.9		**98**	47.1	c
15	50.6		**32**	51.9	c	**49**	54.5	t	**65**	56.7	tr	**82**	48.0	c	**99**	45.7	
16	53.0	tr	**33**	51.2		**50**	53.8	tr,b,a	**66**	55.1	tr	**83**	46.4		**100**	45.3	
17	44.7		**34**	46.2					**67**	60.1	tr	**84**	48.2	c	**Leq:**	**54.1**	

c: car(s) tr: truck d: dog b: birds a: aircraft



Maximum Value:	68.1
Minimum Value:	43.3

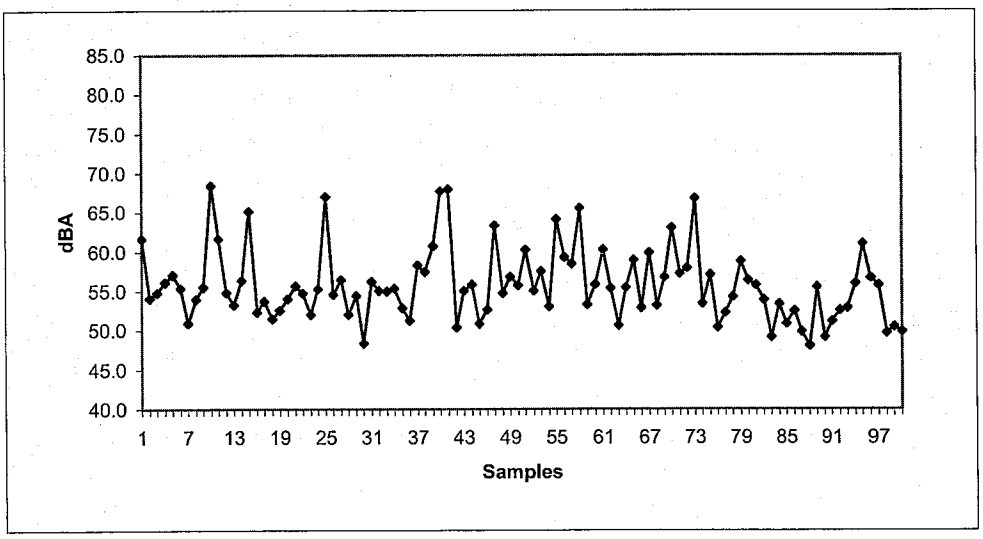
NOISE SURVEY DATA SHEET

STATION 2

Date:	11/14/07	**Field Notes:**	
Time:	2:30 PM	truck and car traffic predominant on CR 21	
Interval:	10 seconds	sound attenuated by vegetation buffer	
Location:	Sandy Hills		
Weather:	Cloudy, 60		
Description:	corner of first unit on proposed boulevard, approximately 150' e/o CR 21		

1	61.6	c:	**18**	51.4		**35**	52.8		**51**	60.2	c	**68**	53.1		**85**	50.8	
2	54.1		**19**	52.5		**36**	51.2		**52**	55.0	c	**69**	56.7	c	**86**	52.4	
3	54.8		**20**	54.0		**37**	58.3	c	**53**	57.5	c	**70**	63.0	c	**87**	49.8	
4	56.1	c:	**21**	55.6	c	**38**	57.4	c	**54**	53.0		**71**	57.2	c	**88**	48.0	
5	57.0	c:	**22**	54.7		**39**	60.7	c	**55**	64.1	c	**72**	57.9	c	**89**	55.5	c
6	55.3	c:	**23**	52.0		**40**	67.7	tr	**56**	59.3	c	**73**	66.7	tr	**90**	49.1	
7	50.9		**24**	55.2	c	**41**	67.9	tr	**57**	58.4	c	**74**	53.4		**91**	51.1	
8	53.9		**25**	67.0	tr:	**42**	50.3		**58**	65.5	tr	**75**	57.0	c	**92**	52.5	
9	55.5	c:	**26**	54.5		**43**	55.0	c	**59**	53.2		**76**	50.3		**93**	52.8	
10	68.4	tr	**27**	56.4	c	**44**	55.8	c	**60**	55.8	c	**77**	52.2		**94**	55.9	c
11	61.6	c:	**28**	52.0		**45**	50.8		**61**	60.2	c	**78**	54.2		**95**	61.0	c
12	54.8		**29**	54.4		**46**	52.6		**62**	55.3	c	**79**	58.7	c	**96**	56.6	c
13	53.2		**30**	48.3		**47**	63.3	c	**63**	50.6		**80**	56.3	c	**97**	55.7	c
14	56.3	c:	**31**	56.2	c	**48**	54.7	c	**64**	55.4	c	**81**	55.7	c	**98**	49.6	
15	65.1	tr	**32**	55.0	c	**49**	56.8	c	**65**	58.9	c	**82**	53.8		**99**	50.4	
16	52.3		**33**	54.9		**50**	55.7	c	**66**	52.8		**83**	49.1		**100**	49.8	
17	53.7		**34**	55.3	c				**67**	59.8	c	**84**	53.3		**Leq:**	**58.8**	

c: car(s) tr: truck d: dog b: birds a: aircraft



Maximum Value:	68.4
Minimum Value:	48.0

NOISE SURVEY DATA SHEET

STATION 3

Date: 10/17/07

Time: 1:12 P.M.

Interval: 10 seconds

Location: Sandy Hills

Weather: 71 degrees, 90% Cloud Cover

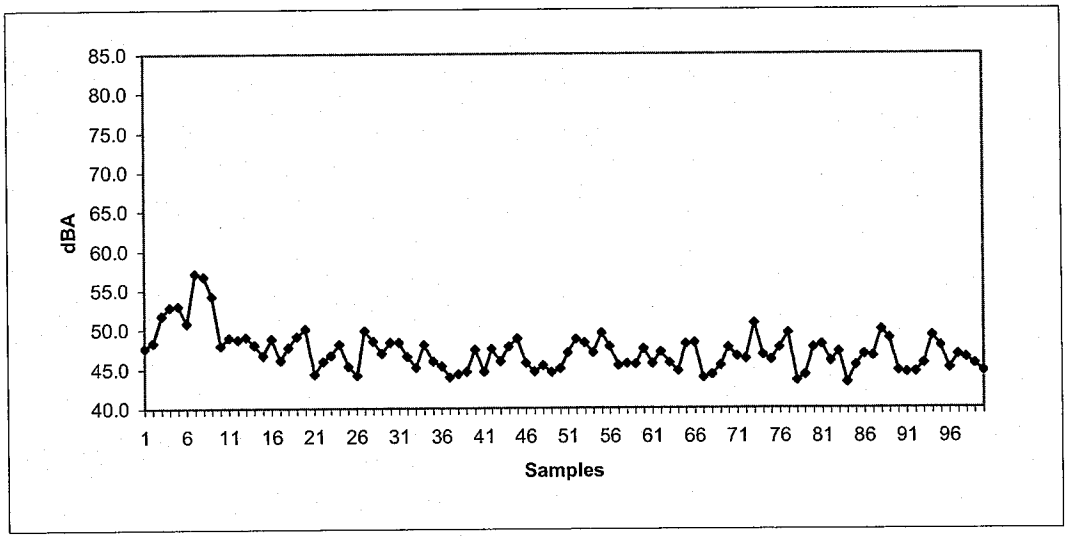
Description: Closest proposed residence to boat storage yard, approximately 250' e/o CR 21

Field Notes:

Slight breeze, occassional birds chirping, traffic

1	47.6		**18**	47.7		**35**	45.9		**51**	47.0	b	**68**	44.2		**85**	45.4	
2	48.3		**19**	49.1	tr	**36**	45.3		**52**	48.7		**69**	45.4	c	**86**	46.8	c
3	51.7	tr	**20**	50.0	tr	**37**	43.9		**53**	48.2	c	**70**	47.6	a	**87**	46.5	c
4	52.8	tr	**21**	44.3		**38**	44.3		**54**	47.0		**71**	46.5	a	**88**	49.9	tr
5	53.0	tr	**22**	45.9		**39**	44.6		**55**	49.5	tr	**72**	46.2	a,c	**89**	48.8	tr
6	50.8	tr	**23**	46.7	a	**40**	47.4		**56**	47.8		**73**	50.7	a	**90**	44.7	
7	57.1	tr	**24**	48.1	c	**41**	44.6		**57**	45.4		**74**	46.7		**91**	44.4	
8	56.7	tr	**25**	45.3		**42**	47.5		**58**	45.6		**75**	46.1	c	**92**	44.5	
9	54.2	tr	**26**	44.1		**43**	45.9		**59**	45.5		**76**	47.6	tr	**93**	45.6	
10	47.9		**27**	49.8	tr	**44**	47.8		**60**	47.5		**77**	49.5		**94**	49.1	tr,c
11	48.9		**28**	48.5		**45**	48.8	tr	**61**	45.6		**78**	43.4		**95**	47.8	
12	48.7		**29**	46.9		**46**	45.7		**62**	47.1	tr,a	**79**	44.1	tr	**96**	45.0	
13	49.0	c:	**30**	48.3		**47**	44.6		**63**	45.7		**80**	47.6	tr	**97**	46.7	
14	48.0		**31**	48.3		**48**	45.4		**64**	44.7		**81**	48.0		**98**	46.3	b:
15	46.7		**32**	46.5		**49**	44.5		**65**	48.1	tr	**82**	45.9	c	**99**	45.5	
16	48.8		**33**	45.1		**50**	45.0		**66**	48.2	tr	**83**	47.1		**100**	44.6	
17	46.1		**34**	48.0					**67**	43.8		**84**	43.2		**Leq:**	**48.2**	

c: car(s) tr: truck d: dog b: bird a: aircraft



Maximum Value: 57.1
Minimum Value: 43.2

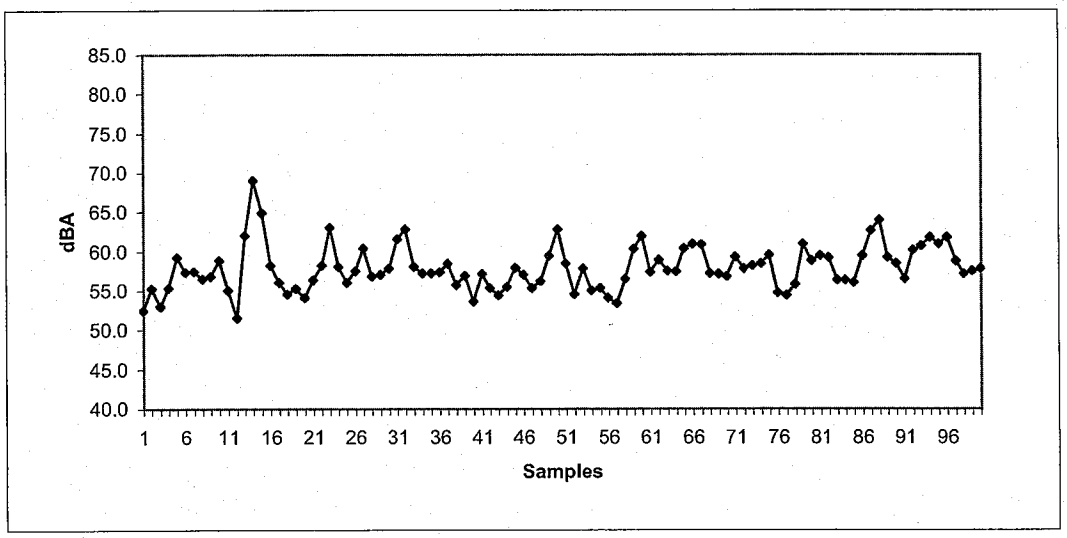
NOISE SURVEY DATA SHEET

STATION 3

Date:	11/14/07	**Field Notes:**	
Time:	3:00 P.M.	Occational slight breeze, rustling leaves	
Interval:	10 seconds	sound attenuated by vegetation buffer	
Location:	Sandy Hills		
Weather:	Cloudy, 60		
Description:	Closest proposed residence to boat storage yard, approximately 250' e/o CR 21		

1	52.4		**18**	54.5		**35**	57.2	c	**51**	58.4	c	**68**	57.2	c	**85**	56.0	c
2	55.2		**19**	55.2		**36**	57.3	c	**52**	54.5		**69**	57.1	c	**86**	59.4	c
3	53.0		**20**	54.1		**37**	58.4	c	**53**	57.8	c	**70**	56.8	c	**87**	62.6	tr
4	55.3		**21**	56.3	c	**38**	55.7		**54**	55.0		**71**	59.3	c	**88**	63.9	tr
5	59.2	c:	**22**	58.2	c	**39**	56.9	c	**55**	55.3		**72**	57.8	c	**89**	59.2	c
6	57.3	c:	**23**	63.0	tr:	**40**	53.6		**56**	54.1		**73**	58.2	c	**90**	58.4	c
7	57.4	c:	**24**	58.0	c	**41**	57.1	c	**57**	53.4		**74**	58.4	c	**91**	56.5	c
8	56.5	c:	**25**	56.0	c	**42**	55.3		**58**	56.5	c	**75**	59.5	c	**92**	60.1	tr
9	56.8	c:	**26**	57.5	c	**43**	54.4		**59**	60.3	tr	**76**	54.7	c	**93**	60.7	tr
10	58.8	c:	**27**	60.4	tr:	**44**	55.5		**60**	61.9	tr	**77**	54.4	c	**94**	61.8	tr
11	55.0		**28**	56.8	c	**45**	57.9	c	**61**	57.3	c	**78**	55.8		**95**	60.9	tr
12	51.5		**29**	57.0	c	**46**	57.0	c	**62**	58.9	c	**79**	60.9	tr	**96**	61.8	tr
13	62.0	tr	**30**	57.8	c	**47**	55.3		**63**	57.5	c	**80**	58.8	c	**97**	58.7	c
14	69.0	tr	**31**	61.5	tr:	**48**	56.2	c	**64**	57.4	c	**81**	59.4	c	**98**	57.1	c
15	64.9	tr	**32**	62.8	tr:	**49**	59.4	c	**65**	60.4	tr	**82**	59.2	c	**99**	57.5	c
16	58.2	c:	**33**	58.0	c	**50**	62.8	tr	**66**	60.9	tr	**83**	56.3	c	**100**	57.8	c
17	56.0	c:	**34**	57.2	c				**67**	60.8	tr	**84**	56.3	c	**Leq:**	**59.0**	

c: car(s) tr: truck d: dog b: bird a: aircraft



Maximum Value:	69.0
Minimum Value:	51.5

Appendix H-2

State and Federal Air Quality Standards

New York State and Federal Ambient Air Quality Standards

		New York State Standards			Corresponding Federal Standards					
					Primary Standard			Secondary Standard		
Pollutant [1]	Avg. Period	Conc.	Units	Statistic [2]	Conc.	Units [3]	Statistic	Conc.	Units	Statistic
Sulfur Dioxide	12 consecutive months	0.03	PPM	Arithmetic Mean (A.M)	80	µg/m³	A.M.			
	24-hour	0.14	PPM	Maximum	365	µg/m³	Maximum			
	3-hour	0.50	PPM	Maximum				1300	µg/m³	Maximum
Carbon Monoxide	8-hour	9	PPM	Maximum	10	µg/m³	Maximum	10	µg/m³	Maximum
	1-hour	35	PPM	Maximum	40	µg/m³	Maximum	40	µg/m³	Maximum
Ozone [4]	1-hour	0.12	PPM	Maximum	235	µg/m³	Maximum	235	µg/m³	Maximum
	8-hour	0.08	PPM	Maximum	157	µg/m³	Maximum	157	µg/m³	Maximum
Hydrocarbons (non-methane)	3-hour (6-9 am)	0.24	PPM	Maximum						
Nitrogen Dioxide	12 consecutive months	0.05	PPM	Maximum	100	µg/m³	A.M	100	µg/m³	A.M.
Lead [5]	3 consecutive months				1.5	µg/m³	Maximum			
Fine Particulate Matter ($PM_{2.5}$)	12 consecutive months				15	µg/m³	A.M.	15	µg/m³	A.M.
	24-hours				65	µg/m³	Maximum	65	µg/m³	Maximum
Inhalable Particulates (PM_{10}) [6]	12 consecutive months				50	µg/m³	A.M.	50	µg/m³	A.M.
	24-hours				150	µg/m³	Maximum	150	µg/m³	Maximum
Total Suspended Particulates (TSP) [7]	12 consecutive months	75	µg/m³	Geometric Mean (G.M.)						
	24-hours	250	µg/m³	Maximum	260	µg/m³	Maximum	150	µg/m³	Maximum

1. New York State also has standards for beryllium, fluorides, hydrogen sulfide, and settleable particulates (dustfall). Ambient monitoring for these pollutants is not currently conducted.
2. All maximum values are concentrations not to be exceeded more than once per calendar year. (Federal Ozone Standard not to be exceeded more than three days in three calendar years).
3. Gaseous concentrations for Federal standards are corrected to a reference temperature of 25°C and to a reference pressure of 760 millimeters of mercury.
4. Former NYS Standard for ozone of 0.08 PPM was not officially revised via regulatory process to coincide with the Federal standard of 0.12 PPM which is currently being applied by NYS to determine compliance status.
5. Federal standard for lead not yet officially adopted by NYS, but is currently being applied to determine compliance status.
6. Federal standard for PM_{10} not yet officially adopted by NYS, but is currently being applied to determine compliance status.
7. New York State also has 30, 60, and 90-day standards as well as geometric mean standards of 45, 55, and 65 µg/m³ in Part 257 of NYCRR. While these TSP standards have been superseded by the above PM_{10} standards, TSP measurements may still serve as surrogates to PM_{10} measurements in the determination of compliance status.

Source: http://www.dec.state.ny.us/website/dar/baqs/aqreport/aaqstd.html

Appendix H-3

Suffolk and Nassau Air Quality Monitoring Data

OZONE - Continuous UV Light Absorption

NYSDEC Region **1**
Metropolitan Air Quality Control Region

Annual Averages 1996 through 2006

Annual Arithmetic Mean (ppm)

Station	Site No.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Babylon	5150-02N	.023	.024	.025	.025	.023	.023	.024	.025	.024	.024	.024
Holtsville	5151-10	--	--	--	--	--	--	--	--	--	--	.030
Riverhead	5155-01	.035	.036	.040	.035	.034	.030	.033	.030	(.029)	.035	.039

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2006

		One Hour Averages							4th Highest Daily Maximum 8-Hour Average- Not to exceed an avg of 0.08 ppm during the last 3 years *			
		Observations			Highest Values, PPM							
Station	Site No.	Total Obs.	% Avail	>.12 PPM	1st	2nd	3rd	4th	2004	2005	2006	Avg
Babylon	5150-02N	8,573	98	3	.139 + [07/17, 16]	.129 + [07/18, 16]	.128 + [08/02, 15]	.115 [08/01, 15]	.081 [07/22]	.098 [07/22]	.090 [08/01]	.089 +
Holtsville (Operated 04/26-10/31)	5151-10	4,235	93	3	.142 + [07/17, 17]	.135 + [07/18, 15]	.126 + [08/02, 16]	.123 [08/01, 16]	---	---	.093 [08/03]	---
Riverhead (Operated 03/23-11/01)	5155-01	4,942	92	3	.168 + [07/18, 16]	.146 + [07/17, 17]	.126 + [08/01, 18]	.120 [08/02, 17]	.069 [05/11]	.086 [07/21]	.101 [07/17]	.085 +

Due to EPA Waiver for SLAMS (Non-NAMS), % Availability may be based on operational year of less than 12 months (Riverhead)

(Annual Means in parentheses are based on less than 75% available data) N=NAMS (National Air Monitoring Station) [Date of Occurrence, Hour]
* Federal Ambient Air Quality Standard + Denotes a contravention of Federal AAQS (Note: .08 PPM standard is not exceeded unless avg. of 4th max 8-hr concentrations > .084 PPM)

NITRIC OXIDE & NITROGEN DIOXIDE - Continuous Chemiluminescence

NYSDEC Region 1
Metropolitan Air Quality Control Region

Annual Averages 1996 through 2006

Nitric Oxide - Annual Arithmetic Mean (ppm)

Station	Site No.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Eisenhower Park	2950-10	.034	.034	.030	.032	.028	.029	.024	.023	(.018)	.018	.019

Nitrogen Dioxide - Annual Arithmetic Mean (ppm) - Primary Standard
(12 month average not to exceed 0.05 PPM *)

Station	Site No.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Eisenhower Park	2950-10	.026	.025	.022	.025	.024	.024	.022	.021	(.019)	.020	.018

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2006

		Nitric Oxide One-Hour Averages					**Nitrogen Dioxide** One-Hour Averages				
		Observations		**Highest Values, PPM**			**Observations**		**Highest Values, PPM**		
Station	**Site No.**	**Total**	**% Avail**	**1st**	**2nd**	**3rd**	**Total**	**% Avail**	**1st**	**2nd**	**3rd**
Eisenhower Park	2950-10	8,415	96	.720 [11/28, 09]	.641 [11/28, 08]	.577 [12/06, 08]	8,415	96	.092 [11/28, 09]	.079 [12/06, 08]	.078 [11/28, 08]

(Annual Means in parentheses are based on less than 75% available data)
* Federal Ambient Air Quality Standard

N=NAMS (National Air Monitoring Station)

[Date of Occurrence, Hour]
+ Denotes a contravention of Federal AAQS

SULFUR DIOXIDE - Continuous Pulsed Fluorescence

NYSDEC Region 1
Metropolitan Air Quality Control Region

Annual Averages 1996 through 2006

Annual Arithmetic Mean (ppm) - Primary Standard
(12 month average not to exceed 0.03 PPM *)

Station	Site No.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Babylon	5150-02	.008	.006	.007	.007	(.010)	xxx	xxx	xxx	xxx	xxx	xxx
Eisenhower Park	2950-10	.006	.005	.006	.006	.006	.005	.004	.005	.004	.004	.004

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2006

		One-Hour Averages		Running 3-Hour Averages Maximum not to exceed 0.5 PPM more than once per calendar year *					24 Hour Average (Calendar Day) Maximum not to exceed 0.14 PPM more than once per calendar year *				
				Observations		Highest Values, PPM Non-Overlapping			Observations		Highest Values, PPM Midnight - Midnight		
Station	Site No.	Total Obs.	% Avail	Total	>0.5 PPM	1st	2nd	3rd	Total	>.14 PPM	1st	2nd	3rd
Eisenhower Park	2950-10	8,122	93	7,994	0	.051 [02/11, 05]	.042 [02/11, 02]	.042 [03/02, 08]	344	0	.021 [03/02]	.020 [01/28]	.020 [02/21]

(Annual Means in parentheses are based on less than 75% available data)
*New York and Federal Ambient Air Quality Standard

N=NAMS (National Air Monitoring Station)

[Date of Occurrence, Hour]
+ Denotes a contravention of NYS/Federal AAQS

INHALABLE PARTICULATES - Wedding Sampler

NYSDEC Region 1
Metropolitan Air Quality Control Region

Annual Averages 1995 through 2005

Annual Arithmetic Mean (ug/m^3)

Station	Site No.	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	3 Yr Exp Val
Babylon (Farmingdale)	5150-01	18	18	19	19	xx	xx	xx	xx	xx	xx	xx	xx
Eisenhower Park	2950-10	20	18	21	18	16	17	17	18	18	15	xx	xx
Roslyn Heights	2951-03	(18)	20	23	20	xx	xx	xx	xx	xx	xx	xx	xx

Lab results not received for 2950-10 for 2005. Sampling terminated at 2950-10 on 12/31/2005.

(Annual Means in parentheses are based on less than 75% available data)
*New York and Federal Ambient Air Quality Standard

N=NAMS (National Air Monitoring Station)

Mea=Measured Est=Estimated
+ Denotes a contravention of NYS/Federal AAQS

INHALABLE PARTICULATES (<2.5 Microns) - Rupprecht & Patashnick Sampler

NYSDEC Region **1**
Metropolitan Air Quality Control Region

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2006
(Average of last 3 years' annual means not to exceed 15 μg/m³ *; and average of 98th percentile for last 3 years not to exceed 65 μg/m³ *)

Station	Site No.	Total Obs.	Maximum Values			98th Percentile				Quarterly Averages, 2006				Annual Mean			
			1st	2nd	3rd	2006	2005	2004	3-yr avg	1st	2nd	3rd	4th	2006	2005	2004	3-yr avg
Eisenhower Park(T)	2950-10	362	46.4 [08/02]	42.4 [07/04]	42.3 [07/18]	34.3	36.8	32.4	34	12.3	11.9	15.5	12.5	13.0	13.4	13.2	13.2
Hempstead (F)	2950-18	114	37.5 [07/04]	34.1 [08/03]	33.0 [11/28]	33.0	35.1	30.8	33	11.1	10.1	12.8	9.1	10.8	12.4	11.3	11.5
Babylon (F)	5150-01	116	40.8 [07/04]	33.1 [11/28]	31.9 [06/22]	31.9	34.3	30.9	32	10.8	9.8	11.8	8.7	10.3	12.0	10.7	11.0

(Annual Means in parentheses are based on less than 75% available data)
F = Federal Reference Method
T = TEOM (Tapered Element Oscillating Microbalance) - not applicapble for standards compliance

* Federal Ambient Air Quality Standard
\+ Denotes a contravention of Federal AAQS

CARBON MONOXIDE - Continuous Non-Dispersive Infrared

NYSDEC Region **1**
Metropolitan Air Quality Control Region

Annual Averages 1990 through 2000

Annual Arithmetic Mean (ppm)

Station	Site No.	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Eisenhower Park	2950-10	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.7	(0.7)

Sampling at 2950-10 was terminated on 5/31/2000.

(Annual Means in parentheses are based on less than 75% available data)
*New York and Federal Ambient Air Quality Standard

N=NAMS (National Air Monitoring Station)
+ Denotes a contravention of NYS/Federal AAQS (Note: 9PPM standard is not exceeded unless 8-hour avg > 9.4 PPM)

[Date of Occurrence, Hour]

Appendix H-4

NYSDEC Mining Permit Covenants

DISTRICT
0200

SECTION
320

BLOCK
1

LOT
1.10
1.11
2.0

DISTRICT
0200

SECTION
345

BLOCK
1

LOTS
1.004
1.005
2.0
4.006
5.002

DECLARATION OF COVENANTS

This DECLARATION made and dated this 29th day of May, 2001, by ROANOKE SAND & GRAVEL CORP. with offices at 104 Rocky Point Road, Middle Island, New York, 11953, hereinafter referred to as "DECLARANT":

WITNESSETH:

WHEREAS, the DECLARANT is the owner in fee of the real property described in Schedule "A" attached hereto and made a part hereof; and

WHEREAS, an application has been made to the New York State Department of Environmental Conservation, and

WHEREAS, on July 26, 2000, the New York State Department of Environmental Conservation issued a permit under permit # 1-4722-00611/00005 to mine approximately 151 affected acres of a 298 acre site over the life of the mine for the property described in Schedule "A" which has been filed with the New York State Department of Environmental Conservation. The affected 151 acres will be mined to a maximum depth of 110' below the water table. The reclamation for this site consists of establishing a 151 acre lake with a vegetated buffer zone, and provisions for public access, and

WHEREAS, the DECLARANT deems it advisable and in the best interests of the New York State Department of Environmental Conservation to impose certain covenants upon said real property,

NOW, THEREFORE, in consideration of the premises, the DECLARANT declares that the above described real property is held subject to the following covenants:

1. This property is the subject of a mining permit issued by the New York State Department of Environmental Conservation (Permit #1-4722-00661/00005) and any subsequent renewals and/or modifications issued thereafter). The Permittee and/or successors and/or assigns of Permittee are subject to the terms and conditions of that Permit and Environmental Conservation Law Article 23 and the application rules and regulations (6 NYCRR Parts 420-426) with regard to the mining and reclamation of the mined property. Said Permit requires that within ninety (90) calendar days of completion of the final grading of the reclaimed area, the Permittee shall have the lake shore surveyed in order to establish a one hundred fifty (150) foot wide protective area around the lake consisting of a one hundred (100) foot wide vegetated "no-disturbance" buffer zone landward of the perimeter path, a twenty (20) foot wide perimeter path with 5' and 8' drainage swales, and a 20' vegetated "no-disturbance" buffer zone between the drainage swale and the water's edge, and shall depict such total one hundred fifty (150) foot wide protective area on an as-built survey and produce a metes and bounds description (Schedule A) of said protective area. Furthermore, the property described in Schedule A (metes and bounds description) shall be subject to a one hundred fifty (150) foot wide protective area around the lake consisting of a one hundred (100) foot wide vegetated "no-disturbance" buffer zone landward of the perimeter path, a twenty (20)

foot wide perimeter path with 5' and 8' drainage swales, and a 20' vegetated "no-disturbance" buffer zone between the drainage swale and the water's edge.

2. The following activities in the "no-disturbance" buffer zone are specifically prohibited: clearing or cutting of vegetation, application of chemicals, excavation, grading, filling, construction, and erection of any structures. Except as specifically allowed above, the "no-disturbance" buffer zones shall be preserved and shall remain undisturbed and in natural vegetation in perpetuity. However, nothing shall prevent the initial re-planting and re-establishment of natural vegetation in the buffer area in accordance with the approved reclamation plan.

The foregoing covenants and restrictions are intended to run with the land and are binding on all current and future owners of the property. The deed restriction and notice covenant can only be terminated in accordance with the law of the State of New York applicable to the termination of easements and covenants running with the land. This deed restriction and notice covenant may be modified only upon the written consent of both the New York State Department of Environmental Conservation and the land owner, or their successors, heirs, representatives or assigns. The New York State Department of Environmental Conservation and Roanoke Sand & Gravel Corp. recognize that circumstances could arise which would justify the modification of certain of the restrictions contained herein. To this end, the New York State Department of Environmental Conservation and Roanoke Sand & Gravel Corp. shall mutually have the right in their sole discretion to agree to amendments of this deed restriction and notice

covenant which are not inconsistent with the basic purpose of the deed restriction and notice covenant.

IN WITNESS WHEREOF, the DECLARANT has executed this DECLARATION the day and year first above written.

ROANOKE SAND & GRAVEL CORP.

BY: James D Baker

STATE OF NEW YORK)
)
COUNTY OF SUFFOLK)

STATE OF NEW YORK
ss.:
County of Suffolk

I, EDWARD P. ROMAINE, Clerk of the County of Suffolk and Clerk of the Supreme Court of the State of New York in and for said County (said Court being a Court of Record) DO HEREBY CERTIFY that I have compared the annexed copy of Deed liber 12153 at Page 698 Recorded 11-19-2001 Deed and that it is a just and true copy of such original and of the whole thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of said County and Court this 4 day of March 2003

Edward P. Romaine
Clerk

Form No. 104

December 6, 2000
(Amended)

Surveyor's Description of Property
Situated at Middle Island, Town of Brookhaven,
To Be Dedicated To The State Of New York

BEGINNING at the northwest corner of land now or formerly of Kogel Lumber and Supply Company, said point of beginning as shown on a Preliminary Map prepared by Lee Lutz, for Barcom Properties, on January 26, 1990, said point of beginning being the following two courses and distances from the intersection of a line connecting the westerly side of Miller Place-Yaphank Road with the westerly side of Rocky Point Road, (County Route 21);

1. South 10 Deg. 07 Min. 28 Sec. East, 478.57 Feet.
2. South 79 Deg. 52 Min. 32 Sec. West, 451.09 Feet to the point or place of BEGINNING.

Thence the following forty two (42) courses and distances;

1. South 02 Deg. 19 Min. 28 Sec. West, 156.10 Feet
2. South 04 Deg. 05 Min. 53 Sec. West, 859.80 Feet
3. South 15 Deg. 20 Min. 30 Sec. West, 50.01 Feet
4. North 73 Deg. 27 Min. 32 Sec. West, 954.18 Feet
5. South 07 Deg. 38 Min. 50 Sec. West, 5.90 Feet
6. South 07 Deg. 00 Min. 20 Sec. West, 698.19 Feet
7. South 20 Deg. 49 Min. 10 Sec. West, 509.51 Feet
8. South 19 Deg. 27 Min. 10 Sec. West, 198.50 Feet
9. South 23 Deg. 45 Min. 10 Sec. West, 199.87 Feet
10. South 24 Deg. 28 Min. 20 Sec. West, 235.04 Feet
11. South 25 Deg. 32 Min. 10 Sec. West, 363.66 Feet
12. South 23 Deg. 40 Min. 00 Sec. West, 267.77 Feet
13. South 24 Deg. 11 Min. 20 Sec. West, 108.62 Feet
14. South 18 Deg. 48 Min. 20 Sec. West, 23.56 Feet
15. North 73 Deg. 41 Min. 31 Sec. West, 1016.54 Feet
16. North 06 Deg. 41 Min. 40 Sec. East, 220.76 Feet
17. North 05 Deg. 10 Min. 00 Sec. East, 197.64 Feet
18. North 05 Deg. 16 Min. 40 Sec. East, 376.09 Feet
19. North 05 Deg. 25 Min. 30 Sec. East, 262.29 Feet
20. North 05 Deg. 19 Min. 00 Sec. East, 227.06 Feet
21. North 06 Deg. 50 Min. 30 Sec. East, 430.30 Feet
22. South 85 Deg. 20 Min. 40 Sec. East, 257.19 Feet
23. North 04 Deg. 39 Min. 20 Sec. East, 625.00 Feet
24. North 85 Deg. 20 Min. 40 Sec. West, 270.00 Feet
25. North 04 Deg. 39 Min. 20 Sec. East, 381.36 Feet
26. North 03 Deg. 07 Min. 50 Sec. East, 840.30 Feet
27. North 03 Deg. 54 Min. 10 Sec. East, 613.19 Feet
28. North 05 Deg. 51 Min. 20 Sec. East, 707.90 Feet
29. South 74 Deg. 32 Min. 37 Sec. East, 837.22 Feet
30. North 82 Deg. 20 Min. 52 Sec. East, 495.00 Feet
31. South 39 Deg. 32 Min. 20 Sec. East, 200.00 Feet
32. North 50 Deg. 27 Min. 40 Sec. East, 200.00 Feet
33. South 39 Deg. 32 Min. 20 Sec. East, 200.00 Feet
34. North 50 Deg. 27 Min. 40 Sec. East, 200.00 Feet
35. South 39 Deg. 32 Min. 20 Sec. East, 200.56 Feet
36. South 33 Deg. 25 Min. 00 Sec. East, 200.17 Feet
37. South 58 Deg. 55 Min. 00 Sec. West, 343.46 Feet
38. South 31 Deg. 05 Min. 00 Sec. East, 156.96 Feet
39. North 82 Deg. 17 Min. 09 Sec. East, 1.30 Feet
40. South 29 Deg. 17 Min. 27 Sec. East, 774.96 Feet
41. South 10 Deg. 16 Min. 16 Sec. East, 581.10 Feet
42. South 04 Deg. 19 Min. 55 Sec. West, 12.92 Feet to the point or place of BEGINNING.

Containing within said outline 217.4 Acres.

NOTICE OF ENTRY

PLEASE take notice that the within is a *(certified)* true copy of a duly entered in the office of the clerk of the within named court on 19

Dated,

Yours, etc.,

CEDAR, STRAUSS & HOLT, P.C.

Attorneys for

Office and Post Office Address

910 MIDDLE COUNTRY ROAD

P.O. BOX 2100

SELDEN, NEW YORK 11784

To

Attorney(s) for

NOTICE OF SETTLEMENT

PLEASE take notice that an order

of which the within is a true copy will be presented for settlement to the Hon.

one of the judges of the within named Court, at

on 19

at M.

Dated,

Yours, etc.,

CEDAR, STRAUSS & HOLT, P.C.

Attorneys for

Office and Post Office Address

910 MIDDLE COUNTRY ROAD

P.O. BOX 2100

SELDEN, NEW YORK 11784

To

Attorney(s) for

Index No. Year 19

NEW YORK STATE DEPARTMENT OF ENVIRONMENAL CONSERVATION

ROANOKE SAND & GRAVEL CORP.

With

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DECLARATION OF COVENANTS

CEDAR, STRAUSS & HOLT, P.C.

Attorneys for

Office and Post Office Address, Telephone

910 MIDDLE COUNTRY ROAD

P.O. BOX 2100

SELDEN, NEW YORK 11784

516--732-6600

To

Attorney(s) for

Service of a copy of the within is hereby admitted.

Dated,

Attorney(s) for

2000 — JULIUS BLUMBERG, INC., LAW BLANK PUBLISHERS, NYC 10013

STATE OF NEW YORK, COUNTY OF

I, the undersigned, an attorney admitted to practice in the courts of New York State,

☐ Certification by Attorney — certify that the within

has been compared by me with the original and found to be a true and complete copy.

☐ Attorney's Affirmation — state that I am

the attorney(s) of record for

action; I have read the foregoing

the same is true to my own knowledge, except as to the matters therein alleged to be on information and belief, and as to those matters I believe it to be true. The reason this verification is made by me and not by

The grounds of my belief as to all matters not stated upon my own knowledge are as follows:

I affirm that the foregoing statements are true, under the penalties of perjury.

Dated:

The name signed must be printed beneath

STATE OF NEW YORK, COUNTY OF ss.:

I, the undersigned, being duly sworn, depose and say: I am

☐ Individual Verification — in the action; I have read the foregoing

and know the contents thereof; the same is true to my own knowledge, except as to the matters therein stated to be alleged on information and belief, and as to those matters I believe it to be true.

☐ Corporate Verification — the of a corporation and a party in the within action; I have read the foregoing and know the contents thereof; and the same is true to my own knowledge, except as to the matters therein stated to be alleged upon information and belief, and as to those matters I believe it to be true. This verification is made by me because the above party is a corporation and I am an officer thereof.

The grounds of my belief as to all matters not stated upon my own knowledge are as follows:

Sworn to before me on

The name signed must be printed beneath

STATE OF NEW YORK, COUNTY OF ss.: (If more than one box is checked - indicate after names type of service used.)

I, the undersigned, being sworn, say: I am not a party to the action, am over 18 years of age and reside at

On I served the within

☐ Service By Mail — by mailing a copy to each of the following persons at the last known address set forth after each name below.

☐ Personal Service on Individual — by delivering a true copy of each personally to each person named below at the address indicated. I knew each person served to be the person mentioned and described in said papers as *a party therein:*

☐ Service by Electronic Means — by transmitting a copy to the following persons by ☐ FAX at the telephone number set forth after each name below ☐ E-MAIL at the E-Mail address set forth after each name below, which was designated by the attorney for such purpose, and by mailing a copy to the address set forth after each name.

☐ Overnight Delivery Service — by dispatching a copy by overnight delivery to each of the following persons at the last known address set forth after each name below.

Check Applicable Box

RECORDED
2001 Nov 19 11:44:
Edward P. Romaine
CLERK OF
SUFFOLK COUNTY
L 00001215 3
P 698

APPENDIX I

CULTURAL RESOURCES ASSESSMENT, PHASE I AND II

Tracker Archaeology Services, Inc.,

July 2002

TRACKER
Archaeology Services, Inc.

REPORTS OF INVESTIGATIONS

Phase I Archaeological Investigation
for the proposed Sandy Hills Retirement Community
Middle Island, Township of Brookhaven
Suffolk County, New York

July 2002

Prepared for:

Nelson, Pope & Voorhis, LLC, Melville, New York

Prepared by:

Alfred G. Cammisa

Felicia B. Cammisa

Report #: 183

TRACKER ARCHAEOLOGY SERVICES, INC.

62 Pickerel Road
Monroe, NY 10950

25 Ava Court
North Babylon, NY 11703

ABSTRACT

During May to June, 2002, TRACKER-Archaeology Services, Inc. conducted a Phase I archaeological investigation for the proposed Sandy Hills Retirement Community in Middle Island, New York. The purpose of the Phase I investigation was to provide evidence for the presence or absence of archaeological sites on the project area.

Documentary evidence had revealed that the property was situated in an area that evidenced an above average potential for the recovery of prehistoric and historic sites.

The project consisted of approximately 38 acres including some steep slopes. The field survey consisted of the excavation of 569 shovel test pits. One prehistoric isolated find was encountered. No prehistoric features were encountered. No historic artifacts or features were encountered. No further archaeological work is recommended.

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Appendix 3: Map Documented Structures

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Figure 2	Map of the project area with shovel test pits.
Figure 3	Portion of the 1797 Hulse map.
Figure 4	Portion of the 1838 U.S. Coast Survey.
Figure 5	Portion of the 1858 Chace map.
Figure 6	Portion of the 1873 Beers map.
Figure 7	Portion of the 1896 Hyde map.
Figure 8	Portion of the 1906 Hyde map.
Figure 9	Aerial photograph of study area.

LIST OF PLATES

Plate 1 Looking west at project area along Bailey Road.

Plate 2 Looking north at project area from Middle Country Road.

Plate 3 Looking west downslope towards Rocky Point Road.

Plate 4 Looking southwest along trail at backhoe pits and dirt piles.

INTRODUCTION

Between May 22 and June 4, 2002, TRACKER-Archaeology Services, Inc. conducted a Phase IA documentary study and a Phase IB archaeological survey for the proposed Sandy Hills Retirement Community in Middle Island, Township of Brookhaven, Suffolk County, New York.

The purpose of the documentary study was to determine the prehistoric and historic potential of the property for the recovery of archaeological remains. The Phase IA research was implemented by a review of the original and current environmental data, archaeological site files, other archival literature, maps, and documents.

The 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 or archaeological web sites were visited to review any pertinent site information. Research institutions utilized included: New York State archives at Stony Brook, North Babylon Public Library and the library at TRACKER.

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

The study area is about 38 acres in size. The property is bounded on the south by Middle Country Road (Route 25), on the north by Bailey Road, on the west by Rocky Point Road (C.R. 21) and commercial property, and on the east by private residential properties.

The study was completed by TRACKER-Archeology Services, Inc. of Monroe and North Babylon, New York. Prehistoric and historic research was conducted by Alfred Cammisa, M.A. Field work was conducted by Alexander Padilla, B.A., Robby Menke, B.A., Herbert Lacuesta, B.A., Ariel Padilla, and Alfred Cammisa. Report preparation was conducted by Alfred Cammisa and Felicia Cammisa, B.A. Photographs by Alfred Cammisa. Text on Word Perfect 8. Topographic assistance with Terrain Navigator 5.0.

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

ENVIRONMENT

Geology

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

Soil and Topography

Soils on the property consisted of Haven loam, 0 to 2 and 2 to 6 percent slopes, Haven loam, thick surface layer, Carver and Plymouth sands, 0 to 3 and 3 to 15 percent slopes, Plymouth loamy sands, 3 to 8 percent slopes, and Riverhead sandy loam, 0 to 3 percent slopes (Warner 1975: map 56, pgs. 67, 71-72, 78, 82).

Haven soils are deep, well drained, medium textured soils formed in a loamy or silty mantle. Native vegetation is black oak, white oak, red oak, scrub oaks, and pitch pine. The 0 to 2 percent slopes are found mainly on outwash plains and the 2 to 6 percent slopes on outwash plains and moraines. The thick surface layer is generally found on outwash plains, occupying the bottom of the larger drainage channels or depressions (Warner 1975: 70-72).

The Carver series consists of deep, excessively drained coarse-textured soils. The 0 to 3 percent slopes are found mainly on outwash plains and 3 to 15 percent slopes are found on the side slopes of drainage channels on outwash plains. Native vegetation is white oak, black oak, scrub oak, and pitch pine (Warner 1975:66-67). These soils are situated near Rock Point Road.

Plymouth soils are deep, excessively drained, coarse-textured soils. Native vegetation is white oak, black oak, pitch pine, and scrub oak. The 3 to 8 percent slopes are found on outwash plains south of the Ronkonkoma Moraine (Warner 1975:77-78).

Riverhead soils consist of deep, well drained, moderately coarse textured soils. Native vegetation is black oak, white oak, red oak, and scrub oak. The 0 to 3 percent slopes are found generally on outwash plains (Warner 1975:81-82).

Elevations range from about 80 to approximately 100 feet above mean

sea level. The terrain slopes uphill, sometimes steeply for the short distance, east from Rocky Point Road towards the east.

Hydrology

The study area is approximately 300 feet east of a small pond, and approximately 1000 feet west of freshwater swamp associated with Artist Lake and about 1900 west of Artist Lake proper. The property is also about 2200 feet north of the Carmans River. This river drains south into Great South Bay (Bellport Bay).

Vegetation

The predominant forest community inhabiting the Coastal Plain in this vicinity (Cape Cod to the Carolinas) was the Northern Pine-Oak Forest. These forests are maintained largely by the effects of frequent fires. Were it not for these fires which the pine species have adapted to, these forest would slowly turn to Mesic, dominated by oak, hickory and red maple. Northern Pine-Oak forests occur on sandy or otherwise poor soils that are overly dry. They generally have lower species diversity than bottomland forests (Kricher 1988: 16-17). The reason the forest soils and surfaces are so dry in this moist region is due to the excessive drainage of overly sandy soils on the coastal plain.

Prior to the intensive utilization of the area by Euro-American populations, the primary vegetation cover in the general project area probably consisted of pitch pine, virginia pine, bear oak, blackjack oak, chinkapin oak, scarlet oak, post oak, black oak, and eastern red cedar. The understory was most likely of bearberry, huckleberry, inkberry, broom crowberry, lowbush blueberry, sheep laurel, and wild raisin (Kricher 1988: 65).

At the time of the Phase IB investigations, the project area consisted of an oak forest with pine and cedar and occasional maple groves in the northern portion of the property. The understory in the northern portion of the forest was slight and consisted of some scrub (primarily oak), briar, and grass. The southern portion of the parcel contained denser vegetation consisting of conifers (perhaps from an old nursery), and an understory of thick scrub, briar, weeds, grass, and grape vine.

PREHISTORIC POTENTIAL

New York can be divided up into three broad groupings or time zones, briefly described as:

Paleoindian Period, circa 10000 to 8000 B.C. These people lived in small, widely scattered bands, hunting large grazing mammals such as mammoth and barren ground caribou in a park-tundra habitat, large browsing mammals such as mastodon, caribou, woodland musk ox, moose, elk, etc., in a boreal habitat, and any small game or plant food that could be gathered. They had a small inventory of chipped stone tools, with the fluted spear or javelin point as the principal item. They generally camped along large waterways.

Archaic Period, circa 8000 to 1000 B.C. These people lived by hunting, fishing and gathering wild plants and shellfish in a habitat of mixed coniferous-deciduous forest. These people lived in both small inland camps near small streams or marshes and in large recurrently occupied fishing camps near large bodies of water. They lived in a more species rich environment and exploited it with a larger and more varied tool industry, including the atalatal, or spear thrower.

Woodland Period, circa 1000 B.C. to 1600 A.D. These people also lived by hunting, fishing, and gathering wild food and shellfish. In addition, they developed a system of horticulture based on corn, beans and squash as the primary cultigens. They lived in both small camps, either temporary or recurrent, and much larger villages which were sometimes palisaded for protection. They made and used pottery, copper tools, smoking pipes, the bow and arrow, and in general, had a larger and more varied tool industry than the preceding cultures.

A prehistoric site file search was conducted at the New York State Historic Preservation Office (NYSHPO). The search included a 2 mile radius around the study area. The following sites were recorded:

NYSM Sites	NYSHPO Sites	Site Description
	A10302.0530	Prehistoric Site: Quartz flakes and clam shell fragments found.
	A10302.0531	Prehistoric Site: Clam shells fragments and FCR.

	A10302.001728	Twin Pond Site: Multicomponent, Late Archaic-Woodland Periods.
10136	A10302.0001625	Getty Parcel Prehistoric /Site: Late Woodland, flakes, biface, fcr.
8075		SUNY SB: Late Archaic with buried evidence, points, debitage and fcr.
8624		Artist's Lake Site. No information.
8625		Middle Island Site: debitage (chert).
	96PR1007	Ridgeco Site - Prehistoric Component: primarily a lithic procurement site for stone tool production, secondarily a gathering & processing site. Located along Middle Country Road, no water source, possible foot trail (see Cammisa 1996).

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

-Numerous prehistoric sites are located in the vicinity of the study area, most near water sources but not all.

-The study parcel is situated on well drained soils with level and steep sloped terrain, about 300 feet from a small pond, and approximately 1000 feet from freshwater swamp associated with Artist Lake and about 1900 west of Artist Lake proper. The property is also about 2200 feet north of the Carmans River.

In our opinion, the project area has an above average chance for the recovery of prehistoric sites. The type of site encountered could possibly be a small procurement/processing site for, particularly, the Woodland Period. The above average potential is limited to level areas of the property while steep slopes would have a low potential for recovering intact archeological sites.

HISTORIC POTENTIAL

Contact Period (Seventeenth Century)
At the time of European contact and settlement, the study area and surrounding territory were probably occupied by the Coram people/village (Stone nd:map). They were probably a village or related branch of the larger Setauket tribe which inhabited the northern part of Brookhaven Town (Thompson 1918:289; Bayles 1962:25).

Brookhaven was first settled in 1655 by a handful of immigrants from Boston. This settlement was situated in, or around, the present day Setauket. Within 2 years the population had increased to 54 people (Thompson 1981: 289; Bayles 1962: 224-225; Hazelton 1925: 809).

The first "Indian deed" was signed on June 19, 1664 and provided the native inhabitants with sufficient planting grounds. Both parties had access to fishing, fowling and hunting grounds. The price of the sale/rental was 50 fathom of wampum and other valuables (Thompson 1918: 292-293).

It might be noted that the Native Americans had no previous custom of selling land. They did, however, have a practice of loaning or renting use of their traditionally occupied territories for periods of time. The distinction between selling and renting or loaning use of the land was probably blurred to the advantage of the newcomers as their population outstripped that of the original inhabitants. The migratory settlement patterns of the Indians was also advantageous to the settlers. The colonists were able to appropriate lands, usually the most fertile, during a season or year the natives were camped elsewhere (Cammisa 1984: 75).

From 1659, shortly after the European-Americans arrived in Brookhaven, until 1664, when the "Indian deed" was signed, Brookhaven placed itself under the protection of Connecticut. After 1664, the Dutch government took possession of the Town as part of New York State (Bayles 1962: 227).

In March 1666, the Town of Brookhaven was formally incorporated. The previous "Indian deed" was changed to formally confirm title to all the land which had been "paid for", from Stony Brook to Wading River. The patent was executed by Governor Nicholls. The original trustees of the patent were Captain John Tucker, Daniel Lane, Richard Woodhull, Henru Perrig, and John Jenner (Bayles 1982: 225; Thompson 1918: 293-294; Hazelton 1925: 809).

By the close of this century, the Patchogue tribe (which included the native villages and people occupying the southern portion of Brookhaven) had lost all of their land to the Euro-American settlers. They were given a perpetual lease by Cornell William Smith. Only eight Indians were named on the lease. A portion of the reservation survives today as the Poospatuck Indian Reservation in Mastic (Shaw in Bailey 1949: 252).

Eighteenth Century

The old fulling mill was constructed by 1792. This mill was the closest to the study area. It was built later in the century than the mills at Upper and Lower Lakes in Yaphank to the south (Bayles 1989:10).

One of the earliest established post offices was built in Middle Island by 1796. At this time Middle island was called Middleton and later Brookhaven and by 1811, Middle Island (Bayles 1989:4).

The 1797 Hulse map shows the early settlement of this area and Poste Road. Most settlement appears to be along Poste Road (Middle Country Road/ Route 25). One or two structures appear on, or adjacent to, the study property. The map shows the division of land for the east side of the Carmans (Connecticut) River (Figure 3).

Nineteenth Century

During this century Middle Island was a thinly settled farming community with most of the population centered along Middle Country Road (Bayles 1962:261).

By 1830, mail was dispatched from New York City via stagecoach. The local stagecoach stop was at the 1750 Hutchinson homestead. The coach line here ran along Middle Country Road before the railroad opened in 1844 (Bayles 1989:4).

The 1838 U.S. Coast Survey shows Middle Country Road and the study area in detail. Most of this vicinity appears forested except the area along Middle Country Road which appears settled with some structures. Farmland is also depicted but whether this is orchards, herding or agricultural is not known. The steep slope on the western edge of the study property is depicted along Rocky Point Road. The nearest structure along the same side of the road appears to be L. B.? (unreadable). There is also an inn directly across Middle Country Road from the study area (Figure 4).

The 1858 Chace map shows most of the area opened up to probable farming while forested areas are still apparent to the north in this vicinity. Two possible structures are seen on, or adjacent to, the study area, belonging to Petty and Randell (sp?) (Figure 5).

The 1873 Beers map shows the Randell and Petty structures possibly on, or adjacent to, the study area (Figure 6).

The 1896 Hyde map shows the Randell structure, now a store, and an adjacent structure possibly on, or adjacent to, the study area (Figure 7).

Twentieth Century

Middle Island remained a farming community until the later half of this century (Bayles 1989:6).

The 1906 Hyde map now shows the Petty structure further east, away from the project parcel. However, the E. Pfeiffer structure, seemingly operating as the Post Office is possibly on, or adjacent to, the study area. However, this location also appears to be the new section of the Rocky Point Road in later times. The Fry Estate appears to be across the road operating as the school house (Figure 8).

An historic site file search was conducted at the New York State Historic Preservation Office. The search included a 2 mile radius around the study area. The following sites were recorded:

NYSM Sites	**NYSHPO Sites**	**Site Description**
	A103-02-0528	Davis Thomson House Site. 19th century. Artifacts included: 2 bricks pcs., 6 wire-cut nails, 2 decorated whiteware pcs., 10 window glass pcs., 1 square-cut nail, 6 whiteware pcs., 1 galvanized wood lather nail, 1 glazed stoneware pc., 1 glazed redware pc., 1 pearlware pc.
	A103-02-1559	Sweezy-Walters Site. Late 18th century. Artifacts included: Coal, oyster, shell, hard clamshell, whiteware pc., 19th century blue transferware pc., pearlware pc., porcelain pc.
	A10302.000529	20th century refuse dump with bottles and ceramics.

	A10302.000162 5/10136	Swezey Site: Contact Period Naive American and Euro-American site with quartz gunflints, and ca. 1740 house construction.
	A10302.002176	Randell Homestead Site: Residence, farm, mid 19th century.
	96PR1007	Ridgeco Site - Historic component:19th to 20th century stone structures destroyed by plowing and early 20th century cement structures associated with Randell Farm.

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

-Eighteenth to early twentieth century historic structures were potentially located on the study area according to historic maps.

In our opinion, the study area has a higher than average potential for the recovery of eighteenth to early twentieth century historic sites.

FIELD METHODS

Walkover

Exposed ground surfaces, were walked over when possible at 3-5 meter intervals to observe for artifacts. Covered ground terrain was reconnoitered at about 15 meter intervals for any above ground features, such as berms or depressions, which might be evidence for a prehistoric or historic site. Photographs were taken of the project area.

Shovel Testing

Shovel test pits were excavated at about 15 meter intervals across the more topographically level areas of the project area. Steep slopes were generally not shovel tested due to their low potential for encountering intact habitation/working sites.

Each shovel test pit measured about 30 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 test pits were flagged in the field. All the STP'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 on pre-printed field forms and in a notebook for all shovel test pits.

FIELD RESULTS

Field testing of the project property included the excavation of 569 shovel test pits. One prehistoric artifact was encountered. No prehistoric features were encountered. No historic artifacts or features were encountered.

Stratigraphy

Stratigraphy was fairly uniform across the project area and included the following:

A/O horizon - 2 to 6 cm. thick of forest root mat, leaf litter and humus.

A horizon - about 6 to 34 cm. thick of 10YR4/4 dark yellow brown to 10YR 4/3 brown loamy sand, sandy loam, sand, and loam.

B horizon - dug into about 10 to 20 cm. of 10YR5/6 yellow brown loam, loamy sand, sandy loam, and sand.

Radial Shovel Testing

One "positive" STP was encountered at STP 14 consisting of 1 quartz flake. Additional radial shovel testing was conducted in a star shaped pattern around STP 14 to the north, south, east, and west approximately 3 to 7 meters from STP 14. No additional artifacts were recovered.

CONCLUSIONS AND RECOMMENDATIONS

A Phase IA documentary study had revealed that the study area was situated within an area that evidence an above average potential for the recovery of prehistoric and historic sites.

The Phase IB survey resulted in the excavation of 569 shovel test pits. One prehistoric isolated find was recovered. No prehistoric features were encountered. No historic artifacts or archeological features were encountered. No further archaeological work is therefore recommended.

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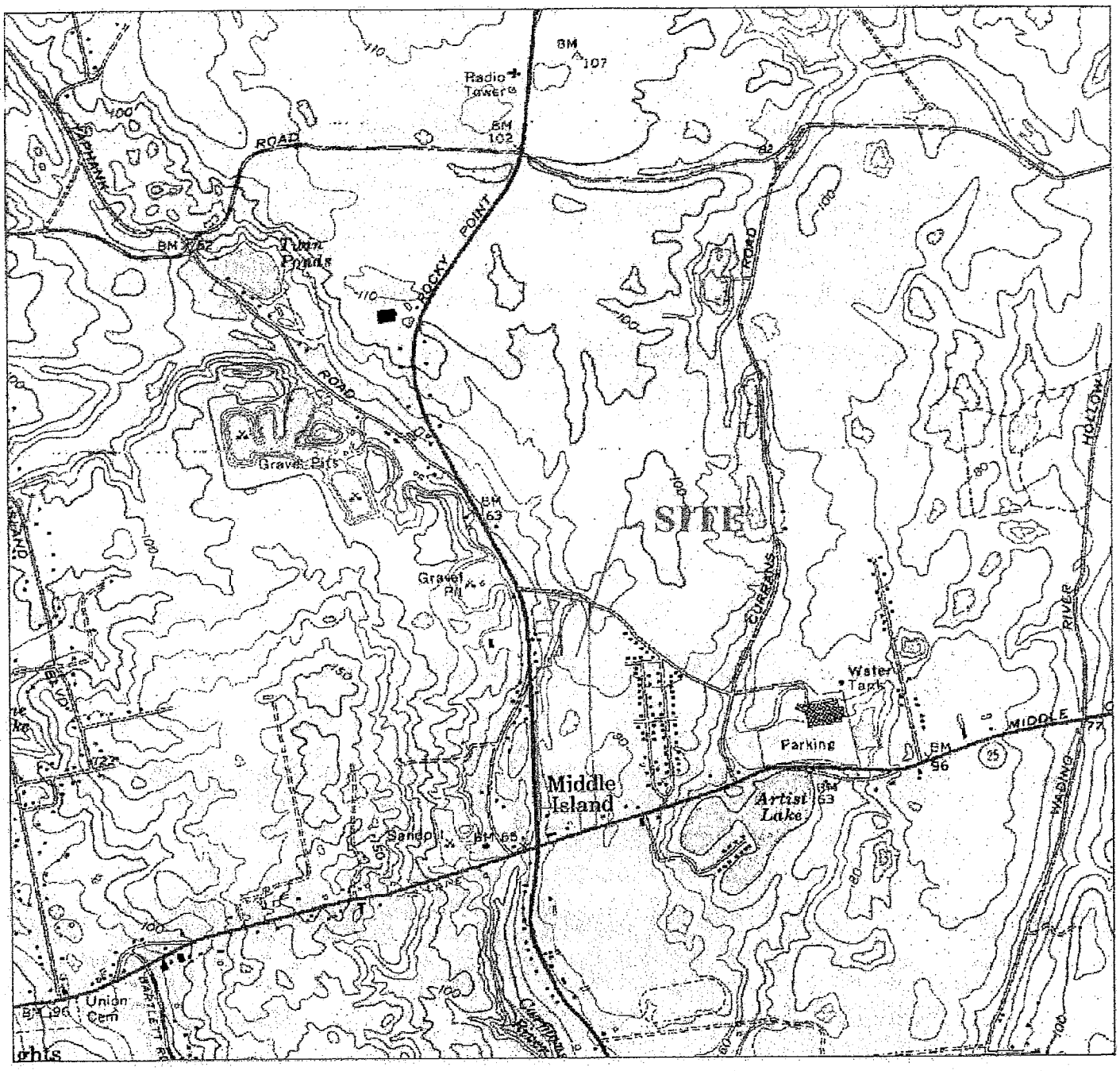
APPENDIX 1



NORTH

Figure 1

Location of the study area as shown on a portion of the U.S.G.S., 7.5 minute series, Middle Island, New York quadrangel.

Scale: 1" = 2000'

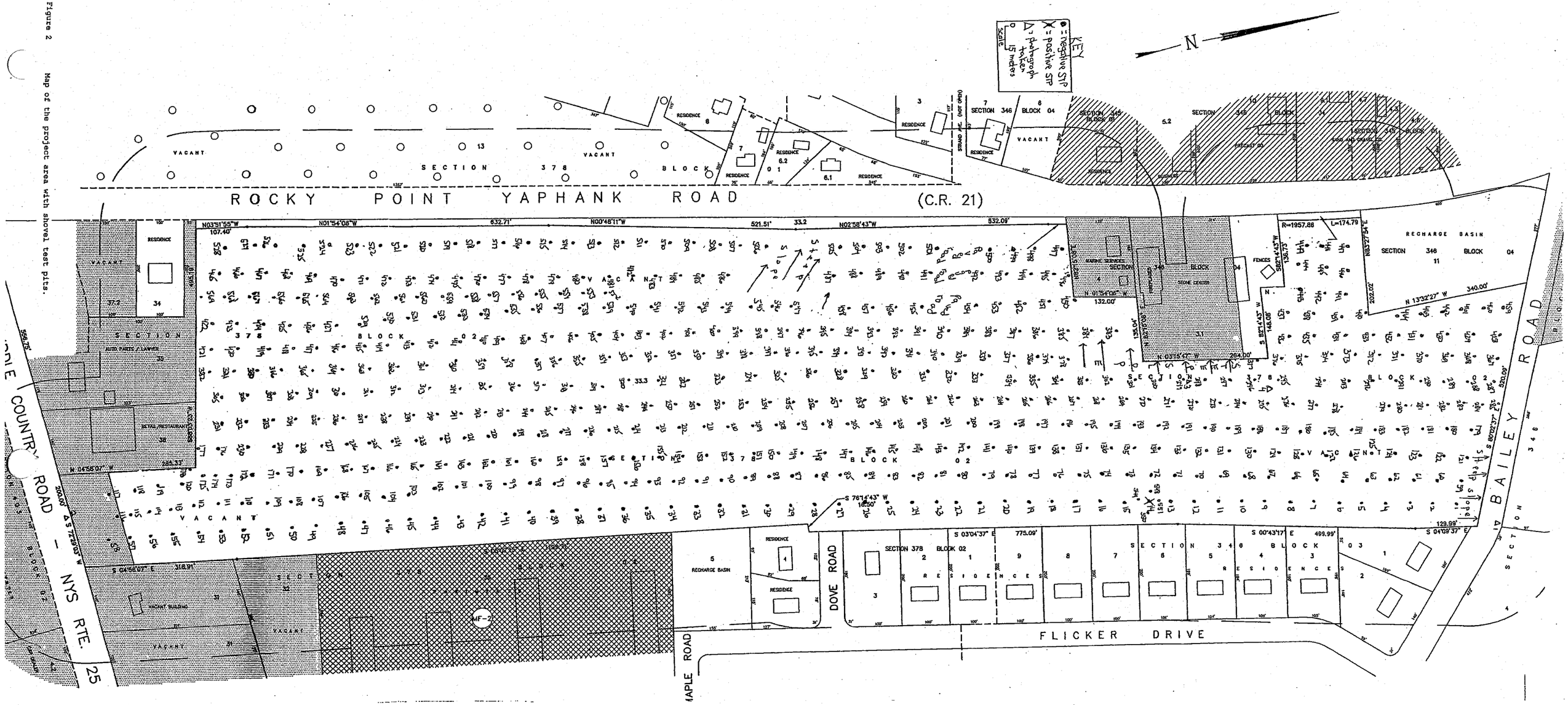


Figure 2 Map of the project area with shovel test pits.

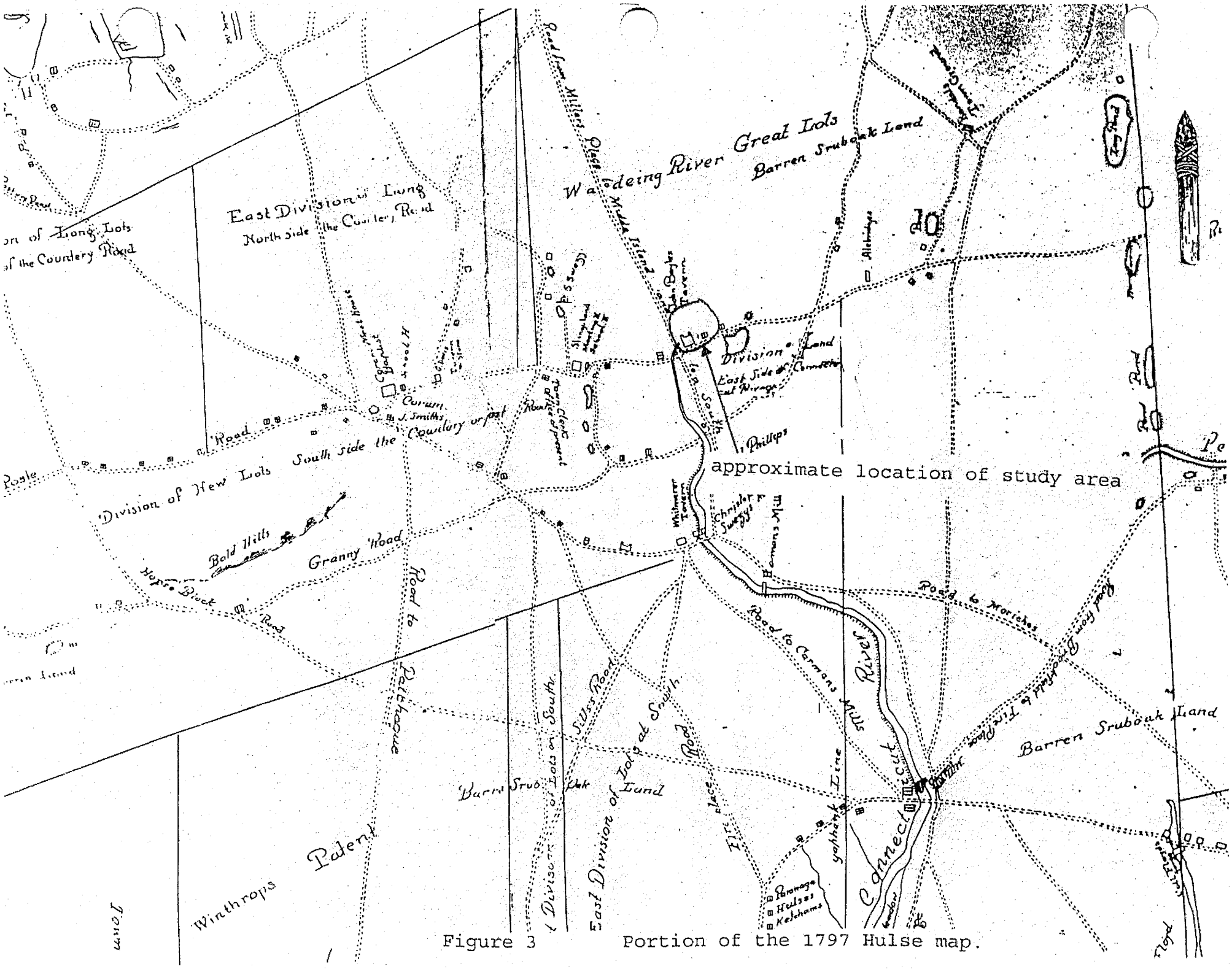


Figure 3 Portion of the 1797 Hulse map.

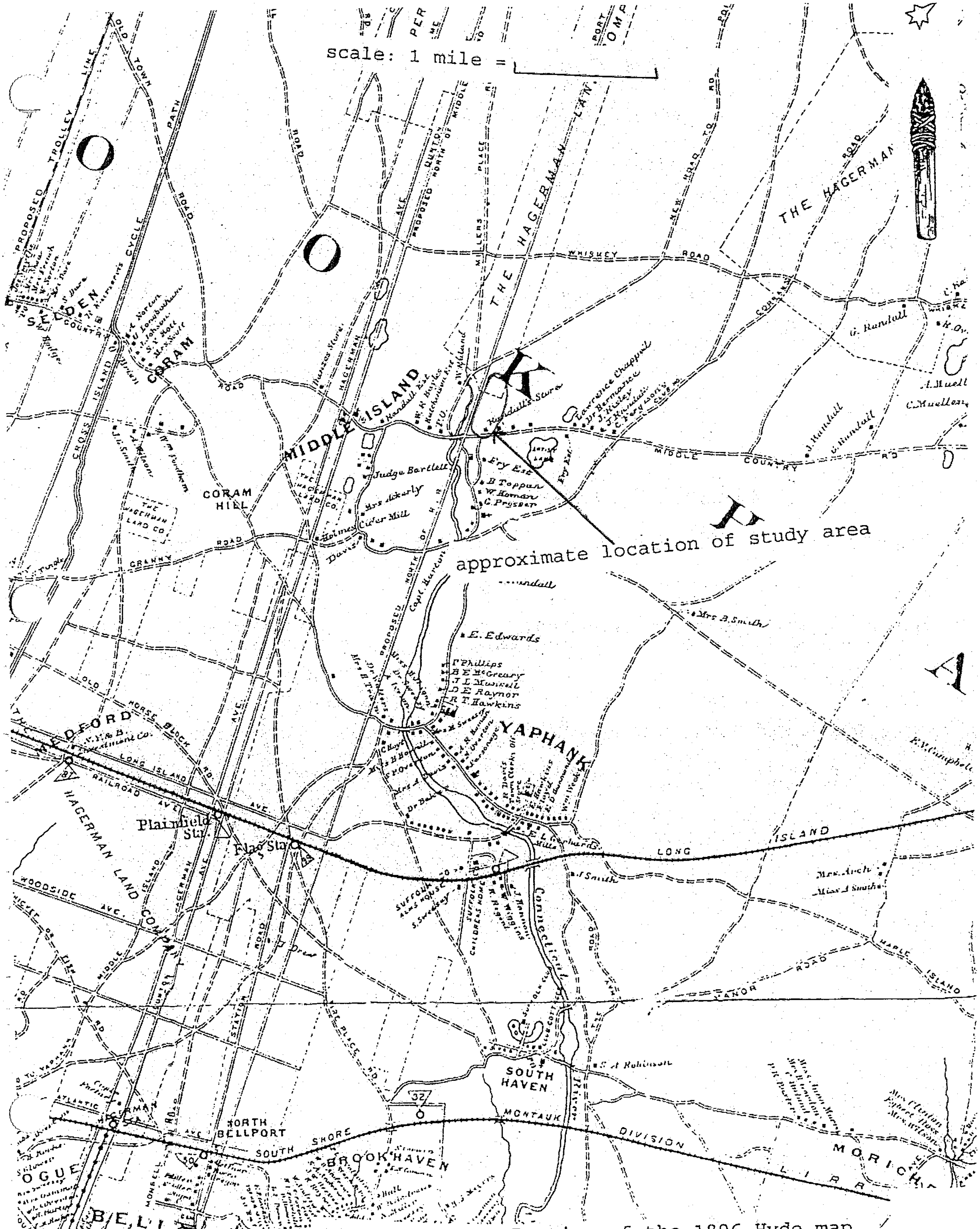


Figure 7 Portion of the 1896 Hyde map.

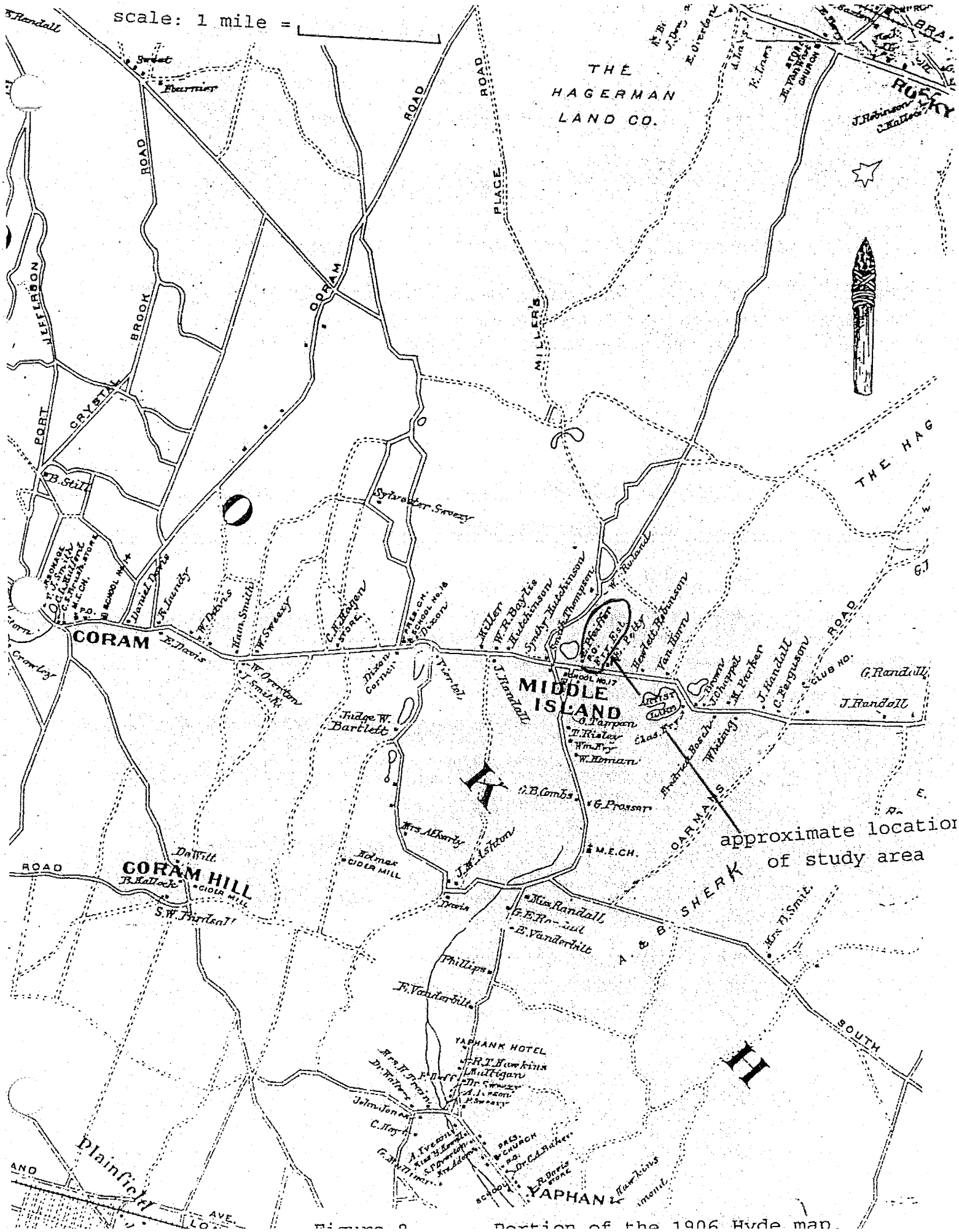


Figure 8 Portion of the 1906 Hyde map.

NORTH

Figure 9

Aerial photograph of study area.

Scale: 600' = 1"

Study area outlined in orange.

Plate 1

Looking west at project area along Bailey Road.

Plate 2

Looking north at project area from Middle Country Road.

Plate 3

Looking west downslope towards Rocky Point Road.

Plate 4

Looking southwest along trail at backhoe pits and dirt piles.

APPENDIX 2

Shovel Test Pits

STP	Lv	Depth(cm)	Texture	Color	Hor.	Comments
1	1	Absent				
	2	0-7	Sandy Loam(SL)	10YR4/4	A	NCM
	3	7-12	SL	10YR5/6	B	NCM
Note: rocky.						
2	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-17	SL	10YR4/4	A	NCM
	3	17-28	Loam (L)	10YR5/6	B	NCM
3	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-17	SL	10YR4/4	A	NCM
	3	17-28	L	10YR5/6	B	NCM
4	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-20	SL	10YR4/4	A	NCM
	3	20-30	L	10YR5/6	B	NCM
5	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	SL	10YR4/4	A	NCM
	3	35-49	L	10YR5/6	B	NCM
6	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/4	A	NCM
	3	35-49	L	10YR5/6	B	NCM
7	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/4	A	NCM
	3	27-37	L	10YR5/6	B	NCM
8	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/4	A	NCM
	3	27-37	L	10YR5/6	B	NCM
9	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/4	A	NCM
	3	27-38	L	10YR5/6	B	NCM
10	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/4	A	NCM
	3	27-38	L	10YR5/6	B	NCM
Note: Shovel test pits 7-10 are near a dirt pile.						
11	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/4	A	NCM
	3	29-40	L	10YR5/6	B	NCM
Note: stripped approximately 25 feet- leaf piles, lawn clipping.						

12	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/4	A	NCM
	3	27-38	L	10YR5/6	B	NCM
13	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/4	A	NCM
	3	27-38	L	10YR5/6	B	NCM
14	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-13	SL	10YR4/4	A	1flake

Note: Impeded by roots.

15	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-40	L	10YR5/6	B	NCM
16	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/3	A	NCM
	3	27-40	L	10YR5/6	B	NCM
17	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-40	L	10YR5/6	B	NCM
18	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-40	L	10YR5/6	B	NCM
19	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/3	A	NCM
	3	28-39	L	10YR5/6	B	NCM

Note: shovel test pits 15 through 19 are near tree dumping.

20	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-40	L	10YR5/6	B	NCM
21	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-40	L	10YR5/6	B	NCM
22	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-40	L	10YR5/6	B	NCM
23	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	L	10YR5/6	B	NCM

24	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-32	SL	10YR4/3	A	NCM
	3	32-42	L	10YR5/6	B	NCM
25	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-32	SL	10YR4/3	A	NCM
	3	32-42	L	10YR5/6	B	NCM
26	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-39	L	10YR5/6	B	NCM
27	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-39	L	10YR5/6	B	NCM
28	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-40	L	10YR5/6	B	NCM
29	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-39	L	10YR5/6	B	NCM
30	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-40	L	10YR5/6	B	NCM
31	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-40	L	10YR5/6	B	NCM
32	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-39	L	10YR5/6	B	NCM
33	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
34	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
35	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM

36	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
37	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
38	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/4	A	NCM
	3	29-41	L	10YR5/6	B	NCM
39	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/4	A	NCM
	3	29-41	L	10YR5/6	B	NCM
40	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/4	A	NCM
	3	29-41	L	10YR5/6	B	NCM
41	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/4	A	NCM
	3	28-41	L	10YR5/6	B	NCM
42	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/4	A	NCM
	3	30-41	L	10YR5/6	B	NCM
43	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/4	A	NCM
	3	29-41	L	10YR5/6	B	NCM
44	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/4	A	NCM
	3	30-41	L	10YR5/6	B	NCM
45	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/4	A	NCM
	3	30-41	L	10YR5/6	B	NCM
46	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/4	A	NCM
	3	30-40	L	10YR5/6	B	NCM
47	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/4	A	NCM
	3	30-41	L	10YR5/6	B	NCM

48	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/4	A	NCM
	3	29-40	L	10YR5/6	B	NCM
49	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/4	A	NCM
	3	30-41	L	10YR5/6	B	NCM
50	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-32	SL	10YR4/4	A	NCM
	3	32-43	L	10YR5/6	B	NCM
51	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/4	A	NCM
	3	27-37	L	10YR5/6	B	NCM
52	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/4	A	NCM
	3	28-38	L	10YR5/6	B	NCM
53	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/4	A	NCM
	3	28-39	L	10YR5/6	B	NCM
54	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	L	10YR4/4	A	NCM
	3	28-38	L	10YR5/6	B	NCM
55	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	L	10YR4/4	A	NCM
	3	27-38	L	10YR5/6	B	NCM
56	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	L	10YR4/4	A	NCM
	3	30-39	L	10YR5/6	B	NCM
57	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	L	10YR4/4	A	NCM
	3	28-38	L	10YR5/6	B	NCM
58	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	L	10YR4/4	A	NCM
	3	28-40	L	10YR5/6	B	NCM
59	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-9	L	10YR4/4	A	NCM
	3	9-19	L	10YR5/6	B	NCM

Note: 100 feet from road slope and soils are rocky.

60	1	0-7	Rootmat,leaves,humus		A/O	NCM
	2	7-13	L	10YR4/4	A	NCM
	3	13-25	L	10YR5/6	B	NCM
61	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	L	10YR4/4	A	NCM
	3	35-50	L	10YR5/6	B	NCM
62	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-33	L	10YR4/3	A	NCM
	3	33-43	L	10YR5/6	B	NCM
63	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-33	L	10YR4/3	A	NCM
	3	33-43	L	10YR5/6	B	NCM
64	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	L	10YR4/3	A	NCM
	3	33-44	L	10YR5/6	B	NCM
65	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
66	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
67	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM

Note: 10 feet west and 10 feet south another backhoe hole.

68	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
69	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
70	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-30	SL	10YR4/3	A	NCM
	3	30-41	SL	10YR5/6	B	NCM
71	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM

72	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-30	SL	10YR4/3	A	NCM
	3	30-41	SL	10YR5/6	B	NCM
73	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
74	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
75	1	0-8	Rootmat,leaves,humus		A/O	NCM
Note: impeded by roots.						
76	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
77	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
78	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
79	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
80	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
81	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
82	1	0-3	Rootmat,leaves,humus		A/O	NCM
		A horizon	was stripped			
	3	3-15	Loam	10YR5/6	B	NCM
83	1	0-3	Rootmat,leaves,humus		A/O	NCM
		A horizon	was stripped			
	3	3-16	Loam	10YR5/6	B	NCM
84	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/4	A	NCM
	3	33-45	Loam	10YR5/6	B	NCM

85	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/4	A	NCM
	3	33-43	Loam	10YR5/6	B	NCM
86	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/4	A	NCM
	3	33-45	Loam	10YR5/6	B	NCM
87	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/4	A	NCM
	3	33-45	Loam	10YR5/6	B	NCM
88	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/4	A	NCM
	3	30-45	Loam	10YR5/6	B	NCM
89	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
90	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
91	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-27	SL	10YR4/3	A	NCM
	3	27-40	SL	10YR5/6	B	NCM
92	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-28	SL	10YR4/3	A	NCM
	3	28-39	SL	10YR5/6	B	NCM
93	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
94	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-9	Sand	10YR4/4	A	NCM
	3	9-20	Sand	10YR5/6	B	NCM
95	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
96	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-31	SL	10YR4/3	A	NCM
	3	31-40	SL	10YR5/6	B	NCM

97	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
98	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
99	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
100	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-41	SL	10YR5/6	B	NCM
101	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
102	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-31	SL	10YR4/3	A	NCM
	3	31-40	SL	10YR5/6	B	NCM
103	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
104	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
105	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
106	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
107	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
108	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM

109	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
110	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
111	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
112	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
113	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-41	SL	10YR5/6	B	NCM
114	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-42	SL	10YR5/6	B	NCM
115	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	L	10YR4/3	A	NCM
	3	30-42	L	10YR5/6	B	NCM
116	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	L	10YR4/3	A	NCM
	3	29-42	L	10YR5/6	B	NCM
117	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-32	L	10YR4/3	A	NCM
	3	32-42	L	10YR5/6	B	NCM
118	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	L	10YR4/3	A	NCM
	3	30-42	L	10YR5/6	B	NCM
119	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-32	L	10YR4/3	A	NCM
	3	32-42	L	10YR5/6	B	NCM
120	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	L	10YR4/3	A	NCM
	3	30-40	L	10YR5/6	B	NCM

121	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	L	10YR4/3	A	NCM
	3	13-23	L	10YR5/6	B	NCM
122	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	L	10YR4/3	A	NCM
	3	13-23	L	10YR5/6	B	NCM
123	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
124	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
125	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
126	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
127	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
128	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-41	SL	10YR5/6	B	NCM
129	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
130	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
131	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
132	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM

133	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
134	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-40	SL	10YR5/6	B	NCM
135	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
136	1	0-10	Rootmat,leaves,humus		A/O	NCM

Note: Impeded by roots.

137	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
138	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
139	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-12	SL	10YR4/3	A	NCM

Note: Impeded by roots.

140	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-28	SL	10YR4/3	A	NCM
	3	28-39	SL	10YR5/6	B	NCM
141	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
142	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-28	SL	10YR4/3	A	NCM
	3	28-39	SL	10YR5/6	B	NCM
143	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-41	SL, rocky	10YR5/6	B	NCM
144	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM

145	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
146	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
147	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
148	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
149	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
150	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
151	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
152	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
153	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
154	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
155	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
156	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM

157	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
158	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
159	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
160	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
161	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
162	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
163	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
164	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
165	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
166	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
167	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-29	SL	10YR4/3	A	NCM
	3	29-39	SL	10YR5/6	B	NCM
168	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM

169	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-30	SL	10YR4/3	A	NCM
	3	30-42	SL	10YR5/6	B	NCM
170	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
171	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
172	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
173	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
174	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
175	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-12	SL	10YR4/3	A	NCM
	3	12-25	SL	10YR5/6	B	NCM
176	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-12	SL	10YR4/3	A	NCM
	3	12-25	SL	10YR5/6	B	NCM
177	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-13	L	10YR4/3	A	NCM
	3	13-26	L	10YR5/6	B	NCM
178	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-12	L	10YR4/3	A	NCM
	3	12-25	L	10YR5/6	B	NCM
179	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	L	10YR4/3	A	NCM
	3	30-40	L	10YR5/6	B	NCM
180	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	A horizon	was stripped			
	3	5-20	L	10YR5/6	B	NCM

181	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-40	L	10YR4/3	A	NCM
	3	40-50	L	10YR5/6	B	NCM
182	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-25	L	10YR4/3	A	NCM
	3	25-35	L	10YR5/6	B	NCM
183	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
184	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-38	SL	10YR4/3	A	NCM
	3	38-48	SL	10YR5/6	B	NCM
185	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-25	SL	10YR4/3	A	NCM

Note: Impeded by roots.

186	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
187	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-10	SL	10YR4/3	A	NCM

Impeded by roots.

188	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-32	SL	10YR4/3	A	NCM

Impeded by roots.

189	1	0-5	Rootmat,leaves,humus		A/O	NCM

Note: Impeded by roots.

190	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-46	SL	10YR5/6	B	NCM
191	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-46	SL	10YR5/6	B	NCM
192	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-40	SL	10YR4/3	A	NCM
	3	40-50	SL	10YR5/6	B	NCM

193	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-32	SL	10YR4/3	A	NCM
	3	32-42	SL	10YR5/6	B	NCM
194	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
195	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	Impeded by roots.					
196	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	SL	10YR4/3	A	NCM
	3	35-45	SL, gravelly	10YR5/6	B	NCM
197	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
198	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
199	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
200	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-39	SL	10YR4/3	A	NCM
	3	39-49	SL	10YR5/6	B	NCM
201	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-39	SL	10YR4/3	A	NCM
	3	39-50	SL	10YR5/6	B	NCM
202	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-39	SL	10YR4/3	A	NCM
	3	39-49	SL	10YR5/6	B	NCM
203	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-45	SL	10YR4/3	A	NCM
	3	45-55	SL	10YR5/6	B	NCM
204	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-45	SL	10YR4/3	A	NCM
	3	45-55	SL	10YR5/6	B	NCM

205	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-45	SL	10YR4/3	A	NCM
	3	45-56	SL	10YR5/6	B	NCM
206	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-10	SL	10YR4/3	A	NCM
	Impeded by roots.					
207	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-20	SL	10YR4/3	A	NCM
	Impeded by roots.					
208	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
209	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
210	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
211	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
212	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
213	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
214	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
215	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
216	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM

217	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
218	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
219	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-20	SL	10YR4/3	A	NCM
	Impeded by roots.					
220	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
221	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-45	SL	10YR5/6	B	NCM
222	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
223	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
224	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-44	SL	10YR5/6	B	NCM
225	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-47	SL	10YR5/6	B	NCM
226	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
227	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
228	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	L	10YR4/3	A	NCM
	3	36-50	L	10YR5/6	B	NCM

229	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
230	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	L	10YR4/3	A	NCM
	3	30-40	L	10YR5/6	B	NCM
231	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	L	10YR4/3	A	NCM
	3	35-45	L	10YR5/6	B	NCM
232	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	L	10YR4/3	A	NCM
	3	35-45	L	10YR5/6	B	NCM
233	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	L	10YR4/3	A	NCM
	3	34-47	L	10YR5/6	B	NCM
234	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
235	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-40	SL	10YR5/6	B	NCM
236	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
237	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
238	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM

Note: near back-dirt pile, very rocky, gravelly

239	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
240	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM

241	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
242	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-46	SL	10YR5/6	B	NCM
243	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-47	SL	10YR5/6	B	NCM
244	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
245	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
246	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-50	SL	10YR5/6	B	NCM
247	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
248	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
249	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM

Note: on 2-track road

250	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
251	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
252	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM

253	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
254	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
255	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-45	SL	10YR5/6	B	NCM
256	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
257	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
258	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
259	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	impeded by roots					
260	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-44	SL	10YR5/6	B	NCM
261	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-29	SL	10YR4/3	A	NCM
	3	29-40	SL	10YR5/6	B	NCM
262	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
263	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
264	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-50	SL	10YR5/6	B	NCM

265	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-36	SL	10YR4/3	A	NCM
	3	36-48	SL	10YR5/6	B	NCM
266	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-40	SL	10YR4/3	A	NCM
	3	40-50	SL	10YR5/6	B	NCM
267	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
268	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-38	SL	10YR4/3	A	NCM
	3	38-50	SL	10YR5/6	B	NCM
269	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
270	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
271	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
272	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
273	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-15	SL	10YR4/3	A	NCM
	impeded by roots					
Note: edge of slope						
274	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
Note: edge of slope						
275	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-15	SL	10YR4/3	A	NCM
	3	15-26	SL	10YR5/6	B	NCM
276	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-32	SL	10YR4/3	A	NCM
	3	32-42	SL	10YR5/6	B	NCM

277	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-17	SL	10YR4/3	A	NCM
	3	17-27	SL	10YR5/6	B	NCM
278	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	absent				
	3	6-20	SL	10YR5/6	B	NCM

Note: on slope

279	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-12	SL	10YR4/3	A	NCM
	3	12-22	SL	10YR5/6	B	NCM

Note: skipped 100' for steep slope

280	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-15	SL	10YR4/3	A	NCM
	3	15-30	SL	10YR5/6	B	NCM
281	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-15	SL	10YR4/3	A	NCM
	3	15-30	SL	10YR5/6	B	NCM
282	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM
283	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM
284	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-10	SL	10YR4/3	A	NCM
	3	10-20	SL	10YR5/6	B	NCM
285	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-15	SL	10YR4/3	A	NCM
	3	15-35	SL	10YR5/6	B	NCM
286	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-15	SL	10YR4/3	A	NCM
	3	15-25	SL	10YR5/6	B	NCM
287	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM
288	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM

289	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM
290	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-11	SL	10YR4/3	A	NCM
	3	11-21	SL	10YR5/6	B	NCM
291	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	absent				
	3	6-23	SL	10YR5/6	B	NCM

Note: on slope

292	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
293	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
294	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
295	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-10	SL	10YR4/3	A	NCM
	3	10-20	SL	10YR5/6	B	NCM

Note: skipped 150' due to steep slope...

296	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-18	SL	10YR4/3	A	NCM
	3	18-28	SL	10YR5/6	B	NCM
297	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-18	SL	10YR4/3	A	NCM
	3	18-28	SL	10YR5/6	B	NCM
298	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
299	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
300	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM

301	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
302	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
303	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
304	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
305	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-40	L	10YR4/3	A	NCM
	3	40-50	L	10YR5/6	B	NCM
306	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-40	L	10YR4/3	A	NCM
	3	40-50	L	10YR5/6	B	NCM
307	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-40	L	10YR4/3	A	NCM
	3	40-50	L	10YR5/6	B	NCM
308	1	0-6	Rootmat,leaves,humus		A/O	NCM
	2	6-40	L	10YR4/3	A	NCM
	3	40-50	L	10YR5/6	B	NCM
309	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-42	SL	10YR4/3	A	NCM
	3	42-54	SL	10YR5/6	B	NCM

Note: undec WW

310	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-42	SL	10YR4/3	A	NCM
	3	42-54	SL	10YR5/6	B	NCM
311	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-42	SL	10YR4/3	A	NCM
	3	42-54	SL	10YR5/6	B	NCM
312	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-42	SL	10YR4/3	A	NCM
	3	42-54	SL	10YR5/6	B	NCM

313	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
314	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
315	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
316	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
317	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
318	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
319	1	0-4	Rootmat,leaves,humus		A/O	NCM
	impeded by roots					
320	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
321	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
322	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
323	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
324	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-27	SL	10YR4/3	A	NCM
	3	27-37	SL	10YR5/6	B	NCM
325	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-10	SL	10YR4/3	A	NCM
	impeded by rocks					

326	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
327	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
328	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
329	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
330	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
331	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
332	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
333	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
334	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
335	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
336	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM
337	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-17	SL	10YR4/3	A	NCM
	impeded by roots					
338	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-28	SL	10YR4/3	A	NCM
	3	28-38	SL	10YR5/6	B	NCM

339	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-30	SL	10YR4/3	A	NCM
	3	30-40	SL	10YR5/6	B	NCM
340	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-26	SL	10YR4/3	A	NCM
	3	26-38	SL	10YR5/6	B	NCM
Note: on 2-track						
341	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
342	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
343	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
344	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
345	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
346	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
347	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-31	SL	10YR4/3	A	NCM
	3	31-41	SL	10YR5/6	B	NCM
348	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
349	1	absent				
	2	4-9	SL	10YR4/3	A	NCM
	impeded by roots					
350	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM

351	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
352	1	0-6	Rootmat,leaves,humus		A/O	NCM
	impeded by roots					
353	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
354	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
355	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
356	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
357	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
358	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
359	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
360	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
361	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
362	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
363	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM

364	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
365	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
366	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
367	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
368	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
369	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
370	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
371	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
372	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
373	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
374	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
375	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

376	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
377	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
378	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
379	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
380	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
381	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
382	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
383	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
384	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
385	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
386	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
387	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM

388	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
389	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
390	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
391	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
392	1	0-4	Rootmat,leaves,humus		A/O	NCM
	impeded by roots					
393	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
394	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
395	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
396	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
397	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
398	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
399	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
400	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM

401	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
402	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
403	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
404	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
405	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
406	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
407	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
408	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
409	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
410	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
411	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
412	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM

413	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
414	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
415	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
416	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
417	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
418	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
419	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
420	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
421	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	L	10YR4/3	A	NCM
	3	23-33	L	10YR5/6	B	NCM
422	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	L	10YR4/3	A	NCM
	3	23-33	L	10YR5/6	B	NCM
423	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	L	10YR4/3	A	NCM
	3	23-33	L	10YR5/6	B	NCM
424	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	L	10YR4/3	A	NCM
	3	35-45	L	10YR5/6	B	NCM

425	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
426	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
427	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	LS	10YR4/3	A	NCM
	3	37-47	LS	10YR5/6	B	NCM
428	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	LS	10YR4/3	A	NCM
	3	37-47	LS	10YR5/6	B	NCM

Note: near back-hoe pit

429	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	LS	10YR4/3	A	NCM
	3	37-47	LS	10YR5/6	B	NCM
430	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	stripped				
	3	3-23	SL	10YR5/6	B	NCM
431	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
432	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
433	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
434	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
435	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
436	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM

437	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
438	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
439	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
440	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
441	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
442	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
443	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
445	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
446	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
447	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM

Note: dumping near road

448	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
449	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM

450	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
451	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
452	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
453	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
454	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	asphalt
	3	23-33	SL	10YR5/6	B	NCM
455	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

Note: skipped 100' - paved road

456	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
457	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
458	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
459	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
460	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
461	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

462	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
463	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
464	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
465	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
466	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
467	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
468	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
469	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	L	10YR4/3	A	NCM
	3	37-47	L	10YR5/6	B	NCM
470	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	L	10YR4/3	A	NCM
	3	37-47	L	10YR5/6	B	NCM
471	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	L	10YR4/3	A	NCM
	3	36-46	L	10YR5/6	B	NCM
472	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	L	10YR4/3	A	NCM
	3	34-44	L	10YR5/6	B	NCM
473	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM

474	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
475	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
476	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
477	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
478	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
479	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
480	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
481	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
482	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
483	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
484	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
485	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM

486	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	S	10YR4/3	A	NCM
	3	14-25	S	10YR5/6	B	NCM
487	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-12	S	10YR4/3	A	NCM
	3	12-32	S	10YR5/6	B	NCM

Note modern dump with tires, propane tanks, dirt piles

488	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	S	10YR4/3	A	NCM
	3	14-25	S	10YR5/6	B	NCM
489	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	S	10YR4/3	A	NCM
	3	13-23	S	10YR5/6	B	NCM

Note: near concrete piles

490	1	0-1	Rootmat,leaves,humus		A/O	NCM

impeded by asphalt

491	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	S	10YR4/3	A	NCM
	3	36-46	S	10YR5/6	B	NCM

Note: near paved road

492	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	S	10YR4/3	A	NCM
	3	36-46	S	10YR5/6	B	NCM

Note: skipped 100' for paved road

493	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	S	10YR4/3	A	NCM
	3	14-25	S	10YR5/6	B	NCM
494	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-12	S	10YR4/3	A	NCM
	3	12-32	S	10YR5/6	B	NCM
495	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	S	10YR4/3	A	NCM
	3	36-46	S	10YR5/6	B	NCM
496	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	S	10YR4/3	A	NCM
	3	14-25	S	10YR5/6	B	NCM

497	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-12	S	10YR4/3	A	NCM
	3	12-32	S	10YR5/6	B	NCM

Note: lots of rocks

498	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	S	10YR4/3	A	NCM
	3	36-46	S	10YR5/6	B	NCM

Note: animal bones

499	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	S	10YR4/3	A	NCM
	3	14-25	S	10YR5/6	B	NCM

500	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	S	10YR4/3	A	NCM
	3	13-23	S	10YR5/6	B	NCM

501	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	mod bottle lass
	3	23-33	S	10YR5/6	B	NCM

Note: skipped 100' paved road

502	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	NCM
	3	23-33	S	10YR5/6	B	NCM

503	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

504	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

505	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	NCM
	3	23-33	S	10YR5/6	B	NCM

Note: 175' steep slope....

506	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	NCM
	3	23-33	S	10YR5/6	B	NCM

507	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	NCM
	3	23-33	S	10YR5/6	B	NCM

508	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	S	10YR4/3	A	NCM
	3	33-43	S	10YR5/6	B	NCM
509	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	S	10YR4/3	A	NCM
	3	23-33	S	10YR5/6	B	NCM
510	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
511	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
512	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
513	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
514	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
515	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
516	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
517	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
518	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
519	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM

520	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
521	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
522	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
523	1	0-4	Rootmat,leaves,humus		A/O	NCM
	2	4-34	SL	10YR4/3	A	NCM
	3	34-44	SL	10YR5/6	B	NCM
524	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
525	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-27	SL	10YR4/3	A	NCM
	3	27-39	SL	10YR5/6	B	NCM
526	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
527	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
528	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
529	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
530	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
531	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM

532	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
533	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
534	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
535	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
536	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-14	SL	10YR4/3	A	NCM
	3	14-25	SL	10YR5/6	B	NCM
537	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
538	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
539	1	0-5	Rootmat,leaves,humus		A/O	NCM
	2	5-13	SL	10YR4/3	A	NCM
	3	13-23	SL	10YR5/6	B	NCM
540	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
541	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
542	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
543	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

544	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
545	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
546	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
547	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM

Note: 100' steep slope

548	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM

Note: radial of STP 14

549	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
550	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
551	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM

Note: end of radials

552	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
553	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
554	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
555	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM

556	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
557	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
558	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
559	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
560	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
561	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM
562	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-36	SL	10YR4/3	A	NCM
	3	36-46	SL	10YR5/6	B	NCM
563	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-33	SL	10YR4/3	A	NCM
	3	33-43	SL	10YR5/6	B	NCM
564	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
565	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
566	1	0-2	Rootmat,leaves,humus		A/O	NCM
	2	2-23	SL	10YR4/3	A	NCM
	3	23-33	SL	10YR5/6	B	NCM
567	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM

568	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-35	SL	10YR4/3	A	NCM
	3	35-45	SL	10YR5/6	B	NCM
569	1	0-3	Rootmat,leaves,humus		A/O	NCM
	2	3-37	SL	10YR4/3	A	NCM
	3	37-47	SL	10YR5/6	B	NCM

APPENDIX 3

MAP DOCUMENTED STRUCTURES

Location	Map	On, or Adjacent to Study Area	Owner	Eco-Niche	Comments
northeast corner of Middle country Road and Rocky Point Road	1797 Hulse	possibly on, or adjacent	na		Figure 3
same as above	1838 U.S. Coast Survey	possibly on, or adjacent	L. ? (unreadable)	probable farmland	Figure 4
same as above	1858 Chace	possibly on, or adjacent	Randell and Petty	probable farmland	Figure 5
same as above	1873 Beers	possibly on, or adjacent	Randell and Petty	probable farmland	Figure 6
same as above	1896 Hyde	possibly on, or adjacent	Randell	probable farmland	Figure 7
same as above	1906 Hyde	possibly on, or adjacent	E. Pfieffer	probable farmland	Figure 8

APPENDIX J

ALTERNATIVES ANALYSIS INFORMATION

Appendix J-1

SONIR and TripGen for Alternative 2

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD Alternative 2 As of Right Cluster **SHEET 1**

A	Site Recharge Parameters	Value	Units
1	Area of Site	39.38	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	11.92	acres
4	Fraction of Land in Lawn	0.303	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	3.57	acres
8	Fraction of Land Impervious	0.091	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	2.23	acres
12	Fraction of Land Unvegetated	0.057	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.01	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	21.65	acres
20	Fraction of Land Natural	0.550	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	5.78	acres
28	Fraction of Land Irrigated	0.147	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	10,200	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	5.78	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	5.78	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	40.00	mg/l

C	Comments
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Alternative 2 As of Right Cluster — SHEET 2

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.303	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	5.36	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.091	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	3.49	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.057	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.94	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.00	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	0.550	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	10.07	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.147	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.22	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	10,200	gal/day
2	WDF = Wastewater Design Flow	497,765.10	cu ft/yr
3	A = Area of Site	1,715,393	sq ft
4	R(ww) = WDF/A	0.29	feet
5	R(WW) = Wastewater Recharge	3.48	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	23.58 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Alternative 2 As of Right Cluster **SHEET 3**

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	10,200	gal/day
2	CF = Commercial/STP Flow	14,091,555	liters/yr
3	N = Nitrogen in Commercial	40.00	mg/l
4	N(S) = CF x N	563,662,200	milligrams
5	N(S) = Sanitary Nitrogen	1242.88	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	10,200	gal/day
2	WDF = Wastewater Design Flow	14,091,555	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	14,091,555	milligrams
5	N(WW) = Wastewater Nitrogen	31.07	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	251,777	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	81.07	lbs
5	N(F1) = Fertilizer Nitrogen	81.07	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	1.66	feet
2	A = Area of Site (sq ft)	1,715,393	sq ft
3	R(N) = R(n) x A	2,841,429	cu ft
4	R(N) = Natural Recharge (liters)	80,469,268	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	804,693	milligrams
8	N(ppt) = Precipitation Nitrogen	1.77	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	251,777	sq ft
4	R(I) = R(irr) x A	31,297	cu ft
5	R(I) = Site Precipitation (liters)	886,322	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	132,948	milligrams
9	N(irr) = Irrigation Nitrogen	0.29	lbs

Total Site Nitrogen	
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)
N=	1357.09 lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
Alternative 2 As of Right Cluster

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	1357.09	lbs
2	N = Total Nitrogen (milligrams)	616,117,343	milligrams
3	R(T) = Total Recharge (inches)	23.58	inches
4	R(T) = Total Recharge (feet)	1.96	feet
5	A = Area of Site	1,715,393	sq ft
6	R = R(T) x A	3,370,491	cu ft
7	R = Site Recharge Volume	95,452,298	liters
9	NR = N/R	6.45	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

6.45

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	23.58	inches/yr
2	R = Site Recharge Volume	3,370,491	cu ft/yr
3	R = Site Recharge Volume	25,213,023	gal/yr
4	R = Site Recharge Volume	25.21	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Summary of Trip Generation Calculation
For 34 Dwelling Units of Single Family Detached Housing
November 14, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	11.33	0.00	1.00	385
7-9 AM Peak Hour Enter	0.24	0.00	1.00	8
7-9 AM Peak Hour Exit	0.73	0.00	1.00	25
7-9 AM Peak Hour Total	0.98	0.00	1.00	33
4-6 PM Peak Hour Enter	0.75	0.00	1.00	26
4-6 PM Peak Hour Exit	0.44	0.00	1.00	15
4-6 PM Peak Hour Total	1.19	0.00	1.00	41
AM Pk Hr, Generator, Enter	0.27	0.00	1.00	9
AM Pk Hr, Generator, Exit	0.78	0.00	1.00	27
AM Pk Hr, Generator, Total	1.05	0.00	1.00	36
PM Pk Hr, Generator, Enter	0.80	0.00	1.00	27
PM Pk Hr, Generator, Exit	0.45	0.00	1.00	15
PM Pk Hr, Generator, Total	1.25	0.00	1.00	42
Saturday 2-Way Volume	11.23	0.00	1.00	382
Saturday Peak Hour Enter	0.65	0.00	1.00	22
Saturday Peak Hour Exit	0.56	0.00	1.00	19
Saturday Peak Hour Total	1.21	0.00	1.00	41
Sunday 2-Way Volume	8.54	0.00	1.00	290
Sunday Peak Hour Enter	0.56	0.00	1.00	19
Sunday Peak Hour Exit	0.50	0.00	1.00	17
Sunday Peak Hour Total	1.05	0.00	1.00	36

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .92LN(X) + 2.71, R^2 = 0.96
7-9 AM Peak Hr. Total:	T = .7(X) + 9.43
	R^2 = 0.89 , 0.25 Enter, 0.75 Exit
4-6 PM Peak Hr. Total:	LN(T) = .9LN(X) + .53
	R^2 = 0.91 , 0.63 Enter, 0.37 Exit
AM Gen Pk Hr. Total:	T = .7(X) + 12.05
	R^2 = 0.89 , 0.26 Enter, 0.74 Exit
PM Gen Pk Hr. Total:	LN(T) = .89LN(X) + .61
	R^2 = 0.91 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	LN(T) = .94LN(X) + 2.63, R^2 = 0.93
Sat. Pk Hr. Total:	T = .89(X) + 10.93
	R^2 = 0.9 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 8.83(X) + -9.76, R^2 = 0.94
Sun. Pk Hr. Total:	LN(T) = .89LN(X) + .44
	R^2 = 0.88 , 0.53 Enter, 0.47 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Appendix J-2

SONIR and TripGen for Alternative 3

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD Alternative 3 Increase Comm/Red Density **SHEET 1**

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	39.38	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	8.70	acres
4	Fraction of Land in Lawn	0.221	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	12.59	acres
8	Fraction of Land Impervious	0.320	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.01	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	18.08	acres
20	Fraction of Land Natural	0.459	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	4.98	acres
28	Fraction of Land Irrigated	0.126	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	50,000	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	4.98	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	4.98	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	10.00	mg/l

C	*Comments*
1)	Please refer to user manual for data input instructions.
2)	Coverages include 3.96 acre STP parcel (2.07 natural area, 0.42 impervious area and 1.47 unfertilized landscaped area

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS — Alternative 3 Increase Comm/Red Density — **SHEET 2**

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.221	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	3.91	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.320	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	12.32	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.00	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.00	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	0.459	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	8.41	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.126	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.19	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	2,440,025.00	cu ft/yr
3	A = Area of Site	1,715,393	sq ft
4	R(ww) = WDF/A	1.42	feet
5	R(WW) = Wastewater Recharge	17.07	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	41.91 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Alternative 5 Increase Comm/Red Density **SHEET 3**

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	50,000	gal/day
2	CF = Commercial/STP Flow	69,076,250	liters/yr
3	N = Nitrogen in Commercial	10.00	mg/l
4	N(S) = CF x N	690,762,500	milligrams
5	N(S) = Sanitary Nitrogen	1523.13	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	69,076,250	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	69,076,250	milligrams
5	N(WW) = Wastewater Nitrogen	152.31	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	216,929	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	69.85	lbs
5	N(F1) = Fertilizer Nitrogen	69.85	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	2.05	feet
2	A = Area of Site (sq ft)	1,715,393	sq ft
3	R(N) = R(n) x A	3,523,773	cu ft
4	R(N) = Natural Recharge (liters)	99,793,255	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	997,933	milligrams
8	N(ppt) = Precipitation Nitrogen	2.20	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	216,929	sq ft
4	R(I) = R(irr) x A	26,965	cu ft
5	R(I) = Site Precipitation (liters)	763,648	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	114,547	milligrams
9	N(irr) = Irrigation Nitrogen	0.25	lbs

Total Site Nitrogen	
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)
N=	1747.75 lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
Alternative 3 Increase Comm/Red Density

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	1747.75	lbs
2	N = Total Nitrogen (milligrams)	793,477,835	milligrams
3	R(T) = Total Recharge (inches)	41.91	inches
4	R(T) = Total Recharge (feet)	3.49	feet
5	A = Area of Site	1,715,393	sq ft
6	R = R(T) x A	5,990,763	cu ft
7	R = Site Recharge Volume	169,658,411	liters
9	NR = N/R	4.68	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

4.68

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	41.91	inches/yr
2	R = Site Recharge Volume	5,990,763	cu ft/yr
3	R = Site Recharge Volume	44,814,023	gal/yr
4	R = Site Recharge Volume	44.81	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

Summary of Trip Generation Calculation
For 10 Dwelling Units of Single Family Detached Housing
November 14, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	12.50	0.00	1.00	125
7-9 AM Peak Hour Enter	0.41	0.00	1.00	4
7-9 AM Peak Hour Exit	1.23	0.00	1.00	12
7-9 AM Peak Hour Total	1.64	0.00	1.00	16
4-6 PM Peak Hour Enter	0.85	0.00	1.00	9
4-6 PM Peak Hour Exit	0.50	0.00	1.00	5
4-6 PM Peak Hour Total	1.35	0.00	1.00	13
AM Pk Hr, Generator, Enter	0.50	0.00	1.00	5
AM Pk Hr, Generator, Exit	1.41	0.00	1.00	14
AM Pk Hr, Generator, Total	1.91	0.00	1.00	19
PM Pk Hr, Generator, Enter	0.91	0.00	1.00	9
PM Pk Hr, Generator, Exit	0.51	0.00	1.00	5
PM Pk Hr, Generator, Total	1.43	0.00	1.00	14
Saturday 2-Way Volume	12.08	0.00	1.00	121
Saturday Peak Hour Enter	1.07	0.00	1.00	11
Saturday Peak Hour Exit	0.91	0.00	1.00	9
Saturday Peak Hour Total	1.98	0.00	1.00	20
Sunday 2-Way Volume	7.85	0.00	1.00	79
Sunday Peak Hour Enter	0.64	0.00	1.00	6
Sunday Peak Hour Exit	0.57	0.00	1.00	6
Sunday Peak Hour Total	1.21	0.00	1.00	12

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .92LN(X) + 2.71, R^2 = 0.96
7-9 AM Peak Hr. Total:	T = .7(X) + 9.43
	R^2 = 0.89 , 0.25 Enter, 0.75 Exit
4-6 PM Peak Hr. Total:	LN(T) = .9LN(X) + .53
	R^2 = 0.91 , 0.63 Enter, 0.37 Exit
AM Gen Pk Hr. Total:	T = .7(X) + 12.05
	R^2 = 0.89 , 0.26 Enter, 0.74 Exit
PM Gen Pk Hr. Total:	LN(T) = .89LN(X) + .61
	R^2 = 0.91 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	LN(T) = .94LN(X) + 2.63, R^2 = 0.93
Sat. Pk Hr. Total:	T = .89(X) + 10.93
	R^2 = 0.9 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 8.83(X) + -9.76, R^2 = 0.94
Sun. Pk Hr. Total:	LN(T) = .89LN(X) + .44
	R^2 = 0.88 , 0.53 Enter, 0.47 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Summary of Trip Generation Calculation
For 109 Dwelling Units of Residential Condominium / Townhouse
November 14, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.34	0.00	1.00	691
7-9 AM Peak Hour Enter	0.09	0.00	1.00	9
7-9 AM Peak Hour Exit	0.42	0.00	1.00	46
7-9 AM Peak Hour Total	0.51	0.00	1.00	55
4-6 PM Peak Hour Enter	0.40	0.00	1.00	43
4-6 PM Peak Hour Exit	0.20	0.00	1.00	21
4-6 PM Peak Hour Total	0.59	0.00	1.00	65
AM Pk Hr, Generator, Enter	0.09	0.00	1.00	10
AM Pk Hr, Generator, Exit	0.42	0.00	1.00	46
AM Pk Hr, Generator, Total	0.51	0.00	1.00	56
PM Pk Hr, Generator, Enter	0.44	0.00	1.00	48
PM Pk Hr, Generator, Exit	0.25	0.00	1.00	27
PM Pk Hr, Generator, Total	0.69	0.00	1.00	75
Saturday 2-Way Volume	7.55	0.00	1.00	823
Saturday Peak Hour Enter	0.37	0.00	1.00	40
Saturday Peak Hour Exit	0.31	0.00	1.00	34
Saturday Peak Hour Total	0.68	0.00	1.00	74
Sunday 2-Way Volume	6.41	0.00	1.00	698
Sunday Peak Hour Enter	0.34	0.00	1.00	37
Sunday Peak Hour Exit	0.35	0.00	1.00	38
Sunday Peak Hour Total	0.69	0.00	1.00	75

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.55, R^2 = 0.83
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + .26
	R^2 = 0.76 , 0.17 Enter, 0.83 Exit
4-6 PM Peak Hr. Total:	LN(T) = .82LN(X) + .32
	R^2 = 0.8 , 0.67 Enter, 0.33 Exit
AM Gen Pk Hr. Total:	LN(T) = .82LN(X) + .17
	R^2 = 0.8 , 0.18 Enter, 0.82 Exit
PM Gen Pk Hr. Total:	T = .34(X) + 38.31
	R^2 = 0.83 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	T = 3.62(X) + 427.93, R^2 = 0.84
Sat. Pk Hr. Total:	T = .29(X) + 42.63
	R^2 = 0.84 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 3.13(X) + 357.26, R^2 = 0.88
Sun. Pk Hr. Total:	T = .23(X) + 50.01
	R^2 = 0.78 , 0.49 Enter, 0.51 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Summary of Trip Generation Calculation
For 27.5 T.G.L.A. of Shopping Center
November 14, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	106.70	0.00	1.00	2934
7-9 AM Peak Hour Enter	1.60	0.00	1.00	44
7-9 AM Peak Hour Exit	1.02	0.00	1.00	28
7-9 AM Peak Hour Total	2.62	0.00	1.00	72
4-6 PM Peak Hour Enter	4.66	0.00	1.00	128
4-6 PM Peak Hour Exit	5.05	0.00	1.00	139
4-6 PM Peak Hour Total	9.71	0.00	1.00	267
AM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
AM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
AM Pk Hr, Generator, Total	0.00	0.00	1.00	0
PM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
PM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
PM Pk Hr, Generator, Total	0.00	0.00	1.00	0
Saturday 2-Way Volume	148.97	0.00	1.00	4097
Saturday Peak Hour Enter	7.07	0.00	1.00	194
Saturday Peak Hour Exit	6.53	0.00	1.00	180
Saturday Peak Hour Total	13.60	0.00	1.00	374
Sunday 2-Way Volume	168.88	0.00	1.00	4644
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .65LN(X) + 5.83, R^2 = 0.78
7-9 AM Peak Hr. Total:	LN(T) = .6LN(X) + 2.29
	R^2 = 0.52 , 0.61 Enter, 0.39 Exit
4-6 PM Peak Hr. Total:	LN(T) = .66LN(X) + 3.4
	R^2 = 0.81 , 0.48 Enter, 0.52 Exit
AM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
PM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
Sat. 2-Way Volume:	LN(T) = .63LN(X) + 6.23, R^2 = 0.82
Sat. Pk Hr. Total:	LN(T) = .65LN(X) + 3.77
	R^2 = 0.84 , 0.52 Enter, 0.48 Exit
Sun. 2-Way Volume:	T = 15.63(X) + 4214.46, R^2 = 0.52
Sun. Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Appendix J-3

SONIR and TripGen for Alternative 7

Summary of Trip Generation Calculation
For 109 Dwelling Units of Residential Condominium / Townhouse
May 28, 2008

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.34	0.00	1.00	691
7-9 AM Peak Hour Enter	0.09	0.00	1.00	9
7-9 AM Peak Hour Exit	0.42	0.00	1.00	46
7-9 AM Peak Hour Total	0.51	0.00	1.00	55
4-6 PM Peak Hour Enter	0.40	0.00	1.00	43
4-6 PM Peak Hour Exit	0.20	0.00	1.00	21
4-6 PM Peak Hour Total	0.59	0.00	1.00	65
Saturday 2-Way Volume	7.55	0.00	1.00	823
Saturday Peak Hour Enter	0.37	0.00	1.00	40
Saturday Peak Hour Exit	0.31	0.00	1.00	34
Saturday Peak Hour Total	0.68	0.00	1.00	74

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.55, R^2 = 0.83
7-9 AM Peak Hr. Total:	LN(T) = .8LN(X) + .26
	R^2 = 0.76 , 0.17 Enter, 0.83 Exit
4-6 PM Peak Hr. Total:	LN(T) = .82LN(X) + .32
	R^2 = 0.8 , 0.67 Enter, 0.33 Exit
AM Gen Pk Hr. Total:	LN(T) = .82LN(X) + .17
	R^2 = 0.8 , 0.18 Enter, 0.82 Exit
PM Gen Pk Hr. Total:	T = .34(X) + 38.31
	R^2 = 0.83 , 0.64 Enter, 0.36 Exit
Sat. 2-Way Volume:	T = 3.62(X) + 427.93, R^2 = 0.84
Sat. Pk Hr. Total:	T = .29(X) + 42.63
	R^2 = 0.84 , 0.54 Enter, 0.46 Exit
Sun. 2-Way Volume:	T = 3.13(X) + 357.26, R^2 = 0.88
Sun. Pk Hr. Total:	T = .23(X) + 50.01
	R^2 = 0.78 , 0.49 Enter, 0.51 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Summary of Trip Generation Calculation
For 26 Dwelling Units of Elderly Housing - Detached
May 28, 2008

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.63	0.00	1.00	172
7-9 AM Peak Hour Enter	0.13	0.00	1.00	3
7-9 AM Peak Hour Exit	0.21	0.00	1.00	5
7-9 AM Peak Hour Total	0.34	0.00	1.00	9
4-6 PM Peak Hour Enter	0.44	0.00	1.00	11
4-6 PM Peak Hour Exit	0.28	0.00	1.00	7
4-6 PM Peak Hour Total	0.72	0.00	1.00	19
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	LN(T) = .85LN(X) + 2.38, R^2 = 0.98
7-9 AM Peak Hr. Total:	LN(T) = .86LN(X) + -.63
	R^2 = 0.96 , 0.38 Enter, 0.62 Exit
4-6 PM Peak Hr. Total:	LN(T) = .72LN(X) + .58
	R^2 = 0.88 , 0.61 Enter, 0.39 Exit
AM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
PM Gen Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
Sat. 2-Way Volume:	0, R^2 = 0
Sat. Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit
Sun. 2-Way Volume:	0, R^2 = 0
Sun. Pk Hr. Total:	0
	R^2 = 0 , 0 Enter, 0 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

Summary of Trip Generation Calculation
For 13 T.G.L.A. of Shopping Center
May 28, 2008

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	138.69	0.00	1.00	1803
7-9 AM Peak Hour Enter	2.16	0.00	1.00	28
7-9 AM Peak Hour Exit	1.38	0.00	1.00	18
7-9 AM Peak Hour Total	3.54	0.00	1.00	46
4-6 PM Peak Hour Enter	6.01	0.00	1.00	78
4-6 PM Peak Hour Exit	6.51	0.00	1.00	85
4-6 PM Peak Hour Total	12.53	0.00	1.00	163
Saturday 2-Way Volume	196.56	0.00	1.00	2555
Saturday Peak Hour Enter	9.19	0.00	1.00	119
Saturday Peak Hour Exit	8.48	0.00	1.00	110
Saturday Peak Hour Total	17.68	0.00	1.00	230

Note: A zero indicates no data available.
The above rates were calculated from these equations:

24-Hr. 2-Way Volume: LN(T) = .65LN(X) + 5.83, R^2 = 0.78
7-9 AM Peak Hr. Total: LN(T) = .6LN(X) + 2.29
R^2 = 0.52 , 0.61 Enter, 0.39 Exit
4-6 PM Peak Hr. Total: LN(T) = .66LN(X) + 3.4
R^2 = 0.81 , 0.48 Enter, 0.52 Exit
AM Gen Pk Hr. Total: 0
R^2 = 0 , 0 Enter, 0 Exit
PM Gen Pk Hr. Total: 0
R^2 = 0 , 0 Enter, 0 Exit
Sat. 2-Way Volume: LN(T) = .63LN(X) + 6.23, R^2 = 0.82
Sat. Pk Hr. Total: LN(T) = .65LN(X) + 3.77
R^2 = 0.84 , 0.52 Enter, 0.48 Exit
Sun. 2-Way Volume: T = 15.63(X) + 4214.46, R^2 = 0.52
Sun. Pk Hr. Total: 0
R^2 = 0 , 0 Enter, 0 Exit

Source: Institute of Transportation Engineers
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT Sandy Hills

DATA INPUT FIELD Alternative 7 **SHEET 1**

A	*Site Recharge Parameters*	*Value*	*Units*
1	Area of Site	39.38	acres
2	Precipitation Rate	42.82	inches
3	Acreage of Lawn	5.61	acres
4	Fraction of Land in Lawn	0.142	fraction
5	Evapotranspiration from Lawn	24.20	inches
6	Runoff from Lawn	0.90	inches
7	Acreage of Impervious	13.74	acres
8	Fraction of Land Impervious	0.349	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	1.94	inches
15	Acreage of Water	0.01	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	20.02	acres
20	Fraction of Land Natural	0.508	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.30	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	4.81	acres
28	Fraction of Land Irrigated	0.122	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	0	gal/day
33	Commercial /STP Design Flow	50,000	gal/day

B	*Nitrogen Budget Parameters*	*Value*	*Units*
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	4.81	acres
5	Fertilizer Application Rate 1	2.30	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	2	percent
12	Area of Land Irrigated	4.28	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	10.00	mg/l

C	*Comments*
1)	Please refer to user manual for data input instructions.
2)	Coverages include 2.67 acre STP parcel (1.54 natural area, 0.33 impervious area and 0.80 unfertilized landscaped area

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS — Alternative 7 — **SHEET 2**

A	*Lawn Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Lawn	0.142	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.90	inches
5	R(l) = P - (E + Q)	17.72	inches
6	R(L) = R(l) x A	2.52	inches

B	*Impervious Area Recharge*	*Value*	*Units*
1	A = Fraction of Land in Impervious	0.349	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	4.28	inches
4	Q = Runoff Rate	0.00	inches
5	R(i) = P - (E + Q)	38.54	inches
6	R(I) = R(i) x A	13.45	inches

C	*Unvegetated Area Recharge*		
1	A = Fraction of Land Unveg.	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	1.94	inches
5	R(u) = P - (E + Q)	16.68	inches
6	R(U) = R(u) x A	0.00	inches

D	*Water Area Loss*		
1	A = Fraction of Site in Water	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evaporation Rate	30.00	inches
4	Q = Runoff Rate	0.00	inches
5	M = Makeup Water	0.00	inches
6	R(w) = {P - (E+Q)} - M	12.82	inches
7	R(W) = R(w) x A	0.00	inches

E	*Natural Area Recharge*		
1	A = Fraction of Land in Natural	0.508	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	24.20	inches
4	Q = Runoff Rate	0.30	inches
5	R(n) = P - (E + Q)	18.32	inches
6	R(N) = R(n) x A	9.31	inches

F	*Other Area Recharge*		
1	A = Fraction of Land in Other	0.000	fraction
2	P = Precipitation Rate	42.82	inches
3	E = Evapotranspiration Rate	0.00	inches
4	Q = Runoff Rate	0.00	inches
5	R(o) = P - (E + Q)	42.82	inches
6	R(O) = R(o) x A	0.00	inches

G	*Irrigation Recharge*		
1	A = Fraction of Land Irrigated	0.122	fraction
2	I = Irrigation Rate	5.50	inches
3	E = Evaptranspiration Rate	3.11	inches
4	Q = Runoff Rate	0.90	inches
5	R(irr) = I - (E + Q)	1.49	inches
6	R(IRR) = R(irr) x A	0.18	inches

H	*Wastewater Recharge*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	2,440,025.00	cu ft/yr
3	A = Area of Site	1,715,393	sq ft
4	R(ww) = WDF/A	1.42	feet
5	R(WW) = Wastewater Recharge	17.07	inches

Total Site Recharge		
R(T) =	R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)	
R(T) =	42.54 inches	

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET — Alternative 7 — **SHEET 3**

A	*Sanitary Nitrogen-Residential*	*Value*	*Units*
1	Number of Dwellings	0	units
2	Persons per Dwelling	0.00	capita
3	P = Population	0.00	capita
4	N = Nitrogen per person	0	lbs
5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs

B	*Pet Waste Nitrogen*	*Value*	*Units*
1	AR = Application Rate	0.00	lbs/pet
2	Human Population	0	capita
3	Pets = 17 percent of capita	0	pets
4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	2	percent
6	N(P) = N(p) x LR	0.00	lbs
7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	*Sanitary Nitrogen (Commercial/STP)*		
1	CF = Commercial/STP Flow	50,000	gal/day
2	CF = Commercial/STP Flow	69,076,250	liters/yr
3	N = Nitrogen in Commercial	10.00	mg/l
4	N(S) = CF x N	690,762,500	milligrams
5	N(S) = Sanitary Nitrogen	1523.13	lbs

D	*Water Supply Nitrogen*		
1	WDF = Wastewater Design Flow	50,000	gal/day
2	WDF = Wastewater Design Flow	69,076,250	liters/yr
3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(WW) = WDF x N	69,076,250	milligrams
5	N(WW) = Wastewater Nitrogen	152.31	lbs

E	*Fertilizer Nitrogen 1*		
1	A = Area of Land Fertilized 1	209,524	sq ft
2	AR = Application Rate	2.30	lbs/1000 sf
3	LR = Leaching Rate	14	percent
4	N(F1) = A x AR x LR	67.47	lbs
5	N(F1) = Fertilizer Nitrogen	67.47	lbs

F	*Fertilizer Nitrogen 2*		
1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	0	percent
4	N(F2) = A x AR x LR	0.00	lbs
5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	*Precipitation Nitrogen*		
1	R(n) = Natural Recharge (feet)	2.11	feet
2	A = Area of Site (sq ft)	1,715,393	sq ft
3	R(N) = R(n) x A	3,614,912	cu ft
4	R(N) = Natural Recharge (liters)	102,374,295	liters
5	N = Nitrogen in Precipitation	1.00	mg/l
6	LR = Leaching Rate	15	percent
7	N(ppt) = P(S) x N x LR	1,023,743	milligrams
8	N(ppt) = Precipitation Nitrogen	2.26	lbs

H	*Irrigation Nitrogen*		
1	R = Irrigation Recharge (inches)	1.49	inches
2	R = Irrigation Rate (feet)	0.12	feet
3	A = Area of Land Irrigated	186,437	sq ft
4	R(I) = R(irr) x A	23,175	cu ft
5	R(I) = Site Precipitation (liters)	656,308	liters
6	N = Nitrogen in Water Supply	1.00	mg/l
7	LR = Leaching Rate	15	percent
8	N(irr) = R(I) x N x LR	98,446	milligrams
9	N(irr) = Irrigation Nitrogen	0.22	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	1745.39	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Sandy Hills
Alternative 7

FINAL COMPUTATIONS

SHEET 4

A	*Nitrogen in Recharge*	*Value*	*Units*
1	N = Total Nitrogen (lbs)	1745.39	lbs
2	N = Total Nitrogen (milligrams)	792,405,003	milligrams
3	R(T) = Total Recharge (inches)	42.54	inches
4	R(T) = Total Recharge (feet)	3.54	feet
5	A = Area of Site	1,715,393	sq ft
6	R = R(T) x A	6,080,981	cu ft
7	R = Site Recharge Volume	172,213,382	liters
9	NR = N/R	4.60	mg/l

FINAL CONCENTRATION OF NITROGEN IN RECHARGE

4.60

B	*Site Recharge Summary*	*Value*	*Units*
1	R(T) = Total Site Recharge	42.54	inches/yr
2	R = Site Recharge Volume	6,080,981	cu ft/yr
3	R = Site Recharge Volume	45,488,900	gal/yr
4	R = Site Recharge Volume	45.49	MG/yr

Conversions used in SONIR
Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams