DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT (DGEIS)
Volume 1

PROPOSED DOWNTOWN COPIAGUE (DC) ZONING DISTRICT

TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

LEAD AGENCY
Town of Babylon Town Board

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Proposed Downtown Copiague (DC) Zoning District

Town of Babylon, Suffolk County, New York

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Proposed Action Location:
Downtown Copiague
Town of Babylon, Suffolk County, New York

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1.0 Executive Summary

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Executive Summary

> ***"You can't rely on bringing people downtown, you have to put them there." — Jane Jacobs (The Death and Life of Great American Cities)***

1.1 Introduction

The Proposed Action analyzed in this Draft Generic Environmental Impact Statement ("DGEIS") is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create a Downtown Copiague ("DC") Zoning District (hereafter the "zoning amendments"). The potential impacts resulting from the adoption of the Proposed Action are analyzed in this DGEIS. This DGEIS has been prepared in accordance with the New York State Environmental Quality Review Act ("SEQRA") and its implementing regulations (6 NYCRR Part 617). The Town of Babylon Town Board ("Town Board") is the Lead Agency for this environmental review.

The Proposed Action is being advanced in order to implement the vision for Copiague provided in the *Copiague Vision Plan* (hereafter, the "*Vision Plan*"). The *Vision Plan*, which was adopted by the Town of Babylon Town Board (hereafter, the "Town Board") in 2009, was prepared to provide a long-term planning framework for downtown redevelopment that would create a vibrant downtown supported by a mix of uses.

Under SEQRA, a "Generic" EIS, or GEIS, is prepared when a proposed action represents a comprehensive program having wide application and defining the range of future projects in the affected area. A GEIS, according to the *New York State Department of Environmental Conservation (NYSDEC) SEQR Handbook*, is "a type of EIS that is more general than a site-specific EIS, and typically is used to consider broad-based actions or related groups of actions that agencies are likely to approve, fund, or directly undertake… A Generic EIS differs from a site or project specific EIS by being more general or conceptual in nature…"

This DGEIS is intended to provide the Town Board, the public, and interested and involved agencies with an understanding of the type of potential environmental impacts that may be associated with adoption of the Proposed Action. An important aspect of the environmental review process is that it incorporates public review and commentary into the decision-making process.

The DGEIS presents a comprehensive assessment of the potentially significant adverse impacts associated with the Proposed Action, identifies impacts which will likely require mitigation, and

considers alternatives to the Proposed Action, which includes a No-Action. The DGEIS also includes a number of appendices, which include SEQRA documentation, correspondence, the Traffic Impact Study, and the text of the proposed zoning.

1.2 Summary Description of the Proposed Action

The Proposed Action that is evaluated in this DGEIS is described in **Section 2.0** and involves:

- Amending the Code of the Town of Babylon to include a Downtown Copiague (DC) Zoning District and other associated changes; and
- Revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague.

In order to facilitate a vibrant transit-oriented downtown containing a mix of housing types and retail, office, personal service, and/or other compatible uses that contribute to a sense of community, the Proposed Action includes amending Chapter 213 of the Zoning Code of the Town of Babylon to include a new zoning district, titled the Downtown Copiague (DC) Zoning District (as §213-534 through 213-551). This proposed DC District is designed to build upon the strengths of Copiague and especially the downtown area, including the presence of the Copiague LIRR station, Veterans' Memorial and Copiague Parks, and a diverse residential community that is within walking distance of many of the downtown's commercial establishments.

The proposed DC Zoning District is generally comprised of those properties fronting along Great Neck Road from Campagnoli Avenue to Hollywood Avenue, along Marconi Boulevard from Pine Street to Verrazano Avenue, and along Railroad Avenue from Pine Street to Verrazano Avenue (hereinafter referred to as the "Study Area").

The Proposed DC Zoning District contains the following provisions, among others:

- **Permitted Uses**—The Proposed DC District would permit a number of principal uses on the ground and upper stories, in mixed-use or single-use buildings. The DC District would also permit a number of uses by special permit by the Planning Board.
- **Lot and Bulk Controls**—The Proposed DC District contains a number of lot and bulk controls, including building height, minimum lot area, minimum lot width, minimum yards, maximum building area, maximum residential density, minimum dwelling size, and maximum Floor Area Ration ("FAR").
- **Zoning Incentives**—In order to encourage development within downtown Copiague, the proposed zoning amendments include a system of zoning incentives or bonuses, including increased residential density, increased height, increased FAR, reduced parking requirements, and other modifications. Such zoning incentives would be available to applicants in exchange for specific physical, social, or cultural benefits or amenities, such as public parking, open or park space, downtown infrastructure improvements, affordable housing, and sustainable building techniques.
- **Other Requirements and Considerations**—The DC District contains specific minimum off-street parking requirements for a number of uses that differ from the general standards put forth in Article XXIII of Chapter 213. The DC District also contains a number of design considerations in order to improve the existing aesthetic appearance of downtown Copiague and to promote a high quality streetscape and pedestrian environment. In addition, specific regulations related to

signage, lighting, buffering, outdoor storage, and green building and site planning techniques are included.

The Proposed Action in and of itself is not a development project. Rather, it is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create the DC Zoning District, which reflects the vision for downtown Copiague, as described in the *Vision Plan*.

1.3 Purpose, Need, and Benefits of the Proposed Action

The purpose, need, and benefits of the Proposed Action are presented in **Section 2.0**. The purpose of the Proposed Action is to facilitate the revitalization of downtown Copiague, in accordance with the community's vision, as promulgated in the *Vision Plan*. The need is derived from the underutilized and blighted conditions of the Study Area contrasted with the economic revitalization that would be realized from implementation of the *Vision Plan*. The benefits include allowing downtown Copiague to become an economically vibrant mixed-use center that capitalizes on the existing assets and realizes its potential in coordinated, quality redevelopment that provides places to work, live, and play. The Proposed Action is specifically identified as a follow-up action to the community visioning process. The expected public benefits of the Proposed Action are significant and beneficial, in that the Proposed Action will provide for new and needed housing opportunities, job creation, encourage redevelopment of vacant and underutilized properties, provide architectural, streetscape and open space improvements, and foster the revitalization of downtown Copiague that was envisioned in the *Vision Plan*.

1.4 Build Out Under the Proposed DC Zoning District

As noted above, the Proposed Action in and of itself is not a development project. Rather, it is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create the DC Zoning District, which reflects the vision for downtown Copiague, as described in the *Vision Plan*. That being said, implementation of the Proposed Action will result in new development that is not currently permitted under the existing zoning in the Study Area. While there are currently no specific development proposals, SEQRA requires that the potential for redevelopment and the potential impacts from a proposed action, even a zoning change, in order that potential adverse environmental impacts are addressed at the earliest planning stages of a project.

Since it is not possible to determine exactly the changes that would occur with the implementation of the Proposed Action, or even the multitude of scenarios that could occur, in order to ensure a comprehensive evaluation of the Proposed Action in accordance with SEQRA and TOBEQRA, this DGEIS includes assessment of a build out of downtown Copiague (hereinafter, referred to as the "Build Out Scenario"), which relates to a *reasonable anticipated development* that could occur in downtown Copiague in the immediate- and near-term (up to 10 years). This ensures that a "hard look" of the Proposed Action and its anticipated impacts is taken, that such review is not segmented, and also provides the ability to establish guidelines as to when further SEQRA review is appropriate, based on conditions and thresholds to be established in the Statement of Findings.

As described in **Section 2.0**, a theoretical build out analysis was performed using zoning capacity as the basis for assessing and quantifying the effects of maximum allowable development of potential development sites in the Study Area under the proposed DC Zoning District, in particular, sites that are abandoned, vacant, underutilized and/or brownfields sites, as well as potentially subject to change were identified ("Sites Subject to Change"). The analysis estimates maximum square footage of residential, retail, restaurant, office, industrial, park/open, and civic areas that could reasonably be built according to the zoning parameters relating to building height restrictions, floor area ratio (FAR), housing density, permitted land uses, and parking requirements. The Build Out Scenario assumes that, in general, downtown Copiague will become a mixed-use center, with retail occupying the ground floor and office space and residences on the upper floors, while satisfying minimum parking ratios for specific land uses.

The results of the Build Out Scenario model are compared to existing conditions in ***Table 1-1, Comparison of Build Out Scenario with Existing Conditions***. The uses and yields listed represent a reasonable Build Out Scenario that could be anticipated as a result of the implementation of the proposed zoning amendments. These assumed uses and yields are necessary to establish (on qualitative and/or quantitative bases) the potential impacts of the Proposed Action and are required by SEQRA. As can be seen, the Build Out Scenario assumes increases in residential, retail, restaurant, office, park/open, and institutional/civic areas over existing conditions, but a large decrease in industrial over existing conditions.

Table 1-1
Comparison of Build Out Scenario with Existing Conditions

Use	Existing Conditions	Build Out	Difference
Residential (units)	92	*420*	328
- Apartments	46	*369*	323
- Townhomes	-	*20*	20
- Single Family	15	*12*	(3)
- Two-Family	24	*16*	(8)
- Three-Family	7	*3*	(4)
Retail (sf)	66,678	*245,064*	178,386
Restaurant (sf)	28,209	*43,500*	15,291
Office (sf)	26,200	*88,095*	61,895
Industrial (sf)	96,945	-	(96,945)
Park/Open Space (sf)	1,875	*28,196*	26,321
Institutional/Civic (sf)	39,686	*55,186*	15,500
Parking (spaces)	1,001	*1,567*	566

It should be noted that such a Build Out Scenario is not being proposed, or is even anticipated to occur; rather, it is being provided for purposes of evaluation in this GEIS.

1.5 Environmental Setting, Potential Impacts, and Mitigation Measures

This section briefly summarizes the environmental setting of the Study Area, potential impacts resulting from the Proposed Action, and suggested mitigation measures. Refer to **Chapters 3.1** through **3.10** of this DGEIS for a complete discussion of the environmental setting, potential impacts, and mitigation measures.

Existing Conditions

Section 3.0 describes the existing environmental setting of downtown Copiague, including its land use, zoning, public policy, community character and visual resources, natural resources (geology, soils, topography, terrestrial and aquatic ecology, water resources), infrastructure and utilities (stormwater, water, sanitary sewer, energy, solid waste), community facilities and services (police, fire, emergency services, schools), transportation and parking, socioeconomics (demographics, employment, housing, taxes), hazardous materials, cultural resources, and air and noise. The environmental setting was established in order to create a baseline against which conditions in the future with or without the Proposed Action can be measured or assessed.

Potential Impacts

The adoption of the proposed zoning amendments would be a regulatory action and would not result in any physical changes to the Study Area. Therefore, no impact to environmental resources would occur. As noted above, in order to evaluate the potential impacts of the implementation of the Proposed Action, a Build Out Scenario was analyzed. As described in **Section 3.0**, environmental impacts resulting from implementation of the Proposed Action are principally the beneficial effects of adopting zoning that provides for the more orderly growth, development, and redevelopment of the downtown area. In addition, new development would provide new tax ratables and jobs, stabilize neighborhood conditions, upgrade infrastructure systems, and enhance the image of the community. Anticipated adverse impacts associated with the implementation of the Proposed Action would include potential increases in traffic due to development, the possible need to expand municipal services (including police, fire, emergency services, and schools), and short-term construction related impacts.

Significant Adverse Impacts that Cannot be Avoided

Adoption of the proposed DC Zoning District in and of itself will not have any significant adverse impacts that cannot be avoided. However, projected development or redevelopment encouraged by the implementation of the Proposed Action could have adverse environmental impacts. Some of these would be temporary or short-term impacts associated with construction, while others would be long-term impacts, including increased traffic and increased demand on infrastructure, utilities, and community services. **Section 4.1** identifies those significant adverse impacts that cannot be avoided.

Mitigation Measures

As discussed in each of the sub-sections of **Section 3.0**, the Proposed Action, in and of itself, would not create any significant adverse impacts on environmental resources. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on environmental resources. As discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established for each of the environmental resources.

1.6 Summary Discussion of Alternatives to the Proposed Action

Alternatives to the Proposed Action are considered in this DGEIS and described in **Section 5.0**. Given that the Proposed Action is a zoning proposal, the only alternative that is reasonable to evaluate is the No Action Alternative. The No Action Alternative would mean that the zoning amendments would not be adopted and there would neither be significant adverse nor beneficial impacts. The Town's and community's goals and objectives, as envisioned in the *Vision Plan*, would not be achieved.

1.7 Required Reviews, Permits, and Approvals

Section 2.0 also lists the various reviews, approvals, and permits that are required to implement the Proposed Action. These are summarized in ***Table 1-2, Reviews, Permits, and Approvals Required: Proposed Action***.

Table 1-2
Reviews, Permits, and Approvals Required: Proposed Action

Agency	Reviews and Approvals Required
Town of Babylon Town Board	- Approval of amendments to Town Code (DC Zoning District) - Mapping of DC Zoning District - SEQRA Review (Lead Agency)
Town of Babylon Planning Board	- Recommendation of zoning amendments
Suffolk County Planning Commission	- Planning review under GML 239m

If the DC Zoning District is approved, subsequent reviews, permits, and/or approvals will be required for each site-specific development proposal that could be enabled by the Proposed Action. ***Table 1-3, Typical List of Reviews, Permits, and Approvals: Future Site-Specific Applications*** presents a list of the typical reviews, permits, and approvals that could be anticipated.

Table 1-3
Typical List of Reviews, Permits, and Approvals: Future Site-Specific Applications

Agency	Reviews and Approvals Required
Town of Babylon Town Board	- Authorization of zoning incentives
Town of Babylon Planning Board (Planning Department)	- Site plan review and approval - Sign permit recommendation - Zoning incentives recommendation
Town of Babylon Office of Downtown Revitalization	- Sign permit recommendation - Zoning incentives recommendation
Town of Babylon Building Department/Inspector	- Building permit - Sign permit review and approval
Suffolk County Planning Commission	- Planning review under GML 239m

Other permits or approvals may be necessary from the Suffolk County Department of Health Services, Suffolk County Water Authority, Suffolk County Department of Public Works, New York State Department of Environmental Conservation, Metropolitan Transportation Authority, or New York State Department of Transportation, among others.

2.0 Project Description

2

Project Description

2.1 Introduction

This Draft Generic Environmental Impact Statement (the "DGEIS") was prepared in accordance with the New York State Environmental Quality Review Act ("SEQRA") and its implementing regulations (6 NYCRR Part 616), as well as Chapter 114 of the Town of Babylon Code, Town of Babylon Environmental Quality Review Act ("TOBEQRA)". This DGEIS analyzes the potential impacts associated with a Proposed Action, which is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create a Downtown Copiague ("DC") Zoning District (hereafter the "zoning amendments"). The Proposed Action is being advanced in order to implement the vision for Copiague provided in the *Copiague Vision Plan* (hereafter, the "*Vision Plan*"). The *Vision Plan*, which was adopted by the Town of Babylon Town Board (hereafter, the "Town Board") in 2009, was prepared to provide a long-term planning framework for downtown redevelopment that would create a vibrant downtown supported by a mix of uses.

Pursuant to SEQRA, a GEIS is prepared when a proposed action represents a "broad-based" action or related group of actions containing a wide range of future projects. According to the New York State Department of Environmental Conservation ("NYSDEC") *SEQRA Handbook*, a GEIS is "a type of EIS that is more general than a site-specific EIS, and typically is used to consider broad-based actions or related groups of actions that agencies are likely to approve, fund, or directly undertake…A Generic EIS differs from a site or project-specific EIS by being more general or conceptual in nature…"

It is recognized that supplemental analyses will be needed to analyze potential impacts of site-specific projects related to, among others, traffic, infrastructure and utilities, and community services such as schools, that further information would be available at a later date when redevelopment projects are expected to occur, and that such site-specific projects would have to undergo their own environmental review.

To that end, this DGEIS fulfills SEQRA requirements to examine the impacts of adoption of zoning and map amendments and resultant reasonably foreseeable redevelopment and establish thresholds and guidelines under which redevelopment can proceed or further evaluation of potential environmental impacts can be conducted.

The DGEIS is divided into six sections, the first of which is **Section 1.0**, the Executive Summary. This section, **Section 2.0**, provides a discussion of the Study Area and provides a description of the components of the Proposed Action including: an explanation of the proposed zoning district, the project's purpose, needs, and benefits, and the required permits and approvals. **Section 3.0** of this DGEIS provides a discussion of the environmental setting of the Study Area, by topic. Existing conditions are then compared with a Build Out Scenario. Potential beneficial and adverse environmental impacts

are presented, and there is a corresponding impact analysis section for each of the existing conditions sections. Mitigation measures that would reduce or eliminate those impacts that were identified in the analyses are presented at the end of each topic discussion. **Section 4.0** presents those short- and long-term impacts described within **Section 3.0** that cannot be mitigated; an analysis of potential growth-inducing aspects of the Proposed Action; energy sources to be used and proposed conservation measures; and a brief discussion of natural resources consumed as a result of project implementation. Alternatives and their impacts are discussed in **Section 5.0** of the DGEIS, notably the "No Action" Alternative, which is required to be discussed pursuant to SEQRA and its implementing regulations. **Section 6.0** discusses the conditions and criteria under which future actions associated with development under the proposed zoning will be approved.

2.2 Study Area Location and Description

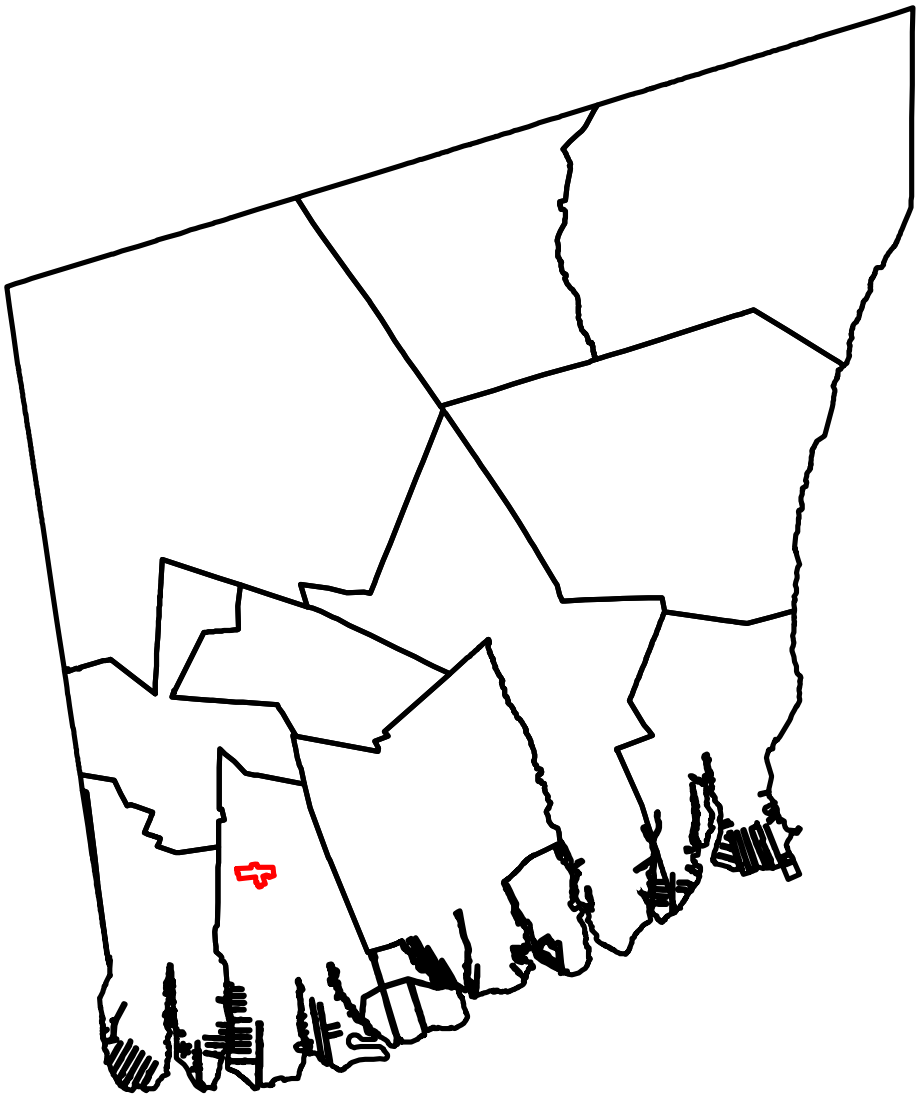
The Town of Babylon is located in the southwestern portion of Suffolk County on Long Island. Copiague is an unincorporated area of the Town of Babylon located generally in the southwestern portion of the Town (***Figure 2-1, Study Area Context***). The area subject to the proposed DC Zoning District would encompass the area within walking distance of the Copiague Long Island Rail Road ("LIRR") station and is approximately 35 acres in size. The Study Area is located in the north-central portion of Copiague and generally is comprised of those properties fronting along Great Neck Road from Campagnoli Avenue to Hollywood Avenue/East Gate, along the south side of Marconi Boulevard from Molloy Street to Verrazano Avenue, and along Railroad Avenue from Pine Street to approximately adjacent to Verrazano Avenue (***Figure 2-2, Study Area Conditions***). Downtown Copiague is approximately 0.7-mile south of the Southern State Parkway and 0.9-mile north of Montauk Highway (New York State Route 27A). The Study Area is primarily developed and contains the Copiague's downtown area, including the Copiague LIRR station and the United States Post Office. However, there are a few sites within downtown Copiague that have the potential for redevelopment, whether due to their vacant or underutilized nature (for example the off-street parking lots), developer interest, or key locations.

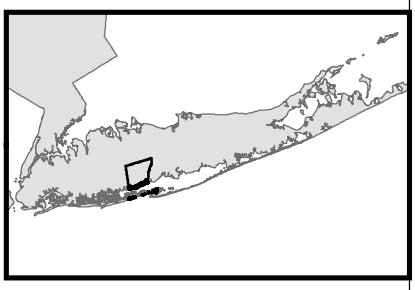
2.3 Background and History

In 2009, the Town of Babylon and Copiague community completed the *Copiague Vision Plan*, a comprehensive vision for the downtown Copiague. From this process, the community formed a vision of downtown Copiague:

> *"To transform downtown Copiague into a vibrant, people-friendly place that feels safe and secure, where people can walk, shop, entertain, relax, play, interact and spend time, and where the sense of community can be strengthened."*

The *Vision Plan* identifies various existing conditions that stand in the way of that vision and suggests the implementation of various actions to encourage and facilitate the transformation of downtown Copiague. The *Vision Plan* observes that the existing zoning in downtown Copiague represents a limitation towards revitalization of the downtown core. Among the *Vision Plan's* recommendations is the development of contemporary zoning regulations for downtown Copiague, including updated lot and bulk controls that would coordinate and guide future development.





N
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1 in = 2 miles

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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 2-1: Study Area Context

Study Area

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January 27, 2015

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Figure 2-2: Study Area Conditions

Study Area
Points of Interest

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January 27, 2015

It is the goal of the Proposed Action to achieve the above-noted *Vision Plan* objectives as the Proposed Action represents the necessary additional zoning options that will facilitate the development sought by the *Vision Plan*.

2.4 Purpose, Need, and Benefits of the Proposed Action

The purpose of the Proposed Action is to facilitate the revitalization of downtown Copiague, in accordance with the community's vision, as promulgated in the *Vision Plan*. In fact, the Proposed Action represents the next step in the community visioning process, as it helps to implement this vision. The need is derived from the underutilized and blighted conditions of the Study Area contrasted with the economic revitalization that would be realized from implementation of the *Vision Plan*. The expected public benefits of the Proposed Action are significant and beneficial, in that the Proposed Action will provide for new and needed housing opportunities, job creation, encourage redevelopment of vacant and underutilized properties, provide architectural, streetscape and open space improvements, and foster the revitalization of downtown Copiague that was envisioned in the *Vision Plan*. More specifically, implementation of the Proposed Action will allow downtown Copiague to become an economically vibrant mixed-use center that capitalizes on the existing assets and realizes its potential in coordinated, quality redevelopment that provides places to "live, work, and play".

2.5 Description of the Proposed Action

2.5.1 General Description of the Proposed Action

As previously noted, the Proposed Action that is evaluated in this DGEIS involves:

- Amending the Code of the Town of Babylon to include a Downtown Copiague (DC) Zoning District and other associated changes; and
- Revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague.

2.5.2 Proposed Zoning

In order to facilitate a vibrant transit-oriented downtown containing a mix of housing types and retail, office, personal service, and/or other compatible uses that contribute to a sense of community, the Proposed Action includes amending Chapter 213 of the Zoning Code of the Town of Babylon to include a new zoning district, titled the "Downtown Copiague (DC) Zoning District" (as §213-534 through 213-551). This proposed DC Zoning District, which is described in greater detail in **Section 3.1** (with proposed zoning language included in **Appendix B, Proposed DC Zoning District Zoning Text Amendments**), is designed to build upon the strengths of Copiague and especially the downtown area, including the presence of the Copiague LIRR station, Veterans' Memorial and Copiague Parks, and a diverse residential community that is within walking distance of many of the downtown's commercial establishments.

<u>Proposed Uses</u>

The DC Zoning District would permit the following principal uses on the ground and upper stories, in mixed-use or single-use buildings:

(a) Shops and stores for the sale of retail or consumer merchandise and services.
(b) Personal service shops such as barbershops, beauty parlors.

(c) Banks, financial institutions.
(d) Museums, art galleries.
(e) Libraries.
(f) Theaters, including movie theatres and performing arts theatres.
(g) Health clubs.
(h) Offices.
(i) Public, private, or vocational schools, learning centers, test preparation centers.
(j) Community centers.
(k) Public parks, playgrounds, and recreational areas when authorized by a governmental authority.
(l) Multiple residences, except for properties with frontage on Great Neck Road, where there shall be no residential uses on the first story.
(m) Uses similar to the above, as determined by the Planning Board.

In addition, offices would be permitted only on the upper stories as part of a mixed-use building.

The DC Zoning District would also permit by special permit by the Planning Board the following uses:
(a) On-premises food and beverage consumption establishments on the ground story only.
(b) Outdoor dining accessory to an on-premises food and beverage consumption establishment.

Proposed Lot and Bulk Controls

For uses within the DC Zoning District, a base set of lot and bulk controls are included, which could be altered through the proposed incentives provisions (see next sub-section). The base lot and bulk requirements for individual lots within the DC Zoning District are presented in ***Table 2-1, Proposed Base Lot and Bulk Controls***.

Table 2-1
Proposed Base Lot and Bulk Controls

Control	Requirement
Building Height	3 stories
Minimum lot area	4,000 square feet (sf)
Minimum lot width	40 feet
Minimum yards - Front - Side - Rear	 None None 15 feet
Maximum building area	80%
Maximum residential density	35 units/acre
Minimum dwelling size	500 sf
Maximum FAR	2.0

Zoning Incentives

In order to encourage development within downtown Copiague, the proposed zoning amendments include a system of zoning incentives or bonuses. Such zoning incentives would be available to applicants in exchange for specific physical, social, or cultural benefits or amenities. Such community benefits or amenities could include, among others, the following on a particular location or generally within the community:

- Public parking
- Open or park space
- Downtown infrastructure improvements
- Affordable housing
- Sustainable building techniques

The incentives or bonuses would include the following:

- Increased residential density of up to 48 units per acre
- Increased FAR of up to 2.2
- Increased height of up to 4 stories
- Reduced parking requirements
- Modifications to other land development standards

Other Requirements and Considerations

The DC Zoning District contains specific minimum off-street parking requirements for a number of uses that differ from the general standards put forth in Article XXIII of Chapter 213. These standards reflect the DC Zoning District's immediate access to transit options. The DC Zoning District also contains a number of design considerations in order to improve the existing aesthetic appearance of downtown Copiague and to promote a high quality streetscape and pedestrian environment. In addition, specific regulations related to signage, lighting, buffering, outdoor storage, and green building and site planning techniques are included.

2.6 Build Out Scenario Under the Proposed DC Zoning District

2.6.1 Introduction

The Proposed Action in and of itself is not a development project. Rather, it is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create the DC Zoning District, which reflects the vision for downtown Copiague, as described in the *Vision Plan*.

That being said, implementation of the Proposed Action would result in new development that is not currently permitted under the existing zoning in the Study Area. While there are currently no specific development proposals, SEQRA requires that the potential for redevelopment and the potential impacts from a proposed action be analyzed, even a zoning change, in order that potential adverse environmental impacts are addressed at the earliest planning stages of a project.

Since it is not possible to determine exactly the changes that would occur with the implementation of the Proposed Action, or even the multitude of scenarios that could occur, in order to ensure a comprehensive evaluation of the Proposed Action in accordance with SEQRA and TOBEQRA, this DGEIS includes assessment of a build out of downtown Copiague (hereinafter, referred to as the "Build Out Scenario"), which relates to a *reasonable anticipated development* that could occur in downtown Copiague in the immediate- and near-term (up to 10 years). This ensures that a "hard look" of the Proposed Action and its anticipated impacts is taken, that such review is not segmented, and also provides the ability to establish guidelines as to when further SEQRA review is appropriate, based on conditions and thresholds to be established in the Statement of Findings.

2.6.2 Build Out Methodology

A theoretical build out analysis was performed using zoning capacity as the basis for assessing and quantifying the effects of maximum allowable development of potential development sites in the Study Area under the proposed DC Zoning District. The analysis estimates maximum square footage of residential, retail, restaurant, office, industrial, park/open, and institutional/civic areas that could reasonably be built according to the zoning parameters relating to building height restrictions, floor area ration (FAR), housing density, permitted land uses, and parking requirements. The Build Out Scenario assumes that, in general, downtown Copiague will become a mixed-use center, with retail occupying the ground floor and office space and residences on the upper floors, while satisfying minimum parking ratios for specific land uses. What follows is an outline of the methodology used in this DGEIS to prepare the Build Out Scenario and compare it with existing conditions.

Step 1: Identify Sites Subject to Change—The first step in the analysis was the identification of sites on which to conduct the build out. Downtown Copiague is a predominantly built-up community. Planning for its future, therefore, differs from planning for a community where substantial amounts of vacant land are available. In order to identify the sites on which to conduct the build out, areas that are abandoned, vacant, underutilized, or that are potentially subject to change were identified from the approximately 90 parcels within the Study Area. These include areas that exhibit the characteristics that could result in change of use over the next 10 years. These characteristics include:

- Existing vacant land
- Existing abandoned buildings and/or properties
- Existing development that is below current development potential
- Developer interest
- Key placement within the downtown area

Figure 2-3, Study Area Parcels numbers all of the parcels that are located within the Study Area. ***Figure 2-4, Build Out Scenario: Sites Subject to Change*** shows the 24 sites within the Study Area that were determined to have the potential of changing in the near future. ***Table 2-2, Build Out Scenario: Sites Subject to Change*** lists each of the sites subject to change, references its location on ***Figure 2-4*** and includes the site's current land use.

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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 2-3: Study Area Parcels

Study Area
Study Area Parcels

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Ann Marie Jones, Commissioner

January 27, 2015

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Supervisor

Downtown Copiague (DC) Zoning District
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Figure 2-4: Build Out Scenario: Sites Subject to Change

Study Area
Sites Subject to Change

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January 27, 2015

Table 2-2
Build Out Scenario: Sites Subject to Change

Site Subject to Change	Acreage	Existing Land Use
1	0.34	Retail
2	0.65	Retail
3	0.54	Automobile-Oriented
4	1.08	Mixed (Residential, Industrial, Storage)
5	0.52	Mixed (Residential, Retail, Restaurant)
6	0.68	Parking
7	0.42	Parking
8	4.17	Mixed (Open Space, Parking)
9	0.92	Mixed (Industrial, Parking)
10	0.14	Office
11	1.22	Mixed (Residential, Retail, Office, Industrial, Parking)
12	0.56	Parking/Open Space
13	0.75	Mixed (Residential, Retail, Restaurant)
14	0.51	Mixed (Residential, Retail)
15	1.72	Industrial
16	0.51	Mixed (Retail, Restaurant)
17	0.49	Mixed (Residential, Retail, Restaurant, Office)
18	0.22	Mixed (Residential, Retail, Office)
19	0.65	Mixed (Residential, Restaurant)
20	0.79	Mixed (Residential, Retail, Restaurant, Office)
21	0.38	Retail
22	0.99	Mixed (Residential, Retail, Restaurant, Office)
23	1.71	Mixed (Restaurant, Office, Parking)
24	0.27	Mixed (Residential, Office)

Step 2: Develop Model—An Excel spreadsheet model was created so that a number of tests could be applied to each site for the purpose of analysis under certain build out parameters. The following information was obtained (from the Town of Babylon Building Department, Assessor's Office, and Tax Receiver, except where noted) for use in the build out analysis:

a. Section, block, and lot numbers
b. Property address
c. Owner address
d. Property code and characterization (verified by field inventory, August 2014 and January 2015)
e. Zoning
f. Parcel size (width, length; area in square feet and acres calculated for purposes of this GEIS)
g. Building size (square feet)
h. Building height
i. Building age (year built)
j. Residential characterization (does building have residential component; type of residential)
k. Residential units, rooms, full bathrooms, half bathrooms
l. Residential density: number of units divided by parcel size
m. Square footage by land use type

n. Number of parking spaces (estimated based upon field inventory conducted as part of the Traffic Impact Study)
o. Assessment information (full property, land only)
p. Floor-area-ratio (FAR): calculation based upon building square footage divided by parcel size
q. Building coverage: Building size divided by parcel size
r. Bedrooms-per-unit: number of bedrooms per each residential unit.
s. Number of school-age children to be generated
t. Population to be generated
u. Tax generation (including to the Copiague Union Free School, Suffolk County, Town, and other taxing jurisdictions)

Step 3: Establish Existing Conditions—The Study Area as it exists today was then modeled for each of the parameters noted above. As summary of existing conditions was then prepared, noting square footages, residential units, parking space, fiscal revenues, population, and number of school-age children. Note that buildings were modeled as being fully-occupied, despite the presence of some vacancies or partial vacancies during the preparation of the DGEIS.

Step 4: Determine Build Out Scenario Under Proposed Zoning—Each of the 24 sites subject to change were then "built out" generally based upon the *Vision Plan*. FAR and residential density were the controlling factors, with FAR determining the maximum square footage and residential density determining the maximum number of residential units. A 20 percent reduction on building size and residential units was applied in order to accommodate access and infrastructure. Exceptions to the above listed methodology were:

- **Oak Street Plaza:** This recently constructed mixed-use development was modeled as it currently exists, with 20 one-bedroom residential units above 11,900 sf of retail.
- **54-60 Railroad Avenue:** This industrial parcel was modeled with 90 affordable residential units due to a potential application for the site
- **460-500 Marconi Boulevard:** These industrial parcels were modeled with 20 condominium units due to an existing site plan application.
- **Federation Employment and Guidance Service (F.E.G.S.)**: This health and human services and employment service organization is located on Oak Street and is an important institution in the community.
- **Single-, two-, and three-family homes:** Many of the existing residential buildings were modeled as remaining since 1) the model reflects a 10-year horizon and 2) the purpose of the revitalization effort is to enhance the quality of life for Copiague's existing residents

A summary of the Build Out Scenario was then prepared, noting square footages, residential units, parking space, fiscal revenues, population, and number of school-age children.

Step 5: Determine Additional Yield—The summaries of the existing conditions and Build Out Scenario were then compared to note the differences between the two scenarios and the potential additional yield that could result from the Build Out Scenario.

2.6.3 Summary of the Build Out Scenario

A summary of the results of the Build Out Scenario model (Step 4) are presented in ***Table 2-3, Build Out Scenario***. The uses and yields listed represent a reasonable Build Out Scenario that could be anticipated as a result of the implementation of the proposed zoning amendments. These assumed uses and yields

are necessary to establish (on qualitative and/or quantitative bases) the potential impacts of the Proposed Action and are required by SEQRA.

Table 2-3
Build Out Scenario

Use	Yield
Residential (units)	420
- Apartments	369
- Townhomes	20
- Single Family	12
- Two-Family	16
- Three-Family	3
Retail (sf)	245,064
Restaurant (sf)	43,500
Office (sf)	88,095
Industrial (sf)	-
Park/Open Space (sf)	28,196
Institutional/Civic (sf)	55,186
Parking (spaces)	1,567

Table 2-4, Comparison of Build Out Scenario with Existing Conditions compares the existing uses and yields and the Build Out Scenario (Step 5). As can be seen, the Build Out Scenario assumes increases in residential, retail, restaurant, office, park/open, and institutional/civic areas over existing conditions, but a large decrease in industrial over existing conditions. A comparison of the sites subject to change under existing conditions and under the Build Out Scenario is included in **Appendix C, Build Out Scenario**.

Table 2-4
Comparison of Build Out Scenario with Existing Conditions

Use	Existing Conditions	Build Out	Difference
Residential (units)	92	*420*	328
- Apartments	46	*369*	323
- Townhomes	-	*20*	20
- Single Family	15	*12*	(3)
- Two-Family	24	*16*	(8)
- Three-Family	7	*3*	(4)
Retail (sf)	66,678	*245,064*	178,386
Restaurant (sf)	28,209	*43,500*	15,291
Office (sf)	26,200	*88,095*	61,895
Industrial (sf)	96,945	-	(96,945)
Park/Open Space (sf)	1,875	*28,196*	26,321
Institutional/Civic (sf)	39,686	*55,186*	15,500
Parking (spaces)	1,001	*1,567*	566

It should be noted that such a Build Out Scenario is not being proposed, or is even anticipated to occur; rather, is being provided for purposes of evaluation in this DGEIS. Ultimately, it is expected that the uses

and yields that will be developed on specific sites in the Study Area will be determined by a combination of factors including, but not limited to, market conditions, landowner choices, and economic factors, none of which can be determined at the present time. However, analysis of the Build Out Scenario over a 10-year period provides the necessary level of detail to track consistency with the *Vision Plan*, ensure appropriate land use and zoning provisions, and assess potential impacts on quantifiable resource categories. Although the Build Out Scenario generally follows the recommendations put forth in the *Vision Plan*, it is different in its allocation of uses and space in order to more realistically reflect new development as was originally intended in the *Vision Plan*, and thus provide a basis for a more detailed level of environmental analysis.

2.7 Required Reviews, Permits and Approvals

This DGEIS provides the Town Board (as Lead Agency under SEQRA) and the Suffolk County Planning Commission (as an involved agency) with information necessary to render informed decisions on the Proposed Action. Once accepted by the Lead Agency, this document will be subject to public review and written comments, followed by preparation of a Final GEIS ("FGEIS") responding to any and all substantive comments. Upon completion of the FGEIS, the Town Board will be responsible for the adoption of a Statement of Findings. ***Table 2-5, Reviews, Permits, and Approvals Required: Proposed Action*** presents the reviews and approvals required for the Proposed Action.

Table 2-5
Reviews, Permits, and Approvals Required: Proposed Action

Agency	Reviews and Approvals Required
Town of Babylon Town Board	- Approval of amendments to Town Code (DC Zoning District) - Mapping of DC Zoning District - SEQRA Review (Lead Agency)
Town of Babylon Planning Board	- Recommendation of zoning amendments
Suffolk County Planning Commission	- Planning review under GML 239m

If the DC Zoning District is approved, subsequent reviews, permits, and/or approvals will be required for each site-specific development proposal that could be enabled by the Proposed Action. ***Table 2-6, Typical List of Reviews, Permits, and Approvals: Future Site-Specific Applications*** presents a list of the typical reviews, permits, and approvals that could be anticipated.

Table 2-6
Typical List of Reviews, Permits, and Approvals: Future Site-Specific Applications

Agency	Reviews and Approvals Required
Town of Babylon Town Board	- Authorization of zoning incentives
Town of Babylon Planning Board (Planning Department)	- Site plan review and approval - Special Use permit review for on-premises food consumption and accessory outdoor seating - Sign permit recommendation - Zoning incentives recommendation
Town of Babylon Office of Downtown Revitalization	- Sign permit recommendation - Zoning incentives recommendation
Town of Babylon Building Department/Inspector	- Building permit - Sign permit review and approval
Suffolk County Planning Commission	- Planning review under GML 239m

Other permits or approvals may be necessary from the Suffolk County Department of Health Services ("SCDHS"), Suffolk County Water Authority ("SCWA"), Suffolk County Department of Public Works ("SCDPW"), New York State Department of Environmental Conservation ("NYSDEC"), Metropolitan Transportation Authority ("MTA"), or New York State Department of Transportation ("NYSDOT"), among others.

3.0 Environmental Setting, Potential Impacts, and Mitigation Measures

3

Environmental Setting, Potential Impacts, and Mitigation Measures

3.1 Land Use, Zoning, and Public Policy

This sub-section addresses land use and zoning in the Study Area and public policy affecting the Study Area. Existing land uses, as well as known future development projects, are described to establish the setting of downtown Copiague. A description of zoning in the Study Area is provided to reflect current building regulations for new development. Public policies related to the redevelopment and revitalization of downtown Copiague are also reviewed. Information relative to existing land use, zoning, and public policy was obtained through several sources, including digital orthoimagery for the Town of Babylon; GIS data; parcel data; field surveys conducted in 2014; the Code of the Town of Babylon; the Building Zoning Map of the Town of Babylon, Suffolk County, New York; and various local and regional reports and plans.

3.1.1 Existing Conditions

3.1.1.1 Land Use

General Description of Land Use

Figure 3.1-1, Existing Land Use depicts land uses in the Study Area. Downtown Copiague along Great Neck Road is typical of a commercial core of a built-up small community, with a mix of retail, professional offices, personal service, restaurants, and with some multi-family uses (as apartments above stores) and limited single-, two-, and three-family residential. In addition, there are recreational (such as Veterans' Memorial Park) and institutional uses (such as the Post Office). Behind many of the buildings that line Great Neck Road are surface parking lots. There is also commuter parking located just north of the Copiague LIRR station and under the railroad trestle. Oak Street contains a mix of retail, office, institutional (such as F.E.G.S.), and mixed-use buildings. Industrial and automotive repair facilities exist along Railroad Avenue and Marconi Boulevard. Railroad Avenue also contains the LIRR station and associated parking. The LIRR station's location is a key element of the downtown. The remainder of the Copiague community outside of the downtown area is predominantly single-family residential, with some two-family residences and institutional uses, such as schools. ***Figure 3.1-2, Land Ownership*** presents the ownership of land within the Study Area. As can be seen in ***Figure 3.1-2***, most of the land is privately-owned.

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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 3.1-1: Existing Land Use

- Study Area
- Single-Family Residential
- Two-Family Residential
- Three-Family Residential
- Multi-Family Residential
- Retail
- Restaurant
- Office
- Mixed-Use
- Industrial
- Automobile-Oriented
- Recreation (Public)
- Recreation (Private)
- Civic/Institutional
- Parking
- Transportation/Utilities
- Vacant Land
- Other

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Town of Babylon

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Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 3.1-2: Land Ownership

- Study Area
- Private
- Town of Babylon
- Suffolk County
- New York State
- MTA
- Other

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January 27, 2015

Residential

Residential buildings in Copiague are primarily single-family homes, with some two-, three-, and multi-family buildings. Oak Plaza, a two-building mixed-use complex, located at the northeast corner of the intersection of Oak Street and Great Neck Road, consists of rental apartments above commercial space. The building has 20 one-bedroom rental apartments and approximately 10,000 square feet of ground floor commercial space, which includes a restaurant, an insurance company, a hair and nail salon, a chiropractor's office, a jewelry store, a liquor store, and a florist. A number of the buildings along Great Neck Road contain apartment units above the ground-floor commercial uses. There are also single-, two-, and three-family homes along Great Neck Road and Oak Street, both in and outside of the downtown core area. The residential in the remainder of the Study Area is predominantly single-family.

Commercial

Commercial businesses, primarily retail, line Great Neck Road in the downtown core. Business types include but are not limited to restaurants, dry cleaners, grocery stores, delicatessens, beauty salons, barbershops, retail automotive parts, etc. Other than the one supermarket (Associated), there are no "chain-type" businesses in the downtown core.

Office

Office uses are relatively limited in the Study Area, with most office space scattered among the commercial uses on the ground and upper floors along Great Neck Road. These office uses consist of both professional and medical office spaces. Two larger office spaces exist: one in the building located on the southwestern corner of Great Neck Road and Railroad Avenue and the second along Oak Street adjacent to the F.E.G.S. building.

Industrial

Light to moderate industrial uses line Marconi Boulevard east and west of Great Neck Road. West of Great Neck Road these businesses back onto the railroad right-of-way. East of Great Neck Road they back onto an unnamed street adjacent to the railroad. These include businesses such as automobile repair shops. South of and parallel to the railroad, along Railroad Avenue is a mixture of industrial and commercial uses.

Parks, Recreation, Open Space

There are currently only three areas of designated open space in or near the Study Area: 1) Copiague Park is a passive recreational space on the southwest corner of Great Neck Road and Dixon Avenue. It was recently expanded and has benches, a planted center area, landscaping, paved paths and a bicycle rack. 2) Veterans' Memorial Park is located along Great Neck Road, immediately north of the train station and adjacent to the commuter parking lot. This park has benches and tables, decorative pavers, a stone commemorating veterans and a panel with civic association plaques mounted on it. 3) There is a small memorial park lining the parking lot on the southeast corner of the intersection of Great Neck Road and Oak Street. Not in the Study Area, but a significant attractor of trips on Great Neck Road, is Tanner Park, located on the Great South Bay, directly south of and approximately one mile from the Study Area. It has active recreation sites, such as baseball and soccer fields, as well as a senior center.

Institutional/Civic

The only school in the Study Area, Great Neck Road Elementary School, is at the intersection of Great Neck Road and Scudder Avenue. Other schools nearby, but outside the Study Area, include Walter G. O'Connell High School, Copiague Middle School, and Deauville Gardens and Susan E. Wiley Elementary Schools. Other prominent institutions in or near the Study Area include Our Lady of the Assumption

Church on Molloy Street, the United States Post Office on the corner of Marconi Boulevard and Colombo Avenue, the Fire Station at Dixon and Colombo Avenues, and the F.E.G.S. building on Oak Street.

3.1.1.2 Zoning

Chapter 213, Zoning of the Code of the Town of Babylon (the "Zoning Code") was first adopted in 1969. The Zoning Code lists 18 use districts within the Town (outside of the incorporated villages), two of which are commercial, five of which are industrial, eight of which are residential, and three of which contain a mix of uses, and details the various permitted uses and lot and bulk controls for each district. The district boundaries are presented on the Building Zone Map of the Town of Babylon, Suffolk County, New York. As can be seen in ***Figure 3.1-3, Existing Zoning***, the Study Area is primarily made up of the E Business and G Industrial Districts. Each of these are described below.

<u>E Business District</u>
The E Business District is the largest business district in the Town and makes up the majority of the zoning along Great Neck Road. Although the E Business District is primarily along Great Neck Road, it also exists along most of Oak Street in the Study Area.

Permitted uses in this district are:

- Shops and stores for the sale of retail or consumer merchandise and services.
- Personal service shops such as barbershops, beauty parlors and like services.
- Banks, theaters and offices.
- Undertaking establishments.
- Minor garages.

Special exception uses by the Zoning Board of Appeals include:

- Hospitals and clinics, convalescent homes and nursing homes, assisted living facilities, licensed by the State of New York, and day nurseries.
- Veterinarians, kennels and pet shops, animal hospitals and cemeteries.
- Broadcasting stations, golf courses, private, country and yacht clubs and marinas.
- Shops and stores for the sale of merchandise and services at wholesale.
- Public garages.
- Places of amusement, recreation and assembly halls.
- Sales, storage, display and service of new and used automotive equipment, including automobiles and gasoline-driven cycles and carts, trucks and agricultural and garden equipment.
- Commercial video game centers.
- Car washes.
- Puppy stores.

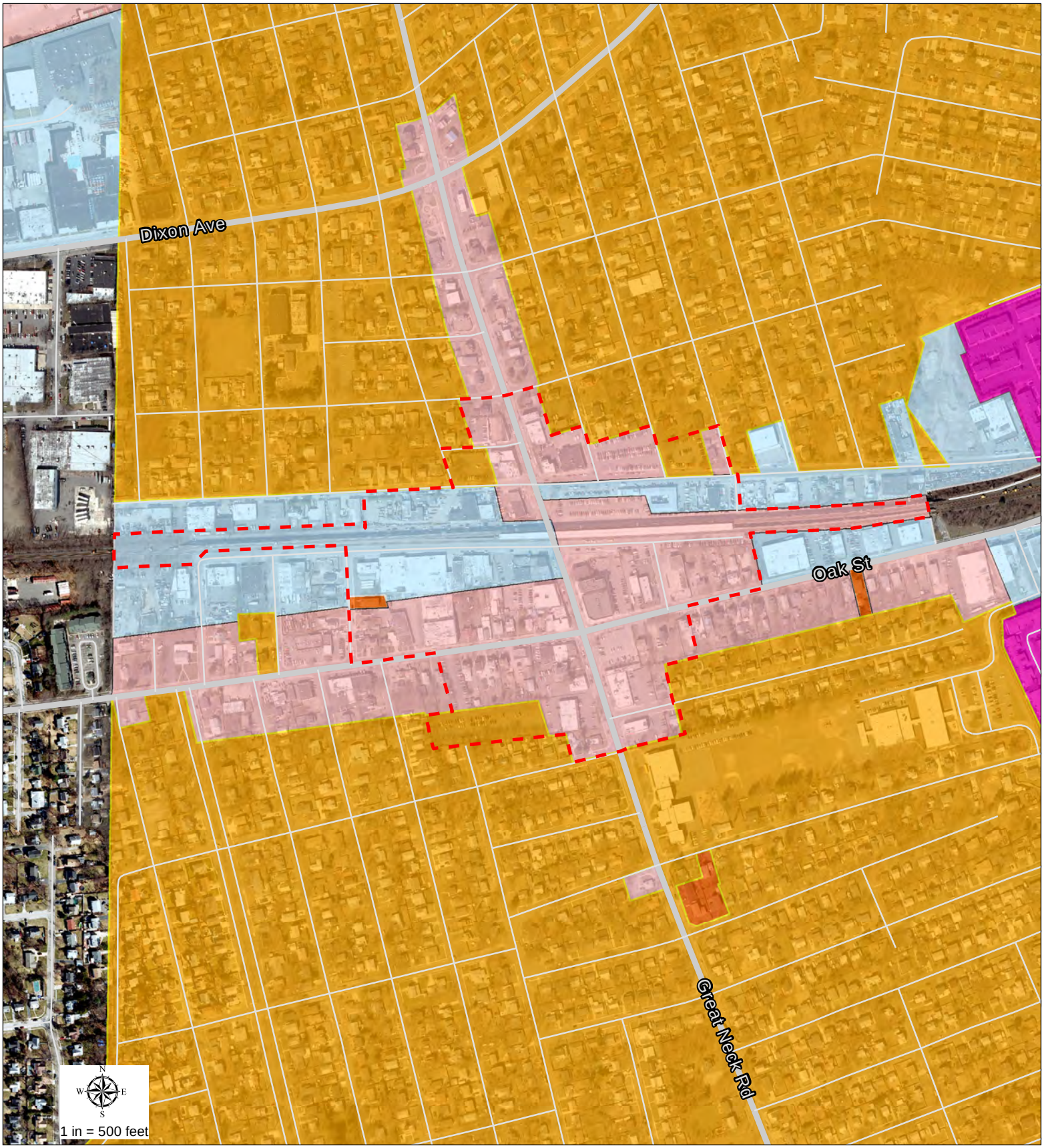
Special exception uses by the Planning Board include:

- On-premises food and beverage consumption establishments.

Uses specifically prohibited include:

- Residential.

Table 3.1-1, E Business District Regulations provides the applicable dimensional regulations for the E Business District.



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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 3.1-3: Exiisting Zoning

Study Area	B	E	G	H	PI	
A	C	EA	GA	MH	SC	
AA	D	EB	GB	MR	WC	

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Ann Marie Jones, Commissioner

January 27, 2015

Table 3.1-1
E Business District Regulations

Requirement	E Business District
Building Height	3 stories / 35 feet
Minimum Lot Area	10,000 sf
Minimum Frontage	50 feet
Minimum Yards - Front - Rear - Side (Both Total; Single)	 25 feet 50 feet 15 feet / 3 feet
Building Area	60%

G Industrial District

The G Industrial District is the primary zoning along Railroad Avenue and Marconi Avenue.

Uses permitted in the E Business District are also permitted in the G Industrial District.

Special exception uses by the Zoning Board of Appeals include:

- Bungee jumping.
- Retail.
- Car wash.
- Puppy store.

Special exception uses by the Planning Board include:

- Self-storage facilities.

Special approval by the Sanitation Commission includes:

- Scrap metal processing facilities.

The G Industrial District lists a number of specific uses, mostly heavy industrial, that are explicitly prohibited.

Table 3.1-2, G Industrial District Regulations provides the applicable dimensional regulations for the G Industrial District.

Table 3.1-2
G Industrial District Regulations

Requirement	G Industrial District
Building Height	35 feet
Minimum Lot Area	15,000 sf
Minimum Frontage	50 feet
Minimum Yards - Front - Rear - Side (At least one)	 10 feet 10 feet 19 feet
Building Area	40%

3.1.1.3 Public Policy Affecting Redevelopment of the Area

In addition to the Town's codes and regulations, the Town has also developed a number of other public policy documents that relate to Copiague. Those local documents, along with documents that contain discussions of the Study Area from Suffolk County and others, are presented below.

3.1.1.3.1 Town of Babylon

Draft 1998 Comprehensive Plan

The Town of Babylon initiated its Comprehensive Plan process with a community-wide survey in 1991. A series of public workshops were then conducted in 1993 to identify important community issues, as well as Town strengths and weaknesses. This was followed by baseline studies designed to inventory existing conditions and to develop strategies targeting identified Town concerns. In 1998, the Comprehensive Plan Committee for the Town of Babylon developed a draft of *A Plan for the Future of the Town of Babylon – Town of Babylon Comprehensive Land Use Plan* ("*Draft 1998 Town Comprehensive Plan*"). The *Draft 1998 Town Comprehensive Plan* included five major themes for the future of the Town: 1) maintain and strengthen the Town's suburban character, 2) respond to the changing population, 3) improve the quality of life in economically-distressed areas, 4) promote jobs and economic development, and 5) foster stewardship of sensitive natural resources. To preserve "suburban character" the *Draft 1998 Town Comprehensive Plan* recommended utilizing commercial districts as focal points. The Economic Development section the *Draft 1998 Town Comprehensive Plan* recommended the re-establishment of Central Business Districts that promote a mixed use type of development pattern and particularly noted Copiague as one of those areas. The *Draft 1998 Town Comprehensive Plan* was never adopted. Since the *Draft 1998 Town Comprehensive Plan*, the Town has prepared a number of area plans, including the 2009 *Copiague Vision Plan*.

Copiague Vision Plan

In 2008, the Town initiated a community visioning process in Copiague. The Town started the public engagement process by establishing an Implementation Committee, a group of key stakeholders and local leaders. The Town met with the Implementation Committee on numerous occasions, interviewing focus groups, conducting surveys, and holding three design workshops and one community Vision Day. From this process, the community formed a vision of downtown Copiague:

> *"To transform downtown Copiague into a vibrant, people-friendly place that feels safe and secure, where people can walk, shop, entertain, relax, play, interact and spend time, and where the sense of community can be strengthened."*

To realize this vision, the *Copiague Vision Plan* was prepared in 2009, with the goal of putting the mechanisms in place to allow downtown Copiague to develop with land uses clustered and oriented around the Copiague LIRR station. The *Vision Plan* described the existing conditions in Copiague at the time of the visioning, including demographics, real estate market, transportation, land use and zoning, parking, priority sites, and streetscape and architectural character.

Based upon the Vision Statement, goals and objectives, and existing conditions, a number of recommendations were provided in the *Vision Plan*. These recommendations included:

- Adoption of a **zoning code** to allow higher density development, mixed use, parking to the rear of businesses, building to the lot line, wide sidewalks, and aesthetic improvements to facades and signage.

- **Redevelopment of industrial parcels to mixed-use**, and relocation of some existing industrial uses.
- **Expansion of Veterans' Memorial Park** to create a signature public space and a focal point in downtown Copiague.
- **Redistribution of existing off-street parking facilities**, to use parking more efficiently and encourage building to lot lines.
- **Shared parking, access management, and commuter parking fees.**
- **Improvements to pedestrian treatments** along Great Neck Road including, but not limited to, textured, high-visibility crosswalks and pedestrian crossing signals at all signalized intersections.
- **Painted medians** and **on-street, parallel parking** along Great Neck Road.
- **Creation of bicycle lanes** along Emerson Avenue and **shared lane markings** along Marconi Boulevard.
- **Installation of sidewalks** where they are missing.
- Installation of **school crossing signs.**
- **Reduction of turning radii.**
- **Provision of shuttle between downtown and Tanner Park** and/or condominium complexes south of Montauk Highway.
- Creation of a **green pedestrian walkway** adjacent to the parking along the railroad tracks.
- Installation of **bus shelters and street furniture.**

The *Vision Plan* also included an implementation strategy that highlights short-, medium-, and long-term action items and potential funding sources.

3.1.1.3.2 New York Rising, Suffolk County, and the Long Island Region

In addition to local policy, Suffolk County and others has produced a number of reports and studies over the past few decades related to land use, zoning, development, and policy.

<u>*Suffolk County Comprehensive Master Plan*</u>
The County has drafted a comprehensive plan, entitled "*Suffolk County Comprehensive Master Plan 2035*" (*Draft County Comprehensive Plan*). The *Draft County Comprehensive Plan* highlights current trends and works-in-progress as foundational for future strategies and actions in support of sustainable economic development. Included in Plan is an inventory of local and regional plans, including the *Draft 1998 Town Comprehensive Plan*, as well as the recent regional plans from the Long Island Regional Planning Council ("LIRPC"). The information in this volume provides general inventory information, including information about the County's population, economy, and quality of life, but does not specifically reference Copiague or the Study Area.

<u>Other County Studies</u>
The County has a long history of planning on the County level. Among this history, two reports that have relevance to the Study Area are described below:

- *Land Available for Development and Population Analysis of Western Suffolk County* (2009)—As indicated in the title of the report, an analysis was conducted to look at available land in western Suffolk County in support of the development of the *Suffolk County Comprehensive Water Resources Management Plan*. On "Appendix Table 1, Land Available for Development (acres) by Census Designated Place, Land Use & Zoning Category", Copiague (as a whole) was listed as having 26 acres that was zoned residential, above 6,000 sf, and vacant; one acre that was zoned commercial that was vacant; and, one acre that was zoned industrial that was vacant.

However, on the Town of Babylon "Land Available for Development" map, it was identified that none of that acreage was located in the Study Area.

- *2007 Existing Land Use Inventory Western Suffolk County* (2007)—This study was performed so that the County could have a consistent inventory of land use. On the "2007 Existing Land Use Map for the Town of Babylon", the land use of the Study Area was noted with a mix of uses, including: Commercial, Industrial, Medium-Density Residential, High-Density Residential, Transportation, and some Vacant.

Long Island 2035 Regional Comprehensive Sustainability Plan

In 2010, LIRPC prepared an Island-wide sustainability plan—*Long Island 2035 Regional Comprehensive Sustainability Plan* ("LI 2035")—to secure the sustainable development of Long Island's economy and social and natural environment over the next 25 years. The scope of the plan was a comprehensive Island-wide review, under the leadership of the LIRPC and with the oversight of Nassau and Suffolk Counties, in collaboration with business, environmental, philanthropic, not-for-profit, civic and community leaders. LI 2035 focused on four areas: 1) Economy; 2) Tax and Governance; 3) Infrastructure; and, 4) Equity.

New York Rising Community Reconstruction Program

In response to Hurricane Irene, Tropical Storm Lee, and Hurricane Sandy, New York State established the New York Rising Community Reconstruction (NYRCR) Program, which empowers the State's most impacted communities with the technical expertise needed to develop thorough and implementable reconstruction plans to build physically, socially, and economically resilient and sustainable communities. The Village of Amityville and Copiague, together, were included as part of those impacted communities. In 2014, the *Village of Amityville/Copiague NY Rising Community Reconstruction Plan* ("*Reconstruction Plan*") was developed based upon input from a local Planning Committee. The *Reconstruction Plan* includes a definition of the scope of its planning area, an assessment of the storm damage, and an identification of critical issues. The *Reconstruction Plan* also contains a series of comprehensive reconstruction and resiliency strategies, and identified projects and implementation actions to help fulfill those strategies. Although the storm damage and inundation did not reach the Study Area, the Study Area was included as part of the Village of Amityville/Copiague NYRCR Planning Area and the *Reconstruction Plan* contains a number of projects and policies that correspond to the Study Area.

Other Regional Planning Efforts

There have been other regional planning efforts that have occurred recently, including the various reports and studies by the Long Island Regional Economic Development Council ("LIREDC") and the New York State Energy Research and Development Authority ("NYSERDA"). These reports and studies have discussed Long Island in general, primarily with regards to economic development and sustainability, but do not specifically reference Copiague or the Study Area.

3.1.2 Potential Impacts

3.1.2.1 Land Use

The Proposed Action calls for the adoption of a new DC Zoning District and revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague. Implementation of the Proposed Action would have the potential to affect land use in the Study Area.

3.1.2.1.1 Description of the Land Use in the Build Out Scenario

The land use patterns that are envisioned in the Build Out Scenario tie directly back to the *Vision Plan* and the intent of the proposed DC Zoning District, that is, to facilitate a vibrant transit-oriented downtown containing a mix of housing types and retail, office, personal service, and/or other compatible uses that contribute to a sense of community. In general, the Build Out Scenario envisions that Great Neck Road continues as a mixed-use corridor, with retail or restaurants on the first floor and residential or office above. Moving off of Great Neck Road, the Build Out Scenario envisions transitional residential uses, starting with the most dense closer to Great Neck Road and decreasing in density to fit with the residential character of the areas outside of the downtown. The Build Out Scenario envisions the creation of more significant park/open and institutional/civic spaces, with the area immediately around the Copiague LIRR station functioning as a center of the community. This would change the pattern from the existing condition, in what is anticipated to be beneficial. Additionally, much of the existing industrial within the downtown area is envisioned to be replaced by mixed-use buildings, parking, and other uses.

Table 3.1-3, Comparison of Build Out Scenario with Existing Conditions quantitatively compares the existing uses and yields and the Build Out Scenario. As can be seen, the Build Out Scenario assumes increases in residential, retail, restaurant, office, park/open, and institutional/civic areas over existing conditions, but a large decrease in industrial over existing conditions.

Table 3.1-3
Comparison of Build Out Scenario with Existing Conditions

Use	Existing Conditions	Build Out	Difference
Residential (units)	92	*420*	328
- Apartments	46	*369*	323
- Townhomes	-	*20*	20
- Single Family	15	*12*	(3)
- Two-Family	24	*16*	(8)
- Three-Family	7	*3*	(4)
Retail (sf)	66,678	*245,064*	178,386
Restaurant (sf)	28,209	*43,500*	15,291
Office (sf)	26,200	*88,095*	61,895
Industrial (sf)	96,945	-	(96,945)
Park/Open Space (sf)	1,875	*28,196*	26,321
Institutional/Civic (sf)	39,686	*55,186*	15,500

3.1.2.1.2 Potential Impacts of the Proposed Action

As discussed in greater detail in **Section 2.5.2**, the proposed DC Zoning District is designed to encourage transit-oriented development, appropriate mixed-use, and a well-designed growth pattern that is consistent with the vision of the community, as envisioned in the *Vision Plan*. As noted earlier in **Section 3.1.1**, Copiague is an already built-up community, typical of a small downtown. Therefore, although implementation of the Proposed Action would be anticipated to change the amount, mix, and density of uses within downtown Copiague, it is not anticipated to significantly alter the already existing small downtown land use pattern of the Study Area. As a result, overall, the Proposed Action and its implementation would not adversely impact land use and land use patterns within the Study Area.

Rather, it would reinforce the downtown area's role as a mixed-use, transit-oriented center. Projected land use is presented in ***Figure 3.1-4, Build Out Scenario: Future Land Use***.

3.1.2.2 Zoning

As discussed in **Section 2.0**, the Proposed Action calls for the adoption of a new DC Zoning District and revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague.

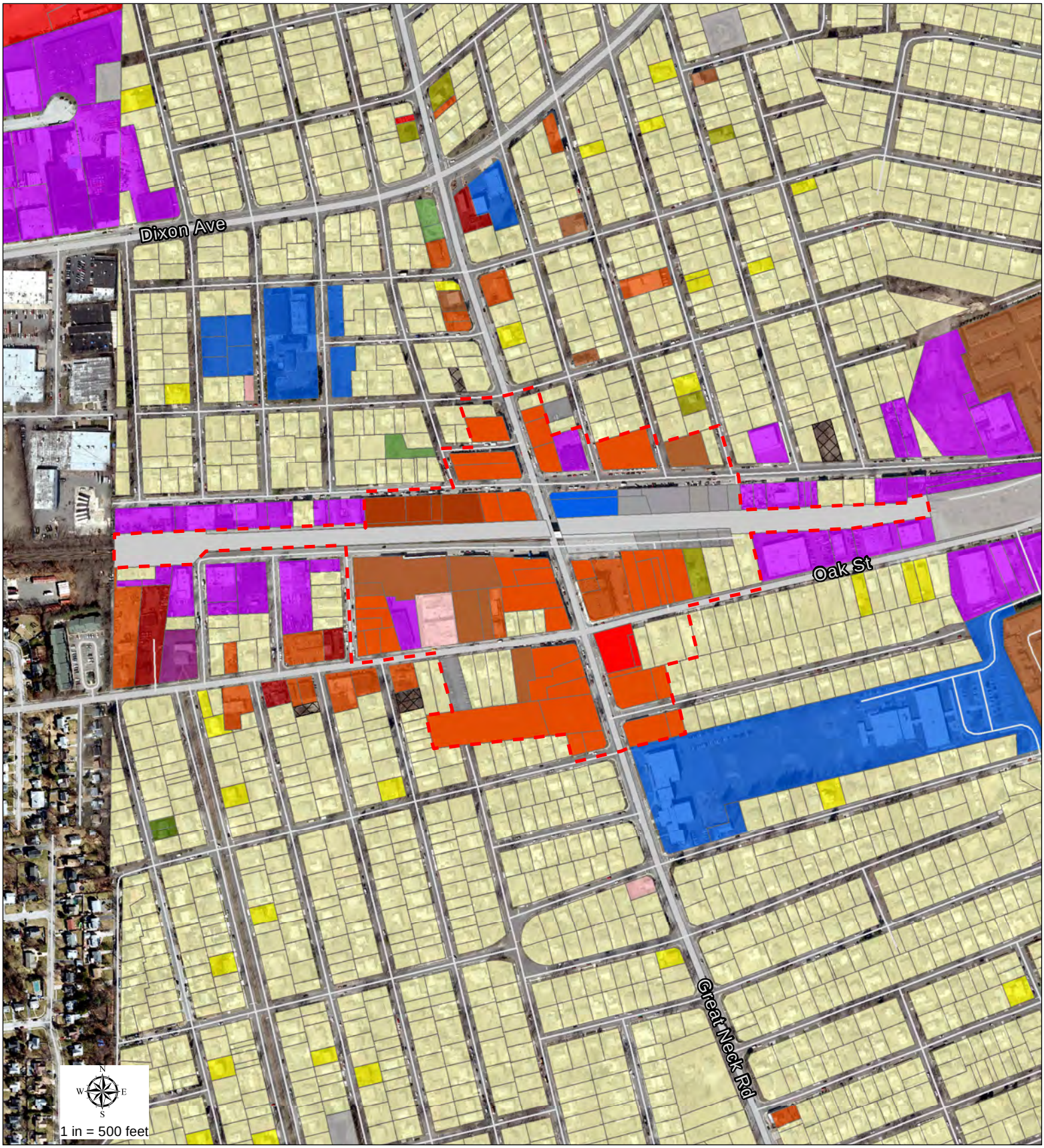
3.1.2.2.1 Description of the Proposed DC Zoning District

The intent and objectives of the DC Zoning District is to facilitate a vibrant transit-oriented downtown containing a mix of housing types and retail, office, personal service, and/or other compatible uses that contribute to a sense of community. The DC Zoning District regulations are designed to build upon the strengths of Copiague and especially the downtown area, including the presence of the LIRR Station, Veterans' Memorial and Copiague Parks, and a diverse residential community that is within walking distance of many of the downtown's commercial establishments. Further, the regulations set forth in the DC Zoning District are designed to encourage and continue to improve the existing aesthetic appearance of downtown Copiague, in order to enhance its community identity. See ***Figure 3.1-5, Future Zoning*** for a map of downtown Copiague with the proposed DC Zoning District and **Appendix B, Proposed DC Zoning District Zoning Text Amendments** for the proposed text.

<u>Proposed Uses</u>
The DC District would permit the following principal uses on the ground and upper stories, in mixed-use or single-use buildings:
(a) Shops and stores for the sale of retail or consumer merchandise and services.
(b) Personal service shops such as barbershops, beauty parlors.
(c) Banks, financial institutions.
(d) Museums, art galleries.
(e) Libraries.
(f) Theaters, including movie theatres and performing arts theatres.
(g) Health clubs.
(h) Offices.
(i) Public, private, or vocational schools, learning centers, test preparation centers.
(j) Community centers.
(k) Public parks, playgrounds, and recreational areas when authorized by a governmental authority.
(l) Multiple residences, except for properties with frontage on Great Neck Road, where there shall be no residential uses on the first story.
(m) Uses similar to the above, as determined by the Planning Board.

In addition, offices would be permitted only on the upper stories as part of a mixed-use building.

The DC District would also permit by special permit by the Planning Board the following uses:
(a) On-premises food and beverage consumption establishments on the ground story only.
(b) Outdoor dining accessory to an on-premises food and beverage consumption establishment.



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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 3.1-4: Build Out Scenario: Future Land Use

- Study Area
- Single-Family Residential
- Two-Family Residential
- Three-Family Residential
- Townhomes
- Multi-Family Residential
- Retail
- Restaurant
- Office
- Mixed-Use
- Industrial
- Automobile-Oriented
- Recreation (Public)
- Recreation (Private)
- Civic/Institutional
- Parking
- Transportation/Utilities
- Vacant Land
- Other

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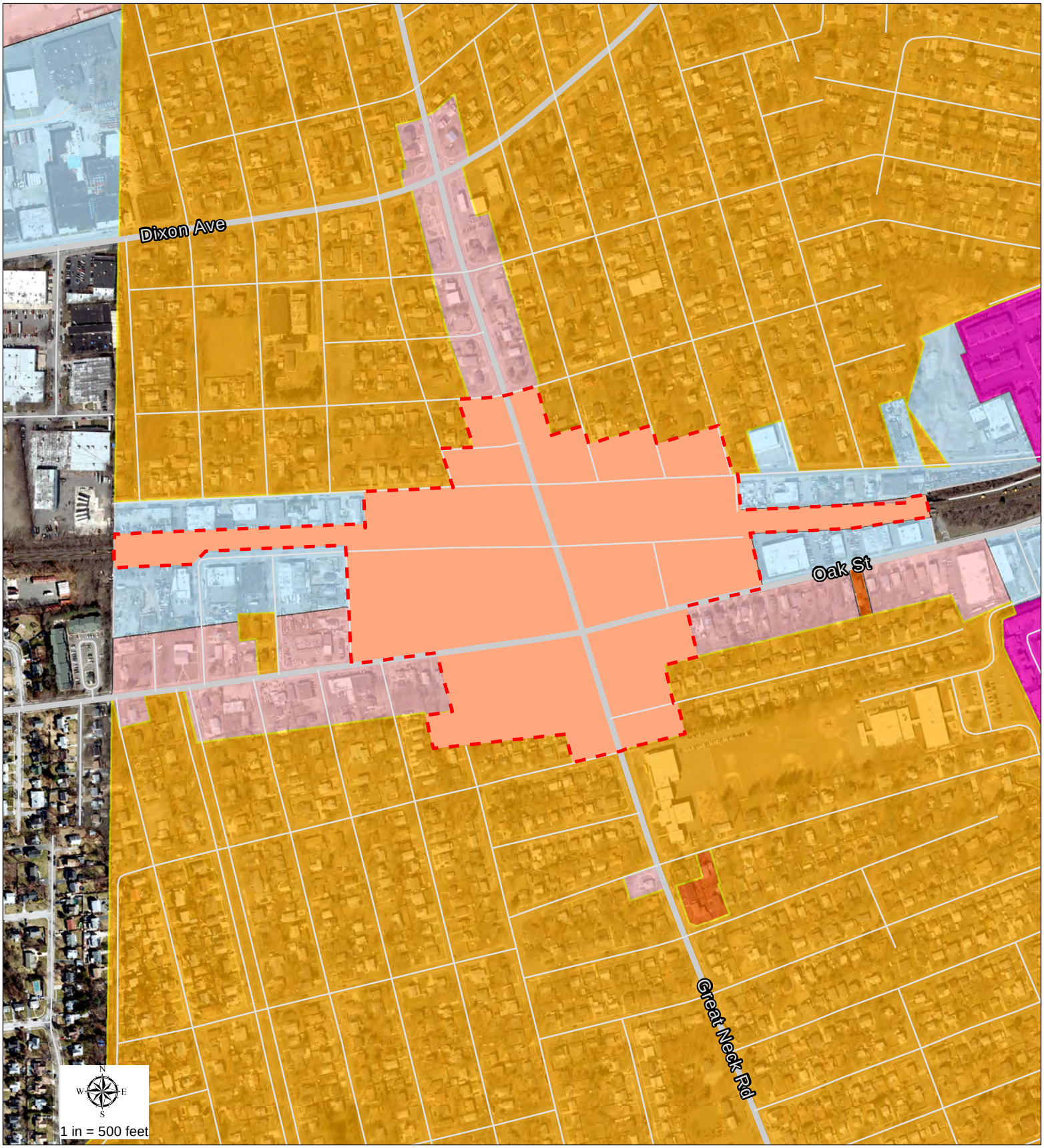

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Town of Babylon

Richard Schaffer
Supervisor

Downtown Copiague (DC) Zoning District
Draft Generic Environmental Impact Statment (DGEIS)
Figure 3.1-5: Future Zoning

Study Area	A	C	EA	GA	MH	SC		
	AA	D	EB	GB	MR	WC		
	B	E	G	H	PI	DC		

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January 27, 2015

Proposed Lot and Bulk Controls

For uses within the DC Zoning District, a base set of lot and bulk controls are included, which could be altered through the proposed incentives provisions (see next sub-section). The base lot and bulk requirements for individual lots within the DC Zoning District are presented in ***Table 3.1-4, Proposed Base Lot and Bulk Controls***.

Table 3.1-4
Proposed Base Lot and Bulk Controls

Control	Requirement
Building Height	3 stories
Minimum lot area	4,000 sf
Minimum lot width	40 feet
Minimum yards - Front - Side - Rear	 None None 15 feet
Maximum building area	80%
Maximum residential density	35 units/acre
Minimum dwelling size	500 sf
Maximum FAR	2.0

Zoning Incentives

In order to encourage development within downtown Copiague, the proposed zoning amendments include a system of zoning incentives or bonuses. Such zoning incentives would be available to applicants in exchange for specific physical, social, or cultural benefits or amenities. Such community benefits or amenities could include, among others, the following on a particular location or generally within the community:

- Public parking
- Open or park space
- Downtown infrastructure improvements
- Affordable housing
- Sustainable building techniques

The incentives or bonuses would include the following:

- Increased residential density of up to 48 units per acre
- Increased FAR of up to 2.2
- Increased height of up to 4 stories
- Reduced parking requirements
- Modifications to other land development standards

Other Requirements and Considerations

The DC Zoning District contains specific minimum off-street parking requirements for a number of uses that differ from the general standards put forth in Article XXIII of Chapter 213 of the Code of the Town of Babylon. These standards reflect the DC Zoning District's immediate access to transit options. The DC Zoning District also contains a number of design considerations in order to improve the existing aesthetic appearance of downtown Copiague and to promote a high quality streetscape and pedestrian

environment. In addition, specific regulations related to signage, lighting, buffering, outdoor storage, and green building and site planning techniques are included. As will be discussed in **Sections 3.1.3** and **6.0**, once the proposed zoning amendments are adopted and then mapped on particular properties within the Study Area, subsequent site-specific approvals would follow for any particular development application.

3.1.2.2.2 Potential Impacts of the Proposed Action

The DC Zoning District has been designed to provide a number of zoning tools that could help to revitalize downtown Copiague. Its implementation is intended to aid downtown Copiague in becoming an economically vibrant mixed-use center that capitalizes on the existing assets, including availability of public transportation. Implementation of the Proposed Action would provide for new and needed housing opportunities, job creation, redevelopment of vacant and underutilized properties, architectural, streetscape and open space improvements, and the quality of growth in downtown Copiague that was envisioned in the *Vision Plan*. Therefore, the Proposed Action and its implementation would not adversely impact zoning within the Study Area. Rather, it would reinforce the downtown area's role as a mixed-use, transit-oriented center and fulfill many of the recommendations of the *Vision Plan*.

3.1.2.3 Public Policy Affecting Redevelopment of the Area

3.1.2.3.1 Town of Babylon

The proposed DC Zoning District been designed to comply with the recommendations identified in the *Vision Plan*, specifically the recommendation to develop a new zoning code for the downtown area that promotes a mix of uses and transit-oriented development. Through the implementation of the Proposed Action, many of the goals and objectives of the *Vision Plan* would be realized. Further, implementation of the Proposed Action would be consistent with other provisions and current local policies, including the general goals of the *Draft 1998 Town Comprehensive Plan*.

3.1.2.3.2 New York Rising, Suffolk County, and the Long Island Region

The *Reconstruction Plan* notes that "the area around the station offers a tremendous opportunity for neighborhood-friendly, transit-oriented development, and local officials and civic leaders are exploring potential new Smart Growth projects near the station. The hamlet already has moved forward with compact, mixed-use/multi-family development at Great Neck Road and Oak Street and several public enhancements around the station." The Proposed Action is consistent with this statement within the *Reconstruction Plan*. One of the Resiliency Recommendations of the *Reconstruction Plan* is: Support the needs of businesses and allow for better redevelopment via Smart Growth Centers without compromising residential character and it identifies the Great Neck Road Commercial Corridor. The Proposed Action is consistent with this project/strategy.

As noted above, at this stage in the County's comprehensive planning process, there are no relevant policies related to Copiague or the Study Area. The other County studies noted above express existing conditions and do not include any polices or recommendations for the Project Site. Similarly, the other regional planning documents discuss Long Island in general and as a whole, but do not contain specific recommendations regarding Copiague. However, the Proposed Action would be consistent with the public policy efforts in Suffolk County and the Long Island region since its implementation would

promote transit-oriented development, sustainability, smart growth, and economic development. Therefore, the Proposed Action or its implementation would not result in any significant adverse impacts to regional public policy.

3.1.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on land use, zoning, or public policy. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on land use, zoning, or public policy. As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established. In particular, any application seeking zoning incentives in return for the provision of additional community benefits would have to follow the zoning incentive provisions provided in § 213-549 of the proposed DC Zoning District and would be required to follow the criteria and procedure for approval. Similarly, future site-specific actions must comply with SEQRA (6 NYCRR Part 617).

3.10 Air and Noise

Since this is a DGEIS that evaluates possible zoning changes, the air quality and noise analyses are less rigorous than typically provided in a site-specific EIS that analyzes a particular development proposal. Therefore, air quality and noise are discussed qualitatively, both in existing conditions and in analyzing potential generic impacts.

3.10.1 Existing Conditions

3.10.1.1 Air

The United States Environmental Protection Agency ("USEPA"), through the 1970 Clean Air Act, has established National Ambient Air Quality Standards ("NAAQS") for six criteria pollutants: ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and lead (Pb). Currently, USEPA and New York State Department of Environmental Conservation ("NYSDEC") enforce ambient air quality standards. The 1977 and 1990 Clean Air Act Amendments ("CAAA") reinforced attainment and maintenance of these standards.

According to USEPA, "A geographic area that meets or does better than the national ambient air quality standard is called an ***attainment area***; an area that doesn't meet this standard is called a ***non-attainment area***." New York State is part of USEPA Region II. Copiague is part of the USEPA New York-N, New Jersey-Long Island, and NY-NJ-CT metropolitan region for air quality, which is in marginal non-attainment for 8-hour ozone and in a CO Maintenance Attainment area.

Existing air quality standards for New York State are found in the State Ambient Air Quality Standards ("SAAQS"), which largely mimic the NAAQS. Copiague and the Study Area are located in Long Island (NYSDEC Region 1) in the New Jersey\New York\Connecticut Interstate Air Quality Control Region. NYSDEC Bureau of Air Surveillance maintains air quality monitoring stations throughout the State for the purpose of evaluating local air quality for various pollutants. NYSDEC has an air monitoring location at the East Farmingdale Water District complex at 72 Gazza Boulevard (NYSDEC#: 5150-02), approximately five miles from the Study Area.

The following provides a summary of the most recent data for the five major air pollutants regulated by the USEPA through the Clean Air Act:

- *Sulfur dioxide (SO_2)* is monitored at the Holtsville station (NYSDEC#: 5151-10). The three year average for the last three years (2011-2013) was 14.6 parts per billion ("ppb"), which is well below the 75 ppb standard.
- *Particulate matter ($PM_{2.5}$)* measured in Babylon had an annual mean standard for the last three years (2011-2013) of 8.1 micrograms per cubic meter ("µg/m3"). This annual mean is well below the 15 µg/m3 standard.
- *Ozone (O_3)* is the only pollutant that occasionally exceeds the standard both in NYSDEC Region 1 and Statewide (0.075 parts per million ["ppm"]). It is formed from the long-term transport of hydrocarbon emissions in the mid-western United States and as such, is not a "local" enforcement issue on emissions. The average three year annual mean for this pollutant measured in Babylon was 0.081 ppm for the years 2011-2013. However, 2013 saw a continued decrease in ppm to 0.072.

- *Carbon monoxide (CO)* levels are not measured in NYSDEC Region 1. The closest monitoring station is in Queens at Queens College (NYSDEC#: 7096-15). The highest one-hour value in 2013 was 2.0 ppm versus a standard of 35 ppm. The highest eight-hour value was 1.4 ppm versus a standard of 9.0 ppm.
- *Nitrogen dioxide (NO_2)* levels are not measured in NYSDEC Region 1. The closest monitoring station is in Queens at Queens College (NYSDEC#: 7096-15). The three year average for the last three years (2011-2013) was 60.5 ppb, which is below the 75 ppb standard.

Based on this information, air quality in the Study Area, Copiague, and the region is considered good and current air pollution poses little or no risk to the local population.

3.10.1.2 Noise

Copiague, being a suburban downtown, has an existing noise environment that is more typical of an urban area. In this environment, noise is generated by HVAC [heating, ventilation and air conditioning] equipment for commercial, institutional, and residential uses, as well as by transportation uses, including vehicular traffic (i.e., buses and trucks) and railroad use. Although there are a number of industrial uses in the Study Area, none of these generate excessive levels of noise.

For planning purposes, the Town uses guidelines adopted by the United States Housing and Urban Development ("HUD"). The HUD *Noise Guidebook* was produced using noise studies and documents that HUD relies on to evaluate potential residential sites for development. HUD regulations set forth the following exterior noise standards for new housing construction:

- 65 Ldn or Less – Acceptable
- Exceeding 65 Ldn but not exceeding 75 Ldn – Normally Unacceptable (appropriate sound attenuation measures must be provided)
- Exceeding 75 Ldn – Unacceptable

HUD's regulations do not contain standards for interior noise levels. Rather a goal of 45 decibels is set forth and the attenuation requirements are geared towards achieving that goal. It is generally accepted that standard construction methods will provide sufficient attenuation so that if the exterior sound level is 65 Ldn or less, the interior level will be 45 Ldn or less.

Site evaluation procedures require identifying in relation to a project site:

- Any airport within 15 miles,
- All *significant* roads within 1,000 feet; and
- All railroad lines within 3,000 feet.

The Study Area is 2.65 miles from Republic Airport, a general aviation use airport operated by the New York State Department of Transportation (NYSDOT) in East Farmingdale. The NYSDOT under FAA regulations produces a semi-annual noise impact study of the area surrounding the Airport. Based on the most recent report (2008), the Study Area is located beyond the noise impact area adjacent to the Airport (see ***Figure 3.10-1, Republic Airport Noise Contours***). NYSDOT has not produced a new report since 2008, as they have instead released annual flight operations, which have been dropping in total operations each year to 2014.

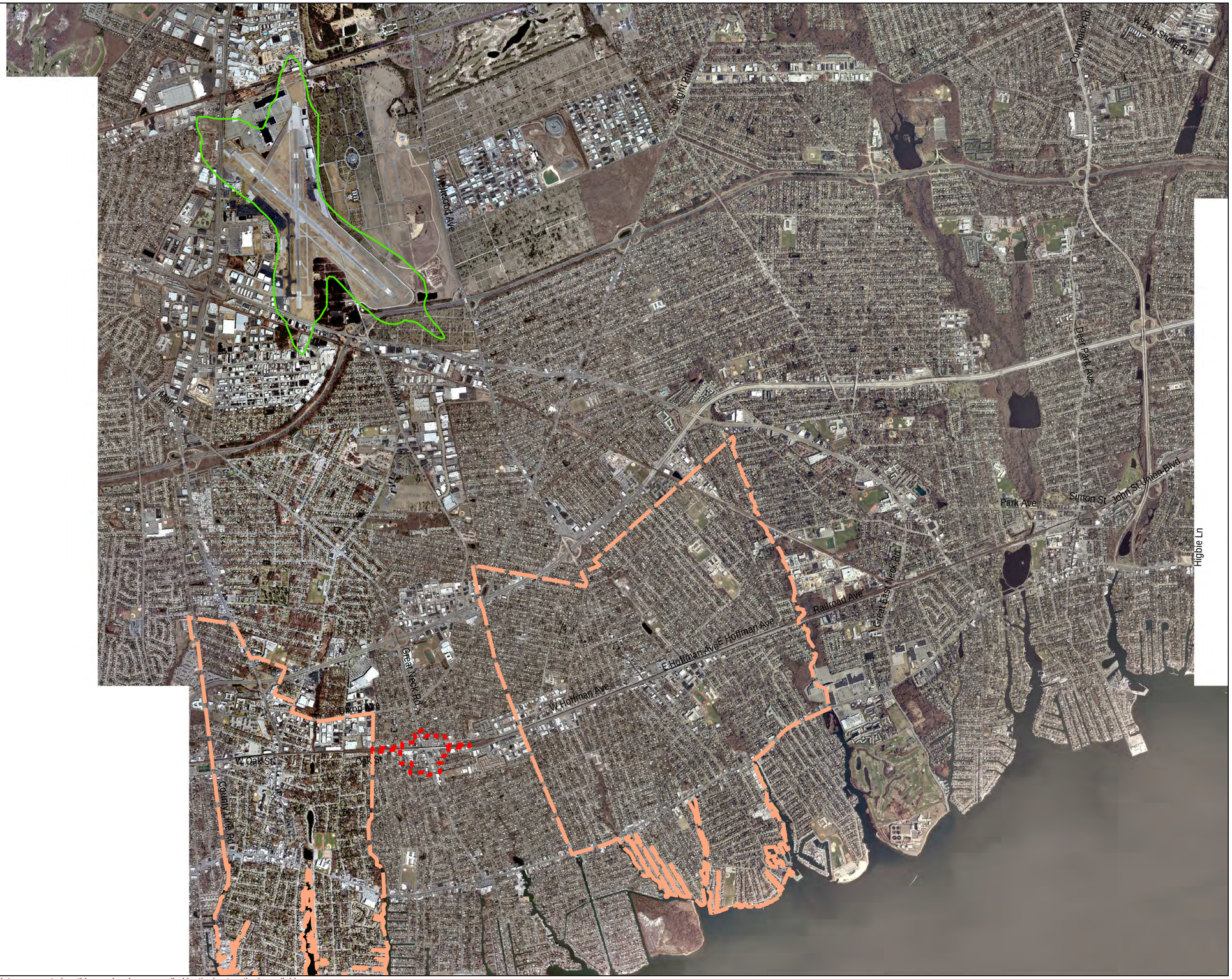

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Figure 3.10-1 Republic Airport Noise Contours

65 DNL
Study Area

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For the purposes of this assessment, only State roads were considered as significant roadways, as county and local roads do not produce the Level of Service (LOS) to produce significant levels of continuous noise. A review of State roadways in Copiague area shows no State roads are within 1,000 feet of the Study Area.

The LIRR Copiague Branch runs east to west in the Study Area, with the Copiague LIRR station located in the heart of the Study Area. The LIRR was contacted to provide the operations and track materials information required to calculate sound levels produced by the railroad operation using the HUD noise calculator. Based on the information provided by the LIRR, a 70 decibel sound contour was identified extending 190 feet to the north and south of the LIRR track line and a 65 decibel sound contour extending 350 feet from the track line. The sound contours are shown on ***Figure 3.10-2, LIRR Noise Contours***.

Chapter 156, Noise, of the Code of the Town of Babylon provides the local regulations pertaining to noise. Among other things, Chapter 156 discusses noise sensitive zones within the Town and also defines unreasonable noise. Chapter 156 also includes specific regulations relating to air-conditioning; commercial, business, and industrial operations (with separate regulations for the daytime [7 AM to 7 PM] and nighttime [7 PM to 7 AM) hours); construction; loading and unloading; and places of public entertainment. Chapter 156 also notes that the noise control program is administered by the Town Department of Environmental Control.

3.10.2 Potential Impacts

3.10.2.1 Air

Potential Permanent Air Quality Impacts

Impacts to air quality come from two general categories: 1) Point Source emissions and 2) Non-Point Source emissions.

- **Point Source emissions** include chemical plants, refineries, electric utility plants, and other industrial sites. Since such sources are not being considered under the proposed DC Zoning District, the Proposed Action is not anticipated to effect a significant change to point source emissions.
- **Non-Point Source emissions** include both area source and mobile emissions.
    - *Area source emissions* include a variety of industrial and storage activities, waste management, and agriculture. Again, such activities and sources are not being considered under the proposed zoning amendments, and, therefore, the Proposed Action is not anticipated to effect a significant change to area source emissions.
    - *Mobile source emissions*, including both on road (i.e., automobiles) and off-road (e.g., recreational vehicles, lawn and garden equipment). Since the implementation of the Proposed Action would result in a change in traffic conditions, the discussion that follows will focus on mobile source emissions.

As presented in **Section 3.6**, implementation of the Proposed Action, as envisioned in the Build Out Scenario, would not cause a significant change in traffic volumes. While these changes might result in microscale impacts at certain localized intersections and/or construction impacts associated with future site-specific development of the Study Area, implementation of the Proposed Action as a whole is not anticipated to result in a significant adverse impact on air quality. In addition, one of the aims of the

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Figure 3.10-2: LIRR Noise Contours

Study Area
65 dB
70 dB

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Proposed Action is to enhance downtown Copiague with a mix of transit-oriented land uses, all of which would create a pedestrian-friendly environment and encourage walking, while discouraging non-essential automobile use. Overall, the impact of these actions would be anticipated to not only reduce automobile traffic that would be generated by the development of the downtown area, but reduce any potential air quality impacts as well.

Construction Impacts

Consideration of construction impacts relating solely to air resources is provided herein. The short-term use of heavy equipment operations in the Study Area resulting from implementation of the Proposed Action could result in temporary, minor increases in pollutant emissions from equipment used in the construction process for a likely several year, phased duration. The major concern during the construction operation would be the control of fugitive dust during site clearing, excavation, demolition, and grading operations. Fugitive dust is essentially airborne soil particles caused by heavy equipment operations entraining the soil into the air. Some fugitive dust emissions could arise from wind erosion of the exposed soil where pavement or existing buildings are removed. It should be noted that since any redevelopment of downtown Copiague would likely occur in many phases, the intensity of any impacts would, therefore, likely be reduced.

3.10.2.2 Noise

As with air quality, the impacts with respect to noise related to the implementation of the Proposed Action would be limited to increases in vehicular traffic and its impact on the noise environment, especially residential components. The types of uses and density of development that can occur under the proposed zoning amendments would not, in and of themselves, generate significant levels of noise. As the downtown is redeveloped, the land use pattern is not expected to change such that noise-generating uses would be prevalent (e.g., no industrial or manufacturing is included) and, therefore, the character of the noise environment would not be expected to worsen. For the uses envisioned for the Study Area (including office, retail, commercial, and residential,), HVAC systems are the only new significant source of noise to consider, and such systems would generally be located on the building roofs. New facilities with HVAC systems would be modern systems that are generally quiet in comparison to individual units and older systems. Any new development would continue to be required to conform with Chapter 156 of the Town Code, which is evaluated during site plan review.

3.10.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse air or noise impacts. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse air or noise impacts on community facilities or services. As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established.

In particular,

- Future sitespecific review of mobile source air quality impacts and the development of site-specific mitigation measures, if deemed necessary, may be needed.
- Any site-specific proposal will have to submit confirmation that dust will be controlled during construction, that there will be emission controls for construction vehicles, and that

construction vehicles and equipment will be properly maintained to minimize air emissions during construction.

- As new residential development is proposed within the 65 to 70 decibel noise contour area, sound attenuating construction standards are recommended that reduce interior sound levels to the target goal of 45 decibels. Sound Transmission levels (STL) of construction materials and methods will be evaluated during site plan review.
- If rooftop (or outdoor not on the rooftop) mechanical equipment is proposed, in order to mitigate potential noise impacts, appropriate mitigation measures must be provided (e.g., screening, setbacks) to ensure that the sound levels from such equipment will not exceed the Town's noise impact criteria.

3.2 Community Character and Visual Resources

This sub-section describes the existing visual character of the community, based on the *Vision Plan* analysis and field investigations in 2014 and 2015. The visual analysis includes a discussion of the Study Area's visual resources and character and its existing deficiencies to set the baseline for the evaluation of the potential effects of the Proposed Action on the Study Area's urban design and existing visual resources. The discussion of community character and visual resources is based on other analyses presented in this DGEIS, including from **Section 3.1** related to land use and zoning.

3.2.1 Existing Conditions

Copiague's community character is a composite of a number of factors, principally the elements of the physical environment. What follows is a brief discussion those existing factors.

Urban Form

Downtown Copiague has a prototypical small downtown form, with streets and blocks built off a north-south main street spine. This urban form places greater importance on corner buildings, especially at the intersection of Great Neck Road and Oak Street, but also at the intersection of Great Neck Road and Railroad Avenue. At present, not all of these corners are architecturally well-defined. The mixed-use buildings at the intersection of Great Neck Road and Oak Street (Oak Street Plaza) are the key buildings and most architecturally significant within the Study Area.

Architectural Character/Form

Although downtown Copiague does not have an identifiable architectural character and is composed of many diverse building types and architectural styles, some of the storefronts have a Tudor architectural theme. Building and signage design varies from block to block and little attention has been paid to building materials. Industrial buildings along Railroad Avenue west of Great Neck Road provide an unwelcoming solid street wall with building facades that do not contain windows or doors, creating a feeling of desolation in the area.

Building Height and Density

The height of buildings and façades along Great Neck Road and in the Study Area is predominantly one-story, with some two-story buildings. Beyond the elevated LIRR structure, Oak Plaza is the tallest structure at three stories. The highest density exists between Railroad Avenue and Oak Street. The lowest density occurs off of Great Neck Road, towards the extents of the Study Area. Accordingly, there are more multi-story buildings in the central portion of Study Area, but these are limited and do not create a cohesive urban wall.

Streetscape

Throughout the Study Area and beyond, Great Neck Road is lined with historic street lamps and planters. Accompanying the street lamps are distinctive red brick pavers, all providing a visual theme to Great Neck Road.

Other

- **Railroad:** The railroad, notably the elevated structure and the Copiague LIRR station, is the dominant visual resource within the Study Area. The railroad was elevated and the Copiague LIRR station was built in 1967. Although the Copiague LIRR station serves a primary point of

entry to Copiague for many, at present it does not provide a formal gateway and is not architecturally significant. Attempts have been made to beautify the area around the Copiague LIRR station, including placement of large planters under the tracks, adding hanging plants, and providing a facelift to the station building entrance.

- **Parks:** Although slightly outside of the Study Area, Copiague Park at the intersection of Dixon and Great Neck Road provides a gateway to downtown Copiague. Veterans' Memorial Park provides seating, a memorial to veterans and plaques commemorating Copiague's civic associations. In addition, there is a small memorial park lining the parking lot on the southeast corner of the intersection of Great Neck Road and Oak Street.

3.2.2 Potential Impacts

As discussed in greater detail in **Section 3.1.2.2**, the proposed DC Zoning District is designed to encourage and continue to improve the existing aesthetic appearance of downtown Copiague, in order to enhance its community identity. The Proposed Action would provide some of the tools necessary to implement the redevelopment sought in the *Vision Plan*. The implementation of the Proposed Action would be a step toward improving the visual character of downtown Copiague. The zoning itself will provide opportunities for new land use types, specifically including mixed-use that includes the potential for new residential development, retail, office, and other uses that could add architectural character and vibrancy to the downtown. The proposed zoning regulations and design standards are intended to improve the form of development. Such "form-based" standards include many elements that are intended to improve visual character such as building form standards, public space standards, architectural standards, and landscaping standards. This is contrasted with existing conditions and existing zoning, which has resulted in the current built conditions and does not facilitate an identifiable community character. Therefore, the Proposed Action and its implementation would not adversely impact community character within the Study Area. Rather, the greatest potential impact of the implementation of the Proposed Action is one that is considered positive—the potential to provide for improved aesthetics in the Study Area through a mix of uses. The Proposed Action and its implementation would consistent with the *Vision Plan* in fostering beneficial and aesthetically-pleasing redevelopment of downtown Copiague.

3.2.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on the character of the community. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on community character. Therefore, as will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established. In particular, any application would involve design review, as provided in § 213-540 of the proposed DC Zoning District and would be required to follow the criteria and procedure for approval. Items such as landscaping/buffering/screening, lighting, architectural design, treatments, material selection, and coloring of buildings for particular projects would be evaluated to ensure that such projects harmonize with the vision for downtown Copiague and the surrounding setting. Similarly, future site-specific actions must comply with SEQRA (6 NYCRR Part 617).

3.3 Natural Resources

3.3.1 Existing Conditions

Downtown Copiague, as an already built-up community, contains mostly impervious surfaces (outside of the recreational and landscaped areas of the downtown), with little vegetative cover. Therefore, natural resources, such as geology, soil, topography, terrestrial and aquatic ecology, etc. are only minor elements of the environmental setting.

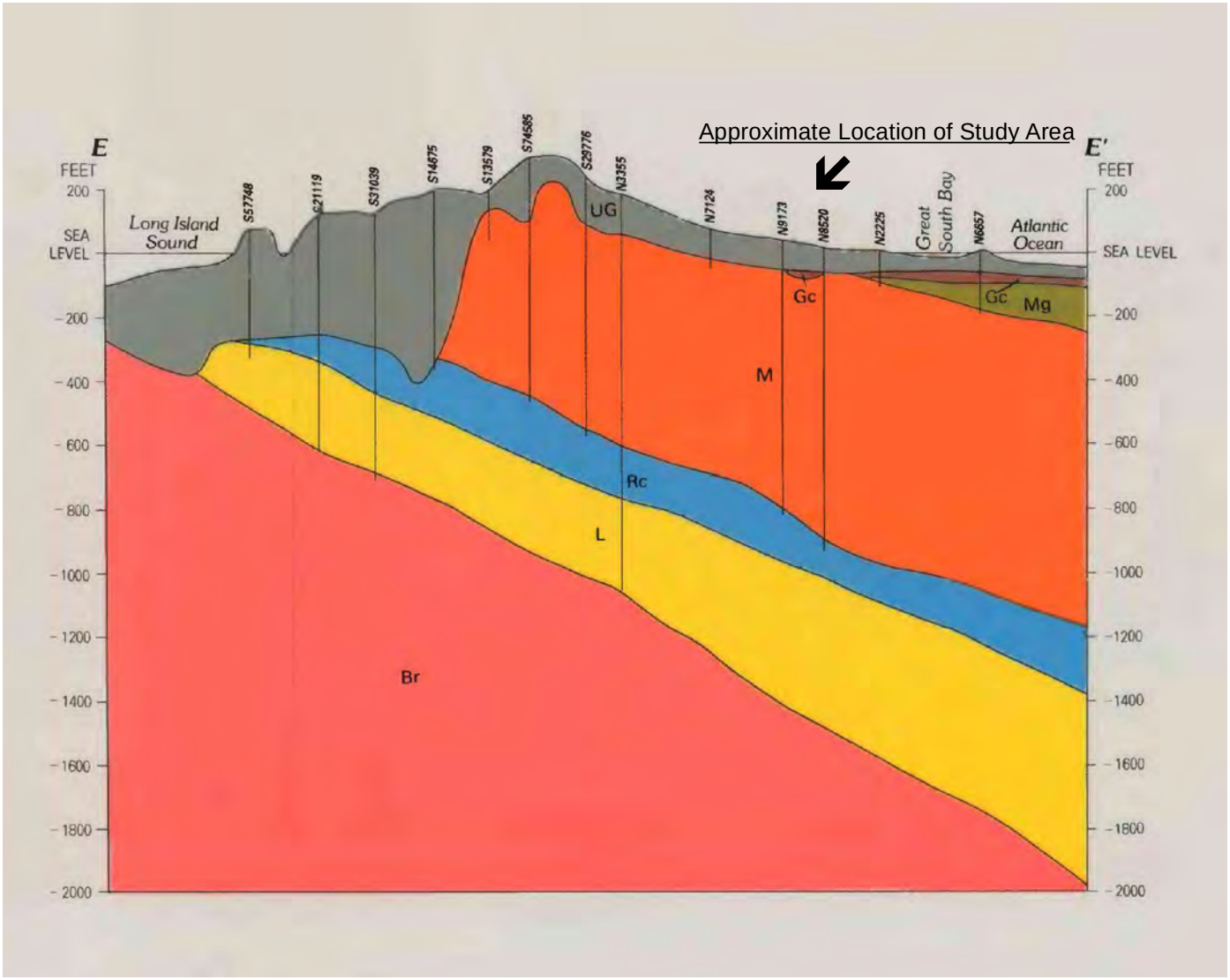
3.3.1.1 Geology, Soils, Topography

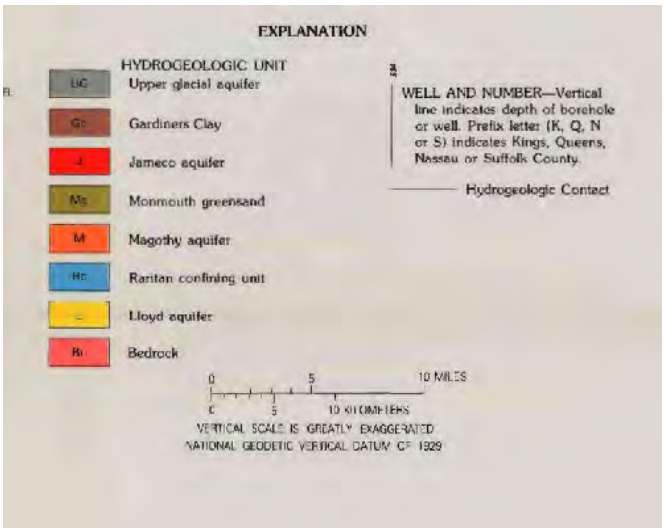
Regional Geologic Conditions

Most of Long Island's geology is defined by two terminal moraines, low, hill-like formations that are remnants of the advances of glaciers during the last ice age (the Pleistocene epoch). The two morainal ridges, the Harbor Hill Moraine and the Ronkonkoma Moraine, run the length of Long Island and diverge to the east to form the North Fork and South Fork, respectively. The moraines are made of poorly sorted glacial till deposited at the glacial terminus. South of the moraines are outwash plain deposits of sands and gravel. The Study Area lies south of the Ronkonkoma Moraine in an area made up of outwash and gravel.

Long Island is composed of many layers of sand, clay, and gravel, with southeasterly sloping bedrock below. These layers of subsurface geologic deposits are important in defining the groundwater aquifers that underlie Long Island. The interrelationships of the various geologic deposits dictate how the aquifer is recharged by rainfall, and also determine how activities on the land surface might affect the quantity and quality of the groundwater. As shown schematically in ***Figure 3.3-1, Hydrogeologic Framework***, the geologic composition of most of Long Island consists of three distinct formations that lie atop bedrock[1]. The thickness of these unconsolidated glacial and deltaic deposits ranges from a few hundred feet in the northwestern sections of Nassau County to more than 2,000 feet along Suffolk's south shore barrier beaches. Beginning at the surface and extending down to bedrock, these formations include:

- **Glacial Aquifer (Upper Pleistocene)**—The Glacial Aquifer is the youngest of the formations and the closest to the surface. It was created 15,000 years ago from glacial deposits of sand and gravel from the retreating glaciers. In the Study Area, these deposits extend from ground level (approximately 20 to 25 feet above mean sea level ["MSL"]) to about 100 feet down below the surface to the top of the Magothy Formation.
- **Magothy Aquifer**—Just below the Upper Pleistocene, the Magothy Formation was formed in the Cretaceous Age (70 to 140 million years ago). This formation consists of fluvial and deltaic deposits and is composed mainly of mixed layers of sand, silt, and clay. The Magothy Formation contains some discontinuous clay layers ("lenses"). Gravel is also present, but limited primarily to the lower strata of the formation. Minerals (e.g., muscovite and pyrite) distinguish this formation from the upper glacial deposits, as does lignite, which is a signature feature of the Magothy Formation. This formation is approximately 850 feet thick below the Study Area. The Magothy Aquifer is the primary drinking water source for most of Long Island.
- **Raritan Formation and the Lloyd Aquifer**—Beneath the Magothy Formation is a layer of clay, which comprises the upper strata of the Raritan Formation. This formation is 100 feet thick in the vicinity of the Study Area. Below the clay is the Lloyd Aquifer. The Lloyd is approximately 500 feet thick beneath the Study Area. It consists of fine-to-coarse grained sand and gravel,





Source: U.S. Geological Survey Hydrogeologic Framework of Long Island, NY

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Figure 3.3-1: Hyrdrogeologic Framework

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intermixed with clay. The Raritan Formation's confining unit of clay is quite thick and restricts the water flow between the Lloyd Aquifer and the Magothy Aquifer.

- **Bedrock**—Bedrock dates from the Precambrian and Paleozoic eras (more than 500 million years old). It begins about 1,600 feet below the Study Area, and is composed of impermeable schist and gneiss.

Soils

The soil types of the Study Area were reviewed based on the *Soil Survey of Suffolk County, New York* (United States Department of Agriculture ["USDA"] Soil Conservation Service, April 1975). The soils mapped on the Study Area are indicated in ***Table 3.3-1, Summary of Soil Properties*** and ***Figure 3.3-2, Soil Composition***. Soil types are characterized by their composition (e.g., sands, clays, etc.), slope, erodability, permeability, and typical depth to groundwater. Based on this characterization, the Soil Survey provides a three-part measure of constraints on the development divided into Slight, Moderate, or Severe for different potential site uses (paved surfaces, home construction, and septic disposal). Moderate and Severe limitations do not in themselves create significant adverse environmental impacts, but, rather, reflect the likelihood of additional site preparation and site engineering, on-going maintenance requirements, and costs necessary to utilize the land for an intended purpose.

Table 3.3-1
Summary of Soil Properties

Mapping Unit	Soil Name and Gradient	Erosion Hazard	Permeability (Depth[1] – Rate[2])	Depth[3] to Seasonal High Water Table	Limitations of Soils		
					Streets and Parking Lots	Homesites[4]	Sewage Disposal Fields
RdA	Riverhead sandy loam, 0 to 3 percent slopes	Slight	0-32-2.0-6.3	>4	Slight	Slight	Slight[6]
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes	N/A	N/A	N/A	Moderate slopes[5]	Slight	Slight[6]
Ur	Urban land	N/A	N/A	N/A	Variable	Variable	Variable

SOURCE: USDA Soil Conservation Service, Soil Survey of Suffolk County, New York, April 1975.
NOTES: [1] Inches.
[2] Inches per hour.
[3] Feet.
[4] Three stories or less.
[5] Slight for town or county roads.
[6] Possible pollution hazard to lakes, springs, or shallow wells in these rapidly permeable soils.

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Figure 3.3-2: Soil Composition

- Study Area
- Fs
- HaA
- RdA
- RdB
- RhB
- Su
- Ur

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The Study Area consists of Urban Land (Ur) which is defined as areas that are more than 80 percent covered by buildings and pavement. This area consists of Great Neck Road and Railroad Avenue including the surrounding developed properties. The examination and identification of this soil type was deemed impractical in the Soil Survey, as soil limitations vary per site. Adjacent areas are comprised of Riverhead and Haven Soils (RhB) and Riverhead Sandy Loam (RdA). Both of these soil groups are characterized as well-drained with little or no use limitations.

Topography

The overall topography for the Study Area is generally flat with an approximate elevation of 20 to 25 feet above MSL (see ***Figure 3.3-3, Topography***).

3.3.1.2 Terrestrial and Aquatic Ecology

The Study Area largely consists of impervious surfaces. Landscaped areas, street trees and vegetative habitat comprise a negligible portion of the Study Area and no aquatic habitat exists within or adjacent to the Study Area. Federal and State endangered, threatened or other species of special concern are not likely to occur in the Study Area due to the lack of natural features. ***Figure 3.3-4, NYSDEC Breeding Bird Atlas Survey Blocks*** shows the location of the NYSDEC *Breeding Bird Atlas* survey blocks in the vicinity of the Study Area.

3.3.1.3 Water Resources

3.3.1.3.1 Surface Water

A review of the National Wetland Inventory ("NWI") and New York State Department of Environmental Conservation ("NYSDEC") Wetland Inventory did not identify any surface waters in or adjacent to the Study Area (see ***Figures 3.3-5, Federal Wetlands*** and ***3.3-6, New York State Wetlands,*** respectively). In 2009, the Federal Emergency Management Agency ("FEMA") revised the Countywide Flood Insurance Study for Suffolk County. No floodplains or floodways were identified in the Study Area. A discussion of stormwater is included in **Section 3.4.1.1**.

3.3.1.3.2 Groundwater

Aquifers are natural groundwater reservoirs stored in surficial or bedrock deposits. As noted in **Section 3.3.1.1**, there are three distinct aquifers that underlie downtown Copiague and most of Long Island: 1) Upper Glacial; 2) Magothy; and, 3) Lloyd. These aquifers were designated by the United States Environmental Protection Agency (USEPA) as a "Sole Source Aquifer" in 1978, with the finding that the system is the single source of drinking water to the people of Long Island and if contaminated, would create a significant hazard to public health. The Upper Glacial and Magothy aquifers are the most significant water supply sources for most of Long Island. Given that Long Island is a sole source aquifer, a number of planning studies have been prepared to provide recommendations and guidance in management of groundwater resources, including the Long Island Comprehensive Waste Treatment Management Plan (the "208 Study"), the Long Island Comprehensive Special Groundwater Protection Area Plan (the "SGPA Plan"), and the L.I. Segment of the Nationwide Urban Runoff Program (the "NURP Study"). Based upon a review of these documents, the Study Area is located within Hydrogeologic Zone VII[1], but is not located within a SGPA.

[1] As delineated in the 208 Study (Long Island Regional Planning Board, 1978). This zone is defined as the south shore shallow flow system in which the groundwater primarily moves laterally

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Figure 3.3-3: Topography

Study Area
5-Foot Contours

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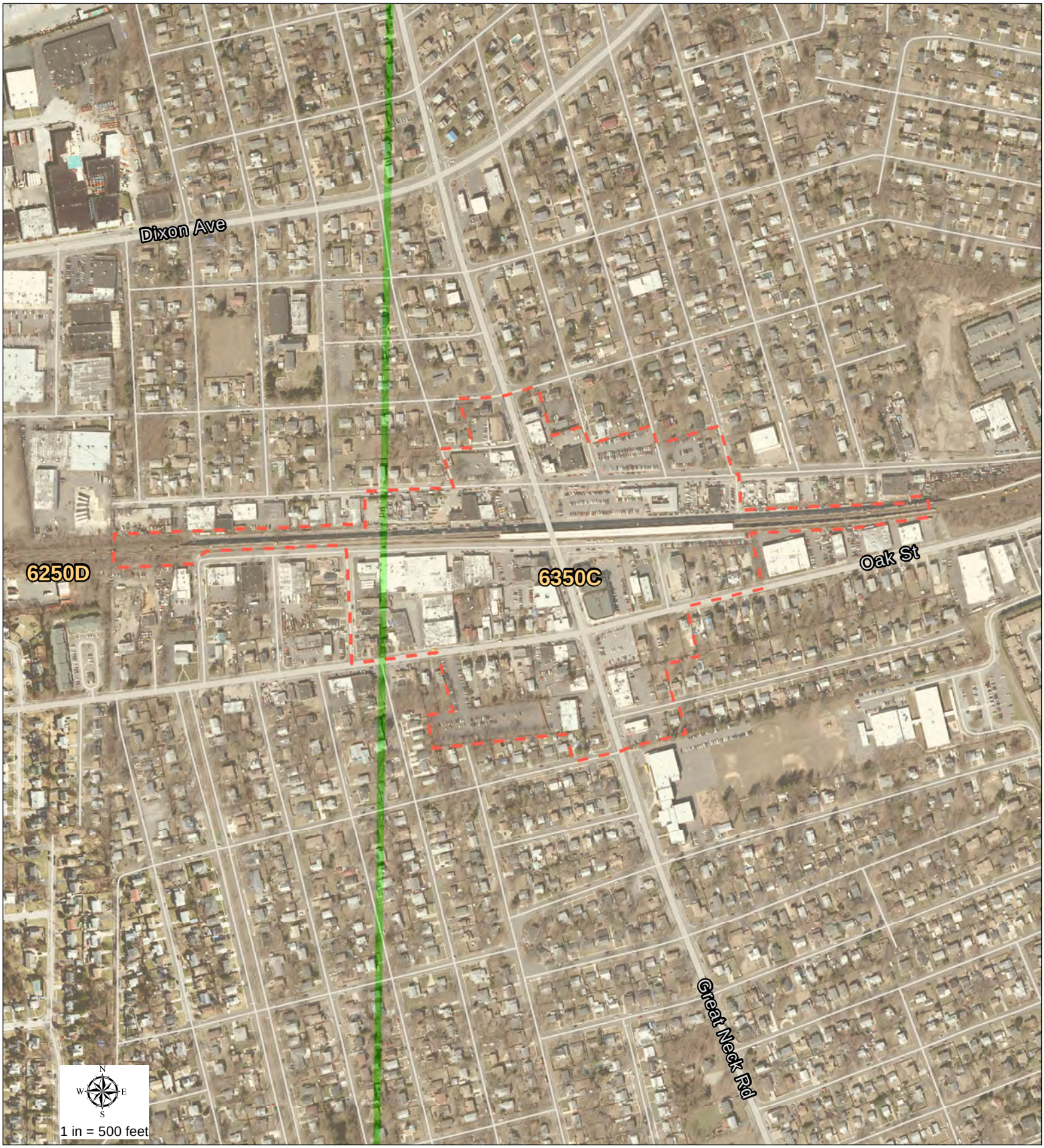

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Figure 3.3-4: NYSDEC Breeding Bird Atlas Survey Blocks

Bird District
Study Area

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Figure 3.3-5 Federal Wetlands

Study Area

Freshwater Forested/Shrub Wetland

Freshwater Pond

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Figure 3.3-6 NYS Wetlands

Study Area

NYSDEC Wetlands

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3.3.2 Potential Impacts

Due to the already built-up nature of the downtown area, no impacts to natural resources, such as geology, soil, topography, terrestrial and aquatic ecology, etc. are expected as a result of the implementation of the Proposed Action.

3.3.2.1 Geology, Soils, Topography

No significant adverse impacts to geology, soils, or topography in the Study Area, which is already developed and almost entirely impervious, would occur as a result of the implementation of the Proposed Action.

3.3.2.2 Terrestrial and Aquatic Ecology

No significant adverse impacts to terrestrial or aquatic wildlife are expected to result from the implementation of the Proposed Action, as these habitat types do not exist in the Study Area.

3.3.2.3 Water Resources

The implementation of the Proposed Action has the potential to affect water resources in the Study Area and vicinity.

3.3.2.3.1 Surface Water

Due to the already built-up nature of the downtown area, no impacts to surface waters, mapped wetlands, or floodplains are expected as a result of the implementation of the Proposed Action. A discussion of potential stormwater impacts is included in **Section 3.4.2.1**.

3.3.2.3.2 Groundwater

The adoption of the proposed zoning amendments would be a regulatory action and would not result in any physical changes to the Study Area. Therefore, no impact to groundwater resources would occur. Further, since downtown Copiague is an already built-up downtown area, the Build Out Scenario does not envision an increase in the amount of impervious surfaces and, in fact, envisions a decrease in impervious surfaces due to the provision of open and civic spaces and the requirements and incentives within the DC Zoning District for park/open space and green building and site planning. With regards to water quality, implementation of the Proposed Action would likely result in the redevelopment of downtown Copiague with a mix of residential, retail, and office uses, and, therefore, would not be expected to result in the use, generation, or disposal of toxic substances that would be discharged to the subsurface. Retail uses do not typically use or store significant quantities of toxic or hazardous materials (as compared with industrial use). Small containers of store bought cleaners could be expected to be used by business occupants within the Study Area. The green building and site planning provisions in the proposed zoning amendments would help ensure that future development would be less impactful than current development. Therefore, implementation of the Proposed Action is not anticipated to have a significant adverse impact on the quality of groundwater underlying the Study Area.

3.3.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on natural resources. Therefore, no mitigation is necessary. Although it is not anticipated that particular site-specific proposals that result from implementation of the Proposed Action would result in significant adverse impacts on groundwater, as will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements has been established. In particular with regards to water resources, any site-specific projects would be required to comply with the regulations and restrictions outlined in the Suffolk County Sanitary Code.

3.4 Infrastructure and Utilities

3.4.1 Existing Conditions

3.4.1.1 Stormwater

Due to the presence of impervious surfaces in the downtown area, storm drainage and stormwater management is a key element of the existing conditions in the downtown area. Stormwater runoff is generated by rainwater that collects upon the surface of the land or built structures. The runoff generated by these surfaces varies depending upon the type of land cover, which is defined as pervious (pervious surfaces allow more percolation to the ground below and generate less runoff) or impervious (impervious surfaces impede percolation and generate greater runoff).

Stormwater runoff within the Study Area is directed to drainage inlets typically located within the roadways. The majority of the Study Area is serviced and maintained by the Town of Babylon Department of Public Works ("TOBDPW"). Drainage on Great Neck Road (CR 47) and Oak Avenue (CR 12) is maintained by the Suffolk County Department of Public Works ("SCDPW"). All runoff generated from the two County roads is directed to drywells and recharged on-site. The Study Area intersects four separate Town drainage systems: Great Neck Road makes up the eastern and western divide and the Long Island Railroad (LIRR) line separates the northern and southern areas. Those drainage areas to the north-west, south-west, and south-east of the intersection of Great Neck Road and the LIRR all use drywells to recharge stormwater within the roadway area. Only the drainage area to the north-east uses a collection system, which eventually conveys stormwater to surface waters (Great Neck Creek). Due to the age of the existing drainage system in the Study Area, drainage and recharge capacity vary. Typically they range from the 10-year to 100-year rain event.

3.4.1.2 Water

90 percent of the Town's geographic area, including the Study Area, is served by the Suffolk County Water Authority ("SCWA"). According to the SCWA *2014 Drinking Water Quality Report*, SCWA distributes water to approximately 380,000 customers and a population of 1.2 million through 5,962 miles of water main, 612 wells (of which 581 are active), 234 pump stations, and 64 storage facilities (which have a storage capacity of 68.9 million gallons). The total amount of water pumped in 2013 in the SCWA overall was approximately 70.5 billion gallons, of which approximately 91 percent was billed directly to consumers. The unbilled water was used for flushing water mains, firefighting, street cleaning, and other purposes.

The Study Area is located within SCWA Distribution Area 1, which runs along the south shore of Suffolk County, from the Nassau-Suffolk boundary to approximately Shirley and Mastic Beach. Within Distribution Area 1 there are 121 active wells. During 2013, SCWA Distribution Area 1 was in compliance with all applicable State drinking water requirements. Within the Town, the SCWA operates 46 active wells, seven storage facilities, and 19 pumping plants. These facilities provide more than 80 million gallons-per-day ("mgd") to over 56,000 homes, businesses, and industries within the Town. Potable water is supplied through the district by buried water mains of varying sizes from 2- to 12-inches in diameter. Water in the Study Area is from groundwater supplied by the Lambert Avenue well field located approximately 2,000 feet to the east.

3.4.1.3 Sanitary Sewer

The SCDPW, Division of Sanitation, manages the public sewage system. The majority of the Town, including the Study Area, is located within the Southwest Sewer District ("SD 3"). This district encompasses the area south of the Southern State Parkway, west to the Nassau-Suffolk County dividing line and the westerly portion of the Town of Islip west of Heckscher State Park Spur. The service area also extends north along Route 110 to the Huntington Town Line. The district includes an area of approximately 57 square miles, with over 950 miles of sewer lines and 14 remote pumping stations. The wastewater treatment plant ("WWTP") serving the district was activated in October 1981 and is located in Bergen Point, West Babylon. The facilities were designed to provide secondary wastewater treatment for an average daily flow of 30 mgd, plus a scavenger waste flow of 0.5 mgd. The plant has a capacity of 30 mgd, with the planned expansion to 40 mgd by 2017. The estimated population of the district is approximately 340,000 people. It is assumed that all existing buildings within the Study Area are connected to the treatment system.

3.4.1.4 Energy

PSEG Long Island ("PSEG-LI") is the public electric utility in the area; National Grid provides natural gas services. The Study Area is currently served with electricity and natural gas from these public utilities.

3.4.1.5 Solid Waste

The Town of Babylon provides commercial and residential solid waste removal services. Non-residential properties including multi-residence facilities located within the Town of Babylon are considered to be within the Commercial Waste District with the exception of schools, libraries, post offices and other public entities. Commercial waste is collected and disposed of by the Town's contractor, Winters Brothers. The Town's Office of Commercial Waste oversees this operation. Residential solid waste is considered to be within the Residential Waste District, which is managed by the Department of Environmental Control ("DEC"). Trash pickup occurs twice per week. The Town's Resource Recovery Facility, run under contract with COVANTA BABYLON, Inc., processes waste from the Town, as well as other municipalities through inter-municipal agreements. Ash produced from the waste incineration process is disposed of at the Town's Ashfill, which is located adjacent to the Resource Recovery Facility, off of Gleam Street in West Babylon. All recyclable products, yard waste, non-burnable and commercial wastes are processed at OMNI Recycling of Babylon.

It is the responsibility of the owner, operator, and/or manager of any facility to separate all mandatory recyclables from its waste stream, and to find a means of recycling these source-separated materials, per Chapter 133, Solid Waste Management, of the Code of the Town of Babylon. DEC has the responsibility for implementing the Town's recycling program, which began almost 18 years ago. DEC operates the Town's Recycling Center, which is located at on Field Street off of Edison Avenue in West Babylon. Glass, metal cans and plastics (placed in blue recycling bin or clear plastic bags), as well as newspapers, phone books, magazines, and cardboard boxes are collected curbside on a weekly basis. The Town's Recycling Center also accepts non-recyclable materials for a fee.

3.4.2 Potential Impacts

This sub-section assesses the additional demand for water, sanitary sewer, solid waste, and electric and gas services expected to result from the Proposed Action and the needs that it would place on the existing infrastructure and utilities serving the Study Area.

3.4.2.1 Stormwater

The adoption of the proposed zoning amendments would be a regulatory action and would not result in any physical changes to the Study Area. Therefore, no impact to stormwater would occur. Further, since downtown Copiague is an already built-up downtown area, the Build Out Scenario does not envision an increase in the amount of impervious surfaces and, in fact, envisions a decrease in impervious surfaces due to the provision of open and civic spaces and the requirements and incentives within the DC Zoning District for open space and green infrastructure. Any new development would be required to have drainage systems designed to accommodate any and all runoff volume on-site, to the extent possible. In addition, conformance to the requirements of the NYSDEC Phase II Stormwater Regulations, as well as prevailing Town and County regulations would be required. These system designs would be subject to the review and approval of appropriate Town and/or County engineering staff, ensuring that significant adverse impacts from stormwater runoff would not occur.

3.4.2.2 Water

Implementation of the Proposed Action would result in an increase in water demand and usage. The extent of the need for water infrastructure improvements, relocation and/or upgrading the size of the existing conveyance system cannot be determined at this time, it can only be estimated. Specific infrastructure improvements would need to be based upon a specific development proposal, with engineering layout and design. Based on the breakdown of uses provided in the Build Out Scenario water usage in gallons-per-day ("gpd") was estimated. Anticipated increase in water demands were estimated based upon applicable expected hydraulic loading rates found within the Suffolk County Department of Health Services ("SCDHS") *Standards for Approval of Plans and Construction for Sewage Disposal Systems*, dated 2009 (see **Appendix D, Infrastructure Documentation**). ***Table 3.4-1, Build Out Scenario: Anticipated Water Usage*** presents the anticipated daily water usage that would result from the implementation of the Proposed Action.

Table 3.4-1
Build Out Scenario: Anticipated Water Usage

Use	Yield	Rate	Water Usage (gpd)
Residential	420 (units)		
- Apartments	369 (units)	300 gpd/unit[1]	110,700
- Townhomes	20 (units)	300 gpd/unit[2]	6,000
- Single Family	12 (units)	300 gpd/unit[3]	3,600
- Two-Family	16 (units)	600 gpd/unit[4]	9,600
- Three-Family	3 (units)	900 gpd/unit[5]	2,700
Retail	245,064 sf	0.1 gpd/sf	24,506
Restaurant	43,500 sf (4,350 seats)	30 gpd/seat	130,500
Office	88,095sf	0.06 gpd/sf	5,286
Park/Open Space	28,196 sf	NA	0
Civic	55,186 sf	0.06 gpd/sf[7]	3,311
TOTAL	**--**	**--**	**296,203**

SOURCE: Suffolk County Department of Health Services, Standards for Approval of Plans and Construction for Sewage Disposal Systems, 2009.
NOTES: [1] Rate for a housing unit with over 1,200 sf of gross floor area.
[2] Treated as apartments for the purposes of this DGEIS.
[3] Rate for a single-family residence. Based on winter figures that do not cover irrigation and other seasonal uses.
[4] Rate for a two-family residence.
[5] Rate for a three-family residence.
[6] Full service or single service restaurant with greater than 16 seats.
[7] Treated as office for the purposes of this DGEIS.

Although there will be an increase in water usage, no impact to the water supply system is expected from the implementation of the Proposed Action since the downtown is an already built-up area. Development within the Study Area would utilize public water, to be supplied by the SCWA via connections to the existing water mains. Comments from the SCWA state the potable water requirement from the implementation of the Proposed Action would not be anticipated to impact the ability of SCWA to serve the Study Area and existing customers under a build out of downtown Copiague (see **Appendix D, Infrastructure Documentation**).

It is noted that the proposed DC Zoning District contains incentives for proposals to reduce water usage, stormwater runoff, and wastewater generation, and to provide green infrastructure. The use of United State Environmental Protection Agency ("USEPA")-certified water saving plumbing fixtures and low water use appliances will result in further water usage reductions as structures are upgraded. The estimated water usage above does not account for any reductions in water use or wastewater generation.

3.4.2.3 Sanitary Sewer

Implementation of the Proposed Action would result in an increase in sewage generated. The extent of the need for sanitary sewer infrastructure improvements, relocation, and/or upgrading the size of the existing conveyance system cannot be determined at this time, it can only be estimated. Specific infrastructure improvements would need to be based upon a specific development proposal, with engineering layout and design. SCDHS has adopted standards for calculating sewage generation on various property uses. Based on the breakdown of uses provided in the Build Out Scenario sewer flow

was estimated and is the same as water flow. ***Table 3.4-2, Build Out Scenario: Anticipated Sewer Flow*** presents the anticipated daily sewer flow that would result from the implementation of the Proposed Action.

Table 3.4-2
Build Out Scenario: Anticipated Sewer Flow

Use	Yield	Sewer Flow (gpd)
Residential	420 (units)	
- Apartments[1]	369 (units)	83,025
- Townhomes[2]	20 (units)	4,500
- Single Family	12 (units)	3,600
- Two-Family	16 (units)	9,600
- Three-Family	3 (units)	2,700
Retail	245,064 sf	24,506
Restaurant	43,500 sf (4,350 seats)	130,500
Office	88,095 sf	5,286
Park/Open Space	28,196 sf	0
Institutional/Civic[3]	55,186 sf	3,311
TOTAL	**--**	**267,028**

SOURCE: Suffolk County Department of Health Services, Standards for Approval of Plans and Construction for Sewage Disposal Systems, 2009.
NOTES: [1] Based upon average for apartment sizes of 225 gpd/unit.
[2] Treated as apartments for the purposes of this DGEIS.
[3] Treated as office for the purposes of this DGEIS.

Although there will be an increase in sewer flow, no impact to the sanitary sewer system is expected from the implementation of the Proposed Action since the downtown is an already built-up area, sanitary sewer infrastructure already exists within the Study Area, and it is anticipated that SCDPW has adequate capacity at the Bergen Point WWTP to be able to serve a build out of downtown Copiague.

It is noted that the proposed DC Zoning District contains incentives for proposals to reduce water usage, stormwater runoff, and wastewater generation, and to provide green infrastructure. The estimated sewer flow above does not account for any reductions in water use or wastewater generation.

3.4.2.4 Energy

There will be an increase in energy use during the construction phase of the Proposed Action. Although implementation of the Proposed Action would require new electric and gas service to sites that are currently vacant and perhaps upgraded service to currently underutilized sites, it is anticipated that both PSEG-LI and National Grid maintain adequate resources to supply the build out of downtown Copiague. In addition, energy saving devices will be utilized where practical to reduce the total energy demand. Further, the proposed DC Zoning District contains specific regulations related to sustainable practices and through the zoning incentives, promotes the use of additional green and sustainable building techniques. In addition, the proposed DC Zoning District contains reference to Article VIII, Green Building Construction, of Chapter 89, Building Construction, of the Code of the Town of Babylon. In summary, it is not anticipated that the project will result in significant adverse impacts on the availability of energy resources in the Study Area.

3.4.2.5 Solid Waste

Implementation of the Proposed Action would result in an increase in solid waste generated. The extent of the need for solid waste improvements cannot be determined at this time, it can only be estimated. Specific improvements would need to be based upon a specific development proposal, with engineering layout and design. Based on the breakdown of uses provided in the Build Out Scenario solid waste was estimated. ***Table 3.4-3, Build Out Scenario: Anticipated Solid Waste*** presents the anticipated solid waste that would result from the implementation of the Proposed Action.

Table 3.4-3
Build Out Scenario: Anticipated Solid Waste

Use	Yield	Rate	Solid Waste (tons/month)[2]
Residential	420 units (939 residents)	0.0175 tons/day/resident	501.1
Retail	245,064 sf (545 employees)	0.001 tons/day/employee	16.6
Restaurant	43,500 sf (87 employees)	0.001 tons/day/employee	2.7
Office	88,095 sf (352 employees)	0.001 tons/day/employee	10.7
Park/Open Space	28,196 sf	NA	0.0
Institutional/Civic	55,186 sf (221 employees)	0.001 tons/day/employee[1]	6.7
TOTAL	**--**	**--**	**537.8**

SOURCE: Development Impact Assessment Handbook, Urban Land Institute, 1994.
NOTES: [1] Treated as office for the purposes of this DGEIS.
[2] Based upon an average of 30.5 days per month.

Solid waste generated as a result of implementation of the Proposed Action is likely to consist primarily of paper, cardboard, food items, and other miscellaneous refuse. Although there will be an increase in solid waste, no impact is expected from the implementation of the Proposed Action since the proposed development will utilize both the Town Commercial Waste and Residential Waste Districts. Bagged trash and recyclable materials (including cans, bottles, plastics and metals, as well as paper and cardboard) generated in residential apartments would be discarded in a designated garbage room on every floor of every residential building. The site manager for a particular residential development would ensure that on-site personnel remove trash and recyclables from the garbage rooms in each building on a daily basis, or as needed. Trash would then be placed daily in dumpsters conveniently located in proximity to buildings throughout the Study Area. Retail uses would utilize their employees to place trash in dumpsters conveniently located in proximity to retail stores and transport recyclable materials to the on-site service area. Retail tenants would transport recyclable materials to a designated on-site service area during normal working hours.

3.4.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on infrastructure or utilities. The additional service costs associated with the implementation of the Proposed Action are anticipated to be off-set by the additional tax revenues that would be generated to particular taxing jurisdictions. Therefore, no mitigation is necessary.

However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on infrastructure or utilities. As will be discussed in Section

6.0, a number of general parameters and criteria for site-specific review of future development and improvements have been established.

Each individual application for development within the Study Area would still be subject to normal site plan approval requirements. This site plan process will clearly specify a needs assessment and necessary mitigation(s) at that time to ensure that the individual development opportunities that come to fruition do not impinge in any way upon infrastructure capacity (i.e., sewer and water). The site plan review process and any site-specific environmental review would ensure that development does not compromise the Town's infrastructure. During the site plan review process, special consideration of solid waste management will be incorporated, due to the limited space within the downtown environment. Through the incentive process, additional green infrastructure and building techniques could be utilized on a site-specific basis, which would help mitigate any impacts to infrastructure or utilities for individual projects.

3.5 Community Facilities and Services

The Study Area contains and is served by a number of community facilities and services. This section describes the existing community facilities and services serving the Study Area, including schools, parks, recreation, and open space, police, and fire and emergency services.

3.5.1 Existing Conditions

3.5.1.1 Community Facilities

Schools

Most of Copiague is served by the Copiague Union Free School District ("School District"), which also serves about half of North Amityville, a small portion of North Lindenhurst, and a very small portion of East Farmingdale. However, a portion of Copiague, west of Bayview Avenue and north of Dixon Avenue, is in the Amityville Union Free School District. The entirely of the Study Area is within the Copiague School District.

Elementary school-age children attend of the following elementary schools (grades kindergarten through 5)[1]:

- Deauville Gardens East (enrollment: 461)
- Deauville Gardens West (enrollment: 481)
- Great Neck Road (enrollment: 520)
- Susan E. Wiley (enrollment: 766)

After elementary school, school-age children attend Copiague Middle School (grades 6 through 8) and then Walter G. O'Connell Copiague High School (grades 9 through 12). As of the 2012-2013 academic year (the most recent available) Copiague Middle School had an enrollment of 1,088 students and Copiague High School had an enrollment of 1,514 students. The total enrollment in the School District as a whole in the 2012-13 academic year was 4,830. According to the United States Census Bureau[2], approximately 85 percent of the school-age children that live in Copiague attend public school; the remaining 15 percent attend private schools. Only Great Neck Road Elementary School is within the Study Area. Based on this information, the existing conditions within the Study Area were modeled. The results of the model estimate that there are approximately 88 school-age children that live within the Study Area, 74 of which attend public schools in the School District.

Libraries

Residents of Copiague are served by one public library—the Copiague Memorial Public Library, which is located at 50 Deauville Boulevard, southwest of the Study Area. The library was established in 1960 in the Great Neck Road Elementary School, moved into the Copiague Fire Department building in 1969, and finally moved into its current location in 1989. Today the library serves almost 18,000 cardholders and has over 145,000 items in its collection, including books, magazines, compact discs, books on tape and CD, DVD's, videos, newspapers and CD-ROMs to serve all the needs of the community[3]. The library

[1] 2012-2013 academic year (latest available); http://data.nysed.gov/enrollment.php?year=2013&instid=800000037792, accessed January 22, 2015.
[2] 2008-2012 American Community Survey 5-Year Estimates.
[3] http://www.copiaguelibrary.org/whatsnew/Your_Library_at_a_Glance.cfm; accessed January 22, 2015.

employs a qualified director who is responsible for the day-to-day operation of the library, as well as professional librarians and support staff to assist with providing services.

Parks, Recreation, and Open Space

Copiague is a built-up community with a limited number of passive and active recreation resources, parks, and playgrounds. Further, these open spaces are smaller in size.

There are currently only two areas of designated open space in downtown Copiague:

- *Copiague Park* is a passive recreational space on the corner of Great Neck Road and Dixon Avenue. It was recently expanded and has benches, a planted center area, landscaping, paved paths and a bicycle rack.
- *Veterans' Memorial Park*, which is located along Great Neck Road, immediately north of the Copiague LIRR station and adjacent to the commuter parking lot. This park has benches and tables, decorative pavers, a stone commemorating veterans, and a panel with civic association plaques mounted on it.

Not in the Study Area, but a significant attractor of trips on Great Neck Road, is Tanner Park, located on the water directly south of and approximately one mile from the Study Area. It has active recreation sites such as baseball and soccer fields, as well as a senior center.

The Town's Department of Parks, Recreation, and Cultural Affairs ("DPRCA") provides administration over the Town's parks. Maintenance of the facilities is done by the Town's Department of Public Works ("DPW").

3.5.1.2 Community Services

Police

The 1st Precinct of the Suffolk County Police Department ("Police Department") provides police services to the Town of Babylon, including the incorporated villages of Lindenhurst and Babylon. The precinct station is located at 555 Route 109 in West Babylon.

Fire and Emergency Services

The Copiague Volunteer Fire Department ("Fire Department") has approximately 50 volunteer members and consists of the Chief's Office; Eagle Engine Company; Hook, Ladder & Rescue Company; and the Vigilant Hose Engine Company. The Fire Department provides fire protection to Copiague and has two fire stations; one located at 320 South Great Neck Road, and the second located on the corner of Dixon Avenue and Great Neck Road. In 2014 the Fire Department responded to 2,581 calls for assistance, consisting of 2,233 ambulance (EMS) calls and 358 general alarms (e.g., building fires, brush or car fires, and motor vehicle accidents). The Fire Department has three ambulances, two fire boats, and a number of fire engines and other fire apparatuses.

3.5.2 Potential Impacts

Revitalization of the Study Area would generate additional demand for community facilities and services, including police and fire protection and emergency medical services, as well as schools. This sub-section estimates future conditions to assess whether additional services would be needed to satisfy the increase in demand expected to result from the Proposed Action.

3.5.2.1 Community Facilities

Schools

School-age child generation rates were taken from the nationally-recognized source for school-age child generation rates, *Residential Demographic Multipliers, Estimates of the Occupants of New Housing*, produced in June 2006 by the Center for Urban Policy Research at Rutgers University (CUPR). These generation rates were applied to the residential uses contemplated in the Build Out Scenario to determine the potential school-age children that could be generated from the implementation of the Proposed Action. Based on these multipliers, it is estimated that implementation of the Proposed Action could result in the generation of approximately 169 school-age children in downtown Copiague. However, as noted in **Section 3.5.1.1** above, it was estimated that there are approximately 88 school-age children that reside in the Study Area. Therefore, implementation of the Proposed Action could result in the generation of approximately 81 additional school-age children. Further, as described in **Section 3.5.1.1**, 85 percent of all school-age children in Copiague attend public schools; the remaining 15 percent attend private schools. For the purpose of this analysis, and when applying this factor to the number of students projected to be generated by the Build Out Scenario, it is estimated that of the additional 81 students generated, 12 students would attend private schools. Therefore, it is estimated that implementation of the Proposed Action could result in 69 new school-age children in the School District, representing an approximate 1.4-percent increase to the overall enrollment in the School District. The addition of residential units in downtown Copiague will occur over time, dependent upon the rate of development and occupancy of units. Enrollment would also be distributed across the various grade levels served by the School District. In addition, as presented in **Section 3.7.2.4**, the implementation of the Proposed Action could be expected to generate significant tax revenues to the School District, among others, which could cover the costs associated with a 1.4-percent increase.

Libraries

As a result of the implementation of the Proposed Action, it is anticipated that redevelopment would be spurred and there would be a resultant increase in residential population. This increased population would increase the demand for library services, potentially requiring additional personnel or equipment. However, as noted in **Section 3.7.2.4**, such increase costs is anticipated to be offset by the additional tax revenue to be generated to the library.

Parks, Recreation, and Open Space

One of the goals/objectives of the DC Zoning District is to provide a mechanism by which to increase open space in the downtown area. Not only are there specific design requirements that would provide green spaces, but the incentive component that the proposed zoning amendments contains is tied, in part, to the provision of additional open space. The Build Out Scenario envisions this by providing additional open and civic spaces near the Copiague LIRR station, resulting in a potential significant increase of open space over existing conditions. Therefore, the Proposed Action would have a beneficial impact on parks, recreation, and open space in the Study Area.

3.5.2.2 Community Services

Police, Fire, and Emergency Services

As a result of the adoption of the zoning amendments, it is anticipated that redevelopment would be spurred, as outlined in the Build Out Scenario. The projected increase in development and residential population envisioned for the Study Area is anticipated to require commensurate increases in demand for police, fire, and emergency services (resulting in the need for additional personnel and equipment

and increased costs). However, it is expected that increased costs associated with additional personnel and/or equipment would be offset by additional tax revenue generated to all taxing jurisdictions, including special districts that incorporate the Police and Fire Departments, by the implementation of the Proposed Action. It should be noted that the Police and Fire Departments will have the opportunity to provide input on proposed development plans during the site plan review of individual projects.

3.5.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on community facilities or services. The additional community facility or service costs associated with the implementation of the Proposed Action are anticipated to be off-set by the additional tax revenues that would be generated to particular taxing jurisdictions. Therefore, no mitigation is necessary.

However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on community facilities or services. As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established.

In particular, the Police and Fire Departments will have the opportunity to provide input on site-specific plans and, subsequently, request any site-specific mitigation, as necessary.

3.6 Transportation

The discussions and analyses of traffic and transportation-related resources and impacts presented in this subsection have been taken from the Traffic Impact Study ("TIS") prepared by Nelson & Pope, LLP (Nelson & Pope) of Melville, New York. The TIS is presented in its entirety in **Appendix E, Traffic Impact Study**.

3.6.1 Introduction

3.6.1.1 Purpose of the TIS

While there are currently no specific development proposals, the TIS and this DGEIS considered the potential for redevelopment and the potential impacts therefrom. The TIS uses the Build Out Scenario as the basis for analysis of transportation and traffic-related impacts.

The purpose of the TIS was to evaluate the existing traffic conditions within and near the Study Area. This was accomplished by estimating future traffic conditions at key intersections (totaling 10 intersections within and outside of the Study Area), with and without the Proposed Action, to identify the potential transportation impacts of the Build Out Scenario and to suggest appropriate measures that would mitigate such impacts. More specifically, the TIS summarizes the results of a detailed investigation of the traffic impacts associated with the Build Out Scenario by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and traffic pattern that will be generated during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network.

3.6.1.2 Study Methodology

A detailed field inspection was conducted to obtain an inventory of existing roadway and intersection geometries along with signage, signal timings, phasing and cycle lengths. Transit services and pedestrian amenities in and near the Study Area were also identified.

Turning movement volume counts were conducted during the weekday morning (7:00 AM to 9:00 AM), weekday evening (4:00 PM to 6:30 PM) and Saturday midday (11:00 AM to 2:00 PM) peak periods at the following Study Intersections.

- Great Neck Road (CR 47) at Dixon Avenue (CR 2)
- Great Neck Road (CR 47) at Marconi Boulevard
- Great Neck Road (CR 47) at Access Road
- Great Neck Road (CR 47) at Railroad Avenue
- Great Neck Road (CR 47) at Oak Street (CR 12)
- Great Neck Road (CR 47) at Scudder Avenue
- Great Neck Road (CR 47) at Montauk Highway (NYS Route 27A)
- Oak Street (CR 12) at Elm Street
- North Strong Avenue at Marconi Boulevard
- South Strong Avenue at West Hoffman Avenue

Accident data for the most recent three-year period for the Study Intersections was obtained from NYSDOT. The accident data was summarized and tabulated by severity of injury and type of collision.

The existing traffic volumes obtained from the traffic counts were tabulated and adjusted for seasonal traffic fluctuation by using seasonal adjustment factors obtained from NYSDOT. Typically, ambient growth factors are applied to existing traffic volumes to account for traffic growth within the Study Area that is not related to the proposed project. However, in this study it was assumed that any growth within the Copiague will be accounted for in the traffic volumes estimated to be generated by the uses in the proposed built out scenario. However, to maintain a conservative analysis, Nelson & Pope applied 50 percent of the New York State Department of Transportation ("NYSDOT") *Long Island Transportation Plan 2000 Study ("LITP2000")* ambient growth factor to the existing traffic volumes and projected them to 2024, a 10-year No Build/Build Condition.

The Town of Babylon was contacted to obtain information on other planned projects that may impact traffic flow in the Study Area. The Town advised that the proposed downtown development would encompass all anticipated growth in the immediate area and represented in the 2024 Build Condition.

Estimates of traffic that would be generated by the proposed project were prepared utilizing trip generation data published by the Institute of Transportation Engineers ("ITE") publication, *Trip Generation, Ninth Edition*.

The new traffic volumes generated by the proposed downtown development were assigned to the adjacent street system based upon the trip distribution model developed by Nelson & Pope.

The estimated traffic generated by the proposed project was then added to the 2024 No Build traffic volumes to generate the proposed 2024 Build Volumes.

Capacity analyses were performed at the Study Intersections for the following conditions:

- 2014 Existing Conditions
- 2024 No Build Conditions
- 2024 Build Conditions

The results of the analyses for the 2024 No Build Conditions and 2024 Build Conditions were compared to identify any significant impacts associated with the proposed project. In accordance with the findings of the capacity computations, where appropriate, recommendations were made to mitigate the projected traffic impacts.

3.6.1.3 Level of Service Description

In order to identify the operational characteristics of the study intersections, level of service, and capacity analyses were performed using the *SYNCHRO Version 8 Software ("SYNCHRO")*. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersections ultimate capacity. *SYNCHRO* also implements the methods of the *2010 Highway Capacity Manual* (*"HCM"*) for urban streets, signalized intersections, and unsignalized intersections for determining intersection capacity

analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining level of service for many transportation facilities and modes including signalized and unsignalized intersections.

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 definitions and threshold values for each level vary according to the type of control utilized at that intersection. A brief description is given here and a more detailed definition can be found in Appendix D of the TIS.

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 LOS "F" range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement 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. The six classes of LOS, ranging from LOS A (best) to F (worst), are defined in Appendix E of the TIS.

3.6.2 Existing (2014) Conditions

3.6.2.1 Existing Roadway Transportation-Related Characteristics

The following briefly describe existing roadway conditions and other transportation-related resources in the Study Area.

<u>Existing Roadway Conditions</u>
The following is a list of major roadways within the Study Area:

- **Great Neck Road (CR 47)** is a north/south roadway under the jurisdiction of Suffolk County that extends from New York State Route 110 ("Route 110") to Montauk Highway and runs through the downtown area of Copiague. Within the Study Area, Great Neck Road provides one lane per travel with a center left turn lane and left turn lanes at major intersections. Parking is permitted on each side of the road in the Study Area. The posted speed limit on Great Neck Road is 30 miles-per-hour ("MPH"). There is also a School Zone posted speed limit of 20 MPH on Great

Neck Road in the vicinity of Great Neck Road Elementary School. Sidewalks equipped are provided on both sides of Great Neck Road, making it a pedestrian friendly roadway in the downtown area. Pedestrian crossings are painted across some intersections in the Study Area.

- **Dixon Avenue (CR 2)** is an east/west roadway under the jurisdiction of Suffolk County that extends from Route 110 to the west and becomes Straight Path to the northeast. Within the Study Area, Dixon Avenue provides two lanes per travel with left turn lanes at major intersections. The posted speed limit on Dixon Avenue is 35 MPH. Sidewalks are provided on most sections of Dixon Avenue in the vicinity of the Study Area, making it a pedestrian friendly roadway in the downtown area.
- **Marconi Boulevard** is an east/west roadway under the jurisdiction of Town of Babylon that extends from a dead end to the west just west of Prince Chico Street and becomes West Hoffman Avenue to the east. Within the Study Area, Marconi Boulevard provides one lane per travel direction. Sidewalks are provided north side of Marconi Boulevard in the vicinity of the Study Area, making it a pedestrian friendly roadway in the downtown area.
- **Railroad Avenue** is an east/west roadway under the jurisdiction of Town of Babylon that extends from Elm Street to the west to a dead end to. Within the Study Area, Railroad Avenue provides one lane per travel direction. Sidewalks are provided Railroad Avenue in the vicinity of the Study Area, making it a pedestrian friendly roadway in the downtown area.
- **Oak Street (CR 12)** is an east/west roadway under the jurisdiction of Suffolk County that extends from County Line Road to the west to a dead end to east. Within the Study Area, Oak Street provides one lane per travel direction with left turn lanes at major intersections. Sidewalks are provided Oak Street in the vicinity of the Study Area, making it a pedestrian friendly roadway in the downtown area.

Table 1 of the TIS summarizes the lane configurations and traffic controls at the study intersections.

Traffic Volume Data

Weekday and Saturday turning movement counts were collected at the study intersections on Thursday, November 13, 2014 during the AM (6:00-9:30 AM) and PM (4:00-6:30 PM) peak periods and during the Saturday midday peak period on November 15, 2014 (11:00 AM-2:00 PM). The volume data was tabulated to identify the peak hours at the study intersections. Weekday and weekend seasonal adjustment factors of 1.022 and 0.87, respectively, for November (month of the counts) was obtained from data contained in the 2014 NYSDOT Traffic Data Report. These seasonal adjustment factors were developed from NYSDOT continuous data collected for a three year period. Applying the weekday normalization factor to the existing traffic volumes will decrease the existing traffic volumes. Hence, to perform a conservative analysis the traffic volumes were not normalized. The Saturday volumes were adjusted. The 2014 existing intersection peak hour volumes utilized in the analyses are contained in Appendix A of the TIS.

Accident History

Accident data for the sections of roadways and intersections in the Study Area was obtained from the NYSDOT. The most recent data available was from April 1, 2011 to March 31, 2014 (three-year period). The data was reviewed and analyzed and is presented in Tables 2 and 3 of the TIS.

Within the Study Area, there were a total of 153 accidents during a three-year period. No accidents involved fatalities. A slight majority of the accidents (53 percent) involved injury to vehicle occupants while the remainder of accidents (47 percent) only involved property damage. The locations that experienced the greatest number of accidents were the intersections of Great Neck Road and Dixon

Avenue (37 accidents) and Great Neck Road and Oak Street (33 accidents). The most frequent type of collision consisted of rear-end accidents at 29 percent. Other/Unknown accidents accounted for 16 percent of the total number of accidents, left-turn accidents accounted for 13 percent, and pedestrian/bicycle accidents accounted for 11 percent of the total accidents. The high incidence of rear-end collisions may be associated with traffic congestion, driver inattentiveness and following too closely.

Public Transportation

Copiague is highly served by public transit especially since the Copiague LIRR station is located within the downtown area. The Copiague LIRR station has service to and from Penn Station on the Babylon Branch. It takes approximately one hour by train from Copiague to Penn Station. The NICE (Nassau Inter County Express) bus system serves the downtown area with two routes: the N19 and N72. The Suffolk County Transit bus system also serves the downtown with eight routes: S20, S23, S25, S27, S29, S40, S42, and S47.

3.6.2.2 2014 Existing Conditions Traffic Analysis

The 2014 existing peak hour traffic volumes depicted in Figures 1-3 of the TIS were used to determine the existing capacity and LOS of the study intersections. Tables 4 and 5 of the TIS contain the LOS summary for the Existing Condition calculated through the methodology described in the TIS. The detailed analysis worksheets are in Appendix E of the TIS.

Upon review of Tables 4 and 5 of the TIS, only one intersection has all traffic movements operating at LOS B or better during the weekday AM, PM, and Saturday midday peak hours:

- Oak Street (CR 12) and Elm Street

Upon review of Tables 4 and 5 of the TIS, all traffic movements at the following two intersections currently operate at LOS C or better during the weekday AM, PM, and Saturday midday peak hours:

- Great Neck Road (CR 47) and Scudder Avenue
- Great Neck Road (CR 47) and Access Road

Upon review of Tables 4 and 5 of the TIS, all traffic movements at the following intersection currently operate at LOS D or better during the weekday AM, PM, and Saturday midday peak hours:

- Great Neck Road (CR 47) and Montauk Highway (NYS Route 27A)

The following is a summary of the LOS at intersections containing some movements with a higher delay value than LOS D, as shown in Tables 4 and 5 of the TIS:

- **Great Neck Road (CR 47) and Dixon Avenue**—Currently the intersection of Great Neck Road and Dixon Avenue operates at overall LOS C, C,, and D during the AM, PM, and Saturday midday peak hours respectively with LOS for individual movements ranging from LOS A to F.
- **Great Neck Road (CR 47) and Marconi Boulevard**—Currently the intersection of Great Neck Road and Marconi Boulevard operates at overall LOS B, C and C during the AM, PM, and Saturday midday peak hours respectively with LOS for individual movements ranging from A to E.
- **Great Neck Road (CR 47) and Oak Street (CR 12)**—Currently the intersection of Great Neck Road and Oak Street operates at overall LOS C during all time periods studied with LOS for individual movements ranging from A to F.

- **South Strong Avenue and West Hoffman Avenue**—Currently the intersection of South Strong Avenue and West Hoffman Avenue operates at overall LOS C, D, and C during the AM, PM, and Saturday midday peak hours respectively with LOS for individual movements ranging from A to F.
- **North Strong Avenue and Marconi Boulevard**—Currently the intersection of South Strong Avenue and West Hoffman Avenue operates at overall LOS B, D, and C during the AM, PM, and Saturday midday peak hours respectively with LOS for individual movements experience LOS ranging from A to F.
- **Great Neck Road (CR 47) and Railroad Avenue—**Currently at the unsignalized intersection of Great Neck Road and Railroad Avenue the eastbound stop controlled approach of Railroad Avenue operates at LOS C, D, and E during the AM, PM, and Saturday midday peak hours respectively. The westbound stop controlled approach of Railroad Avenue operates at LOS B, B, and C during the AM, PM, and Saturday midday peak hours respectively. The northbound left-turn movement on Great Neck Road operates at LOS A, A, and B during the AM, PM, and Saturday midday peak hours respectively. The southbound left-turn movement on Great Neck Road operates at LOS A, A, and B during the AM, PM, and Saturday midday peak hours respectively.

3.6.3 Potential Impacts

3.6.3.1 2024 Future Conditions Traffic Analysis

As part of the TIS, the future (2024) No Build and Build conditions volumes were developed. Traffic analyses were conducted for both the No Build and Build Conditions to evaluate the traffic impact of the Build Out Scenario on the surrounding roadways.

3.6.3.1.1 2024 No Build Condition

The No Build Condition represents traffic conditions expected at the study intersections in the future year 2024 without the implementation of the Proposed Action. The No Build Condition traffic volumes are estimated based on increases in traffic due to general population growth and developments outside of the immediate Study Area. This traffic increase is referred to as ambient growth.

Based on the LITP2000, the Town of Babylon was envisioned to experience an annual traffic growth of 1.1 percent. Based on this NYSDOT annual growth factor of 1.1 percent, the traffic volumes in the Copiague will increase by 11 percent over a 10-year period (2024) even without implementation of the Proposed Action and the development of the Build Out Scenario. However, based on Nelson & Pope's experience from repeatedly conducting traffic counts at several intersections in Suffolk County over several years, the growth factors at most of these intersections are much less than the growth factors developed by NYSDOT in their LITP2000 study. It should also be noted that the Build Out Scenario accounts for all the growth in downtown Copiague calculated in the LITP2000 study (1.1 percent per year) and, therefore, no additional growth was required for the TIS. However, to perform a more conservative analysis, a 0.55 percent per year growth factor (half of LITP2000 growth factor) was applied to the existing traffic volumes over a 10-year period before adding the traffic volumes from the Build Out Scenario. Therefore, to develop the anticipated traffic volumes on the roadways and intersections in the Copiague in 2024 without the implementation of the Build Out Scenario, an annual growth factor of 0.55 percent was applied to the 2024 traffic volumes over a 10-year period (5.5 percent) to develop the

2024 traffic volumes in Copiague without the implementation of the Build Out Scenario. Note that the future build volumes are the sum of the 2024 traffic volumes and the traffic volumes expected to be generated by the Build Out Scenario.

3.6.3.1.2 2024 Build Condition

Trip Generation

In order to identify the impacts the Build Out Scenario would have on the adjacent street system in Copiague, it was necessary to estimate the magnitude of traffic volume generated during the peak hours and to estimate the directional distribution of the estimated traffic from the Study Area.

The trip generation estimates for the proposed uses under the Build Out Scenario were prepared utilizing data found under Land Use Codes within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition*. Generally Land Use Codes contained in the ITE trip generation manual for restaurants, retail uses, office and residential uses were utilized. A table containing the ITE Land Use Codes utilized in the study is contained in Appendix C of the TIS.

It should be noted that the trip generation data contained in the *ITE Trip Generation Handbook* is collected at single use/freestanding sites and does not take into account interaction between different uses in close proximity to each other. However a very high percentage of trips made to retail, restaurants and residential uses in close proximity to each other are linked. That is to say not all trips to new retail and restaurant uses are new trips, some of the trips utilizing the new retail uses may have originated from the new restaurant or residential uses and vice-versa. For example a significant percentage of trips that are made by shoppers also result in secondary trips to nearby restaurants for lunch, dinner, coffee, etc. Therefore, this overlap needs to be factored into the trip generation estimation. Therefore, Nelson & Pope took internal credit between the retail, restaurant, residential, and office uses in accordance with ITE guidelines.

Copiague is highly served by public transit given the Copiague LIRR station and the multiple Suffolk County and Nassau County bus routes. As census data indicates, overall about 7.6 percent of work trips made by Copiague residents are by public transit. Therefore, trips by the proposed developments were reduced by 7.6 percent to account for trips made by transit.

As can be seen from Table 5 of the TIS, the Build Out Scenario is projected to generate approximately 395 new trips (213 entering and 182 exiting) during the weekday AM peak hour, approximately 511 trips (262 entering and 249 exiting) during the weekday PM peak hour and approximately 635 new trips (346 entering and 289 exiting) during the Saturday midday peak hour. Detailed trip generation sheets are contained in Appendix C of the TIS.

Traffic Impact Analyses and Mitigation

In order to identify the impacts created by the Build Out Scenario, capacity analyses were conducted at the study Intersections for the No Build and Build Conditions during the weekday AM, PM, and Saturday midday peak hours. The results of the capacity analyses for the No Build and Build Conditions were compared to determine the impact that will be created on the study Intersections. Tables 8-13 of the TIS summarize the No Build and Build Conditions for the AM Peak Hour, PM Peak Hour and Saturday Peak Hour, respectively.

In the TIS impacts were quantified based on changes in delays rather than the change in level of classes. This approach was utilized since a LOS class represents a range in delay and only a one second increase in delay is required to change from one LOS class to another. Based upon these impacts, intersections were identified that warranted mitigation.

Two mitigation strategies were evaluated for their ability to mitigate the potential impacts of the Build Out Scenario.

- **Mitigation 1** consists of the following changes to study intersections:
  1. Restripe the southbound Great Neck Road approach to accommodate the addition of an exclusive southbound right-turn lane on Great Neck Road at Dixon Avenue. Traffic signal timing adjustments were also performed.
  2. Restripe the westbound approach of Marconi Boulevard to accommodate the addition of an exclusive westbound left-turn lane on Marconi Boulevard at Great Neck Road.
  3. Restripe the eastbound approach of Railroad Avenue to accommodate an exclusive left-turn lane on Railroad Avenue at Great Neck Road.
  4. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Oak Street.
  5. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Montauk Highway.
  6. Perform timing adjustments to the traffic signal timings at the intersection of South Strong Avenue and West Hoffman Avenue.
  7. Perform timing adjustments to the traffic signal timings at the intersection of North Strong Avenue and Marconi Boulevard.

- **Mitigation 2** consists of the following changes to study intersections:
  1. The addition of a second northbound and southbound through lane on Great Neck Road from just north of Marconi Boulevard extending south to Hollywood Avenue.
  2. Timing adjustments were performed at the following study locations to optimize the operation of the intersections:
     a. Great Neck Road at Marconi Boulevard
     b. Great Neck Road at Oak Street

The capacity analyses were conducted at the study Intersections for mitigated conditions and are reported in Tables 8-13 the No Build, Build, and Build with Mitigation 1 and Build with Mitigation 2 conditions, respectively.

The following descriptions summarize the findings of Tables 8-13of the TIS for each intersection:

- **Great Neck Road (CR 47) and Dixon Avenue**—During the No Build Condition the signalized intersection of Great Neck Road and Dixon Avenue operates at overall LOS C, C, and D during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the AM and PM peak periods. During the Saturday midday peak hour the overall LOS will change from D to E. *By restriping the southbound approach of Great Neck Road to accommodate an exclusive right-turn lane and implementing timing adjustments the LOS for all movements the operation of this intersection will improve for all time periods studied.*

- **Great Neck Road (CR 47) and Marconi Boulevard**—During the No Build Condition the signalized intersection of Great Neck Road and Marconi Boulevard operates at overall LOS B, C, and C during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the PM peak period. During the AM peak hour the LOS will change from B to C and during the Saturday midday peak hours the overall LOS will change from C to D. *By restriping the westbound approach of Marconi Boulevard to accommodate an exclusive left-turn lane, the operation of this intersection will improve for all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.*
- **Great Neck Road (CR 47) and Access Road—**During the No Build Condition the unsignalized intersection of Great Neck Road and Access Road has a LOS for individual movements ranging from A to C. During the Build Condition all approaches except for westbound will continue to operate at No Build LOS during all peak hours. The westbound approach will change from LOS C to D during the AM and PM peak periods and from LOS C to F during the Saturday peak period. *This location lacks adequate right-of-way width to accommodate an additional westbound lane, therefore mitigation is not possible. However, under Mitigation 2, the overall operation of this intersection will improve due to the additional lanes on Great Neck Road.*
- **Great Neck Road (CR 47) and Railroad Avenue—**During the No Build Condition the unsignalized intersection of Great Neck Road and Railroad Avenue has LOS for individual movements ranging from A to F. During the Build Condition all approaches except for eastbound will continue to operate at No Build LOS during all peak hours. The eastbound approach will change from LOS E to F during the PM peak. During this AM and Saturday peak this approach continues to operate at LOS F with increased delay. *In order to mitigate these impacts, the eastbound approach of Railroad Avenue should be restriped to accommodate an exclusive left-turn lane. This improvement will improve the overall operation of the intersection during all time periods studied. The overall operation of this intersection will improve further under Mitigation 2.*
- **Great Neck Road (CR 47) and Oak Street (CR 12)**—During the No Build Condition the signalized intersection of Great Neck Road and Oak Street operates at overall LOS C, C, and D during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during all peak periods. However, there will be changes to the LOS of certain individual movements during the PM and Saturday peak hours. *By implementing timing adjustments at this location, the overall operation of the intersection will improve during all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.*
- **Great Neck Road (CR 47) and Scudder Avenue**—During the No Build Condition the signalized intersection of Great Neck Road and Scudder Avenue will operate at LOS A, B, and B during the AM, PM, and Saturday midday peak hours, respectively. Individual movements will experience LOS ranging from A to C. During the Build Condition the intersection will continue to operate at No Build LOS during all peak hours. *No mitigation is necessary at this intersection.*
- **Great Neck Road (CR 47) and Montauk Highway (NYS Route 27A)**—During the No Build Condition the signalized intersection of Great Neck Road and Montauk Highway operates at overall LOS B, C, and C during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to E. During the Build Condition, the intersection will continue to operate at No Build LOS during all peak periods. During the PM and Saturday peak hours the eastbound left-turn will experience a change in LOS. *Implementing*

timing adjustments will improve the operation of this intersection during the PM and Saturday peak hours.

- **South Strong Avenue and West Hoffman Avenue—**During the No Build Condition the signalized intersection of South Strong Avenue and West Hoffman Avenue operates at overall LOS C, D, and D during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the overall intersection will continue to operate at No Build LOS during the PM and Saturday peak hours. During the PM peak hour the LOS will change from D to E. During the PM and Saturday peak hours the northbound approach (which operates at LOS F) will experience an increase in delay. *Implementing timing adjustments will improve the operation of this intersection during all time periods studied.*
- **North Strong Avenue and Marconi Boulevard**—During the No Build Condition the signalized intersection of South Strong Avenue and West Hoffman Avenue operates at overall LOS C, C, and D during the AM, PM, and Saturday midday peak hours, respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the AM and Saturday peak hours. During the PM peak hour the LOS will change from C to D. *Implementing timing adjustments will improve the operation of this intersection during all time periods studied.*
- **Oak Street (CR 12) and Elm Street—**During the No Build Condition the unsignalized intersection of Oak Street and Elm Street has LOS for individual movements ranging from A to C. During the Build Condition all movements will continue to operate at No Build LOS during the all peak hours. *No mitigation is necessary at this intersection.*

3.6.4 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on transportation in the Study Area. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on transportation.

For the overall downtown Build Out Scenario, the following mitigation is recommended for the intersections listed below in order to provide acceptable LOS or achieve No Build LOS:

- **Great Neck Road (CR 47) and Dixon Avenue**—By restriping the southbound approach of Great Neck Road to accommodate an exclusive right-turn lane and implementing timing adjustments the LOS for all movements the operation of this intersection will improve for all time periods studied.
- **Great Neck Road (CR 47) and Marconi Boulevard**—By restriping the westbound approach of Marconi Boulevard to accommodate an exclusive left-turn lane, the operation of this intersection will improve for all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.
- **Great Neck Road (CR 47) and Access Road—**This location lacks adequate right-of-way width to accommodate an additional westbound lane, therefore mitigation is not possible. However, under Mitigation 2, the overall operation of this intersection will improve due to the additional lanes on Great Neck Road.

- **Great Neck Road (CR 47) and Railroad Avenue—**In order to mitigate these impacts, the eastbound approach of Railroad Avenue should be restriped to accommodate an exclusive left-turn lane. This improvement will improve the overall operation of the intersection during all time periods studied. The overall operation of this intersection will improve further under Mitigation 2.
- **Great Neck Road (CR 47) and Oak Street (CR 12)**—By implementing timing adjustments at this location, the overall operation of the intersection will improve during all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.
- **Great Neck Road (CR 47) and Montauk Highway (NYS Route 27A)**—Implementing timing adjustments will improve the operation of this intersection during the PM and Saturday peak hours.
- **South Strong Avenue and West Hoffman Avenue—**Implementing timing adjustments will improve the operation of this intersection during all time periods studied.
- **North Strong Avenue and Marconi Boulevard**—Implementing timing adjustments will improve the operation of this intersection during all time periods studied.

As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established. At the time of site plan applications, trip generation and trip distribution assumptions must be submitted for review and comparison against the assumptions in the TIS. This information will serve as a basis to determine if additional traffic analysis is warranted for individual development projects. Adequacy of site access, parking, and pedestrian safety will also be reviewed as a part of the individual site plan application process. In addition, the responsibility of any particular application to contribute towards the overall mitigation of traffic in the downtown would be evaluated.

3.7 Socioeconomics

This sub-section describes the potential socioeconomic impacts of the implementation of the Proposed Action, notably the Build Out Scenario. These impacts are primarily associated with newly created jobs, increased tax revenues, and other resulting expenditures, which are considered beneficial.

3.7.1 Existing Conditions

Copiague's social and economic profile helps provide the background context for the community. Available data were examined at three levels: 1) the Copiague Census Designated Place ("CDP")[1], as defined by the United States Census Bureau; 2) the Town of Babylon; and 3) Suffolk County. Data were compiled primarily from the United States Census Bureau ("US Census"), 2010 US Census and the 2008-2012 American Community Survey 5-Year Estimates.

3.7.1.1 Demographics

The 2010 US Census estimated the total population of the Copiague CDP as 22,993 persons. This represented a 4.9 percent increase from the 21,922 total population in 2000 (the total population of the Town of Babylon and Suffolk County increased by 0.9 percent and 5.2 percent, respectively, during the same period). In 2010 there were 7,535 households residing in Copiague. This represented a 4.5 percent increase from the 7,210 households in 2000 (the number of households in the Town of Babylon and Suffolk County increased by 2.7 percent and 6.5 percent, respectively, during the same period).

Table 3.7-1, Demographic Characteristics, presents a comparison of the demographic characteristics of Copiague with the Town of Babylon and Suffolk County.

Table 3.7-1
Demographic Characteristics

	Copiague CDP	Town of Babylon	Suffolk County
Population	22,993	213,603	1,493,350
Race			
- **African American**	1,736 (7.6%)	34,881 (16.3%)	111,224 (7.4%)
- **White**	16,892 (73.5%)	153,067 (71.7%)	1,206,297 (80.8%)
- **Asian**	507 (2.2%)	6,524 (3.1%)	50,972 (3.4%)
- **Native American, Pacific Islander, Other**	3,053 (13.3%)	13,371 (6.3%)	88,826 (5.9%)
- **Two or More Races**	805 (3.5%)	5,760 (2.7%)	36,031 (2.4%)
- **Hispanic**	7,523 (32.7%)	35,793 (16.8%)	246,239 (16.5%)
Age			
- **Under 18**	4,882 (21.2%)	49,428 (23.1%)	357,670 (24.0%)
- **18-64**	15,413 (67.0%)	135,997 (63.7%)	933,887 (62.5%)
- **Over 65**	2,698 (11.7%)	28,178 (13.2%)	201,793 (13.5%)
Households	7,535	70,894	499,922

SOURCE: 2010 United States Census

[1] The Study Area is only a small portion of the Copiague CDP. For the purposes of the socioeconomic analysis in this DGEIS, the CDP is utilized since there is readily-available information from the United States Census Bureau.

3.7.1.2 Employment and Other Economic Characteristics

According to the 2008-2012 United States American Community Survey estimates (the latest available for economic characteristics), in 2012 the median household income in Copiague was $71,553, which was lower than the corresponding median household incomes for the Town and County. However, the median household income did represent a 21.5 percent increase over the 1999 median household income of $58,906 (the median household income in the Town of Babylon and Suffolk County increased by 34.0 percent and 34.4 percent, respectively, during the same period).

In addition, unemployment data (Age 16+) for Copiague was compared to that of the Town and County to illustrate the economic state of Copiague. According to the 2008-2012 United States American Community Survey estimates, in 2012 approximately 7.3 percent of Copiague's labor force was unemployed, which was slightly higher than the corresponding unemployment rates for the Town and County.

Table 3.7-2, Economic Characteristics, presents a comparison of Copiague's income and unemployment characteristics with those of the Town and County.

Table 3.7-2
Economic Characteristics

	Copiague CDP	Town of Babylon	Suffolk County
Median Household Income	$71,553	$80,484	$87,778
Unemployment (Age 16+)	7.3%	7.1%	7.0%

SOURCE: 2008-2012 American Community Survey 5-Year Estimates

The latest Zip Code Business Patterns database[2] from the United States Census Bureau indicates that Zip Code 11726, which consists of the entirety of Copiague (not just the Study Area), has more than 4,835 people employed in 478 businesses, with an overall total payroll of approximately $163,000,000[3]. Based on this information, the existing conditions within the Study Area were modeled. The results of the model estimate that there are approximately 550 permanent jobs in the Study Area.

3.7.1.3 Housing

The 2010 US Census found that there were approximately 7,919 housing units in Copiague, of which 7,535 (95.2 percent) were occupied. Of the occupied units, 5,426 (74.2 percent) were owner-occupied and 2,109 (25.8 percent) were renter-occupied.

Table 3.7-3, Housing Characteristics, presents a comparison of the housing characteristics of Copiague with the Town and County.

[2] 2012, which was released on June 12, 2014.
[3] http://censtats.census.gov/cgi-bin/zbpnaic/zbpsect.pl; accessed January 22, 2015.

Table 3.7-3
Housing Characteristics

	Copiague CDP	Town of Babylon	Suffolk County
Housing Units	7,919	74,233	569,985
Housing Occupancy			
- **Occupied**	7,535	70,894	499,922
+ Owner-Occupied	5,426	52,629	393,507
+ Renter-Occupied	2,109	18,265	106,415
- **Vacant**	384	3,339	70,063

SOURCE: 2010 United States Census

3.7.1.4 Tax Revenues

Downtown Copiague as a whole and the properties that lie within it currently generate real property tax revenues to several taxing jurisdictions. These jurisdictions include the Town of Babylon, Suffolk County, the School District, and other special districts such as fire, sewer, refuse, and lighting. Many of the Town and County community services and facilities are supported in large part by the revenues generated through these property taxes. The tax bills for each of the properties within the Study Area were examined and compiled. In general, approximately 61 percent of tax revenues are generated for the School District; 12 percent to Suffolk County; five percent to the Town; with the remaining percentage spread among other taxing jurisdictions, including the Fire Department, the Metropolitan Transportation Agency (MTA), and other special districts such as lighting, sewer, refuse, and waste management.

3.7.2 Potential Impacts

As has been noted throughout this DGEIS, the Proposed Action, in of itself, would not have any direct impact upon resources within the Study Area. Rather, implementation of the Proposed Action could. The socioeconomic impact of the implementation of the Proposed Action was evaluated through an examination of the Build Out Scenario and associated impacts that could occur both during construction, as well as in the longer term, when new development is constructed and operating.

For the purpose of this analysis, it is anticipated that redevelopment efforts would commence in 2015, with construction occurring over a period of 10 years. Therefore, it is anticipated that the construction of the Build Out Scenario could be complete in 2025. At that point in time, it is assumed that the buildings constructed under the Build Out Scenario would be operating at near full occupancy, with the majority of its units sold/leased and occupied.

3.7.2.1 Demographics

Population generation rates were taken from the nationally-recognized source for population generation rates, *Residential Demographic Multipliers, Estimates of the Occupants of New Housing*, produced in June 2006 by the Center for Urban Policy Research at Rutgers University (CUPR). These generation rates were applied to the residential uses contemplated in the Build Out Scenario to determine the potential population that could be generated from the implementation of the Proposed Action. Based on these multipliers, it is estimated that implementation of the Proposed Action could

result in a population increase of approximately 630 persons, representing an approximate 2.7 percent increase to Copiague's population. The addition of population to the Study Area is one of the project objectives and is considered a beneficial impact of the implementation of the Proposed Action.

3.7.2.2 Employment and Other Economic Impacts

The following summarizes the potential employment and other economic impacts, based upon the Build Out Scenario. Implementation of the Proposed Action could generate, both short-term and long-term additional employment opportunities.

Short-Term Construction Jobs

In order to calculate the number of full-time equivalent ("FTE") construction jobs that would be necessary to construct the Build Out Scenario, the following assumptions (with their source) were utilized:

- Total projected construction cost of the Build Out Scenario: $144,135,628 (Town of Babylon estimation, see **Appendix F, Construction Cost Estimate**)
- Projected labor cost: $86,481,377 (60 percent of total construction cost)
- Average hourly compensation per construction workers: $35.69 (New York State Department of Labor)[4]
- Average number of construction hours per worker per week: 36.7 (New York State Department of Labor)[5]
- Average number of construction weeks per worker per year: 47.9 (New York State Department of Labor)[6]
- Construction period: 10 years (Town of Babylon estimation)

Based on these assumptions, the number of construction workers needed annually was computed as follows:

- **Step 1:** To derive the number of construction hours needed to complete development, estimated labor costs of $86,481,37 were divided by the average hourly compensation of $35.69. The results show that 2,423,126 construction hours would be needed for the Build Out Scenario.
- **Step 2:** To determine the number of construction hours per year, total construction hours were divided by 10 years, the projected duration of construction. This assumes that construction activity will be distributed evenly over the 10-year building cycle. 2,423,126 overall construction hours divided by 10 years equals 242,313 construction hours per year.
- **Step 3:** The number of construction workers needed per year was determined by dividing the number of construction hours required annually by the average number of hours each construction worker works per year. Based upon an average 36.7-hour work week and average 47.9-week year, this figure is 1,758. Therefore, 242,313 construction hours per year divided by 1,758 working hours per construction worker per year indicates that approximately 140 FTE

[4] New York State Department of Labor, November 2014 Weekly and Hourly Earnings (all worker hourly earnings; construction): http://labor.ny.gov/stats/ceshourearn2.asp; accessed January 22, 2015.
[5] New York State Department of Labor, November 2014 Weekly and Hourly Earnings (all worker weekly hours; construction): http://labor.ny.gov/stats/ceshourearn2.asp; accessed January 22, 2015.
[6] Annual Mean Wages divided by hourly rate (to get yearly hours) divided by hours per week. Source for Annual Mean Wages: New York State Department of Labor, Occupational Wages for the Long Island Region (Construction and Extraction Occupations), http://labor.ny.gov/stats/lswage2.asp; accessed January 22, 2015.

construction workers will be needed annually for the 10 years to complete the Build Out Scenario.

- **Step 4:** Aggregation of the 140 FTE construction workers over the 10-year construction period suggests that the Build Out Scenario would create almost 1,400 direct construction and construction-related jobs during the development phase.

This need for construction workers is viewed as a beneficial impact to the construction industry. Direct expenditures are only the tip of the iceberg in terms of the overall economic impact of project spending during the development phase. Much of this spending would remain within the Copiague, Babylon, Suffolk County, and Long Island economy and would undergo several rounds of "respending". This occurs when construction workers spend their earnings in local business establishments and when construction firms buy materials and services from local businesses. This, in turn, creates a ripple or multiplier effect so that the overall economic impact is a multiple of the original expenditure.

Long-Term Permanent Jobs

Job generation ratios were calculated on a per-square-foot basis for the proposed mix of uses for the purposes of estimating the permanent job generation potential of the Build Out Scenario. The factors utilized for permanent FTE opportunities, included the following estimated employment levels from one of the nationally-recognized sources for permanent employment generation rates, *Development Impact Assessment Handbook*, produced in 1994 by the Urban Land Institute:

- Retail: 450 sf per employee
- Restaurant: 500 sf per employee
- Office: 250 sf per employee
- Civic/Institutional: 250 sf per employee

The approximate size of the proposed uses under the Build Out Scenario and the associated projected number of permanent FTE employees are indicated in ***Table 3.7-4, Build Out Scenario: Projected Permanent Jobs***. Based upon this analysis, implementation of the Proposed Action, as depicted through the Build Out Scenario, could be expected to generate approximately 1,200 permanent jobs, or approximately 650 more that the estimated 550 permanent jobs that currently exist in downtown Copiague today.

Table 3.7-4
Build Out Scenario: Projected Permanent Jobs

Use	Total Area (sf)	Square Feet per Employee	Total Employees
Residential*	464,260	NA	NA
Retail	245,565	450	546
Restaurant	43,000	500	86
Office	88,095	250	352
Public/Open Space*	28,196	NA	NA
Civic/Institutional	55,186	250	221
TOTAL	**924,301**	**--**	**1,205**

SOURCE: Urban Land Institute, Development Impact Assessment Handbook, 1994.
*NOTE: * Employment levels for residential development were not included since it is not anticipated that any residential development in the Study Area would directly generate jobs (e.g., such residential is not anticipated to have a doorman, etc.). Similarly, employment levels for park/open space was also not included.*

The buildings constructed under the Build Out Scenario would generate an increase in annual operational revenues over existing conditions. This would include revenue generated through monthly rent for the rental residential units, sales of for-sale residential units, annual leases from the commercial space, and sales revenues from the commercial space. The direct operational revenues would also generate beneficial indirect and induced impacts. This additional output could be generated through "round-by-round" sales made at various merchants in other sectors of the regional economy, including local retailers, service providers, banks, grocers, restaurants, financial institutions, insurance companies, health and legal services providers, and other establishments in the region.

Similarly, the jobs created annually during the construction period and during annual operations would also have both indirect and induced impacts on other industry sectors. This job creation—direct, as well as indirect and induced—would be important, given the state of the economy since 2008 and would present opportunities for persons who are currently unemployed to find employment. Similarly, increased labor income—direct, indirect, and induced—would have the potential to have a tremendous economic impact in the Study Area and regionally. Finally, any potential for direct or indirect business or institutional displacement as a result of the implementation of the Proposed Action would be offset by the potential to spur positive trends and to attract investment to the Study Area.

3.7.2.3 Housing

The DC Zoning District was designed to increase the amount of residential units in downtown Copiague. Under the Build Out Scenario, it is anticipated that approximately 345 new residential units are envisioned. Implementation of the Proposed Action, therefore, would be expected to have beneficial impacts on the local housing market by providing a larger range of housing opportunities. Note that it is assumed that the vast majority of new residential units would consist of one- or two-bedroom apartment units given the Study Area's downtown, transit-oriented environment.

Implementation of the Proposed Action would also add to Copiague's and the Town's supply of affordable housing. This would be accomplished in the proposed DC Zoning District with a minimum required set-aside of affordable units in new residential or mixed-use construction, as well as incentives to those developers who can produce more than the minimum set-aside with increased density or other bonuses. These new affordable units would not only add to the general community housing stock, but have the potential to replace existing illegal apartments within the community, thereby helping to promote improved health, safety, and quality of life. Some of the occupants of the new housing units would be expected to come from the current pool of Copiague residents, many of whom are currently living in illegal apartments, thereby minimizing any direct residential displacements. The proposed new residential uses in the area should also help accommodate some of the new employees that could be generated by implementation of the Proposed Action.

3.7.2.4 Tax Revenues

As discussed in greater detail in **Section 2.5.2**, the proposed DC Zoning District is designed to encourage transit-oriented development, appropriate mixed-use, and a well-designed growth pattern that is consistent with the vision of the community, as envisioned in the *Vision Plan*. Implementation of the Proposed Action would be anticipated to accomplish that through redevelopment of currently vacant and/or underutilized land and buildings with active, tax-generating uses, such as mixed-use, residential, retail, and office uses. Coordination with the Town Assessor's Office has indicated that implementation of the types of projects envisioned by the Build Out Scenario would likely increase the assessed value for

particular sites within downtown Copiague. Therefore, it is anticipated that implementation of the Proposed Action would result in positive property tax benefits for the State, County, Town, School District , and other taxing jurisdictions. Future property tax revenues generated by specific site-specific projects in the Study Area would be determined through the comprehensive assessment approach that the Town and State take when determining assessed values and tax bills for specific properties.

As discussed in **Section 3.5**, this DGEIS acknowledges that there may be increased demand for services including schools, police, and fire protective services within the Study Area. However, it is anticipated that the additional property tax revenue generated would exceed the public services costs associated with the increased residents, employees, and visitors.

In addition, implementation of the Proposed Action would also create tax revenues for Suffolk County, the MTA, and New York State. These taxes include sales tax, personal income tax, corporate and business taxes, and numerous miscellaneous taxes.

Therefore, overall, it could be anticipated that implementation of the Proposed Action would result in a beneficial tax revenue impact, locally and beyond.

3.7.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse socioeconomic impacts. Therefore, no mitigation is necessary. Further, it is anticipated that implementation of the Proposed Action would have beneficial impacts on demographics and the economy, including additional housing opportunities, job generation, and the generation of significant tax revenues to all taxing jurisdictions. The analysis provided above does not take into consideration any tax benefits that a particular development project could receive from the Babylon or Suffolk Industrial Development Agency (IDA). For any site-specific proposal that results from the implementation of the Proposed Action, if property or other tax relief is sought, sufficient documentation should be provided to the Town in its evaluation of the site-specific proposal under site plan review.

3.8 Hazardous Materials

3.8.1 Existing Conditions

Sites with hazardous materials may be subject to Federal and State regulations and guidance, including the following:

- United States Environmental Protection Agency (USEPA) Brownfield grant program;
- USEPA National Priority Site (NPS);
- NYSDEC Brownfield Cleanup Program (6 NYCRR Part 375);
- NYSDEC Registry of Inactive Hazardous Waste Disposal Sites, ECL Article 27;
- 6 NYCRR Parts 595-599, 6 NYCRR Parts 612-614, NYSDEC STARS Memo #1—Chemical and petroleum bulk storage management and removal of aboveground or underground storage tanks;
- Article 71 of the Environmental Conservation Law, 17 NYCRR Part 32, Article 12 of the Navigation Law—Petroleum and chemical spill reporting; and,
- 6 NYCRR Part 360 and Part 364—Solid waste management requirements.

There are many commercial sites within the Study Area that may currently or may historically have stored or utilize hazardous substances (as defined by the New York State Environmental Conservation Law § 27-0901). In general, sites with hazardous material concerns include industrial uses, gasoline stations, automobile repair, certain manufacturing, dry cleaners, etc.

For the purposes of this DGEIS, the EPA and NYSDEC Environmental Site Remediation Database was searched to determine the presence of sites with known hazardous materials and remediation within a 1 mile radius of the Study Area. Although no sites within the Study Area were identified, there are four NYSDEC monitored sites within Copiague that are identified by the Database (see **Appendix H, Hazardous Materials Documentation**). No Federal NPL sites were identified in the search area. The State monitored sites are:

- 1305 South Strong Avenue
- 33 Dixon Avenue
- 700 Chettick Avenue
- 340 West Hoffman Avenue

Records obtained from the NYSDEC show that none of these sites will impact on re-development activities or have a human health impact to residents in the Study Area.

3.8.2 Potential Impacts

Implementation of the Proposed Action may include demolition and reconstruction on sites with existing structures—some of which may contain lead-based paint (LBP), asbestos-containing materials (ACMs), and polychlorinated biphenyl (PCB)-containing electrical components. Construction, not only on the sites discussed above in **Section 3.8.1**, but any site within the downtown, would also involve a variety of earthmoving/excavating activities that may encounter subsurface contamination in soil and/or groundwater. Potential subsurface contaminants of concern include: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs, pesticides and herbicides, and metals (such as

lead, arsenic, cadmium, chromium and mercury). The presence of hazardous materials threatens human health only when exposure to those materials occurs; even then, a health risk requires both an exposure pathway to the contaminants and sufficient exposure to produce adverse health effects.

Despite the potential for hazardous materials to be encountered in any redevelopment of downtown Copiague, the proposed DC Zoning District would help facilitate the transition the industrial uses that currently existing within much of the Study Area to other uses (e.g., commercial, residential) that have less of a concern for future hazardous materials. Therefore, implementation of the Proposed Action would have a beneficial impact on hazardous materials.

3.8.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on hazardous materials. Therefore, no mitigation is necessary.

However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on community facilities or services. As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established.

In particular, in order to minimize hazardous material impacts to the greatest extent possible, it is recommended that the following activities occur prior to demolition and/or construction for any specific project:

- *Phase I Environmental Site Assessments (ESAs)*—Land transfer transactions are expected to involve the preparation of a Phase I ESA[1]. Such investigations are typically required for any bank lending or pre-purchase due-diligence.
- *Asbestos Survey*—A comprehensive asbestos survey of the areas to be renovated/demolished should be conducted that include the sampling of all suspect materials to confirm the presence or absence of asbestos. Based on the findings of the survey, the identified ACMs would be removed and disposed of in accordance with all Federal, State, and local regulations.
- *Lead-Based Paint*—Any renovation or demolition activities with the potential to disturb lead-based paint should be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62 - Lead Exposure in Construction). Appropriate methods to control dust and air monitoring, as required by the appropriate OSHA regulations, should be implemented during demolition activities.
- *PCBs*—If disposal of electrical or hydraulic equipment is required, all Federal and State requirements relating to PCBs should be followed. Suspected PCB-containing equipment (e.g., transformers, electrical feeder cables, hydraulic equipment, and fluorescent light ballasts) may need to be surveyed and evaluated prior to building demolition or utility relocation.
- *Phase II ESAs*—Subsurface investigations (Phase II ESAs) should be performed[2]. Based on the findings of the subsurface investigations, appropriate design measures should be implemented

[1] Per the guidelines established by the American Society for Testing Materials (ASTM) E1527-0, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

[2] Per ASTM E1903-97 (2002), *Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

to address any contamination identified. Detailed procedures should be incorporated into each of the individual projects' construction documents specific to the proposed development.

These measures to avoid potential impacts would be conducted in compliance with all applicable laws and regulations and would conform to appropriate engineering practices.

3.9 Cultural Resources

3.9.1 Existing Conditions

There are three tiers of recognition and regulatory protection for cultural and historic resources in New York State:

- National Register of Historic Places and National Historic Landmarks;
- New York State Register of Historic Places held by the State Historic Preservation Office ("SHPO"); and,
- Local recognition.

Districts, sites, buildings, structures, and objects are eligible for the State and National Registers if they meet a number of criteria, such as possessing integrity of location, design, setting, materials workmanship, feeling, and association, and:

- Are associated with events that have made a significant contribution to the broad patterns of history; or
- Are associated with the lives of significant persons; or
- Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in history or prehistory.

Determinations of eligibility are made by SHPO. Generally, all properties that are listed on the National Register are listed on the State Register, which has the same criteria for evaluation as the National Register. Properties that have been constructed within the last 50 years are ordinarily not eligible.

State and National Register of Historic Places

A review of the State Preservation Historical Information Network Exchange[1] indicates that there are no structures that are listed on the State/National Register of Historic Places. The State Historic Preservation Office (SHPO) recommends individual requests on properties be directed to their office as the Information Network Exchange may not be up to date. In 2009 as part of the preparation of the Copiague Vision Plan an inquiry was submitted for historic impacts. The State determined that "no adverse impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places" would occur on project implementation. As several years have passed since that determination was issued by the State, their office was contacted to update their findings regarding potential archaeological and historic resources in the project area. Upon the completion of the review the State confirmed no archaeological or historic resources would be impacted by this project. The complete review package can be found in **Appendix G, Cultural Resource Documentation**.

National Historic Landmarks

National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. There are no National Historic Landmarks located within Copiague.

[1] http://www.oprhp.state.ny.us/hpimaging/; Accessed September 19, 2014.

Archaeologically Sensitive Areas

A review of the SHPO GIS Online Tool[2] indicates that there are no archaeologically sensitive areas in downtown Copiague. The issue of adverse impacts to potential archaeological resources was addressed in the State review discussed above.

Local Landmarks and Historic Districts

Copiague does, however, contain some resources that have local significance and help to characterize the community, including (but not limited to):

- Green-Bunn and Brewster Burial Grounds
- Zebulon Ketcham Homestead Memorial Stone
- World War I Veterans Memorial (located within Veterans' Memorial Park)
- Marconiville Decorative Arch (northwest corner of Hollywood Avenue and Great Neck Road)
- Great Neck Road Elementary School
- Venetian Bridges on East and West Riviera Boulevards.

Only Veterans' Memorial Park and Great Neck Road Elementary School are located within the Study Area.

Although not a specific site or building, a trolley route ran from Amityville to Babylon Village. The trolley entered Copiague near Strong and West Gate Avenues, proceeded northwest toward Florida Avenue and Great Neck Road, and continued north to Oak Street, where it turned west toward Amityville. Today, there is a historical marking noting this route, located along Great Neck Road.

3.9.2 Potential Impacts

Since the Proposed Action in of itself does not include any demolition or construction, the cultural resources within downtown Copiague would not be directly impacted by the Proposed Action. Further, the Build-Out Scenario evaluated in this DGEIS does not reflect direct impacts on any of the cultural resource properties noted in **Section 3.9.1**. However, the implementation of the Proposed Action and possible redevelopment has the possibility to effect such resources. In many ways, the implementation of the Proposed Action will provide a positive impact on cultural resources, since it will create a revitalized and more vibrant downtown Copiague.

3.9.3 Mitigation Measures

The Proposed Action, in and of itself, would not create any significant adverse impacts on cultural resources. Therefore, no mitigation is necessary. However, particular site-specific proposals that result from implementation of the Proposed Action could result in significant adverse impacts on cultural resources. As will be discussed in **Section 6.0**, a number of general parameters and criteria for site-specific review of future development and improvements have been established. In particular, for any site that has cultural significance, special attention to impacts upon such cultural resource should be provided during the site plan approval process. Further, all projects that have the potential to impact upon cultural resources should be in conformance with Chapter 137 of the Code of the Town of Babylon, Preservation of Historic Areas.

[2] http://pwa.parks.ny.gov/nr/; Accessed September 19, 2014.

4.0 Other SEQRA Chapters

4

Other SEQRA Chapters

This sub-section considers those significant adverse impacts of the Proposed Action that cannot be avoided. It also identifies any potential that the Proposed Action may have for triggering further development outside of the Study Area. This sub-section also evaluates the effects and aspects of the Proposed Action pertaining to the use and conservation of energy resources. Finally, this sub-section identifies and evaluates the extent to which the Proposed Action may cause a loss of environmental resources, both in the immediate future and in the long-term.

4.1 Significant Adverse Impacts that Cannot Be Avoided

The adoption of the proposed zoning amendments would be a regulatory action and would not result in any physical changes to the Study Area. Therefore, there would be no significant adverse impacts that cannot be avoided. However, implementation of the Proposed Action is expected to result in redevelopment and revitalization of the Study Area, which is one of the objectives of the Proposed Action.

The potential environmental impacts associated from possible redevelopment (based on the Build Out Scenario) were described in **Chapters 3.1-3.10** of this DGEIS. Some of these would be temporary or short-term impacts associated with construction, while others would be long-term impacts. All potential significant adverse impacts of the implementation of the Proposed Action would be mitigated to the maximum extent practicable, consistent with the requirements of SEQRA. Those potential environmental impacts that cannot be either entirely avoided or fully mitigated are described below. Not that although some of the impacts listed below are unavoidable, they are not necessarily significant.

<u>Short-Term Impacts</u>

Development of the Study Area, in accordance with the implementation of the Proposed Action, could result in construction-related impacts that could not be completely mitigated:

- The visual quality of the area of development may be temporarily diminished by the presence and operation of construction equipment in downtown Copiague.
- Soils could be disturbed by grading, excavation, and mounding activities during construction and ultimate development.
- Despite planned measures to mitigate dust impacts during construction, temporary increases in the potential for fugitive dust could still occur, especially during dry periods. In addition, exhaust and emissions from construction equipment could occur. Such conditions would be temporary and controlled as well as possible at the source.

- Temporary increases in truck traffic and noise could occur during the construction period of each property. Activity would be conducted in conformance with Town requirements for construction hours and noise management.

Long-Term Impacts

Several long-term impacts (and benefits) associated with the implementation of the Proposed Action, as analyzed based upon the Build Out Scenario, have been identified. While mitigation measures have been proposed to reduce or eliminate most of these long-term impacts, there are long-term impacts that may not be fully mitigated, as described below:

- Development and redevelopment activities could change the amount of impervious surfaces. Stormwater management would be implemented as required by Chapter _ of the Town Code.
- There could be increased total water consumption associated with new development. However, the _ has indicated its ability to serve any additional development.
- There could be increased total wastewater generation associated with the new development. However, the existing infrastructure is expected to collect any additional wastewater flow.
- There could be increased demands on the energy services of PSEG-LI and National Grid, which may entail expansions of these service networks.
- There could be increases in vehicle trips generated on area roadways, with consequent impacts on the LOS at these intersections (though mitigation would be required at these locations). Traffic mitigation would be a parameter for establishment of thresholds and conditions in the Statement of Findings.
- There could be an increased potential need for school, emergency services (e.g., police, fire, and associated ambulance services), and community services (e.g., library, parks and recreation), though the increased taxes generated would offset the costs of these services. Service providers would provide input through the site-specific site plan and SEQRA processes.
- There could be additional solid waste generated in the Study Area. However, such additional solid waste is not anticipated to adversely impact solid waste management or plans.
- Based upon the increase in traffic from new employees, visitors, residents, deliveries, etc., there could be an increase in air emissions.
- There could be an increase in the amount of energy used in the Study Area. However, the local energy providers have indicated that there is sufficient capacity to handle such energy demand increase.

This DGEIS evaluates the Proposed Action and its alternatives at a generic level. The DGEIS did not, nor could it, evaluate potential site-specific impacts that may result from development of parcels based on the proposed zoning amendments. As such, future site-specific environmental impact assessments of development proposals may identify unavoidable adverse impacts; but those impacts would be more a function of the site-specific conditions or the development program and not a function of the Proposed Action.

4.2 Growth Inducing, Cumulative, and Secondary Impacts

SEQRA requires that the induced, cumulative, and secondary environmental impacts of an action be evaluated along with the specific impacts of that action. Communities are often concerned, not only with the impacts of individual projects, but the overall impact of all development projects taken together. Growth-inducing impacts refer to the potential for a Proposed Action to cause or promote further development, either due directly to the development itself (i.e., direct or primary development),

indirectly, as a result of a change in the population, markets or potential for development in that community (i.e., indirect or secondary development), or induced. In addition to impacts associated with a proposed action, cumulative impacts to area resources may occur as a result of existing, proposed, or future projects and activities. Cumulative impacts refer to the combined effects of a number of development proposals in an area, where the impacts of all such proposals are multiplied relative to those of each individual proposal, if considered separately.

By design, the implementation of the Proposed Action is anticipated to result in growth within the Study Area, which is an objective of the Town and community, as envisioned in the *Vision Plan*. Potential growth-inducing, cumulative, or secondary impacts of the Proposed Action would result both from projects directly facilitated by the DC Zoning District and from growth in the downtown area that is indirectly stimulated by those projects. This induced growth is represented by development that would occur in response to the specific projects being implemented, not only growth of physical development, but population, jobs, and the economy as well. Although the proposed zoning amendments encourage growth within the downtown area, it is not anticipated that its policies or recommendations would set precedent or encourage additional growth outside of the downtown area or within the Town as a whole.

As noted in **Section 3.7.2.2**, construction of the various uses could create short-term job opportunities. These jobs could be filled first from within the local labor pool. These job opportunities would not require relocation of specialized labor forces or influx of large businesses from outside the area to provide construction support. As a result, construction job-related effects of the Proposed Action are expected to be beneficial, but temporary in duration. Similarly, implementation of the Proposed Action, as envisioned by the Build Out Scenario, could be estimated to generate approximately 650 new permanent jobs. These permanent jobs could create spin-off development in the general area and the future businesses that locate in the Study Area could also spur associated businesses, which would be an economic benefit on a local and regional scale.

Any direct, indirect, and induced growth on infrastructure and utilities, community facilities and services (including schools), and other resources were anticipated as part of the design of the DC Zoning District and are studied in this DSGEIS in **Sections 3.1-3.10** as part of the evaluation of the Build Out Scenario.

4.3 Effects on the Use and Conservation of Energy

The Proposed Action would not, itself, consume any energy nor would it have a direct impact on the energy supply system. However, development made possible by implementation of the Proposed Action could lead to increased energy usage above existing conditions.

Energy Consumption

New construction in the Study Area would result in the consumption of gasoline, oil, and electricity used in the operation and maintenance of construction equipment. Upon completion of construction, operation of the new development would result in use of fuel (electricity, natural gas, and other fuels) for heating, lighting, air conditioning, and other operational utilizations. It is anticipated that any new development would connect to the power grid, as opposed to generating power on-site.

Energy Efficiency and Conservation

Since no land development activities are being authorized by the Proposed Action, it is not possible to discuss direct methods of energy efficiency and conservation. However, the proposed DC Zoning District

includes green building and site planning techniques. In general, the buildings associated with the implementation of the Proposed Action would be constructed in conformance with New York State and Town Code requirement and standards, which would minimize energy use. It is expected that any development under the proposed DC Zoning District would utilize up-to-date, energy-efficient building materials (e.g., insulation, windows, weather stripping, door seals, etc.) and mechanical systems (e.g., air conditioners, heating systems, HVAC systems, water heaters, heat pumps, etc.), which would minimize the amount of energy resources required.

Incorporation of such measures is not only required by New York State, but is a sensible building practice, particularly in light of the increasing cost of energy resources. Water-saving plumbing fixtures could be specified, in accordance with current building requirements and practice of the trade. Installation of low-flow toilets, showers, sinks and equipment would reduce unnecessary water loss, which would translate into conservation of the energy resources required to heat some of this water.

It is expected that future site-specific development undertaken in conformance with the Proposed Action would incorporate substantial energy-saving features, which could include building materials, site and project layout and design characteristics, mechanical systems, and use procedures. However, as there are no applications in a preliminary design stage (and this DGEIS represents a generic impact evaluation), a roster of these features is not presently available. It is expected that final decisions whether to seek certification would be made for each specific site plan application.

4.4 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable commitment of resources refers to both the natural and human resources that would be expended in the construction and operation of a proposed project. This sub-section is intended to identify those natural and human resources discussed in **Sections 3.1-3.10** that would be consumed, converted, or made unavailable for future use as a result of the Proposed Action.

Natural Resources

The Proposed Action would not directly result in the irreversible and irretrievable commitment of resources. To the extent that specific development or redevelopment are encouraged by and/or connected to the proposed zoning amendments, certain resources relating to building and development would be committed. These resources include, but are not limited to: concrete, steel, asphalt, lumber, paint, water, and topsoil. Furthermore, the operation of construction equipment would involve the consumption of electricity, water resources, and fossil fuels, while completed developments would require electricity, natural gas, and water.

Human Resources

Human resources, in the terms of person-hours, would be irreversibly committed upon the commencement of construction activities for implementation of the Proposed Action. The construction phases of proposed projects would require a commitment of labor. The hours needed for construction would be limited and short-term in nature, as construction is anticipated to last for approximately 10 years. The need for construction workers, however, can be viewed as a beneficial impact to the local construction industry. Other labor-related commitments would include any additional services to be rendered by the police and fire departments, as well as other municipal employees involved in service-oriented fields. However, these would be offset by increased tax revenues.

Despite these commitments of resource, it is noted that the proposed zoning amendments includes provisions related to green building and site planning techniques. Further, the DC Zoning District has been designed to support sustainable planning by encouraging the highest development potential near an existing transit center, thereby minimizing the commitment of both natural and human resources to the extent possible. In addition, the commitment of such resources would be offset by the local and regional economic benefits of the implementation of the Proposed Action, including increased tax revenues and permanent jobs.

5.0 Alternatives to the Proposed Action

5

Alternatives to the Proposed Action

Although this DGEIS focuses its analysis of the impacts and mitigation measures for the proposed zoning amendments, SEQRA and its implementing regulations at 6 NYCRR Part 617.9(b)(5)(iii)(v) require the consideration and evaluation of a range of reasonable alternatives to a proposed action that are feasible, considering the objectives and capabilities of the project sponsor. Given that the Proposed Action is a zoning proposal, the only alternative that is reasonable to evaluate is the No Action Alternative.

5.1 No Action Alternative

A "No Action" Alternative is required by SEQRA to be evaluated in relation to a proposed action. The No Action Alternative assumes that the Proposed Action is not undertaken, that the proposed zoning amendments are not adopted, and that the zoning of the Study Area remains unchanged. There would be no overarching plan that controls aesthetics, develops a cohesive land use pattern, permits a mix of residential and commercial uses, or provides incentives for quality growth. With this alternative, there would be no physical changes in the Study Area: no impacts to natural resources; and no construction activities. In addition, no additional square footage of residential, retail, or other space would result. There would be no additional generation of traffic or additional population; there would be no visual impact; there would be no effects on community facilities or services; etc. However, while this alternative would eliminate any potential adverse impacts of the Proposed Action, it would not yield any beneficial effects expected to result from the construction of the development, such as increased tax ratables for the Town and School District; increased residential, retail, and commercial opportunities for the Town; and increased employment opportunities in the Town, both short- and long-term. To that end, the Town's and community's goals and objectives, as envisioned in the Vision Plan, would not be achieved.

6.0 Future Actions

6

Conditions and Criteria Under Which Future Actions Will be Undertaken or Approved

This DGEIS is the generic assessment of environmental impacts likely to result from the adoption and implementation of the proposed DC Zoning District. While this DGEIS should be utilized as a reference for future environmental studies, it should not be presumed that it will be sufficient to assess all site-specific impacts.

1 Title 6, New York Code of Rules and Regulations ("6 NYCRR") Part 617.10(c) and (d) state, in pertinent part:

> *"(c) Generic EISs and their findings should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance. This may include thresholds and criteria for supplemental EISs to reflect specific significant impacts, such as site specific impacts, that were not adequately addressed or analyzed in the generic EIS."*
>
> *(d) When a final generic EIS has been filed under this part:*
> *(1) No further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement;*
> *(2) An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the generic EIS but was not addressed or was not adequately addressed in the findings statement for the generic EIS;*
> *(3) A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action will not result in any significant environmental impacts;*
> *(4) A supplement to the final generic EIS must be prepared if the subsequent proposed 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."*

In accordance with 6 NYCRR Part 617.10, this DGEIS sets forth specific conditions under which future actions will be undertaken or approved by the Town in downtown Copiague, including requirements for the assessment of site-specific impacts that could not have been fully addressed or analyzed in this DGEIS.

Based on the results of the generic impact analyses prepared in this DGEIS, the following actions may be required for any future site-specific development project in the Study Area:

Land Use, Zoning, and Public Policy

- **Zoning Incentives:** Any application seeking zoning incentives in return for the provision of additional community benefits would have to follow the zoning incentive provisions provided in § 213-549 of the proposed DC Zoning District and would be required to follow the criteria and procedure for approval, including the preparation of Full Environmental Assessment Form ("FEAF"), Part 1.

Community Character and Visual Resources

- **Design Review:** Any site-specific application would involve design review, as provided in § 213-540 of the proposed DC Zoning District and would be required to follow the criteria and procedure for approval.
- **Lighting:** Any site-specific proposal would have to demonstrate conformance with the Town's and DC Zoning District's regulations regarding exterior lighting.
- **Buffering/Screening:** Any site-specific proposal would have to demonstrate that low-maintenance vegetation is being incorporated into landscape design.

Natural Resources

- **Water Resources:** Any site-specific projects would be required to comply with the regulations and restrictions outlined in the Suffolk County Sanitary Code.

Infrastructure and Utilities

- **Stormwater Management:** New development projects would be required to prepare drainage plans in accordance with Town and, if applicable, County requirements. A stormwater pollution prevention plan ("SWPPP") would have to be prepared pursuant to the requirements of Chapter 189 of the Code of the Town of Babylon and drainage systems would need to be designed to provide water quality and quantity requirements pursuant to the 2010 New York State *Stormwater Management Design Manual*. Such SWPPP would include specific details regarding erosion and sedimentation control.
- **Water Supply:** Any site-specific proposal would have to demonstrate that water conservation measures, which could include low-flow fixtures, low-flow toilets, and/or drip irrigation, would be implemented.
- **Solid Waste Management:** Any site-specific proposal would need to ensure that solid waste management is incorporated into the plan and program, given the limited space within the downtown area.

Community Facilities and Services

- **Public Service Facilities Assessment:** The Police Department would have the opportunity to provide input on site-specific plans, thereby requiring any site-specific mitigation measures necessary. Similarly, the Fire Department would have the opportunity to review future proposed site plans to ensure that their needs, including provisions for emergency access, hydrant locations, sprinkler systems, fire alarms, and smoke and carbon monoxide detection, are properly addressed.

Transportation and Parking

- **Traffic Mitigation:** A number of intersections required some form of mitigation, as identified in the TIS. Mitigation should be implemented in conformance with these recommendations.

- **Supplemental Traffic Analyses:** At the time of site plan application, trip generation and trip distribution assumptions should be submitted for review and comparison against the assumptions in the TIS. This information would serve as a basis to determine if additional traffic analysis is warranted for individual development projects. Adequacy of site access, parking, and pedestrian safety would also be reviewed as a part of the individual site plan review process.
- **Construction Traffic Management and Logistics Plan:** Any site-specific proposal would have to indicate how traffic will be managed and the logistics of construction vehicles in the Study Area.

Socioeconomics

- **Tax Relief Documentation:** For any site-specific proposal that seeks property or other tax relief, sufficient documentation should be provided to the Town in its evaluation of the site-specific proposal under site plan review.

Hazardous Materials

- **Hazardous Materials Management:** Phase I Environmental Site Assessments ("ESAs") are typical for any pre-purchase or bank lending situation. An ESA would identify the need for testing to determine if Recognized Environmental Conditions ("RECs") are present, which would require further testing, remediation, abatement, regulatory oversight, or other appropriate action. Any redevelopment or property transfer would be subject to the necessary regulatory steps and agency oversight to properly investigate, and remediate if necessary, RECs warranting such action.
- **Proposed Hazardous Materials:** If any petroleum products, chemicals, hazardous materials, or the like are proposed to be handled or stored, approval would have to be submitted from the appropriate regulatory agency (e.g., SCDHS, NYSDEC).

Cultural Resources

- **Cultural Resource Assessment:** The Town Office of Historic Services should be contacted to determine if any cultural resources would be impacted by a site-specific plan. If any cultural resources are identified, additional analysis could be required or revisions to the application could be deemed necessary to mitigate such impacts.

Air Quality and Noise

- **Supplemental Air Quality Impact Analysis:** If an action within the Study Area is proposed that may have a greater potential impact on air resources than identified in this DGEIS, a supplemental air impact evaluation could be appropriate.
- **Construction Air Quality:** Any site-specific proposal would have to submit confirmation that dust would be controlled during construction, that there would be emission controls for construction vehicles, and that construction vehicles and equipment would be properly maintained to minimize air emissions during construction.
- **Site-Specific Noise Assessments:** As development is proposed, it is recommended that projects provide a noise assessment to determine potential impact with respect to a site/use specific project and an appropriate level of attenuation. Projects that incorporate residential uses should provide a "Sound Level Report", per § 156-13 of the Town Code.
- **Rooftop Equipment:** If rooftop (or outdoor) mechanical equipment is proposed, in order to mitigate potential noise impacts, appropriate mitigation measures should be provided (e.g., screening, setbacks) to ensure that the sound levels from such equipment would not exceed the Town's noise impact criteria.

SEQRA

All applications for new development projects in the Study Area would continue to be required to adhere to SEQRA procedures and requirements. This means that all such future development projects would be subject to individual approval processes, including site plan review and site-specific impact review or consistency review with the Findings Statement, under SEQRA. In order to best evaluate site-specific impacts, a FEAF should be prepared for each development proposal, supplemented with the technical studies noted above. Adherence to this procedure would ensure that all future development in the Study Area complies with SEQRA, and conforms to established land use controls, minimizes potential adverse environmental impacts, and provides consistency with established Town policy and community goals as outlined in the *Vision Plan*.

DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT (DGEIS)
Volume 2: Appendices

PROPOSED DOWNTOWN COPIAGUE (DC) ZONING DISTRICT

TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK

LEAD AGENCY
Town of Babylon Town Board

FOR INFORMATION CONTACT
Hon. Rich Schaffer, Town Supervisor
200 East Sunrise Highway
Lindenhurst, NY 11757

JANUARY 2015

Appendix A, SEQRA Documentation

RESOLUTION NO. 89 JANUARY 27, 2015
TOWN BOARD ENVIRONMENTAL DETERMINATION
AUTHORIZING THE TOWN OF BABYLON TOWN BOARD TO ACT AS LEAD AGENCY FOR THE PROPOSED DOWNTOWN COPIAGUE (DC) ZONING DISTRICT (THE "PROPOSED ACTION") UNDER THE STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQRA) AND TOWN OF BABYLON ENVIRONMENTAL QUALITY REVIEW ACT (TOBEQRA); DETERMINING THE CLASSIFICATION OF THE PROPOSED ACTION AS A TYPE I ACTION; ADOPTING A POSITIVE DECLARATION; ISSUING A NOTICE OF DETERMINATION OF SIGNIFICANCE

The following resolution was offered by Councilman Martinez
and seconded by Councilwoman Gordon

WHEREAS, the Town of Babylon is committed to the economic revitalization of the hamlet of Copiague; and

WHEREAS, in 2009 the Town of Babylon and its consultants worked with the Copiague community to develop the *Copiague Vision Plan* – a well planned vision for the future that incorporated community input regarding the redevelopment of certain properties in the downtown, the creation of open space, and the proper treatment of community assets; and

WHEREAS, one of the recommendations of the *Copiague Vision Plan* is to develop a new zoning district for downtown Copiague; and

WHEREAS, under § 213-36 of the Code of the Town of Babylon, the Town Board of the Town of Babylon may consider a change of use district classification; and

WHEREAS, the Town Board of the Town of Babylon directed the Office of Downtown Revitalization to prepare a new zoning district for downtown Copiague in consultation with the Planning Department and Town Attorney's Office; and

WHEREAS, that the Town Board of the Town of Babylon is considering amending Chapter 213 of the Code of the Town of Babylon to include a new zoning district for downtown Copiague, entitled the Downtown Copiague (DC) Zoning District (the "Proposed Action"), as well as rezone certain parcels into such district; and

WHEREAS, the Town Board of the Town of Babylon is the only agency empowered to amend the Code of the Town of Babylon, and as such this action by the Town Board is a direct agency action establishing it as the Lead Agency for the purpose of complying with the New York State Environmental Quality Review Act (SEQRA), Part 617 of the implementing regulations (6 NYCRR 617), and Town of Babylon Environmental Quality Review Act (TOBEQRA); and

WHEREAS, the Proposed Action constitutes a Type I Action in accordance with Chapter 114-11.B(1) of TOBEQRA and Section 617.4(b)(2) of SEQRA; and

WHEREAS, the Town Board of the Town of Babylon as Lead Agency for the Proposed Action has reviewed the project in accordance with Chapter 114-10.A of TOBEQRA Criteria for Determining Significance and Section 617.7(a)(1), (b) and (c) of SEQRA Determining Significance and has determined the following:

1. The Proposed Action includes a significant geographic area of the Hamlet of Copiague. Although the Proposed Action's goals are all positive outcomes, careful environmental impact analysis is warranted to assure that potential adverse environmental impacts are minimized to the greatest extent practicable.
2. Relevant areas of environmental concern that need to be examined through the Generic

Environmental Impact Statement (GEIS) process are potential traffic, land use and zoning, socioeconomics, natural resources, and infrastructure and utilities; and

WHEREAS, based on these considerations, the Town Board of the Town of Babylon has determined that the Proposed Action has the potential to have a significant adverse impact on the environment and that the preparation of a Draft Generic Environmental Impact Statement (DGEIS) will be undertaken in accordance with Section 617.10 SEQRA and Chapter 114-14, TOBEQRA Generic Environmental Impact Statements.

NOW, THEREFORE, be it

RESOLVED, that the Town Board of the Town of Babylon hereby adopts a Positive Declaration to require the preparation of GEIS for the Proposed Action in accordance with SEQRA; and be it further;

RESOLVED, that the Town Board of the Town of Babylon hereby directs the Department of Environmental Control to publish and circulate a Notice of Determination of Significance in accordance with SEQRA for the Proposed Action; and be it further

RESOLVED, that the Town Board of the Town of Babylon hereby directs the Office of Downtown Revitalization to prepare a Draft GEIS (DGEIS).

VOTES: 5 YEAS: 5 NAYS: 0

The resolution was thereupon declared duly adopted.

RESOLUTION NO. 90 JANUARY 27, 2015
TOWN BOARD ENVIRONMENTAL DETERMINATION DEEMING OF DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT (DGEIS) FOR THE DOWNTOWN COPIAGUE (DC) ZONING DISTRICT AS COMPLETE AND ISSUANCE OF NOTICE OF COMPLETION

The following resolution was offered by Councilwoman Gordon

and seconded by Councilman Martinez

WHEREAS, that the Town Board of the Town of Babylon is considering amending Chapter 213 of the Code of the Town of Babylon to include a new zoning district for downtown Copiague, entitled the Downtown Copiague (DC) Zoning District (the "Proposed Action"), as well as rezone certain parcels into such district; and

WHEREAS, the Town Board of the Town of Babylon, through the Office of Downtown Revitalization, has prepared a DGEIS for the Proposed Action; and

WHEREAS, the Town Board of the Town of Babylon as Lead Agency has reviewed the DGEIS in accordance with Chapters 114-13 Town of Babylon Environmental Quality Review Act (TOBEQRA) Preparation and Content of Environmental Impact Statements and Chapter 114-14 TOBEQRA Generic Environmental Impact Statements and Section 617.9 State Environmental Quality Review (SEQR) Preparation and Content of Environmental Impact Statements and Section 617.10 SEQR Generic Environmental Impact Statements and deemed that the document is complete with respect to its scope, adequacy and content for the purpose of public review.

NOW, THEREFORE, be it

RESOLVED, that the Town Board of the Town of Babylon hereby deems the DGEIS for the Proposed Action complete for the purpose of public review; and be it further

RESOLVED, the Town Board of the Town of Babylon hereby directs the Department of Environmental Control to issue and publish a Notice of Completion of DGEIS for the Proposed Action in accordance with SEQRA; and be it further

RESOLVED, by the Town Board of the Town of Babylon, that the DGEIS and proposed zoning shall be available for public review and that the public comment period shall be opened.

VOTES: 5 YEAS: 5 NAYS: 0
The resolution was thereupon declared duly adopted.

RESOLUTION NO. 91 JANUARY 27, 2015
TOWN BOARD ENVIRONMENTAL DETERMINATION SCHEDULING A PUBLIC HEARING ON THE DGEIS FOR THE DOWNTOWN COPIAGUE (DC) ZONING DISTRICT; OPENING THE COMMENT PERIOD; REFERRING THE DGEIS TO THE TOWN OF BABYLON PLANNING BOARD AND ARCHITECTURAL REVIEW BOARD FOR REVIEW AND COMMENT; AND REFERRING THE DGEIS TO THE SUFFOLK COUNTY PLANNING COMMISSION UNDER NYS GML 239 AND THE SUFFOLK COUNTY ADMINISTRATIVE CODE ARTICLE XIV

The following resolution was offered by Councilman Martinez

and seconded by Councilwoman Gordon

WHEREAS, that the Town Board of the Town of Babylon is considering amending Chapter 213 of the Code of the Town of Babylon to include a new zoning district for downtown Copiague, entitled the Downtown Copiague (DC) Zoning District (the "Proposed Action"), as well as rezone certain parcels into such district.

NOW, THEREFORE, be it

RESOLVED, by the Town Board of the Town of Babylon, that a Public Hearing be held at Babylon Town Hall, 200 East Sunrise Highway, Lindenhurst, New York, on the 11th day of February, 2015 at 3:30 p.m., prevailing time, to consider the DGEIS for the Proposed Action and the proposed DC Zoning District, as set forth in Exhibit "A" which is on file at the Town Clerk's Office; and be it further

RESOLVED, that the Town Clerk of the Town of Babylon is directed to publish notice of this public hearing in one of the official newspapers of the Town; and be it further

RESOLVED, that pursuant to § 213-28(B), the Town Board of the Town of Babylon refers the DGEIS and proposed zoning to the Town of Babylon Planning Board and Architectural Review Board for review and recommendation; and be it further

RESOLVED, that the Town Clerk of the Town of Babylon is directed to file a copy of this Resolution together with all supporting documents with the Suffolk County Planning Commission for its review pursuant to §239-m of the New York State General Municipal Law (NYS GML).

VOTES: 5 YEAS: 5 NAYS: 0
The resolution was thereupon declared duly adopted.

TOBEQR

TOWN OF BABYLON
ENVIRONMENTAL QUALITY REVIEW
POSITIVE DECLARATION
NOTICE OF INTENT TO PREPARE A DRAFT EIS
DETERMINATION OF SIGNIFICANCE

Date: January 27, 2015

This notice is issued pursuant to Chapter 114 (Town of Babylon Environmental Quality Review Act) of the Unified code of Ordinances and Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Town Board of the Town of Babylon, as lead agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement will be prepared.

Name of Action: Proposed Downtown Copiague (DC) Zoning District

SEQR Status: Type I X
Unlisted ____

Location of Proposed Action:
The area subject to the proposed DC Zoning District would encompass the area within walking distance of the Copiague Long Island Rail Road (LIRR) station and is approximately 35 acres in size. The Study Area is located in the north-central portion of Copiague and generally is comprised of those properties fronting along Great Neck Road from Campagnoli Avenue to Hollywood Avenue/East Gate, along the south side of Marconi Boulevard from Molloy Street to Verrazano Avenue, and along Railroad Avenue from Pine Street to approximately adjacent to Verrazano Avenue.

Description of Proposed Action:
The Proposed Action consists of the following components:
(1) Amending the Code of the Town of Babylon to include a Downtown Copiague (DC) Zoning District and other associated changes; and
(2) Revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague.

The Proposed Action in and of itself is not a development project. Rather, it is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create the DC Zoning District.

Reasons Supporting This Determination:

That being said, implementation of the Proposed Action would result in new development that is not currently permitted under the existing zoning in the Study Area. Since it is not possible to determine exactly the changes that would occur with the implementation of the Proposed Action, or even the multitude of scenarios that could occur, in order to ensure a comprehensive evaluation of the Proposed Action in accordance with SEQRA, the DGEIS includes assessment of a build out of downtown Copiague (the "Build Out Scenario"), which relates to a reasonable anticipated development that could occur in downtown Copiague in the immediate-and near-term (up to 10 years).

The Build Out Scenario projects the following:

- 420 residential units overall, consisting of:
  - 369 apartments
  - 20 townhomes
  - 12 single-family homes
  - 16 two-family homes
  - 3 three-family homes
- 245,064 square feet (sf) of retail
- 43,500 sf of restaurant
- 88,095 sf of office
- 28,196 sf of park and open space
- 55,186 sf of institutional and civic space
- 1,567 parking spaces

Potential Environmental Impacts of the Proposed Action, ~~as Presented in the DGEIS~~:
Implementation of the Proposed Action would alter land uses in the Study Area and would increase the intensity of use thereon. 6 NYCRR §617.4(c)(1)(viii).

Implementation of the Proposed Action would result in increases in traffic and associated impacts on the transportation system within the Study Area. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would result in an increase in the sanitary flow handled by the Southwest Sewer District. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would result in an increase in the demand for public water supply served by the Suffolk County Water Authority. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would provide a mix of approximately 420 residential units, 245,000 sf of retail space, 43,500 sf of restaurant, 88,000 sf of office space, 28,000 sf of park and open space, and 55,000 sf of institutional and civic space, which would place additional demands on community services and would alter the socioeconomic characteristics of the Copiague community and the Town of Babylon. 6 NYCRR and §617.4(c)(1)(viii).

Implementation of the Proposed Action would result in an increase in solid waste generation. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would impact architectural and aesthetic resources in the Study Area. 6 NYCRR §617.7(c)(1)(v).

Implementation of the Proposed Action would involve an increase in the quantity of energy consumed. 6 NYCRR §617.7(c)(1)(vi).

Implementation of the Proposed Action would involve a change in the intensity of use of land. 6 NYCRR §617.7(c)(1)(viii).

Implementation of the Proposed Action would attract people to the Study Area, as compared to what would be expected in the absence of this Action. 6 NYCRR §617.7(c)(1)(ix).

Since implementation of the Proposed Action is to occur in phases, specific conditions, criteria and requirements have been established under which future actions, including site plan approvals for each site-specific action, would be undertaken. 6 NYCRR §617.10(c).

cc: Rich Schaffer, Supervisor
Antonio Martinez, Deputy Supervisor
Thomas Donnelly, Councilman
Jacqueline Gordon, Councilwoman
Lindsey Henry, Councilman
Ann Marie Jones, Commissioner, Planning and Development
Jonathan Keyes, Director, Downtown Revitalization
Eric Zamft, AICP, Downtown Revitalization
Joseph Wilson, Town Attorney
Victoria A. Russell, Commissioner, Environmental Control
Rich Groh, Chief Environmental Analyst
Brian Zitani, Waterways Management Supervisor
David L. Calone, Chairman, Suffolk County Planning Commission
Andrew P. Freleng, AICP, Chief Planner, Suffolk County Planning Commission
Sarah Lansdale, AICP, Suffolk County Dept. of Economic Development & Planning
John Donovan, Chief Engineer, P.E. Suffolk County Dept. of Public Works
Michael Kane, Chairman, Town of Babylon Zoning Board of Appeals
Glenn Murrell, NYS Dept. of Transportation
Daniel J. Dresch, Director of Traffic Safety, Suffolk County Dept. of Public Works
Gilbert Anderson, Commissioner, Suffolk County Dept. of Public Works
William Hillman, Chief Engineer, P.E., Suffolk County Dept. of Public Works
Lev Brickman, Chairperson, Town of Babylon Planning Board
Ruth L. Pierpont, Director, NYS Office of Parks, Recreation & Historic Preservation
James Gaughran, Chief Executive Officer, Suffolk County Water Authority
Kimberly Kennedy, Assistant to General Counsel, Suffolk County Water Authority
Walter Hilbert, P.E., Chief Principal Public Health Engineer, SC Dept. of Health Services
Peter Scully, Regional Director, NYS Dept. of Environmental Conservation
Charles A. Leunig, Superintendent of Copiague Schools
Elisa Pica, Chief Planning Officer, Long Island Rail Road

Daniel Campion, Chief, Copiague Fire Department
James P. Wandell, Mayor, Village of Amityville
Thomas A. Brennan, Mayor, Village of Lindenhurst
~~Kenneth S. Miller, Director, Copiague Memorial Library~~
Sharon Fattoruso, President, Copiague Chamber of Commerce
Environmental Notice Bulletin

State Environmental Quality Review

Notice of Completion of Draft Generic Environmental Impact Statement

And

Notice of SEQR Hearing

Lead Agency: Town Board of the Town of Babylon **Project Number:** _____

Address: 200 East Sunrise Highway
Lindenhurst, NY 11757
(631) 957-3000

Date: January 27, 2015

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

A Draft Generic Environmental Impact Statement (DGEIS) has been completed and accepted for the proposed action described below. Comments are requested and will be accepted by the contact person until February 27, 2015. A public hearing on the DGEIS will be held on February 11, 2015 at 3:30 pm at the Town Board Room, Town of Babylon Town Hall, 200 E. Sunrise Highway, Lindenhurst, NY 11757.

Name of Action: Proposed Downtown Copiague (DC) Zoning District.

SEQR Status: Type I

Location of Proposed Action:
The area subject to the proposed DC Zoning District would encompass the area within walking distance of the Copiague Long Island Rail Road (LIRR) station and is approximately 35 acres in size. The Study Area is located in the north-central portion of Copiague and generally is comprised of those properties fronting along Great Neck Road from Campagnoli Avenue to Hollywood Avenue/East Gate, along the south side of Marconi Boulevard from Molloy Street to Verrazano Avenue, and along Railroad Avenue from Pine Street to approximately adjacent to Verrazano Avenue.

Description of Proposed Action:
The Proposed Action consists of the following components:
(1) Amending the Code of the Town of Babylon to include a Downtown Copiague (DC) Zoning District and other associated changes; and
(2) Revising the Building Zone Map of the Town of Babylon, Suffolk County, New York to map the DC Zoning District for particular properties within downtown Copiague.

The Proposed Action in and of itself is not a development project. Rather, it is the adoption of amendments to the Code of the Town of Babylon and the Building Zone Map of the Town of Babylon, Suffolk County, New York to create the DC Zoning District.

That being said, implementation of the Proposed Action would result in new development that is not currently permitted under the existing zoning in the Study Area. Since it is not possible to determine exactly the changes that would occur with the implementation of the Proposed Action, or even the multitude of scenarios that could occur, in order to ensure a comprehensive evaluation of the Proposed Action in accordance with SEQRA, the DGEIS includes assessment of a build out of downtown Copiague (the "Build Out Scenario"), which relates to a reasonable anticipated development that could occur in downtown Copiague in the immediate-and near-term (up to 10 years).

The Build Out Scenario projects the following:

- 420 residential units overall, consisting of:
  - 369 apartments
  - 20 townhomes
  - 12 single-family homes
  - 16 two-family homes
  - 3 three-family homes
- 245,064 square feet (sf) of retail
- 43,500 sf of restaurant
- 88,095 sf of office
- 28,196 sf of park and open space
- 55,186 sf of institutional and civic space
- 1,567 parking spaces

Potential Environmental Impacts of the Proposed Action, as Presented in the DGEIS:
Implementation of the Proposed Action would alter land uses in the Study Area and would increase the intensity of use thereon. 6 NYCRR §617.4(c)(1)(viii).

Implementation of the Proposed Action would result in increases in traffic and associated impacts on the transportation system within the Study Area. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would result in an increase in the sanitary flow handled by the Southwest Sewer District. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would result in an increase in the demand for public water supply served by the Suffolk County Water Authority. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would provide a mix of approximately 420 residential units, 245,000 sf of retail space, 43,500 sf of restaurant, 88,000 sf of office space, 28,000 sf of park and open space, and 55,000 sf of institutional and civic space, which would place additional demands on community services and would alter the socioeconomic characteristics of the

Implementation of the Proposed Action would result in an increase in solid waste generation. 6 NYCRR §617.7(c)(1)(i).

Implementation of the Proposed Action would impact architectural and aesthetic resources in the Study Area. 6 NYCRR §617.7(c)(1)(v).

Implementation of the Proposed Action would involve an increase in the quantity of energy consumed. 6 NYCRR §617.7(c)(1)(vi).

Implementation of the Proposed Action would involve a change in the intensity of use of land. 6 NYCRR §617.7(c)(1)(viii).

Implementation of the Proposed Action would attract people to the Study Area, as compared to what would be expected in the absence of this Action. 6 NYCRR §617.7(c)(1)(ix).

Since implementation of the Proposed Action is to occur in phases, specific conditions, criteria and requirements have been established under which future actions, including site plan approvals for each site-specific action, would be undertaken. 6 NYCRR §617.10(c).

A copy of the DGEIS may be obtained from:
Contact Person: Ann Marie Jones, Commissioner
Address: Town of Babylon Department of Planning and Development;
200 East Sunrise Highway, Lindenhurst, NY 11757
Telephone #: (631) 957-7414
Email Address: ajones@townofbabylon.com

A copy of this Notice and the DGEIS have been sent to the distribution list in Attachment "A".

A copy of this Notice and the DGEIS have also been sent to and are available for public review at the Town of Babylon Town Clerk's Office, 200 East Sunise Highway, Lindenhurst, NY; telephone: (631) 957-4292.

A copy of this Notice and the DGEIS have also been sent to and are available for public review at the Copiague Memorial Public Library, 50 Deauville Boulevard, Copiague, NY 11726-4100; telephone: (631) 691-1111.

This Notice has also been published in the Environmental Notice Bulletin.

The DGEIS is also available on the web at: http://www.townofbabylon.com

Attachment A
Downtown Copiague (DC) Zoning District DGEIS Distribution List

cc: Rich Schaffer, Supervisor
Antonio Martinez, Deputy Supervisor
Thomas Donnelly, Councilman
Jacqueline Gordon, Councilwoman
Lindsey Henry, Councilman
Ann Marie Jones, Commissioner, Planning and Development
Jonathan Keyes, Director, Downtown Revitalization
Eric Zamft, AICP, Downtown Revitalization
Joseph Wilson, Town Attorney
Victoria A. Russell, Commissioner, Environmental Control
Rich Groh, Chief Environmental Analyst
Brian Zitani, Waterways Management Supervisor
David L. Calone, Chairman, Suffolk County Planning Commission
Andrew P. Freleng, AICP, Chief Planner, Suffolk County Planning Commission
Sarah Lansdale, AICP, Suffolk County Dept. of Economic Development & Planning
John Donovan, Chief Engineer, P.E. Suffolk County Dept. of Public Works
Michael Kane, Chairman, Town of Babylon Zoning Board of Appeals
Glenn Murrell, NYS Dept. of Transportation
Daniel J. Dresch, Director of Traffic Safety, Suffolk County Dept. of Public Works
Gilbert Anderson, Commissioner, Suffolk County Dept. of Public Works
William Hillman, Chief Engineer, P.E., Suffolk County Dept. of Public Works
Lev Brickman, Chairperson, Town of Babylon Planning Board
Ruth L. Pierpont, Director, NYS Office of Parks, Recreation & Historic Preservation
James Gaughran, Chief Executive Officer, Suffolk County Water Authority
Kimberly Kennedy, Assistant to General Counsel, Suffolk County Water Authority
Walter Hilbert, P.E., Chief Principal Public Health Engineer, SC Dept. of Health Services
Peter Scully, Regional Director, NYS Dept. of Environmental Conservation
Charles A. Leunig, Superintendent of Copiague Schools
Elisa Pica, Chief Planning Officer, Long Island Rail Road
Daniel Campion, Chief, Copiague Fire Department
James P. Wandell, Mayor, Village of Amityville
Thomas A. Brennan, Mayor, Village of Lindenhurst
Kenneth S. Miller, Director, Copiague Memorial Library
Sharon Fattoruso, President, Copiague Chamber of Commerce
Environmental Notice Bulletin

Appendix B, Proposed DC Zoning District Zoning Text Amendments

TOWN OF BABYLON

Local Law _ of 2015 to Amend the Zoning Code of the Town of Babylon to Add:

Article XLIII
"Downtown Copiague (DC) Zoning District"

Section 1. § 213-1, Definitions and word usage, of Article I, General Provisions, of Chapter 213, Zoning, of the Code of the Town of Babylon is hereby amended to include the following definitions:

COMMUNITY BENEFITS or AMENITIES

Specific physical, social, or cultural amenities, as set forth in § 213-549, as authorized by the Town Board, which provide a benefit to the residents of the community.

COMMUNITY CENTER

A building and related facilities used for recreational, social, educational, and cultural activities, operated by a public or nonprofit group or agency.

FLOOR AREA RATIO or FAR

The total floor area, in square feet, of a building or buildings divided by the total area, in square feet, of the plot on which the building or buildings are situated.

GREEN ROOF

A building roof that is engineered to be covered with low-maintenance growing plants that: insulate in winter, cool the building in summer, reduce solar absorption, reduce precipitation run-off from roof surfaces, and improve interior Heating, Ventilating and Air Conditioning (HVAC) efficiency.

HEALTH CLUB

An establishment that provides facilities for physical exercise such as aerobics, running, jogging, weight lifting, game courts, swimming facilities and accessory saunas, showers, massage rooms and lockers, within an enclosed building or buildings.

INCENTIVE ZONING

The system by which specific incentives or bonuses are granted, pursuant to § 261-b of Town Law of the State of New York, on condition that specific physical, social, or cultural benefits or amenities are provided to the community.

INCENTIVES or BONUSES

Adjustments to the permissible density, height, or other requirements of the Zoning Code of the Town of Babylon in exchange for a specific community benefit or amenity that provides for a specific purpose authorized by the Town Board.

MIXED-USE

A development or building containing a mix of different types of land uses. In many cases, mixed-use refers to retail on the first story, with residential or office above.

OUTDOOR DINING

Any outdoor café, sidewalk café, eating area, or any food service accessory to an on-premise food and beverage consumption establishment.

OUTDOOR DISPLAY

Retail merchandise that is displayed during business hours outside of the building housing the business.

PERVIOUS PAVING

A hard surface with load bearing capacity engineered to allow for the passage of water through it. The surface may be comprised of paving blocks with open corners, lattices or edges or asphalt/concrete mixes without “fines”.

PLAZA

An open space paved and/or partially landscaped and accessible to the public at all times, which has an area of not less than 7,500 square feet with a minimum dimension of 50 feet and which is bounded on one side by a front lot line or which is connected to the street by a means of a pedestrian walkway.

SHARED PARKING

Where two or more uses merge parking needs in shared parking facilities based on different peak periods of demand.

SINGLE-USE

A development or building containing only one type of land use.

Section 2. § 213-387, Definitions, of Article XXXIII, Signs, of Chapter 213, Zoning, of the Code of the Town of Babylon is hereby amended to include the following definitions:

AWNING SIGN

A sign painted on, printed on, or attached flat against the surface of an awning.

BAND SIGN

A sign that extends no more than six inches beyond the building façade, which is painted onto, incised into, or attached parallel to the building wall, normally over the first floor storefront.

BLADE SIGN

A sign that either projects perpendicular from a wall or hangs from an overhead architectural element perpendicular to the building wall.

BOARD SIGN

A sign that is painted or applied onto a sign board.

HOME-BASED BUSINESS SIGN

A non-illuminated sign containing only the name and occupation of a permitted home occupation.

PAINTED WALL SIGN

A sign painted on the wall of a building or structure in such a manner that the wall forms the background surface of the sign.

REAL ESTATE SIGN

A sign pertaining to the sale, or rental lease of the premises, or a portion of the premises, on which sign is located.

SECURITY SIGN

A sign indicating the provision of security protection service for the property.

VERTICAL SIGN

A sign whose message is oriented perpendicular to the ground.

Section 3. Chapter 213, Zoning, of the Code of the Town of Babylon is hereby amended to include Article XLIII, Downtown Copiague (DC) Zoning District:

§ 213-534. Legislative Intent and Purpose.

In 2009, the Town of Babylon and Copiague community completed the *Copiague Vision Plan* (the "Vision Plan"), a comprehensive vision for the downtown Copiague. The vision for downtown Copiague is that it will be a vibrant, people-friendly place that feels safe and secure, where people can walk, shop, entertain, relax, play, interact, and spend time, and where the sense of community can be strengthened. The Vision Plan identifies various existing conditions that stand in the way of that vision and suggests the implementation of various actions to encourage and facilitate the transformation of downtown Copiague. The Vision Plan observes that the existing zoning in downtown Copiague represents a limitation towards revitalization of the downtown core. Among the Vision Plan's recommendations is the development of contemporary zoning regulations for downtown Copiague, including updated lot and bulk controls that would coordinate and guide future development. Therefore, in response to these recommendations, the Town Board of the Town of Babylon ("Town Board") herein enacts a new Article of the Code of the Town of Babylon to create a new district to be known as the "Downtown Copiague (DC) Zoning District." The primary purpose of the DC Zoning District is to facilitate a vibrant transit-

oriented downtown containing a mix of housing types and retail, office, personal service, and/or other compatible uses that contribute to a sense of community. The DC Zoning District regulations are designed to build upon the strengths of Copiague and especially the downtown area, including the presence of the Copiague Long Island Rail Road ("LIRR") Station, Veterans' Memorial and Copiague Parks, and a diverse residential community that is within walking distance of many of the downtown's commercial establishments. Further, the regulations set forth in this Article are designed to encourage and continue to improve the existing aesthetic appearance of downtown Copiague, in order to enhance its community identity. Finally, the regulations set forth in this Article reflect "form-based" strategies that are as much interested in the form of development and its relation to Copiague's streets and sidewalks, as to the specific use, lot, and bulk of development.

§ 213-535. Applicability. District Boundaries.

The provisions of the DC Zoning District promulgated herein shall apply to those properties designated as such on the Building Zone Map of the Town of Babylon, Suffolk County, New York, as amended. The DC Zoning District is generally comprised of those properties fronting along Great Neck Road from Campagnoli Avenue to Hollywood Avenue, along Marconi Boulevard from Pine Street to Verrazano Avenue, and along Railroad Avenue from Pine Street to Verrazano Avenue.

§ 213-536. Permitted Uses.

In DC Zoning District, no building or premises shall be used and no building shall be hereafter erected or altered, unless otherwise provided for in this Article, except for one or more of the following uses:

A. Principal uses.

(1) The following uses shall be permitted on the ground and upper stories, in mixed-use or single-use buildings:
   (a) Shops and stores for the sale of retail or consumer merchandise and services.
   (b) Personal service shops such as barbershops, beauty parlors.
   (c) Banks, financial institutions.
   (d) Museums, art galleries.
   (e) Libraries.
   (f) Theaters, including movie theatres and performing arts theatres.
   (g) Health clubs.
   (h) Offices, when consistent with the design considerations provided in § 213-540.B.
   (i) Public, private, or vocational schools, learning centers, test preparation centers.
   (j) Community centers.
   (k) Public parks, playgrounds, and recreational areas when authorized by a governmental authority.

(l) Multiple residences, except for properties with frontage on Great Neck Road, where there shall be no residential uses on the first story.
(m) Uses similar to the above, as determined by the Planning Board.

(2) Offices shall be permitted only on the upper stories as part of a mixed-use building.

(3) None of the aforementioned uses shall be permitted with a drive-in window.

B. Accessory uses.

In the DC Zoning District the following accessory uses, and no other, shall be permitted:

(1) Off-street parking and loading, including parking structures.

(2) Open space or plaza areas accessible to the general public.

(3) Signs, subject to the provisions of § 213-541.

(4) Temporary outdoor displays, subject to the provisions of § 213-543.

(5) Other customary accessory uses and buildings, provided that such uses are incidental to the principal use, but such uses shall not include any activity conducted as a business.

§ 213-537. Uses Permitted by Special Permit.

A. Planning Board

(1) On-premises food and beverage consumption establishments on the ground story only, when permitted by special exception by the Planning Board pursuant to Article XXVI of this Chapter, subject to such conditions, restrictions and safeguards as may be imposed by the Planning Board.

(2) Outdoor dining accessory to an on-premises food and beverage consumption establishment, subject to the following provisions:

(a) Front yard outdoor seating:
[1] The overall sidewalk width shall be a minimum of 15 feet.
[2] A minimum unobstructed sidewalk of seven feet closest to the street shall be maintained.

(b) Rear yard outdoor seating:
[1] The rear yard setback shall be not less than 15 feet.

(c) Side yard outdoor seating:
[1] The side yard setback shall be not less than seven feet.

(d) Outside dining shall only be permitted to operate between the hours of 8:00 a.m. to 11:00 p.m. for any on-premises food and beverage consumption establishment within 500 feet of any residence district.

(e) Outside loudspeakers, exterior live entertainment, or dancing of any kind shall be prohibited for any on-premises food and beverage consumption establishment between the hours of 11:00 p.m. and 8:00 a.m. or within 500 feet of any residence district during any hour of the day.

(f) Outside dining shall be permitted on the subject parcel only and/or the sidewalk adjacent to a building, on the ground story only, and contiguous to the building.

(g) Any outdoor dining accessory to an on-premises food and beverage consumption establishment shall comply with the provisions of Chapter 156, Noise, of the Code of the Town of Babylon.

§ 213-538. Lot and Bulk Controls.

All development within the DC Zoning District shall meet or exceed the minimum standards contained herein.

A. Building height.

In a DC Zoning District, no building or structure hereafter erected or altered shall exceed 3 stories. The following exceptions are permitted:

(1) Parapets, not exceeding three feet in vertical distance from the base to the highest point.

(2) Stairwell or elevator bulkheads, water tanks, chimneys, heating and air-conditioning apparatus, or other mechanical equipment projections occupying less than 10% of the area of the roof and not exceeding 12 feet in vertical distance from base to the highest point.

(3) Safety railings or walls required by the New York State Building Code to enclose outdoor living space or decks, not exceeding the minimum height required by the New York State Building Code for such railings or walls.

B. Lot area.

In a DC Zoning District, no building shall be erected on a lot having an area of less than 4,000 square feet.

C. Lot width.

In a DC Zoning District, no building shall be erected on a lot having width of less than 40 feet at the front street line.

D. Front yards.

In a DC Zoning District, no front yard shall be required. To the extent practicable, buildings should be constructed to the front lot line. However, in the case where it is not practicable, the maximum front yard shall be 10 feet. The following exception is permitted:

(1) Outdoor dining accessory to an on-premises food and beverage consumption establishment, as promulgated in § 213-537.A.(2) of this Article.

E. Side yards.

In a DC Zoning District, no side yard shall be required. To the extent practicable, buildings should be constructed to the side lot line.

F. Rear yards.

In a DC Zoning District, there shall be a rear yard having a minimum depth of 15 feet.

G. Building area.

In a DC Zoning District, the total building area shall not exceed 80% of the lot area.

H. Residential density.

In a DC Zoning District, the maximum residential density shall be 35 dwelling units per acre.

I. Dwelling unit size.

In a DC Zoning District, the minimum dwelling unit size shall be 500 square feet.

J. Floor Area Ratio (FAR).

In a DC Zoning District, the maximum FAR shall be 2.0.

§ 213-539. General Procedures

All development within the DC Zoning District shall be subject to site plan review in accordance with Chapter 186, Site Plan Review, of the Code of the Town of Babylon, except for applications that involve incentive bonuses, which shall be subject to both site plan review and the zoning incentive procedures, as promulgated in § 213-549 of this Article. For all applications within the

DC Zoning District, there shall be additional review and recommendation from the Office of Downtown Revitalization.

§ 213-540. Design Review.

A. Design review procedures

In any case where site plan approval is required for property within the DC Zoning District, the Planning Board of the Town of Babylon shall review the architectural design of structures and buildings, pursuant to the design considerations listed in § 213-540.B of this Article. In reviewing for architectural design, the Planning Board shall utilize submittals made pursuant to Chapter 186 and shall follow the procedures listed in §§ 186-21, 186-22, 186-23, 186-24, and 186-25. The Office of Downtown Revitalization shall also provide input on the architectural design of structures and buildings as part of the aforementioned process. In addition, for applications within the DC Zoning District, such application shall include at least one colored rendering. The Planning Board, as part of its review, may require an applicant to provide additional architectural design, elevations, or other information it shall determine.

B. Design considerations

The quality of the built environment and its relationship to the natural landscape is a key indicator of quality of life. The objective of the design considerations for the DC Zoning District is to provide high quality and complementary design of buildings, landscaping, parking, and other site and building design characteristics. Special emphasis is placed upon methods that reduce the large-scale visual impact of buildings and encourage tasteful innovative design for individual buildings.

In any case where site plan approval is required for property within the DC Zoning District, the Planning Board shall review the architectural design of structures and buildings, pursuant to the design considerations listed in § 213-540.B and §§ 213-522 to 213-525 of Article XLII, Downtown Wyandanch and Straight Path Corridor Form-Based Code, of this Chapter, as well as the design considerations listed below.

(1) The principal building entrance and front should face the primary street frontage and sidewalk.

(2) Building design and landscaping should serve to reinforce and announce the main pedestrian building entrances.

(3) Parking should be placed in the rear of lots, whenever possible, and should be adequately planted and landscaped in order to create an attractive point of arrival.

(4) Walkways should be provided for safe and convenient pedestrian access from sidewalks to storefront entries, and from storefronts to adjacent residential areas.

(5) Special materials, such as brick or cobblestones and picket fences, are encouraged for walkways in downtown Copiague, particularly those with older or historic buildings.

(6) Ground-story space improved with commercial or office should include display windows, lighting, architectural treatments, and/or landscaping that is active, visible, and enhances the pedestrian environment. Where shade is desired, awnings are encouraged.

(7) The exteriors of buildings should utilize natural cladding materials such as wood, brick, stucco, stone, or a combination of such materials or their equivalent. The use of imitation, synthetic, metallic, and reflective materials should be avoided, including, but not limited to aluminum or vinyl siding, imitation brick or stone, or plastic.

(8) Building shape, proportions, massing, and design should be appropriate to the historic character of downtown Copiague. Architectural features such as porches, porticoes, shutters, decorative door and window frames, balconies, cornices, dormers, chimneys, turrets, and spires should be used to reinforce a pedestrian scale and create interest and variety in the facade.

§ 213-541. Signs.

In order to protect, preserve, and promote the unique character of downtown Copiague, the following specific sign regulations are required. These specific requirements shall be in addition to the general requirements set forth in Article XXXIII, Signs, of this Chapter. If this subsection is silent on an issue of signage, Article XXXIII or any other duly enacted local law regulating signs shall govern. In the event of conflict between this Section and Article XXXIII of this Chapter, this Section shall govern for signage in downtown Copiague.

A. Permitted and prohibited signs.

(1) Four types of attached signs are permitted:
   (a) Band Signs: A band sign consists of a band of lettering across the entire width of the building. If lit, band signs shall be front-lit with gooseneck lights. Band signs shall be a maximum of three feet tall, shall extend no more than six inches beyond the building façade, and the bottom of the band sign shall not be installed less than 10 feet above the sidewalk.
   (b) Board Signs: A board sign consists of painted or vinyl graphics on a signboard attached flush with the building wall.
   (c) Window Signs: A window sign is located behind the glass or is comprised of painted, gold leaf, or vinyl applied directly to the glass. The height of any window sign shall be limited to one-third the height of the glass in the sash where the sign is installed. The width of any window sign is limited to 90% of the width of the glass in the sash where the sign is installed. Signs may not be affixed with tape or other temporary means to the exterior nor to the interior of the glass surfaces. Decals shall not be affixed to glass. Alternatively and in order to minimize window clutter, one signboard

may be placed in the window, consisting of many individual signs. Such signboard shall not exceed 40% of the glass surface.

(d) Painted Wall Signs: Painted wall signs may only occur on wall surfaces that are set back at least 50 feet from the edge of the pavement to allow for equal viewing by pedestrians and motorists and shall not be the primary sign of the business they represent. Such signs shall be rectangular, oriented horizontally or vertically, and no larger in area than two feet by two times the building width. These signs shall have a dark background color with a black border.

(2) Two types of projecting signs are permitted:

(a) Blade Signs: Blade signs hung from an architectural element shall be centered on that element. Blade signs projecting from the wall shall have a maximum projection of 40 inches and shall be no more than three feet wide by two feet tall. No blade sign shall exceed six square feet. The top of the blade sign shall be between eight feet and 12 feet above the sidewalk. Brackets or other suspension device shall match the architectural style of the building and shall not be computed as part of the allowable size of the sign.

(b) Vertical Signs: Vertical corner signs may project perpendicular from one side of the building or at a 45 degree angle to the corner. Vertical corner signs may be lit with gooseneck lights. Vertical corner signs shall be mounted a minimum of eight feet in height from the sidewalk, measured to the bottom of the sign. The height of the sign shall not exceed the 12 feet. Vertical corner signs shall be mounted 12-inch maximum away from the exterior wall of the building and shall be a maximum of three feet wide.

(3) Ground Signs: Sculptural and A-frame sign boards placed on the sidewalk shall be permitted if they are temporary and removed during non-operating hours.

(4) Awning Signs: Signage may be painted either on the fringe of an awning or in the center of the body of the awning. Awning signs shall be painted directly on canvas. Back lit awnings are prohibited. Signs that occupy the fringe of the awning may fill the entire height and width of the fringe up to a maximum fringe height of nine feet.

(5) Home-Based Business Signs: Signs advertising a home-based business shall be permitted and shall be consistent with the architectural style and shall be painted wood with a maximum size of six square feet. Signs may have engraved gold leaf letters and symbols. Signs may be mounted to a freestanding post, hung below a porch roof, or mounted to a building wall. Brass signs may be used for signs mounted to masonry building walls. One sign advertising a home-based business is permitted at each frontage.

(6) Security Signs: One sign providing notice of a security system is permitted at each frontage and shall be affixed to a building.

(7) Real Estate Signs: One real estate sign advertising a property for sale or rent may be displayed at each frontage.

(8) Exposed neon and back lit, pin-mounted neon signage shall be permitted.

(9) Temporary signs shall be permitted, subject to § 213-409.

(10) Internally illuminated and glowing dome-shaped canopy awnings, as well as internally illuminated box lighting, flashing, digital, moving, false neon-like, vinyl banner, and flag signs shall be specifically prohibited. In addition, freestanding, off-site, and detached signs are prohibited unless noted otherwise.

B. Materials; uniformity

(1) Signs shall be of materials consistent with the architectural style.

(2) Address numbers shall be six inches in height, as required by New York State law, and shall be gold leaf, metal, ceramic or paint in a color contrasting with the background color.

(3) Signage should ideally be uniform for each storefront, building, and downtown Copiague.

C. Sign Permit

(1) Permit required. It shall hereafter be unlawful, except as otherwise provided in this Article, for any person to erect, construct, alter, relocate, reconstruct, display, or maintain in the DC Zoning District any sign without first having obtained a written permit from a Building Inspector, in compliance with the provisions of this Article and the Town Code. All signs shall be subject to the approval of a Building Inspector as to the structural safety thereof in conformity with recognized engineering standards.

(2) Application for permit. Any person who wishes to procure a permit as above required shall file with the Building Inspector a written application accompanied by a scale drawing showing the structural members, the lettering, the pictorial matter or other copy located on the sign face, a location plan showing the position of the sign on the building, structure or plot of land, the material comprising the sign and sign structure, the method of attachment and such other information as a Building Inspector may require to show compliance with the provisions of this article and the Town Code. If the sign is an electrical sign, the applicant must also furnish and indicate the specifications of all electrical wiring and components. The applicant shall also present a written statement showing the name of the owner or of the person in control of the building, structure and plot of land where such sign is to be located and the right or authority of the applicant to obtain a permit. For signs within the DC Zoning District, the Building Inspector shall forward all application materials to the Planning Department and Office of Downtown Revitalization for their input.

(3) Fees. Except as otherwise provided, no sign permit shall be issued until the applicable fee, established by the Town Board from time to time, is paid.

(4) Renewal. Every sign permit shall be renewed every two years upon the payment of the renewal fee, and each application for a renewal permit shall be accompanied by a certificate certifying that the sign has been inspected by a Building Inspector and found to be properly hung in a secure and safe position, maintained in good and safe condition, and further certifying that the sign complies with the provisions of this Article.

D. Nonconforming signs.

In the event that a sign lawfully erected prior to the effective date of this Article does not conform to the provisions and standards in this Section, then such signs should be modified to conform or be removed according to the following regulations:

(1) All nonconforming signs shall be modified by its owner to comply with these regulations or such sign(s) shall be removed within three years after the effective date of this Article.

(2) A nonconforming sign shall not be enlarged or replaced by another nonconforming sign. A nonconforming sign shall be replaced with a conforming sign when the nonconforming sign sustains damage to 50% or more of the original sign or where the cost of the repairs to the damaged sign is 50% or more of the original cost of the sign.

(3) An existing nonconforming sign identifying a tenant or occupant may remain, subject to §§ 213-541.D (1) and (2) and provided that the only change in signage is the identity of the new tenant or occupant.

§ 213-542. Lighting.

Any development within the DC Zoning District shall comply with the provisions of §213-245, Exterior Lighting Standards, of this Chapter. All parking areas, entries, walkways, corridors, passages, utility areas and front landscaping must be provided with adequate lighting for safety purposes. Lights shall be adjusted so as not to shine into adjacent properties.

§ 213-543. Outdoor Storage and Display.

A. In the DC Zoning District, there shall be no outdoor storage and/or display; however, a 45-day temporary permit may be issued at the discretion of the Building Inspector for outdoor display of merchandise intended for sale, marked for sale, or having the appearance of being for sale, provided that:

(1) There shall be sufficient sidewalk clearance to allow for walkability in the downtown area.

(2) The temporary outdoor display of merchandise is located within five feet of the principal building.

(3) There shall be free access to all buildings.

(4) The temporary outdoor display of merchandise shall not be placed in or on street furniture, parking meters, public signage, planter boxes, turf, dirt, or landscaped areas, nor beyond the edge of the business' street frontage.

(5) All sales transactions shall occur inside the building.

(6) The merchandise shall be displayed only during business hours.

§ 213-544. Buffering and Transitions.

A. Trash/dumpster areas shall be screened by an enclosure (such as wood fences, chain link fences, vinyl fences, or masonry enclosures), as well as sufficient landscaping. Such screening shall be aesthetically pleasing, as well as durable to the satisfaction of the Planning Board as determined during site plan review.

B. Wherever a DC-zoned parcel abuts upon a single-family residential parcel or building, there shall be suitable screening, landscaping, or buffer plantings, as determined by the Planning Board.

C. The type, location, and extent of screening or fencing shall be accepted at the discretion of the Planning Board during the site plan approval process.

§ 213-545. Green Building and Site Planning.

The Town of Babylon is committed to minimizing the short-term and long-term negative impacts construction has on the environment and is committed to promoting the benefits that green building and green site planning have on the health and welfare of its citizens. The intent of this subsection is to identify and refer to the existing green building regulations within the Code of the Town of Babylon and establish additional regulations that apply to the DC Zoning District. All new development within the DC Zoning District shall adhere to the regulations contained in this subsection.

A. All new commercial, mixed-use, and multi-family buildings shall adhere to the requirements of Article VIII, Green Building Construction, of Chapter 89, Building Construction, of the Code of the Town of Babylon.

B. All new development shall conform to Chapter 189, Stormwater Management and Erosion and Sediment Control, of the Code of the Town of Babylon. In addition, all new development shall conform to the applicable requirements set forth in the most current version of the New York State Stormwater Design Manual, as interpreted by the Town of Babylon, especially Chapter 5, Green Infrastructure Practices.

C. Pervious paving shall be permitted on all sites.

D. Green roofs shall be permitted for all building types.

E. The recycling of construction waste shall be required.

§ 213-546. Mixed-Use Buildings.

Any application that includes multiple residence units within a mixed-use building shall be required to demonstrate that there is suitable and adequate means of garbage pickup, security service, fire egress, emergency access, light, maintenance service, superintendent availability, and other similar matters affecting the safety and quality of life of the occupants of the dwelling units. An applicant shall also demonstrate the proper protection of existing fire egress, light, window views, and accessibility of emergency services of neighboring structures. The Planning Board shall establish and impose such conditions as it deems necessary in connection herewith, as part of the site plan approval process.

§ 213-547. Affordable Housing.

Projects with five or more residential units shall be required to designate 20% or more of the units as affordable, subject to guidelines, as established by the Town Board. At a minimum, any project with five or more residential units shall comply with the requirements of Article 16-A, the Long Island Workforce Housing Act, of the New York General Municipal Law.

§ 213-548. Off-Street Parking.

A. Off-street parking standards.

In the DC Zoning District, off-street parking requirements shall be in conformity with those requirements set forth in Article XXIII of this Chapter, except the following:

(1) Multiple residences: 0.5-space for each studio; one space for one bedroom; 1.5 spaces for two bedrooms, and 0.5 additional spaces for each additional bedroom in the dwelling unit.

(2) Retail stores, shops, and personal service establishments: one space for each 400 square feet of gross floor area.

(3) Offices, banks, or financial institutions, not including medical offices: one space for each 500 square feet of gross floor area.

(4) Public, private, or vocational schools, learning centers, or test preparation centers: five per classroom or teaching station, plus one for each teaching and non-teaching staff person.

B. The minimum required quantity of parking may be reduced when shared parking is used. Where credible evidence is provided that parking could be shared by the proposed uses with nearby uses, as provided by a traffic study, parking study, traffic counts, or data by a licensed traffic engineer, up to 20% reduction in off-street parking may be permitted for shared parking. Shared parking shall be located within 500 feet of each use and may include on-street parking, off-street parking, and commuter parking areas. Such determination shall be at the discretion of the Planning Board and determined during the site plan approval process.

C. Shared parking lots with cross-access agreements are encouraged so as to allow drivers to park in one lot and walk to other businesses without moving their cars, or to drive from one lot to another without returning to the street.

D. In order to soften the appearance of parking lots, parking lots shall be landscaped with groundcover, grasses, or low shrubs.

§ 213-549. Zoning Incentives

A. Purpose; Legislative authority. In order to encourage development in accordance with this Article and in accordance with § 261-b of the Town Law of the State of New York, the Town Board is empowered to provide for a system of zoning incentives or bonuses in exchange for specific physical, social, or cultural benefits or amenities, as the Town Board deems necessary and appropriate, consistent with the purposes and conditions set forth herein.

B. Community benefits or amenities.

(1) The following community benefits or amenities may, at the discretion of the Town Board, be accepted in exchange for one or more incentive, as provided in § 213-549.C:

(a) Public parking: municipal or public parking provided in addition to the minimum required on-site parking, as set forth in § 213-548 and/or Article XXIII of this Chapter. Alternatively, contribution to the creation or improvement of public parking elsewhere in the community.

(b) Open or park space: additional active or passive open or park space available to the public. Alternatively, contribution to the creation or improvement of open or park space elsewhere in the community.

(c) Downtown infrastructure improvements: infrastructure improvements on-site above and beyond minimum requirements in the form of street furniture, lighting, pavers, plazas, and related public amenities, as well as improvements to sewer and water systems. Alternatively, contribution to the creation or enhancement of similar improvements elsewhere in the community.

(d) Affordable housing: provision of affordable housing units above and beyond the minimum requirements stated § 213-547. Alternatively, contribution to the creation or improvement of affordable housing elsewhere in the community.
(e) Sustainable building techniques: building, siting, or constructing structures beyond the minimum sustainable design and development standards provided in § 213-545 of this Article and in Article VIII, Green Building Construction, of Chapter 89, Building Construction, of the Code of the Town of Babylon.
(f) Other facilities or benefits to the residents of the community, as determined by the Town Board.
(g) Any combination of the above-listed community benefits or amenities.

(2) These community benefits or amenities shall be in addition to any mandated requirements pursuant to other provisions in this Article.

(3) These community benefits or amenities may be either on or off the site of the subject application and may involve one or more parcels of land.

C. Incentives or bonuses. The Town Board may grant the following specific incentives:

(1) Increased residential density. The Town Board may grant an increased residential density of up to 48 units per acre. The highest density shall be reserved for applications that include substantial community benefits or amenities and are located within 400 feet of the Copiague LIRR Station.

(2) Increased FAR. The Town Board may grant an increased FAR of up to 2.2. The highest FAR shall be reserved for applications that include substantial community benefits or amenities and are located within 400 feet of the Copiague LIRR Station.

(3) Increased height. The Town Board may grant an increased building height of up to four stories. Note that the exceptions permitted under § 213-538.J of this Article shall be permitted under an increased height as well. Increase height shall be reserved for applications that include substantial community benefits or amenities and are located within 400 feet of the Copiague LIRR Station.

(4) Reduced parking requirements. The Town Board may reduce the parking requirements for applications that demonstrate elevated transit usage, significant pedestrian and walkability amenities, and are located within 400 feet of the Copiague LIRR Station.

(5) Modifications to other land development standards or dimensional requirements. The Town Board, at its discretion, may modify other land development standards or dimensional requirements of the Town.

(6) Note that the distance to the Copiague LIRR Station shall be measured from the property lot line to the closest points from the station platform.

D. Criteria and procedure for approval. Authorization of zoning incentives is subject to approval by the Town Board upon referral from the Planning Board and Office of Downtown Revitalization prior to the grant of site plan approval. Applicants may seek nonbinding input from the Town Board as to whether the proposal is worthy of consideration prior to the application or at any stage of the application process. Pursuant to § 261-b of Town Law, the following procedures shall be followed for approval of any incentive or bonus:

(1) Submission of application. Applications for incentives in exchange for amenities shall be submitted to the Town Board through the Planning Department. In order to preliminarily evaluate the adequacy of the community benefit or amenity to be accepted in exchange for the requested incentive or bonus, the following information shall be provided by the applicant in addition to the information required as part of the site plan review process, in accordance with Chapter 186:
   (a) A description of the incentive being requested.
   (b) A description of the proposed community benefit or amenity.
   (c) An estimate of the economic value of the proposed benefit or amenity to the public.
   (d) A narrative statement which:
      [1] Describes the benefits to be provided to the community by the proposed amenity.
      [2] Demonstrates that adequate services and facilities exist in the community that could accommodate the additional demand that would be generated by granting the incentive or bonus.
      [3] Explains how the proposed amenity promotes implementation of physical, social, or cultural policies articulated in approved plans.
   (e) Any additional information, as may be requested by the Town Board.

(2) Planning Board review.
   (a) Application completeness. The Planning Department shall review any application for its compliance and completeness with the requirements set forth in Chapter 186 and § 213-549.D of this Article. After receipt of the completed application, a post-submission conference shall be scheduled with the Commissioner of Planning and/or his/her designated representative to discuss and review the site plan submitted.
   (b) Planning Board review. Once the incentive and site plan application has been determined to be complete by the Planning Department, the Planning Board shall begin its site plan review of the incentives and the overall site plan, in accordance with Chapter 186. As part of such review, the Planning Board shall refer the proposal to the Office of Downtown Revitalization for review. The Office of Downtown Revitalization shall provide comments directly to the Planning Board.
   (c) Planning Board hearing. Per the regulations put forth in Chapter 186, the Planning Board shall then hold a public hearing on the incentives and site plan application.
   (d) Planning Board recommendation. The Planning Board shall then report to the Town Board with its evaluation of the adequacy with which the amenity(s)/incentive(s) fits the site and how it relates to adjacent uses and structures upon completion of their proceeding with regard to the same, along with any general site plan comments. Site plan approval shall be subsequent to any approval of the incentives by the Town Board.

(3) Compliance with SEQRA; TOBEQRA.
   (a) Every decision by the Town Board concerning an application for use of incentive zoning on a particular project shall fully comply with the provisions of SEQRA, as well as TOBEQRA (Chapter 114, Environmental Quality Review, of the Code of the Town of Babylon).
   (b) An applicant will submit a Full Environmental Assessment Form ("FEAF"), Part 1, to the Town Board.
   (c) The Town Board will establish itself as SEQRA/TOBEQRA lead agency for all applications submitted pursuant to this Section. The Town Board shall conduct coordinated review for all applications submitted pursuant to this Section.
   (d) In accordance with § 261-b of Town Law, if a generic environmental impact statement ("GEIS") has been prepared by the Town Board in enacting or amending this Section, an applicant will pay a proportionate share of the cost of preparing such impact statement.

(4) Town Board evaluation. Public hearing. Upon receipt of the Planning Board's referral, the Town Board shall review the Planning Board's report. The Town Board shall notify an applicant as to whether it is willing to further consider the proposal and hold a public hearing thereon. Prior to its final decision and in conjunction with its SEQRA/TOBEQRA review, the Town Board shall conduct a public hearing in accordance with the standard procedures for adoption of an amendment to the zoning ordinance or local law, as well as SEQRA/TOBEQRA. At least five days' notice (14 days if an environmental impact statement was required) of the time and place of the hearing shall be published in an official newspaper of the Town.

(5) Town Board findings and decision hearing. In order to approve an amenity/incentive proposal, the Town Board shall determine that the requirements of SEQRA/TOBEQRA have been met through the issuance of a negative declaration (or environmental findings if an environmental impact statement was required) and that the proposed amenity provides sufficient public benefit to grant the requested incentive. The Town Board may impose conditions on a project to ensure that the above findings are ensured through the subsequent plan review and construction phases of the project.

(6) Plan review. Upon a favorable decision of the Town Board, the application shall continue its formal site plan review, in accordance with Chapter 186. Failure to obtain site plan approval from the Planning Board within six months of approval by the Town Board shall render any incentive zoning granted hereunder null and void unless extended by resolution of the Town Board for a maximum of six additional months.

E. Cash payment in lieu of amenity. Pursuant to § 261-b of Town Law, if the Town Board finds that a community benefit or amenity is not suitable on-site, cannot be reasonably provided, or is not immediately feasible, the Town Board may require a cash payment in lieu of the provision of the community benefit or amenity. These funds shall be placed in a trust fund to be used by the Town Board exclusively for amenities within the community specified prior to acceptance of funds. Cash payments shall be made prior to the issuance of a building permit.

Cash payments in lieu of amenities shall not be used to pay general and ordinary Town expenses.

§ 213-550. Nonconforming Buildings, Structures, or Uses

Any nonconforming building, structure, or use existing on the effective date of this Article shall abide by the provisions of §§213-225 and 213-226 of the Code of the Town of Babylon.

§ 213-551. Severability. Conflicts with Other Provisions.

A. If any clause, sentence, paragraph, subdivision, section or other part of this Article shall for any reason be adjudged by any court of competent jurisdiction to be unconstitutional or otherwise invalid, such judgment shall not affect, impair or invalidate the remainder of this Article, and it shall be construed to have been the legislative intent to enact this Article without such unconstitutional or invalid parts therein.

B. If any portion of this Article is found to be in conflict with any other provision of any other local law or ordinance of the Code of the Town of Babylon, the provision which establishes the higher standard shall prevail.

Appendix C, Build Out Scenario

DOWNTOWN COPIAGUE
PROPOSED DC ZONING DISTRICT: BUILD-OUT SCENARIO
SITES SUBJECT TO CHANGE

Site Subject to Change	Parcels	Acreage	Existing Land Use Program*	Build Out Land Use Program*
1	2	0.34	**Retail:** 5,900 sf retail	**Mixed (Residential, Retail, Restaurant):** 8 apartment units, 10,000 sf retail, 2,000 sf restaurant
2	3, 4	0.65	**Retail:** 8,100 sf retail	**Mixed (Residential, Retail, Restaurant):** 18 apartment units, 18,800 sf retail, 4,000 sf restaurant
3	5, 6	0.54	**Automobile-Oriented:** 7,000 sf automobile-oriented	**Mixed (Residential, Retail, Restaurant, Open Space, Civic/Institutional):** 15 apartment units, 13,300 sf retail, 4,000 sf restaurant; 1,500 sf open space; 1,500 sf civic/institutional
4	7-10	1.08	**Mixed (Residential, Industrial, Storage):** 1 apartment unit, 11,300 sf industrial/storage	**Residential:** 20 townhomes
5	14-16	0.52	**Mixed (Residential, Retail, Restaurant):** 5 apartment units, 6,700 sf retail, 2,500 sf restaurant	**Mixed (Residential, Retail, Restaurant):** 15 apartment units, 16,200 sf retail, 2,000 sf restaurant
6	18	0.68	**Parking**	**Mixed (Residential, Retail, Restaurant, Office):** 19 apartment units, 6,600 sf retail, 2,000 sf restaurant, 20,000 sf office
7	19	0.42	**Parking**	**Residential:** 12 apartment units
8	21, 27	4.17	**Mixed (Open Space, Parking):** 600 sf open space	**Open/Civic:** 13,000 sf open space, 14,000 sf civic/institutional
9	22-26	0.92	**Mixed (Industrial, Parking):** 15,600 sf industrial	**Parking Garage**
10	33	0.14	**Office:** 3,000 sf office	**Mixed (Retail, Office, Open Space):** 4,000 sf retail, 4,000 sf office, 1,000 sf open space
11	36-40	1.22	**Mixed (Residential, Retail, Office, Industrial, Parking):** 4 apartment units, 2,600 sf retail, 3,000 sf office, 3,500 sf industrial	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 31 apartment units, 27,000 sf retail, 3,500 sf restaurant, 11,800 sf office, 7,900 sf open space
12	45-46	0.56	**Parking/Open Space:** 1,300 sf open space	**Retail/Open Space:** 17,400 sf retail, 2,000 sf open space
13	49-51	0.75	**Mixed (Residential, Retail, Restaurant):** 1 apartment unit, 6,000 sf retail, 4,500 sf restaurant	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 16 apartment units, 12,500 sf retail, 3,500 sf restaurant, 7,000 sf office, 1,000 sf open space

14	52-55	0.51	**Mixed (Residential, Retail):** 1 apartment unit, 3,600 sf retail	**Mixed (Residential, Retail, Restaurant, Office):** 10 apartment units, 10,100 sf retail, 1,500 sf restaurant, 4,000 sf office
15	54-57	1.72	**Industrial:** 58,700 sf industrial	**Residential:** 90 apartment units
16	58-59	0.51	**Mixed (Retail, Restaurant):** 4,900 sf retail, 8,700 sf restaurant	**Mixed (Retail, Restaurant, Office):** 15,200 sf retail, 2,000 sf restaurant, 11,800 sf office
17	60	0.49	**Mixed (Residential, Retail, Restaurant, Office):** 2 apartment units, 4,700 sf retail, 4,600 sf restaurant, 4,600 sf office	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 14 apartment units, 14,000 sf retail, 2,000 sf restaurant, 4,200 sf office, 500 sf open space
18	75	0.22	**Mixed (Residential, Retail, Office):** 10 apartment units, 800 sf retail, 2,000 sf office	**Mixed (Residential, Retail, Restaurant, Office):** 6 apartment units, 4,300 sf retail, 1,500 sf restaurant, 3,300 sf office
19	69-70	0.65	**Mixed (Residential, Restaurant):** 7 apartment units, 800 sf restaurant	**Residential:** 15 apartment units
20	61-66	0.79	**Mixed (Residential, Retail, Restaurant, Office):** 7 apartment units, 800 sf office, 800 sf industrial	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 18 apartment units, 14,400 sf retail, 5,000 sf restaurant, 7,300 office, 1,300 open space
21	86	0.38	**Retail:** 3,200 sf retail	**Residential:** 11 apartment units
22	87-89	0.99	**Mixed (Residential, Retail, Restaurant, Office):** 3 apartment units, 8,400 sf retail, 1,100 sf restaurant, 1,100 sf office	**Mixed (Residential, Retail, Restaurant):** 27 apartment units, 28,700 retail, 6,000 sf restaurant
23	90-91	1.71	**Mixed (Restaurant, Office, Parking):** 6,000 sf restaurant, 1,000 sf office	**Mixed (Residential, Retail, Restaurant, Parking):** 20 apartment units, 20,700 sf retail, 4,000 sf restaurant
24	92-93	0.27	**Mixed (Residential, Office):** 1 apartment unit, 1,700 sf office	**Mixed (Residential, Office):** 4 apartment units, 6,000 sf office

NOTE: Square footages rounded to nearest hundred.*

Appendix D, Infrastructure Documentation

SUFFOLK COUNTY WATER AUTHORITY

Carrie Meek Gallagher
Chief Sustainability Officer

4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0218
Fax (631) 563-0370

December 19, 2014

Brian Zitani, CFM
Waterways Management Supervisor
Town of Babylon
Department of Environmental Control
Annex Room 23
281 Phelps Lane
North Babylon, NY 11703

RE: Environmental Impact Statement - Downtown Copiague Hamlet New Zoning District

Dear Mr. Zitani:

The Suffolk County Water Authority (SCWA) would like to thank you for the opportunity to comment on the captioned project.

SCWA does not anticipate any major impacts to existing infrastructure, water capacity or water quality in the area from the proposed new zoning district. While the Authority does not expect a large impact on peak demands we would expect a slight increase in daily demands. Any necessary improvements i.e. fire flow, upsizing, replacement or relocation of existing water mains may be necessary as specific development plans are refined.

I thank you for your consideration in this regard and am available to discuss this matter further. I may be reached at 631-563-0218.

Very truly yours,

Carrie Meek Gallagher

Carrie Meek-Gallagher
Chief Sustainability Officer

cc: James Gaughran, Chairman, SCWA
Jeffrey W. Szabo, CEO, SCWA
Joseph Pokorny, Deputy CEO Operations, SCWA

TOWN OF BABYLON
Received
DEC 23 2014
ENVIRONMENTAL CONTROL

COUNTY OF SUFFOLK

STEVEN BELLONE
SUFFOLK COUNTY EXECUTIVE

SUFFOLK COUNTY
DEPARTMENT OF HEALTH SERVICES
DIVISION OF ENVIRONMENTAL QUALITY

STANDARDS FOR APPROVAL OF PLANS AND CONSTRUCTION FOR SEWAGE DISPOSAL SYSTEMS FOR OTHER THAN SINGLE-FAMILY RESIDENCES

December 1, 2009

James L. Tomarken, MD, MPH, MBA, MSW
Commissioner of Health Services

Walter Dawydiak, PE, JD
Director of Environmental Quality

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STANDARDS FOR APPROVAL OF PLANS AND CONSTRUCTION FOR SEWAGE DISPOSAL SYSTEMS FOR OTHER THAN SINGLE FAMILY RESIDENCES

I. INTRODUCTION

These are the Suffolk County Department of Health Services Standards for the Administration of Section 502, of Article 5 (Sewage Disposal), Sections 607-609 of Article 6 and Sections 705, 706, 709-716 of Article 7 of the Suffolk County Sanitary Code.

The purpose of these standards is to provide a means for achieving protection of the groundwater from excessive contaminant loading and to assure a safe, sanitary means of disposing of wastewater. Diseases such as infectious hepatitis, typhoid fever and dysentery can be transmitted by water, food, insects, pets, and toys contaminated by human waste. Properly designed, maintained and operated sewage disposal systems minimize the possibility of disease transmission and the potential for contamination of ground and surface waters.

These standards apply to commercial, industrial, multiple residential or other buildings and only address sewage as herein defined. Other solid, liquid or gaseous emissions or discharges are subject to a separate review and approval by the Department. For details relating to single family residences, refer to **Standards - Approval of Plans and Construction - Sewage Disposal Systems for Single-Family Residences.**

II. DEFINITIONS APPLICABLE TO THESE STANDARDS

AASHTO H-20 Loading. AASHTO is the American Association of State Highway and Transportation Officials. H-20 refers to the manufacture of sewage disposal system components and access covers capable of withstanding a 16,000 lb/sq. ft. live load, caused by traffic conditions. H-20 loading simulates the load due to a 20 ton truck.

Acre. Forty Three Thousand Five Hundred Sixty (43,560) square feet.

Adjusted Gross Land Area. Gross land area of a parcel minus area of regulated freshwater or tidal wetlands and ponds or other underwater lands.

Alternative Sewage Disposal System. A subsurface sewage disposal system which contains design elements not explicitly described herein or components that are arranged differently than shown in the conventional layouts of these standards.

Apartment. A premises occupied by an individual or family which is leased or rented from a corporation, entity, or another individual. Apartments are considered Multiple Residential Units.

ASTM. American Society for Testing and Materials.

AWWA. American Water Works Association.

Backfill. a) The operation of refilling an excavation, usually after some structure or pipe has been placed therein; b) the material placed in an excavation in the process of backfilling.

Clean Sand. Soil classified in accordance with ASTM D-2487 (Unified Soil Classification System) as SW or SP.

Clean-out. A device brought to grade to facilitate cleaning of sewer lines.

Commercial Projects. Restaurants, office buildings, nursing homes, hospitals, assisted living facilities, warehouses, hotels, motels or any other type project not considered a single-family residence.

Community Sewage Treatment System. A system utilized for the collection and disposal of sewage, including the various devices for the treatment of such wastes, serving more than one parcel, or serving a multiple residential project. A community sewage treatment system requires acceptance by the Suffolk County Sewer Agency.

Conventional Subsurface Sewage Disposal System. A sewage disposal system that contains a septic tank(s) and leaching pool(s) together with the associated sewer piping, manholes, distribution boxes, grease traps and other appurtenances as may be required.

Collection System. The network of sewer pipes, structures and devices installed for the purpose of collecting and transporting sewage to the sewage disposal, sewage treatment or sewer system.

Density Load. The quantity of sewage expected to be discharged from existing and/or proposed building(s) on a parcel, excluding kitchen/gray load, expressed in gallons per day per applicable unit and utilized to evaluate the need for sewage treatment when compared to the Population Density Equivalent for the project.

Department. The Suffolk County Department of Health Services.

Design Professional. A person licensed or registered in the State of New York and authorized by the State Education Law to design the systems described in these standards.

Design Sewage Flow. The sum of the hydraulic Load(s) from all uses of a building(s) on a parcel and utilized to determine the size of the sewage disposal system.

Distribution Manhole. A type of manhole used to distribute equal volumes of sewage to multiple leaching pools, or sewage system components.

Drop Manhole. A type of manhole used when the difference in elevation between the inflow and outflow sewer line exceeds two feet.

Grease Trap. A watertight chamber which promotes the separation of fats and greases from sewage.

Gross Floor Area. The floor area of all levels, within the exterior walls of a building or enclosed structure. Unfinished and/or mechanical spaces within cellars and attics are not included in the gross floor area.

Groundwater. The subsurface water occupying the zone of saturation below the established water table.

Groundwater Management Zone. Any one of the areas delineated in Suffolk County by the "Long Island Comprehensive Waste Treatment Management Plan (L.I. 208 Study)," as revised by the "Long Island Groundwater Management Plan", and subsequent revisions adopted by the Suffolk County Board of Health identifying differences in regional hydrogeologic and groundwater quality conditions. The boundaries of the Groundwater Management Zones are set forth on a map adopted by the Board filed in the Office of the Commissioner of Health in Hauppauge, New York.

Groundwater Monitoring Well. A well introduced into a particular aquifer for the purpose of obtaining samples of the groundwater for chemical analysis.

Highest Recorded Groundwater. The highest recorded groundwater elevation based upon the historic data of both the Department of Health Services and the United States Geological Survey.

Hydraulic Load. The sum of the density load and kitchen/gray load for a particular use of a building on a parcel expressed in terms of gallons per day per applicable unit.

Invert Elevation. The lowest elevation of the inside of a sewer line, water line, or other piping.

Kitchen/gray Load. The volume of sewage discharged from food preparation and service areas, or other gray water uses from a building expressed in terms of gallons per day per applicable unit which are omitted from the Density Load.

Leaching Area. The sidewall absorption area in a leaching pool below the inlet pipe, distribution pool below the outlet pipe, or the bottom surface area of a recharge bed. The area of the bottom of leaching pools is **not** included in leaching area.

Leaching Pool. A covered pit with a perforated reinforced concrete wall through which effluent from septic tanks or sewage treatment systems will infiltrate the surrounding soil.

Liquid Depth. The depth measured from the bottom of a septic tank or grease trap to the outlet invert elevation.

Manhole. A watertight chamber used for smooth redirection of sewage flow and/or to provide access to sewer lines.

Modified Subsurface Sewage Disposal System. An On Site Sewage Treatment system (treatment works) which includes processes capable of meeting applicable discharge standards and where the Design Sewage Flow does not exceed 15,000 gallons per day.

Multiple Residential Projects. All residential construction other than detached single-family housing units each on its own separate lot. Examples include two-family houses, apartment complexes, town homes, condominiums, co-ops, mobile home parks, or other similar arrangements.

Municipal Sewage Treatment System. A system utilized for the collection and disposal of sewage, or other waste of a liquid nature, including the various devices for the treatment (treatment works) of such wastes, serving a municipal sewer district.

NEC. National Electrical Code published by the National Fire Protection Association.

NEMA. The National Electrical Manufacturers Association.

NYSDEC. The New York State Department of Environmental Conservation.

Occupancy Rating. The maximum number of persons permitted to occupy an establishment as determined by the appropriate agency.

On - Site Sewage Treatment System. A treatment system (treatment works) located on the same parcel as the building(s) it serves which includes processes capable of meeting applicable discharge standards.

Perched Groundwater. Groundwater which is separated from the main body of groundwater by an aquiclude (e.g. a clay lens).

Planned Retirement Community (PRC). A multiple residential project in which each unit is required by law or regulation to be occupied by at least one resident per unit who is 55 years of age or older.

Population Density Equivalent. An expression of the quantity of domestic sewage in terms of the calculated population per unit area. (The calculated yield in gallons per day).

PVC pipe. A type of flexible thermoplastic pipe, manufactured from ethylene and chlorine, which may be used for sewer lines.

Rooming House. A building arranged or used for lodging for compensation, where group sleeping accommodations are provided in one room, or a series of rooms, and shared bathroom and kitchen areas may be provided.

SCDPW. The Suffolk County Department of Public Works

Standard Dimension Ratio (SDR). The ratio of the outside pipe diameter to the pipe wall thickness.

SEQRA. State Environmental Quality Review Act - a process that requires the consideration of environmental factors in the planning stages of a proposed action(s).

Septic Tank. A watertight chamber used for the settling, stabilizing and anaerobic decomposition of sewage.

Sewage. Water-carried wastes from residences, institutions, businesses, commercial and industrial buildings and establishments or a combination thereof, together with such ground, surface, and storm water as may inadvertently be present. The admixture of industrial wastes or other wastes shall not be considered sewage for purposes of these standards except where otherwise indicated. "Industrial wastes" and "other wastes" have the meaning as defined in Environmental Conservation Law Sections 17-0105(5) and (6).

Sewage Disposal System. Any plumbing or conveyances which are capable of receiving a discharge of sewage. This includes, but is not limited to, sewer lines, septic tanks, leaching pools, sumps, grease traps, tile fields, holding tanks, treatment works, outfalls and connecting piping. The term may also refer to a part of a larger disposal system.

Sewage Pump. Any type of device designed for the purpose of pumping sewage or other liquid wastes. Some examples of sewage pumps may include the following:

1. ***Grinder Pump.*** A type of submersible sewage pump used to cut, shred, or reduce in size, solids found in raw sewage.

2. ***Positive Displacement Pump.*** A type of pump capable of pumping raw sewage or liquids at a constant rate while utilizing various pressure heads.

3. ***Submersible Sewage Pump.*** A type of pump designed to operate while submerged in sewage.

4. ***Vacuum Pump.*** A type of pump capable of pumping air or a mixture of air and liquid.

Sewage Pump Station. A structure that contains pumps, piping, and other equipment used for the purpose of receiving, temporarily storing, and pumping sewage.

Sewage Recharge Bed. A designated area exposed to the atmosphere where treated wastewater is distributed for the purpose of infiltrating the surrounding soil.

Sewage Treatment Plant (STP). A sewage treatment system (treatment works) which includes processes capable of meeting applicable discharge standards and where the Design Sewage Flow rate exceeds 15,000 gpd.

Sewage Treatment System. Is a sewage disposal system consisting of a sewage collection system and treatment works.

Sewer Line. A pipe designed to convey sewage. Examples include the following:

1. ***House Connection.*** The gravity sewer line which extends from the face of the building to the sewage disposal or sewer system.

2. ***Lateral or Branch Sewer Line.*** The gravity sewer line used to collect sewage from one or more building sewers or house connections.

3. ***Main Sewer Line.*** The gravity sewer line used to collect sewage from one or more lateral or branch sewer lines.

4. ***Sewage Force Main.*** A sewer line designed to receive the sewage discharged from a pumping station and convey it under pressure to the point of discharge.

Sewer System. (Also referred to as sewage collection system, public sanitary sewer, municipal sewage disposal system, privately owned communal sewerage system, and communal sewage disposal system) Pipe lines, conduits, pumping stations, and force mains, and all other constructions, devices, and appliances appurtenant thereto, used for conducting sewage to a point of ultimate disposal.

SPDES (State Pollutant Discharge Elimination System) Permit. A permit, issued by the NYSDEC, authorizing discharges of 1,000 gallons per day or greater to the ground or surface waters of New York State.

Stormwater Recharge Basin. A designated area exposed to the atmosphere where stormwater is collected and distributed for the purpose of infiltrating the surrounding soil.

Suffolk County Sewer Agency (Sewer Agency). The agency responsible for directing the means and method of sewage disposal for projects involving multiple ownership where the Suffolk County Health Department has determined that sewage treatment is required.

Thrust Block or Restraint. A device used to resist thrust forces due to changes in alignment or direction of force mains.

Treatment Works. A facility designed for the purpose of removing certain constituents from sewage by mechanical, chemical or biological means, and stabilizing, and disposing of sewage.

USGS. United States Geological Survey. (Also, the NYS Building Code makes reference to the USC&GS - United States Coast and Geodetic Survey.)

Valve Chamber. A separate concrete box or chamber used to contain and access valving for the purpose of flow control or to isolate pumping units without having to enter the pump station.

Wet Well. The portion of a sewage pump station that receives and temporarily stores sewage.

III. PROHIBITION OF INSTALLATION/USE OF SEWAGE DISPOSAL SYSTEMS

1. The installation of a sewage disposal system(s) is prohibited by the Suffolk County Sanitary Code unless a permit to construct has been issued by the Commissioner.

2. The construction of a new building or an addition to an existing building is prohibited unless the proposed sewage disposal system(s) serving such building has been approved by the Department and/or the existing sewage disposal system(s) have been approved by the Department for the additional use.

3. The construction of a building or building addition without plumbing or additional sewage disposal facilities is prohibited unless sewage disposal system(s) serving such facilities have been certified to the Department by a licensed design professional as capable of accepting
sewage flows generated by the use of such new facilities and such facilities conform to the density load requirements of the Department.

4. A change in use or renovation to an existing building that may affect the Density Load or Design Sewage Flow is prohibited unless the proposed sewage disposal system(s) serving such building has been approved by the Department and/or the existing sewage disposal systems have been approved by the Department for the additional use.

5. The occupancy of a building(s) and/or the use of a sewage disposal system(s) is prohibited without (final) approval by the Department.

6. The installation of conventional subsurface sewage disposal system(s) or alternative sewage disposal system(s) is prohibited when the site to be developed is within the boundaries of a municipal sewer district or is served by an on-site/community sewage treatment system.

IV. PLANS / PERMIT TO CONSTRUCT / APPROVALS REQUIRED

1. Plans / Permits Required to Construct

a) Written Approval of Plans Required Prior to Construction

Written approval of plans is required before start of construction of new sewage disposal systems and components. Approval of Plans is also required prior to the start of construction of all new buildings, building additions with or without internal plumbing, or changes in use or renovations of existing buildings that may affect sewage flows or density load. Plans shall be prepared by a Design Professional and shall conform to these standards and guidelines issued by the Department. These plans, once signed and approved by an authorized representative of the Department, in conjunction with form WWM-016, become a permit to construct a sewage disposal system. Refer to **Application Requirements For Sewage Disposal Facilities & Water Supply Systems For Other Than Single Family Residences - Form WWM-003**.

Written approval of plans is also required prior to construction of sewage collection facilities, Modified Subsurface Sewage Disposal Systems, On-site sewage treatment systems, or Community Sewage Systems. Refer to **Application Requirements For Sewage Disposal Facilities & Water Supply Systems For Other Than Single Family Residences – Form WWM-003,** as well as **Appendix A** and **Appendix B** of these standards. In addition, separate residential applications must be submitted to and approved by the Department for projects involving condominiums or other attached residences prior to construction.

b) Responsibility of Design Professional

The design professional retained to design the sewage disposal system, sewer system, or treatment works shall be responsible for all aspects of the system design. That responsibility includes gathering all design information as necessary, making the site evaluation, and creating the design. These standards shall not be construed as providing sufficiently detailed guidance as to relieve the design professional from undertaking whatever additional steps or measures that may be necessary to achieve an appropriate design.

2. Permits / Approvals from other Agencies Required

a) Permits from other agencies

Permits from other agencies, where such permits may affect placement of the sewage disposal systems, shall be submitted to the Department prior to the Department's issuance of a permit to construct. Such permits include but are not limited to wetlands or natural resources permits from the New York State Department of Environmental Conservation, the Army Corps of Engineers, and/or the appropriate local regulatory authority (e.g. delegated agents for NYSECL Articles 15, 24, 25; Wild, Scenic & Recreational Rivers; Town natural resources permits, etc.).

b) A SPDES permit issued by the New York State Department of Environmental Conservation or its agent is required for all discharges to groundwater where the design sewage flows (total hydraulic load) are 1,000 gallons per day or greater.

c) Sewer district approval is required from Suffolk County Department of Public Works for county sewer districts or the appropriate agency for other sewer districts.

V. INSPECTION / CERTIFICATION OF CONSTRUCTED WORKS REQUIRED

1. Inspection by the Department Required

Sewage disposal systems, sewer systems, or treatment works constructed in Suffolk County shall conform to standards herein approved by the Commissioner of the Suffolk County Department of Health Services and plans approved by the Department. Prior to backfilling, installed subsurface sewage disposal system components and piping shall be inspected and authorized for backfilling by a representative of the Department. The Department shall be notified at least 48 hours in advance of scheduled backfilling. Backfilling prior to Department inspection is prohibited and may result in an order by the Commissioner to remove all backfill for inspection. The property lines shall be “staked” in order to ascertain that the system is located on the property in accordance with these standards. Refer to **Instructions for Obtaining Final Health Approval of Constructed Projects for Other than Single-Family Residences – Form WWM-019** for additional inspection requirements for sewer systems and treatment works.

2. Excavation Inspection Required

   In the case of unacceptable soil and/or groundwater conditions, inspection of the excavation by a representative of the Department is required prior to the installation of the leaching pool(s).

3. Separate Certification of Construction May be Required

   In certain instances, the Department may also require a separate certification of construction by a Design Professional for various aspects of the project as noted in the Permit Conditions issued at the time of approval.

VI. FINAL APPROVAL OF CONSTRUCTED WORKS REQUIRED

1. Final Approval of Constructed Works Required

   Final approval of constructed works is necessary to operate or discharge into constructed sewage disposal systems, sewer systems, or treatment works. In addition, occupancy of a building(s) is prohibited without the issuance of final approval by the Department.

2. As-Built Plans Required

   Final approval of constructed works will be granted to the applicant on as-built plans which are to be submitted after the final satisfactory field inspection is completed. Plans are to be signed and sealed by a licensed professional engineer or architect except a licensed surveyor may sign for conventional subsurface sewage disposal systems only. Refer to **Instructions for Obtaining Final Health Approval of Constructed Projects for Other than Single-Family Residences – Form WWM-019** for the as-built plan requirements.

3. Other Requirements

   For further information, refer to **Instructions for Obtaining Final Health Department Approval of Constructed Projects for Other Than Single-Family Residences – Form WWM-019** and **Appendix C** of these standards.

VII. DETERMINING POPULATION DENSITY EQUIVALENT

A population density equivalent estimate must be made in order to determine the type of sewage disposal system required for a project, and to determine if a project meets the density requirements of Article 6 of the Suffolk County Sanitary Code. There are two alternative acceptable methods for determining population density equivalent, a **Calculation Method**, or a **Yield Map Method.**

1. Calculation Method

   a) Commercial Projects

   Population density equivalent is calculated by multiplying the adjusted gross lot area in acres (43,560 sq.ft./acre) by 600 gallons per day/acre (300 gallons per day per acre in Groundwater Management Zones III, V, or VI, or where a community water supply is not being provided). Adjusted gross lot area is obtained by subtracting the area of regulated freshwater wetlands, tidal wetlands, ponds, or other underwater lands from the land area as delineated and shown on official surveys and site plans.

   b) Multiple Residential Projects

   The population Density Equivalent is calculated as seventy-five percent (75%) of adjusted gross land area in square feet (sq. ft.), multiplied by 600 gallons /day / 40,000 sq. ft. of land area (300 gallons / day / 40,000 sq. ft. of land area in Groundwater Management Zones III, V, or VI, or when a community water supply is not being provided). The resultant value is the population density equivalent expressed as gallons / day.

   Adjusted gross lot area is obtained by subtracting the area of regulated freshwater wetlands, tidal wetlands, ponds, or other underwater lands from the land area as delineated and shown on official surveys and site plans.

2. Yield Map Method

   The Yield Map Method may be used as an alternative method for calculating population density equivalent. A map illustrating the location of building lots together with roads, recharge basins, and other appurtenances as would normally be necessary to develop single family lots on the site, shall be submitted for a lot yield determination by the Department. All lot areas and dimensions must be shown together with recharge basin calculations. Lot configurations should conform to local Town/Village zoning requirements for similar sized lots, and minimum zoning requirements should be specified on the maps. Yield maps shall be signed and sealed by the licensed design professional.

   Regulated freshwater wetlands, tidal wetlands, ponds, or other underwater lands may be shown as part of the lots on a yield map. However, an applicant must demonstrate that all lots shown on the yield map will conform to the requirements of the Department with respect to the
   location of individual sanitary systems and water supply on these delineated lot areas or by the appropriate agencies having jurisdiction.

   All lots shown on a yield map must be at least 20,000 sq.ft. in area (40,000 sq.ft. in Groundwater Management Zones III, V, or VI, or where a community water supply is not being provided).

The population density equivalent, in gallons / day, is obtained by multiplying the number of building lots by 300 gallons / lot / day.

VIII. DETERMINING DENSITY LOAD

Density Load is the sum of all density loads generated on a site. Density Load is derived from occupancy ratings and/or from density loading rates shown in Table 1 below. For mixed type buildings such as office/warehouse an appropriate density loading rate should be used to calculate the proportionate density load for each building use as applicable. The (total) Density Load is the sum of the proportionate density loads for all existing and proposed uses on the site. The density load does not include the kitchen/gray load from the site.

IX. DETERMINING DESIGN SEWAGE FLOW

The Design Sewage Flow for a project is derived from the hydraulic load rates shown in Table 1 below. For a mixed type building(s) such as office/warehouse, the design sewage flow rate should be calculated as the sum of all hydraulic loads for each individual use within the building(s). The Design Sewage Flow may be apportioned appropriately if more than one sewage disposal system is being proposed or modified.

TABLE 1 - PROJECT DENSITY LOADING RATES & DESIGN SEWAGE FLOW RATES

(Based upon gross floor area in square feet (sf) unless otherwise noted)

Structure Use	Density Load	Kitchen/Gray Load	Hydraulic Load
FOOD SERVICE			
Bar (in restaurant)	10 gpd/seat	5 gpd/seat	15 gpd/seat
Bar, Tavern, Disco (no fixed seating)	10 gpd/occupant[1]	5 gpd/occupant[1]	15 gpd/occupant[1]
Bar (outdoor/seasonal)	5 gpd/seat	2.5 gpd/seat	7.5 gpd/seat
Cafeteria (open to public)	See Primary use + 5 gpd/seat	2.5 gpd/seat	Primary use + 7.5 gpd/seat
Cafeteria/Continental Breakfast (not open to public)	See Primary Use	2.5 gpd/seat	Primary use + 2.5 gpd/seat
Snack Bar	See Primary Use	0.12 gpd/sf	Primary use + 0.12 gpd/sf
Juice Bar	See Primary Use	2.5 gpd/seat	Primary use + 2.5 gpd/seat
Catering Hall	5 gpd/seat	2.5 gpd/seat	7.5 gpd/seat
Outside Patio Dining	5 gpd/seat	10 gpd/seat	15 gpd/seat
Restaurant (full service or single services > 16 seats[2])	10 gpd/seat	20 gpd/seat	30 gpd/seat
Wet store w/ food (Deli/take-out with max 16 seats single service[2])	0.03 gpd/sf	0.12 gpd/sf	0.15 gpd/sf
Convenience store/Market/Farm Stand	0.03 gpd/sf	0.02 gpd/sf	0.05 gpd/sf
Commercial Bakery	0.04 gpd/sf	0.02 gpd/sf	0.06 gpd/sf
Wine/Beer Tasting (in a winery/brewery only)	5 gpd/occ	2.5 gpd/occ	7.5 gpd/occ
GENERAL INDUSTRIAL			
General Industrial[3]	0.04 gpd/sf	Industrial process water[4]	0.04 gpd/sf
Greenhouse	0.03 gpd/sf	N/A	0.03 gpd/sf
MEDICAL			
Drug Rehabilitation	75 gpd/bed	See note [5]	75 gpd/bed
Mental Health Residence	75 gpd/bed	See note [5]	75 gpd/bed
Hospital	300 gpd/bed	See note [5]	300 gpd/bed
Nursing Home	150 gpd/bed	See note [5]	150 gpd/bed
Assisted Living	110 gpd/bed	See note [5]	110 gpd/bed
Medical office space	0.10 gpd/sf	N/A	0.10 gpd/sf
Dialysis Center	0.10 gpd/sf	Dialysis process water[4]	0.10 gpd/sf
Veterinary[6]	0.10 gpd/sf + 10 gpd/animal boarding	N/A	0.10 gpd/sf + 10 gpd/animal boarding

MUNICIPAL SERVICES			
Library, firehouse, precinct, museum, art gallery (w/ meeting rooms)	0.03 gpd/sf + 5 gpd/occupant[1] for meeting rooms	2.5 gpd/occupant[1]	0.03 gpd/sf + 5 gpd/occupant[1] + 2.5 gpd/occupant[1]
Library, firehouse, precinct, museum, art gallery (w/o meeting rooms)	0.03 gpd/sf	2.5 gpd/occupant[1]	0.03 gpd/sf + 2.5 gpd/occupant[1]
OFFICE			
Non-medical office space	0.06 gpd/sf		0.06 gpd/sf
RECREATION			
Bath house/comfort station	5 gpd/occupant[1]	5 gpd/shower/occupant[1] + Food service[7]	5 gpd/occupant[1] + 5 gpd/shower/occupant + Food service[7]
Bowling alley/tennis court/racquetball	100 gpd/court or alley	Food service[7]	100 gpd/court or alley+ Food service[7]
Miniature golf	15 gpd/parking space	Food service[7]	15 gpd/parking space + Food service[7]
Ice/roller Skating Rink	15 gpd/skater[1] + 5 gpd/specator[1]	Food service[7]	15 gpd/skater[1] + 5 gpd/specator[1] + Food service[7]
Recreation	15 gpd/parking space	Food service[7]	15 gpd/parking space + Food service[7]
Spa/Fitness Center/ Karate/Dance/etc. (w/ showers & amenities)	0.1 gpd/sf	0.2 gpd/sf + Food service[7]	0.3 gpd/sf + Food service[7]
Spa/Fitness Center/ Karate/Dance/etc. (w/o showers & amenities)	0.1 gpd/sf	Food service[7]	0.1 gpd/sf + Food service[7]
Marina	10 gpd/boat slip	Food service[7]	10 gpd/boat slip + Food service[7]
OTB	5 gpd/person	Food service[7]	5 gpd/person + Food service[7]
Theater	3 gpd/seat	Food service[7]	3 gpd/seat + Food service[7]
Horse Farm[6]	0.04 gpd/sf + 10 gpd/stall		0.04 gpd/sf + 10 gpd/stall
Camp Ground	10 gpd/camper	5 gpd/shower/camper	10 gpd/camper + 5 gpd/shower/camper
Billiard Hall	5 gpd/occ	2.5 gpd/occ	7.5 gpd/occ
RESIDENTIAL			
Single Family Residence	300 gpd		300 gpd
Two Family Residence	600 gpd		600 gpd
Rooming house	75 gpd/bed		75 gpd/bed

Motel/Hotel unit up to 400 sq.ft. gross floor area w/o kitchenette (w/kitchenette see Housing Unit)	100 gpd/unit		100 gpd/unit
Motel/Hotel unit > 400 sq.ft. gross floor area w/o kitchenette (w/kitchenette see Housing Unit)	150 gpd/unit		150 gpd/unit
Housing Unit[8] up to 600 sq.ft. gross floor area	150 gpd/unit		150 gpd/unit
Housing Unit[8] between 601-1200 sq.ft. gross floor area	225 gpd/unit		225 gpd/unit
Housing Unit[8] > 1200 sq.ft. gross floor area	300 gpd/unit		300 gpd/unit
PRC unit up to 600 sq.ft. gross floor area	100 gpd/unit		100 gpd/unit
PRC unit between 600-1600 sq.ft. gross floor area	150 gpd/unit		150 gpd/unit
PRC unit between 1600-2000 sq.ft. gross floor area	225 gpd/unit		225 gpd/unit
PRC unit > 2000 sq.ft. gross floor area	300 gpd/unit		300 gpd/unit
RETAIL			
Dry store	0.03 gpd/sf		0.03 gpd/sf
Wet store w/o Food (Hair salon, nail salon, pet shop w/o animal boarding, etc.)	0.03 gpd/sf	0.07 gpd/sf	0.1 gpd/sf
Car Dealership	0.03 gpd/sf for showroom/offices + 0.04 gpd/sf for maintenance/storage areas		0.03 gpd/sf for showroom/offices + 0.04 gpd/sf for maintenance/storage areas
Massage/Tanning	0.03 gpd/sf		0.03 gpd/sf
Tattoo Parlor	0.03 gpd/sf		0.03 gpd/sf
SCHOOL			
Boarding school/ Dormitory	75 gpd/capita[1]	2.5 gpd/capita[1]	77.5 gpd/capita[1]
Day School	5 gpd/capita[1]	2.5 gpd/capita[1]	7.5 gpd/capita[1]
MISCELLANEOUS			
Car Wash	0.04 gpd/sf	Car wash process water[4]	0.04 gpd/sf
Laundromat	0.03 gpd/sf	Laundromat process water[4]	0.03 gpd/sf
Funeral Home	0.05 gpd/sf	Funeral Home process water[4]	0.05 gpd/sf

House of Worship (w/ meeting rooms)	1.5 gpd/seat + 5 gpd/occupant[1] for meeting rooms	2.5 gpd/occupant[1]	1.5 gpd/seat + 5 gpd/occupant[1] + 2.5 gpd/occupant[1]
House of Worship (w/o meeting rooms)	1.5 gpd/seat	2.5 gpd/occupant[1]	1.5 gpd/seat + 2.5 gpd/occupant[1]
Public Storage[9]	0.04 gpd/sf		0.04 gpd/sf
Animal boarding[6]	0.03 gpd/sf + 10 gpd/animal		0.03 gpd/sf + 10 gpd/animal
Winery/Brewery	0.04 gpd/sf	Winery/Brewery process water[4]	0.04 gpd/sf

[1] Occupancy ratings can be determined using New York State Uniform Fire Prevention and Building Code as a guide.
[2] Single Service means disposable plates, silverware & cups. Takeout seating is for waiting patrons and is not convertible to full seating or for density credit at full service restaurants.
[3] General industrial buildings may contain up to 15% related office space without applying a proportionate office density loading or flow rating to the space. If office space exceeds 15% of gross floor area, then a proportionate office density loading or flow rating must be applied to the entire office space.
[4] Process waters require a separate permit and disposal facilities – Consult Department.
[5] A grease trap shall be provided for this installation which is sized at 20 gpd/bed.
[6] A separate sewage disposal system shall be provided for wastewater generated from animal boarding, horse stalls, or kennel areas.
[7] Food (kitchen) flow is added according to the type of food service in the establishment.
[8] Motel/Hotel with Kitchenettes, Cottages, Apartments, Condominiums, Mobile Homes, Trailers, or Co-Ops.
[9] Public storage density and/or design flow may be reduced if restrictive covenants are recorded on the parcel.

Note: **The above table is subject to amendment from time to time as data becomes available to the Department. The table will be republished as an addendum to these standards if and when revised.**

X. DETERMINING TYPE AND REQUIREMENTS FOR SEWAGE DISPOSAL SYSTEM

1. Conventional Subsurface Sewage Disposal System.

   If the Density Load for a project, as calculated in Section VIII, is less than or equivalent to the Population Density Equivalent, calculated in Section VII, then a Conventional Subsurface Sewage Disposal System may be acceptable to serve the project, provided all other applicable requirements of these standards can be met. Where the total design flow for a parcel is greater than 30,000 gpd, the disposal system must be separated into individual outfalls not to exceed 30,000 gpd per outfall.

   Conventional subsurface sewage disposal systems consist of precast concrete septic tank(s) and subsurface leaching pool(s) together with sewer piping, manholes, distribution boxes, grease traps and other appurtenances as defined in these standards or in other bulletins issued by the Department.

   A parcel that is separately assessed, as shown on the 1981 tax maps, shall be allowed a minimum Design Sewage Flow (density load + kitchen/gray load) of 300 gpd regardless of lot area utilizing a Conventional subsurface system provided all other applicable requirements of these standards can be met. This exemption is based upon total lot area of the project and shall not be additive if a project seeks to combine several undersized lots.

2. Sewage Treatment Systems

   a) Categories of Sewage Treatment Systems

   If the Density Load for a project exceeds the Population Density Equivalent then the installation of a sewage treatment system will be required. Sewage treatment systems are broken down into the following categories:

      i. On-Site Sewage Treatment System

      If the project consists of a single lot, an On-Site Sewage Treatment System, as applicable, will be required to serve the project.

      An On-Site Sewage Treatment System includes a sewage treatment facility located on the same parcel as the building(s) it serves, which includes processes capable of meeting applicable discharge standards. These systems must serve all the buildings and facilities located on the site. This type of system may be approved for projects constructed on a single parcel which is not part of a realty subdivision or development that is proposed or has already been approved by the Department. A community water supply system must be provided to serve these projects.

ii. Community Sewage Treatment System

If the project consists of Condominiums, Town Homes, Home Owner's Association, or will serve two or more separate tax parcels, then a Community Sewage Treatment System, as applicable, will be required to serve the entire project.

Community sewage treatment systems include a sewage collection system, treatment works and sewage disposal facilities. The community sewage treatment facility must be capable of producing an effluent meeting applicable discharge standards. In addition, projects served with these types of systems require acceptance by the Suffolk County Sewer Agency (SCSA), and must be reviewed and approved by the Suffolk County Department of Public Works. Design of these systems is covered in the GLUMRB - Recommended Standards for Wastewater Facilities - 2004 Edition, or the latest revision. Additional standards for construction of these facilities can be obtained from the Suffolk County Department of Public Works.

iii. Municipal Sewage Treatment System.

If the project is located within the boundaries of a county, town, or village sewer district, then the project must be served by the appropriate Municipal Sewage Treatment System.

b) Types of Treatment Works

On-Site, Community and Municipal Sewage Treatment Systems shall contain treatment works of a type and design acceptable to the Department as well as to the NYSDEC and SCSA, when applicable. These can be classified into two types depending upon the design sewage flow:

i. Modified Subsurface Sewage Disposal Systems

A modified subsurface sewage disposal system may be permitted when the Design Sewage Flow (density load + kitchen/gray load) generated from the project is less than or equal to 15,000 gallons/day. These systems must be capable of producing an effluent meeting applicable discharge standards. However, when the project Design Sewage Flow exceeds 1,000 gallon/day, the NYSDEC may also review the proposed system design and issue a SPDES permit for the facility prior to the Department issuing a permit to construct. Applicable guidelines and/or standards covering these systems can be found in **Appendix A**.

ii. Sewage Treatment Plant (STP) or Treatment Works

A Sewage Treatment Plant or Treatment Works may be permitted when the Design Sewage Flow (density load + kitchen/gray load) generated from the project is greater than 15,000 gallons/day. These systems must be capable of producing an effluent meeting applicable discharge standards. Applicable design standards can be found in

the GLUMRB - Recommended Standards for Wastewater Facilities - 2004 Edition, or the latest revision, and **Appendix B**.

XI. LOCATION / SITING OF SEWAGE DISPOSAL SYSTEMS

1. Priority Siting for Sewage Disposal Systems

Because the failure of sewage disposal systems has the potential for significant public health impact, first priority during planning shall be given to the location of sewage disposal systems over the location of other improvements on the property.

The design professional is responsible to consider the significance of the existing and proposed topography, soils, location of existing and proposed private and public water supply wells, surface waters, wetlands, and groundwater conditions. The design must take into consideration the planned locations of other improvements such as building locations, underground utilities, storm drainage structures, and construction on adjacent properties, property lines, and other limitations of a physical or legal nature.

2. Site Conditions Prohibited

Sewage Disposal Systems shall not be located:

c) In any area subject to imminent erosion, which cannot be controlled so as to protect the sewage disposal system(s);

d) In areas where the highest recorded groundwater level is less than one foot below the original ground surface;

e) In areas with existing slopes greater than 15%, unless the site can be properly graded in accordance with these standards. Refer to Section XXI - Final Grading and Backfilling;

f) In areas where the existing subsoils contain meadow mat, bog, silts, clays, or other impervious material extending below the groundwater table;

g) In areas where the groundwater conditions are not conducive to the proper functioning of subsurface sewage disposal systems;

h) Where topography concentrates runoff onto or into the area where the system is proposed;

i) In any area or under any part of a building, or other improvements that does or may prevent reasonable access for repair or maintenance of the system.

j) In any area which may reasonably be expected to create a public health risk.

3. Site Condition Requirements

Sewage Disposal Systems shall be located:

a) On land owned in fee by the applicant (except for Community or Municipal Sewage Treatment Systems);

b) On the same parcel as the building(s) to be serviced (except for Community or Municipal Sewage Treatment Systems);

c) In an area which is easily accessible for purposes of maintenance and/ or replacement of sewage disposal and treatment system components;

d) In accordance with the minimum separation distances presented in Table 2 of these standards;

e) In accordance with the minimum separation distances and other conditions listed in **Appendix A** and **Appendix B** as applicable.

4. Expansion Area Requirements

a) Conventional Subsurface Sewage Disposal Systems

A land area shall be set aside and shown on the plans adequate to allow for a minimum of fifty percent (50%) expansion and/or replacement of the leaching system. The area provided for expansion shall be contiguous to the location of the planned system. Deepening the basic system is not permitted in lieu of this expansion area.

b) On-site or Community Sewage Treatment Systems

An adequate area shall be set aside to allow for a minimum of one-hundred percent (100%) expansion and/or replacement of sewage treatment and disposal systems. The area provided for expansion shall be contiguous to the planned location of the treatment and disposal facilities. Deepening the leaching system is not permitted in lieu of this expansion area. Refer to **Appendix A or B,** of these standards, for additional information.

5. Other Site Specific Considerations

To protect the public water supply and the benefits that freshwater wetlands, tidal wetlands, streams, and other surface waters provide, all projects may be subject to a separate site review by the department. The following criteria apply to these sites:

a) Sewage disposal systems shall be located to maximize distances to public water supply wells. If the department determines that insufficient distance exists to protect the well, further treatment may be required.

b) Sewage disposal systems shall be located to maximize distances to regulated freshwater wetlands, tidal wetlands, ponds, streams, and other surface waters. See **Table 2** of these standards for specific separation distance requirements.

c) Boundaries of wetlands, surface waters and flood zones shall be shown accurately on surveys and site plans. Wetlands are not regulated directly by the Department, only through standards and regulations of the NYSDEC, NYSDOH, and various other government agencies.

TABLE 2 - MINIMUM HORIZONTAL SEPARATION DISTANCES

Table of Minimum Horizontal Separation Distances From:	Septic Tank, Pump Station, Grease Trap, or Manhole	Leaching Pool [3]	Sewer Line, Force Main
Building with Cellar	10 ft.	10 ft.	5 ft.
Building on Slab	5 ft.	10 ft.	5 ft.
Water Service Line/Laterals/Mains [5]	10 ft.	10 ft.	10 ft. [4]
Underground Utilities	5 ft.	5 ft.	5 ft.
Surface Water/Regulated Wetlands	75 ft.	100 ft.	50 ft.
Public Water Well [2]	200 ft.	200 ft.	50 ft.
Private Well [1]	100 ft.	150 ft.	50 ft.
Storm Drain/Stormwater Recharge Basin [5]	20 ft.	20 ft.	10 ft.
Catch Basins (non leaching)/Drainage Pipe[6]	5 ft.	10 ft.	5 ft.
Leaching Pool	8 ft.	8 ft.	10 ft. [7]
Septic Tank, Pump Station, Grease Trap, or Manhole[8]	5 ft.	8 ft.	5 ft.
Property Lines	5 ft.	10 ft.	5 ft.
Swimming Pool	20 ft.	20 ft.	5 ft.
Retaining Wall (water proof)	10 ft.	10 ft.	5 ft.
Fuel Storage Tanks (below ground)	20 ft.	20 ft.	10 ft.
Top of Embankment or Steep Slope (15 % slope or greater)	25 ft.	25 ft.	25 ft.
Bluffs	65 ft.	65 ft.	65 ft.

[1] Increased distance between leaching pools and private wells may be required based upon the depth of the well(s) involved and the direction of groundwater flow. Refer to **Standards For The Design Of Individual Water Supply Systems**. Discharges from treatment works shall be located down gradient of the well or out of the groundwater flow path towards the well. **Precise groundwater flow direction measurements may be required**.

[2] Significant discharges (generally greater than 5,000 gpd or those in proximity to wells) are subject to a separate site review by the department.

[3] Leaching pools for treatment works have different distance requirements. See **Appendix A** and **Appendix B** for distance requirements for leaching pools or recharge beds associated with modified subsurface sewage disposal systems and treatment works, respectively.

[4] Water and sewer lines may be in the same trench if the water line is placed on an undisturbed bench or shelf so that the bottom of the water main is at least 18 inches higher than the top of the sewer and the sewer is not subject to settling, vibration, superimposed loads, or frost action.

[5] A minimum of 10 foot separation is required between water service line/laterals/mains and the edge of all stormwater drainage leaching structures.

[6] A minimum of 5 foot separation is required between water service line/laterals/mains and the edge of all stormwater drainage non-leaching structures and associated piping.

[7] Sewer piping between clusters of leaching pools may be installed at lesser separation distances.

[8] Multiple unit septic tanks and grease traps shall be considered one structure and therefore individual components may be installed at lesser separation distances.

XII. SUBSOIL AND GROUNDWATER CONDITIONS

Subsoil conditions shall be shown on the plans. The nature of the soil shall be determined by excavation of one or more test holes at the site of the proposed subsurface sewage disposal system. The soil investigation shall be subject to the following conditions:

1. Test Holes/Borings

   The soils in the test holes/borings shall be classified using the ASTM Unified Soil Classification System (ASTM D-2487) as a reference. The test holes/borings shall be carried to a depth of three feet in excess of the proposed leaching pool bottom or seventeen feet, whichever is greater. In the case where unacceptable soil is encountered, the test hole/boring must be carried until a strata of six feet of clean sand is reached (defined as SP or SW by ASTM standards). If groundwater is encountered less than seventeen feet from grade, then the test hole/boring must be extended a minimum of six feet into groundwater.

   A test hole/boring log and grade elevation at the test hole shall be indicated on the plans. The log shall also indicate the date, time, and person responsible for the test hole. If groundwater is encountered, the groundwater elevation measured during the test hole/boring and the highest recorded groundwater elevation shall be shown.

2. Responsibility of Design Professionals

   The design professional, by providing this information on the submitted plan, is considered to be certifying the results. Test holes/borings listed as "by others" are unacceptable unless independently certified by a design professional. Test holes/borings undocumented as to time and location of test are not acceptable.

3. Witnessed Test Excavations

   Test excavations witnessed by a representative of the Department may be required prior to approval to construct in areas of unusually poor soils or high groundwater or where data on record with the Department indicates inconsistent conditions. Borings are not acceptable to be witnessed by the Department in lieu of open excavations.

4. Interpretation of Soil Investigation

   In the event that there is a question over the classification of any soil and its suitability for sewage disposal, a sieve analysis performed by a qualified laboratory or design professional may be required. The Department may also require a technical report, submitted by a design professional, where unsuitable soil conditions exist at a site.

5. Removal of Soils Unsuitable for Leaching Pools

   Unsuitable soils shall be removed and replaced with clean sand for a diameter six feet greater than the leaching pool (three foot collar) extending down until a hydraulic connection is established with a minimum six foot stratum of acceptable material. In cases where clean sand

cannot be encountered, a design for an alternative sewage disposal system may be required in accordance with Section XXV of these standards.

XIII. CONSTRUCTION MATERIALS REQUIREMENTS

All components used in the sewage disposal system shall comply with the appropriate National Sanitation Foundation, the American Society of Testing and Materials, the American Association of Highway and Traffic Office, and / or the American Water Works Association requirements. Concrete used in the construction of sewage disposal system components shall conform to ASTM - C33 and ASTM - C150 standards. Concrete reinforcement shall conform to ASTM - A185 and ASTM - A615 as applicable.

All materials shall be identified as to manufacturer and have identification visible at the time of inspection.

XIV. SEPTIC TANK REQUIREMENTS

1. General

   All conventional subsurface and/or alternative sewage disposal systems shall contain a septic tank as part of the overall sanitary disposal system design.

2. Location

   Septic tanks shall be located below grade and outside the building in either paved or unpaved areas. Septic tanks shall be located in areas that are easily accessible for routine inspection and maintenance. Refer to Section XI for additional siting requirements.

3. Design Capacity / Configuration

   Septic tanks shall be designed to hold two days' Design Sewage Flow with a minimum capacity of 1200 gallons. The Design Sewage Flow for the project can be calculated from Section IX of these standards. All septic tanks shall be cylindrical and shall meet the following:

   a) Single Unit Septic Tank (Figure # 1)

      i. The minimum outside diameter cylindrical septic tank shall be 8 feet and the maximum outside diameter shall be 12 feet.

      ii. The minimum liquid depth of any cylindrical septic tank shall be 4 feet. Liquid depth is the effective depth of the tank below the outlet pipe.

      iii. Eight (8) foot diameter tanks shall have a maximum liquid depth of 5 feet.

      iv. Ten (10) foot diameter tanks shall have maximum liquid depth of 6 feet.

v. Twelve (12) foot diameter tanks shall have a maximum liquid depth of 7 feet.

vi. There shall be a maximum number of three (3) outlet pipes from the septic tank. All outlet pipes shall be set at the same elevation.

b) Two Unit Septic Tank (Figure #2)

In addition to the requirements listed in Section XIV C.1, two unit septic tanks shall require the following:

i. Units shall be connected with three (3) - 8 inch diameter pipes placed such that the center lines of the pipes are 18 inches below the liquid level of the tank. The three connecting pipes shall be spaced 20 inches on centers. Each unit shall have the same diameter and liquid depth.

c) Multiple Unit Septic Tank (Figures #3 and #4)

In addition to the requirements listed in Section XIV C.1, multiple unit septic tanks shall require the following:

i. When three or more individual septic tanks are utilized within one system, they shall be placed on a common reinforced concrete slab at least 6 inches thick.

ii. All units shall be connected with two (2) – 8 inch diameter pipes placed such that the center lines of the pipes are 18 inches below the liquid level of the tank. Each connecting pipe set shall be spaced 20 inches on centers.

iii. Each unit shall have the same diameter and liquid depth.

4. Design and Construction Details

a) All septic tank components (i.e. slabs, domes, covers, etc.) shall be constructed of precast reinforced concrete and designed to be traffic bearing to meet the requirements of AASHTO H-20 loading.

b) All units shall be provided with two openings with a minimum diameter of 20 inches positioned over the inlet and outlet pipes. A watertight and insect-proof adjustable and locking cast iron frame and cover shall be installed at grade over each opening.

c) Extension Collars (chimneys) may be used for the purpose of bringing the cast iron covers to grade provided that they are firmly affixed in place. The extension collar (chimney) shall be of reinforced precast concrete at least 24 inches in diameter and shall not exceed 2 feet in height.

d) The top slab or dome of the septic tank shall be located a maximum of 2.5 feet below grade.

e) There shall be a minimum 1 foot air space measured from the outlet invert(s) to the bottom of the septic tank top slab or dome.

f) Precast concrete sections shall be sealed with one(1) - inch butyl rubber joint sealant which conforms to ASTM C-990.

g) The outlet invert(s) shall be six inches below the lowest inlet invert. All outlet inverts shall be installed at the same level.

h) The outlet pipe(s) from the tank shall be provided with a drop tee extending eighteen inches into the liquid. The outlet(s) shall be located at the maximum flow path from the inlet.

i) All sewer pipes shall penetrate the vertical sidewall of the septic tank(s) and shall be sealed with grout. There shall be no penetrations within domes.

j) All single unit septic tanks shall be divided into two compartments, the inlet compartment to have 50 - 75 percent of the total capacity. The traverse wall separating compartments shall extend from the bottom to at least 6 inches above the liquid level and be constructed of reinforced precast concrete.

k) The opening in the traverse wall shall be 8 inches in height and at least 24 inches wide. The center shall be 18 inches below the liquid level. There shall be a minimum of 4 inch air gap at the top of the traverse wall.

l) Whenever practical, septic tanks shall not be located within groundwater. For installations that are placed in groundwater, the bottom and side portion, up to 18 inches above the highest recorded groundwater elevation, of the septic tank shall be monolithically constructed. In cases where this is not practicable, the septic tank shall be water-proofed up to 18 inches above the highest recorded groundwater elevation and leak tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

m) Septic tanks shall be installed in accordance with the manufacturer's recommendation. All septic tanks shall be installed at level in all directions (with a maximum tolerance in any direction of +/- one quarter inch) on a minimum three inch bed of properly graded and compacted sand which is free of rock and pea gravel.

XV. GREASE TRAP REQUIREMENTS

1. General

All restaurants and/or food preparation establishments are required to install a grease trap for the kitchen or food preparation area. A grease trap is considered part of the equipment necessary to obtain a permit to operate a food establishment pursuant to Article 13 of the Suffolk County Sanitary Code. Grease traps should be cleaned and maintained on a regular basis in order to insure proper functioning and insect free performance.

2. Location

Grease traps shall be located below grade and outside the building preceding the septic tank or sewer line. Only discharges from the kitchen or food preparation areas may be piped to grease traps. Grease traps shall be located in areas that are easily accessible for routine inspection and maintenance. Refer to Section XI for additional siting requirements.

3. Design Capacity / Configuration

The required capacity of grease traps shall be based on the kitchen design flow for a one day period. The kitchen design flow can be calculated from Section IX of these standards. All grease traps shall be cylindrical with a minimum size of 1500 gallons and meet the following criteria:

a) Single Unit Grease Trap (Figure #5)

i. The minimum outside diameter cylindrical grease trap shall be 8 feet and the maximum outside diameter shall be 12 feet.

ii. The liquid depth shall be a minimum of 5 feet and shall not exceed 7 feet depending upon diameter.

b) Multiple Unit Grease Trap (Figure #6)

i. The minimum outside diameter cylindrical grease trap shall be 10 feet and the maximum outside diameter shall be 12 feet.

ii. The liquid depth shall be a minimum of 5 feet and shall not exceed 7 feet depending upon diameter.

iii. Each unit shall have the same diameter.

iv. Units shall be connected in series by utilizing one 6 inch diameter drop tee pipe.

v. There shall be a 6 inch drop between the inlet and outlet pipes of each unit. Each succeeding unit shall have a liquid depth of 6 inches less than the preceding unit.

4. Design and Construction Details

a) All grease trap components (i.e. slabs, domes, covers, etc.) shall be constructed of precast reinforced concrete and designed to be traffic bearing to meet the requirements of AASHTO H-20 loading.

b) All units shall be provided with two openings with a minimum diameter of 20 inches positioned over the inlet and outlet pipes. A watertight and insect-proof adjustable and locking cast iron frame and cover shall be installed at grade over each opening.

c) Extension Collars (chimneys) may be used for the purpose of bringing the cast iron covers to grade provided that they are firmly affixed in place. The extension collar (chimney) shall be of reinforced precast concrete at least 24 inches in diameter and shall not exceed 2 feet in height.

d) The top slab or dome of the grease trap shall be located a maximum of 2.5 feet below grade.

e) There shall be a minimum 1 foot air space measured from the outlet invert(s) to the bottom of the grease trap top slab or dome.

f) The base section of all units (bottom slab and minimum of 1 foot of sidewall) shall be monolithically cast.

g) Precast concrete sections shall be sealed with one (1) - inch butyl rubber joint sealant which conforms to ASTM C-990.

h) The outlet pipe(s) from each grease trap unit shall be 6 inch in diameter to the inlet of the septic tank or sewer main. Each outlet shall be provided with a 6 inch diameter drop tee extending to 1 foot above the bottom of the tank. The outlet(s) shall be braced as required and located at the maximum practicable distance from the inlet.

i) All sewer pipes shall penetrate the vertical sidewall of the grease trap(s) and shall be sealed with grout. There shall be no penetrations within domes.

j) Whenever practical, grease traps shall not be located in groundwater. For installations that are placed in groundwater, the bottom and side portion, up to 18 inches above the highest recorded groundwater elevation, of the grease traps shall be monolithically constructed. In cases where this is not practicable, the grease traps shall be water-proofed up to 18 inches above the highest recorded groundwater elevation and leak tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

5. Exceptions

While the requirement to install a grease trap at establishments served by community sewers shall not be waived, the design, location, capacity and construction details for the unit shall be determined by the appropriate sewer authority.

XVI. LEACHING POOL REQUIREMENTS

1. General

   Leaching pools are used as part of conventional subsurface or alternative sewage disposal system, and on-site and community sewage treatment systems to infiltrate effluent into the surrounding soil.

2. Location

   Leaching pools must be installed in areas that are easily accessible for routine inspection, maintenance, replacement or expansion. Refer to Section XI for additional requirements concerning the location of leaching pools.

3. Design Leaching Area

   a) Leaching pool systems shall be designed on the basis of sidewall area to receive one full day's hydraulic design flow. The required sidewall leaching area is computed from the outside wall area below the inlet pipe for satellite pools and below the outlet pipe for distribution pools. The pool bottom area is not to be included in the leaching area computation.

   b) The minimum required system sidewall leaching area is 300 sq.ft.

   c) The maximum hydraulic leaching rate of 1.5 gal/sq.ft./day shall be used for Conventional Subsurface Sewage Disposal Systems.

   d) The maximum hydraulic leaching rate of 5 gal/sq.ft./day shall be used for On-Site and Community Sewage Treatment Systems without positive filtration processes.

   e) The maximum hydraulic leaching rate of 10 gal/sq.ft./day shall be used for On-Site and Community Sewage Treatment Systems with positive filtration processes.

   f) The maximum hydraulic leaching rate for alternative sewage disposal systems shall be determined in accordance with the requirements of Section XXV of these standards.

4. Leaching Pool Design and Construction Details (Figure #7)

   a) All leaching pools shall have an outside diameter of eight feet or ten feet.

   b) When more than one leaching pool is used, all pools shall be the same size and depth, except the distribution pool, which may differ.

   c) When a distribution pool is used, all outlet pipes shall be set at the same elevation and be at least three inches below the inlet pipe. All outlets shall be provided with an 18 inch drop tee.

d) The maximum permissible depth of a precast concrete leaching pool is twenty five feet from finished grade. The minimum permissible effective depth of any leaching pool shall be three feet.

e) The minimum vertical separation distance from the bottom of the leaching pools to the highest recorded groundwater elevation shall be 3 feet for all new leaching pools installed after the effective date of this standard. Previously installed leaching pools that do not meet this criteria may be accepted by the Department on a case-by-case basis.

f) All leaching pools (i.e. slabs, domes, covers, etc.) shall be constructed of precast reinforced concrete and designed to be traffic bearing to meet the requirements of AASHTO H-20 loading.

g) All leaching pools shall be provided with one opening with a minimum diameter of 20 inches. A watertight and insect-proof adjustable and locking cast iron frame and cover shall be installed at grade over each opening.

h) Extension Collars (chimneys) may be used for the purpose of bringing the cast iron covers to grade provided that they are firmly affixed in place. The extension collar (chimney) shall be of reinforced precast concrete at least 24 inches in diameter and shall not exceed 2 feet in height.

i) The top slab or dome of the leaching pool shall be located a maximum of 2.5 feet below grade.

j) All sewer pipes shall penetrate the vertical sidewall of the leaching pool and shall be sealed with grout. There shall be no penetrations within domes.

5. Leaching Pool Arrangement / Layout (Figure #8)

a) A maximum of 3 leaching pools are permitted to be piped directly from the septic tank.

b) When 4 or more leaching pools are required, a distribution leaching pool or a distribution manhole shall be used to apportion the flow to the satellite leaching pools.

c) A maximum of 4 satellite leaching pools shall be piped from a distribution pool or manhole to form one leaching pool cluster.

d) When more than 5 leaching pools are required, multiple leaching pool clusters shall be provided. The leaching pool clusters may be piped directly from the septic tank or from distribution pools or manholes as required.

e) When multiple clusters are utilized, each cluster shall be equipped with a gate or ball valve to allow for isolation and resting. Each valve shall be outfitted with a traffic bearing cover that is accessible for operation from grade.

6. Installation Requirements

   a) Leaching pools shall be installed in clean sand (defined as SP or SW by ASTM standards).

   b) Unsuitable soils shall be removed and replaced with clean sand for a diameter six feet greater than the leaching pool (three foot collar) extending down until a hydraulic connection is established with a minimum six foot stratum of acceptable material.

   c) In cases where clean sand cannot be encountered, a design for an alternative sewage disposal system may be required in accordance with Section XXV of these standards.

   d) The bottom and sidewall area of the leaching pools shall be free of debris before backfilling.

XVII. MANHOLE REQUIREMENTS

1. General

   Manholes are used as part of a sewage disposal and collection systems to distribute equal volumes of sewage, to allow for access, or to collect and re-distribute sewage.

2. Location

   a) Manholes shall be provided on gravity sewer lines wherever there is a grade change or alignment change further than 10 feet from building foundations as measured along the pipe.

   b) Manholes shall be provided on gravity sewer lines at intervals not exceeding 400 feet.

   c) Manholes shall be provided at the junctions and at the ends of lateral or main sewer lines.

   d) Building sewer connections shall not be piped directly to a collection system manhole, but shall be connected to the main line via a wye connection.

3. Design and Construction Details

   a) All manholes (i.e. slabs, covers, etc.) shall be constructed of precast reinforced concrete and designed to be traffic bearing to meet the requirements of AASHTO H-20 loading.

   b) All manholes shall be constructed in accordance with ASTM C-478 (latest revision).

   c) All manholes shall be provided with an opening with a minimum diameter of 20 inches. A watertight and insect-proof adjustable and locking cast iron frame and cover shall be installed at grade over each opening.

d) Extension Collars (chimneys) may be used for the purpose of bringing the cast iron covers to grade provided that they are firmly affixed in place. The extension collar (chimney) shall be of reinforced precast concrete at least 24 inches in diameter and shall not exceed 2 feet in height.

e) The top slab of the manhole shall be located a maximum of 2.5 feet below grade.

f) The base section of all manholes (bottom slab and minimum of 1 foot of sidewall) shall be monolithically cast.

g) Precast concrete sections shall be sealed with one(1) - inch butyl rubber joint sealant which conforms to ASTM C-990.

h) The bottom of all manholes shall be coved or benched. The bench shall be the same width as the diameter of the pipe and shall extend upward at least three-quarters of the diameter of the pipe.

i) All sewer pipe penetrating the manhole shall be accomplished with a cast- in place flexible rubber sleeve that conforms to ASTM C-923 and stainless steel tightening devices. For cases where a new penetration is being made into an existing manhole, a link seal may be substituted for the rubber boot.

j) If the manhole is more than four feet in depth, manhole steps shall be provided every twelve (12) inches. The steps shall be constructed of copolymer polypropylene coated 2 inch steel reinforcing bar. The access opening shall be provided over the manhole steps.

k) Whenever practical, manholes shall not be located in groundwater. For installations that are placed in groundwater, the bottom and side portion, up to 18 inches above the highest recorded groundwater elevation, of the manhole shall be monolithically constructed. In cases where this is not practicable, the manhole shall be water-proofed up to 18 inches above the highest recorded groundwater elevation and leak tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

4. Types of Manholes

Manholes can be broken into 4 general categories. In addition to the items in Section C above, each category shall conform to the following requirements:

a) Access/Junction Manhole (Figure #9)

i. Access/junction manholes shall have a minimum inside diameter of 4 feet.

ii. For pipe diameters of 24 inches or greater, the minimum inside diameter of the manhole shall be 5 feet.

iii. A minimum drop of 0.1 foot shall be provided between the inlet and lowest outlet invert elevation.

iv. The maximum change in elevation between the inlet and outlet invert shall be no greater than 2 feet.

b) Drop Manhole (Figure #10)

i. All drop manholes shall have a minimum inside diameter of 5 feet

ii. A drop manhole is required to be provided when the difference in elevation between the inflow and outflow sewer line is greater than 2 feet.

iii. The drop pipe shall be securely attached to the sidewall of the manhole with stainless steel straps.

c) Distribution Manhole (Figure #11)

i. All outlets from the distribution manhole shall be set at the same elevation.

ii. A minimum drop of 0.1 foot shall be provided between the inlet and outlet invert elevations.

d) Sampling Manhole (Figure #12)

i. Dimensions for sampling manholes shall be 2 foot by 2 foot.

ii. Maximum depth for sampling manhole shall be 4 feet.

iii. A minimum drop of 0.1 foot shall be provided between the inlet and outlet invert elevations.

iv. A 12 inch deep sample retention area shall be provided below the outlet invert elevation.

XVIII. GRAVITY SEWER LINE REQUIREMENTS

1. General Sewer Line Requirements

a) Gravity sewer lines and fittings shall meet or exceed ASTM standard D-3034 for PVC sewer pipe with a minimum SDR 35 rating, unless otherwise indicated.

b) PVC pipe and fittings shall be provided with integral bells and spigots and rubber sealing rings. The sealing rings shall meet the requirements of ASTM standard F-477. All sewer lines shall be straight, and couplings shall be securely installed and be watertight.

c) All sewer lines shall have a minimum diameter of four (4) inches.

d) Where practical, gravity sewer lines shall not be installed in groundwater. For installations that are placed in groundwater, the sewer piping shall be constructed of pressure rated piping and tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

2. Internal Building Plumbing

a) Internal building plumbing shall be designed in accordance with applicable building codes and is outside the jurisdiction of the Department.

b) It is the preference of the Department that all individually owned buildings, residences, or premises be plumbed separately and serviced with an independent house connection to the exterior sanitary services.

c) The use of common house connections shall be permitted provided that the internal plumbing is designed to accommodate multiple sewer connections in accordance with good engineering practice and applicable building codes. In addition, restrictive covenants shall be placed upon the property notifying the owner and/or homeowners association of their responsibility for the operation and maintenance of the internal sewer appurtenances; including, but not limited to, the repair, replacement, and cleaning of the internal piping within the structure.

3. House Connections

a) A house connection is defined as the portion of the gravity sewer line which extends from the face of the building to the sewage disposal or sewer system.

b) There shall be a minimum two foot length of cast-iron sewer line extending through the foundation.

c) House connections shall have a minimum diameter of 4 inches, unless otherwise noted.

d) House connections serving two or more commercial or multiple residential units shall have a minimum diameter of 6 inches.

e) House connections shall have a minimum pitch of one-quarter inch per foot.

f) Slip ring connectors of the proper type shall be used at the cast iron joint. If required, a flexible PVC coupling with stainless steel bands may be used to connect cast iron pipe to PVC house Connections. The flexible coupling and bands shall conform to ASTM C1173.

g) All house connections shall be provided with a clean-out at the face of the building.

h) House connections shall be straight. There shall be no bends in sewer lines to the septic tank or grease trap. If bends are unavoidable, then the following additional criteria shall apply:

i. For bends greater than 10 feet from the building foundation as measured along the length of the sewer pipe, an approved manhole will be required where the pipe changes direction.

ii. For bends within 10 feet of the building foundation measured along the length of the sewer pipe, no fittings greater than 45 degrees shall be installed. If a directional change greater than 45 degrees is required, a minimum of five foot length of pipe shall be installed between fittings. The maximum permitted change in alignment of the sewer line shall be 90 degrees as measured along the axis of the starting pipe.

iii. Cleanouts are required at any bend within 10 feet from the building or every 75 feet along the length the house connection. Refer to Figure #13.

4. Sewer Main / Lateral Sewer Requirements

a) Sewer main and lateral sewers shall have a uniform slope and be laid with a straight alignment, without bends. When required, approved manholes may be utilized where sewers change direction or slope.

b) House or building sewers shall be connected to main or lateral sewers with approved wye fittings.

c) Sewers shall be provided with manholes at intervals not to exceed 400 feet. See Section XVII for manhole location requirements.

d) Sewer main and lateral sewers shall have a minimum diameter of eight inches, and shall have a minimum slope of 0.4%. Ten inch diameter sewers shall have a minimum slope of 0.28%.

e) Sewer main and lateral sewers that have less than 2 foot of cover or are not placed on virgin soil shall be constructed of ductile iron pipe.

f) Sewer main and lateral sewers that have between 2 foot and 4 foot of cover shall be constructed of DR18 or ductile iron pipe.

g) Sewer main and lateral sewers that have over 4 foot of cover may utilize SDR35 pipe.

5. Installation / Backfilling Requirements

a) The width of trenches shall be adequate to allow sewer pipe to be laid and joined properly and to allow bedding and haunching to be placed and compacted to adequately support the pipe.

b) The embedment material around the PVC pipe shall be installed in layers not exceeding six inches. The embedment material shall be Class I, Class II, or Class III. Class I material shall conform to the following standards: minimum particle size 3/4 inches, not less than 50% weight of material shall pass the 3/8 inch sieve. Class II material is defined as coarse sands and gravels with maximum particle size of 40 mm (1/2 inches), including variously graded sands and gravels containing small percentages of fines, generally granular and non-cohesive, either wet or dry. Unified Soil Classification types GW, CP, SW, SP are included in this Class. Class III material is defined as fine sand and clayey gravels, including fine sands, sand clay mixtures, and gravel - clay mixtures. All backfill material within one foot horizontally and one foot above the crown of the pipe shall be placed by hand and requires hand compaction.

c) Each layer of Class II and class III material shall be compacted to a minimum density of ninety-five (95) percent of maximum density of the soil as determined by the Standard Procter Test AASHTO designation T-99.

d) For additional requirements concerning the installation of PVC sewer pipe, refer to ASTM standard D-2321 "Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity- Flow Applications".

6. Testing

Deflection testing of every section of sewer main or lateral sewers, constructed of PVC, is required by the Department. The total vertical wall deflection of the PVC pipe, as determined by testing not earlier than 30 days after placement and compaction of the final backfill, shall not exceed four (4) percent of the inside pipe diameter. The deflection shall be checked by manually pulling a "GO - NO GO" deflection testing mandrell through the pipe. The contractor shall conduct the tests under the observation of the certifying engineer / architect.

7. Certification

For projects that involve a sewage collection system, a licensed engineer / architect shall certify that all material, method of construction, installation, and testing of the sewer pipe meet the requirements of these standards as well as plans approved by the Department. Refer to **Appendix C** of these standards.

XIX. SEPARATION OF SEWER AND WATER LINES

1. Parallel Installation

a) Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main or lateral. The distance shall be measured edge to edge.

b) If it is not practical to maintain a horizontal separation of ten feet, the department may allow a deviation on a case-by-case basis. Such deviation may allow for the installation of the sewer to be a minimum of 5 feet to a water main or lateral, provided

that the bottom of water main or lateral is at least 18 inches above the top of the sewer line.

c) If the vertical separation as described in item 2 above cannot be obtained, the department may allow a deviation on a case-by-case basis. Such deviation may allow for the installation of the sewer to be a minimum of 5 feet to a water main or lateral, provided that the bottom of the water main or lateral is at least 12 inches above the top of the sewer line and both are constructed of pressure rated pipe.

2. Crossings

a) The crossing of water and sewer lines should be avoided unless proven absolutely necessary.

b) Water Line over Sewer Line

In the event that the water line must cross over the sewer line, the following conditions shall be met:

i. sewer lines shall be laid below the water line and provide a separation of at least 18 inches between the bottom of the water line and the top of the sewer line; and

ii. sewer line joints shall be at least 10 feet from the point of crossing; and

iii. when it is not practical to obtain an 18 inch separation, both the water and sewer lines shall be constructed of pressure pipe and have a minimum separation of 12 inches between the bottom of the water line and the top of the sewer line.

c) Sewer Line over Water Line

In the event that the sewer line must cross over the water line, the following conditions shall be met:

i. adequate structural support shall be provided for the sewer to maintain line and grade; and

ii. water line and sewer line joints shall be at least ten feet from the point of crossing; and

iii. the entire length of sewer line between adjacent manholes or other sanitary structures shall be constructed of materials and joints that are equivalent to water main standards of construction; and

iv. a vertical separation of at least 18 inches shall be provided between the bottom of the sewer line and the top of the water line. In the event that this distance cannot be maintained, the department may allow a deviation on a case-by-case basis. In no case shall the separation distance be less than 12 inches between the bottom of the sewer line and the top of the water line.

XX. SEPARATION OF SEWER AND DRAINAGE LINES

1. Sewers shall be laid at least 5 feet horizontally from any existing or proposed drainage line. The distance shall be measured edge to edge.

2. In the event that the drainage line must cross over the sewer line, the sewer line must be constructed of ductile iron pipe unless a separation distance of 18 or more inches is maintained.

3. In the event that the sewer line must cross over the drainage line, the sewer line shall be constructed of ductile iron pipe for a distance of 3 feet horizontally into virgin soil.

4. If perimeter roof drainage piping is installed near the face of the building, all house connections must be constructed of ductile iron pipe for 10 feet from the building.

XXI. BACKFILL AND FINAL GRADING

1. Backfill and Final Grading

   The completed system shall be backfilled and covered with suitable soil following permission to do so by the Department. The property shall be graded to minimize surface drainage into the system. A maximum 5 percent slope downward shall be maintained for 20 feet horizontally from the nearest edge of the leaching portion of the pool(s) to the toe of the slope before tapering off to prevent seepage of the leachate through the slope. Dummy rings that are utilized to bring the system to grade shall be permitted to be placed at a lesser horizontal distance. Steep grades further than twenty feet from the leaching pools shall be stabilized pursuant to local codes.

2. Retaining Walls

   a) In cases where the grading and slopes indicated in paragraph A. above, the utilization of retaining walls shall be required. In such cases, the retaining walls shall be designed by a licensed design professional in accordance with good engineering practice and applicable building codes. All retaining walls shall be shown as part of a grading and plot plan.

   b) Retaining walls shall be constructed to met the following requirements:

      i. Retaining walls that are located within 20 feet of the sewage disposal system shall be constructed of reinforced concrete.

      ii. No part of the sewage disposal system shall be placed closer than 10 feet from a retaining wall.

      iii. If the leaching pools are located closer than 20 feet from the retaining wall, waterproofing will be required to prevent the seepage of leachate through the wall.

XXII. SEWAGE PUMP STATIONS

1. General Requirements

   Sewage disposal systems should be designed to flow by gravity. Only when absolutely necessary should pump stations be used. In such cases, the sewage pump station plans shall be prepared by a licensed design professional and must be reviewed and approved by the Department. In addition, construction and installation of sewage pump stations must be certified by a licensed professional engineer. For additional information concerning sewage pump stations refer to **GLUMRB - Recommended Standards for Wastewater Facilities -2004 edition (or latest revision)** and **NYSDEC - Design Standards for Wastewater Treatment Works - 1988 edition (or latest revision).**

2. Location

   a) Sewage pump stations and valve chambers must be located in an area that is easily accessible for proper operation and routine maintenance. Security fencing shall be provided around pump station installations. Refer to Section XI for additional requirements concerning the location of sewage pump stations.

   b) Whenever practical, pumping stations that are utilized as lift stations within conventional on-site sewage disposal systems shall be located after the septic tank. In no instance shall the pump station be located prior to the grease trap.

   c) Whenever practical, pump stations shall not be located in groundwater.

3. Design / Construction Requirements

   a) All sewage pump station components are to be constructed of precast reinforced concrete and designed to be traffic bearing that meets the requirements of AASHTO H-20. Concrete pumping stations shall have a minimum inside diameter of four (4) feet. Pump stations may be constructed of other materials provided that they are water-tight, non-corrodible, and structurally sound.

   b) The bottom and side portion, up to 18 inches above the inlet invert, of the station shall be monolithically constructed. In cases where this is not practicable, the pumping station shall be water-proofed up to 18 inches above the invert and leaked tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

   c) Inlet sewer pipes penetrating the sidewall of the pump station shall be provided with cast-in-place rubber sleeves with stainless steel tightening devices or with a flexible rubber sleeve that conforms to ASTM C-923.

   d) Pump station wet well volume shall be sized to prevent excessive retention of sewage while preventing frequent cycling of pumps. Minimum cycle times between 15 and 30 minutes are recommended.

e) The floor of the wet well shall be sloped toward the pump units to prevent the deposition of sewage solids.

f) Precast concrete sections shall be sealed with one (1) - inch butyl rubber joint sealant which conforms to ASTM C-990.

g) The maximum permissible depth of a pump station from grade shall be 30 feet.

4. Mechanical Requirements

a) Duplex submersible sewage pumps that are automatically alternated shall be provided. A hand-off-automatic (HOA) switch shall also be provided for each pump. Each pump shall be capable of meeting the anticipated peak sewage design hydraulic flow rate.

b) In some cases, where the pump station is receiving raw sewage, grinder type sewage pumps may be required.

c) Pumps shall be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well. Stainless steel guide rails together with slide away flanges, or quick disconnect couplings shall be provided for this purpose.

d) Pump discharge piping within the pumps station shall be constructed of ductile iron or stainless steel piping.

e) Pump stations shall have adequate ventilation, by providing an intake fan that forces fresh air into the bottom of the lift station. The intake fan shall be capable of providing 12 air changes per hour for continuous operation or 30 air changes per hour for intermittent operation. An exhaust vent shall also be provided to remove sewer gases. Odor control equipment may be required for the exhaust vent.

f) A hinged and lockable (non-skid) aluminum or stainless steel door shall be provided to allow accessibility to the pumps.

g) A non-corrodible ladder with safety climb device shall be provided for access to the pumping station.

h) A hinged and lockable (non-skid) aluminum or stainless steel door shall be provided to allow access to the ladder.

i) Each pump shall be equipped with a stainless steel chain or cable. In addition, a pump lifting device shall be provided on-site to facilitate the removal of the pumps.

j) There shall be no physical interconnection between any potable water supply and a sewage pumping station or any of its components.

5. Electrical Requirements

   a) All electrical components, including pumps, fans, and wiring, shall be explosion proof and conform to the requirements for Class I, Division 1, Group D of the National Electrical Code.

   b) There shall be no electrical splices, junction boxes, or connections of any kind in the sewage wet well. Junction boxes shall be located within a NEMA 4X enclosure outside of the pump station wet well.

   c) The pump station shall be provided with a minimum of 5 pump control switches. These include: a) "Low Level Alarm", b) "Pumps Off", c) "Lead Pump On", d) "Lag Pump On", e) "High Water Alarm". Encapsulated mercury filled float switches shall be used for this purpose. A hand-off-automatic (HOA) switch shall also be provided.

   d) Pump stations shall be provided with a dialer alarm that is activated by the low level and high level alarms.

   e) Alternative pump control devices, such as, a mutlitrode or bubbler system may be accepted in lieu of float controls. If an alternative device is utilized, a redundant high level float and low level float must be provided. The high level alarm shall activate the dialer alarm and operate the pumps throughout the throw of the float. The low level alarm shall activate the dialer alarm.

   f) Pump station control panels should be located within a building or other enclosure when possible. If required, control panels may be located outside of buildings, provided that the controls are located within a NEMA 4X rated enclosure that is placed within another NEMA 3R box.

   g) If pump control panel(s) are not within line of sight of the pumping station, then the pumps shall be outfitted with local disconnect switches at the pump station in lieu of a junction box.

   h) When pump stations are serving Multiple Residential Type projects, a permanent emergency power generator set with an automatic transfer switch shall be provided at the site. For other types of projects, consult the Department. All equipment and installation shall conform to the requirements of the National Electrical Code.

   i) A permanent light fixture shall be provided in the pump station wet well.

6. Valve Chamber

   a) The valve chamber shall be constructed of precast reinforced concrete and designed to be traffic bearing that meets the requirements of AASHTO H-20.

   b) Each pump shall be provided with a check and shut-off or isolation valve located within a separate chamber, outside of the pump station.

c) The piping within the valve vault shall be constructed of ductile iron or stainless steel piping.

d) A hinged and lockable aluminum or stainless steel door with a non-skid surface shall be provided over the valve chamber to allow accessibility to all valving.

e) If necessary, access steps, constructed of polypropylene coated 2 inch steel bar shall be provided to access all valving from finished grade.

f) A permanent light fixture shall be provided in the valve chamber.

7. Certification

For projects that involve a sewage pumping station, a licensed design professional shall certify that all materials, method of construction, installation, and testing of the sewer pipe and equipment meet the requirements of these standards as well as plans approved by the Department. Refer to **Appendix C** of these standards.

8. Exceptions

The Department may accept pump station designs which vary from the standards in cases of small sewage flows provided that the licensed design professional submits engineering justification acceptable to the Department.

XXIII. SEWAGE FORCE MAINS

1. Materials

Force mains may be constructed of either PVC and /or ductile iron in accordance with the following criteria:

a) Plastic (PVC) sewer pipe used for force mains that have a diameter less than 4 inches shall be constructed of schedule 40 or 80 PVC pipe and meet the requirements of ASTM standard D-1785. Fittings shall have bell push-on joints and rubber sealing rings constructed of ductile iron, grade 65-45-12, in accordance with ASTM standard A-536. The rubber sealing rings shall meet the requirements of ASTM standard F-477.

b) Plastic (PVC) sewer pipe and fittings used for force mains that have a diameter of four (4) inches or greater shall have a minimum rating of SDR-18 and meet or exceed the requirements of the AWWA C-900 standard. Rubber sealing rings shall meet ASTM F-477.

c) Ductile iron pipe shall conform to AWWA C-150 and C-151 standards and have a minimum class 52 designation. Ductile iron push-on-joints used with this pipe shall conform to AWWA C-111; fittings shall meet AWWA C-110 and C-153 standards.

2. Design

   a) Force mains shall be designed to provide a minimum flow velocity of 2 feet per second and a maximum velocity of 7 feet per second. No force main shall have an inside diameter of less than two (2) inches.

   b) Force mains used to pump raw sewage shall have a minimum diameter of 4 inches, unless grinder pumps are used.

   c) Thrust blocks or restraints shall be provided where applicable throughout the length of a force main and shall be designed to contain the resultant thrust forces. Thrust blocks and restraints shall conform to AWWA C-600 standards.

   d) Force mains shall be located a minimum of 4.5 feet below finished grade to protect against freezing. In certain cases, force mains may have less soil cover, provided the line is pitched so that sewage is not retained in the line between pump cycles.

3. Installation Requirements

   a) The width of trenches shall be adequate to allow sewer pipe to be laid and joined properly and to allow bedding and haunching to be placed and compacted to adequately support the pipe. Refer to Section XVIII, paragraph E concerning the material used for embedment around PVC pressure pipe.

   b) For additional requirements concerning the installation of PVC pressure pipe, refer to ASTM standard D-2774 "Practice for Underground installation of Thermoplastic Pressure Piping".

   c) Force mains constructed of ductile iron pipe shall be installed in accordance with AWWA C-600 standard.

4. Testing

   Force mains shall be pressure tested at 200 psi for a minimum of 30 minutes to assure water tightness prior to backfilling. The contractor shall conduct the test in the presence of the certifying design professional.

5. Certification

   A licensed design professional shall certify that all material, methods of construction, installation and testing meet the requirements of these standards as well as plans approved by the Department. Refer to **Appendix C** of these standards.

6. Exceptions

The Department may accept force main designs which vary from the standards in cases of small sewage flows provided that the licensed design professional submits engineering justification acceptable to the Department.

XXIV. PUMP-OUT FACILITIES

1. General

When required, pump-out facilities for the purpose of emptying marine vessel, bus, or RV holding tank wastes shall be located in areas that are easily accessible for proper operation, maintenance, or replacement. The construction of such facilities shall meet the requirements of the NYSDEC and all other applicable authorities where required. Provisions for pump-out facilities should be based upon the following guidelines:

2. Design Considerations

a) Pump-out units may be portable or permanent, and should include a vacuum pump or a positive displacement type of pump to empty marine vessel and boat holding tank wastes. Pump-out units may be electrically or manually operated. If pump-out units are electrically operated, then all electrical components must be explosion proof, and meet NEC requirements.

b) All pump-out units shall be provided with a flexible suction hose and dripless nozzle.

c) All mechanical and electrical components must be adequately protected from freezing.

d) Pump-discharge piping or force mains must be constructed of materials and joints that meet water main standards. The force main may be constructed of Type 1, Grade 1, schedule 80 PVC sewer pipe, or PVC pressure rated SDR 18 pipe.

e) All pump-out units should be provided with a non-potable water service and an approved backflow prevention device for rinsing the onboard holding tanks.

f) Holding tanks shall be located in accordance with Table 2 Section XI.

g) The minimum capacity of any holding tank shall be 1000 gallons, but a greater volume may be required, as determined by the Department.

h) Holding tanks shall be made watertight and leak tested to ensure tightness prior to operation. Maximum permissible leak rate is ¼ inch in 8 hours.

i) Holding tanks shall not have an outlet pipe but shall be provided with a hinged and locking access port. A locking cast iron frame and cover shall be provided at finished grade over the access port. Both the access port and access cover shall be watertight and insect proof.

j) Holding tanks shall be properly vented, and shall be equipped with a liquid level float switch, high water level alarm and auto dialer or other acceptable automatic notification system.

k) All mechanical and electrical equipment shall meet the requirements of the NEC.

3. Disposal of Holding Tank Wastes

a) Holding tank wastes must be pumped out on a routine basis by a licensed scavenger vehicle and discharged to an acceptable treatment facility.

b) Discharge of holding tanks wastes to an on-site sewage disposal system is prohibited.

4. Certification Required

A design professional shall supervise the installation of pump-out facilities and certify that the systems are constructed in accordance with the approved plans and applicable codes.

5. Exceptions

a) For cases where a municipal sewer is available, the marine vessel, bus, or RV waste can be pumped directly to the sewer system in lieu of providing an on-site holding tank.

b) For cases were NYSDEC approval is required, the Department may consider alternative designs for pump-out facilities.

XXV. ALTERNATIVE SEWAGE DISPOSAL SYSTEMS

1. General

The sewage disposal systems addressed thus far in these Standards are considered conventional or typical systems and may be used on sites with adequate soil percolation and vertical/horizontal separation distances unless otherwise prohibited. For sites that are not suitable for such systems, the use of alternative systems may be permitted by the Department without need for a variance if the design meets the conditions listed in section XXV.2 and is acceptable to the Department. The Department reserves the right to require a variance to utilize an alternative system from the Board of Review at any time in conformance with section XXVIII.

2. Design Considerations

In addition to the typical plan requirements, applications for alternative designs shall include the following:

a) The system shall be designed by a licensed professional engineer.

b) It is clearly demonstrated that the proposed system is physically equivalent or better than the conventional systems, in respect to storage capacity, leaching area, land area utilization, grading, accessibility, maintainability, reparability, life expectancy, effluent quality and reliability.

c) An engineering report shall be submitted that defines the disposal system and determines that the proposed design is most suitable for the building site and that the proposed sanitary system will function properly without causing any health hazard and will minimize the impact on the surrounding environment.

d) The design engineer shall supervise the installation of the system and certify that the system was constructed in accordance with the approved plans. An inspection log shall be maintained and a copy submitted to the Department if requested.

3. Examples of Alternative Systems

a) *Clustered Leaching Systems* - a leaching system that consists of shallow pools that are clustered to minimize the space requirement. Maximum effective depth of leaching rings shall not exceed 3 feet and can be located a minimum of 2 feet above the highest recorded groundwater elevation. Refer to figure #14.

b) *Chamber Leaching System - a leaching system that consists of plastic chambers in lieu* of concrete leaching pools and can be located a minimum of 2 feet above the highest recorded groundwater elevation.

c) *Diffusion Well Systems* - a leaching system that utilizes wicks and other appurtenances to minimize the effects of poor soils.

XXVI. ABANDONMENT OF EXISTING SEWAGE DISPOSAL SYSTEMS

Existing disposal systems that are proposed to be abandoned as part of a project may require sampling and remediation prior to abandonment. Once the Department has issued approval for the closure, the existing sanitary system shall be abandoned in accordance with the following requirements:

1. *Abandonment In-Plac*e - existing systems shall be abandoned by removing all residual sewage wastes by a licensed waste hauler, removing the top of the structure(s), backfilling with suitable sand and gravel material, and properly compacting.

2. *Abandonment by Removal* - existing systems may also be abandoned by removing all residual sewage wastes by a licensed waste hauler, removing the entire structure(s), backfilling with suitable sand and gravel material, and properly compacting.

3. *Abandonment of Sewer Piping* - the associated sewer piping shall be cut and capped as a means of abandonment. The Department should be contacted for further abandonment requirements, if future construction is contemplated in the area of the abandoned septic system.

4. *Certification Required* - the abandonment of existing sewage disposal systems, either in-place, or by removal, must be certified by either a licensed design professional or licensed contractor as indicated by the Department on the Permit to Construct. For projects served by municipal sewer districts, the appropriate municipal agency with jurisdiction should also be contacted.

XXVII. COVENANTS AND RESTRICTIONS

Restrictive covenants may be required when submitting an application to the Department. Covenant restrictions are applied on lots located in deep recharge or water supply sensitive areas and serve as notice regarding storage restrictions for toxic or hazardous materials or changes in use or occupancy. Other covenants restricting sanitary waste flows may be required where the Department determines that change in use could result in violation of approval conditions or when approval is contingent upon the applicant performing a future action. For further information refer to Articles 6, 7 and 12 of the Suffolk County Sanitary Code.

XXVIII. VARIANCES

1. The Commissioner of the Department of Health Services, on written application, may grant a variance, in accordance with Section 220 of Article 2 of the Suffolk County Sanitary Code, from a specific provision of these Standards in a particular case, subject to appropriate conditions, where such variance is in harmony with the general purpose and intent of the Standards, and when such application for a variance has been considered by a Review Board appointed by the Commissioner.

2. The Commissioner may impose more stringent requirements in a specific case when necessary to insure an adequate and satisfactory sewage and waste disposal system or to protect a sensitive habitat.

XXIX. APPROVAL BY THE COMMISSIONER OF HEALTH SERVICES

In accordance with Section 221, Article 2, of the Suffolk County Sanitary Code, the foregoing are **Standards for Approval of Plans And Construction For Sewage Disposal Systems for Other Than Single-Family Residences** approved by the Suffolk County Commissioner of Health Services and include the required details for submission of plans and other information to the Suffolk County Department of Health Services to assure conformity to the approved Standards. These Standards are adopted December 1, 2009 and are effective for applications received after January 1, 2010.

_____

Linda Mermelstein, M.D., M.P.H.
Acting Commissioner of Health Services
Suffolk County

(Adopted 6/15/82; Amended 3/5/84, 2/5/88, 7/15/08, 11/20/08, 12/1/09)

DOWNTOWN COPIAGUE
TRAFFIC IMPACT STUDY

COPIAGUE

TOWN OF BABYLON

APPENDIX

January 2015

N&P JOB NO. 14247

Appendix A: Traffic Volume Data

Study Name	1- Greatneck Rd at Marconi Blvd -Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	23	414	2	0	439	775	116	32	91	0	239	94	15	670	55	0	740	564	14	16	34	0	64	49	1482	SB	11	11
Specified Period	%	79%	90%	67%	0%	89%	95%	95%	100%	90%	0%	94%	92%	94%	96%	98%	0%	96%	91%	88%	94%	92%	0%	91%	96%	93%		100%	
7:00 AM - 9:00 AM	Buses	2	27	1	0	30	27	5	0	4	0	9	3	0	23	1	0	24	35	0	0	3	0	3	1	66	WB	22	22
One Hour Peak	%	7%	6%	33%	0%	6%	3%	4%	0%	4%	0%	4%	3%	0%	3%	2%	0%	3%	6%	0%	0%	8%	0%	4%	2%	4%		100%	
7:15 AM - 8:15 AM	Trucks	4	18	0	0	22	16	1	0	6	0	7	5	1	8	0	0	9	19	2	1	0	0	3	1	41	NB	0	0
	%	14%	4%	0%	0%	4%	2%	1%	0%	6%	0%	3%	5%	6%	1%	0%	0%	1%	3%	13%	6%	0%	0%	4%	2%	3%		0%	
	Total	**29**	**459**	**3**	**0**	**491**	**818**	**122**	**32**	**101**	**0**	**255**	**102**	**16**	**701**	**56**	**0**	**773**	**618**	**16**	**17**	**37**	**0**	**70**	**51**	**1589**	EB	30	30
	PHF	0.66	0.8	0.38	0	0.8	0.89	0.69	0.89	0.84	0	0.9	0.8	0.8	0.89	0.64	0	0.91	0.84	0.67	0.61	0.92	0	0.88	0.91	0.95		100%	
	Approach %					31%	51%					16%	6%					49%	39%					4%	3%			**63**	**63**
Peak 2	Lights	28	543	2	0	573	707	161	46	84	0	291	174	27	598	89	0	714	827	25	57	123	0	205	75	1783	SB	11	11
Specified Period	%	85%	97%	100%	0%	96%	96%	98%	98%	97%	0%	97%	96%	96%	95%	99%	0%	96%	98%	100%	98%	100%	0%	100%	97%	97%		100%	
4:00 PM - 6:15 PM	Buses	0	6	0	0	6	16	2	0	0	0	2	1	0	16	1	0	17	8	0	0	0	0	0	0	25	WB	39	39
One Hour Peak	%	0%	1%	0%	0%	1%	2%	1%	0%	0%	0%	1%	1%	0%	3%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	1%		100%	
4:00 PM - 5:00 PM	Trucks	5	10	0	0	15	16	2	1	3	0	6	6	1	13	0	0	14	12	0	1	0	0	1	2	36	NB	3	3
	%	15%	2%	0%	0%	3%	2%	1%	2%	3%	0%	2%	3%	4%	2%	0%	0%	2%	1%	0%	2%	0%	0%	0%	3%	2%		100%	
	Total	**33**	**559**	**2**	**0**	**594**	**739**	**165**	**47**	**87**	**0**	**299**	**181**	**28**	**627**	**90**	**0**	**745**	**847**	**25**	**58**	**123**	**0**	**206**	**77**	**1844**	EB	33	33
	PHF	0.63	0.86	0.5	0	0.86	0.96	0.82	0.65	0.81	0	0.9	0.85	0.78	0.96	0.8	0	0.96	0.95	0.69	0.72	0.75	0	0.74	0.71	0.98		100%	
	Approach %					32%	40%					16%	10%					40%	46%					11%	4%			**86**	**86**

Study Name	1- Greatneck Rd at Marconi Blvd -Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	42	577	10	0	629	734	120	75	100	0	295	185	58	617	93	0	768	792	17	50	95	0	162	143	1854	SB	13	13
Specified Period	%	100%	98%	100%	0%	98%	98%	100%	100%	98%	0%	99%	100%	100%	98%	100%	0%	99%	99%	100%	100%	100%	0%	100%	100%	99%		100%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	2	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	0	0	3	WB	13	13
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	0	9	0	0	9	11	0	0	2	0	2	0	0	9	0	0	9	9	0	0	0	0	0	0	20	NB	1	1
	%	0%	2%	0%	0%	1%	1%	0%	0%	2%	0%	1%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%		100%	
	Total	**42**	**587**	**10**	**0**	**639**	**747**	**120**	**75**	**102**	**0**	**297**	**185**	**58**	**628**	**93**	**0**	**779**	**802**	**17**	**50**	**95**	**0**	**162**	**143**	**1877**	EB	26	26
	PHF	0.7	0.97	0.5	0	0.95	0.94	0.83	0.69	0.88	0	0.95	0.83	0.76	0.91	0.83	0	0.95	0.89	0.85	0.54	0.42	0	0.49	0.74	0.91		100%	
	Approach %					34%	40%					16%	10%					42%	43%					9%	8%			**53**	**53**
Peak 2	Lights	28	531	16	0	575	741	158	34	89	0	281	140	30	636	78	0	744	804	16	34	115	0	165	80	1765	SB	18	18
Specified Period	%	97%	99%	100%	0%	98%	100%	99%	100%	99%	0%	99%	99%	97%	100%	100%	0%	100%	99%	100%	100%	99%	0%	99%	99%	99%		100%	
12:00 PM - 2:15 PM	Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	2	WB	10	10
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%		100%	
12:00 PM - 1:00 PM	Trucks	1	7	0	0	8	3	1	0	1	0	2	1	1	2	0	0	3	8	0	0	0	0	0	1	13	NB	5	5
	%	3%	1%	0%	0%	1%	0%	1%	0%	1%	0%	1%	1%	3%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	1%		100%	
	Total	**29**	**539**	**16**	**0**	**584**	**744**	**159**	**34**	**90**	**0**	**283**	**141**	**31**	**638**	**78**	**0**	**747**	**814**	**16**	**34**	**116**	**0**	**166**	**81**	**1780**	EB	51	51
	PHF	0.72	0.89	0.8	0	0.88	0.97	0.85	0.85	0.87	0	0.87	0.93	0.7	0.96	0.85	0	0.96	0.9	0.67	0.71	0.53	0	0.6	0.81	0.95		100%	
	Approach %					33%	42%					16%	8%					42%	46%					9%	5%			**84**	**84**

Study Name	2-Great Neck Rd at Railroad Ave-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:00 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	29	380	144	0	553	707	5	1	38	1	45	41	9	606	6	0	621	396	63	5	11	0	79	154	1298	SB	10	10
Specified Period	%	100%	90%	94%	0%	92%	96%	100%	100%	100%	100%	100%	98%	100%	95%	86%	0%	95%	90%	100%	100%	85%	0%	98%	94%	94%		100%	
7:00 AM - 9:00 AM	Buses	0	30	7	0	37	24	0	0	0	0	0	1	0	24	1	0	25	31	0	0	1	0	1	7	63	WB	36	36
One Hour Peak	%	0%	7%	5%	0%	6%	3%	0%	0%	0%	0%	0%	2%	0%	4%	14%	0%	4%	7%	0%	0%	8%	0%	1%	4%	5%		100%	
7:15 AM - 8:15 AM	Trucks	0	11	2	0	13	8	0	0	0	0	0	0	0	8	0	0	8	12	0	0	1	0	1	2	22	NB	0	0
	%	0%	3%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%	0%	0%	8%	0%	1%	1%	2%		0%	
	Total	**29**	**421**	**153**	**0**	**603**	**739**	**5**	**1**	**38**	**1**	**45**	**42**	**9**	**638**	**7**	**0**	**654**	**439**	**63**	**5**	**13**	**0**	**81**	**163**	**1383**	EB	0	0
	PHF	0.72	0.81	0.78	0	0.83	0.9	0.62	0.25	0.79	0.25	0.8	0.81	0.56	0.93	0.58	0	0.93	0.83	0.66	0.42	0.54	0	0.68	0.8	0.91		0%	
	Approach %					44%	53%					3%	3%					47%	32%					6%	12%			**46**	**46**
Peak 2	Lights	46	587	171	0	804	702	4	2	40	0	46	61	7	605	9	0	621	608	57	6	17	0	80	180	1551	SB	1	1
Specified Period	%	100%	98%	97%	0%	97%	96%	100%	100%	98%	0%	98%	100%	100%	96%	100%	0%	96%	98%	98%	100%	100%	0%	99%	97%	97%		100%	
4:00 PM - 6:00 PM	Buses	0	7	1	0	8	15	0	0	1	0	1	0	0	14	0	0	14	7	0	0	0	0	0	1	23	WB	39	39
One Hour Peak	%	0%	1%	1%	0%	1%	2%	0%	0%	2%	0%	2%	0%	0%	2%	0%	0%	2%	1%	0%	0%	0%	0%	0%	1%	1%		100%	
4:00 PM - 5:00 PM	Trucks	0	8	5	0	13	14	0	0	0	0	0	0	0	13	0	0	13	8	1	0	0	0	1	5	27	NB	0	0
	%	0%	1%	3%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	1%	2%	0%	0%	0%	1%	3%	2%		0%	
	Total	**46**	**602**	**177**	**0**	**825**	**731**	**4**	**2**	**41**	**0**	**47**	**61**	**7**	**632**	**9**	**0**	**648**	**623**	**58**	**6**	**17**	**0**	**81**	**186**	**1601**	EB	1	1
	PHF	0.64	0.97	0.9	0	0.97	0.98	0.5	0.25	0.73	0	0.78	0.64	0.58	0.99	0.75	0	0.99	0.95	0.81	0.5	0.53	0	0.92	0.93	0.98		100%	
	Approach %					52%	46%					3%	4%					40%	39%					5%	12%			**41**	**41**

Study Name	2-Great Neck Rd at Railroad Ave-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	42	595	138	0	775	766	4	3	34	0	41	57	10	684	14	0	708	612	48	1	13	0	62	151	1586	SB	2	2
Specified Period	%	100%	98%	99%	0%	98%	98%	100%	100%	100%	0%	100%	100%	100%	98%	100%	0%	98%	98%	96%	100%	100%	0%	97%	99%	98%		100%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	3	0	0	0	0	0	0	0	3	0	0	3	1	0	0	0	0	0	0	4	WB	23	23
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	0	12	1	0	13	12	0	0	0	0	0	0	0	10	0	0	10	12	2	0	0	0	2	1	25	NB	0	0
	%	0%	2%	1%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%	4%	0%	0%	0%	3%	1%	2%		0%	
	Total	**42**	**608**	**139**	**0**	**789**	**781**	**4**	**3**	**34**	**0**	**41**	**57**	**10**	**697**	**14**	**0**	**721**	**625**	**50**	**1**	**13**	**0**	**64**	**152**	**1615**	EB	0	0
	PHF	0.58	0.88	0.89	0	0.9	0.96	0.5	0.38	0.85	0	0.85	0.65	0.5	0.96	0.88	0	0.96	0.87	0.62	0.25	0.54	0	0.62	0.86	0.93		0%	
	Approach %					49%	48%					3%	4%					45%	39%					4%	9%			**25**	**25**
Peak 2	Lights	49	578	166	0	793	738	4	2	50	0	56	67	12	640	18	2	672	605	48	0	21	0	69	180	1590	SB	1	1
Specified Period	%	98%	98%	100%	0%	99%	100%	100%	100%	100%	0%	100%	99%	100%	100%	100%	100%	100%	99%	100%	0%	100%	0%	100%	100%	99%		100%	
12:00 PM - 2:15 PM	Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	WB	24	24
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
12:00 PM - 1:00 PM	Trucks	1	8	0	0	9	2	0	0	0	0	0	1	0	2	0	0	2	8	0	0	0	0	0	0	11	NB	0	0
	%	2%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%		0%	
	Total	**50**	**587**	**166**	**0**	**803**	**740**	**4**	**2**	**50**	**0**	**56**	**68**	**12**	**642**	**18**	**2**	**674**	**614**	**48**	**0**	**21**	**0**	**69**	**180**	**1602**	EB	1	1
	PHF	0.69	0.92	0.8	0	0.9	0.94	0.5	0.5	0.74	0	0.7	0.74	0.75	0.89	0.56	0.25	0.89	0.89	0.67	0	0.48	0	0.59	0.82	0.95		100%	
	Approach %					50%	46%					3%	4%					42%	38%					4%	11%			**26**	**26**

Study Name	3-Great Neck Rd at Oak St-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	51	276	59	0	386	632	23	227	62	0	312	233	54	463	44	0	561	323	107	138	24	0	269	340	1528	SB	9	9
Specified Period	%	88%	90%	89%	0%	89%	94%	96%	94%	95%	0%	94%	91%	95%	94%	94%	0%	94%	91%	94%	92%	100%	0%	93%	93%	93%		100%	
7:00 AM - 9:00 AM	Buses	5	21	3	0	29	26	1	5	3	0	9	12	1	18	3	0	22	22	5	4	0	0	9	9	69	WB	29	29
One Hour Peak	%	9%	7%	5%	0%	7%	4%	4%	2%	5%	0%	3%	5%	2%	4%	6%	0%	4%	6%	4%	3%	0%	0%	3%	2%	4%		100%	
7:15 AM - 8:15 AM	Trucks	2	11	4	0	17	11	0	10	0	0	10	10	2	9	0	0	11	11	2	8	0	0	10	16	48	NB	10	10
	%	3%	4%	6%	0%	4%	2%	0%	4%	0%	0%	3%	4%	4%	2%	0%	0%	2%	3%	2%	5%	0%	0%	3%	4%	3%		100%	
	Total	**58**	**308**	**66**	**0**	**432**	**669**	**24**	**242**	**65**	**0**	**331**	**255**	**57**	**490**	**47**	**0**	**594**	**356**	**114**	**150**	**24**	**0**	**288**	**365**	**1645**	EB	13	13
	PHF	0.69	0.85	0.72	0	0.83	0.93	0.55	0.9	0.77	0	0.89	0.8	0.84	0.92	0.73	0	0.93	0.87	0.7	0.83	0.75	0	0.8	0.89	0.92		100%	
	Approach %					26%	41%					20%	16%					36%	22%					18%	22%			**61**	**61**
Peak 2	Lights	67	460	35	0	562	654	61	186	61	0	308	449	56	459	80	0	595	636	134	302	115	0	551	277	2016	SB	17	17
Specified Period	%	100%	98%	100%	0%	99%	98%	98%	99%	98%	0%	99%	97%	100%	98%	99%	0%	99%	99%	99%	96%	100%	0%	98%	99%	98%		100%	
4:00 PM - 6:15 PM	Buses	0	1	0	0	1	4	0	2	0	0	2	3	0	3	0	0	3	1	1	3	0	0	4	2	10	WB	24	24
One Hour Peak	%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	1%	0%	1%	0%	0%	0%	0%	1%	1%	0%	0%	1%	1%	0%		100%	
4:30 PM - 5:30 PM	Trucks	0	7	0	0	7	6	1	0	1	0	2	9	0	5	1	0	6	8	0	8	0	0	8	0	23	NB	30	30
	%	0%	1%	0%	0%	1%	1%	2%	0%	2%	0%	1%	2%	0%	1%	1%	0%	1%	1%	0%	3%	0%	0%	1%	0%	1%		100%	
	Total	**67**	**468**	**35**	**0**	**570**	**664**	**62**	**188**	**62**	**0**	**312**	**461**	**56**	**467**	**81**	**0**	**604**	**645**	**135**	**313**	**115**	**0**	**563**	**279**	**2049**	EB	34	34
	PHF	0.8	0.87	0.55	0	0.87	0.97	0.82	0.94	0.82	0	0.94	0.91	0.54	0.94	0.65	0	0.93	0.95	0.82	0.87	0.82	0	0.91	0.86	0.99		100%	
	Approach %					28%	32%					15%	22%					29%	31%					27%	14%			**105**	**105**

Study Name	3-Great Neck Rd at Oak St-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	75	463	62	0	600	703	40	180	82	0	302	353	60	489	84	0	633	579	132	194	76	0	402	302	1937	SB	8	8
Specified Period	%	96%	98%	100%	0%	98%	98%	98%	99%	95%	0%	98%	98%	97%	99%	100%	0%	99%	98%	99%	97%	100%	0%	99%	99%	98%		100%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	2	0	1	1	0	2	1	0	1	0	0	1	1	0	1	0	0	1	1	5	WB	18	18
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	3	8	0	0	11	9	1	1	3	0	5	7	2	5	0	0	7	9	1	4	0	0	5	3	28	NB	19	19
	%	4%	2%	0%	0%	2%	1%	2%	1%	3%	0%	2%	2%	3%	1%	0%	0%	1%	2%	1%	2%	0%	0%	1%	1%	1%		100%	
	Total	**78**	**472**	**62**	**0**	**612**	**714**	**41**	**182**	**86**	**0**	**309**	**361**	**62**	**495**	**84**	**0**	**641**	**589**	**133**	**199**	**76**	**0**	**408**	**306**	**1970**	EB	34	34
	PHF	0.78	0.94	0.86	0	0.91	0.94	0.85	0.81	0.77	0	0.86	0.87	0.86	0.97	0.81	0	0.97	0.9	0.9	0.94	0.66	0	0.86	0.86	0.94		100%	
	Approach %					31%	36%					16%	18%					33%	30%					21%	16%			**79**	**79**
Peak 2	Lights	67	443	66	0	576	693	65	200	76	0	341	382	73	472	83	0	628	601	145	232	93	0	470	339	2015	SB	11	11
Specified Period	%	100%	99%	99%	0%	99%	99%	97%	98%	99%	0%	98%	99%	100%	99%	99%	0%	99%	99%	99%	99%	100%	0%	99%	98%	99%		100%	
12:00 PM - 2:15 PM	Buses	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	1	2	WB	29	29
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
12:15 PM - 1:15 PM	Trucks	0	6	1	0	7	7	2	4	1	0	7	2	0	5	1	0	6	8	1	1	0	0	2	5	22	NB	27	27
	%	0%	1%	1%	0%	1%	1%	3%	2%	1%	0%	2%	1%	0%	1%	1%	0%	1%	1%	1%	0%	0%	0%	0%	1%	1%		100%	
	Total	**67**	**449**	**67**	**0**	**583**	**700**	**67**	**205**	**77**	**0**	**349**	**385**	**73**	**477**	**84**	**0**	**634**	**609**	**146**	**234**	**93**	**0**	**473**	**345**	**2039**	EB	34	34
	PHF	0.73	0.91	0.67	0	0.97	0.93	0.73	0.81	0.96	0	0.86	0.88	0.7	0.95	0.68	0	0.95	0.93	0.85	0.91	0.83	0	0.94	0.83	0.96		100%	
	Approach %					29%	34%					17%	19%					31%	30%					23%	17%			**101**	**101**

Study Name	4-Greck Neck Rd at Scudder Ave-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:00 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	15	250	10	0	275	543	5	12	42	0	59	53	23	468	25	0	516	255	33	13	0	0	46	45	896	SB	4	4
Specified Period	%	79%	88%	100%	0%	88%	92%	100%	100%	89%	0%	92%	93%	100%	93%	100%	0%	93%	88%	87%	100%	0%	0%	90%	100%	91%		100%	
7:00 AM - 9:00 AM	Buses	2	25	0	0	27	33	0	0	2	0	2	2	0	28	0	0	28	25	3	0	0	0	3	0	60	WB	11	11
One Hour Peak	%	11%	9%	0%	0%	9%	6%	0%	0%	4%	0%	3%	4%	0%	6%	0%	0%	5%	9%	8%	0%	0%	0%	6%	0%	6%		100%	
7:00 AM - 8:00 AM	Trucks	2	10	0	0	12	13	0	0	3	0	3	2	0	8	0	0	8	10	2	0	0	0	2	0	25	NB	0	0
	%	11%	4%	0%	0%	4%	2%	0%	0%	6%	0%	5%	4%	0%	2%	0%	0%	1%	3%	5%	0%	0%	0%	4%	0%	3%		0%	
	Total	**19**	**285**	**10**	**0**	**314**	**589**	**5**	**12**	**47**	**0**	**64**	**57**	**23**	**504**	**25**	**0**	**552**	**290**	**38**	**13**	**0**	**0**	**51**	**45**	**981**	EB	10	10
	PHF	0.53	0.89	0.62	0	0.85	0.91	0.31	0.75	0.9	0	0.94	0.65	0.34	0.91	0.45	0	0.96	0.86	0.73	0.65	0	0	0.8	0.45	0.94		100%	
	Approach %					32%	60%					7%	6%					56%	30%					5%	5%			**25**	**25**
Peak 2	Lights	52	539	16	0	607	622	30	18	63	0	111	85	6	527	26	0	559	575	32	7	6	0	45	40	1322	SB	1	1
Specified Period	%	100%	98%	100%	0%	98%	99%	100%	95%	100%	0%	99%	100%	100%	99%	100%	0%	99%	98%	97%	100%	100%	0%	98%	98%	99%		100%	
4:00 PM - 6:00 PM	Buses	0	5	0	0	5	3	0	1	0	0	1	0	0	2	0	0	2	5	1	0	0	0	1	1	9	WB	14	14
One Hour Peak	%	0%	1%	0%	0%	1%	0%	0%	5%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	3%	0%	0%	0%	2%	2%	1%		100%	
4:45 PM - 5:45 PM	Trucks	0	5	0	0	5	4	0	0	0	0	0	0	0	4	0	0	4	5	0	0	0	0	0	0	9	NB	0	0
	%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%		0%	
	Total	**52**	**549**	**16**	**0**	**617**	**629**	**30**	**19**	**63**	**0**	**112**	**85**	**6**	**533**	**26**	**0**	**565**	**585**	**33**	**7**	**6**	**0**	**46**	**41**	**1340**	EB	8	8
	PHF	0.76	0.96	0.8	0	0.95	0.97	0.83	0.68	0.54	0	0.72	0.85	0.75	0.93	0.93	0	0.93	0.95	0.75	0.58	0.5	0	0.82	0.93	0.98		100%	
	Approach %					46%	47%					8%	6%					42%	44%					3%	3%			**23**	**23**

Study Name	4-Greck Neck Rd at Scudder Ave-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:00 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	28	506	7	0	541	642	10	12	53	0	75	60	11	563	20	0	594	519	26	12	3	0	41	30	1251	SB	2	2
Specified Period	%	97%	98%	100%	0%	98%	99%	100%	100%	100%	0%	100%	95%	100%	99%	95%	0%	99%	98%	100%	92%	100%	0%	98%	100%	99%		100%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	1	0	0	0	0	0	1	0	1	1	0	2	1	0	0	0	0	0	0	3	WB	23	23
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	1	7	0	0	8	7	0	0	0	0	0	2	0	7	0	0	7	7	0	1	0	0	1	0	16	NB	0	0
	%	3%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	3%	0%	1%	0%	0%	1%	1%	0%	8%	0%	0%	2%	0%	1%		0%	
	Total	**29**	**514**	**7**	**0**	**550**	**650**	**10**	**12**	**53**	**0**	**75**	**63**	**11**	**571**	**21**	**0**	**603**	**527**	**26**	**13**	**3**	**0**	**42**	**30**	**1270**	EB	6	6
	PHF	0.81	0.94	0.44	0	0.94	0.93	0.62	0.6	0.78	0	0.94	0.75	0.34	0.96	0.75	0	0.97	0.94	0.59	0.46	0.38	0	0.58	0.62	0.98		100%	
	Approach %					43%	51%					6%	5%					47%	41%					3%	2%			**31**	**31**
Peak 2	Lights	48	489	15	0	552	609	18	10	40	0	68	84	24	546	26	0	596	512	23	10	5	0	38	49	1254	SB	1	1
Specified Period	%	96%	99%	94%	0%	98%	99%	95%	100%	100%	0%	99%	98%	100%	99%	100%	0%	99%	98%	100%	100%	100%	0%	100%	98%	99%		100%	
12:00 PM - 2:00 PM	Buses	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	WB	11	11
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
12:30 PM - 1:30 PM	Trucks	2	7	1	0	10	5	1	0	0	0	1	2	0	5	0	0	5	8	0	0	0	0	0	1	16	NB	0	0
	%	4%	1%	6%	0%	2%	1%	5%	0%	0%	0%	1%	2%	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	2%	1%		0%	
	Total	**50**	**496**	**16**	**0**	**562**	**615**	**19**	**10**	**40**	**0**	**69**	**86**	**24**	**552**	**26**	**0**	**602**	**520**	**23**	**10**	**5**	**0**	**38**	**50**	**1271**	EB	5	5
	PHF	0.66	0.96	0.8	0	0.96	0.98	0.59	0.62	0.83	0	0.82	0.63	0.86	0.99	0.59	0	0.98	0.98	0.96	0.62	0.62	0	0.79	0.83	0.97		100%	
	Approach %					44%	48%					5%	7%					47%	41%					3%	4%			**17**	**17**

Study Name	5-Great Neck Rd at Montauk Hwy-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:00 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	86	20	75	0	181	255	6	733	143	0	882	466	23	21	3	0	47	30	91	377	4	0	472	831	1582	SB	0	0
Specified Period	%	91%	91%	88%	0%	90%	93%	100%	95%	92%	0%	95%	94%	92%	100%	100%	0%	96%	94%	93%	94%	100%	0%	94%	94%	94%		0%	
7:00 AM - 9:00 AM	Buses	5	1	7	0	13	12	0	21	7	0	28	14	1	0	0	0	1	1	5	9	0	0	14	29	56	WB	4	4
One Hour Peak	%	5%	5%	8%	0%	6%	4%	0%	3%	5%	0%	3%	3%	4%	0%	0%	0%	2%	3%	5%	2%	0%	0%	3%	3%	3%		100%	
7:15 AM - 8:15 AM	Trucks	3	1	3	0	7	7	0	17	5	0	22	18	1	0	0	0	1	1	2	15	0	0	17	21	47	NB	2	2
	%	3%	5%	4%	0%	3%	3%	0%	2%	3%	0%	2%	4%	4%	0%	0%	0%	2%	3%	2%	4%	0%	0%	3%	2%	3%		100%	
	Total	**94**	**22**	**85**	**0**	**201**	**274**	**6**	**771**	**155**	**0**	**932**	**498**	**25**	**21**	**3**	**0**	**49**	**32**	**98**	**401**	**4**	**0**	**503**	**881**	**1685**	EB	0	0
	PHF	0.87	0.5	0.92	0	0.87	0.88	0.75	0.93	0.95	0	0.94	0.88	0.78	0.75	0.75	0	0.88	0.62	0.77	0.84	0.5	0	0.9	0.94	0.95		0%	
	Approach %					12%	16%					55%	30%					3%	2%					30%	52%			**6**	**6**
Peak 2	Lights	180	103	124	0	407	381	30	656	161	0	847	1045	50	60	31	0	141	157	160	834	24	0	1018	830	2413	SB	0	0
Specified Period	%	99%	100%	98%	0%	99%	97%	100%	98%	97%	0%	98%	98%	96%	100%	100%	0%	99%	100%	97%	98%	100%	0%	98%	98%	98%		0%	
4:00 PM - 6:00 PM	Buses	1	0	1	0	2	2	0	5	0	0	5	12	0	0	0	0	0	0	2	11	0	0	13	6	20	WB	1	1
One Hour Peak	%	1%	0%	1%	0%	0%	1%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	1%	1%		100%	
4:15 PM - 5:15 PM	Trucks	0	0	2	0	2	8	0	8	5	0	13	10	2	0	0	0	2	0	3	10	0	0	13	12	30	NB	4	4
	%	0%	0%	2%	0%	0%	2%	0%	1%	3%	0%	2%	1%	4%	0%	0%	0%	1%	0%	2%	1%	0%	0%	1%	1%	1%		100%	
	Total	**181**	**103**	**127**	**0**	**411**	**391**	**30**	**669**	**166**	**0**	**865**	**1067**	**52**	**60**	**31**	**0**	**143**	**157**	**165**	**855**	**24**	**0**	**1044**	**848**	**2463**	EB	2	2
	PHF	0.81	0.8	0.88	0	0.89	0.92	0.83	0.91	0.85	0	0.92	0.97	0.59	0.75	0.78	0	0.78	0.85	0.9	0.93	0.6	0	0.91	0.93	0.95		100%	
	Approach %					17%	16%					35%	43%					6%	6%					42%	34%			**7**	**7**

Study Name	5-Great Neck Rd at Montauk Hwy-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	171	88	130	0	389	408	45	711	168	0	924	887	40	75	33	0	148	148	165	683	15	1	864	882	2325	SB	0	0
Specified Period	%	99%	99%	97%	0%	98%	99%	100%	99%	100%	0%	100%	99%	100%	100%	100%	0%	100%	99%	98%	99%	100%	100%	99%	99%	99%		0%	
11:00 AM - 12:00 PM	Buses	0	0	1	0	1	1	0	1	0	0	1	2	0	0	0	0	0	0	1	2	0	0	3	2	5	WB	5	5
One Hour Peak	%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	2	1	3	0	6	2	0	3	0	0	3	9	0	0	0	0	0	1	2	7	0	0	9	6	18	NB	1	1
	%	1%	1%	2%	0%	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	1%	1%	1%		100%	
	Total	**173**	**89**	**134**	**0**	**396**	**411**	**45**	**715**	**168**	**0**	**928**	**898**	**40**	**75**	**33**	**0**	**148**	**149**	**168**	**692**	**15**	**1**	**876**	**890**	**2348**	EB	2	2
	PHF	0.86	0.86	0.86	0	0.91	0.86	0.87	0.93	0.88	0	0.92	0.98	0.91	0.78	0.82	0	0.86	0.83	0.88	0.92	0.62	0.25	0.92	0.94	0.96		100%	
	Approach %					17%	18%					40%	38%					6%	6%					37%	38%			**8**	**8**
Peak 2	Lights	168	102	128	0	398	425	32	746	195	0	973	984	59	68	46	0	173	157	162	770	23	0	955	933	2499	SB	0	0
Specified Period	%	99%	100%	96%	0%	98%	98%	100%	99%	97%	0%	98%	98%	100%	100%	100%	0%	100%	100%	99%	98%	100%	0%	98%	98%	98%		0%	
12:00 PM - 2:15 PM	Buses	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	1	2	0	0	3	0	3	WB	3	3
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%		100%	
12:15 PM - 1:15 PM	Trucks	2	0	5	0	7	6	0	10	6	0	16	19	0	0	0	0	0	0	0	17	0	0	17	15	40	NB	0	0
	%	1%	0%	4%	0%	2%	1%	0%	1%	3%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	2%	2%		0%	
	Total	**170**	**102**	**133**	**0**	**405**	**432**	**32**	**756**	**201**	**0**	**989**	**1005**	**59**	**68**	**46**	**0**	**173**	**157**	**163**	**789**	**23**	**0**	**975**	**948**	**2542**	EB	6	6
	PHF	0.92	0.82	0.92	0	0.94	0.89	0.62	0.91	0.95	0	0.95	0.92	0.74	0.89	0.68	0	0.86	0.77	0.82	0.93	0.82	0	0.94	0.9	0.97		100%	
	Approach %					16%	17%					39%	40%					7%	6%					38%	37%			**9**	**9**

Study Name	6-Great Neck Rd at Dixon Ave-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:00 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	27	223	21	0	271	597	204	414	120	0	738	515	118	443	241	0	802	472	34	247	45	0	326	553	2137	SB	28	28
Specified Period	%	96%	93%	88%	0%	92%	93%	89%	97%	92%	0%	94%	94%	94%	94%	95%	0%	94%	90%	94%	93%	85%	0%	92%	96%	93%		100%	
7:00 AM - 9:00 AM	Buses	1	13	3	0	17	34	17	7	10	0	34	12	2	22	4	0	28	33	2	7	3	0	12	12	91	WB	57	57
One Hour Peak	%	4%	5%	13%	0%	6%	5%	7%	2%	8%	0%	4%	2%	2%	5%	2%	0%	3%	6%	6%	3%	6%	0%	3%	2%	4%		100%	
7:15 AM - 8:15 AM	Trucks	0	5	0	0	5	8	9	6	1	0	16	21	6	7	9	0	22	19	0	12	5	0	17	12	60	NB	15	15
	%	0%	2%	0%	0%	2%	1%	4%	1%	1%	0%	2%	4%	5%	1%	4%	0%	3%	4%	0%	5%	9%	0%	5%	2%	3%		100%	
	Total	**28**	**241**	**24**	**0**	**293**	**639**	**230**	**427**	**131**	**0**	**788**	**548**	**126**	**472**	**254**	**0**	**852**	**524**	**36**	**266**	**53**	**0**	**355**	**577**	**2288**	EB	8	8
	PHF	0.54	0.73	0.6	0	0.73	0.88	0.81	0.8	0.62	0	0.88	0.86	0.83	0.9	0.86	0	0.94	0.83	0.82	0.85	0.83	0	0.91	0.83	0.91		100%	
	Approach %					13%	28%					34%	24%					37%	23%					16%	25%			**108**	**108**
Peak 2	Lights	41	352	30	0	423	500	226	312	59	0	597	642	99	394	225	0	718	640	47	376	62	0	485	441	2223	SB	4	4
Specified Period	%	91%	98%	97%	0%	97%	95%	96%	95%	97%	0%	95%	96%	97%	96%	97%	0%	96%	97%	90%	96%	95%	0%	95%	95%	96%		100%	
4:00 PM - 6:00 PM	Buses	0	4	0	0	4	9	2	3	1	0	6	10	1	7	5	0	13	7	1	5	1	0	7	4	30	WB	29	29
One Hour Peak	%	0%	1%	0%	0%	1%	2%	1%	1%	2%	0%	1%	1%	1%	2%	2%	0%	2%	1%	2%	1%	2%	0%	1%	1%	1%		100%	
4:00 PM - 5:00 PM	Trucks	4	4	1	0	9	16	7	15	1	0	23	17	2	11	3	0	16	13	4	10	2	0	16	18	64	NB	2	2
	%	9%	1%	3%	0%	2%	3%	3%	5%	2%	0%	4%	3%	2%	3%	1%	0%	2%	2%	8%	3%	3%	0%	3%	4%	3%		100%	
	Total	**45**	**360**	**31**	**0**	**436**	**525**	**235**	**330**	**61**	**0**	**626**	**669**	**102**	**412**	**233**	**0**	**747**	**660**	**52**	**391**	**65**	**0**	**508**	**463**	**2317**	EB	10	10
	PHF	0.87	0.83	0.6	0	0.88	0.84	0.89	0.86	0.73	0	0.91	0.87	0.77	0.82	0.8	0	0.94	0.85	0.87	0.83	0.77	0	0.89	0.89	0.98		100%	
	Approach %					19%	23%					27%	29%					32%	28%					22%	20%			**45**	**45**

Study Name	6-Great Neck Rd at Dixon Ave-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	27	338	32	0	397	459	236	264	51	0	551	474	122	369	212	0	703	675	39	235	101	0	375	418	2026	SB	4	4
Specified Period	%	96%	99%	100%	0%	99%	97%	98%	98%	93%	0%	97%	97%	99%	97%	98%	0%	98%	98%	100%	96%	99%	0%	97%	98%	98%		100%	
11:00 AM - 12:00 PM	Buses	0	0	0	0	0	2	2	2	1	0	5	5	0	1	1	0	2	2	0	4	0	0	4	2	11	WB	8	8
One Hour Peak	%	0%	0%	0%	0%	0%	0%	1%	1%	2%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%	1%		100%	
11:00 AM - 12:00 PM	Trucks	1	4	0	0	5	14	4	4	3	0	11	11	1	11	3	0	15	9	0	7	1	0	8	5	39	NB	4	4
	%	4%	1%	0%	0%	1%	3%	2%	1%	5%	0%	2%	2%	1%	3%	1%	0%	2%	1%	0%	3%	1%	0%	2%	1%	2%		100%	
	Total	**28**	**342**	**32**	**0**	**402**	**475**	**242**	**270**	**55**	**0**	**567**	**490**	**123**	**381**	**216**	**0**	**720**	**686**	**39**	**246**	**102**	**0**	**387**	**425**	**2076**	EB	11	11
	PHF	0.7	0.92	0.67	0	0.98	0.86	0.96	0.7	0.53	0	0.84	0.82	0.9	0.88	0.92	0	0.95	0.99	0.75	0.71	0.85	0	0.83	0.78	0.9		100%	
	Approach %					19%	23%					27%	24%					35%	33%					19%	20%			**27**	**27**
Peak 2	Lights	33	324	51	0	408	485	225	249	53	0	527	541	129	398	224	0	751	628	34	284	79	0	397	429	2083	SB	0	0
Specified Period	%	97%	98%	98%	0%	98%	100%	100%	98%	100%	0%	99%	99%	99%	100%	100%	0%	99%	99%	100%	98%	100%	0%	99%	98%	99%		0%	
12:00 PM - 2:15 PM	Buses	0	0	1	0	1	0	1	3	0	0	4	2	1	0	0	0	1	1	0	2	0	0	2	5	8	WB	6	6
One Hour Peak	%	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%		100%	
12:00 PM - 1:00 PM	Trucks	1	5	0	0	6	2	0	3	0	0	3	6	0	2	1	0	3	5	0	4	0	0	4	3	16	NB	1	1
	%	3%	2%	0%	0%	1%	0%	0%	1%	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%	1%	1%		100%	
	Total	**34**	**329**	**52**	**0**	**415**	**487**	**226**	**255**	**53**	**0**	**534**	**549**	**130**	**400**	**225**	**0**	**755**	**634**	**34**	**290**	**79**	**0**	**403**	**437**	**2107**	EB	6	6
	PHF	0.71	0.8	0.72	0	0.84	0.92	0.9	0.87	0.7	0	0.93	0.78	0.81	0.87	0.91	0	0.95	0.85	0.71	0.71	0.94	0	0.77	0.93	0.95		100%	
	Approach %					20%	23%					25%	26%					36%	30%					19%	21%			**13**	**13**

Study Name	7-Oak St at Elm St-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:00 PM
Site Code	

Report Summary

		Southbound					Westbound					Eastbound						Crosswalk		
Time Period	**Class.**	**L**	**R**	**U**	**I**	**O**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**U**	**I**	**O**	**Total**		**:destria**	**Total**
Peak 1	Lights	5	53	0	58	44	386	6	0	392	269	38	264	0	302	439	752	SB	6	6
Specified Period	%	100%	90%	0%	91%	100%	95%	100%	0%	95%	93%	100%	93%	0%	94%	94%	94%		100%	
7:00 AM - 9:00 AM	Buses	0	5	0	5	0	13	0	0	13	8	0	8	0	8	18	26	WB	0	0
One Hour Peak	%	0%	8%	0%	8%	0%	3%	0%	0%	3%	3%	0%	3%	0%	2%	4%	3%		0%	
7:15 AM - 8:15 AM	Trucks	0	1	0	1	0	9	0	0	9	12	0	12	0	12	10	22	EB	3	3
	%	0%	2%	0%	2%	0%	2%	0%	0%	2%	4%	0%	4%	0%	4%	2%	3%		100%	
	Total	**5**	**59**	**0**	**64**	**44**	**408**	**6**	**0**	**414**	**289**	**38**	**284**	**0**	**322**	**467**	**800**		**9**	**9**
	PHF	0.42	0.67	0	0.73	0.85	0.89	0.75	0	0.89	0.84	0.79	0.83	0	0.83	0.86	0.85			
	Approach %				8%	6%				52%	36%				40%	58%				
Peak 2	Lights	9	89	0	98	16	315	3	0	318	593	13	584	0	597	404	1013	SB	8	8
Specified Period	%	100%	99%	0%	99%	94%	99%	100%	0%	99%	97%	93%	97%	0%	97%	99%	98%		100%	
4:00 PM - 6:00 PM	Buses	0	0	0	0	0	2	0	0	2	2	0	2	0	2	2	4	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%		0%	
4:30 PM - 5:30 PM	Trucks	0	1	0	1	1	2	0	0	2	17	1	17	0	18	3	21	EB	2	2
	%	0%	1%	0%	1%	6%	1%	0%	0%	1%	3%	7%	3%	0%	3%	1%	2%		100%	
	Total	**9**	**90**	**0**	**99**	**17**	**319**	**3**	**0**	**322**	**612**	**14**	**603**	**0**	**617**	**409**	**1038**		**10**	**10**
	PHF	0.45	0.83	0	0.77	0.71	0.84	0.38	0	0.85	0.9	0.58	0.91	0	0.9	0.9	0.94			
	Approach %				10%	2%				31%	59%				59%	39%				

Study Name	7-Oak St at Elm St-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:00 PM
Site Code	

Report Summary

		Southbound					Westbound					Eastbound						Crosswalk		
Time Period	**Class.**	**L**	**R**	**U**	**I**	**O**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**U**	**I**	**O**	**Total**		**:destria**	**Total**
Peak 1	Lights	13	49	0	62	18	317	8	0	325	398	10	385	0	395	366	782	SB	12	12
Specified Period	%	100%	100%	0%	100%	100%	98%	100%	0%	98%	99%	100%	98%	0%	99%	98%	98%		100%	
11:00 AM - 12:00 PM	Buses	0	0	0	0	0	1	0	0	1	1	0	1	0	1	1	2	WB	3	3
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		100%	
11:00 AM - 12:00 PM	Trucks	0	0	0	0	0	5	0	0	5	5	0	5	0	5	5	10	EB	1	1
	%	0%	0%	0%	0%	0%	2%	0%	0%	2%	1%	0%	1%	0%	1%	1%	1%		100%	
	Total	**13**	**49**	**0**	**62**	**18**	**323**	**8**	**0**	**331**	**404**	**10**	**391**	**0**	**401**	**372**	**794**		**16**	**16**
	PHF	0.65	0.94	0	0.97	0.75	0.93	0.67	0	0.93	0.86	0.62	0.86	0	0.87	0.96	0.95			
	Approach %				8%	2%				42%	51%				51%	47%				
Peak 2	Lights	10	81	0	91	11	363	2	0	365	480	9	470	0	479	444	935	SB	5	5
Specified Period	%	100%	100%	0%	100%	100%	99%	100%	0%	99%	99%	100%	99%	0%	99%	99%	99%		100%	
12:00 PM - 2:00 PM	Buses	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	
12:30 PM - 1:30 PM	Trucks	0	0	0	0	0	3	0	0	3	3	0	3	0	3	3	6	EB	0	0
	%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	1%	0%	1%	1%	1%		0%	
	Total	**10**	**81**	**0**	**91**	**11**	**366**	**2**	**0**	**368**	**484**	**9**	**474**	**0**	**483**	**447**	**942**		**5**	**5**
	PHF	0.42	0.75	0	0.76	0.69	0.86	0.5	0	0.86	0.95	0.75	0.94	0	0.94	0.94	0.97			
	Approach %				10%	1%				39%	51%				51%	47%				

Study Name	8-South Strong Ave at Oak St-Thursday
Start Date	Thursday, November 13, 2014 7:00 AM
End Date	Thursday, November 13, 2014 6:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	61	199	66	0	326	667	32	236	157	0	425	204	15	376	21	0	412	251	134	122	20	0	276	317	1439	SB	1	1
Specified Period	%	94%	90%	94%	0%	91%	95%	91%	96%	95%	0%	95%	93%	100%	95%	91%	0%	95%	91%	95%	92%	100%	0%	94%	96%	94%		100%	
7:00 AM - 9:00 AM	Buses	1	16	1	0	18	23	2	7	4	0	13	5	0	14	0	0	14	18	5	4	0	0	9	8	54	WB	1	1
One Hour Peak	%	2%	7%	1%	0%	5%	3%	6%	3%	2%	0%	3%	2%	0%	4%	0%	0%	3%	6%	4%	3%	0%	0%	3%	2%	4%		100%	
7:15 AM - 8:15 AM	Trucks	3	7	3	0	13	11	1	2	5	0	8	11	0	4	2	0	6	8	2	6	0	0	8	5	35	NB	2	2
	%	5%	3%	4%	0%	4%	2%	3%	1%	3%	0%	2%	5%	0%	1%	9%	0%	1%	3%	1%	5%	0%	0%	3%	2%	2%		100%	
	Total	**65**	**222**	**70**	**0**	**357**	**701**	**35**	**245**	**166**	**0**	**446**	**220**	**15**	**394**	**23**	**0**	**432**	**277**	**141**	**132**	**20**	**0**	**293**	**330**	**1528**	EB	3	3
	PHF	0.81	0.79	0.73	0	0.83	0.89	0.8	0.88	0.88	0	0.89	0.89	0.54	0.86	0.57	0	0.88	0.77	0.73	0.89	0.56	0	0.86	0.88	0.88		100%	
	Approach %					23%	46%					29%	14%					28%	18%					19%	22%			**7**	**7**
Peak 2	Lights	116	480	84	0	680	465	103	200	97	0	400	477	17	256	49	0	322	646	112	312	63	0	487	301	1889	SB	0	0
Specified Period	%	97%	99%	99%	0%	98%	98%	98%	100%	98%	0%	99%	97%	94%	98%	96%	0%	98%	98%	99%	97%	98%	0%	98%	99%	98%		0%	
4:00 PM - 6:15 PM	Buses	1	1	0	0	2	6	0	0	1	0	1	4	0	4	0	0	4	1	1	3	0	0	4	0	11	WB	2	2
One Hour Peak	%	1%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%	2%	0%	0%	1%	0%	1%	1%	0%	0%	1%	0%	1%		100%	
4:30 PM - 5:30 PM	Trucks	2	6	1	0	9	2	2	1	1	0	4	10	1	1	2	0	4	9	0	6	1	0	7	3	24	NB	7	7
	%	2%	1%	1%	0%	1%	0%	2%	0%	1%	0%	1%	2%	6%	0%	4%	0%	1%	1%	0%	2%	2%	0%	1%	1%	1%		100%	
	Total	**119**	**487**	**85**	**0**	**691**	**473**	**105**	**201**	**99**	**0**	**405**	**491**	**18**	**261**	**51**	**0**	**330**	**656**	**113**	**321**	**64**	**0**	**498**	**304**	**1924**	EB	2	2
	PHF	0.93	0.91	0.79	0	0.93	0.92	0.8	0.84	0.85	0	0.86	0.95	0.64	0.88	0.64	0	0.91	0.97	0.81	0.91	0.76	0	0.94	0.94	0.98		100%	
	Approach %					36%	25%					21%	26%					17%	34%					26%	16%			**11**	**11**

Study Name	8-South Strong Ave at Oak St-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	109	271	51	0	431	422	51	208	115	0	374	370	22	233	51	0	306	371	74	210	49	0	333	281	1444	SB	0	0
Specified Period	%	99%	97%	98%	0%	98%	98%	100%	98%	97%	0%	98%	99%	96%	98%	100%	0%	98%	98%	97%	98%	100%	0%	98%	98%	98%		0%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	3	0	2	0	0	2	1	0	2	0	0	2	1	1	1	0	0	2	2	7	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	1%	1%	0%		0%	
11:00 AM - 12:00 PM	Trucks	1	6	1	0	8	7	0	2	4	0	6	4	1	2	0	0	3	6	1	3	0	0	4	4	21	NB	4	4
	%	1%	2%	2%	0%	2%	2%	0%	1%	3%	0%	2%	1%	4%	1%	0%	0%	1%	2%	1%	1%	0%	0%	1%	1%	1%		100%	
	Total	**110**	**278**	**52**	**0**	**440**	**432**	**51**	**212**	**119**	**0**	**382**	**375**	**23**	**237**	**51**	**0**	**311**	**378**	**76**	**214**	**49**	**0**	**339**	**287**	**1472**	EB	2	2
	PHF	0.89	0.84	0.68	0	0.89	0.82	0.8	0.82	0.88	0	0.89	0.94	0.82	0.81	0.8	0	0.89	0.88	0.76	0.92	0.72	0	0.91	0.86	0.91		100%	
	Approach %					30%	29%					26%	25%					21%	26%					23%	19%			**6**	**6**
Peak 2	Lights	103	297	78	0	478	459	61	214	88	0	363	402	25	291	56	0	372	395	80	243	37	0	360	317	1573	SB	0	0
Specified Period	%	98%	99%	100%	0%	99%	97%	100%	99%	95%	0%	98%	99%	100%	97%	100%	0%	98%	99%	100%	100%	97%	0%	99%	99%	98%		0%	
12:00 PM - 2:15 PM	Buses	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	2	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	
12:15 PM - 1:15 PM	Trucks	2	4	0	0	6	12	0	3	5	0	8	2	0	7	0	0	7	5	0	0	1	0	1	3	22	NB	3	3
	%	2%	1%	0%	0%	1%	3%	0%	1%	5%	0%	2%	0%	0%	2%	0%	0%	2%	1%	0%	0%	3%	0%	0%	1%	1%		100%	
	Total	**105**	**301**	**78**	**0**	**484**	**472**	**61**	**217**	**93**	**0**	**371**	**405**	**25**	**299**	**56**	**0**	**380**	**400**	**80**	**244**	**38**	**0**	**362**	**320**	**1597**	EB	0	0
	PHF	0.8	0.94	0.89	0	0.98	0.94	0.85	0.81	0.8	0	0.93	0.92	0.89	0.93	0.7	0	0.94	0.93	0.8	0.91	0.95	0	0.9	0.86	0.96		0%	
	Approach %					30%	30%					23%	25%					24%	25%					23%	20%			**3**	**3**

Study Name 9-South Strong Ave at West Hoffman Ave-Thursday
Start Date Thursday, November 13, 2014 7:00 AM
End Date Thursday, November 13, 2014 6:00 PM
Site Code

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	4	228	13	0	245	562	45	20	14	0	79	54	118	536	38	0	692	326	12	12	53	0	77	151	1093	SB	2	2
Specified Period	%	100%	91%	100%	0%	91%	96%	87%	77%	93%	0%	85%	92%	94%	96%	93%	0%	96%	91%	100%	86%	95%	0%	94%	92%	94%		100%	
7:00 AM - 9:00 AM	Buses	0	16	0	0	16	16	2	0	0	0	2	1	4	16	1	0	21	19	0	0	1	0	1	4	40	WB	2	2
One Hour Peak	%	0%	6%	0%	0%	6%	3%	4%	0%	0%	0%	2%	2%	3%	3%	2%	0%	3%	5%	0%	0%	2%	0%	1%	2%	3%		100%	
7:15 AM - 8:15 AM	Trucks	0	7	0	0	7	7	5	6	1	0	12	4	3	6	2	0	11	14	0	2	2	0	4	9	34	NB	1	1
	%	0%	3%	0%	0%	3%	1%	10%	23%	7%	0%	13%	7%	2%	1%	5%	0%	2%	4%	0%	14%	4%	0%	5%	5%	3%		100%	
	Total	**4**	**251**	**13**	**0**	**268**	**585**	**52**	**26**	**15**	**0**	**93**	**59**	**125**	**558**	**41**	**0**	**724**	**359**	**12**	**14**	**56**	**0**	**82**	**164**	**1167**	EB	3	3
	PHF	0.5	0.88	0.54	0	0.87	0.79	0.76	0.93	0.62	0	0.8	0.87	0.74	0.8	0.73	0	0.87	0.87	0.5	0.5	0.88	0	0.85	0.76	0.91		100%	
	Approach %					23%	50%					8%	5%					62%	31%					7%	14%			**8**	**8**
Peak 2	Lights	3	420	9	0	432	355	110	37	18	0	165	83	84	328	55	0	467	707	9	25	177	0	211	130	1275	SB	3	3
Specified Period	%	75%	98%	90%	0%	98%	98%	99%	97%	95%	0%	98%	98%	99%	98%	100%	0%	98%	98%	100%	96%	98%	0%	98%	98%	98%		100%	
4:00 PM - 6:00 PM	Buses	0	2	0	0	2	3	0	0	0	0	0	0	0	3	0	0	3	3	0	0	1	0	1	0	6	WB	2	2
One Hour Peak	%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%		100%	
4:45 PM - 5:45 PM	Trucks	1	5	1	0	7	6	1	1	1	0	3	2	1	5	0	0	6	9	0	1	3	0	4	3	20	NB	0	0
	%	25%	1%	10%	0%	2%	2%	1%	3%	5%	0%	2%	2%	1%	1%	0%	0%	1%	1%	0%	4%	2%	0%	2%	2%	2%		0%	
	Total	**4**	**427**	**10**	**0**	**441**	**364**	**111**	**38**	**19**	**0**	**168**	**85**	**85**	**336**	**55**	**0**	**476**	**719**	**9**	**26**	**181**	**0**	**216**	**133**	**1301**	EB	0	0
	PHF	0.5	0.87	0.62	0	0.87	0.87	0.9	0.86	0.53	0	0.86	0.92	0.71	0.89	0.86	0	0.94	0.93	0.45	0.81	0.96	0	0.93	0.79	0.95		0%	
	Approach %					34%	28%					13%	7%					37%	55%					17%	10%			**5**	**5**

Study Name	9-South Strong Ave at West Hoffman Ave-Saturday
Start Date	Saturday, November 15, 2014 11:00 AM
End Date	Saturday, November 15, 2014 2:15 PM
Site Code	

Report Summary

		Southbound						Westbound						Northbound						Eastbound								Crosswalk	
Time Period	**Class.**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**L**	**T**	**R**	**U**	**I**	**O**	**Total**		**destria**	**Total**
Peak 1	Lights	8	272	9	0	289	317	70	40	22	0	132	85	119	289	39	0	447	429	6	38	87	0	131	168	999	SB	0	0
Specified Period	%	100%	97%	90%	0%	97%	98%	97%	98%	96%	0%	97%	99%	100%	98%	98%	0%	98%	98%	100%	100%	100%	0%	100%	99%	98%		0%	
11:00 AM - 12:00 PM	Buses	0	1	0	0	1	3	0	0	0	0	0	1	0	3	1	0	4	1	0	0	0	0	0	0	5	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	1%	3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%		0%	
11:00 AM - 12:00 PM	Trucks	0	7	1	0	8	5	2	1	1	0	4	0	0	4	0	0	4	9	0	0	0	0	0	2	16	NB	0	0
	%	0%	3%	10%	0%	3%	2%	3%	2%	4%	0%	3%	0%	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	1%	2%		0%	
	Total	**8**	**280**	**10**	**0**	**298**	**325**	**72**	**41**	**23**	**0**	**136**	**86**	**119**	**296**	**40**	**0**	**455**	**439**	**6**	**38**	**87**	**0**	**131**	**170**	**1020**	EB	2	2
	PHF	0.5	0.9	0.62	0	0.92	0.89	0.86	0.79	0.82	0	0.89	0.69	0.69	0.9	0.67	0	0.81	0.88	0.5	0.63	0.75	0	0.71	0.73	0.84		100%	
	Approach %					29%	32%					13%	8%					45%	43%					13%	17%			**2**	**2**
Peak 2	Lights	12	312	13	0	337	384	70	40	18	0	128	96	80	353	50	0	483	476	13	34	94	0	141	133	1089	SB	1	1
Specified Period	%	100%	98%	100%	0%	98%	98%	100%	100%	95%	0%	99%	100%	98%	98%	100%	0%	98%	99%	100%	100%	100%	0%	100%	99%	98%		100%	
12:00 PM - 2:15 PM	Buses	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	WB	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	
12:15 PM - 1:15 PM	Trucks	0	7	0	0	7	8	0	0	1	0	1	0	2	7	0	0	9	7	0	0	0	0	0	2	17	NB	0	0
	%	0%	2%	0%	0%	2%	2%	0%	0%	5%	0%	1%	0%	2%	2%	0%	0%	2%	1%	0%	0%	0%	0%	0%	1%	2%		0%	
	Total	**12**	**319**	**13**	**0**	**344**	**393**	**70**	**40**	**19**	**0**	**129**	**96**	**82**	**361**	**50**	**0**	**493**	**483**	**13**	**34**	**94**	**0**	**141**	**135**	**1107**	EB	0	0
	PHF	0.75	0.94	0.65	0	0.96	0.88	0.8	0.71	0.53	0	0.83	0.77	0.68	0.93	0.83	0	0.91	0.97	0.54	0.65	0.81	0	0.8	0.7	0.95		0%	
	Approach %					31%	36%					12%	9%					45%	44%					13%	12%			**1**	**1**

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	114	114	121
		THROUGH	483	483	511
GREATNECK RD		RIGHT	272	272	288
AT	SB	LEFT	34	34	36
DIXON AVE		THROUGH	238	238	252
		RIGHT	32	32	34
1	EB	LEFT	33	33	35
		THROUGH	260	260	275
		RIGHT	46	46	49
	WB	LEFT	223	223	236
		THROUGH	425	425	450
		RIGHT	126	126	134
	NB	LEFT	16	16	17
GREATNECK RD		THROUGH	701	701	741
AT		RIGHT	56	56	60
MARCONI BLVD	SB	LEFT	29	29	31
		THROUGH	459	459	486
2		RIGHT	3	3	4
	EB	LEFT	16	16	17
		THROUGH	17	17	18
		RIGHT	37	37	40
	WB	LEFT	122	122	129
		THROUGH	32	32	34
		RIGHT	101	101	107
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	723	723	765
AT		RIGHT	15	15	16
ACCESS ROAD	SB	LEFT	41	41	44
		THROUGH	567	567	600
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	7	7	8
		THROUGH	0	0	0
		RIGHT	28	28	30
	NB	LEFT	9	9	10
GREATNECK RD		THROUGH	638	638	675
AT		RIGHT	7	7	8
RAILROAD AVE	SB	LEFT	29	29	31
		THROUGH	421	421	445
4		RIGHT	153	153	162
	EB	LEFT	63	63	67
		THROUGH	5	5	6
		RIGHT	13	13	14
	WB	LEFT	5	5	6
		THROUGH	1	1	2
		RIGHT	38	38	41
	NB	LEFT	49	49	52
		THROUGH	513	513	543
GREATNECK RD		RIGHT	51	51	54
AT	SB	LEFT	52	52	55
OAK ST		THROUGH	289	289	306
		RIGHT	53	53	57
5	EB	LEFT	134	134	142
		THROUGH	150	150	159
		RIGHT	31	31	33
	WB	LEFT	22	22	24
		THROUGH	234	234	248
		RIGHT	57	57	61

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	23	23	25
		THROUGH	504	504	533
GREATNECK RD		RIGHT	25	25	27
AT	SB	LEFT	19	19	21
SCUDDER AVE		THROUGH	285	285	302
		RIGHT	10	10	11
6	EB	LEFT	38	38	41
		THROUGH	13	13	14
		RIGHT	0	0	0
	WB	LEFT	5	5	6
		THROUGH	12	12	13
		RIGHT	47	47	50
	NB	LEFT	25	25	27
		THROUGH	21	21	23
GREATNECK RD		RIGHT	3	3	4
AT	SB	LEFT	94	94	100
MONTAUK HWY		THROUGH	22	22	24
		RIGHT	85	85	90
7	EB	LEFT	98	98	104
		THROUGH	401	401	424
		RIGHT	4	4	5
	WB	LEFT	6	6	7
		THROUGH	771	771	815
		RIGHT	155	155	164
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	5	5	6
ELM ST		THROUGH	0	0	0
		RIGHT	59	59	63
8	EB	LEFT	38	38	41
		THROUGH	284	284	301
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	408	408	432
		RIGHT	6	6	7
	NB	LEFT	15	15	16
S STRONG AVE		THROUGH	394	394	417
AT		RIGHT	23	23	25
OAK ST	SB	LEFT	65	65	69
		THROUGH	222	222	235
9		RIGHT	70	70	74
	EB	LEFT	141	141	150
		THROUGH	132	132	140
		RIGHT	20	20	22
	WB	LEFT	35	35	37
		THROUGH	245	245	259
		RIGHT	166	166	176
	NB	LEFT	125	125	133
S STRONG AVE		THROUGH	558	558	590
AT		RIGHT	41	41	44
W HOFFMAN AVE	SB	LEFT	4	4	5
		THROUGH	251	251	266
10		RIGHT	13	13	14
	EB	LEFT	12	12	13
		THROUGH	14	14	15
		RIGHT	56	56	60
	WB	LEFT	52	52	55
		THROUGH	26	26	28
		RIGHT	15	15	16

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
DIXON AVE		THROUGH			0	0
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
MARCONI BLVD	SB	LEFT			0	0
		THROUGH			0	0
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
ACCESS ROAD	SB	LEFT			0	0
		THROUGH			0	0
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH			0	0
4		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
OAK ST		THROUGH			0	0
		RIGHT			0	0
5	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
SCUDDER AVE		THROUGH			0	0
		RIGHT			0	0
6	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
MONTAUK HWY		THROUGH			0	0
		RIGHT			0	0
7	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT			0	0
8	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH			0	0
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	121	0	121
		THROUGH	511	0	511
GREATNECK RD		RIGHT	288	0	288
AT	SB	LEFT	36	0	36
DIXON AVE		THROUGH	252	0	252
		RIGHT	34	0	34
1	EB	LEFT	35	0	35
		THROUGH	275	0	275
		RIGHT	49	0	49
	WB	LEFT	236	0	236
		THROUGH	450	0	450
		RIGHT	134	0	134
	NB	LEFT	17	0	17
GREATNECK RD		THROUGH	741	0	741
AT		RIGHT	60	0	60
MARCONI BLVD	SB	LEFT	31	0	31
		THROUGH	486	0	486
2		RIGHT	4	0	4
	EB	LEFT	17	0	17
		THROUGH	18	0	18
		RIGHT	40	0	40
	WB	LEFT	129	0	129
		THROUGH	34	0	34
		RIGHT	107	0	107
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	765	0	765
AT		RIGHT	16	0	16
ACCESS ROAD	SB	LEFT	44	0	44
		THROUGH	600	0	600
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	8	0	8
		THROUGH	0	0	0
		RIGHT	30	0	30
	NB	LEFT	10	0	10
GREATNECK RD		THROUGH	675	0	675
AT		RIGHT	8	0	8
RAILROAD AVE	SB	LEFT	31	0	31
		THROUGH	445	0	445
4		RIGHT	162	0	162
	EB	LEFT	67	0	67
		THROUGH	6	0	6
		RIGHT	14	0	14
	WB	LEFT	6	0	6
		THROUGH	2	0	2
		RIGHT	41	0	41
	NB	LEFT	52	0	52
		THROUGH	543	0	543
GREATNECK RD		RIGHT	54	0	54
AT	SB	LEFT	55	0	55
OAK ST		THROUGH	306	0	306
		RIGHT	57	0	57
5	EB	LEFT	142	0	142
		THROUGH	159	0	159
		RIGHT	33	0	33
	WB	LEFT	24	0	24
		THROUGH	248	0	248
		RIGHT	61	0	61

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	25	0	25
		THROUGH	533	0	533
GREATNECK RD		RIGHT	27	0	27
AT	SB	LEFT	21	0	21
SCUDDER AVE		THROUGH	302	0	302
		RIGHT	11	0	11
6	EB	LEFT	41	0	41
		THROUGH	14	0	14
		RIGHT	0	0	0
	WB	LEFT	6	0	6
		THROUGH	13	0	13
		RIGHT	50	0	50
	NB	LEFT	27	0	27
		THROUGH	23	0	23
GREATNECK RD		RIGHT	4	0	4
AT	SB	LEFT	100	0	100
MONTAUK HWY		THROUGH	24	0	24
		RIGHT	90	0	90
7	EB	LEFT	104	0	104
		THROUGH	424	0	424
		RIGHT	5	0	5
	WB	LEFT	7	0	7
		THROUGH	815	0	815
		RIGHT	164	0	164
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	6	0	6
ELM ST		THROUGH	0	0	0
		RIGHT	63	0	63
8	EB	LEFT	41	0	41
		THROUGH	301	0	301
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	432	0	432
		RIGHT	7	0	7
	NB	LEFT	16	0	16
S STRONG AVE		THROUGH	417	0	417
AT		RIGHT	25	0	25
OAK ST	SB	LEFT	69	0	69
		THROUGH	235	0	235
9		RIGHT	74	0	74
	EB	LEFT	150	0	150
		THROUGH	140	0	140
		RIGHT	22	0	22
	WB	LEFT	37	0	37
		THROUGH	259	0	259
		RIGHT	176	0	176
	NB	LEFT	133	0	133
S STRONG AVE		THROUGH	590	0	590
AT		RIGHT	44	0	44
W HOFFMAN AVE	SB	LEFT	5	0	5
		THROUGH	266	0	266
10		RIGHT	14	0	14
	EB	LEFT	13	0	13
		THROUGH	15	0	15
		RIGHT	60	0	60
	WB	LEFT	55	0	55
		THROUGH	28	0	28
		RIGHT	16	0	16

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%		
0%		
		VOL
	ENTER	213
	EXIT	182
	TOTAL	395

SUBTOTAL TRAFFIC GENERATED

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT		5	9	9
		THROUGH		20	36	36
GREATNECK RD		RIGHT		15	27	27
AT	SB	LEFT			0	0
DIXON AVE		THROUGH	20		43	43
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT	5		11	11
	WB	LEFT	15		32	32
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH		35	64	64
AT		RIGHT		5	9	9
MARCONI BLVD	SB	LEFT	5		11	11
		THROUGH	35		75	75
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	5		11	11
		THROUGH			0	0
		RIGHT		5	9	9
	NB	LEFT			0	0
GREATNECK RD		THROUGH		30	55	55
AT		RIGHT	20		43	43
ACCESS ROAD	SB	LEFT	10		21	21
		THROUGH	30		64	64
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT		20	36	36
		THROUGH			0	0
		RIGHT		5	9	9
	NB	LEFT	10		21	21
GREATNECK RD		THROUGH	20	15	70	70
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH	15	20	68	68
4		RIGHT	15		32	32
	EB	LEFT		15	27	27
		THROUGH			0	0
		RIGHT		10	18	18
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT		5	9	9
		THROUGH	20	10	61	61
GREATNECK RD		RIGHT	5	5	20	20
AT	SB	LEFT	5	5	20	20
OAK ST		THROUGH	10		21	21
		RIGHT		5	9	9
5	EB	LEFT	5		11	11
		THROUGH			0	0
		RIGHT	5		11	11
	WB	LEFT	5		11	11
		THROUGH			0	0
		RIGHT	5	5	20	20

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%		
0%		
		VOL
	ENTER	213
	EXIT	182
	TOTAL	395

SUBTOTAL TRAFFIC GENERATED

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH	25		53	53
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		3	5	5
SCUDDER AVE		THROUGH		25	46	46
		RIGHT		2	4	4
6	EB	LEFT	2		4	4
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	3		6	6
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		15	27	27
MONTAUK HWY		THROUGH			0	0
		RIGHT		10	18	18
7	EB	LEFT	10		21	21
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	15		32	32
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT		5	9	9
8	EB	LEFT	5		11	11
		THROUGH	10		21	21
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH		10	18	18
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT	5		11	11
	EB	LEFT		5	9	9
		THROUGH		5	9	9
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH	5		11	11
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH		3	5	5
AT		RIGHT		2	4	4
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH	3		6	6
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	2		4	4
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	121	9	130
		THROUGH	511	36	547
GREATNECK RD		RIGHT	288	27	315
AT	SB	LEFT	36	0	36
DIXON AVE		THROUGH	252	43	295
		RIGHT	34	0	34
1	EB	LEFT	35	0	35
		THROUGH	275	0	275
		RIGHT	49	11	60
	WB	LEFT	236	32	268
		THROUGH	450	0	450
		RIGHT	134	0	134
	NB	LEFT	17	0	17
GREATNECK RD		THROUGH	741	64	805
AT		RIGHT	60	9	69
MARCONI BLVD	SB	LEFT	31	11	42
		THROUGH	486	75	561
2		RIGHT	4	0	4
	EB	LEFT	17	0	17
		THROUGH	18	0	18
		RIGHT	40	0	40
	WB	LEFT	129	11	140
		THROUGH	34	0	34
		RIGHT	107	9	116
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	765	55	820
AT		RIGHT	16	43	59
ACCESS ROAD	SB	LEFT	44	21	65
		THROUGH	600	64	664
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	8	36	44
		THROUGH	0	0	0
		RIGHT	30	9	39
	NB	LEFT	10	21	31
GREATNECK RD		THROUGH	675	70	745
AT		RIGHT	8	0	8
RAILROAD AVE	SB	LEFT	31	0	31
		THROUGH	445	68	513
4		RIGHT	162	32	194
	EB	LEFT	67	27	94
		THROUGH	6	0	6
		RIGHT	14	18	32
	WB	LEFT	6	0	6
		THROUGH	2	0	2
		RIGHT	41	0	41
	NB	LEFT	52	9	61
		THROUGH	543	61	604
GREATNECK RD		RIGHT	54	20	74
AT	SB	LEFT	55	20	75
OAK ST		THROUGH	306	21	327
		RIGHT	57	9	66
5	EB	LEFT	142	11	153
		THROUGH	159	0	159
		RIGHT	33	11	44
	WB	LEFT	24	11	35
		THROUGH	248	0	248
		RIGHT	61	20	81

NELSON & POPE

AM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	25	0	25
		THROUGH	533	53	586
GREATNECK RD		RIGHT	27	0	27
AT	SB	LEFT	21	5	26
SCUDDER AVE		THROUGH	302	46	348
		RIGHT	11	4	15
6	EB	LEFT	41	4	45
		THROUGH	14	0	14
		RIGHT	0	0	0
	WB	LEFT	6	0	6
		THROUGH	13	0	13
		RIGHT	50	6	56
	NB	LEFT	27	0	27
		THROUGH	23	0	23
GREATNECK RD		RIGHT	4	0	4
AT	SB	LEFT	100	27	127
MONTAUK HWY		THROUGH	24	0	24
		RIGHT	90	18	108
7	EB	LEFT	104	21	125
		THROUGH	424	0	424
		RIGHT	5	0	5
	WB	LEFT	7	0	7
		THROUGH	815	0	815
		RIGHT	164	32	196
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	6	0	6
ELM ST		THROUGH	0	0	0
		RIGHT	63	9	72
8	EB	LEFT	41	11	52
		THROUGH	301	21	322
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	432	18	450
		RIGHT	7	0	7
	NB	LEFT	16	0	16
S STRONG AVE		THROUGH	417	0	417
AT		RIGHT	25	0	25
OAK ST	SB	LEFT	69	0	69
		THROUGH	235	0	235
9		RIGHT	74	11	85
	EB	LEFT	150	9	159
		THROUGH	140	9	149
		RIGHT	22	0	22
	WB	LEFT	37	0	37
		THROUGH	259	11	270
		RIGHT	176	0	176
	NB	LEFT	133	0	133
S STRONG AVE		THROUGH	590	5	595
AT		RIGHT	44	4	48
W HOFFMAN AVE	SB	LEFT	5	0	5
		THROUGH	266	6	272
10		RIGHT	14	0	14
	EB	LEFT	13	0	13
		THROUGH	15	0	15
		RIGHT	60	0	60
	WB	LEFT	55	4	59
		THROUGH	28	0	28
		RIGHT	16	0	16

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	102	102	108
		THROUGH	412	412	436
GREATNECK RD		RIGHT	233	233	247
AT	SB	LEFT	45	45	48
DIXON AVE		THROUGH	360	360	381
		RIGHT	31	31	33
1	EB	LEFT	52	52	55
		THROUGH	391	391	414
		RIGHT	65	65	69
	WB	LEFT	235	235	249
		THROUGH	33	33	35
		RIGHT	61	61	65
	NB	LEFT	28	28	30
		THROUGH	627	627	663
GREATNECK RD		RIGHT	90	90	96
AT	SB	LEFT	33	33	35
MARCONI BLVD		THROUGH	559	559	591
		RIGHT	2	2	3
2	EB	LEFT	25	25	27
		THROUGH	58	58	62
		RIGHT	123	123	131
	WB	LEFT	165	165	175
		THROUGH	47	47	50
		RIGHT	87	87	92
	NB	LEFT	0	0	0
		THROUGH	718	718	759
GREATNECK RD		RIGHT	5	5	6
AT	SB	LEFT	18	18	20
ACCESS ROAD		THROUGH	813	813	860
		RIGHT	0	0	0
3	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	10	10	11
		THROUGH	0	0	0
		RIGHT	19	19	21
	NB	LEFT	7	7	8
		THROUGH	632	632	669
GREATNECK RD		RIGHT	9	9	10
AT	SB	LEFT	46	46	49
RAILROAD AVE		THROUGH	602	602	637
		RIGHT	177	177	188
4	EB	LEFT	58	58	62
		THROUGH	6	6	7
		RIGHT	17	17	18
	WB	LEFT	4	4	5
		THROUGH	2	2	3
		RIGHT	41	41	44
	NB	LEFT	56	56	60
		THROUGH	449	449	475
GREATNECK RD		RIGHT	90	90	96
AT	SB	LEFT	65	65	69
OAK ST		THROUGH	478	478	506
		RIGHT	48	48	51
5	EB	LEFT	149	149	158
		THROUGH	306	306	324
		RIGHT	103	103	109
	WB	LEFT	60	60	64
		THROUGH	184	184	195
		RIGHT	58	58	62

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	6	6	7
		THROUGH	533	533	564
GREATNECK RD		RIGHT	26	26	28
AT	SB	LEFT	52	52	55
SCUDDER AVE		THROUGH	549	549	581
		RIGHT	16	16	17
6	EB	LEFT	33	33	35
		THROUGH	7	7	8
		RIGHT	6	6	7
	WB	LEFT	30	30	32
		THROUGH	19	19	21
		RIGHT	63	63	67
	NB	LEFT	52	52	55
		THROUGH	60	60	64
GREATNECK RD		RIGHT	31	31	33
AT	SB	LEFT	181	181	192
MONTAUK HWY		THROUGH	103	103	109
		RIGHT	127	127	135
7	EB	LEFT	165	165	175
		THROUGH	855	855	904
		RIGHT	24	24	26
	WB	LEFT	30	30	32
		THROUGH	669	669	708
		RIGHT	166	166	176
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	9	9	10
ELM ST		THROUGH	0	0	0
		RIGHT	90	90	96
8	EB	LEFT	14	14	15
		THROUGH	603	603	638
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	319	319	338
		RIGHT	3	3	4
	NB	LEFT	18	18	20
S STRONG AVE		THROUGH	261	261	276
AT		RIGHT	51	51	54
OAK ST	SB	LEFT	119	119	126
		THROUGH	487	487	515
9		RIGHT	85	85	90
	EB	LEFT	113	113	120
		THROUGH	321	321	340
		RIGHT	64	64	68
	WB	LEFT	105	105	111
		THROUGH	201	201	213
		RIGHT	99	99	105
	NB	LEFT	85	85	90
S STRONG AVE		THROUGH	336	336	356
AT		RIGHT	55	55	59
W HOFFMAN AVE	SB	LEFT	4	4	5
		THROUGH	427	427	452
10		RIGHT	10	10	11
	EB	LEFT	9	9	10
		THROUGH	26	26	28
		RIGHT	181	181	192
	WB	LEFT	11	11	12
		THROUGH	38	38	41
		RIGHT	19	19	21

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	**1 VOL**	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
DIXON AVE		THROUGH			0	0
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
MARCONI BLVD	SB	LEFT			0	0
		THROUGH			0	0
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
ACCESS ROAD	SB	LEFT			0	0
		THROUGH			0	0
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH			0	0
4		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
OAK ST		THROUGH			0	0
		RIGHT			0	0
5	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
SCUDDER AVE		THROUGH			0	0
		RIGHT			0	0
6	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
MONTAUK HWY		THROUGH			0	0
		RIGHT			0	0
7	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT			0	0
8	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH			0	0
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	108	0	108
		THROUGH	436	0	436
GREATNECK RD		RIGHT	247	0	247
AT	SB	LEFT	48	0	48
DIXON AVE		THROUGH	381	0	381
		RIGHT	33	0	33
1	EB	LEFT	55	0	55
		THROUGH	414	0	414
		RIGHT	69	0	69
	WB	LEFT	249	0	249
		THROUGH	35	0	35
		RIGHT	65	0	65
	NB	LEFT	30	0	30
GREATNECK RD		THROUGH	663	0	663
AT		RIGHT	96	0	96
MARCONI BLVD	SB	LEFT	35	0	35
		THROUGH	591	0	591
2		RIGHT	3	0	3
	EB	LEFT	27	0	27
		THROUGH	62	0	62
		RIGHT	131	0	131
	WB	LEFT	175	0	175
		THROUGH	50	0	50
		RIGHT	92	0	92
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	759	0	759
AT		RIGHT	6	0	6
ACCESS ROAD	SB	LEFT	20	0	20
		THROUGH	860	0	860
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	11	0	11
		THROUGH	0	0	0
		RIGHT	21	0	21
	NB	LEFT	8	0	8
GREATNECK RD		THROUGH	669	0	669
AT		RIGHT	10	0	10
RAILROAD AVE	SB	LEFT	49	0	49
		THROUGH	637	0	637
4		RIGHT	188	0	188
	EB	LEFT	62	0	62
		THROUGH	7	0	7
		RIGHT	18	0	18
	WB	LEFT	5	0	5
		THROUGH	3	0	3
		RIGHT	44	0	44
	NB	LEFT	60	0	60
		THROUGH	475	0	475
GREATNECK RD		RIGHT	96	0	96
AT	SB	LEFT	69	0	69
OAK ST		THROUGH	506	0	506
		RIGHT	51	0	51
5	EB	LEFT	158	0	158
		THROUGH	324	0	324
		RIGHT	109	0	109
	WB	LEFT	64	0	64
		THROUGH	195	0	195
		RIGHT	62	0	62

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	7	0	7
		THROUGH	564	0	564
GREATNECK RD		RIGHT	28	0	28
AT	SB	LEFT	55	0	55
SCUDDER AVE		THROUGH	581	0	581
		RIGHT	17	0	17
6	EB	LEFT	35	0	35
		THROUGH	8	0	8
		RIGHT	7	0	7
	WB	LEFT	32	0	32
		THROUGH	21	0	21
		RIGHT	67	0	67
	NB	LEFT	55	0	55
		THROUGH	64	0	64
GREATNECK RD		RIGHT	33	0	33
AT	SB	LEFT	192	0	192
MONTAUK HWY		THROUGH	109	0	109
		RIGHT	135	0	135
7	EB	LEFT	175	0	175
		THROUGH	904	0	904
		RIGHT	26	0	26
	WB	LEFT	32	0	32
		THROUGH	708	0	708
		RIGHT	176	0	176
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	10	0	10
ELM ST		THROUGH	0	0	0
		RIGHT	96	0	96
8	EB	LEFT	15	0	15
		THROUGH	638	0	638
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	338	0	338
		RIGHT	4	0	4
	NB	LEFT	20	0	20
S STRONG AVE		THROUGH	276	0	276
AT		RIGHT	54	0	54
OAK ST	SB	LEFT	126	0	126
		THROUGH	515	0	515
9		RIGHT	90	0	90
	EB	LEFT	120	0	120
		THROUGH	340	0	340
		RIGHT	68	0	68
	WB	LEFT	111	0	111
		THROUGH	213	0	213
		RIGHT	105	0	105
	NB	LEFT	90	0	90
S STRONG AVE		THROUGH	356	0	356
AT		RIGHT	59	0	59
W HOFFMAN AVE	SB	LEFT	5	0	5
		THROUGH	452	0	452
10		RIGHT	11	0	11
	EB	LEFT	10	0	10
		THROUGH	28	0	28
		RIGHT	192	0	192
	WB	LEFT	12	0	12
		THROUGH	41	0	41
		RIGHT	21	0	21

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%
0%

	VOL
ENTER	262
EXIT	249
TOTAL	511

SUBTOTAL TRAFFIC GENERATED

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT		5	12	12
		THROUGH		20	50	50
GREATNECK RD		RIGHT		15	37	37
AT	SB	LEFT			0	0
DIXON AVE		THROUGH	20		52	52
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT	5		13	13
	WB	LEFT	15		39	39
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH		35	87	87
AT		RIGHT		5	12	12
MARCONI BLVD	SB	LEFT	5		13	13
		THROUGH	35		92	92
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	5		13	13
		THROUGH			0	0
		RIGHT		5	12	12
	NB	LEFT			0	0
GREATNECK RD		THROUGH		30	75	75
AT		RIGHT	20		52	52
ACCESS ROAD	SB	LEFT	10		26	26
		THROUGH	30		79	79
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT		20	50	50
		THROUGH			0	0
		RIGHT		5	12	12
						0
	NB	LEFT	10		26	26
GREATNECK RD		THROUGH	20	15	89	89
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH	15	20	89	89
4		RIGHT	15		39	39
	EB	LEFT		15	37	37
		THROUGH			0	0
		RIGHT		10	25	25
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT		5	12	12
		THROUGH	20	10	77	77
GREATNECK RD		RIGHT	5	5	25	25
AT	SB	LEFT	5	5	25	25
OAK ST		THROUGH	10		26	26
		RIGHT		5	12	12
5	EB	LEFT	5		13	13
		THROUGH			0	0
		RIGHT	5		13	13
	WB	LEFT	5		13	13
		THROUGH			0	0
		RIGHT	5	5	25	25

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%		
0%		
		VOL
	ENTER	262
	EXIT	249
	TOTAL	511

SUBTOTAL TRAFFIC GENERATED

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH	25		66	66
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		3	7	7
SCUDDER AVE		THROUGH		25	62	62
		RIGHT		2	5	5
6	EB	LEFT	2		5	5
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	3		8	8
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		15	37	37
MONTAUK HWY		THROUGH			0	0
		RIGHT		10	25	25
7	EB	LEFT	10		26	26
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	15		39	39
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT		5	12	12
8	EB	LEFT	5		13	13
		THROUGH	10		26	26
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH		10	25	25
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT	5		13	13
	EB	LEFT		5	12	12
		THROUGH		5	12	12
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH	5		13	13
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH		3	7	7
AT		RIGHT		2	5	5
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH	3		8	8
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	2		5	5
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	108	12	120
		THROUGH	436	50	486
GREATNECK RD		RIGHT	247	37	284
AT	SB	LEFT	48	0	48
DIXON AVE		THROUGH	381	52	433
		RIGHT	33	0	33
1	EB	LEFT	55	0	55
		THROUGH	414	0	414
		RIGHT	69	13	82
	WB	LEFT	249	39	288
		THROUGH	35	0	35
		RIGHT	65	0	65
	NB	LEFT	30	0	30
GREATNECK RD		THROUGH	663	87	750
AT		RIGHT	96	12	108
MARCONI BLVD	SB	LEFT	35	13	48
		THROUGH	591	92	683
2		RIGHT	3	0	3
	EB	LEFT	27	0	27
		THROUGH	62	0	62
		RIGHT	131	0	131
	WB	LEFT	175	13	188
		THROUGH	50	0	50
		RIGHT	92	12	104
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	759	75	834
AT		RIGHT	6	52	58
ACCESS ROAD	SB	LEFT	20	26	46
		THROUGH	860	79	939
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	11	50	61
		THROUGH	0	0	0
		RIGHT	21	12	33
	NB	LEFT	8	26	34
GREATNECK RD		THROUGH	669	89	758
AT		RIGHT	10	0	10
RAILROAD AVE	SB	LEFT	49	0	49
		THROUGH	637	89	726
4		RIGHT	188	39	227
	EB	LEFT	62	37	99
		THROUGH	7	0	7
		RIGHT	18	25	43
	WB	LEFT	5	0	5
		THROUGH	3	0	3
		RIGHT	44	0	44
	NB	LEFT	60	12	72
		THROUGH	475	77	552
GREATNECK RD		RIGHT	96	25	121
AT	SB	LEFT	69	25	94
OAK ST		THROUGH	506	26	532
		RIGHT	51	12	63
5	EB	LEFT	158	13	171
		THROUGH	324	0	324
		RIGHT	109	13	122
	WB	LEFT	64	13	77
		THROUGH	195	0	195
		RIGHT	62	25	87

NELSON & POPE

PM PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	7	0	7
		THROUGH	564	66	630
GREATNECK RD		RIGHT	28	0	28
AT	SB	LEFT	55	7	62
SCUDDER AVE		THROUGH	581	62	643
		RIGHT	17	5	22
6	EB	LEFT	35	5	40
		THROUGH	8	0	8
		RIGHT	7	0	7
	WB	LEFT	32	0	32
		THROUGH	21	0	21
		RIGHT	67	8	75
	NB	LEFT	55	0	55
		THROUGH	64	0	64
GREATNECK RD		RIGHT	33	0	33
AT	SB	LEFT	192	37	229
MONTAUK HWY		THROUGH	109	0	109
		RIGHT	135	25	160
7	EB	LEFT	175	26	201
		THROUGH	904	0	904
		RIGHT	26	0	26
	WB	LEFT	32	0	32
		THROUGH	708	0	708
		RIGHT	176	39	215
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	10	0	10
ELM ST		THROUGH	0	0	0
		RIGHT	96	12	108
8	EB	LEFT	15	13	28
		THROUGH	638	26	664
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	338	25	363
		RIGHT	4	0	4
	NB	LEFT	20	0	20
S STRONG AVE		THROUGH	276	0	276
AT		RIGHT	54	0	54
OAK ST	SB	LEFT	126	0	126
		THROUGH	515	0	515
9		RIGHT	90	13	103
	EB	LEFT	120	12	132
		THROUGH	340	12	352
		RIGHT	68	0	68
	WB	LEFT	111	0	111
		THROUGH	213	13	226
		RIGHT	105	0	105
	NB	LEFT	90	0	90
S STRONG AVE		THROUGH	356	7	363
AT		RIGHT	59	5	64
W HOFFMAN AVE	SB	LEFT	5	0	5
		THROUGH	452	8	460
10		RIGHT	11	0	11
	EB	LEFT	10	0	10
		THROUGH	28	0	28
		RIGHT	192	0	192
	WB	LEFT	12	5	17
		THROUGH	41	0	41
		RIGHT	21	0	21

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	133	153	162
		THROUGH	379	436	461
GREATNECK RD		RIGHT	232	267	283
AT	SB	LEFT	36	42	45
DIXON AVE		THROUGH	335	386	409
		RIGHT	49	57	61
1	EB	LEFT	38	44	47
		THROUGH	313	360	381
		RIGHT	75	87	92
	WB	LEFT	223	257	272
		THROUGH	301	346	366
		RIGHT	56	65	69
	NB	LEFT	51	59	63
GREATNECK RD		THROUGH	639	735	777
AT		RIGHT	83	96	102
MARCONI BLVD	SB	LEFT	37	43	46
		THROUGH	571	657	695
2		RIGHT	12	14	15
	EB	LEFT	14	17	18
		THROUGH	53	61	65
		RIGHT	133	153	162
	WB	LEFT	134	155	164
		THROUGH	74	86	91
		RIGHT	99	114	121
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	755	868	918
AT		RIGHT	11	13	14
ACCESS ROAD	SB	LEFT	15	18	20
		THROUGH	825	949	1004
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	8	10	11
		THROUGH	0	0	0
		RIGHT	3	4	5
	NB	LEFT	12	14	15
GREATNECK RD		THROUGH	669	769	813
AT		RIGHT	18	21	23
RAILROAD AVE	SB	LEFT	48	56	60
		THROUGH	620	713	754
4		RIGHT	156	180	191
	EB	LEFT	58	67	71
		THROUGH	1	2	3
		RIGHT	20	23	25
	WB	LEFT	6	7	8
		THROUGH	4	5	6
		RIGHT	41	48	51
	NB	LEFT	73	84	89
		THROUGH	477	549	581
GREATNECK RD		RIGHT	84	97	103
AT	SB	LEFT	67	78	83
OAK ST		THROUGH	449	517	547
		RIGHT	67	78	83
5	EB	LEFT	146	168	178
		THROUGH	234	269	285
		RIGHT	93	107	114
	WB	LEFT	67	78	83
		THROUGH	205	236	250
		RIGHT	77	89	95

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

GROWTH FACTOR: 0.55%
NO. OF YEARS: 10
GROWTH RATE: 1.057

LOCATION	DIR	MVMT	EXISTING VOLUME	SEASONALLY ADJUSTED VOLUMES	AMBIENT NO BUILD VOLUME
	NB	LEFT	19	22	24
		THROUGH	544	626	662
GREATNECK RD		RIGHT	22	26	28
AT	SB	LEFT	39	45	48
SCUDDER AVE		THROUGH	519	597	632
		RIGHT	11	13	14
6	EB	LEFT	24	28	30
		THROUGH	19	22	24
		RIGHT	4	5	6
	WB	LEFT	10	12	13
		THROUGH	17	20	22
		RIGHT	50	58	62
	NB	LEFT	59	68	72
		THROUGH	68	79	84
GREATNECK RD		RIGHT	46	53	57
AT	SB	LEFT	170	196	208
MONTAUK HWY		THROUGH	102	118	125
		RIGHT	133	153	162
7	EB	LEFT	163	188	199
		THROUGH	789	907	959
		RIGHT	23	27	29
	WB	LEFT	32	37	40
		THROUGH	756	869	919
		RIGHT	201	232	246
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	10	12	13
ELM ST		THROUGH	0	0	0
		RIGHT	81	94	100
8	EB	LEFT	9	11	12
		THROUGH	474	545	577
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	366	421	445
		RIGHT	2	3	4
	NB	LEFT	25	29	31
S STRONG AVE		THROUGH	299	344	364
AT		RIGHT	56	65	69
OAK ST	SB	LEFT	105	121	128
		THROUGH	301	346	366
9		RIGHT	78	90	96
	EB	LEFT	80	92	98
		THROUGH	244	281	298
		RIGHT	38	44	47
	WB	LEFT	61	71	76
		THROUGH	217	250	265
		RIGHT	93	107	114
	NB	LEFT	115	133	141
S STRONG AVE		THROUGH	334	384	406
AT		RIGHT	49	57	61
W HOFFMAN AVE	SB	LEFT	8	10	11
		THROUGH	299	344	364
10		RIGHT	10	12	13
	EB	LEFT	10	12	13
		THROUGH	44	51	54
		RIGHT	104	120	127
	WB	LEFT	83	96	102
		THROUGH	45	52	55
		RIGHT	20	23	25

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	**1 VOL**	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
DIXON AVE		THROUGH			0	0
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
MARCONI BLVD	SB	LEFT			0	0
		THROUGH			0	0
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
ACCESS ROAD	SB	LEFT			0	0
		THROUGH			0	0
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH			0	0
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH			0	0
4		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
OAK ST		THROUGH			0	0
		RIGHT			0	0
5	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

OTHER
PLANNED
PROJECTS

NO PLANNED PROJECTS

	VOL
ENTER	0
EXIT	0
TOTAL	0

SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
SCUDDER AVE		THROUGH			0	0
		RIGHT			0	0
6	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT			0	0
MONTAUK HWY		THROUGH			0	0
		RIGHT			0	0
7	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT			0	0
8	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH			0	0
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	162	0	162
		THROUGH	461	0	461
GREATNECK RD		RIGHT	283	0	283
AT	SB	LEFT	45	0	45
DIXON AVE		THROUGH	409	0	409
		RIGHT	61	0	61
1	EB	LEFT	47	0	47
		THROUGH	381	0	381
		RIGHT	92	0	92
	WB	LEFT	272	0	272
		THROUGH	366	0	366
		RIGHT	69	0	69
	NB	LEFT	63	0	63
GREATNECK RD		THROUGH	777	0	777
AT		RIGHT	102	0	102
MARCONI BLVD	SB	LEFT	46	0	46
		THROUGH	695	0	695
2		RIGHT	15	0	15
	EB	LEFT	18	0	18
		THROUGH	65	0	65
		RIGHT	162	0	162
	WB	LEFT	164	0	164
		THROUGH	91	0	91
		RIGHT	121	0	121
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	918	0	918
AT		RIGHT	14	0	14
ACCESS ROAD	SB	LEFT	20	0	20
		THROUGH	1004	0	1004
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	11	0	11
		THROUGH	0	0	0
		RIGHT	5	0	5
	NB	LEFT	15	0	15
GREATNECK RD		THROUGH	813	0	813
AT		RIGHT	23	0	23
RAILROAD AVE	SB	LEFT	60	0	60
		THROUGH	754	0	754
4		RIGHT	191	0	191
	EB	LEFT	71	0	71
		THROUGH	3	0	3
		RIGHT	25	0	25
	WB	LEFT	8	0	8
		THROUGH	6	0	6
		RIGHT	51	0	51
	NB	LEFT	89	0	89
		THROUGH	581	0	581
GREATNECK RD		RIGHT	103	0	103
AT	SB	LEFT	83	0	83
OAK ST		THROUGH	547	0	547
		RIGHT	83	0	83
5	EB	LEFT	178	0	178
		THROUGH	285	0	285
		RIGHT	114	0	114
	WB	LEFT	83	0	83
		THROUGH	250	0	250
		RIGHT	95	0	95

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	AMBIENT NO BUILD VOLUME	SUBTOTAL TRAFFIC GENERATED BY OTHER PROJECTS	SUBTOTAL NO BUILD VOLUME
	NB	LEFT	24	0	24
		THROUGH	662	0	662
GREATNECK RD		RIGHT	28	0	28
AT	SB	LEFT	48	0	48
SCUDDER AVE		THROUGH	632	0	632
		RIGHT	14	0	14
6	EB	LEFT	30	0	30
		THROUGH	24	0	24
		RIGHT	6	0	6
	WB	LEFT	13	0	13
		THROUGH	22	0	22
		RIGHT	62	0	62
	NB	LEFT	72	0	72
		THROUGH	84	0	84
GREATNECK RD		RIGHT	57	0	57
AT	SB	LEFT	208	0	208
MONTAUK HWY		THROUGH	125	0	125
		RIGHT	162	0	162
7	EB	LEFT	199	0	199
		THROUGH	959	0	959
		RIGHT	29	0	29
	WB	LEFT	40	0	40
		THROUGH	919	0	919
		RIGHT	246	0	246
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	13	0	13
ELM ST		THROUGH	0	0	0
		RIGHT	100	0	100
8	EB	LEFT	12	0	12
		THROUGH	577	0	577
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	445	0	445
		RIGHT	4	0	4
	NB	LEFT	31	0	31
S STRONG AVE		THROUGH	364	0	364
AT		RIGHT	69	0	69
OAK ST	SB	LEFT	128	0	128
		THROUGH	366	0	366
9		RIGHT	96	0	96
	EB	LEFT	98	0	98
		THROUGH	298	0	298
		RIGHT	47	0	47
	WB	LEFT	76	0	76
		THROUGH	265	0	265
		RIGHT	114	0	114
	NB	LEFT	141	0	141
S STRONG AVE		THROUGH	406	0	406
AT		RIGHT	61	0	61
W HOFFMAN AVE	SB	LEFT	11	0	11
		THROUGH	364	0	364
10		RIGHT	13	0	13
	EB	LEFT	13	0	13
		THROUGH	54	0	54
		RIGHT	127	0	127
	WB	LEFT	102	0	102
		THROUGH	55	0	55
		RIGHT	25	0	25

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%			SUBTOTAL TRAFFIC GENERATED
0%		VOL	
	ENTER	346	
	EXIT	289	
	TOTAL	635	

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT		5	14	14
		THROUGH		20	58	58
GREATNECK RD		RIGHT		15	43	43
AT	SB	LEFT			0	0
DIXON AVE		THROUGH	20		69	69
		RIGHT			0	0
1	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT	5		17	17
	WB	LEFT	15		52	52
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT			0	0
GREATNECK RD		THROUGH		35	101	101
AT		RIGHT		5	14	14
MARCONI BLVD	SB	LEFT	5		17	17
		THROUGH	35		121	121
2		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	5		17	17
		THROUGH			0	0
		RIGHT		5	14	14
	NB	LEFT			0	0
GREATNECK RD		THROUGH		30	87	87
AT		RIGHT	20		69	69
ACCESS ROAD	SB	LEFT	10		35	35
		THROUGH	30		104	104
3		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT		20	58	58
		THROUGH			0	0
		RIGHT		5	14	14
	NB	LEFT	10		35	35
GREATNECK RD		THROUGH	20	15	112	112
AT		RIGHT			0	0
RAILROAD AVE	SB	LEFT			0	0
		THROUGH	15	20	110	110
4		RIGHT	15		52	52
	EB	LEFT		15	43	43
		THROUGH			0	0
		RIGHT		10	29	29
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	NB	LEFT		5	14	14
		THROUGH	20	10	98	98
GREATNECK RD		RIGHT	5	5	31	31
AT	SB	LEFT	5	5	31	31
OAK ST		THROUGH	10		35	35
		RIGHT		5	14	14
5	EB	LEFT	5		17	17
		THROUGH			0	0
		RIGHT	5		17	17
	WB	LEFT	5		17	17
		THROUGH			0	0
		RIGHT	5	5	31	31

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

PASS-BY%		
0%		
		VOL
	ENTER	346
	EXIT	289
	TOTAL	635

SUBTOTAL TRAFFIC GENERATED

LOCATION	DIR	MVMT	%EN	%EX	1 VOL	SUBTOTAL VOL
	NB	LEFT			0	0
		THROUGH	25		87	87
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		3	9	9
SCUDDER AVE		THROUGH		25	72	72
		RIGHT		2	6	6
6	EB	LEFT	2		7	7
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	3		10	10
	NB	LEFT			0	0
		THROUGH			0	0
GREATNECK RD		RIGHT			0	0
AT	SB	LEFT		15	43	43
MONTAUK HWY		THROUGH			0	0
		RIGHT		10	29	29
7	EB	LEFT	10		35	35
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH			0	0
		RIGHT	15		52	52
	NB	LEFT			0	0
		THROUGH			0	0
OAK ST		RIGHT			0	0
AT	SB	LEFT			0	0
ELM ST		THROUGH			0	0
		RIGHT		5	14	14
8	EB	LEFT	5		17	17
		THROUGH	10		35	35
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH		10	29	29
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH			0	0
AT		RIGHT			0	0
OAK ST	SB	LEFT			0	0
		THROUGH			0	0
9		RIGHT	5		17	17
	EB	LEFT		5	14	14
		THROUGH		5	14	14
		RIGHT			0	0
	WB	LEFT			0	0
		THROUGH	5		17	17
		RIGHT			0	0
	NB	LEFT			0	0
S STRONG AVE		THROUGH		3	9	9
AT		RIGHT		2	6	6
W HOFFMAN AVE	SB	LEFT			0	0
		THROUGH	3		10	10
10		RIGHT			0	0
	EB	LEFT			0	0
		THROUGH			0	0
		RIGHT			0	0
	WB	LEFT	2		7	7
		THROUGH			0	0
		RIGHT			0	0

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

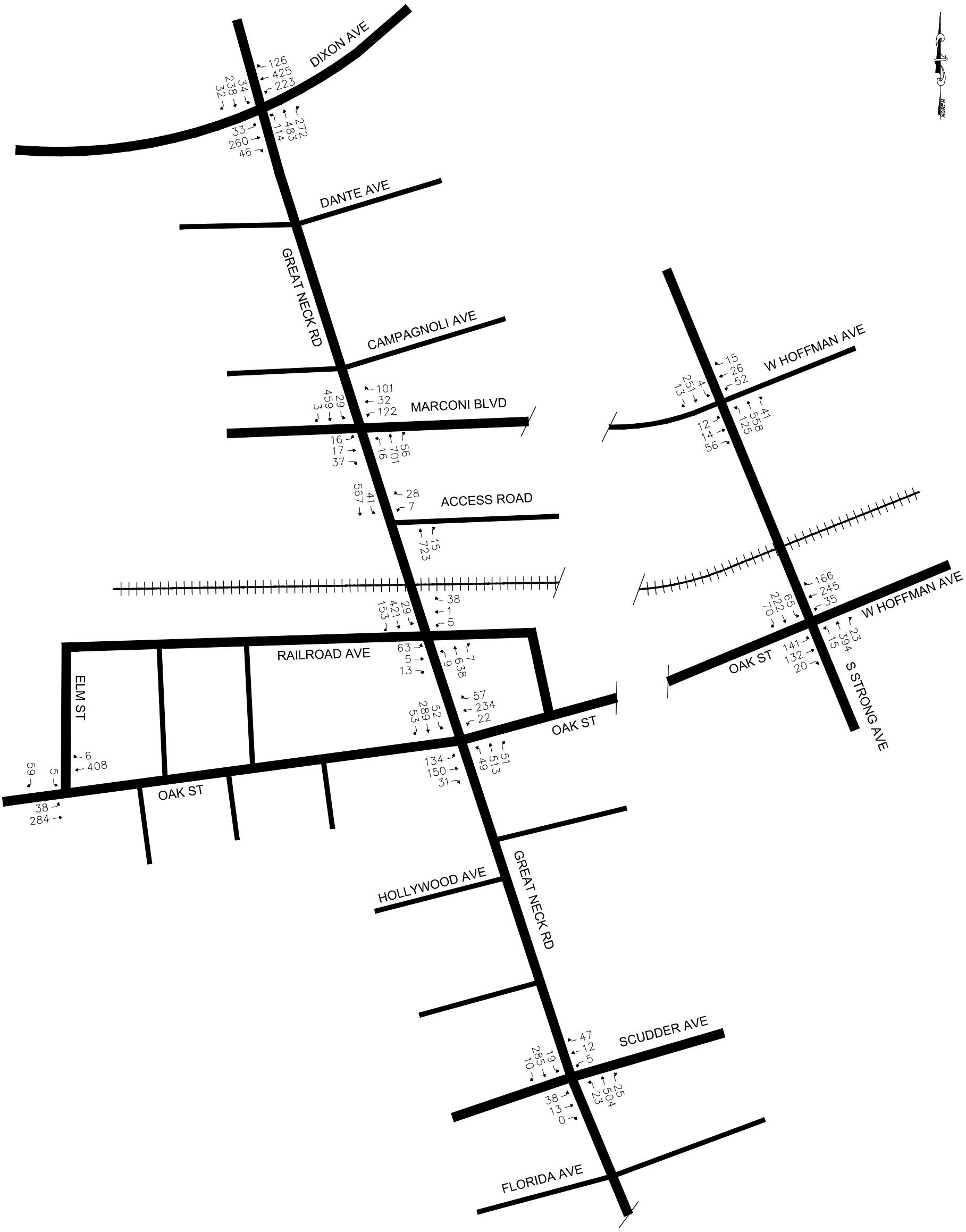
LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	162	14	176
		THROUGH	461	58	519
GREATNECK RD		RIGHT	283	43	326
AT	SB	LEFT	45	0	45
DIXON AVE		THROUGH	409	69	478
		RIGHT	61	0	61
1	EB	LEFT	47	0	47
		THROUGH	381	0	381
		RIGHT	92	17	109
	WB	LEFT	272	52	324
		THROUGH	366	0	366
		RIGHT	69	0	69
	NB	LEFT	63	0	63
GREATNECK RD		THROUGH	777	101	878
AT		RIGHT	102	14	116
MARCONI BLVD	SB	LEFT	46	17	63
		THROUGH	695	121	816
2		RIGHT	15	0	15
	EB	LEFT	18	0	18
		THROUGH	65	0	65
		RIGHT	162	0	162
	WB	LEFT	164	17	181
		THROUGH	91	0	91
		RIGHT	121	14	135
	NB	LEFT	0	0	0
GREATNECK RD		THROUGH	918	87	1005
AT		RIGHT	14	69	83
ACCESS ROAD	SB	LEFT	20	35	55
		THROUGH	1004	104	1108
3		RIGHT	0	0	0
	EB	LEFT	0	0	0
		THROUGH	0	0	0
		RIGHT	0	0	0
	WB	LEFT	11	58	69
		THROUGH	0	0	0
		RIGHT	5	14	19
	NB	LEFT	15	35	50
GREATNECK RD		THROUGH	813	112	925
AT		RIGHT	23	0	23
RAILROAD AVE	SB	LEFT	60	0	60
		THROUGH	754	110	864
4		RIGHT	191	52	243
	EB	LEFT	71	43	114
		THROUGH	3	0	3
		RIGHT	25	29	54
	WB	LEFT	8	0	8
		THROUGH	6	0	6
		RIGHT	51	0	51
	NB	LEFT	89	14	103
		THROUGH	581	98	679
GREATNECK RD		RIGHT	103	31	134
AT	SB	LEFT	83	31	114
OAK ST		THROUGH	547	35	582
		RIGHT	83	14	97
5	EB	LEFT	178	17	195
		THROUGH	285	0	285
		RIGHT	114	17	131
	WB	LEFT	83	17	100
		THROUGH	250	0	250
		RIGHT	95	31	126

NELSON & POPE

SAT PEAK HOUR
Project Name: Downtown Copiague
N&P Project No. 14247

LOCATION	DIR	MVMT	SUBTOTAL NO BUILD VOLUME	TRAFFIC GENERATED BY PROPOSED PROJECT	TOTAL BUILD VOLUME
	NB	LEFT	24	0	24
		THROUGH	662	87	749
GREATNECK RD		RIGHT	28	0	28
AT	SB	LEFT	48	9	57
SCUDDER AVE		THROUGH	632	72	704
		RIGHT	14	6	20
6	EB	LEFT	30	7	37
		THROUGH	24	0	24
		RIGHT	6	0	6
	WB	LEFT	13	0	13
		THROUGH	22	0	22
		RIGHT	62	10	72
	NB	LEFT	72	0	72
		THROUGH	84	0	84
GREATNECK RD		RIGHT	57	0	57
AT	SB	LEFT	208	43	251
MONTAUK HWY		THROUGH	125	0	125
		RIGHT	162	29	191
7	EB	LEFT	199	35	234
		THROUGH	959	0	959
		RIGHT	29	0	29
	WB	LEFT	40	0	40
		THROUGH	919	0	919
		RIGHT	246	52	298
	NB	LEFT	0	0	0
		THROUGH	0	0	0
OAK ST		RIGHT	0	0	0
AT	SB	LEFT	13	0	13
ELM ST		THROUGH	0	0	0
		RIGHT	100	14	114
8	EB	LEFT	12	17	29
		THROUGH	577	35	612
		RIGHT	0	0	0
	WB	LEFT	0	0	0
		THROUGH	445	29	474
		RIGHT	4	0	4
	NB	LEFT	31	0	31
S STRONG AVE		THROUGH	364	0	364
AT		RIGHT	69	0	69
OAK ST	SB	LEFT	128	0	128
		THROUGH	366	0	366
9		RIGHT	96	17	113
	EB	LEFT	98	14	112
		THROUGH	298	14	312
		RIGHT	47	0	47
	WB	LEFT	76	0	76
		THROUGH	265	17	282
		RIGHT	114	0	114
	NB	LEFT	141	0	141
S STRONG AVE		THROUGH	406	9	415
AT		RIGHT	61	6	67
W HOFFMAN AVE	SB	LEFT	11	0	11
		THROUGH	364	10	374
10		RIGHT	13	0	13
	EB	LEFT	13	0	13
		THROUGH	54	0	54
		RIGHT	127	0	127
	WB	LEFT	102	7	109
		THROUGH	55	0	55
		RIGHT	25	0	25

Appendix B: Traffic Volume Figures



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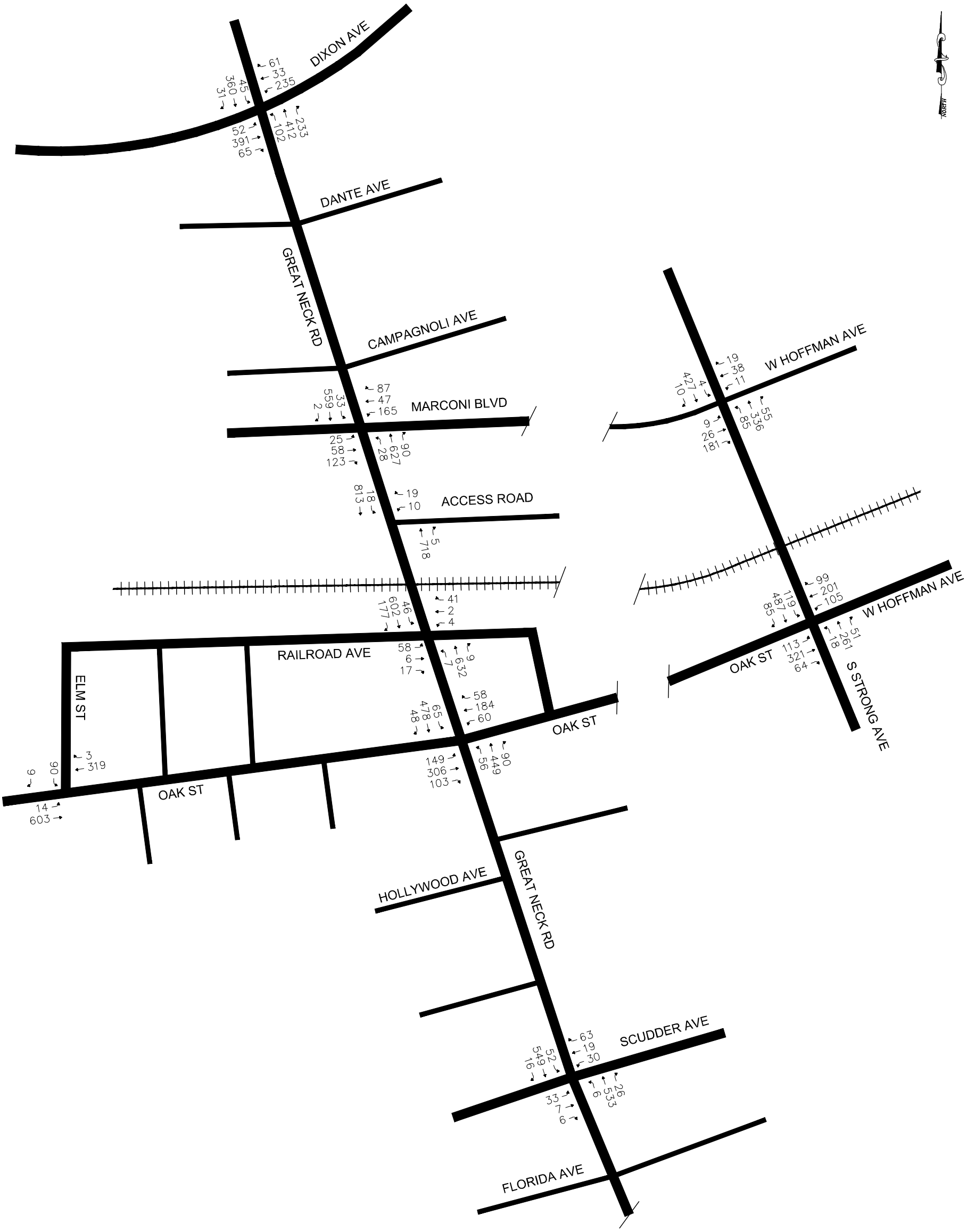
DRAWING TITLE:

AM PEAK HOUR - 2014 EXISTING
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-1



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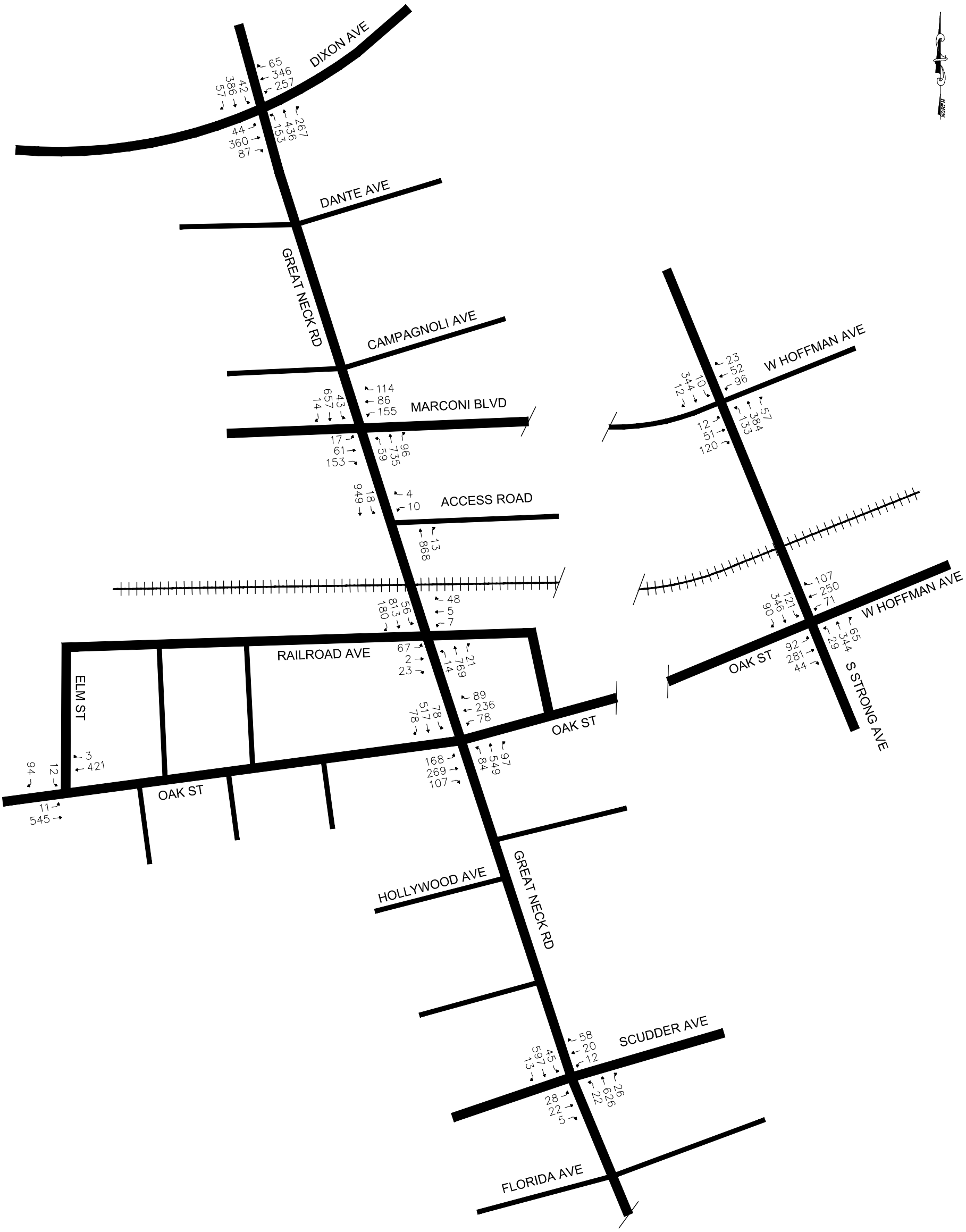
DRAWING TITLE:

PM PEAK HOUR - 2014 EXISTING
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-2



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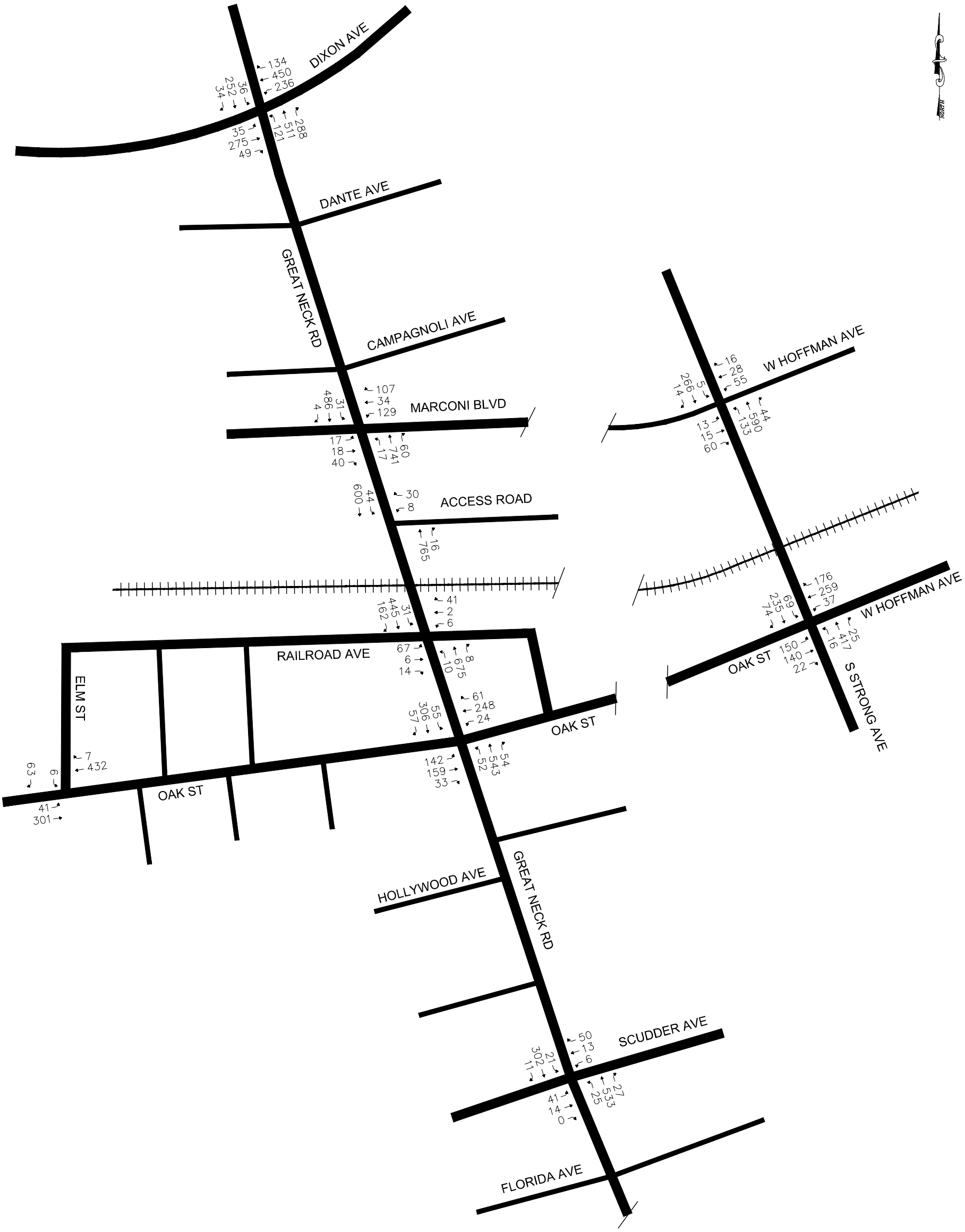
DRAWING TITLE:

SATURDAY PEAK HOUR - 2014 EXISTING TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-3



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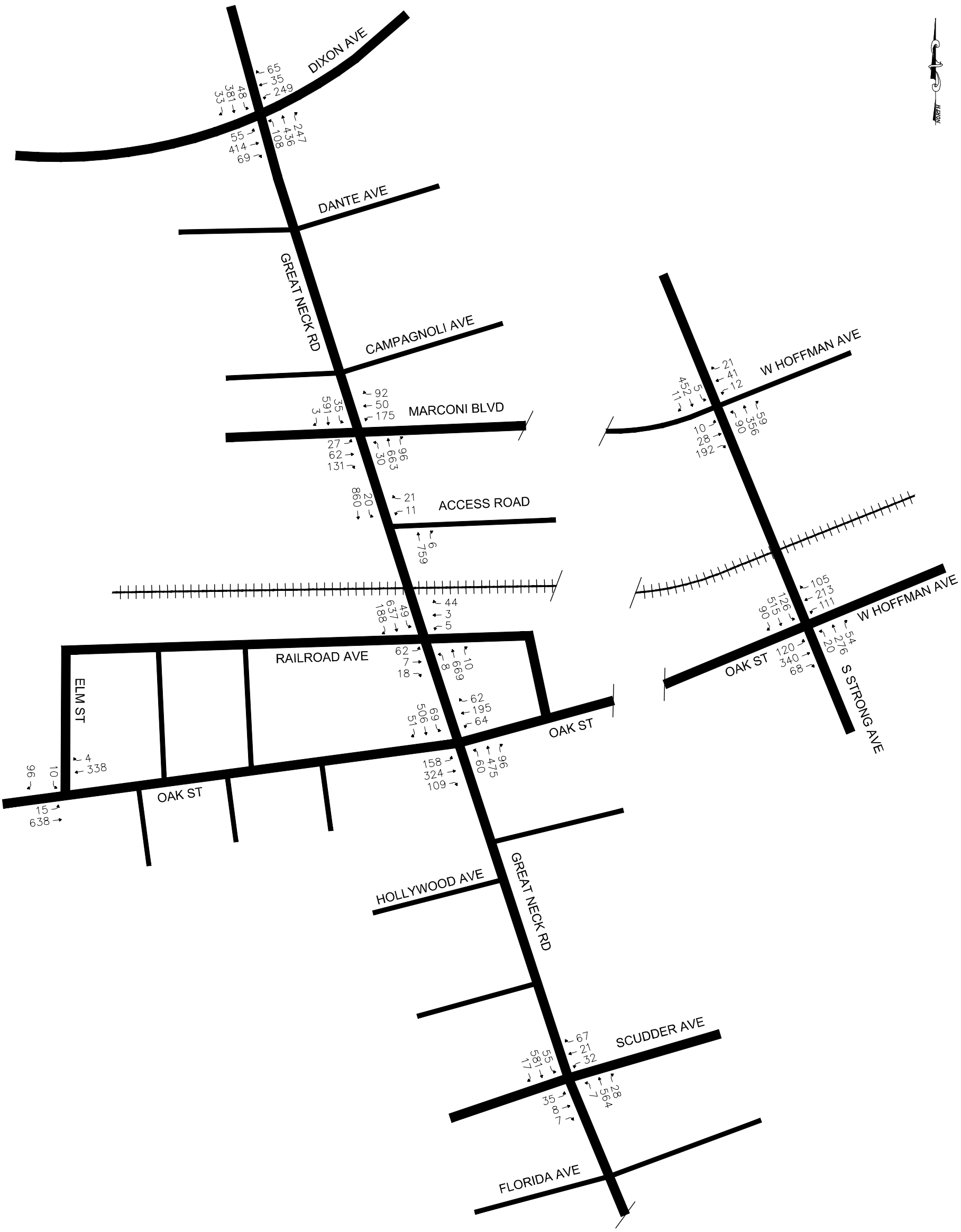
DRAWING TITLE:

AM PEAK HOUR - NO BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-4



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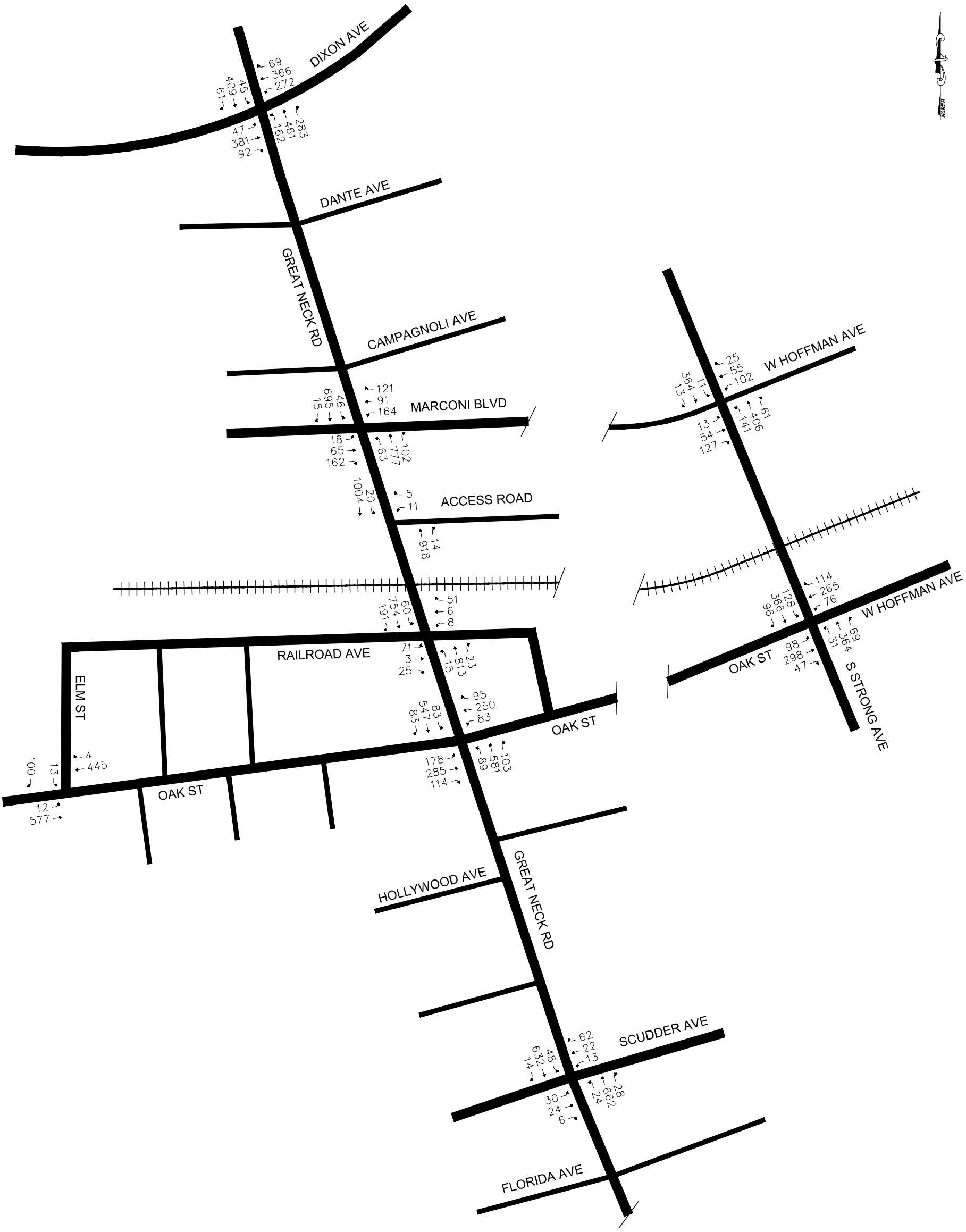
DRAWING TITLE:

PM PEAK HOUR - NO BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-5



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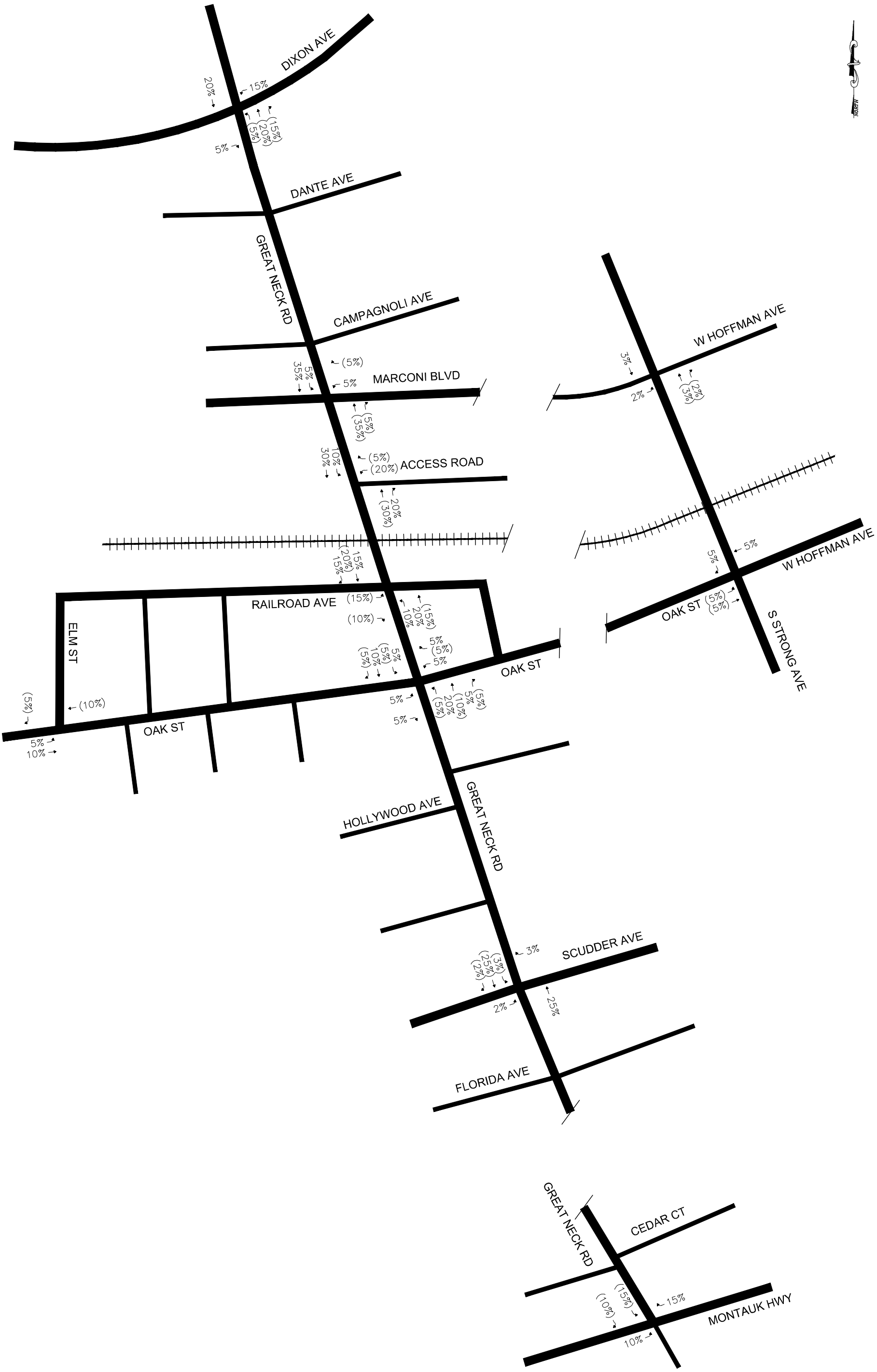
DRAWING TITLE:

SATURDAY PEAK HOUR - NO BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-6



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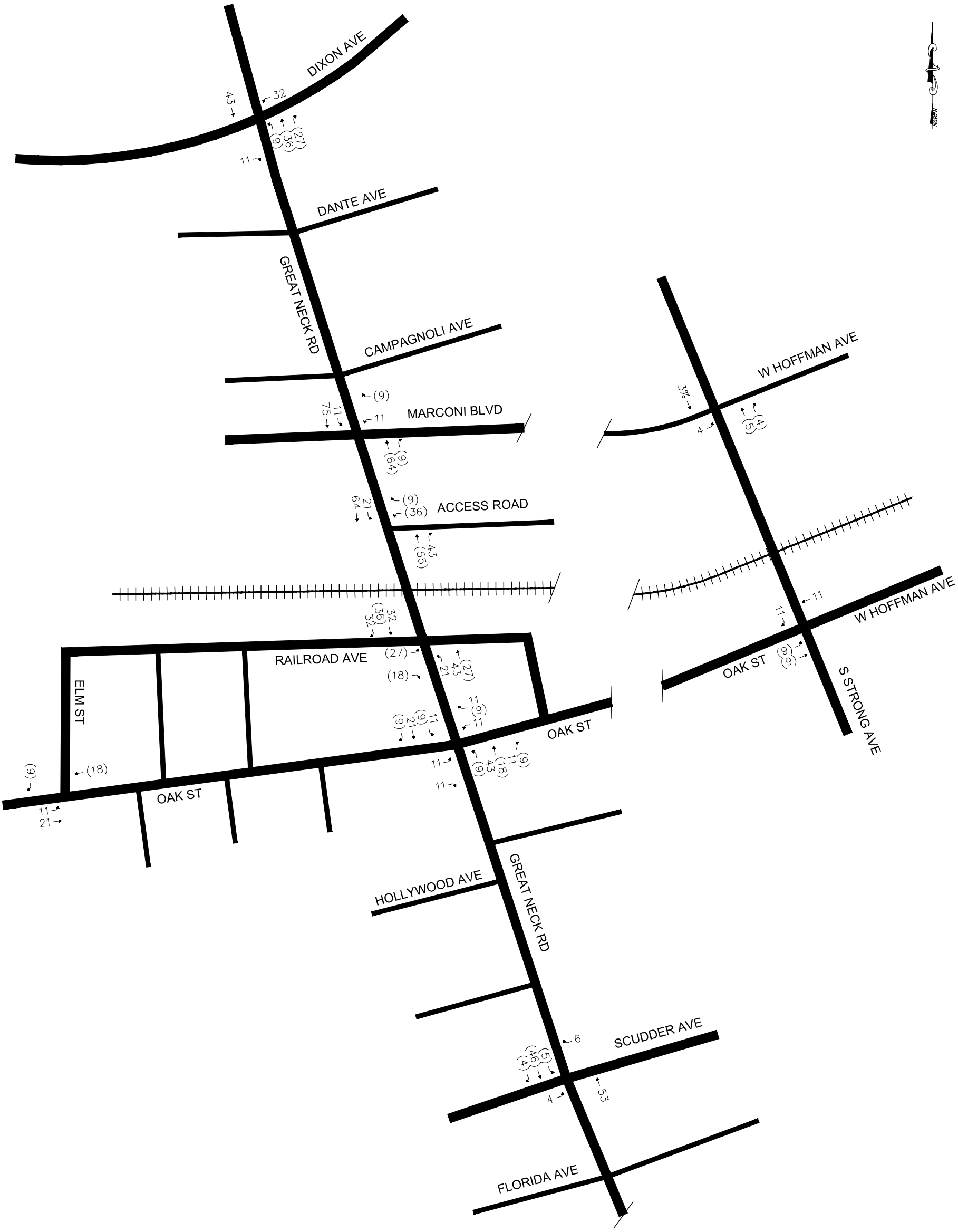
DRAWING TITLE:

PERCENT DISTRIBUTION
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-7



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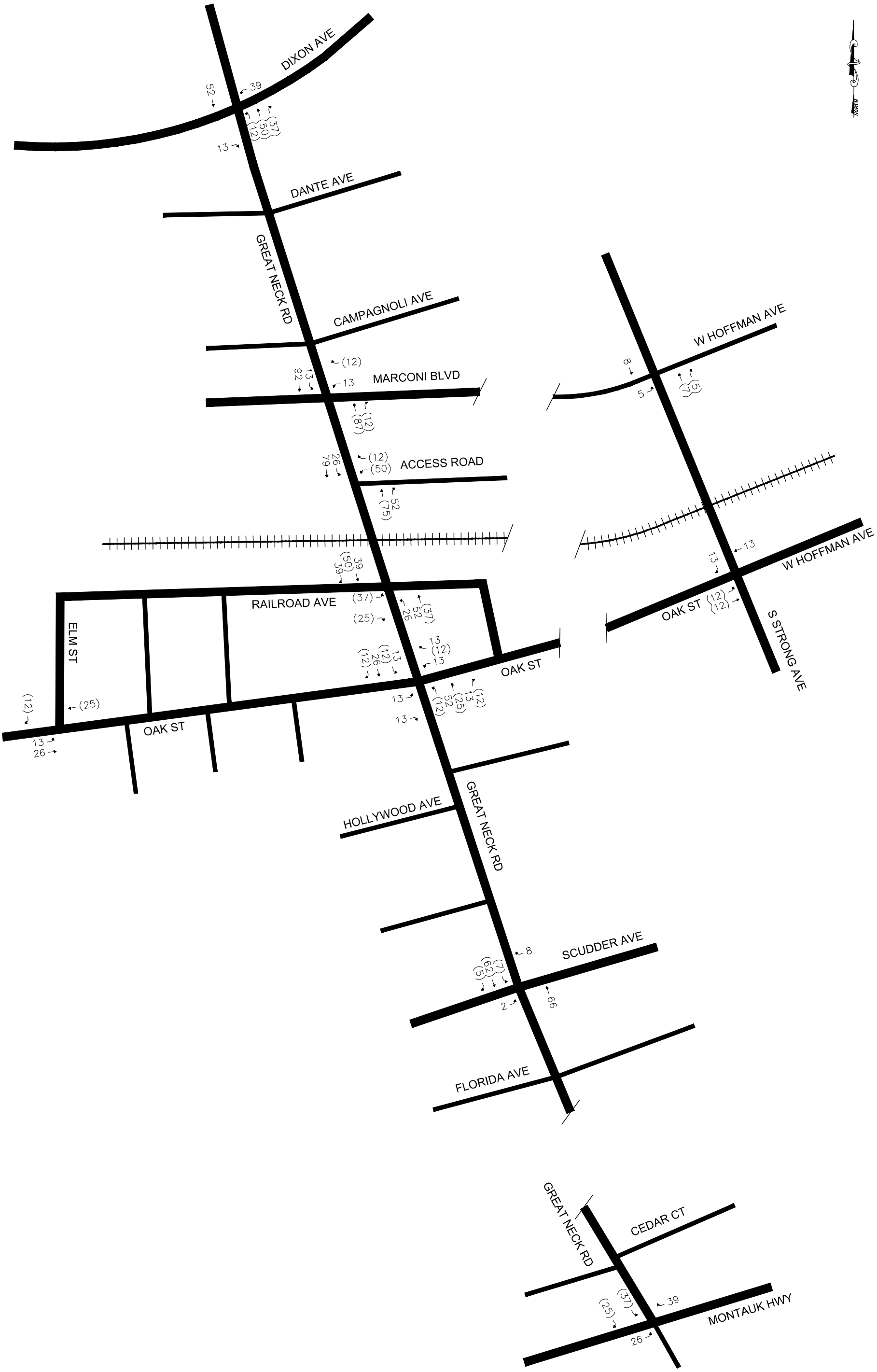
DRAWING TITLE:
AM PEAK HOUR - PROJECT VOLUME
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:
TVF-8



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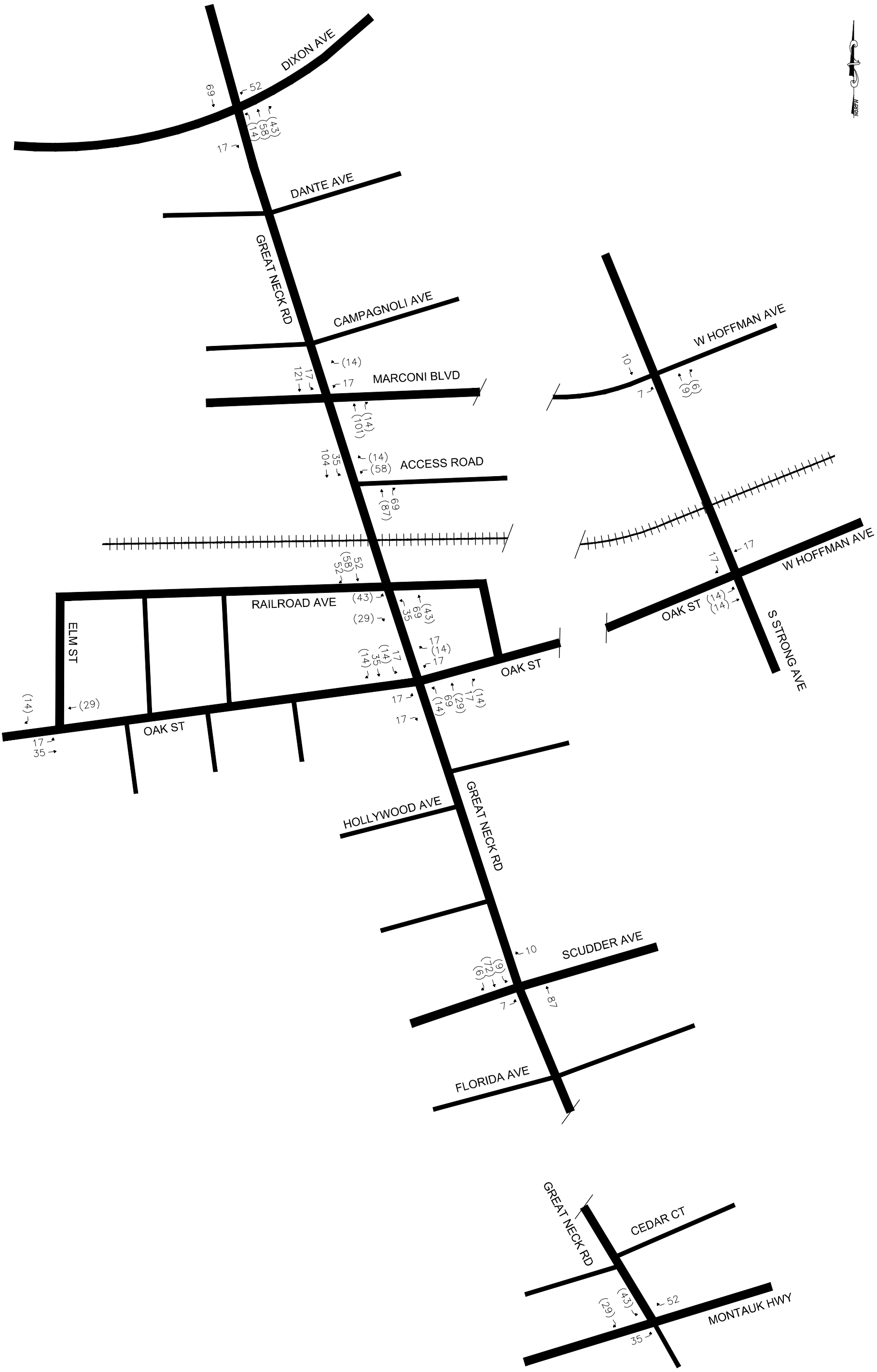
DRAWING TITLE:
PM PEAK HOUR - PROJECT VOLUME
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:
TVF-9



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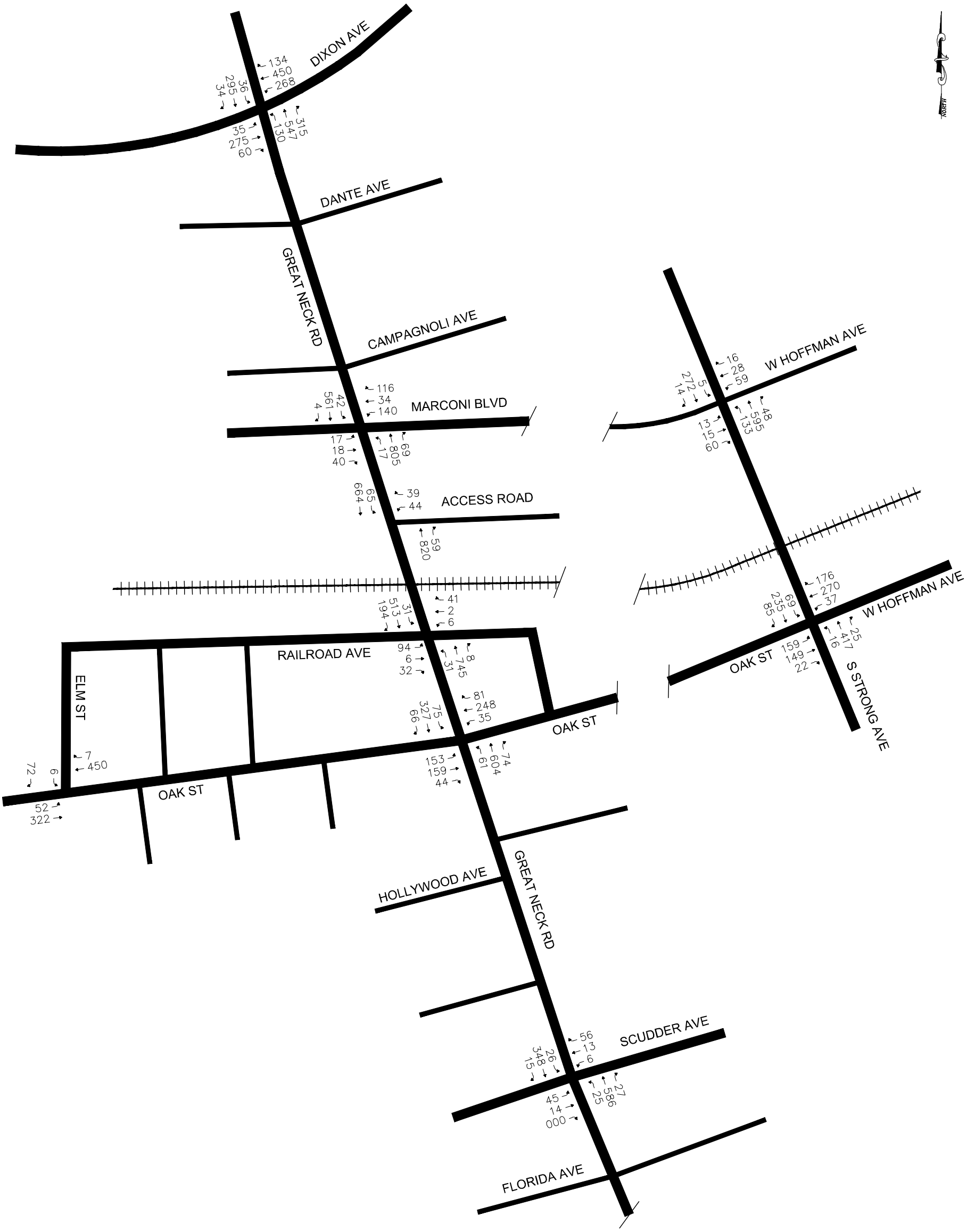

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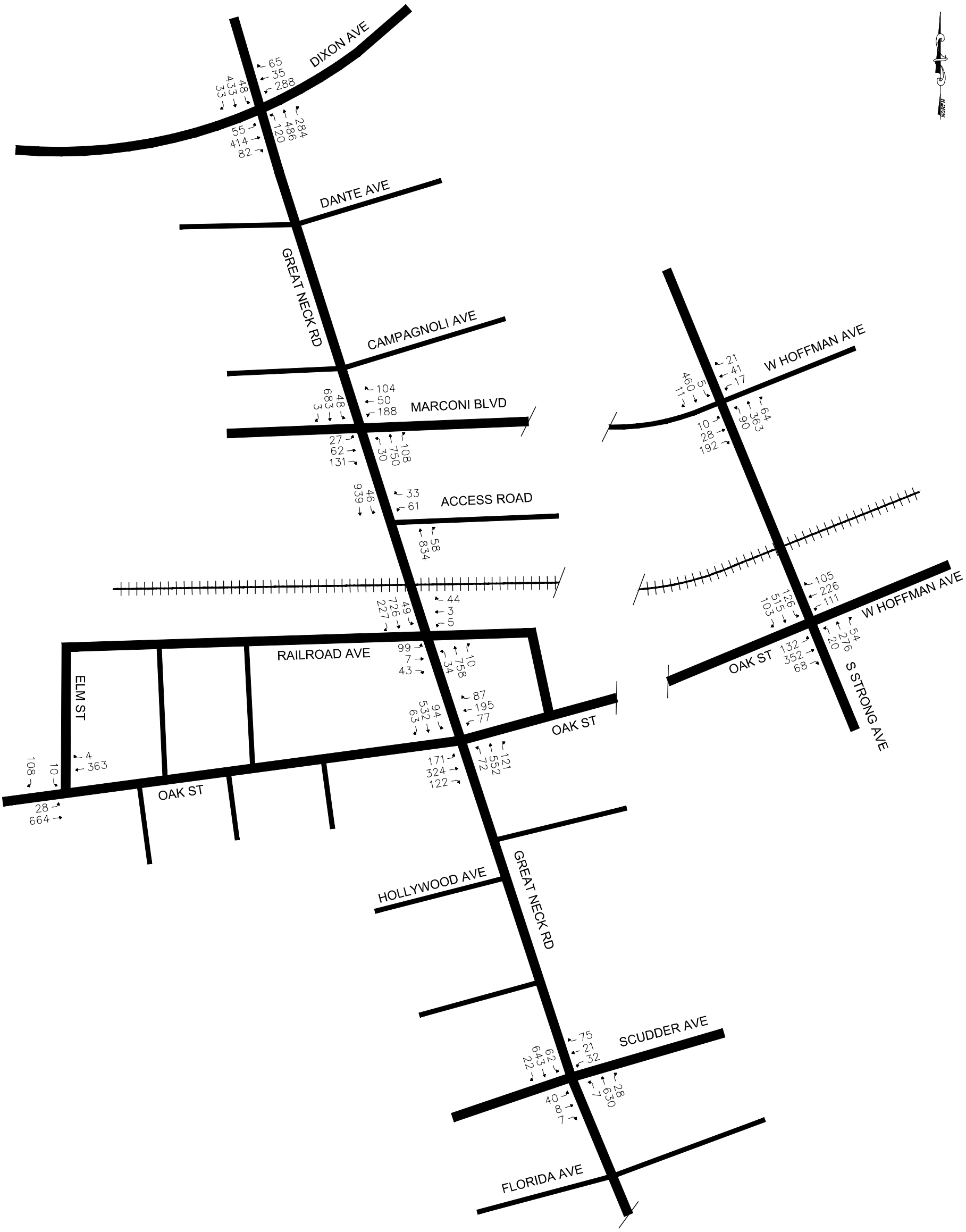
DRAWING TITLE:

AM PEAK HOUR - BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-11



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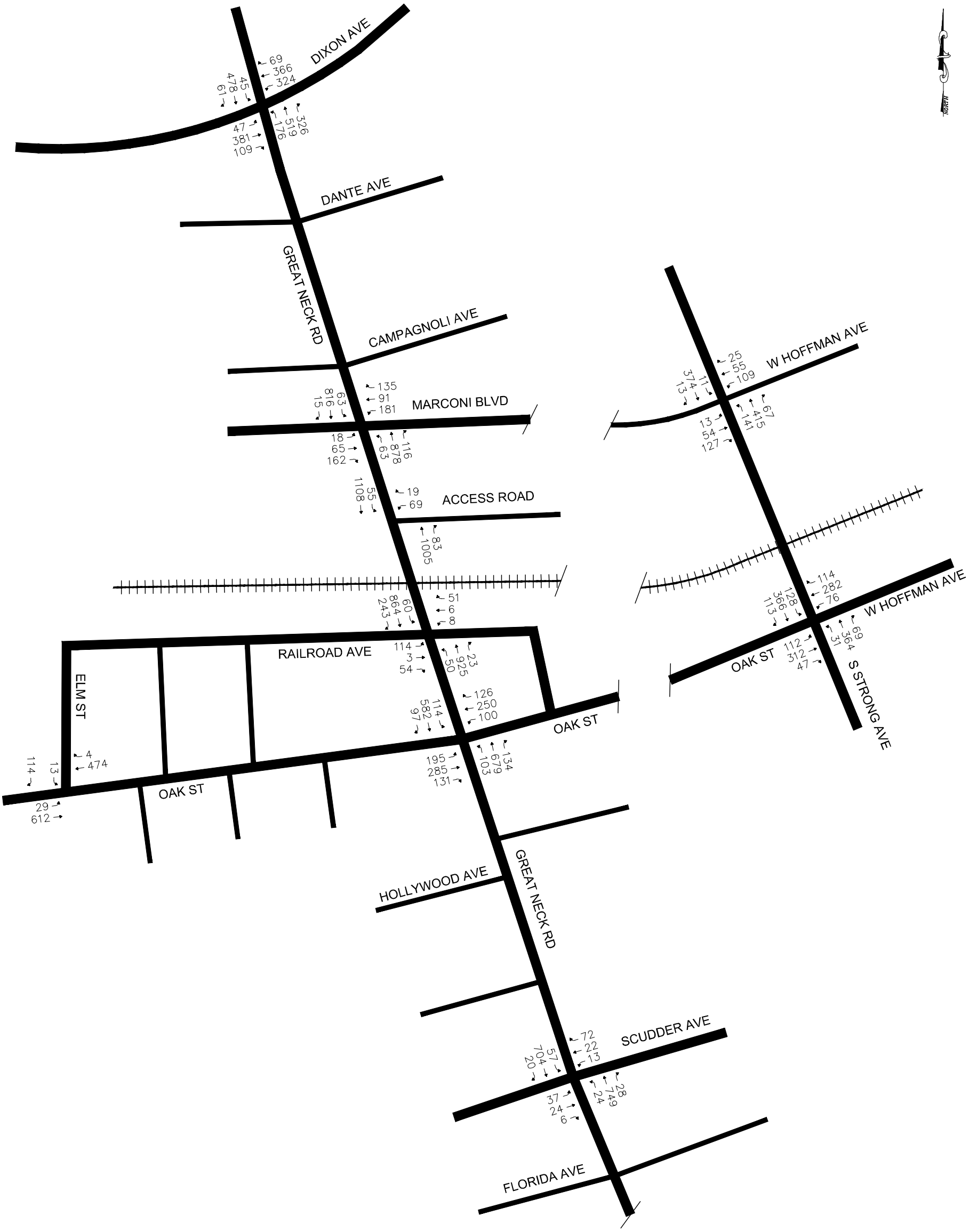
DRAWING TITLE:

PM PEAK HOUR - BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-12



NORTH

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DRAWING TITLE:

SATURDAY PEAK HOUR - BUILD
TRAFFIC VOLUME FIGURE

DRAWING NUMBER:

TVF-13

Appendix C: Trip Generation

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Existing Trip Generation Estimate

		50,900 SF Retail	42 Apartments	14,200 SF Office	28,300 SF Restaurant
		Shopping Center - EQ	Apartment - EQ	General Office - EQ	Quality Restaurant - Rates
	AM	64 enter 39 exit 103 total	5 enter 19 exit 24 total	41 enter 6 exit 47 total	12 enter 11 exit 23 total
	PM	183 enter 198 exit 381 total	27 enter 14 exit 41 total	17 enter 81 exit 98 total	142 enter 70 exit 212 total
	SAT	293 enter 271 exit 564 total	18 enter 18 exit 36 total	4 enter 3 exit 7 total	181 enter 125 exit 306 total
	AM	0%			0%
	PM	34%			44%
	SAT	26%			0%
pass-by volumes	AM	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total
	PM	62.22 enter 67.32 exit 129.54 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	62.48 enter 30.8 exit 93.28 total
	SAT	76.18 enter 70.46 exit 146.64 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total
AM		**64 enter 39 exit 103 total**	**5 enter 19 exit 24 total**	**41 enter 6 exit 47 total**	**12 enter 11 exit 23 total**
PM		**121 enter 131 exit 251 total**	**27 enter 14 exit 41 total**	**17 enter 81 exit 98 total**	**80 enter 39 exit 119 total**
SAT		**217 enter 201 exit 417 total**	**18 enter 18 exit 36 total**	**4 enter 3 exit 7 total**	**181 enter 125 exit 306 total**

NELSON & POPE
ENGINEERS & SURVEYORS

Future Trip Generation Estimate

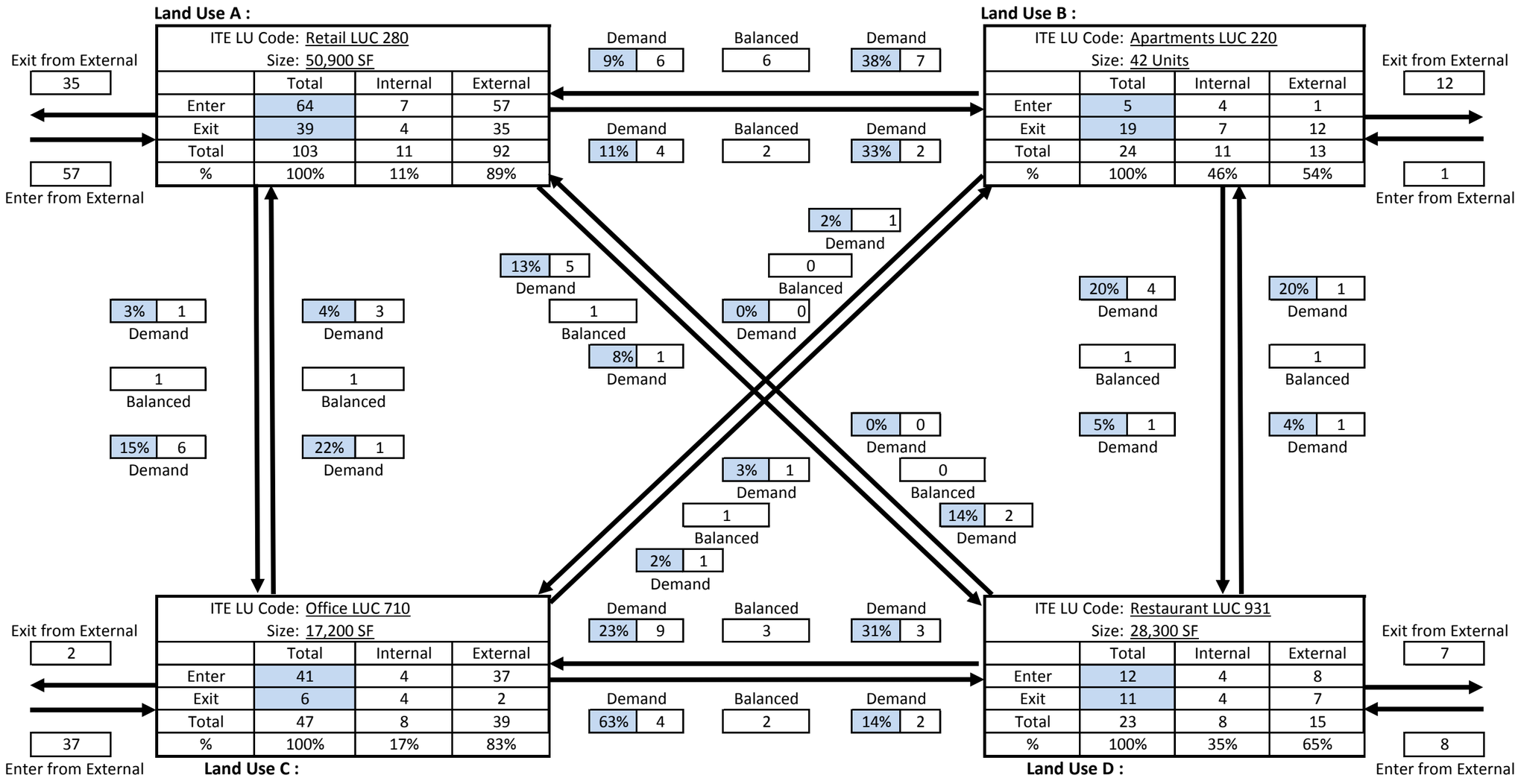
		233,163 SF Retail	369 Apartments	79,317 SF Office	43,000 SF Restaurant	15,500 SF Civic
		Shopping Center - EQ	Apartment - EQ	General Office - EQ	Quality Restaurant - Rates	Comm Rec Center - Rates
	AM	162 enter 99 exit 261 total	37 enter 152 exit 189 total	140 enter 19 exit 159 total	18 enter 17 exit 35 total	21 enter 11 exit 32 total
	PM	507 enter 549 exit 1056 total	148 enter 78 exit 226 total	28 enter 139 exit 167 total	216 enter 106 exit 322 total	21 enter 21 exit 42 total
	SAT	788 enter 728 exit 1516 total	107 enter 103 exit 210 total	18 enter 16 exit 34 total	274 enter 191 exit 465 total	9 enter 8 exit 17 total
	AM	0%			0%	
	PM	34%			44%	
	SAT	26%			0%	
pass-by volumes	AM	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total
	PM	172.38 enter 186.66 exit 359.04 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	95.04 enter 46.64 exit 141.68 total	0 enter 0 exit 0 total
	SAT	204.88 enter 189.28 exit 394.16 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total	0 enter 0 exit 0 total
	AM	**162 enter 99 exit 261 total**	**37 enter 152 exit 189 total**	**140 enter 19 exit 159 total**	**18 enter 17 exit 35 total**	**21 enter 11 exit 32 total**
	PM	**335 enter 362 exit 697 total**	**148 enter 78 exit 226 total**	**28 enter 139 exit 167 total**	**121 enter 59 exit 180 total**	**21 enter 21 exit 42 total**
	SAT	**583 enter 539 exit 1122 total**	**107 enter 103 exit 210 total**	**18 enter 16 exit 34 total**	**274 enter 191 exit 465 total**	**9 enter 8 exit 17 total**

NELSON & POPE
ENGINEERS & SURVEYORS

Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: AM Peak EXISTING



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	57	1	37	8	103	
Exit	35	12	2	7	56	
Total	**92**	**13**	**39**	**15**	**159**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	103	24	47	23	197	38

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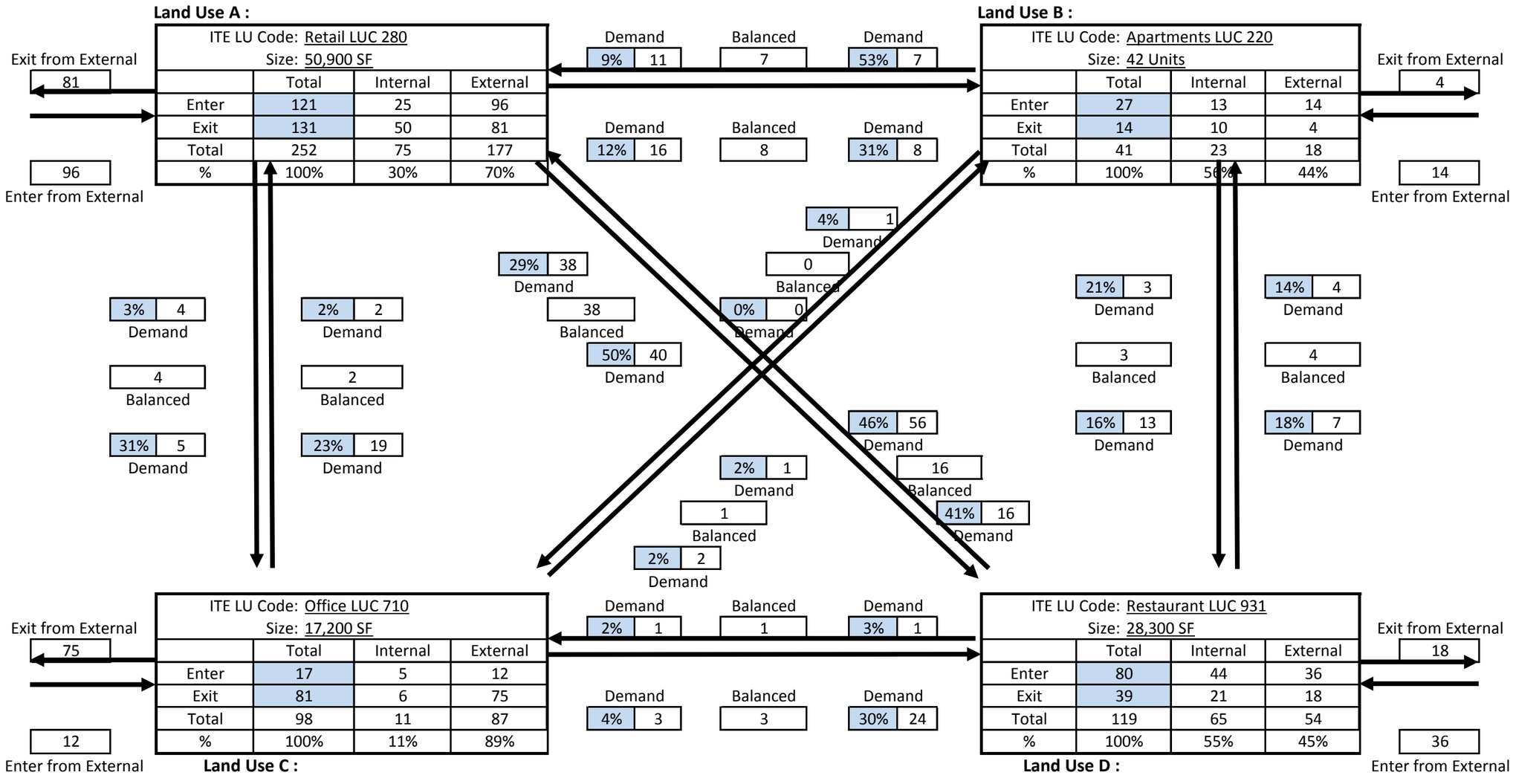
Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: PM Peak EXISTING



Net External Trips for Multi-Use Development

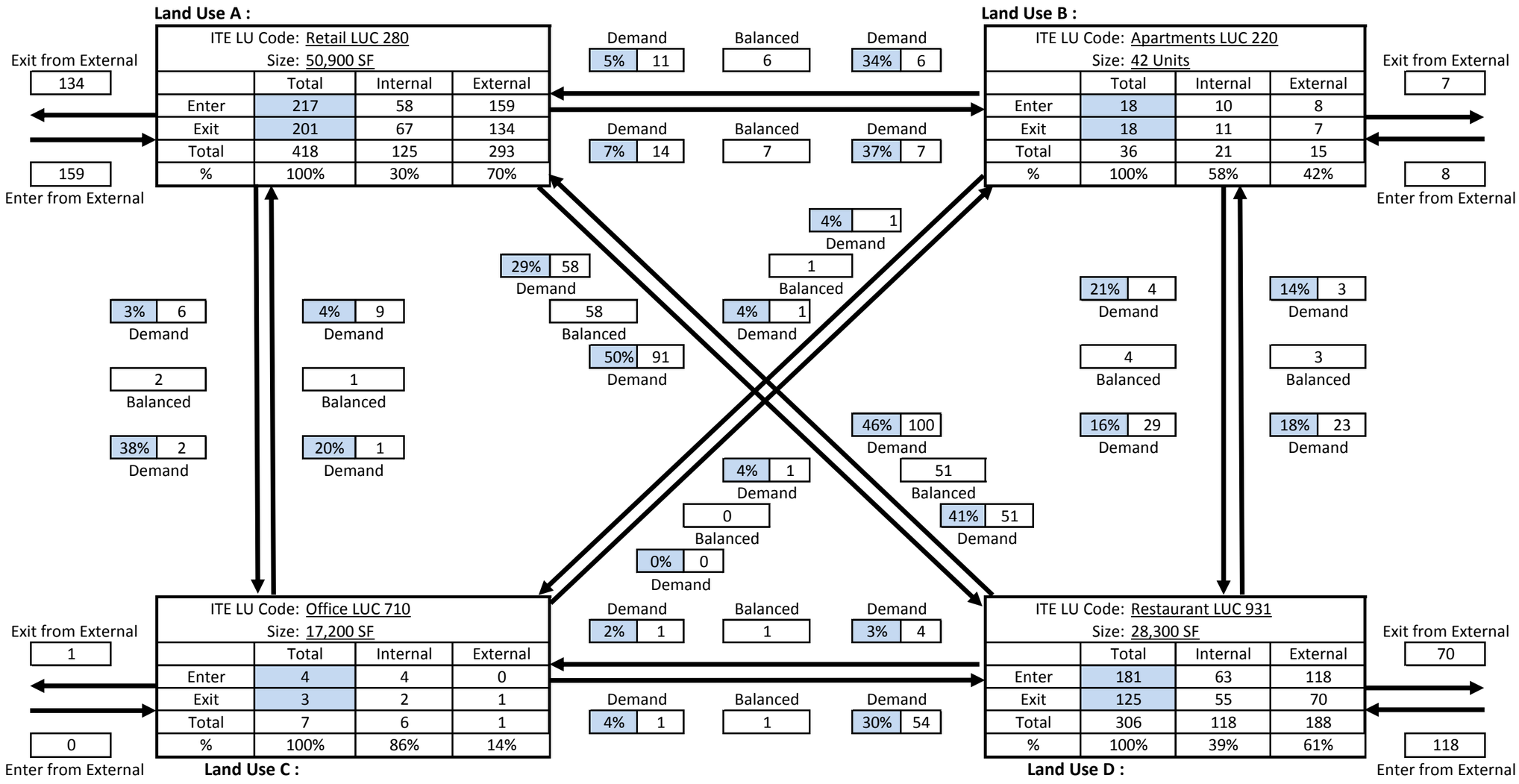
	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	96	14	12	36	158	
Exit	81	4	75	18	178	
Total	**177**	**18**	**87**	**54**	**336**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	252	41	98	119	510	174

NELSON & POPE
ENGINEERS & SURVEYORS

Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: Saturday Peak EXISTING



Net External Trips for Multi-Use Development

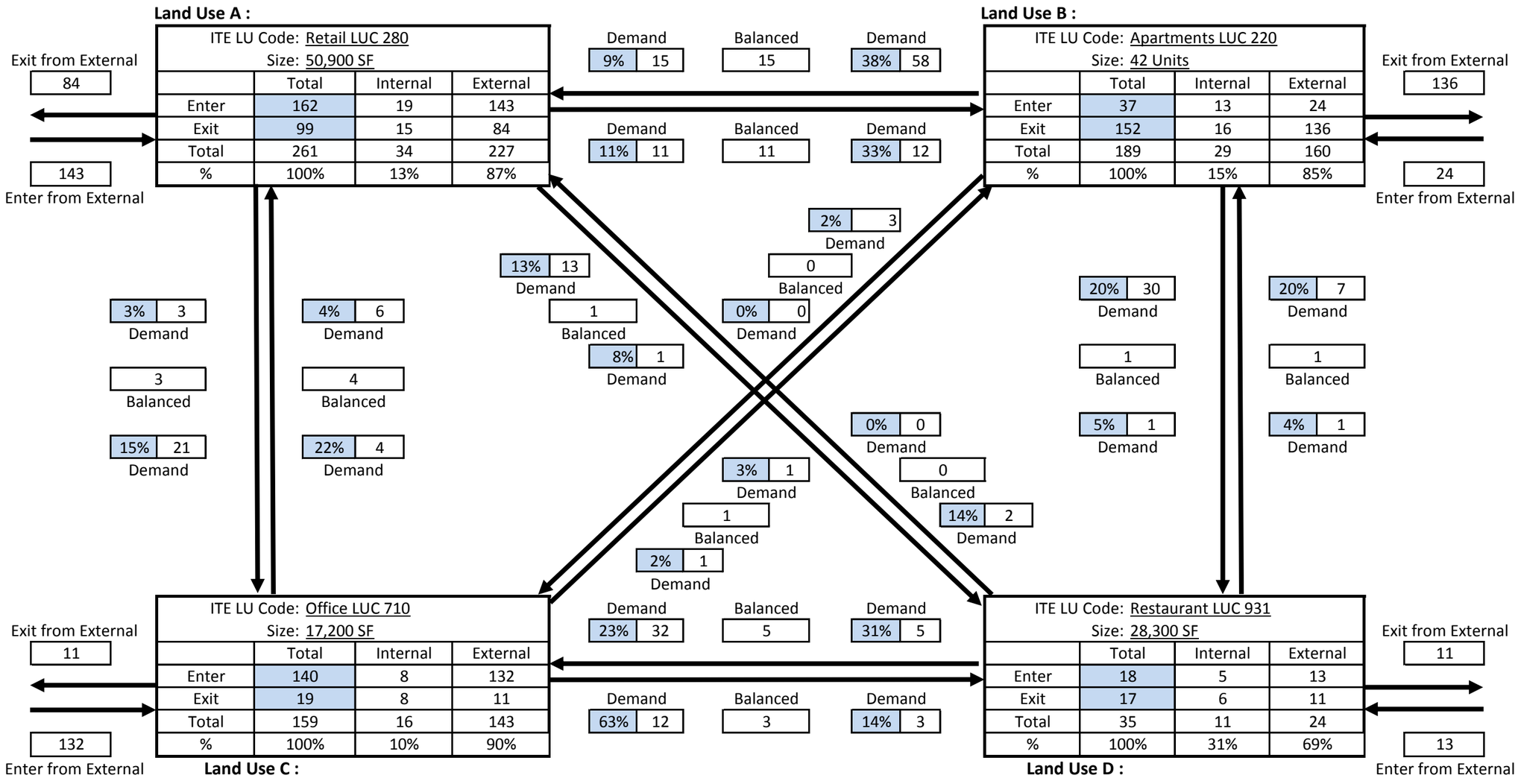
	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	159	8	0	118	285	
Exit	134	7	1	70	212	
Total	**293**	**15**	**1**	**188**	**497**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	418	36	7	306	767	270

NELSON & POPE
ENGINEERS & SURVEYORS

Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: AM Peak BUILD



Net External Trips for Multi-Use Development

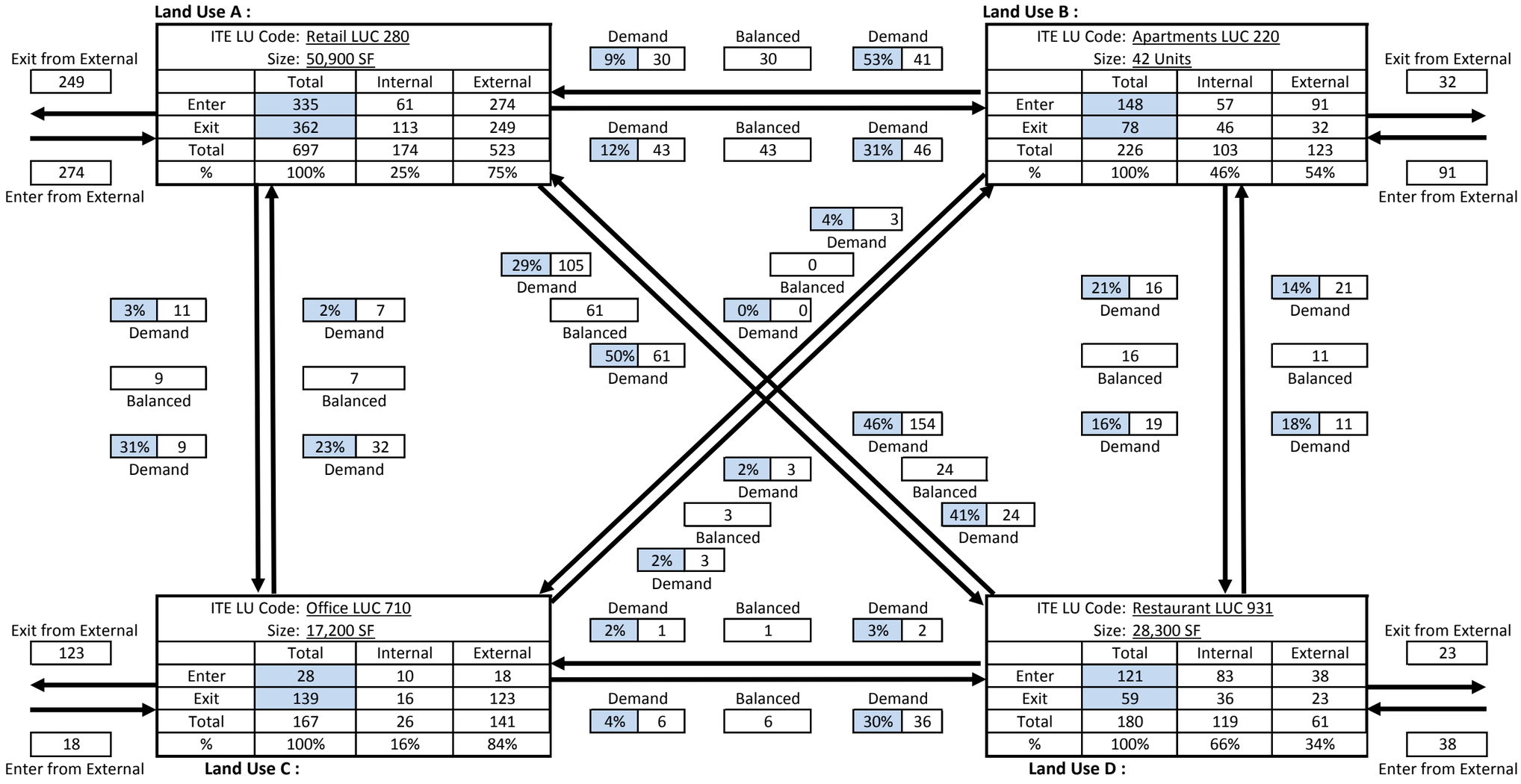
	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	143	24	132	13	312	
Exit	84	136	11	11	242	
Total	**227**	**160**	**143**	**24**	**554**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	261	189	159	35	644	90

NELSON & POPE
ENGINEERS & SURVEYORS

Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: PM Peak BUILD



Net External Trips for Multi-Use Development

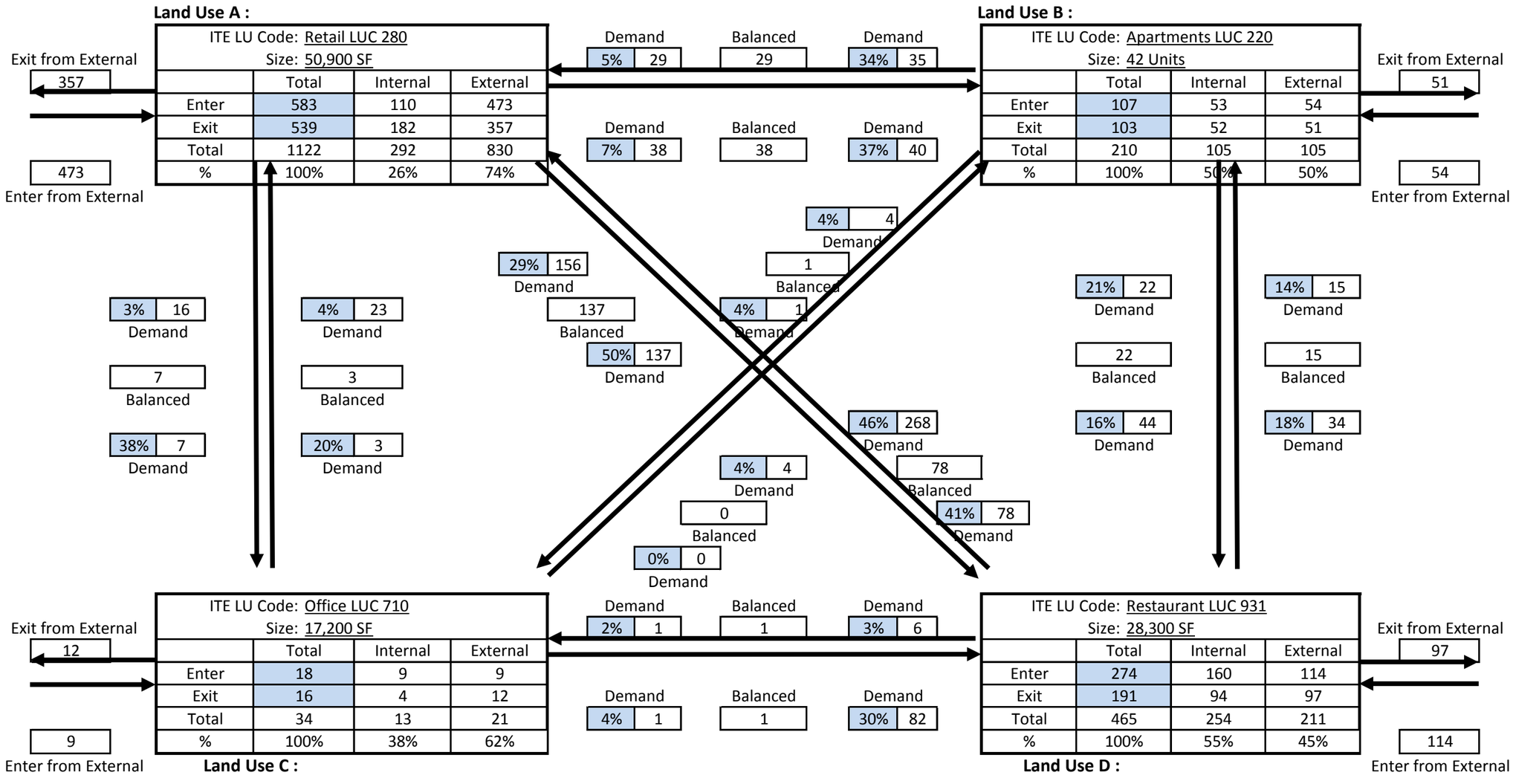
	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	274	91	18	38	421	
Exit	249	32	123	23	427	
Total	**523**	**123**	**141**	**61**	**848**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	697	226	167	180	1270	422

NELSON & POPE
ENGINEERS & SURVEYORS

Analyst: MCM
Date: 1/15/2015

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Development: Copiague DT
Time Period: SAT Peak BUILD



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL	
Enter	473	54	9	114	650	
Exit	357	51	12	97	517	
Total	**830**	**105**	**21**	**211**	**1167**	***INTERNAL CAPTURE***
Single-Use Trip Gen. Est.	1122	210	34	465	1831	664

DP03

SELECTED ECONOMIC CHARACTERISTICS

2011-2013 American Community Survey 3-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Copiague CDP, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
EMPLOYMENT STATUS				
Population 16 years and over	17,609	+/-1,632	17,609	(X)
In labor force	11,965	+/-1,306	67.9%	+/-4.0
Civilian labor force	11,965	+/-1,306	67.9%	+/-4.0
Employed	10,862	+/-1,278	61.7%	+/-3.9
Unemployed	1,103	+/-401	6.3%	+/-2.3
Armed Forces	0	+/-110	0.0%	+/-0.3
Not in labor force	5,644	+/-880	32.1%	+/-4.0
Civilian labor force	11,965	+/-1,306	11,965	(X)
Percent Unemployed	(X)	(X)	9.2%	+/-3.3
Females 16 years and over	9,136	+/-1,012	9,136	(X)
In labor force	5,685	+/-786	62.2%	+/-5.1
Civilian labor force	5,685	+/-786	62.2%	+/-5.1
Employed	5,135	+/-694	56.2%	+/-4.6
Own children under 6 years	1,439	+/-530	1,439	(X)
All parents in family in labor force	891	+/-386	61.9%	+/-16.2
Own children 6 to 17 years	3,184	+/-723	3,184	(X)
All parents in family in labor force	2,424	+/-655	76.1%	+/-12.3
COMMUTING TO WORK				
Workers 16 years and over	10,822	+/-1,279	10,822	(X)
Car, truck, or van -- drove alone	7,832	+/-1,006	72.4%	+/-5.1
Car, truck, or van -- carpooled	1,044	+/-323	9.6%	+/-3.0
Public transportation (excluding taxicab)	814	+/-299	7.5%	+/-2.6
Walked	313	+/-220	2.9%	+/-1.9
Other means	617	+/-438	5.7%	+/-3.9
Worked at home	202	+/-124	1.9%	+/-1.2
Mean travel time to work (minutes)	26.0	+/-2.4	(X)	(X)
OCCUPATION				
Civilian employed population 16 years and over	10,862	+/-1,278	10,862	(X)

Subject	Copiague CDP, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Management, business, science, and arts occupations	2,781	+/-505	25.6%	+/-4.3
Service occupations	2,232	+/-545	20.5%	+/-4.1
Sales and office occupations	2,611	+/-596	24.0%	+/-4.4
Natural resources, construction, and maintenance occupations	1,263	+/-374	11.6%	+/-3.3
Production, transportation, and material moving occupations	1,975	+/-514	18.2%	+/-4.2
INDUSTRY				
Civilian employed population 16 years and over	10,862	+/-1,278	10,862	(X)
Agriculture, forestry, fishing and hunting, and mining	0	+/-110	0.0%	+/-0.5
Construction	1,069	+/-383	9.8%	+/-3.4
Manufacturing	1,399	+/-412	12.9%	+/-3.6
Wholesale trade	372	+/-195	3.4%	+/-1.8
Retail trade	1,328	+/-363	12.2%	+/-2.6
Transportation and warehousing, and utilities	484	+/-175	4.5%	+/-1.6
Information	237	+/-175	2.2%	+/-1.6
Finance and insurance, and real estate and rental and leasing	862	+/-224	7.9%	+/-2.0
Professional, scientific, and management, and administrative and waste management services	907	+/-246	8.4%	+/-2.1
Educational services, and health care and social assistance	2,285	+/-486	21.0%	+/-4.5
Arts, entertainment, and recreation, and accommodation and food services	1,109	+/-503	10.2%	+/-4.0
Other services, except public administration	470	+/-189	4.3%	+/-1.6
Public administration	340	+/-157	3.1%	+/-1.4
CLASS OF WORKER				
Civilian employed population 16 years and over	10,862	+/-1,278	10,862	(X)
Private wage and salary workers	9,319	+/-1,263	85.8%	+/-3.4
Government workers	1,226	+/-291	11.3%	+/-2.9
Self-employed in own not incorporated business workers	302	+/-180	2.8%	+/-1.6
Unpaid family workers	15	+/-24	0.1%	+/-0.2
INCOME AND BENEFITS (IN 2013 INFLATION-ADJUSTED DOLLARS)				
Total households	7,451	+/-502	7,451	(X)
Less than $10,000	312	+/-158	4.2%	+/-2.1
$10,000 to $14,999	277	+/-143	3.7%	+/-1.9
$15,000 to $24,999	547	+/-191	7.3%	+/-2.6
$25,000 to $34,999	836	+/-268	11.2%	+/-3.5
$35,000 to $49,999	788	+/-263	10.6%	+/-3.4
$50,000 to $74,999	1,550	+/-360	20.8%	+/-4.6
$75,000 to $99,999	989	+/-281	13.3%	+/-3.7
$100,000 to $149,999	1,190	+/-284	16.0%	+/-3.7
$150,000 to $199,999	508	+/-181	6.8%	+/-2.4
$200,000 or more	454	+/-156	6.1%	+/-2.1
Median household income (dollars)	64,699	+/-5,936	(X)	(X)
Mean household income (dollars)	80,959	+/-5,687	(X)	(X)
With earnings	6,074	+/-531	81.5%	+/-3.9
Mean earnings (dollars)	81,653	+/-6,019	(X)	(X)
With Social Security	2,040	+/-333	27.4%	+/-4.7
Mean Social Security income (dollars)	18,753	+/-1,748	(X)	(X)
With retirement income	1,279	+/-309	17.2%	+/-3.9
Mean retirement income (dollars)	27,698	+/-5,873	(X)	(X)
With Supplemental Security Income	349	+/-136	4.7%	+/-1.8
Mean Supplemental Security Income (dollars)	10,958	+/-2,235	(X)	(X)
With cash public assistance income	494	+/-237	6.6%	+/-3.2

Subject	Copiague CDP, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Mean cash public assistance income (dollars)	6,751	+/-2,119	(X)	(X)
With Food Stamp/SNAP benefits in the past 12 months	548	+/-204	7.4%	+/-2.7
Families	5,290	+/-501	5,290	(X)
Less than $10,000	218	+/-165	4.1%	+/-3.0
$10,000 to $14,999	53	+/-43	1.0%	+/-0.8
$15,000 to $24,999	292	+/-130	5.5%	+/-2.4
$25,000 to $34,999	461	+/-193	8.7%	+/-3.7
$35,000 to $49,999	460	+/-179	8.7%	+/-3.1
$50,000 to $74,999	1,392	+/-324	26.3%	+/-5.6
$75,000 to $99,999	541	+/-204	10.2%	+/-3.8
$100,000 to $149,999	1,034	+/-255	19.5%	+/-4.7
$150,000 to $199,999	468	+/-166	8.8%	+/-3.0
$200,000 or more	371	+/-155	7.0%	+/-2.9
Median family income (dollars)	69,600	+/-5,956	(X)	(X)
Mean family income (dollars)	90,045	+/-6,781	(X)	(X)
Per capita income (dollars)	28,771	+/-2,150	(X)	(X)
Nonfamily households	2,161	+/-456	2,161	(X)
Median nonfamily income (dollars)	39,657	+/-5,706	(X)	(X)
Mean nonfamily income (dollars)	51,349	+/-8,053	(X)	(X)
Median earnings for workers (dollars)	31,634	+/-4,023	(X)	(X)
Median earnings for male full-time, year-round workers (dollars)	43,586	+/-11,234	(X)	(X)
Median earnings for female full-time, year-round workers (dollars)	44,255	+/-7,430	(X)	(X)
HEALTH INSURANCE COVERAGE				
Civilian noninstitutionalized population	21,834	+/-2,180	21,834	(X)
With health insurance coverage	18,503	+/-1,959	84.7%	+/-3.4
With private health insurance	14,554	+/-1,570	66.7%	+/-4.5
With public coverage	5,915	+/-1,032	27.1%	+/-3.7
No health insurance coverage	3,331	+/-826	15.3%	+/-3.4
Civilian noninstitutionalized population under 18 years	4,873	+/-975	4,873	(X)
No health insurance coverage	371	+/-201	7.6%	+/-4.2
Civilian noninstitutionalized population 18 to 64 years	14,426	+/-1,473	14,426	(X)
In labor force:	11,321	+/-1,230	11,321	(X)
Employed:	10,271	+/-1,194	10,271	(X)
With health insurance coverage	8,404	+/-994	81.8%	+/-4.5
With private health insurance	7,788	+/-907	75.8%	+/-4.9
With public coverage	721	+/-245	7.0%	+/-2.1
No health insurance coverage	1,867	+/-544	18.2%	+/-4.5
Unemployed:	1,050	+/-394	1,050	(X)
With health insurance coverage	762	+/-367	72.6%	+/-14.9
With private health insurance	411	+/-207	39.1%	+/-17.5
With public coverage	365	+/-312	34.8%	+/-21.5
No health insurance coverage	288	+/-155	27.4%	+/-14.9
Not in labor force:	3,105	+/-671	3,105	(X)
With health insurance coverage	2,338	+/-484	75.3%	+/-8.5
With private health insurance	1,597	+/-421	51.4%	+/-9.2
With public coverage	971	+/-251	31.3%	+/-8.1
No health insurance coverage	767	+/-357	24.7%	+/-8.5

Subject	Copiague CDP, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL				
All families	(X)	(X)	8.5%	+/-3.5
With related children under 18 years	(X)	(X)	10.9%	+/-5.5
With related children under 5 years only	(X)	(X)	8.0%	+/-9.2
Married couple families	(X)	(X)	2.9%	+/-2.4
With related children under 18 years	(X)	(X)	2.2%	+/-2.3
With related children under 5 years only	(X)	(X)	3.8%	+/-6.4
Families with female householder, no husband present	(X)	(X)	28.2%	+/-13.8
With related children under 18 years	(X)	(X)	30.6%	+/-16.9
With related children under 5 years only	(X)	(X)	62.1%	+/-61.0
All people	(X)	(X)	8.2%	+/-2.2
Under 18 years	(X)	(X)	9.8%	+/-4.4
Related children under 18 years	(X)	(X)	9.0%	+/-4.3
Related children under 5 years	(X)	(X)	9.7%	+/-10.4
Related children 5 to 17 years	(X)	(X)	8.8%	+/-5.4
18 years and over	(X)	(X)	7.8%	+/-2.3
18 to 64 years	(X)	(X)	8.3%	+/-2.7
65 years and over	(X)	(X)	4.9%	+/-3.6
People in families	(X)	(X)	7.0%	+/-2.7
Unrelated individuals 15 years and over	(X)	(X)	14.3%	+/-4.9

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

There were changes in the edit between 2009 and 2010 regarding Supplemental Security Income (SSI) and Social Security. The changes in the edit loosened restrictions on disability requirements for receipt of SSI resulting in an increase in the total number of SSI recipients in the American Community Survey. The changes also loosened restrictions on possible reported monthly amounts in Social Security income resulting in higher Social Security aggregate amounts. These results more closely match administrative counts compiled by the Social Security Administration.

Workers include members of the Armed Forces and civilians who were at work last week.

Occupation codes are 4-digit codes and are based on Standard Occupational Classification 2010.

Industry codes are 4-digit codes and are based on the North American Industry Classification System (NAICS). The Census industry codes for 2013 and later years are based on the 2012 revision of the NAICS. To allow for the creation of 2009-2013 and 2011-2013 tables, industry data in the multiyear files (2009-2013 and 2011-2013) were recoded to 2013 Census industry codes. We recommend using caution when comparing data coded using 2013 Census industry codes with data coded using Census industry codes prior to 2013. For more information on the Census industry code changes, please visit our website at http://www.census.gov/people/io/methodology/.

While the 2011-2013 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were

available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

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Downtown Copiague Trip Generation - Future Build Out

	Existing Adjusted Trip-Gen	Future Adjusted Trip-Gen	New Trips	Transit Credit 7.60%	**TOTAL NEW TRIPS**
AM	103 enter	333 enter	230 enter	17 enter	**213 enter**
	56 exit	253 exit	197 exit	15 exit	**182 exit**
	159 total	586 total	427 total	32 total	**395 total**
PM	158 enter	442 enter	284 enter	22 enter	**262 enter**
	178 exit	448 exit	270 exit	21 exit	**249 exit**
	336 total	890 total	554 total	43 total	**511 total**
SAT	285 enter	659 enter	374 enter	28 enter	**346 enter**
	212 exit	525 exit	313 exit	24 exit	**289 exit**
	497 total	1184 total	687 total	52 total	**635 total**

Appendix D: Level of Service Definitions

LEVEL OF SERVICE: SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The levels of service range between level of service A (relatively congestion-free) and level of service F (congested).

The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents at an intersection. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road. The portion of the total delay attributed to the control facility is called the control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Control delay may also be referred to as signal delay for signalized intersections.

Level of service criteria for signalized intersections is determined in terms of the average control delay per vehicle. The following average control delays are used to determine approach levels of service:

Control Delay (s/veh)	**LOS by Volume-to-Capacity Ratio***	
	≤1.0	**>1.0**
≤ 10	A	F
> 10 – 20	B	F
> 20-35	C	F
> 35-55	D	F
> 55 – 80	E	F
> 80	F	F

Note: *For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

Level of Service A describes operations with very low control delay. This occurs when progression is extremely favorable; most vehicles arrive during the green phase and do not stop at all. Short traffic signal cycles may contribute to low delay.

Level of Service B generally occurs with good progression and/or short traffic signal cycle lengths. More vehicles stop than for level of service A, causing higher average delays.

Level of Service C has higher delays than level of service B. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures, where motorists are required to wait through an entire signal cycle, may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

Level of Service D At this level, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume-to-capacity ratios. The proportion of stopping vehicles increases. Individual cycle failures are noticeable.

Level of Service E is considered the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures occur frequently.

Level of Service F is considered unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may occur at volume to capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

LEVEL OF SERVICE: TWO WAY STOP CONTROLLED INTERSECTIONS

The quality of traffic service at a two-way stop controlled, or "TWSC," intersection is measured according to the level of service and capacity of individual legs. The level of service ranges from LOS A to LOS F, just as with signalized intersections.

The right of way at the TWSC intersection is controlled by stop signs on two opposing legs of an intersection (on one leg of a "T"-type intersection). The capacity of a controlled leg is based on the distribution of gaps in the major street traffic flow, driver judgment in selecting a gap through which to execute the desired maneuver and the follow up time required by each driver in a queue.

The level of service for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during conditions with ideal geometry and in the absence of incidents, control, and traffic. This program only quantifies that portion of the total delay attributed to traffic control measures, either traffic signals or stop signs. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Average control delay for any particular minor movement is a function of the approach and the degree of saturation.

The expectation is that TWSC intersections are designed to carry smaller traffic volumes than signalized intersections. Therefore, the delay threshold times are lower for the same LOS grades. The following average control delays are used to determine approach levels of service:

Level of Service A	$\leq$ 10 seconds per vehicle
Level of Service B	> 10 and $\leq$ 15 seconds per vehicle
Level of Service C	> 15 and $\leq$ 25 seconds per vehicle
Level of Service D	> 25 and $\leq$ 35 seconds per vehicle
Level of Service E	> 35 and $\leq$ 50 seconds per vehicle
Level of Service F	> 50 seconds per vehicle

Appendix E: Capacity Analysis/Level of Service Worksheets

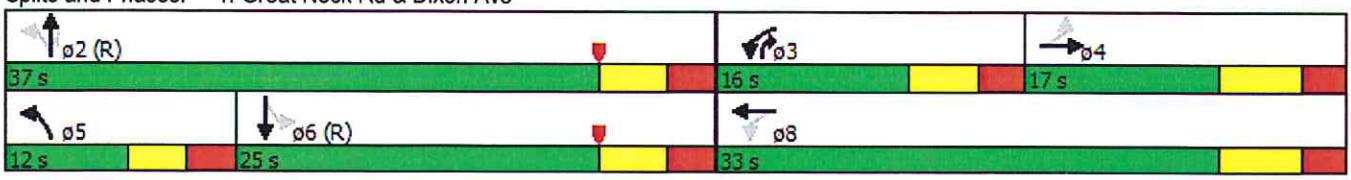
Existing Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	33	260	223	425	114	483	272	34	238
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	17.0	17.0	16.0	33.0	12.0	37.0	16.0	25.0	25.0
Total Split (%)	24.3%	24.3%	22.9%	47.1%	17.1%	52.9%	22.9%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.1	10.1	26.6	25.9	31.8	31.2	47.2	21.6	21.6
Actuated g/C Ratio	0.14	0.14	0.38	0.37	0.45	0.45	0.67	0.31	0.31
v/c Ratio	0.35	0.73	0.70	0.49	0.35	0.63	0.28	0.17	0.64
Control Delay	36.9	38.5	27.9	16.6	10.9	16.7	7.2	21.9	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	38.5	27.9	16.6	10.9	16.7	7.2	21.9	29.0
LOS	D	D	C	B	B	B	A	C	C
Approach Delay		38.4		19.8		13.0			28.2
Approach LOS		D		B		B			C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 21.5 Intersection LOS: C
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

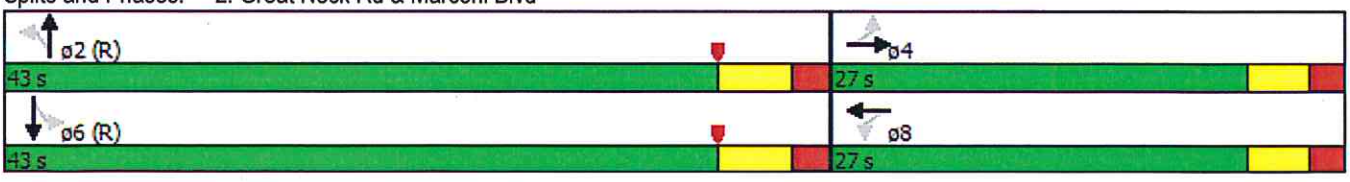


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	17	101	32	16	701	29	459
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		16.8		16.8	42.1	42.1	42.1	42.1
Actuated g/C Ratio		0.24		0.24	0.60	0.60	0.60	0.60
v/c Ratio		0.22		0.71	0.05	0.74	0.18	0.53
Control Delay		21.0		33.8	9.7	16.1	11.2	11.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.0		33.8	9.7	16.1	11.2	11.6
LOS		C		C	A	B	B	B
Approach Delay		21.0		33.8		16.0		11.6
Approach LOS		C		C		B		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

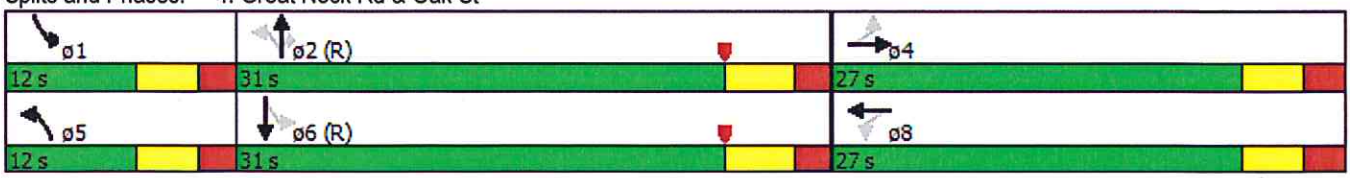


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	134	150	22	234	49	513	51	52	289
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	18.2	18.2	18.2	18.2	37.9	33.5	33.5	38.0	33.5
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.54	0.48	0.48	0.54	0.48
v/c Ratio	0.89	0.40	0.09	0.73	0.11	0.59	0.07	0.17	0.54
Control Delay	71.8	22.9	18.7	33.4	9.1	24.3	17.2	8.9	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	22.9	18.7	33.4	9.1	24.3	17.2	8.9	17.4
LOS	E	C	B	C	A	C	B	A	B
Approach Delay		43.7		32.4		22.5			16.3
Approach LOS		D		C		C			B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 71.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

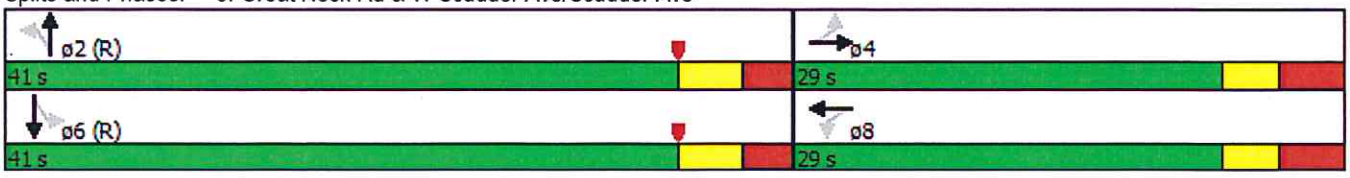


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	38	13	5	12	23	504	19	285
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		8.6		8.6	52.6	52.6	52.6	52.6
Actuated g/C Ratio		0.12		0.12	0.75	0.75	0.75	0.75
v/c Ratio		0.37		0.35	0.03	0.41	0.04	0.26
Control Delay		33.5		32.1	4.0	5.7	0.5	1.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.5		32.1	4.0	5.7	0.5	1.3
LOS		C		C	A	A	A	A
Approach Delay		33.5		32.1		5.7		1.3
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

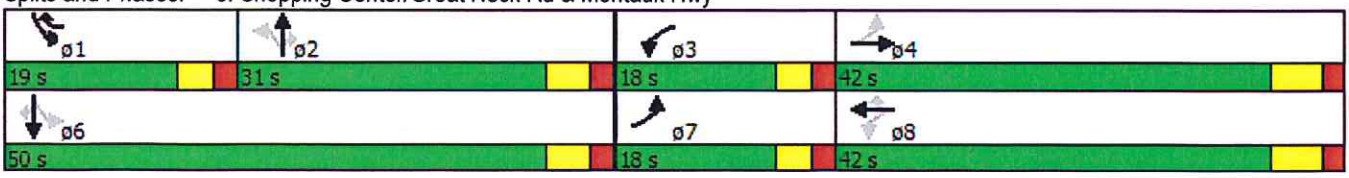


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	98	401	6	771	155	25	21	3	94	22	85
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	49.3	46.1	42.8	37.2	55.2		8.4	8.4	18.2	17.4	17.4
Actuated g/C Ratio	0.63	0.59	0.55	0.48	0.71		0.11	0.11	0.23	0.22	0.22
v/c Ratio	0.27	0.22	0.01	0.51	0.16		0.34	0.01	0.37	0.06	0.28
Control Delay	9.5	10.3	8.8	18.9	7.7		42.4	0.0	27.8	23.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	10.3	8.8	18.9	7.7		42.4	0.0	27.8	23.2	26.8
LOS	A	B	A	B	A		D	A	C	C	C
Approach Delay		10.2		17.0			39.5			26.9	
Approach LOS		B		B			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 77.9
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 52.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

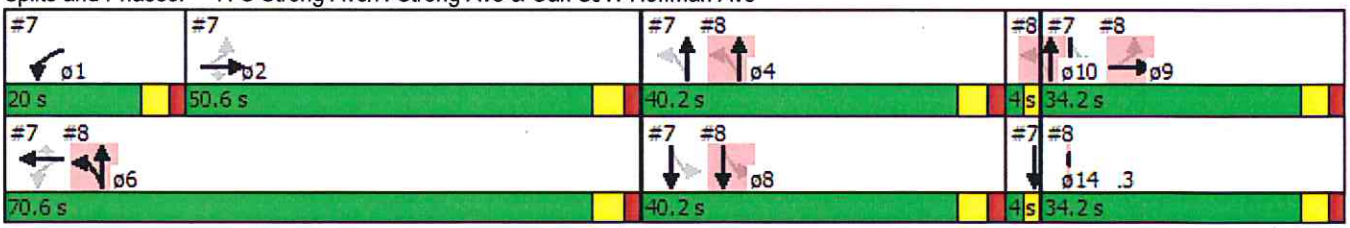


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	141	132	20	35	245	166	15	394	65	222		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	25.8	25.8	25.8	33.6	33.0	33.0		35.8	37.8	58.1		
Actuated g/C Ratio	0.25	0.25	0.25	0.32	0.32	0.32		0.35	0.36	0.56		
v/c Ratio	0.64	0.36	0.05	0.12	0.49	0.32		0.71	0.39	0.34		
Control Delay	49.6	36.8	0.2	24.6	31.2	5.1		39.3	7.1	1.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.2	0.3		
Total Delay	49.6	36.8	0.2	24.6	31.2	5.1		39.4	7.4	2.1		
LOS	D	D	A	C	C	A		D	A	A		
Approach Delay		40.4			21.0			39.4		3.1		
Approach LOS		D			C			D		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 103.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 79.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



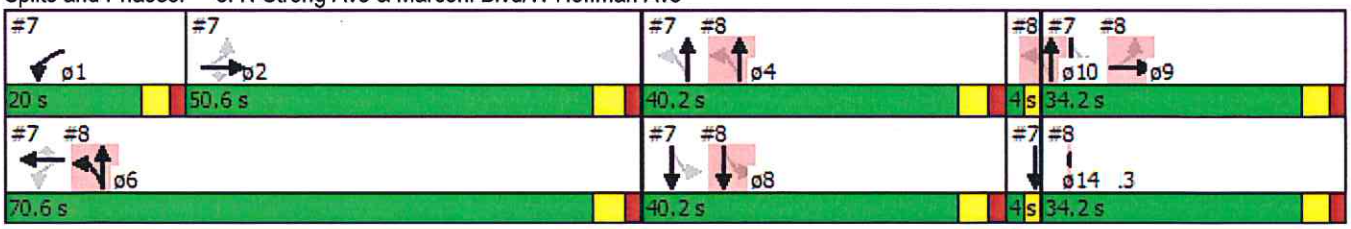
Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	12	14	52	26	125	558	4	251				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		14.3		14.3	68.4	74.1		23.5				
Actuated g/C Ratio		0.14		0.14	0.66	0.72		0.23				
v/c Ratio		0.32		0.61	0.16	0.47		0.71				
Control Delay		20.4		56.1	2.3	2.8		47.0				
Queue Delay		0.0		0.0	0.2	1.1		0.0				
Total Delay		20.4		56.1	2.5	3.9		47.0				
LOS		C		E	A	A		D				
Approach Delay		20.4		56.1		3.6		47.0				
Approach LOS		C		E		A		D				

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 103.6	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	63	5	13	5	1	38	9	638	7	29	421	153
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.82	0.82	0.82
Hourly flow rate (vph)	84	7	17	7	1	51	10	686	8	35	513	187
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.83	0.83	0.82	0.83	0.83	0.73	0.82			0.73		
vC, conflicting volume	1434	1390	607	1314	1480	690	700			694		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	921	868	406	775	976	396	520			401		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	97	97	97	99	90	99			96		
cM capacity (veh/h)	306	229	516	238	198	483	862			858		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	108	59	10	694	35	700
Volume Left	84	7	10	0	35	0
Volume Right	17	51	0	8	0	187
cSH	320	420	862	1700	858	1700
Volume to Capacity	0.34	0.14	0.01	0.41	0.04	0.41
Queue Length 95th (ft)	36	12	1	0	3	0
Control Delay (s)	21.9	15.0	9.2	0.0	9.4	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	21.9	15.0	0.1		0.5	
Approach LOS	C	B				

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	51.9%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	38	284	408	6	5	59
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.92	0.89	0.89	0.80	0.80
Hourly flow rate (vph)	46	309	458	7	6	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	465				862	462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	465				862	462
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				98	88
cM capacity (veh/h)	1107				315	600

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	354	465	80
Volume Left	46	0	6
Volume Right	0	7	74
cSH	1107	1700	560
Volume to Capacity	0.04	0.27	0.14
Queue Length 95th (ft)	3	0	12
Control Delay (s)	1.5	0.0	12.5
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	12.5
Approach LOS			B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	28	723	15	41	567
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.82	0.82
Hourly flow rate (vph)	8	32	795	16	50	691
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.85	0.75			0.75	
vC, conflicting volume	1594	803			811	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110	573			584	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	92			93	
cM capacity (veh/h)	244	393			753	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	40	811	50	691
Volume Left	8	0	50	0
Volume Right	32	16	0	0
cSH	350	1700	753	1700
Volume to Capacity	0.11	0.48	0.07	0.41
Queue Length 95th (ft)	10	0	5	0
Control Delay (s)	16.6	0.0	10.1	0.0
Lane LOS	C		B	
Approach Delay (s)	16.6	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

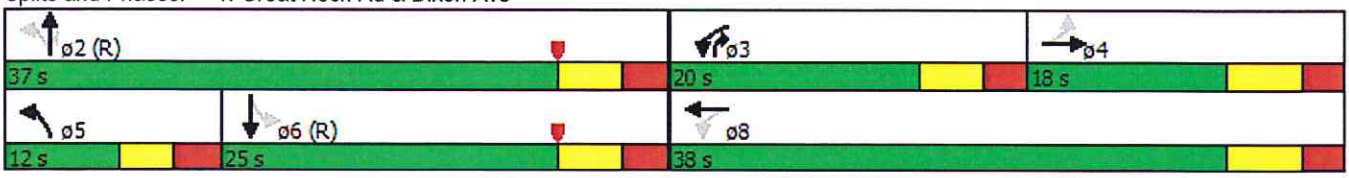
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	52	391	235	330	102	412	233	45	360
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	18.0	18.0	20.0	38.0	12.0	37.0	20.0	25.0	25.0
Total Split (%)	24.0%	24.0%	26.7%	50.7%	16.0%	49.3%	26.7%	33.3%	33.3%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.7	12.7	31.7	31.0	31.7	31.1	49.6	21.5	21.5
Actuated g/C Ratio	0.17	0.17	0.42	0.41	0.42	0.41	0.66	0.29	0.29
v/c Ratio	0.40	0.87	0.69	0.31	0.45	0.59	0.24	0.21	0.84
Control Delay	38.1	49.0	25.3	14.1	14.2	16.8	5.7	25.4	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	49.0	25.3	14.1	14.2	16.8	5.7	25.4	44.5
LOS	D	D	C	B	B	B	A	C	D
Approach Delay		47.9		18.3		13.0			42.5
Approach LOS		D		B		B			D

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 37 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 81.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

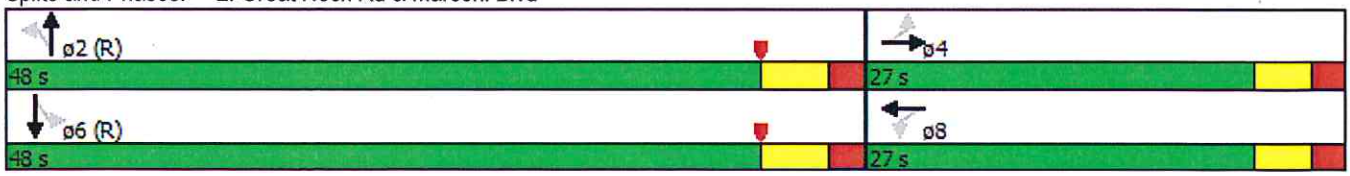


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	25	58	165	47	28	627	33	559
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	48.0	48.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.5		21.5	42.4	42.4	42.4	42.4
Actuated g/C Ratio		0.29		0.29	0.57	0.57	0.57	0.57
v/c Ratio		0.51		0.95	0.09	0.72	0.18	0.61
Control Delay		26.2		66.5	7.6	13.4	8.7	9.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		26.2		66.5	7.6	13.4	8.7	9.3
LOS		C		E	A	B	A	A
Approach Delay		26.2		66.5		13.2		9.2
Approach LOS		C		E		B		A

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	149	306	60	184	56	449	90	65	478
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	10.0	38.0	38.0	10.0	38.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	13.3%	50.7%	50.7%	13.3%	50.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	19.8	19.8	19.8	19.8	40.3	35.8	35.8	41.3	38.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.54	0.48	0.48	0.55	0.51
v/c Ratio	0.68	0.82	0.68	0.55	0.16	0.54	0.13	0.17	0.63
Control Delay	40.1	39.7	62.5	28.2	6.4	13.5	10.3	6.4	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	39.7	62.5	28.2	6.4	13.5	10.3	6.4	15.3
LOS	D	D	E	C	A	B	B	A	B
Approach Delay		39.8		35.0		12.4			14.4
Approach LOS		D		D		B			B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15

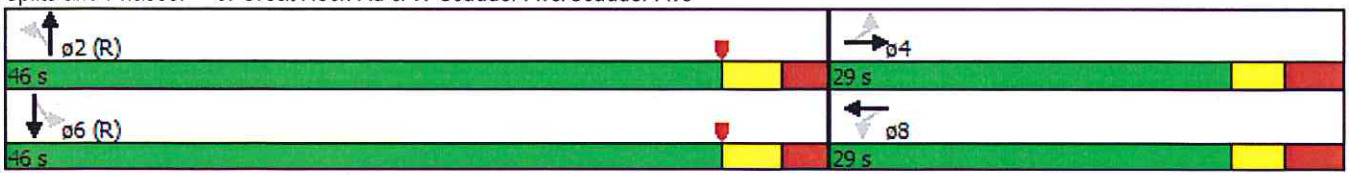
Splits and Phases: 4: Great Neck Rd & Oak St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	33	7	30	19	6	533	52	549
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	46.0	46.0	46.0	46.0
Total Split (%)	38.7%	38.7%	38.7%	38.7%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		11.7		11.7	50.8	50.8	50.8	50.8
Actuated g/C Ratio		0.16		0.16	0.68	0.68	0.68	0.68
v/c Ratio		0.26		0.56	0.01	0.49	0.11	0.48
Control Delay		29.4		36.8	5.2	8.2	9.0	11.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.4		36.8	5.2	8.2	9.0	11.0
LOS		C		D	A	A	A	B
Approach Delay		29.4		36.8		8.2		10.8
Approach LOS		C		D		A		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 60.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

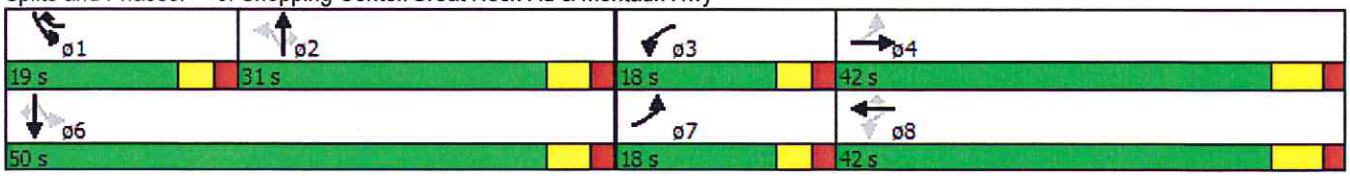


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	165	855	30	669	166	52	60	31	181	103	127
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	53.5	45.4	43.7	36.0	54.7		14.8	14.8	33.1	32.3	32.3
Actuated g/C Ratio	0.55	0.47	0.45	0.37	0.57		0.15	0.15	0.34	0.33	0.33
v/c Ratio	0.48	0.60	0.12	0.56	0.21		0.66	0.11	0.51	0.19	0.27
Control Delay	16.5	23.4	13.2	27.4	12.4		53.5	0.6	28.2	23.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	23.4	13.2	27.4	12.4		53.5	0.6	28.2	23.4	24.8
LOS	B	C	B	C	B		D	A	C	C	C
Approach Delay		22.3		24.1			42.0			25.9	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 96.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 58.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

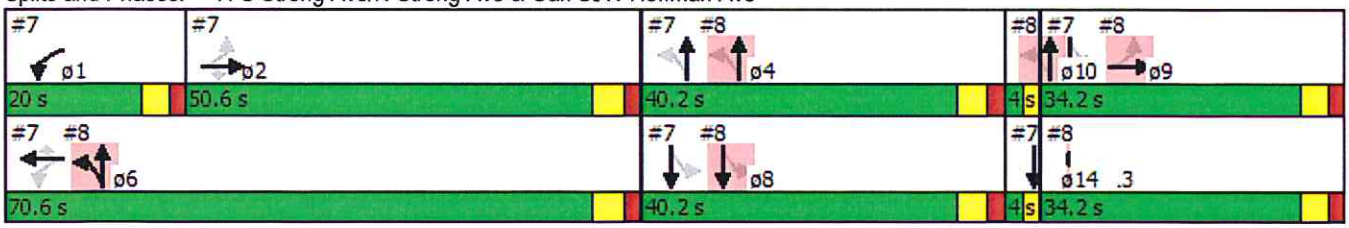


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	113	321	64	105	201	99	18	261	119	487		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	Min	Min	Min	None	None			None	None
Act Effct Green (s)	31.1	31.1	31.1	48.4	47.8	47.8		35.3	64.5	64.5		
Actuated g/C Ratio	0.23	0.23	0.23	0.37	0.36	0.36		0.27	0.49	0.49		
v/c Ratio	0.46	0.82	0.16	0.49	0.35	0.19		1.13	0.35	0.64		
Control Delay	49.0	63.6	2.5	34.6	31.7	5.0		132.3	4.8	5.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	3.4	1.8		
Total Delay	49.0	63.6	2.5	34.6	31.7	5.0		132.3	8.2	7.6		
LOS	D	E	A	C	C	A		F	A	A		
Approach Delay		52.4			25.9			132.3		7.7		
Approach LOS		D			C			F		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 132.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 96.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



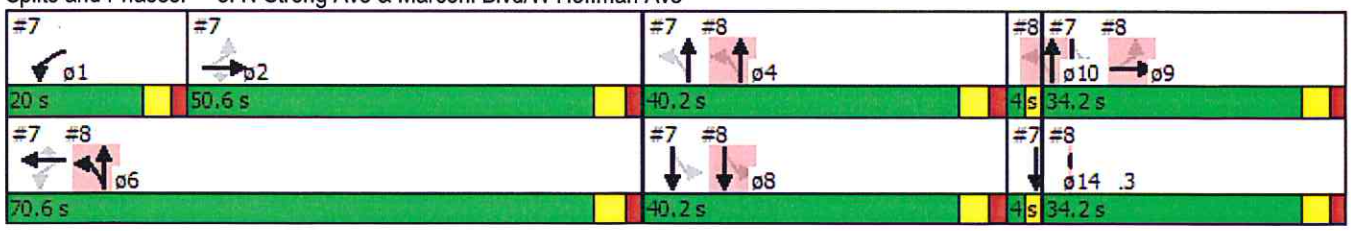
Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	9	26	111	38	85	336	4	427				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	Min	Min	None	None
Act Effct Green (s)		29.2		29.2	82.6	88.3		35.3				
Actuated g/C Ratio		0.22		0.22	0.62	0.67		0.27				
v/c Ratio		0.44		0.97	0.11	0.30		0.89				
Control Delay		19.9		106.0	3.2	3.1		66.9				
Queue Delay		0.1		0.0	0.5	3.8		0.0				
Total Delay		20.0		106.0	3.8	6.9		66.9				
LOS		B		F	A	A		E				
Approach Delay		20.0		106.0		6.4		66.9				
Approach LOS		B		F		A		E				

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 132.4	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 43.6	Intersection LOS: D
Intersection Capacity Utilization 84.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

PM Peak
3: Great Neck Rd & Railroad Ave 1/25/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	58	6	17	4	2	41	7	632	9	46	602	177
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.99	0.99	0.99	0.97	0.97	0.97
Hourly flow rate (vph)	65	7	19	4	2	44	7	638	9	47	621	182
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.87	0.87	0.78	0.87	0.87	0.76	0.78			0.76		
vC, conflicting volume	1504	1468	712	1395	1555	643	803			647		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	941	900	491	816	999	378	608			384		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	97	96	98	99	92	99			95		
cM capacity (veh/h)	320	230	442	232	201	514	766			906		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	91	50	7	647	47	803
Volume Left	65	4	7	0	47	0
Volume Right	19	44	0	9	0	182
cSH	330	440	766	1700	906	1700
Volume to Capacity	0.28	0.11	0.01	0.38	0.05	0.47
Queue Length 95th (ft)	28	10	1	0	4	0
Control Delay (s)	20.0	14.2	9.7	0.0	9.2	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	20.0	14.2	0.1		0.5	
Approach LOS	C	B				

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	60.3%	ICU Level of Service	B	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	14	603	319	3	9	90
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.75	0.75
Hourly flow rate (vph)	15	663	375	4	12	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	379				1070	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	379				1070	377
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				95	82
cM capacity (veh/h)	1153				243	672

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	678	379	132
Volume Left	15	0	12
Volume Right	0	4	120
cSH	1153	1700	579
Volume to Capacity	0.01	0.22	0.23
Queue Length 95th (ft)	1	0	22
Control Delay (s)	0.4	0.0	13.0
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	13.0
Approach LOS			B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	19	718	5	18	813
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	11	21	740	5	19	847
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.88	0.78			0.78	
vC, conflicting volume	1627	743			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1080	527			531	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	95			98	
cM capacity (veh/h)	275	432			815	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	32	745	19	847
Volume Left	11	0	19	0
Volume Right	21	5	0	0
cSH	361	1700	815	1700
Volume to Capacity	0.09	0.44	0.02	0.50
Queue Length 95th (ft)	7	0	2	0
Control Delay (s)	15.9	0.0	9.5	0.0
Lane LOS	C		A	
Approach Delay (s)	15.9	0.0	0.2	
Approach LOS	C			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

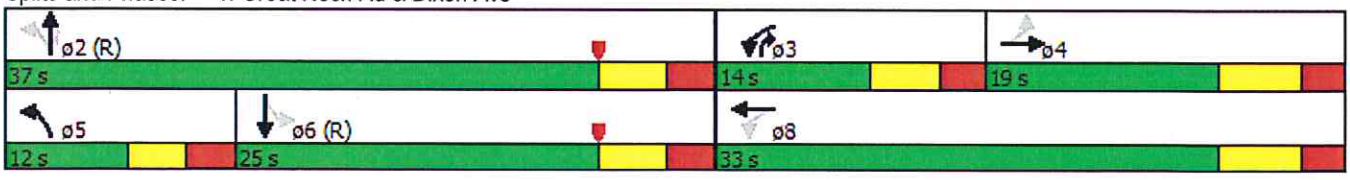
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	44	360	257	346	153	436	267	42	386
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	19.0	19.0	14.0	33.0	12.0	37.0	14.0	25.0	25.0
Total Split (%)	27.1%	27.1%	20.0%	47.1%	17.1%	52.9%	20.0%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	27.0	26.3	31.4	30.8	45.0	18.8	18.8
Actuated g/C Ratio	0.18	0.18	0.39	0.38	0.45	0.44	0.64	0.27	0.27
v/c Ratio	0.35	0.89	0.98	0.36	0.58	0.55	0.27	0.20	1.05
Control Delay	32.8	48.1	68.9	15.5	12.6	7.5	2.9	22.5	82.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	48.1	68.9	15.5	12.6	7.5	2.9	22.5	82.8
LOS	C	D	E	B	B	A	A	C	F
Approach Delay		46.7		36.1		7.0			77.6
Approach LOS		D		D		A			E

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 37.8 Intersection LOS: D
Intersection Capacity Utilization 83.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

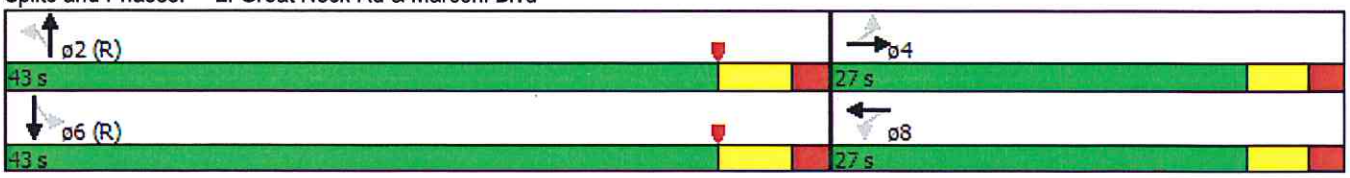


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	17	61	155	86	59	735	43	657
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.1		21.1	37.8	37.8	37.8	37.8
Actuated g/C Ratio		0.30		0.30	0.54	0.54	0.54	0.54
v/c Ratio		0.54		0.94	0.26	0.89	0.40	0.71
Control Delay		24.3		58.8	9.4	20.6	9.2	8.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		24.3		58.8	9.4	20.6	9.2	8.1
LOS		C		E	A	C	A	A
Approach Delay		24.3		58.8		19.9		8.2
Approach LOS		C		E		B		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 13 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 96.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

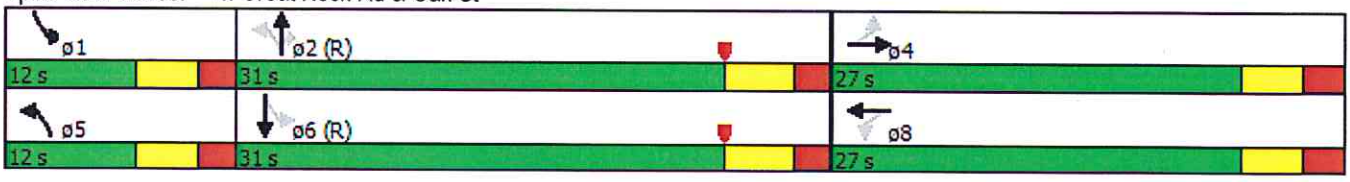


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	168	269	78	236	84	549	97	78	517
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	20.8	20.8	20.8	20.8	34.4	28.6	28.6	34.3	28.6
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.49	0.41	0.41	0.49	0.41
v/c Ratio	0.96	0.68	0.60	0.72	0.31	0.77	0.16	0.25	0.83
Control Delay	85.9	27.9	40.9	31.0	9.4	24.3	12.8	10.9	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.9	27.9	40.9	31.0	9.4	24.3	12.8	10.9	30.9
LOS	F	C	D	C	A	C	B	B	C
Approach Delay		45.8		32.9		21.1			28.6
Approach LOS		D		C		C			C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 81.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

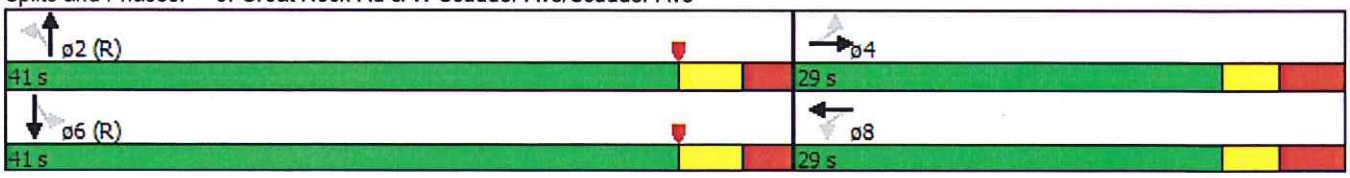


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	28	22	12	20	22	626	45	597
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.1		9.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio		0.13		0.13	0.74	0.74	0.74	0.74
v/c Ratio		0.33		0.42	0.04	0.52	0.10	0.49
Control Delay		30.7		32.8	4.5	7.3	10.0	14.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		30.7		32.8	4.5	7.3	10.0	14.0
LOS		C		C	A	A	A	B
Approach Delay		30.7		32.8		7.2		13.7
Approach LOS		C		C		A		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 12.7 Intersection LOS: B
Intersection Capacity Utilization 56.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

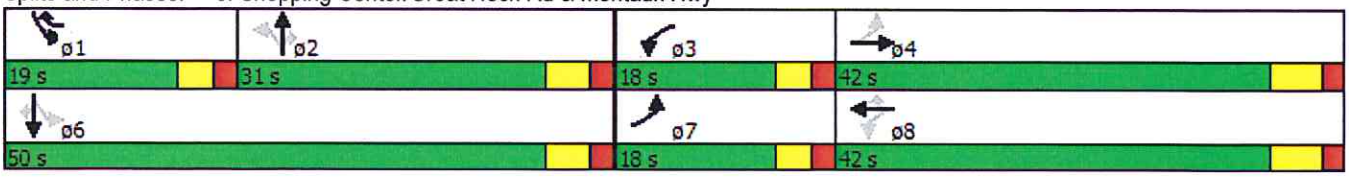


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	188	907	37	869	232	68	79	53	196	118	153
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	54.2	45.9	44.0	36.0	54.9		16.9	16.9	35.4	34.6	34.6
Actuated g/C Ratio	0.54	0.46	0.44	0.36	0.55		0.17	0.17	0.36	0.35	0.35
v/c Ratio	0.63	0.63	0.15	0.73	0.30		0.70	0.16	0.54	0.20	0.30
Control Delay	23.7	25.6	14.5	33.4	14.6		55.0	0.9	28.7	23.2	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	25.6	14.5	33.4	14.6		55.0	0.9	28.7	23.2	25.1
LOS	C	C	B	C	B		D	A	C	C	C
Approach Delay		25.3		29.0			40.7			26.1	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 99.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 66.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

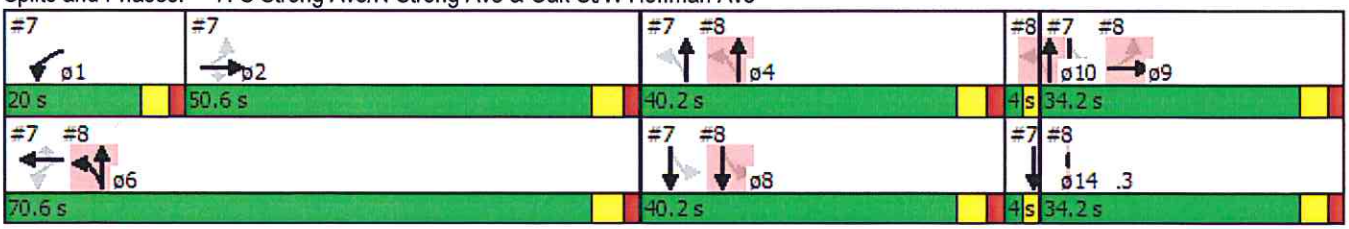


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	92	281	44	71	250	107	29	344	121	346		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	26.8	26.8	26.8	38.9	38.2	38.2		35.4	59.5	70.7		
Actuated g/C Ratio	0.22	0.22	0.22	0.32	0.31	0.31		0.29	0.48	0.57		
v/c Ratio	0.43	0.78	0.12	0.34	0.48	0.22		0.89	0.40	0.40		
Control Delay	48.2	60.1	0.6	32.4	36.1	5.8		63.0	4.7	2.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.1	1.6	1.2		
Total Delay	48.2	60.1	0.6	32.4	36.1	5.8		63.1	6.3	3.3		
LOS	D	E	A	C	D	A		E	A	A		
Approach Delay		51.2			27.9			63.1		3.9		
Approach LOS		D			C			E		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 123.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 34.9 Intersection LOS: C
Intersection Capacity Utilization 94.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

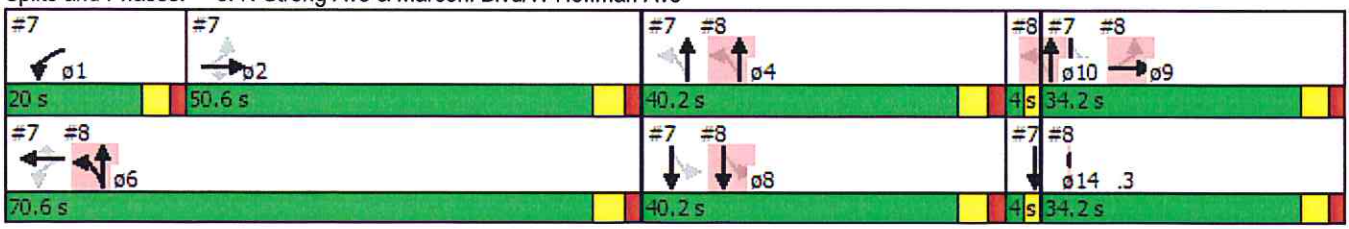
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	12	51	96	52	133	384	10	344				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		29.3		29.3	73.2	78.9		30.1				
Actuated g/C Ratio		0.24		0.24	0.59	0.64		0.24				
v/c Ratio		0.43		0.80	0.18	0.37		0.79				
Control Delay		34.0		67.5	3.8	3.9		56.4				
Queue Delay		0.0		0.0	0.4	3.0		0.0				
Total Delay		34.0		67.5	4.2	6.9		56.4				
LOS		C		E	A	A		E				
Approach Delay		34.0		67.5		6.3		56.4				
Approach LOS		C		E		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 123.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 32.9 Intersection LOS: C
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	67	2	23	7	5	48	14	769	21	56	713	180
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	89	3	31	9	7	64	15	827	23	60	767	194
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.79	0.79	0.71	0.79	0.79	0.65	0.71			0.65		
vC, conflicting volume	1908	1863	863	1787	1949	838	960			849		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1203	1146	609	1050	1255	476	745			493		
tC, single (s)	*5.0	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 %	53	98	91	93	95	83	98			91		
cM capacity (veh/h)	189	141	356	135	122	383	623			698		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	123	80	15	849	60	960
Volume Left	89	9	15	0	60	0
Volume Right	31	64	0	23	0	194
cSH	212	275	623	1700	698	1700
Volume to Capacity	0.58	0.29	0.02	0.50	0.09	0.56
Queue Length 95th (ft)	80	29	2	0	7	0
Control Delay (s)	42.8	23.4	10.9	0.0	10.6	0.0
Lane LOS	E	C	B		B	
Approach Delay (s)	42.8	23.4	0.2		0.6	
Approach LOS	E	C				

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	67.0%	ICU Level of Service	C	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	545	421	3	12	94
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.80	0.80
Hourly flow rate (vph)	12	580	490	3	15	118
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				1094	491
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				1094	491
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	80
cM capacity (veh/h)	1081				236	581

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	591	493	132
Volume Left	12	0	15
Volume Right	0	3	118
cSH	1081	1700	499
Volume to Capacity	0.01	0.29	0.27
Queue Length 95th (ft)	1	0	27
Control Delay (s)	0.3	0.0	14.8
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	14.8
Approach LOS			B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	10	868	13	18	949
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	4	11	923	14	19	1020
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.82	0.67			0.67	
vC, conflicting volume	1989	930			937	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1300	655			665	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			97	
cM capacity (veh/h)	197	317			629	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	16	937	19	1020
Volume Left	4	0	19	0
Volume Right	11	14	0	0
cSH	270	1700	629	1700
Volume to Capacity	0.06	0.55	0.03	0.60
Queue Length 95th (ft)	5	0	2	0
Control Delay (s)	19.1	0.0	10.9	0.0
Lane LOS	C		B	
Approach Delay (s)	19.1	0.0	0.2	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

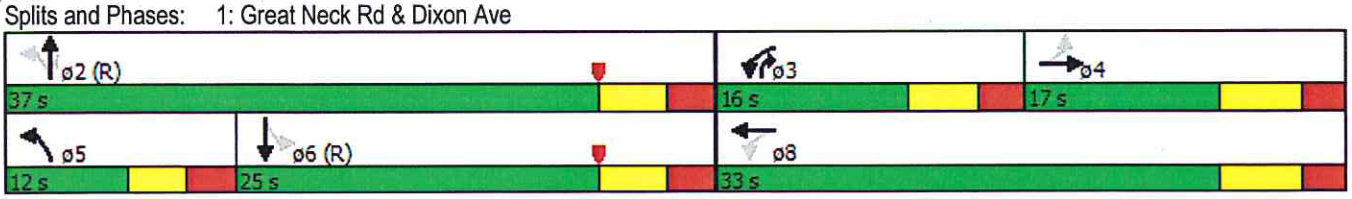
No Build Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	35	275	236	450	121	511	288	36	252
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	17.0	17.0	16.0	33.0	12.0	37.0	16.0	25.0	25.0
Total Split (%)	24.3%	24.3%	22.9%	47.1%	17.1%	52.9%	22.9%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.2	10.2	26.8	26.1	31.6	31.0	47.1	21.4	21.4
Actuated g/C Ratio	0.15	0.15	0.38	0.37	0.45	0.44	0.67	0.31	0.31
v/c Ratio	0.39	0.77	0.75	0.52	0.39	0.68	0.30	0.18	0.68
Control Delay	38.9	40.8	31.5	16.9	10.5	16.4	7.0	22.3	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	40.8	31.5	16.9	10.5	16.4	7.0	22.3	30.8
LOS	D	D	C	B	B	B	A	C	C
Approach Delay		40.6		21.1		12.7			29.9
Approach LOS		D		C		B			C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 22.5 Intersection LOS: C
Intersection Capacity Utilization 82.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

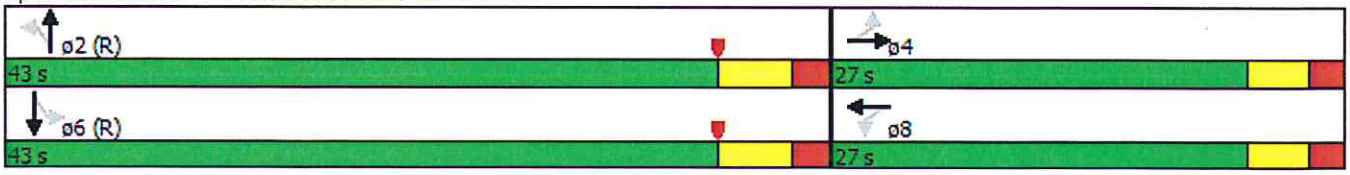


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	17	18	129	34	17	741	31	486
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		17.5		17.5	41.4	41.4	41.4	41.4
Actuated g/C Ratio		0.25		0.25	0.59	0.59	0.59	0.59
v/c Ratio		0.22		0.73	0.05	0.80	0.25	0.57
Control Delay		20.7		34.5	10.2	18.7	12.9	12.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		20.7		34.5	10.2	18.7	12.9	12.2
LOS		C		C	B	B	B	B
Approach Delay		20.7		34.5		18.6		12.2
Approach LOS		C		C		B		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

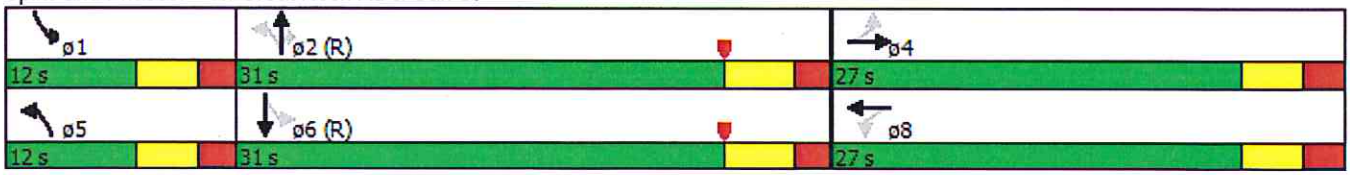


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	142	159	24	248	52	543	54	55	306
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	19.1	19.1	19.1	19.1	35.9	30.3	30.3	37.1	32.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.51	0.43	0.43	0.53	0.47
v/c Ratio	0.95	0.41	0.10	0.74	0.12	0.69	0.08	0.21	0.59
Control Delay	83.6	22.4	18.6	33.2	9.3	28.9	18.1	9.4	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.6	22.4	18.6	33.2	9.3	28.9	18.1	9.4	19.1
LOS	F	C	B	C	A	C	B	A	B
Approach Delay		48.4		32.2		26.4			17.8
Approach LOS		D		C		C			B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 74.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

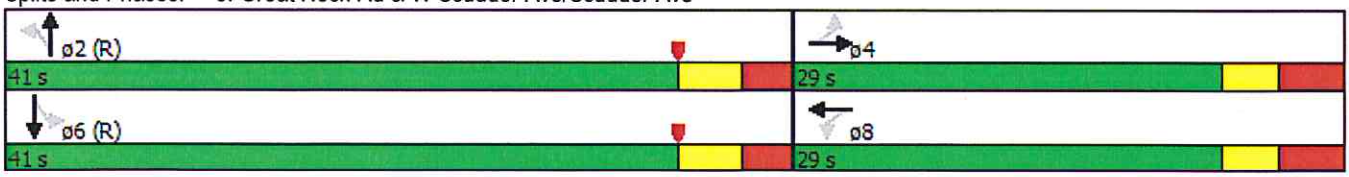


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	41	14	6	13	25	533	21	302
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		8.8		8.8	52.4	52.4	52.4	52.4
Actuated g/C Ratio		0.13		0.13	0.75	0.75	0.75	0.75
v/c Ratio		0.39		0.37	0.03	0.44	0.05	0.28
Control Delay		33.6		32.2	4.2	6.1	0.5	1.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.6		32.2	4.2	6.1	0.5	1.3
LOS		C		C	A	A	A	A
Approach Delay		33.6		32.2		6.1		1.2
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 8.0 Intersection LOS: A
Intersection Capacity Utilization 49.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

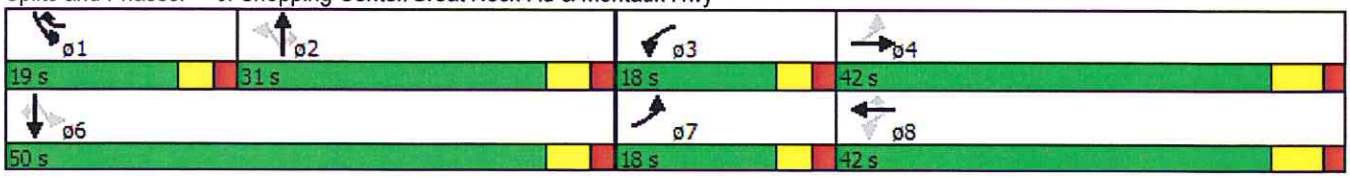


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	104	424	7	815	164	27	23	4	100	24	90
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	49.4	46.2	42.8	37.2	55.4		8.7	8.7	21.5	20.7	20.7
Actuated g/C Ratio	0.61	0.57	0.53	0.46	0.68		0.11	0.11	0.26	0.25	0.25
v/c Ratio	0.31	0.25	0.02	0.56	0.18		0.38	0.02	0.37	0.06	0.26
Control Delay	10.8	11.4	9.1	21.2	8.6		44.4	0.0	26.9	23.0	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	11.4	9.1	21.2	8.6		44.4	0.0	26.9	23.0	26.0
LOS	B	B	A	C	A		D	A	C	C	C
Approach Delay		11.3		19.0			40.9			26.1	
Approach LOS		B		B			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 81.3
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 54.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

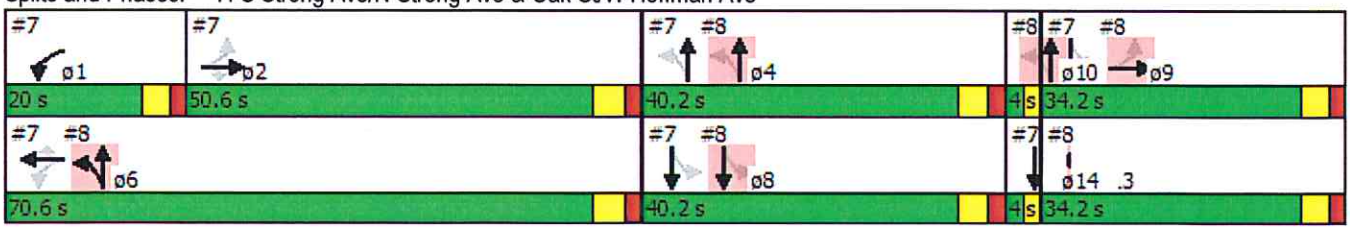


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	150	140	22	37	259	176	16	417	69	235		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	28.4	28.4	28.4	36.3	35.7	35.7		36.0	41.1	59.6		
Actuated g/C Ratio	0.26	0.26	0.26	0.34	0.33	0.33		0.33	0.38	0.55		
v/c Ratio	0.65	0.36	0.05	0.12	0.49	0.33		0.78	0.42	0.37		
Control Delay	50.1	36.8	0.2	24.8	31.5	4.9		44.9	7.9	2.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.3	0.3		
Total Delay	50.1	36.8	0.2	24.8	31.5	4.9		45.0	8.2	2.3		
LOS	D	D	A	C	C	A		D	A	A		
Approach Delay		40.6			21.1			45.0		3.4		
Approach LOS		D			C			D		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 107.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 27.2 Intersection LOS: C
Intersection Capacity Utilization 81.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



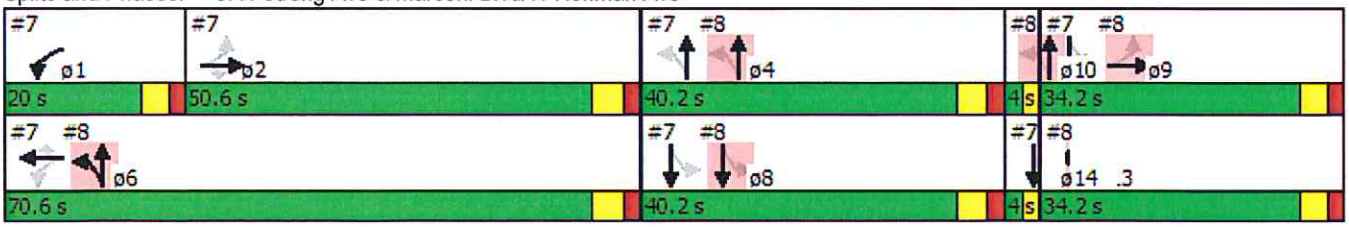
Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	15	55	28	133	590	5	266				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		15.6		15.6	71.3	77.1		25.5				
Actuated g/C Ratio		0.14		0.14	0.66	0.71		0.24				
v/c Ratio		0.34		0.64	0.17	0.50		0.73				
Control Delay		22.7		59.3	2.5	3.4		49.0				
Queue Delay		0.0		0.0	0.3	1.3		0.0				
Total Delay		22.7		59.3	2.8	4.7		49.0				
LOS		C		E	A	A		D				
Approach Delay		22.7		59.3		4.4		49.0				
Approach LOS		C		E		A		D				

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 107.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	67	6	14	6	2	41	10	675	8	31	445	162
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.82	0.82	0.82
Hourly flow rate (vph)	89	8	19	8	3	55	11	726	9	38	543	198
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.80	0.80	0.80	0.80	0.80	0.70	0.80			0.70		
vC, conflicting volume	1520	1473	641	1393	1567	730	740			734		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	954	894	423	794	1013	396	547			402		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	96	96	96	99	88	99			95		
cM capacity (veh/h)	279	212	493	220	181	459	823			814		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	116	65	11	734	38	740
Volume Left	89	8	11	0	38	0
Volume Right	19	55	0	9	0	198
cSH	293	384	823	1700	814	1700
Volume to Capacity	0.40	0.17	0.01	0.43	0.05	0.44
Queue Length 95th (ft)	45	15	1	0	4	0
Control Delay (s)	25.1	16.3	9.4	0.0	9.6	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	25.1	16.3	0.1		0.5	
Approach LOS	D	C				

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	41	301	432	7	6	63
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.92	0.89	0.89	0.80	0.80
Hourly flow rate (vph)	49	327	485	8	8	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				915	489
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				915	489
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				97	86
cM capacity (veh/h)	1081				291	579

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	377	493	86
Volume Left	49	0	8
Volume Right	0	8	79
cSH	1081	1700	533
Volume to Capacity	0.05	0.29	0.16
Queue Length 95th (ft)	4	0	14
Control Delay (s)	1.5	0.0	13.1
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	30	765	16	44	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.82	0.82
Hourly flow rate (vph)	9	34	841	18	54	732
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.82	0.71			0.71	
vC, conflicting volume	1688	849			858	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156	590			602	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	91			92	
cM capacity (veh/h)	222	366			704	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	43	858	54	732
Volume Left	9	0	54	0
Volume Right	34	18	0	0
cSH	322	1700	704	1700
Volume to Capacity	0.13	0.50	0.08	0.43
Queue Length 95th (ft)	11	0	6	0
Control Delay (s)	17.9	0.0	10.5	0.0
Lane LOS	C		B	
Approach Delay (s)	17.9	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

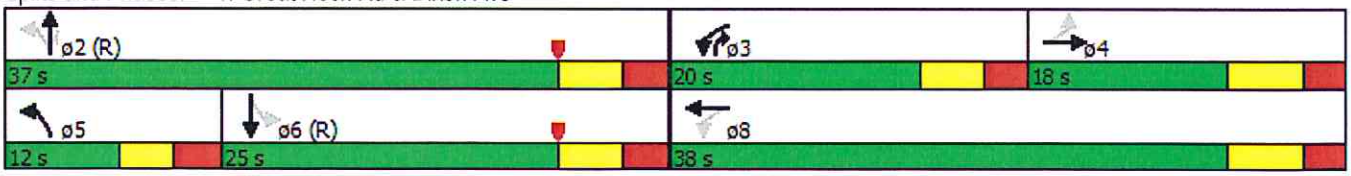
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	55	414	249	35	108	436	247	48	381
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	18.0	18.0	20.0	38.0	12.0	37.0	20.0	25.0	25.0
Total Split (%)	24.0%	24.0%	26.7%	50.7%	16.0%	49.3%	26.7%	33.3%	33.3%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.7	12.7	32.0	31.3	31.4	30.8	49.6	21.2	21.2
Actuated g/C Ratio	0.17	0.17	0.43	0.42	0.42	0.41	0.66	0.28	0.28
v/c Ratio	0.31	0.92	0.72	0.08	0.48	0.63	0.26	0.23	0.91
Control Delay	33.3	55.5	27.3	6.0	14.4	17.2	5.6	25.9	52.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	55.5	27.3	6.0	14.4	17.2	5.6	25.9	52.5
LOS	C	E	C	A	B	B	A	C	D
Approach Delay		53.2		21.2		13.2			49.7
Approach LOS		D		C		B			D

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 37 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 83.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	27	62	175	50	30	663	35	591
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	48.0	48.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.8		21.8	42.1	42.1	42.1	42.1
Actuated g/C Ratio		0.29		0.29	0.56	0.56	0.56	0.56
v/c Ratio		0.54		1.03	0.11	0.77	0.22	0.65
Control Delay		26.9		86.0	8.1	15.1	9.3	9.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		26.9		86.0	8.1	15.1	9.3	9.8
LOS		C		F	A	B	A	A
Approach Delay		26.9		86.0		14.9		9.8
Approach LOS		C		F		B		A

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 85.0% ICU Level of Service E
Analysis Period (min) 15

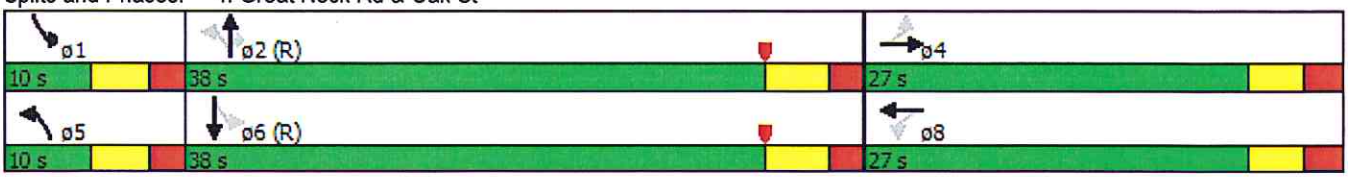
Splits and Phases: 2: Great Neck Rd & Marconi Blvd

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	158	324	64	195	60	475	96	69	506
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	10.0	38.0	38.0	10.0	38.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	13.3%	50.7%	50.7%	13.3%	50.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	20.3	20.3	20.3	20.3	39.9	35.5	35.5	39.9	35.5
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.53	0.47	0.47	0.53	0.47
v/c Ratio	0.74	0.85	0.73	0.57	0.20	0.58	0.14	0.19	0.71
Control Delay	45.5	42.1	69.3	28.5	7.2	14.5	10.9	6.8	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	42.1	69.3	28.5	7.2	14.5	10.9	6.8	18.8
LOS	D	D	E	C	A	B	B	A	B
Approach Delay		43.0		36.6		13.2			17.5
Approach LOS		D		D		B			B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 25.9 Intersection LOS: C
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

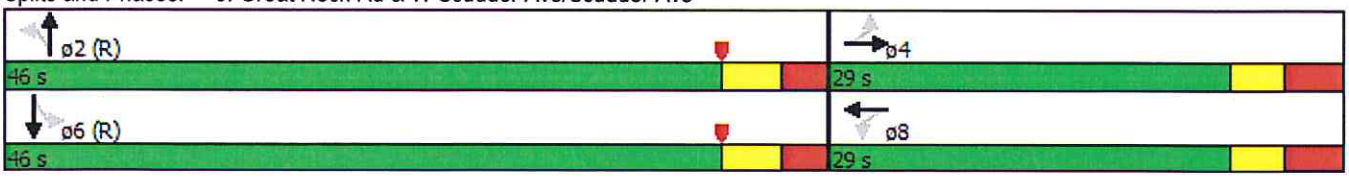


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	35	8	32	21	7	564	55	581
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	46.0	46.0	46.0	46.0
Total Split (%)	38.7%	38.7%	38.7%	38.7%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.1		12.1	50.4	50.4	50.4	50.4
Actuated g/C Ratio		0.16		0.16	0.67	0.67	0.67	0.67
v/c Ratio		0.28		0.58	0.02	0.52	0.13	0.52
Control Delay		29.2		36.8	5.4	8.9	9.9	12.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.2		36.8	5.4	8.9	9.9	12.5
LOS		C		D	A	A	A	B
Approach Delay		29.2		36.8		8.9		12.2
Approach LOS		C		D		A		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 63.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

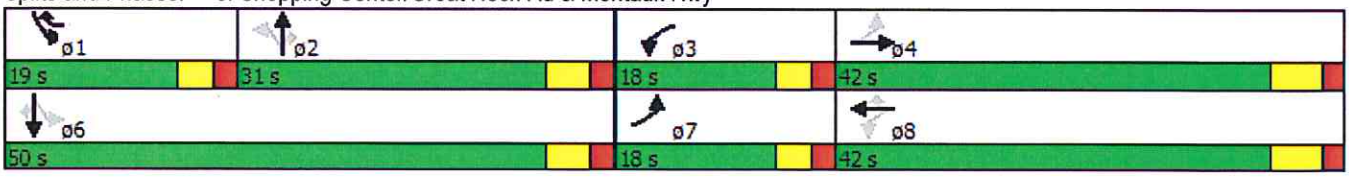


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	175	904	32	708	176	55	64	33	192	109	135
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	53.7	45.6	43.8	36.0	55.0		15.6	15.6	34.1	33.3	33.3
Actuated g/C Ratio	0.55	0.47	0.45	0.37	0.56		0.16	0.16	0.35	0.34	0.34
v/c Ratio	0.53	0.64	0.13	0.60	0.23		0.67	0.12	0.54	0.20	0.28
Control Delay	18.2	24.8	13.8	28.9	13.0		54.3	0.7	28.9	23.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	24.8	13.8	28.9	13.0		54.3	0.7	28.9	23.4	24.8
LOS	B	C	B	C	B		D	A	C	C	C
Approach Delay		23.8		25.3			42.7			26.2	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 97.9
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 26.0 — Intersection LOS: C
Intersection Capacity Utilization 60.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

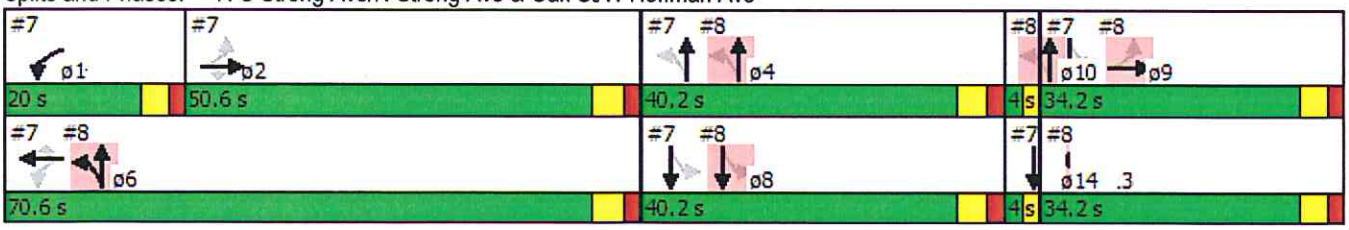


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	120	340	68	111	213	105	20	276	126	515		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	Min	Min	Min	None	None			None	None
Act Effct Green (s)	32.2	32.2	32.2	49.7	49.1	49.1		35.7	53.8	53.8		
Actuated g/C Ratio	0.26	0.26	0.26	0.40	0.40	0.40		0.29	0.44	0.44		
v/c Ratio	0.45	0.78	0.16	0.46	0.34	0.18		1.29	0.43	0.76		
Control Delay	44.5	55.3	3.0	29.4	27.4	4.7		191.2	7.0	11.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	1.5	0.7		
Total Delay	44.5	55.3	3.0	29.4	27.4	4.7		191.2	8.5	12.1		
LOS	D	E	A	C	C	A		F	A	B		
Approach Delay		46.2			22.4			191.2		11.5		
Approach LOS		D			C			F		B		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 123.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 53.9 Intersection LOS: D
Intersection Capacity Utilization 99.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

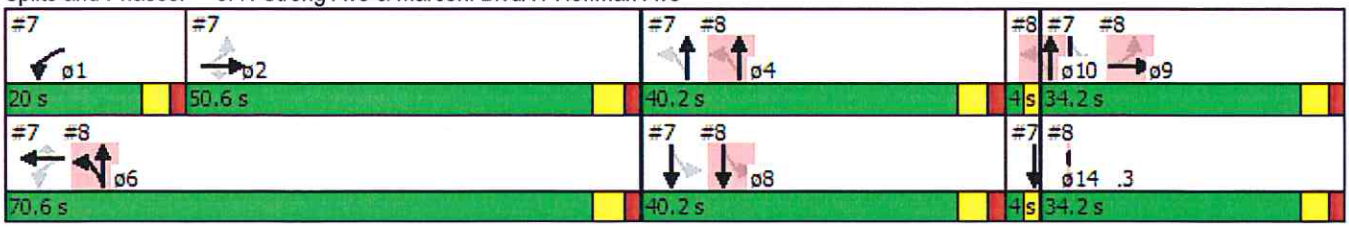
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	10	28	12	41	90	356	5	452				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	Min	Min	None	None
Act Effct Green (s)		18.1		18.1	84.4	90.1		35.7				
Actuated g/C Ratio		0.15		0.15	0.68	0.73		0.29				
v/c Ratio		0.62		0.37	0.10	0.29		0.88				
Control Delay		27.2		47.1	2.7	2.5		61.1				
Queue Delay		0.1		0.0	0.4	3.1		0.2				
Total Delay		27.3		47.1	3.1	5.7		61.4				
LOS		C		D	A	A		E				
Approach Delay		27.3		47.1		5.2		61.4				
Approach LOS		C		D		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 123.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 75.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	7	18	5	3	44	8	669	10	49	637	188
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.99	0.99	0.99	0.97	0.97	0.97
Hourly flow rate (vph)	70	8	20	5	3	47	8	676	10	51	657	194
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.86	0.86	0.76	0.86	0.86	0.74	0.76			0.74		
vC, conflicting volume	1595	1557	754	1479	1649	681	851			686		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976	931	514	841	1038	394	642			400		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	77	96	95	98	98	90	99			94		
cM capacity (veh/h)	298	216	415	217	187	489	721			866		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	98	55	8	686	51	851
Volume Left	70	5	8	0	51	0
Volume Right	20	47	0	10	0	194
cSH	307	402	721	1700	866	1700
Volume to Capacity	0.32	0.14	0.01	0.40	0.06	0.50
Queue Length 95th (ft)	33	12	1	0	5	0
Control Delay (s)	22.1	15.4	10.1	0.0	9.4	0.0
Lane LOS	C	C	B		A	
Approach Delay (s)	22.1	15.4	0.1		0.5	
Approach LOS	C	C				

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	63.2%	ICU Level of Service		B
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	638	338	4	10	96
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.75	0.75
Hourly flow rate (vph)	16	701	398	5	13	128
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	402				1134	400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402				1134	400
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				94	80
cM capacity (veh/h)	1130				223	652

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	718	402	141
Volume Left	16	0	13
Volume Right	0	5	128
cSH	1130	1700	552
Volume to Capacity	0.01	0.24	0.26
Queue Length 95th (ft)	1	0	25
Control Delay (s)	0.4	0.0	13.8
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	13.8
Approach LOS			B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	21	759	6	20	860
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	12	23	782	6	21	896
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.87	0.76			0.76	
vC, conflicting volume	1723	786			789	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1124	554			558	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	94			97	
cM capacity (veh/h)	257	405			772	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	36	789	21	896
Volume Left	12	0	21	0
Volume Right	23	6	0	0
cSH	338	1700	772	1700
Volume to Capacity	0.11	0.46	0.03	0.53
Queue Length 95th (ft)	9	0	2	0
Control Delay (s)	16.9	0.0	9.8	0.0
Lane LOS	C		A	
Approach Delay (s)	16.9	0.0	0.2	
Approach LOS	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

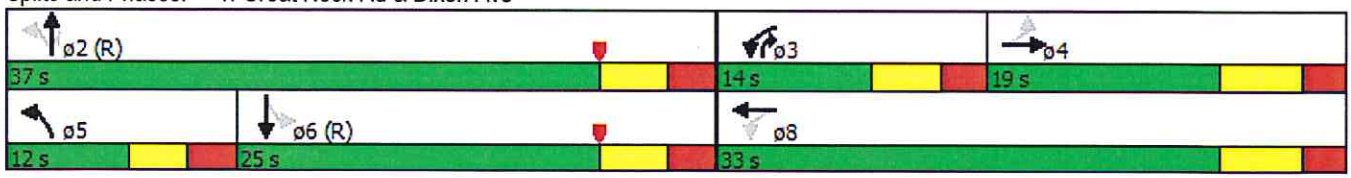
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	47	381	272	366	162	461	283	45	409
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	19.0	19.0	14.0	33.0	12.0	37.0	14.0	25.0	25.0
Total Split (%)	27.1%	27.1%	20.0%	47.1%	17.1%	52.9%	20.0%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	27.0	26.3	31.4	30.8	45.0	18.8	18.8
Actuated g/C Ratio	0.18	0.18	0.39	0.38	0.45	0.44	0.64	0.27	0.27
v/c Ratio	0.38	0.95	1.04	0.38	0.61	0.58	0.29	0.22	1.12
Control Delay	34.0	56.2	84.4	15.8	12.9	7.1	2.8	23.0	104.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	56.2	84.4	15.8	12.9	7.1	2.8	23.0	104.4
LOS	C	E	F	B	B	A	A	C	F
Approach Delay		54.2		42.2		6.8			97.3
Approach LOS		D		D		A			F

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 45.1 Intersection LOS: D
Intersection Capacity Utilization 86.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

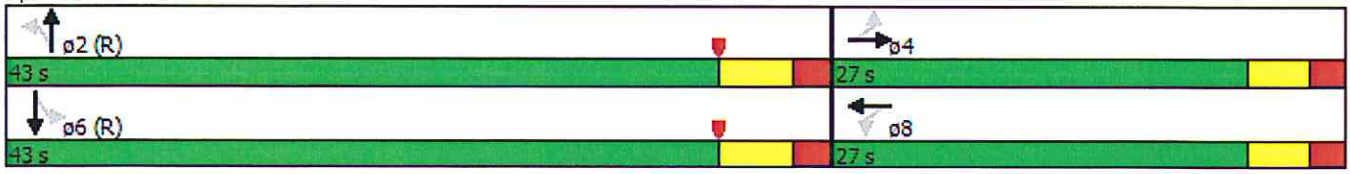


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	18	65	164	91	63	777	46	695
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.8		21.8	37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.31		0.31	0.53	0.53	0.53	0.53
v/c Ratio		0.56		0.98	0.34	0.95	0.45	0.76
Control Delay		24.5		68.4	10.9	28.2	10.9	9.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		24.5		68.4	10.9	28.2	10.9	9.0
LOS		C		E	B	C	B	A
Approach Delay		24.5		68.4		27.1		9.1
Approach LOS		C		E		C		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 13 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 101.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

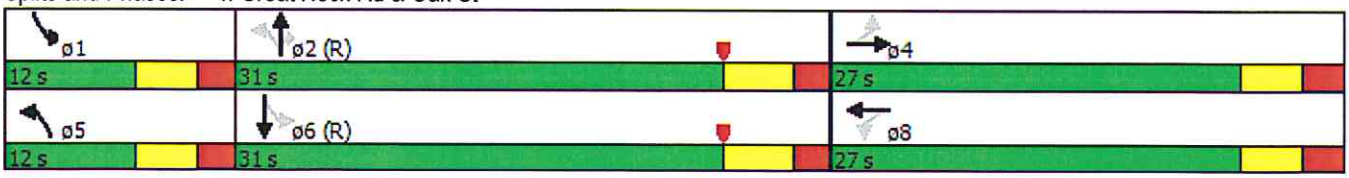


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	178	285	83	250	89	581	103	83	547
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.5	21.5	21.5	21.5	33.7	27.9	27.9	33.6	27.9
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.48	0.40	0.40	0.48	0.40
v/c Ratio	1.05	0.69	0.66	0.74	0.35	0.83	0.18	0.31	0.90
Control Delay	110.6	28.1	47.5	32.0	10.8	28.9	13.4	11.7	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.6	28.1	47.5	32.0	10.8	28.9	13.4	11.7	36.4
LOS	F	C	D	C	B	C	B	B	D
Approach Delay		53.6		35.0		24.8			33.5
Approach LOS		D		C		C			C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 35.8 Intersection LOS: D
Intersection Capacity Utilization 85.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

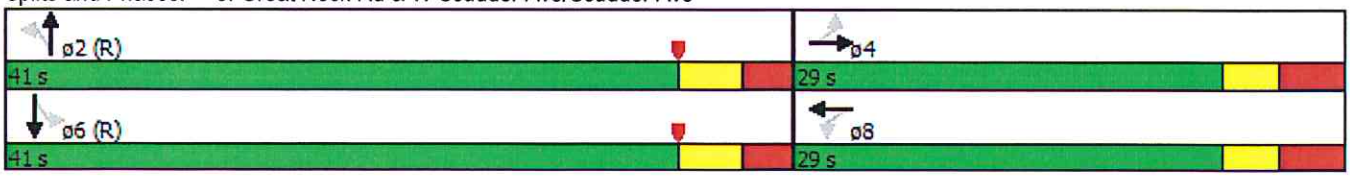


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	30	24	13	22	24	662	48	632
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.4		9.4	51.8	51.8	51.8	51.8
Actuated g/C Ratio		0.13		0.13	0.74	0.74	0.74	0.74
v/c Ratio		0.35		0.44	0.05	0.55	0.12	0.52
Control Delay		30.8		32.9	4.7	7.9	10.4	14.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		30.8		32.9	4.7	7.9	10.4	14.8
LOS		C		C	A	A	B	B
Approach Delay		30.8		32.9		7.8		14.5
Approach LOS		C		C		A		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 59.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

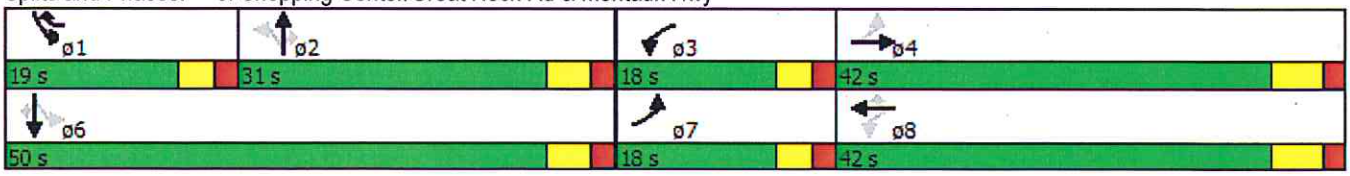


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	199	959	40	919	246	72	84	57	208	125	162
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	54.5	46.1	44.0	35.9	55.1		17.7	17.7	36.3	35.5	35.5
Actuated g/C Ratio	0.54	0.46	0.44	0.36	0.55		0.18	0.18	0.36	0.35	0.35
v/c Ratio	0.70	0.68	0.17	0.79	0.32		0.73	0.17	0.57	0.21	0.32
Control Delay	30.7	27.1	15.2	36.0	15.2		56.7	1.0	29.6	23.3	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	27.1	15.2	36.0	15.2		56.7	1.0	29.6	23.3	25.2
LOS	C	C	B	D	B		E	A	C	C	C
Approach Delay		27.7		31.1			41.7			26.6	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 101
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 29.9 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

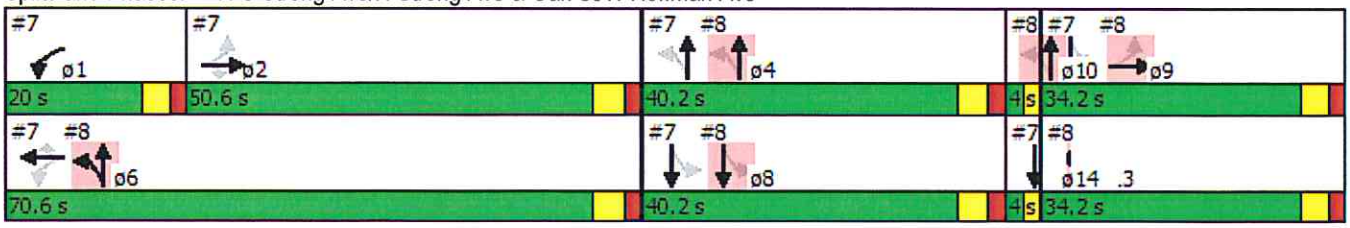


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	98	298	47	76	265	114	31	364	128	366		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	28.5	28.5	28.5	43.7	43.1	43.1		35.2	60.7	68.4		
Actuated g/C Ratio	0.22	0.22	0.22	0.34	0.34	0.34		0.28	0.48	0.54		
v/c Ratio	0.45	0.81	0.13	0.36	0.46	0.22		1.10	0.45	0.45		
Control Delay	48.9	62.4	0.6	32.3	35.1	5.3		113.7	5.3	2.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		1.0	2.3	0.8		
Total Delay	48.9	62.4	0.6	32.3	35.1	5.3		114.6	7.6	3.2		
LOS	D	E	A	C	D	A		F	A	A		
Approach Delay		52.9			27.2			114.6		4.2		
Approach LOS		D			C			F		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 127.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 47.3 Intersection LOS: D
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

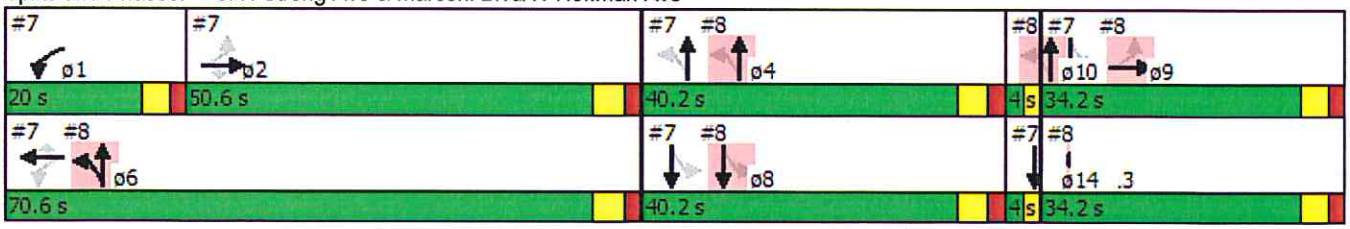
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	54	102	55	141	406	11	364				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		29.2		29.2	77.9	83.5		31.6				
Actuated g/C Ratio		0.23		0.23	0.61	0.65		0.25				
v/c Ratio		0.47		0.94	0.19	0.39		0.83				
Control Delay		36.9		91.1	4.7	4.1		60.5				
Queue Delay		0.0		0.0	0.5	5.6		0.0				
Total Delay		36.9		91.1	5.3	9.7		60.5				
LOS		D		F	A	A		E				
Approach Delay		36.9		91.1		8.7		60.5				
Approach LOS		D		F		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 127.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 39.0 Intersection LOS: D
Intersection Capacity Utilization 84.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	71	3	25	8	6	51	15	813	23	60	754	191
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	95	4	33	11	8	68	16	874	25	65	811	205
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.77	0.77	0.68	0.77	0.77	0.61	0.68			0.61		
vC, conflicting volume	2021	1974	913	1894	2064	887	1016			899		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1240	1179	637	1075	1296	493	788			513		
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 %	0	97	90	91	93	81	97			90		
cM capacity (veh/h)	81	129	327	121	110	353	571			647		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	132	87	16	899	65	1016
Volume Left	95	11	16	0	65	0
Volume Right	33	68	0	25	0	205
cSH	101	246	571	1700	647	1700
Volume to Capacity	1.31	0.35	0.03	0.53	0.10	0.60
Queue Length 95th (ft)	231	38	2	0	8	0
Control Delay (s)	269.7	27.4	11.5	0.0	11.2	0.0
Lane LOS	F	D	B		B	
Approach Delay (s)	269.7	27.4	0.2		0.7	
Approach LOS	F	D				

Intersection Summary			
Average Delay	17.6		
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	12	577	445	4	13	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.80	0.80
Hourly flow rate (vph)	13	614	517	5	16	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	522				1159	520
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522				1159	520
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	78
cM capacity (veh/h)	1055				216	560

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	627	522	141
Volume Left	13	0	16
Volume Right	0	5	125
cSH	1055	1700	473
Volume to Capacity	0.01	0.31	0.30
Queue Length 95th (ft)	1	0	31
Control Delay (s)	0.3	0.0	15.8
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	15.8
Approach LOS			C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	5	918	14	20	1004
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.96	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	12	5	977	15	22	1080
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.80	0.64			0.64	
vC, conflicting volume	2107	984			991	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1341	690			702	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			96	
cM capacity (veh/h)	183	286			576	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	991	22	1080
Volume Left	12	0	22	0
Volume Right	5	15	0	0
cSH	205	1700	576	1700
Volume to Capacity	0.09	0.58	0.04	0.64
Queue Length 95th (ft)	7	0	3	0
Control Delay (s)	24.2	0.0	11.5	0.0
Lane LOS	C		B	
Approach Delay (s)	24.2	0.0	0.2	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

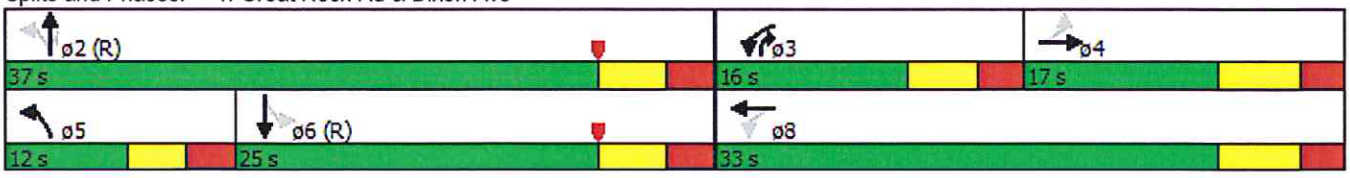
Build Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	35	275	268	450	130	547	315	36	295
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	17.0	17.0	16.0	33.0	12.0	37.0	16.0	25.0	25.0
Total Split (%)	24.3%	24.3%	22.9%	47.1%	17.1%	52.9%	22.9%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.2	10.2	26.9	26.2	31.5	30.9	47.1	21.3	21.3
Actuated g/C Ratio	0.15	0.15	0.38	0.37	0.45	0.44	0.67	0.30	0.30
v/c Ratio	0.39	0.79	0.86	0.51	0.49	0.73	0.33	0.21	0.78
Control Delay	38.8	42.6	42.7	16.8	11.4	17.2	7.2	23.0	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	42.6	42.7	16.8	11.4	17.2	7.2	23.0	36.7
LOS	D	D	D	B	B	B	A	C	D
Approach Delay		42.3		25.0		13.2			35.3
Approach LOS		D		C		B			D

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 25.1 Intersection LOS: C
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

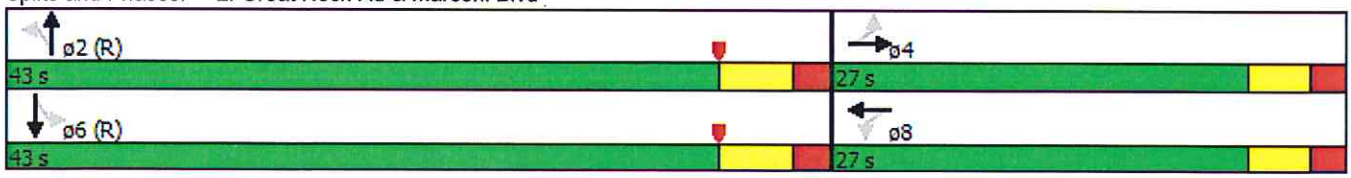


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	17	18	140	34	17	805	42	561
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		18.1		18.1	40.8	40.8	40.8	40.8
Actuated g/C Ratio		0.26		0.26	0.58	0.58	0.58	0.58
v/c Ratio		0.22		0.76	0.07	0.89	0.54	0.67
Control Delay		20.2		35.5	10.9	25.6	28.5	13.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		20.2		35.5	10.9	25.6	28.5	13.2
LOS		C		D	B	C	C	B
Approach Delay		20.2		35.5		25.3		14.3
Approach LOS		C		D		C		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 22.7 Intersection LOS: C
Intersection Capacity Utilization 79.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

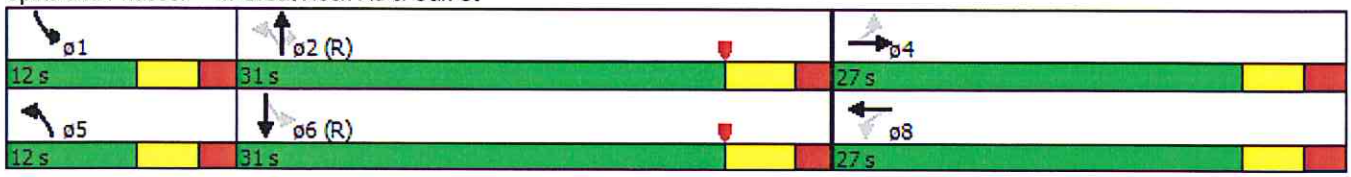


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	153	159	35	248	61	604	74	75	327
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	20.6	20.6	20.6	20.6	34.4	28.7	28.7	35.6	31.1
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.49	0.41	0.41	0.51	0.44
v/c Ratio	0.97	0.40	0.13	0.74	0.17	0.82	0.12	0.35	0.67
Control Delay	88.8	21.8	19.1	32.3	9.6	34.9	18.3	11.8	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.8	21.8	19.1	32.3	9.6	34.9	18.3	11.8	22.0
LOS	F	C	B	C	A	C	B	B	C
Approach Delay		50.6		31.0		31.2			20.4
Approach LOS		D		C		C			C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 31.7 Intersection LOS: C
Intersection Capacity Utilization 80.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

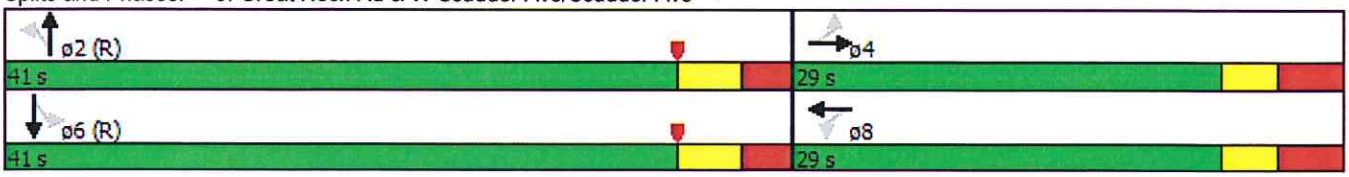


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	45	14	6	13	25	586	26	348
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.1		9.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio		0.13		0.13	0.74	0.74	0.74	0.74
v/c Ratio		0.40		0.39	0.04	0.48	0.06	0.33
Control Delay		33.3		32.3	4.3	6.8	0.7	1.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.3		32.3	4.3	6.8	0.7	1.3
LOS		C		C	A	A	A	A
Approach Delay		33.3		32.3		6.7		1.3
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 8.1 Intersection LOS: A
Intersection Capacity Utilization 52.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

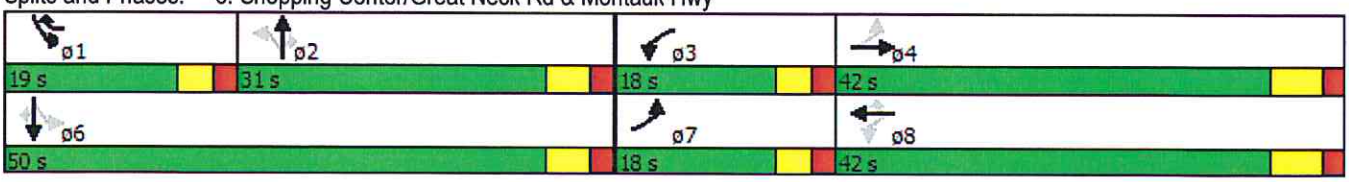


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	125	424	7	815	196	27	23	4	127	24	108
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	52.6	49.3	43.5	36.3	53.8		8.7	8.7	22.8	21.9	21.9
Actuated g/C Ratio	0.62	0.58	0.51	0.42	0.63		0.10	0.10	0.27	0.26	0.26
v/c Ratio	0.37	0.24	0.02	0.60	0.23		0.40	0.02	0.45	0.06	0.31
Control Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
LOS	B	B	A	C	A		D	A	C	C	C
Approach Delay		11.6		20.5			42.8			27.7	
Approach LOS		B		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 85.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 57.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

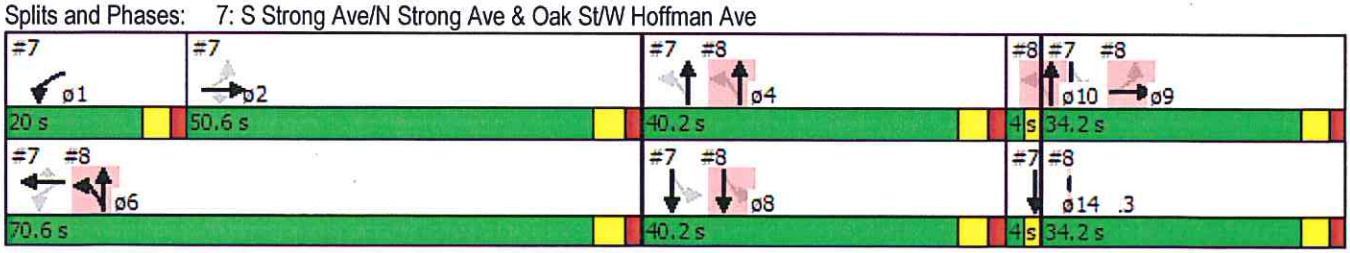


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	159	149	22	37	270	176	16	417	69	235		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	28.4	28.4	28.4	39.0	38.4	38.4		36.0	42.7	60.6		
Actuated g/C Ratio	0.25	0.25	0.25	0.35	0.34	0.34		0.32	0.38	0.54		
v/c Ratio	0.72	0.39	0.05	0.12	0.49	0.32		0.81	0.42	0.39		
Control Delay	56.6	38.6	0.2	24.8	31.5	5.4		48.5	7.8	2.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.2	0.4	0.3		
Total Delay	56.6	38.6	0.2	24.8	31.5	5.4		48.7	8.2	2.5		
LOS	E	D	A	C	C	A		D	A	A		
Approach Delay		44.8			21.5			48.7		3.5		
Approach LOS		D			C			D		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 111.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 81.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

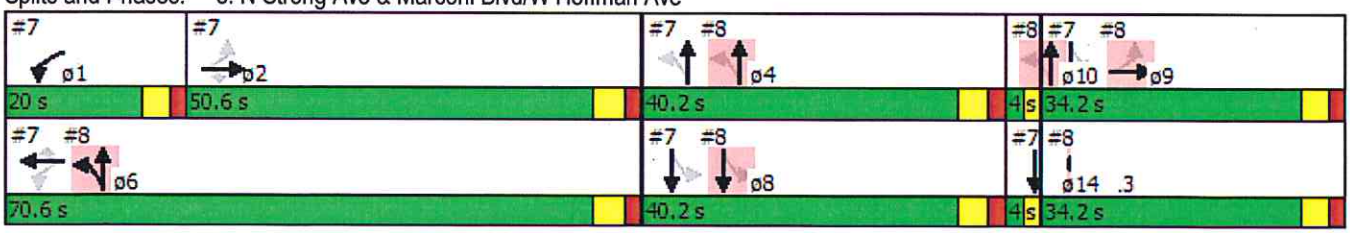
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	15	59	28	133	595	5	272				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		16.5		16.5	74.0	79.7		26.2				
Actuated g/C Ratio		0.15		0.15	0.66	0.71		0.23				
v/c Ratio		0.33		0.66	0.17	0.51		0.75				
Control Delay		22.9		61.9	2.7	3.8		51.7				
Queue Delay		0.0		0.0	0.3	1.4		0.0				
Total Delay		22.9		61.9	3.0	5.2		51.7				
LOS		C		E	A	A		D				
Approach Delay		22.9		61.9		4.8		51.7				
Approach LOS		C		E		A		D				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 111.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 22.1 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	94	6	32	6	2	41	31	745	8	31	513	194
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.82	0.82	0.82
Hourly flow rate (vph)	125	8	43	8	3	55	33	801	9	38	626	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.77	0.77	0.74	0.77	0.77	0.64	0.74			0.64		
vC, conflicting volume	1743	1696	744	1620	1810	805	862			810		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1049	988	475	889	1135	415	635			421		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	46	95	90	95	98	87	95			95		
cM capacity (veh/h)	233	174	426	165	142	411	706			735		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	176	65	33	810	38	862
Volume Left	125	8	33	0	38	0
Volume Right	43	55	0	9	0	237
cSH	258	326	706	1700	735	1700
Volume to Capacity	0.68	0.20	0.05	0.48	0.05	0.51
Queue Length 95th (ft)	112	18	4	0	4	0
Control Delay (s)	44.5	18.8	10.3	0.0	10.2	0.0
Lane LOS	E	C	B		B	
Approach Delay (s)	44.5	18.8	0.4		0.4	
Approach LOS	E	C				

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	322	450	7	6	72
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.92	0.89	0.89	0.80	0.80
Hourly flow rate (vph)	63	350	506	8	8	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	513				985	510
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	513				985	510
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				97	84
cM capacity (veh/h)	1062				261	564

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	413	513	98
Volume Left	63	0	8
Volume Right	0	8	90
cSH	1062	1700	518
Volume to Capacity	0.06	0.30	0.19
Queue Length 95th (ft)	5	0	17
Control Delay (s)	1.8	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	1.8	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	39	820	59	65	664
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.82	0.82
Hourly flow rate (vph)	50	44	901	65	79	810
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.79	0.66			0.66	
vC, conflicting volume	1902	934			966	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1245	640			689	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	86			87	
cM capacity (veh/h)	182	315			602	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	94	966	79	810
Volume Left	50	0	79	0
Volume Right	44	65	0	0
cSH	227	1700	602	1700
Volume to Capacity	0.41	0.57	0.13	0.48
Queue Length 95th (ft)	48	0	11	0
Control Delay (s)	31.6	0.0	11.9	0.0
Lane LOS	D		B	
Approach Delay (s)	31.6	0.0	1.1	
Approach LOS	D			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

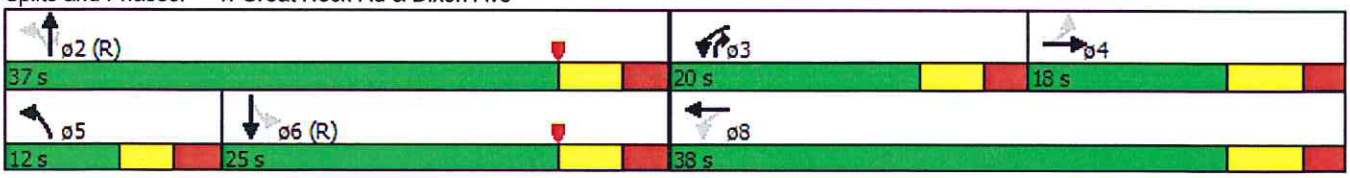
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	55	414	288	35	120	486	284	48	433
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	18.0	18.0	20.0	38.0	12.0	37.0	20.0	25.0	25.0
Total Split (%)	24.0%	24.0%	26.7%	50.7%	16.0%	49.3%	26.7%	33.3%	33.3%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.0	12.0	32.0	31.3	31.4	30.8	50.3	21.2	21.2
Actuated g/C Ratio	0.16	0.16	0.43	0.42	0.42	0.41	0.67	0.28	0.28
v/c Ratio	0.32	1.00	0.80	0.08	0.54	0.71	0.29	0.26	1.02
Control Delay	34.1	73.5	32.9	6.0	14.0	18.0	5.7	26.7	76.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	73.5	32.9	6.0	14.0	18.0	5.7	26.7	76.7
LOS	C	E	C	A	B	B	A	C	E
Approach Delay		69.6		26.0		13.5			72.1
Approach LOS		E		C		B			E

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 37 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 42.2 Intersection LOS: D
Intersection Capacity Utilization 89.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

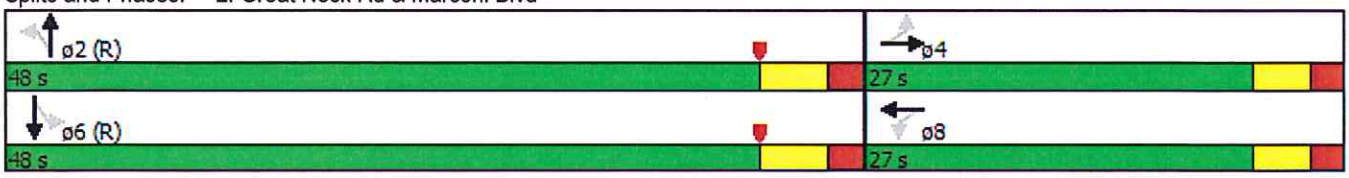


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	27	62	188	50	30	750	48	683
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	48.0	48.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.8		21.8	42.1	42.1	42.1	42.1
Actuated g/C Ratio		0.29		0.29	0.56	0.56	0.56	0.56
v/c Ratio		0.54		1.11	0.16	0.87	0.49	0.75
Control Delay		26.9		110.4	10.3	21.5	16.7	11.3
Queue Delay		0.0		0.0	0.0	0.1	0.0	0.0
Total Delay		26.9		110.4	10.3	21.5	16.7	11.3
LOS		C		F	B	C	B	B
Approach Delay		26.9		110.4		21.1		11.6
Approach LOS		C		F		C		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 91.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	171	324	77	195	72	552	121	94	532
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	10.0	38.0	38.0	10.0	38.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	13.3%	50.7%	50.7%	13.3%	50.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	20.5	20.5	20.5	20.5	39.6	35.4	35.4	39.6	35.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.53	0.47	0.47	0.53	0.47
v/c Ratio	0.86	0.87	0.87	0.62	0.27	0.68	0.18	0.31	0.76
Control Delay	62.5	43.6	96.2	30.1	8.7	17.3	11.8	8.7	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	62.5	43.6	96.2	30.1	8.7	17.7	11.8	8.7	21.4
LOS	E	D	F	C	A	B	B	A	C
Approach Delay		48.8		44.3		15.8			19.6
Approach LOS		D		D		B			B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

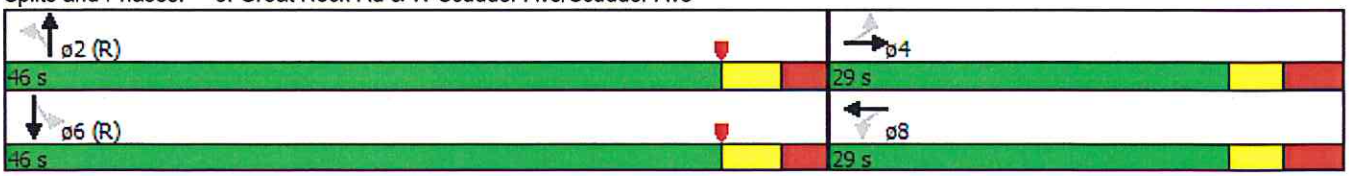
Splits and Phases: 4: Great Neck Rd & Oak St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	40	8	32	21	7	630	62	643
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	46.0	46.0	46.0	46.0
Total Split (%)	38.7%	38.7%	38.7%	38.7%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.6		12.6	49.9	49.9	49.9	49.9
Actuated g/C Ratio		0.17		0.17	0.67	0.67	0.67	0.67
v/c Ratio		0.31		0.59	0.02	0.59	0.16	0.58
Control Delay		29.5		36.8	5.7	10.3	10.7	13.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.5		36.8	5.7	10.3	10.7	13.8
LOS		C		D	A	B	B	B
Approach Delay		29.5		36.8		10.2		13.5
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

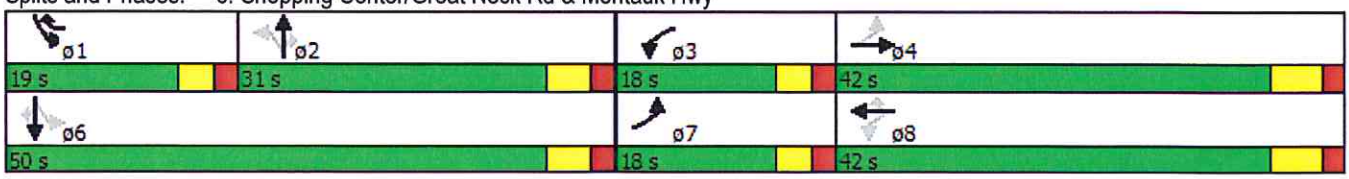


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	201	904	32	708	215	55	64	33	229	109	160
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	54.4	46.2	43.7	35.9	55.6		15.7	15.7	34.8	34.0	34.0
Actuated g/C Ratio	0.55	0.47	0.44	0.36	0.56		0.16	0.16	0.35	0.34	0.34
v/c Ratio	0.61	0.64	0.13	0.61	0.28		0.68	0.12	0.63	0.19	0.33
Control Delay	20.3	25.0	13.9	29.6	13.7		55.0	0.7	32.1	23.5	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	25.0	13.9	29.6	13.7		55.0	0.7	32.1	23.5	25.8
LOS	C	C	B	C	B		E	A	C	C	C
Approach Delay		24.2		25.5			43.3			28.2	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 99.3
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 26.6 Intersection LOS: C
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

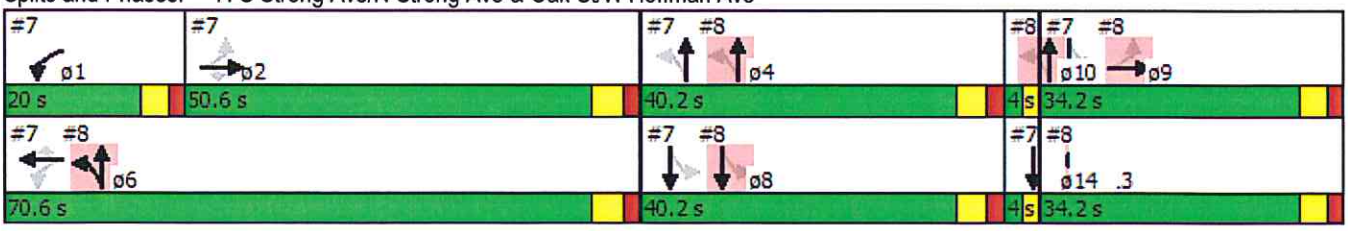
Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	132	352	68	111	226	105	20	276	126	515		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	Min	Min	Min	None	None			None	None
Act Effct Green (s)	33.3	33.3	33.3	50.8	50.2	50.2		35.7	54.3	54.3		
Actuated g/C Ratio	0.27	0.27	0.27	0.41	0.40	0.40		0.29	0.43	0.43		
v/c Ratio	0.49	0.79	0.16	0.46	0.36	0.18		1.46	0.43	0.78		
Control Delay	46.0	56.0	3.0	29.8	27.9	4.7		258.2	7.0	12.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	1.6	0.7		
Total Delay	46.0	56.0	3.0	29.8	27.9	4.7		258.2	8.6	12.9		
LOS	D	E	A	C	C	A		F	A	B		
Approach Delay		47.1			22.9			258.2		12.2		
Approach LOS		D			C			F		B		

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 124.9	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.46	
Intersection Signal Delay: 65.3	Intersection LOS: E
Intersection Capacity Utilization 100.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

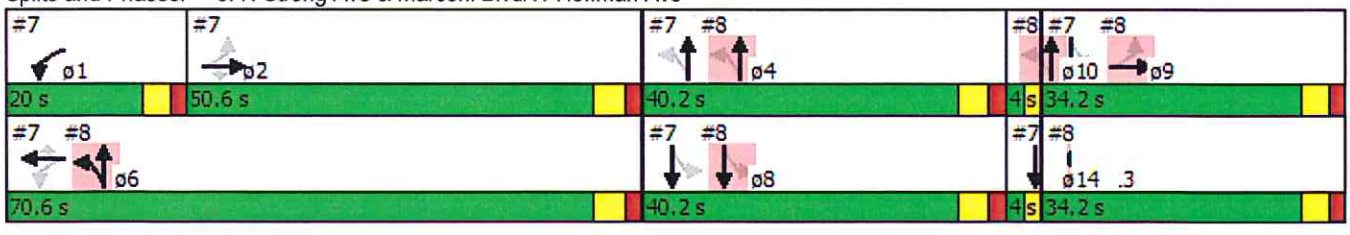
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	10	28	17	41	90	363	5	460				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	Min	Min	None	None
Act Effct Green (s)		18.6		18.6	85.5	91.2		35.7				
Actuated g/C Ratio		0.15		0.15	0.68	0.73		0.29				
v/c Ratio		0.61		0.45	0.10	0.30		0.91				
Control Delay		27.1		51.1	2.7	2.5		65.3				
Queue Delay		0.1		0.0	0.5	3.6		0.4				
Total Delay		27.2		51.1	3.2	6.0		65.6				
LOS		C		D	A	A		E				
Approach Delay		27.2		51.1		5.5		65.6				
Approach LOS		C		D		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 124.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.46
Intersection Signal Delay: 35.1 Intersection LOS: D
Intersection Capacity Utilization 76.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	7	43	5	3	44	34	758	10	49	726	227
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.99	0.99	0.99	0.97	0.97	0.97
Hourly flow rate (vph)	111	8	48	5	3	47	34	766	10	51	748	234
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.84	0.84	0.69	0.84	0.84	0.69	0.69			0.69		
vC, conflicting volume	1849	1811	865	1741	1923	771	982			776		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1081	1036	578	953	1169	439	748			446		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	15	95	86	97	98	89	94			93		
cM capacity (veh/h)	131	173	347	153	145	428	598			773		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	167	55	34	776	51	982
Volume Left	111	5	34	0	51	0
Volume Right	48	47	0	10	0	234
cSH	162	333	598	1700	773	1700
Volume to Capacity	1.03	0.17	0.06	0.46	0.07	0.58
Queue Length 95th (ft)	207	15	5	0	5	0
Control Delay (s)	136.5	18.0	11.4	0.0	10.0	0.0
Lane LOS	F	C	B		A	
Approach Delay (s)	136.5	18.0	0.5		0.5	
Approach LOS	F	C				

Intersection Summary				
Average Delay	12.0			
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	664	363	4	10	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.75	0.75
Hourly flow rate (vph)	31	730	427	5	13	144
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	432				1221	429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	432				1221	429
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	97				93	77
cM capacity (veh/h)	1102				195	628

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	760	432	157
Volume Left	31	0	13
Volume Right	0	5	144
cSH	1102	1700	528
Volume to Capacity	0.03	0.25	0.30
Queue Length 95th (ft)	2	0	31
Control Delay (s)	0.7	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	0.7	0.0	14.7
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	61	33	834	58	46	939
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	68	37	860	60	48	978
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.83	0.70			0.70	
vC, conflicting volume	1964	890			920	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1249	630			673	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	89			93	
cM capacity (veh/h)	202	340			651	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	104	920	48	978
Volume Left	68	0	48	0
Volume Right	37	60	0	0
cSH	236	1700	651	1700
Volume to Capacity	0.44	0.54	0.07	0.58
Queue Length 95th (ft)	53	0	6	0
Control Delay (s)	31.9	0.0	11.0	0.0
Lane LOS	D		B	
Approach Delay (s)	31.9	0.0	0.5	
Approach LOS	D			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

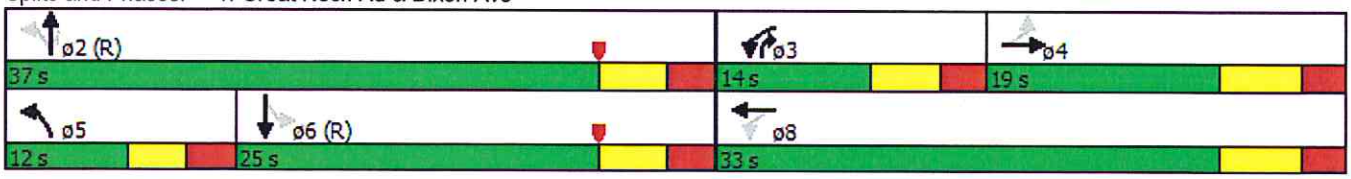
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	47	381	324	366	176	519	326	45	478
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA
Protected Phases		4	3	8	5	2	3		6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	3	8	5	2	3	6	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2
Total Split (s)	19.0	19.0	14.0	33.0	12.0	37.0	14.0	25.0	25.0
Total Split (%)	27.1%	27.1%	20.0%	47.1%	17.1%	52.9%	20.0%	35.7%	35.7%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	27.0	26.3	31.4	30.8	45.0	18.8	18.8
Actuated g/C Ratio	0.18	0.18	0.39	0.38	0.45	0.44	0.64	0.27	0.27
v/c Ratio	0.38	0.98	1.24	0.38	0.67	0.66	0.33	0.24	1.28
Control Delay	34.0	64.1	153.4	15.8	12.0	6.8	2.7	23.4	165.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	64.1	153.4	15.8	12.0	6.8	2.7	23.4	165.5
LOS	C	E	F	B	B	A	A	C	F
Approach Delay		61.5		74.5		6.4			154.5
Approach LOS		E		E		A			F

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 67.3 Intersection LOS: E
Intersection Capacity Utilization 92.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

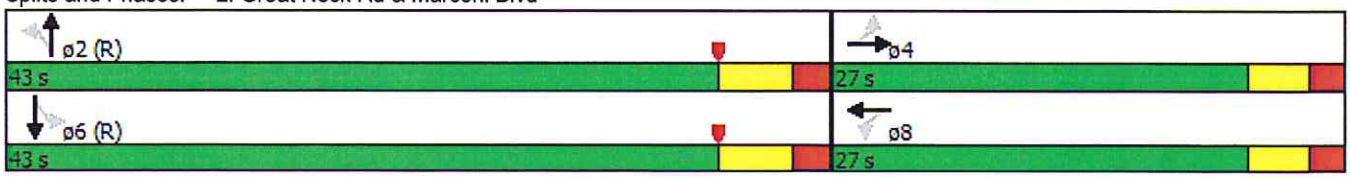


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	18	65	181	91	63	878	63	816
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2		5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		21.8		21.8	37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.31		0.31	0.53	0.53	0.53	0.53
v/c Ratio		0.56		1.07	0.62	1.08	0.62	0.89
Control Delay		24.5		93.7	28.4	61.4	16.8	12.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		24.5		93.7	28.4	61.4	16.8	12.7
LOS		C		F	C	E	B	B
Approach Delay		24.5		93.7		59.4		13.0
Approach LOS		C		F		E		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 13 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 44.8 Intersection LOS: D
Intersection Capacity Utilization 104.3% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

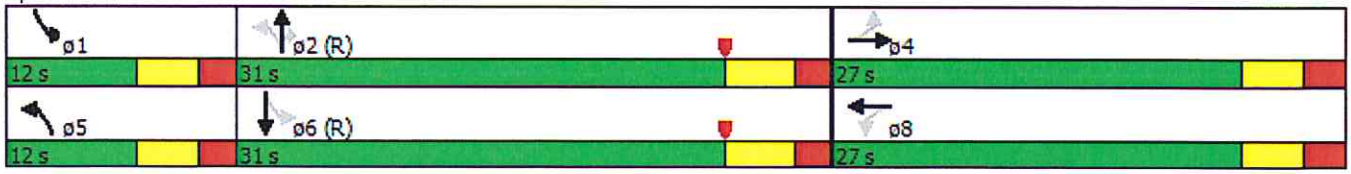


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	195	285	100	250	103	679	134	114	582
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	12.0	31.0	31.0	12.0	31.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	17.1%	44.3%	44.3%	17.1%	44.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.5	21.5	21.5	21.5	33.6	27.8	27.8	33.6	27.8
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.48	0.40	0.40	0.48	0.40
v/c Ratio	1.35	0.73	0.88	0.81	0.40	0.98	0.23	0.43	0.97
Control Delay	218.0	29.7	82.9	36.9	11.8	48.8	14.7	13.6	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	218.0	29.7	82.9	36.9	11.8	48.8	14.7	13.6	48.3
LOS	F	C	F	D	B	D	B	B	D
Approach Delay		89.7		46.6		39.7			43.3
Approach LOS		F		D		D			D

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.35
Intersection Signal Delay: 53.0 Intersection LOS: D
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

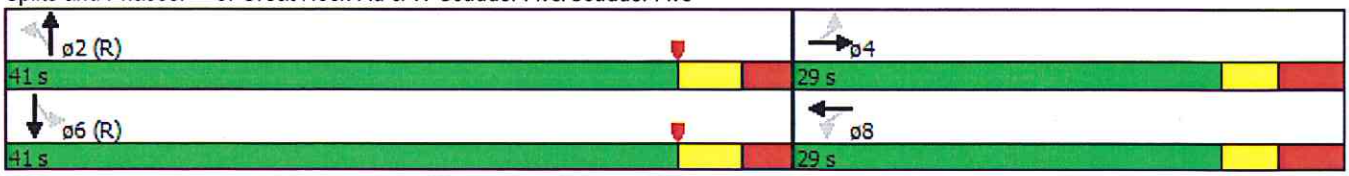


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	37	24	13	22	24	749	57	704
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.8		9.8	51.4	51.4	51.4	51.4
Actuated g/C Ratio		0.14		0.14	0.73	0.73	0.73	0.73
v/c Ratio		0.38		0.46	0.06	0.62	0.17	0.59
Control Delay		31.1		33.1	5.1	9.5	11.4	16.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		31.1		33.1	5.1	9.5	11.4	16.0
LOS		C		C	A	A	B	B
Approach Delay		31.1		33.1		9.3		15.6
Approach LOS		C		C		A		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

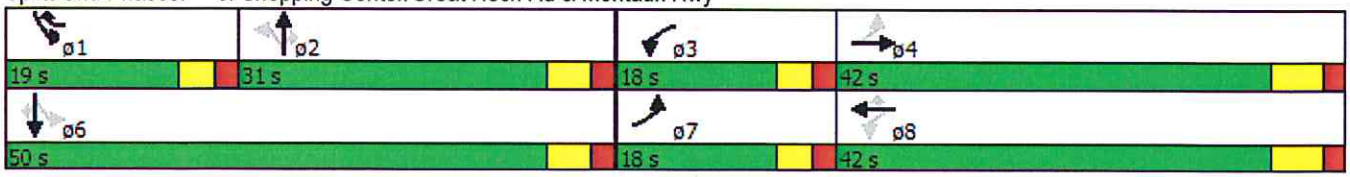


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	234	959	40	919	298	72	84	57	251	125	191
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	55.1	46.6	44.0	35.8	55.7		17.8	17.8	37.2	36.4	36.4
Actuated g/C Ratio	0.54	0.46	0.43	0.35	0.54		0.17	0.17	0.36	0.36	0.36
v/c Ratio	0.82	0.68	0.18	0.80	0.39		0.73	0.17	0.68	0.20	0.37
Control Delay	42.0	27.3	15.2	37.0	16.4		57.2	1.0	33.9	23.3	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	27.3	15.2	37.0	16.4		57.2	1.0	33.9	23.3	26.2
LOS	D	C	B	D	B		E	A	C	C	C
Approach Delay		30.1		31.4			42.1			29.0	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 102.4
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 31.3 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

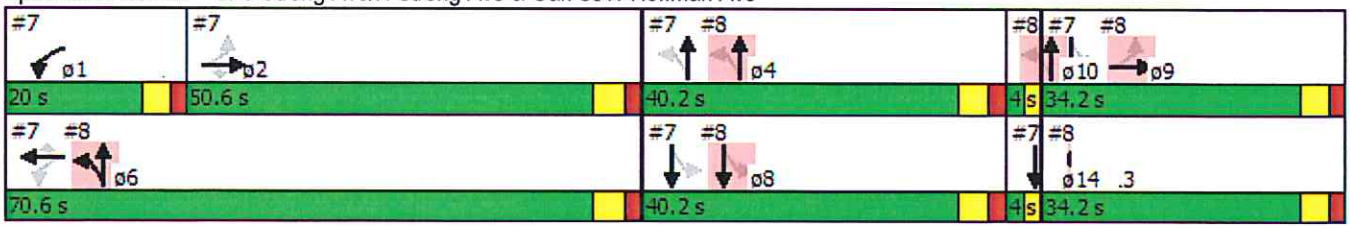


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	112	312	47	76	282	114	31	364	128	366		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	50.6	50.6	50.6	20.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	34.0%	34.0%	34.0%	13.4%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	29.9	29.9	29.9	45.1	44.5	44.5		35.2	61.6	68.4		
Actuated g/C Ratio	0.23	0.23	0.23	0.35	0.34	0.34		0.27	0.48	0.53		
v/c Ratio	0.51	0.82	0.12	0.37	0.48	0.22		1.17	0.45	0.47		
Control Delay	50.5	62.6	0.6	32.2	35.3	5.9		140.9	5.3	2.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.6	1.0		
Total Delay	50.5	62.6	0.6	32.2	35.3	5.9		141.0	7.9	3.5		
LOS	D	E	A	C	D	A		F	A	A		
Approach Delay		53.6			27.7			141.0		4.4		
Approach LOS		D			C			F		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 129
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 53.4 Intersection LOS: D
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

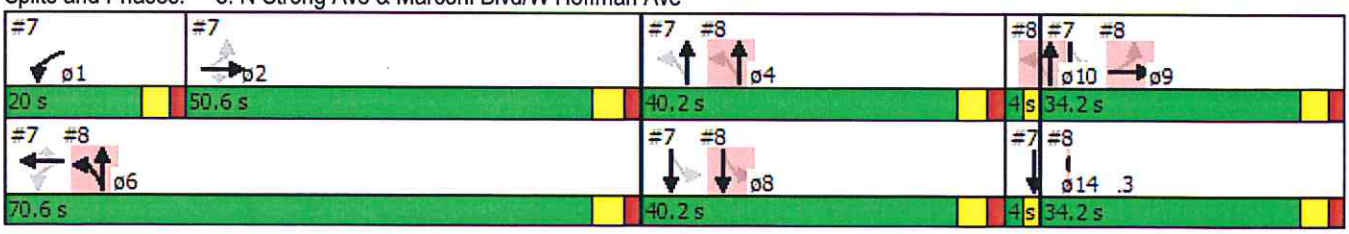
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	54	109	55	141	415	11	374				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	20.0	50.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	13%	34%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		29.2		29.2	79.3	84.9		32.4				
Actuated g/C Ratio		0.23		0.23	0.61	0.66		0.25				
v/c Ratio		0.48		1.00	0.19	0.40		0.83				
Control Delay		37.5		108.5	5.0	4.1		61.3				
Queue Delay		0.0		0.0	0.6	6.4		0.0				
Total Delay		37.5		108.5	5.5	10.5		61.3				
LOS		D		F	A	B		E				
Approach Delay		37.5		108.5		9.4		61.3				
Approach LOS		D		F		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 129
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 42.5 Intersection LOS: D
Intersection Capacity Utilization 86.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	3	54	8	6	51	50	925	23	60	864	243
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	152	4	72	11	8	68	54	995	25	65	929	261
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.76	0.76	0.58	0.76	0.76	0.55	0.58			0.55		
vC, conflicting volume	2363	2316	1060	2247	2434	1007	1190			1019		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1396	1334	743	1243	1490	602	968			624		
tC, single (s)	*5.0	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 %	0	96	70	83	89	75	87			88		
cM capacity (veh/h)	116	90	243	65	73	276	419			531		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	228	87	54	1019	65	1190
Volume Left	152	11	54	0	65	0
Volume Right	72	68	0	25	0	261
cSH	138	166	419	1700	531	1700
Volume to Capacity	1.65	0.52	0.13	0.60	0.12	0.70
Queue Length 95th (ft)	411	65	11	0	10	0
Control Delay (s)	379.2	48.1	14.9	0.0	12.7	0.0
Lane LOS	F	E	B		B	
Approach Delay (s)	379.2	48.1	0.7		0.7	
Approach LOS	F	E				

Intersection Summary			
Average Delay	34.9		
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	29	612	474	4	13	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.80	0.80
Hourly flow rate (vph)	31	651	551	5	16	142
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	556				1266	553
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556				1266	553
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	73
cM capacity (veh/h)	1025				183	536

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	682	556	159
Volume Left	31	0	16
Volume Right	0	5	142
cSH	1025	1700	448
Volume to Capacity	0.03	0.33	0.35
Queue Length 95th (ft)	2	0	40
Control Delay (s)	0.8	0.0	17.4
Lane LOS	A		C
Approach Delay (s)	0.8	0.0	17.4
Approach LOS			C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	69	19	1005	83	55	1108
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.93	1.00
Hourly flow rate (vph)	77	21	1069	88	59	1108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.79	0.58			0.58	
vC, conflicting volume	2340	1113			1157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1360	831			907	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	51	90			87	
cM capacity (veh/h)	158	215			438	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	98	1157	59	1108
Volume Left	77	0	59	0
Volume Right	21	88	0	0
cSH	168	1700	438	1700
Volume to Capacity	0.58	0.68	0.13	0.65
Queue Length 95th (ft)	77	0	12	0
Control Delay (s)	52.8	0.0	14.5	0.0
Lane LOS	F		B	
Approach Delay (s)	52.8	0.0	0.7	
Approach LOS	F			

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

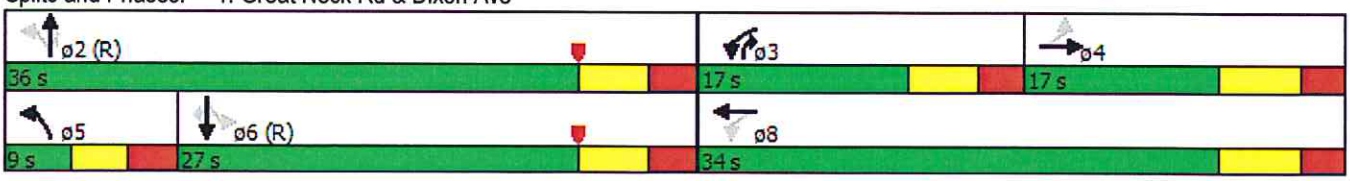
Build with Mitigation Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	35	275	268	450	130	547	315	36	295	34
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	17.0	17.0	17.0	34.0	9.0	36.0	17.0	27.0	27.0	27.0
Total Split (%)	24.3%	24.3%	24.3%	48.6%	12.9%	51.4%	24.3%	38.6%	38.6%	38.6%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.2	10.2	27.9	27.2	30.5	29.9	47.1	22.7	22.7	22.7
Actuated g/C Ratio	0.15	0.15	0.40	0.39	0.44	0.43	0.67	0.32	0.32	0.32
v/c Ratio	0.39	0.79	0.81	0.49	0.50	0.75	0.33	0.23	0.65	0.09
Control Delay	38.8	42.6	35.1	16.0	15.8	20.6	7.9	22.2	27.6	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	42.6	35.1	16.0	15.8	20.6	7.9	22.2	27.6	18.5
LOS	D	D	D	B	B	C	A	C	C	B
Approach Delay		42.3		22.0		15.9			26.2	
Approach LOS		D		C		B			C	

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 23.5 Intersection LOS: C
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

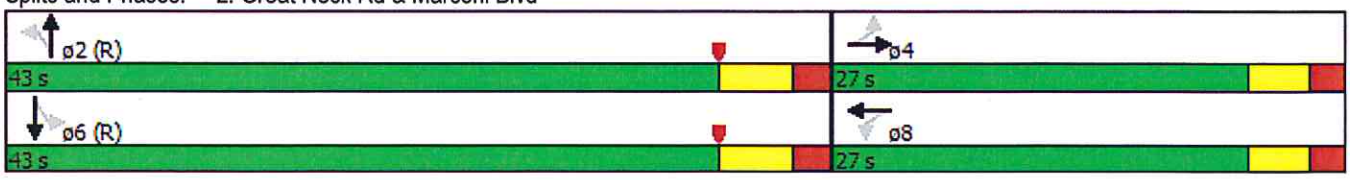


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	17	18	140	34	17	805	42	561
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.0	12.0	12.0	46.9	46.9	46.9	46.9
Actuated g/C Ratio		0.17	0.17	0.17	0.67	0.67	0.67	0.67
v/c Ratio		0.33	0.54	0.53	0.05	0.77	0.27	0.59
Control Delay		27.1	32.8	31.7	6.6	13.8	9.8	9.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		27.1	32.8	31.7	6.6	13.8	9.8	9.2
LOS		C	C	C	A	B	A	A
Approach Delay		27.1		32.2		13.6		9.3
Approach LOS		C		C		B		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 15.4 Intersection LOS: B
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	153	159	35	248	61	604	74	75	327
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	27.0	27.0	27.0	27.0	8.2	34.4	34.4	8.6	34.8
Total Split (%)	38.6%	38.6%	38.6%	38.6%	11.7%	49.1%	49.1%	12.3%	49.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	20.6	20.6	20.6	20.6	34.2	31.4	31.4	35.8	33.4
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.49	0.45	0.45	0.51	0.48
v/c Ratio	0.97	0.40	0.13	0.74	0.18	0.75	0.11	0.37	0.62
Control Delay	88.8	21.8	19.1	32.3	9.9	28.1	15.5	11.8	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.8	21.8	19.1	32.3	9.9	28.1	15.5	11.8	17.7
LOS	F	C	B	C	A	C	B	B	B
Approach Delay		50.6		31.0		25.3			16.7
Approach LOS		D		C		C			B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 80.6% ICU Level of Service D
Analysis Period (min) 15

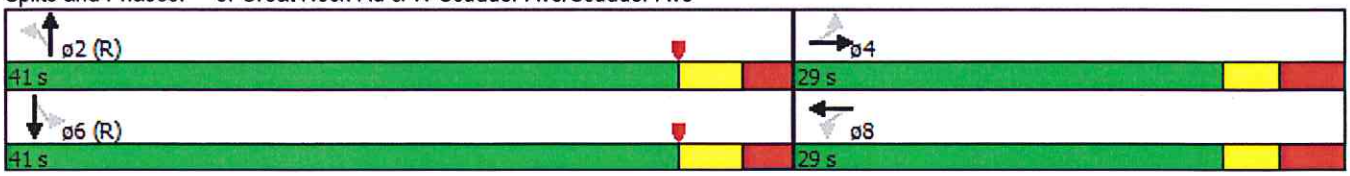
Splits and Phases: 4: Great Neck Rd & Oak St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	45	14	6	13	25	586	26	348
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.1		9.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio		0.13		0.13	0.74	0.74	0.74	0.74
v/c Ratio		0.40		0.39	0.04	0.48	0.06	0.33
Control Delay		33.3		32.3	4.3	6.8	0.9	1.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.3		32.3	4.3	6.8	0.9	1.9
LOS		C		C	A	A	A	A
Approach Delay		33.3		32.3		6.7		1.8
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 52.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

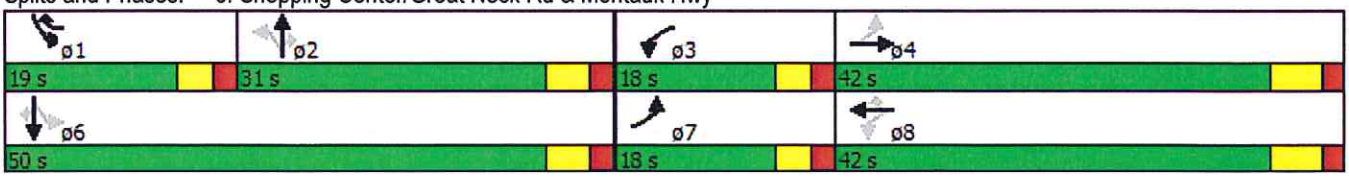


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	125	424	7	815	196	27	23	4	127	24	108
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	52.6	49.3	43.5	36.3	53.8		8.7	8.7	22.8	21.9	21.9
Actuated g/C Ratio	0.62	0.58	0.51	0.42	0.63		0.10	0.10	0.27	0.26	0.26
v/c Ratio	0.37	0.24	0.02	0.60	0.23		0.40	0.02	0.45	0.06	0.31
Control Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
LOS	B	B	A	C	A		D	A	C	C	C
Approach Delay		11.6		20.5			42.8			27.7	
Approach LOS		B		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 85.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 57.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

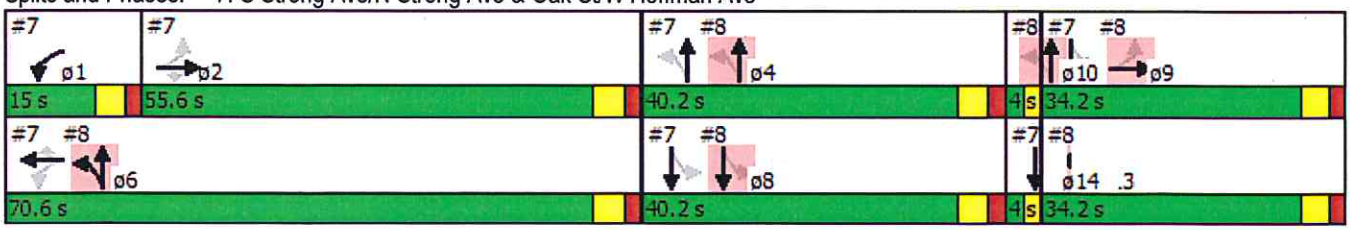


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	159	149	22	37	270	176	16	417	69	235		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	55.6	55.6	55.6	15.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	37.3%	37.3%	37.3%	10.1%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	30.0	30.0	30.0	37.9	37.3	37.3		36.1	42.6	60.7		
Actuated g/C Ratio	0.27	0.27	0.27	0.34	0.34	0.34		0.33	0.39	0.55		
v/c Ratio	0.68	0.37	0.05	0.12	0.50	0.32		0.80	0.42	0.39		
Control Delay	51.8	37.0	0.2	24.9	31.9	5.5		47.5	7.7	2.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.2	0.4	0.3		
Total Delay	51.8	37.0	0.2	24.9	31.9	5.5		47.6	8.1	2.4		
LOS	D	D	A	C	C	A		D	A	A		
Approach Delay		41.7			21.7			47.6		3.4		
Approach LOS		D			C			D		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 110.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 28.3 Intersection LOS: C
Intersection Capacity Utilization 81.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

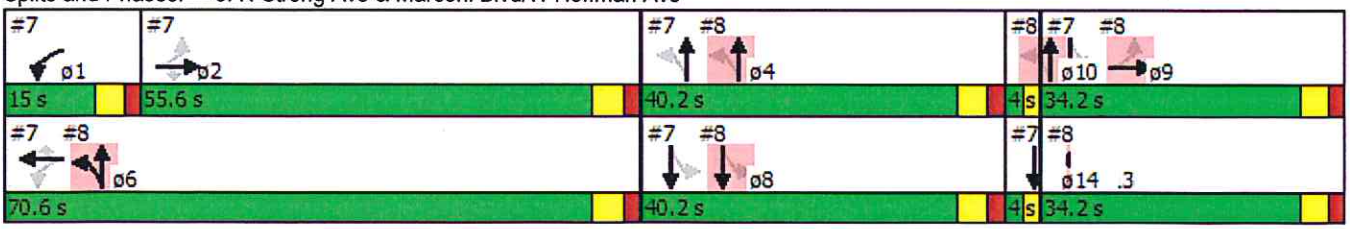
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	15	59	28	133	595	5	272				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	15.0	55.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	10%	37%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		16.5		16.5	73.0	78.7		26.1				
Actuated g/C Ratio		0.15		0.15	0.66	0.71		0.24				
v/c Ratio		0.33		0.66	0.17	0.51		0.74				
Control Delay		22.8		61.2	2.7	3.8		51.0				
Queue Delay		0.0		0.0	0.3	1.5		0.0				
Total Delay		22.8		61.2	3.0	5.3		51.0				
LOS		C		E	A	A		D				
Approach Delay		22.8		61.2		4.9		51.0				
Approach LOS		C		E		A		D				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 110.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	94	6	32	6	2	41	31	745	8	31	513	194
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.82	0.82	0.82
Hourly flow rate (vph)	125	8	43	8	3	55	33	801	9	38	626	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.79	0.79	0.74	0.79	0.79	0.66	0.74			0.66		
vC, conflicting volume	1743	1696	744	1620	1810	805	862			810		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1058	998	473	902	1142	447	634			453		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	47	95	90	95	98	87	95			95		
cM capacity (veh/h)	237	176	426	166	144	406	706			737		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	125	51	65	33	810	38	862
Volume Left	125	0	8	33	0	38	0
Volume Right	0	43	55	0	9	0	237
cSH	237	348	325	706	1700	737	1700
Volume to Capacity	0.53	0.15	0.20	0.05	0.48	0.05	0.51
Queue Length 95th (ft)	70	13	18	4	0	4	0
Control Delay (s)	36.1	17.1	18.9	10.4	0.0	10.1	0.0
Lane LOS	E	C	C	B		B	
Approach Delay (s)	30.6		18.9	0.4		0.4	
Approach LOS	D		C				

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	322	450	7	6	72
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.92	0.89	0.89	0.80	0.80
Hourly flow rate (vph)	63	350	506	8	8	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	513				985	510
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	513				985	510
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				97	84
cM capacity (veh/h)	1062				261	564

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	413	513	98
Volume Left	63	0	8
Volume Right	0	8	90
cSH	1062	1700	518
Volume to Capacity	0.06	0.30	0.19
Queue Length 95th (ft)	5	0	17
Control Delay (s)	1.8	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	1.8	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	39	820	59	65	664
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.82	0.82
Hourly flow rate (vph)	50	44	901	65	79	810
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.82	0.68			0.68	
vC, conflicting volume	1902	934			966	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1231	665			712	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	86			87	
cM capacity (veh/h)	191	314			608	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	94	966	79	810
Volume Left	50	0	79	0
Volume Right	44	65	0	0
cSH	234	1700	608	1700
Volume to Capacity	0.40	0.57	0.13	0.48
Queue Length 95th (ft)	46	0	11	0
Control Delay (s)	30.4	0.0	11.8	0.0
Lane LOS	D		B	
Approach Delay (s)	30.4	0.0	1.1	
Approach LOS	D			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

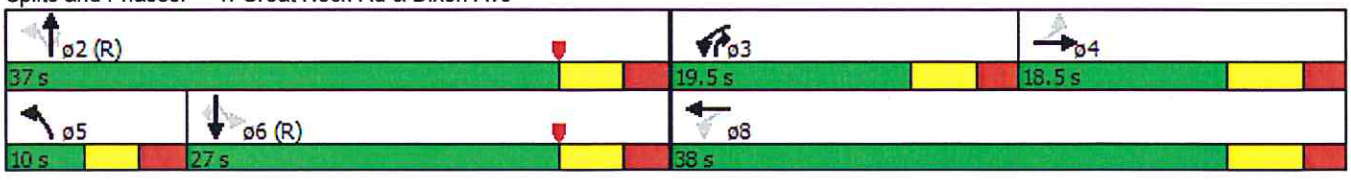
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	55	414	288	35	120	486	284	48	433	33
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	18.5	18.5	19.5	38.0	10.0	37.0	19.5	27.0	27.0	27.0
Total Split (%)	24.7%	24.7%	26.0%	50.7%	13.3%	49.3%	26.0%	36.0%	36.0%	36.0%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	32.0	31.3	31.4	30.8	50.0	20.8	20.8	20.8
Actuated g/C Ratio	0.16	0.16	0.43	0.42	0.42	0.41	0.67	0.28	0.28	0.28
v/c Ratio	0.32	0.97	0.82	0.08	0.64	0.71	0.29	0.27	0.96	0.09
Control Delay	33.3	65.8	34.6	6.0	23.6	20.5	6.4	25.5	59.2	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	65.8	34.6	6.0	23.6	20.5	6.4	25.5	59.2	20.8
LOS	C	E	C	A	C	C	A	C	E	C
Approach Delay		62.6		27.2		16.4			53.6	
Approach LOS		E		C		B			D	

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 37 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 89.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	27	62	188	50	30	750	48	683
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	48.0	48.0	48.0	48.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		18.9	18.9	18.9	45.0	45.0	45.0	45.0
Actuated g/C Ratio		0.25	0.25	0.25	0.60	0.60	0.60	0.60
v/c Ratio		0.61	0.89	0.36	0.13	0.81	0.35	0.71
Control Delay		30.1	64.9	24.5	10.5	18.9	11.4	10.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		30.1	64.9	24.5	10.5	18.9	11.4	10.5
LOS		C	E	C	B	B	B	B
Approach Delay		30.1		46.7		18.6		10.6
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 82.8% ICU Level of Service E
Analysis Period (min) 15

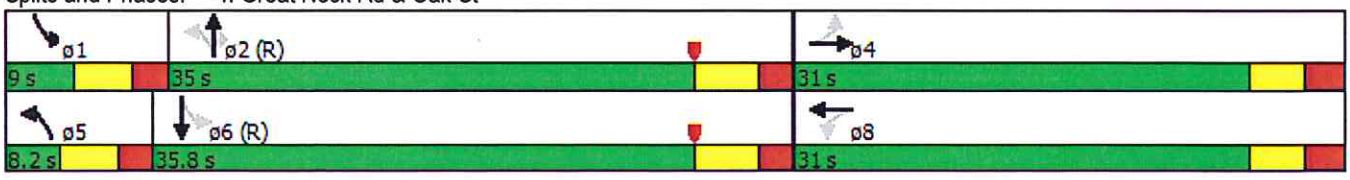
Splits and Phases: 2: Great Neck Rd & Marconi Blvd

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	171	324	77	195	72	552	121	94	532
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	31.0	31.0	31.0	31.0	8.2	35.0	35.0	9.0	35.8
Total Split (%)	41.3%	41.3%	41.3%	41.3%	10.9%	46.7%	46.7%	12.0%	47.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	22.4	22.4	22.4	22.4	37.2	33.5	33.5	38.3	34.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.50	0.45	0.45	0.51	0.45
v/c Ratio	0.75	0.79	0.81	0.57	0.30	0.72	0.19	0.35	0.79
Control Delay	43.5	34.3	77.0	26.4	10.8	20.9	13.1	10.7	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Total Delay	43.5	34.3	77.0	26.4	10.8	21.4	13.1	10.7	24.6
LOS	D	C	E	C	B	C	B	B	C
Approach Delay		36.9		37.2		19.0			22.7
Approach LOS		D		D		B			C

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

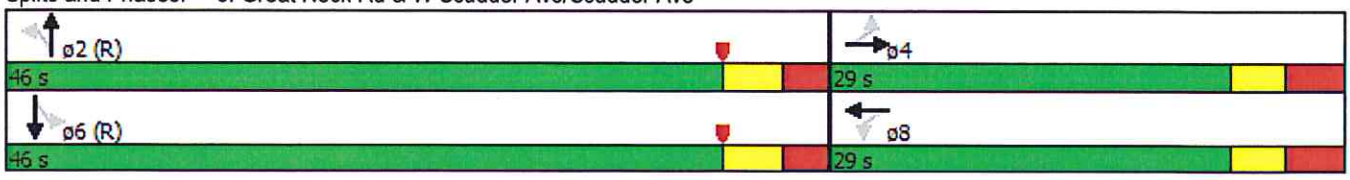


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	40	8	32	21	7	630	62	643
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	46.0	46.0	46.0	46.0
Total Split (%)	38.7%	38.7%	38.7%	38.7%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.6		12.6	49.9	49.9	49.9	49.9
Actuated g/C Ratio		0.17		0.17	0.67	0.67	0.67	0.67
v/c Ratio		0.31		0.59	0.02	0.59	0.16	0.58
Control Delay		29.5		36.8	5.7	10.3	11.5	14.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.5		36.8	5.7	10.3	11.5	14.8
LOS		C		D	A	B	B	B
Approach Delay		29.5		36.8		10.2		14.5
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 15.6 Intersection LOS: B
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

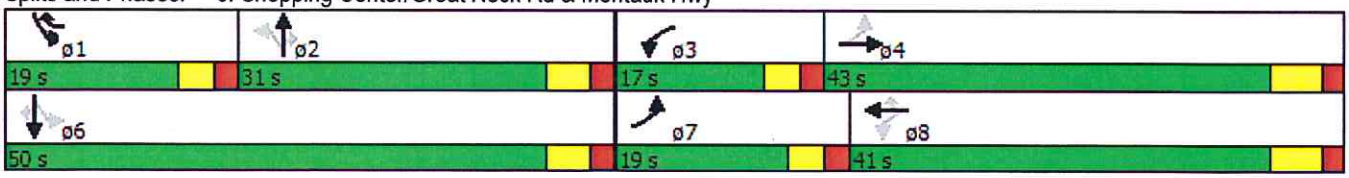


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	201	904	32	708	215	55	64	33	229	109	160
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	19.0	43.0	17.0	41.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	17.3%	39.1%	15.5%	37.3%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	53.7	45.5	42.8	34.9	54.5		15.6	15.6	34.7	33.9	33.9
Actuated g/C Ratio	0.55	0.46	0.43	0.35	0.55		0.16	0.16	0.35	0.34	0.34
v/c Ratio	0.60	0.64	0.14	0.62	0.29		0.68	0.12	0.63	0.19	0.33
Control Delay	20.2	25.1	14.0	30.3	14.1		54.6	0.7	31.7	23.3	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	25.1	14.0	30.3	14.1		54.6	0.7	31.7	23.3	25.6
LOS	C	C	B	C	B		D	A	C	C	C
Approach Delay		24.2		26.1			43.0			27.9	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 98.5
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

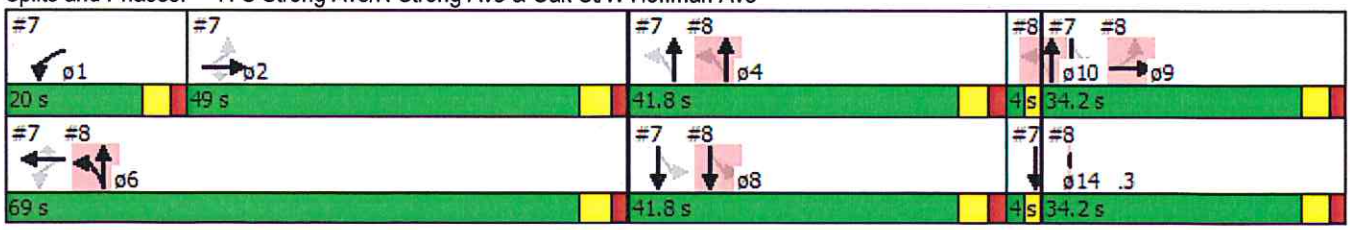


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	132	352	68	111	226	105	20	276	126	515		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	49.0	49.0	49.0	20.0	69.0	69.0	41.8	41.8			41.8	34.2
Total Split (%)	32.9%	32.9%	32.9%	13.4%	46.3%	46.3%	28.1%	28.1%			28%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	Min	Min	Min	None	None			None	None
Act Effct Green (s)	32.5	32.5	32.5	49.8	49.2	49.2		37.3	55.7	55.7		
Actuated g/C Ratio	0.26	0.26	0.26	0.40	0.39	0.39		0.30	0.44	0.44		
v/c Ratio	0.50	0.81	0.16	0.49	0.36	0.18		1.25	0.42	0.76		
Control Delay	47.4	58.9	3.1	31.3	28.8	4.9		172.3	6.6	11.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	1.5	0.6		
Total Delay	47.4	58.9	3.1	31.3	28.8	4.9		172.3	8.2	11.8		
LOS	D	E	A	C	C	A		F	A	B		
Approach Delay		49.3			23.8			172.3		11.2		
Approach LOS		D			C			F		B		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 125.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 51.1 Intersection LOS: D
Intersection Capacity Utilization 100.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



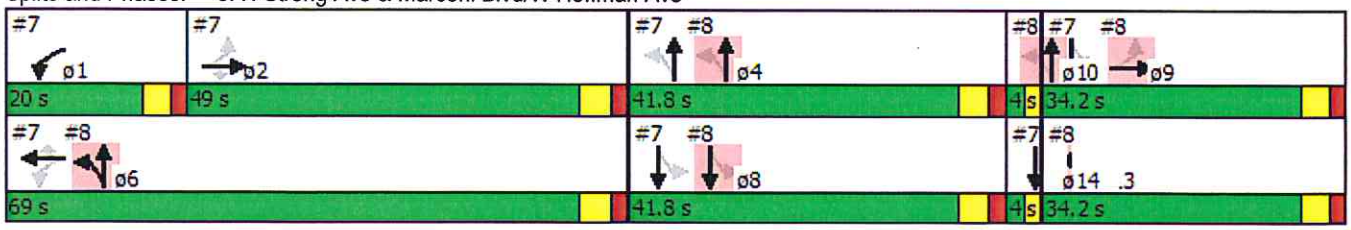
Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	10	28	17	41	90	363	5	460				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	69.0		41.8	41.8	20.0	49.0	41.8	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	46.3%		28.1%	28.1%	13%	33%	28%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	Min	Min	None	None
Act Effct Green (s)		18.4		18.4	86.1	91.8		37.3				
Actuated g/C Ratio		0.15		0.15	0.69	0.73		0.30				
v/c Ratio		0.62		0.46	0.10	0.30		0.87				
Control Delay		27.4		52.0	2.6	2.4		59.8				
Queue Delay		0.1		0.0	0.5	2.7		0.1				
Total Delay		27.5		52.0	3.1	5.1		59.9				
LOS		C		D	A	A		E				
Approach Delay		27.5		52.0		4.7		59.9				
Approach LOS		C		D		A		E				

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 125.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 32.8	Intersection LOS: C
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

PM Peak
3: Great Neck Rd & Railroad Ave 1/25/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	7	43	5	3	44	34	758	10	49	726	227
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.99	0.99	0.99	0.97	0.97	0.97
Hourly flow rate (vph)	111	8	48	5	3	47	34	766	10	51	748	234
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.80	0.80	0.64	0.80	0.80	0.68	0.64			0.68		
vC, conflicting volume	1849	1811	865	1741	1923	771	982			776		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1034	986	513	899	1125	425	695			432		
tC, single (s)	*5.0	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	96	86	97	98	89	94			93		
cM capacity (veh/h)	247	177	353	159	146	430	585			772		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	111	56	55	34	776	51	982
Volume Left	111	0	5	34	0	51	0
Volume Right	0	48	47	0	10	0	234
cSH	247	310	337	585	1700	772	1700
Volume to Capacity	0.45	0.18	0.16	0.06	0.46	0.07	0.58
Queue Length 95th (ft)	54	16	14	5	0	5	0
Control Delay (s)	30.9	19.2	17.8	11.5	0.0	10.0	0.0
Lane LOS	D	C	C	B		A	
Approach Delay (s)	27.0		17.8	0.5		0.5	
Approach LOS	D		C				

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	664	363	4	10	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.75	0.75
Hourly flow rate (vph)	31	730	427	5	13	144
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	432				1221	429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	432				1221	429
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	97				93	77
cM capacity (veh/h)	1102				195	628

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	760	432	157
Volume Left	31	0	13
Volume Right	0	5	144
cSH	1102	1700	528
Volume to Capacity	0.03	0.25	0.30
Queue Length 95th (ft)	2	0	31
Control Delay (s)	0.7	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	0.7	0.0	14.7
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	61	33	834	58	46	939
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	68	37	860	60	48	978
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.78	0.69			0.69	
vC, conflicting volume	1964	890			920	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1208	619			662	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	89			93	
cM capacity (veh/h)	199	341			648	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	104	920	48	978
Volume Left	68	0	48	0
Volume Right	37	60	0	0
cSH	233	1700	648	1700
Volume to Capacity	0.45	0.54	0.07	0.58
Queue Length 95th (ft)	54	0	6	0
Control Delay (s)	32.4	0.0	11.0	0.0
Lane LOS	D		B	
Approach Delay (s)	32.4	0.0	0.5	
Approach LOS	D			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

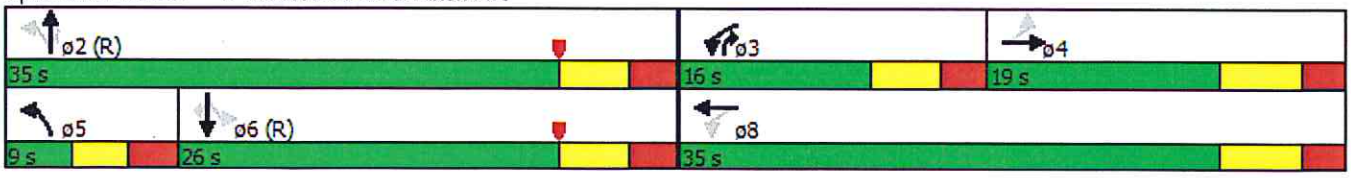
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	47	381	324	366	176	519	326	45	478	61
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	19.0	19.0	16.0	35.0	9.0	35.0	16.0	26.0	26.0	26.0
Total Split (%)	27.1%	27.1%	22.9%	50.0%	12.9%	50.0%	22.9%	37.1%	37.1%	37.1%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	29.0	28.3	29.4	28.8	45.0	19.8	19.8	19.8
Actuated g/C Ratio	0.18	0.18	0.41	0.40	0.42	0.41	0.64	0.28	0.28	0.28
v/c Ratio	0.38	0.98	1.06	0.36	0.93	0.70	0.33	0.25	1.06	0.16
Control Delay	34.0	64.1	86.8	14.3	45.0	12.1	3.2	23.0	82.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	64.1	86.8	14.3	45.0	12.1	3.2	23.0	82.6	20.0
LOS	C	E	F	B	D	B	A	C	F	C
Approach Delay		61.5		45.2		15.0			71.5	
Approach LOS		E		D		B			E	

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 44.5 Intersection LOS: D
Intersection Capacity Utilization 92.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

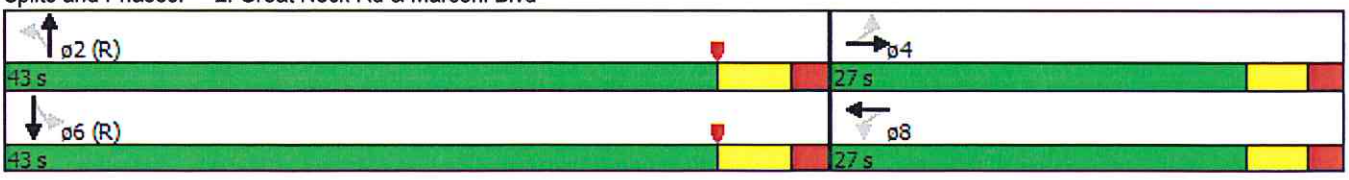


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	18	65	181	91	63	878	63	816
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	27.0	27.0	27.0	27.0	43.0	43.0	43.0	43.0
Total Split (%)	38.6%	38.6%	38.6%	38.6%	61.4%	61.4%	61.4%	61.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		17.7	17.7	17.7	41.2	41.2	41.2	41.2
Actuated g/C Ratio		0.25	0.25	0.25	0.59	0.59	0.59	0.59
v/c Ratio		0.69	0.89	0.47	0.38	0.97	0.62	0.80
Control Delay		30.8	64.1	24.5	11.7	29.7	19.3	11.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		30.8	64.1	24.5	11.7	29.7	19.3	11.4
LOS		C	E	C	B	C	B	B
Approach Delay		30.8		42.1		28.6		11.9
Approach LOS		C		D		C		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 13 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 94.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

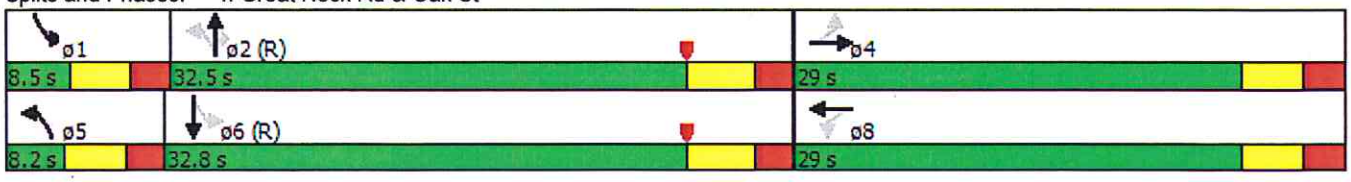


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	195	285	100	250	103	679	134	114	582
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	25.6	8.5	25.6
Total Split (s)	29.0	29.0	29.0	29.0	8.2	32.5	32.5	8.5	32.8
Total Split (%)	41.4%	41.4%	41.4%	41.4%	11.7%	46.4%	46.4%	12.1%	46.9%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	23.5	23.5	23.5	23.5	31.4	28.6	28.6	31.9	28.8
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.45	0.41	0.41	0.46	0.41
v/c Ratio	1.10	0.66	0.71	0.74	0.59	0.95	0.23	0.60	0.93
Control Delay	123.1	25.5	48.0	30.2	22.4	41.6	13.9	24.0	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	123.1	25.5	48.0	30.2	22.4	41.6	13.9	24.0	40.6
LOS	F	C	D	C	C	D	B	C	D
Approach Delay		56.6		33.9		35.4			38.2
Approach LOS		E		C		D			D

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 40.6 Intersection LOS: D
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

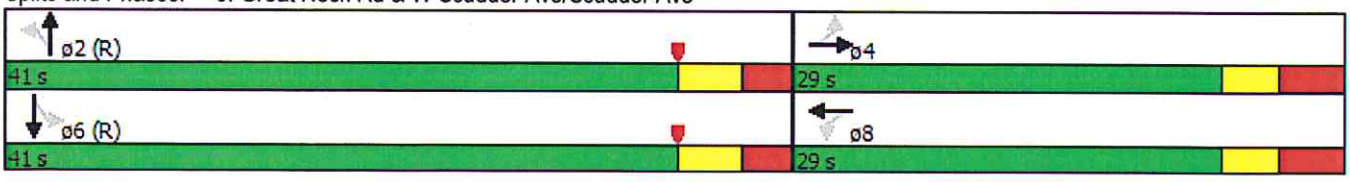


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	37	24	13	22	24	749	57	704
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.8		9.8	51.4	51.4	51.4	51.4
Actuated g/C Ratio		0.14		0.14	0.73	0.73	0.73	0.73
v/c Ratio		0.38		0.46	0.06	0.62	0.17	0.59
Control Delay		31.1		33.1	5.1	9.5	10.6	14.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		31.1		33.1	5.1	9.5	10.6	14.5
LOS		C		C	A	A	B	B
Approach Delay		31.1		33.1		9.3		14.2
Approach LOS		C		C		A		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

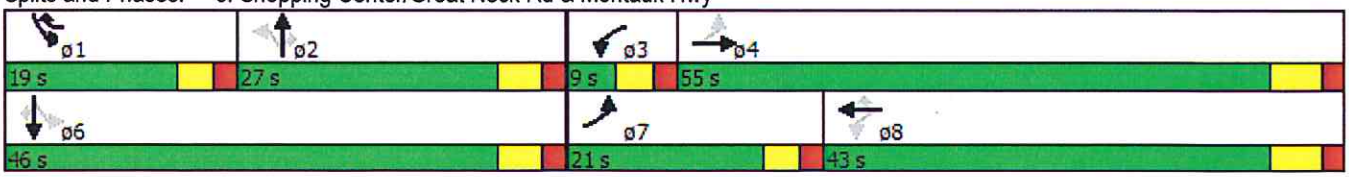


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	234	959	40	919	298	72	84	57	251	125	191
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	21.0	55.0	9.0	43.0	19.0	27.0	27.0	27.0	19.0	46.0	46.0
Total Split (%)	19.1%	50.0%	8.2%	39.1%	17.3%	24.5%	24.5%	24.5%	17.3%	41.8%	41.8%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	57.5	51.1	42.2	36.9	56.7		17.2	17.2	36.5	35.7	35.7
Actuated g/C Ratio	0.55	0.49	0.41	0.35	0.54		0.17	0.17	0.35	0.34	0.34
v/c Ratio	0.77	0.63	0.20	0.79	0.39		0.77	0.16	0.71	0.21	0.38
Control Delay	35.6	23.2	15.5	36.9	16.7		63.5	0.8	37.8	25.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	23.2	15.5	36.9	16.7		63.5	0.8	37.8	25.2	28.3
LOS	D	C	B	D	B		E	A	D	C	C
Approach Delay		25.6		31.4			46.7			31.8	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 104.1
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 30.4 — Intersection LOS: C
Intersection Capacity Utilization 79.8% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

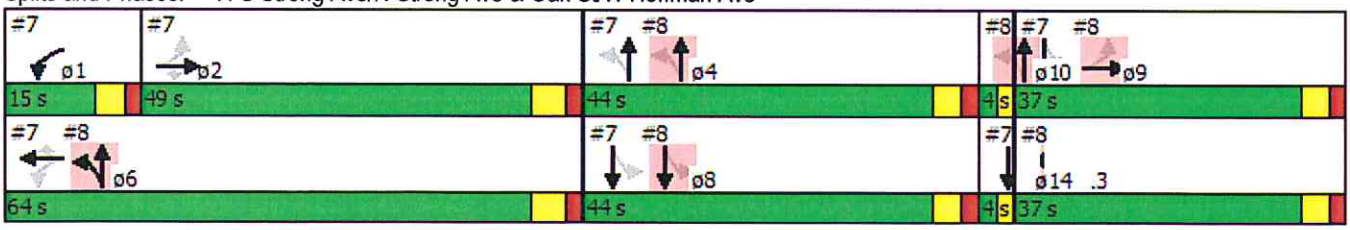


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	112	312	47	76	282	114	31	364	128	366		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	49.0	49.0	49.0	15.0	64.0	64.0	44.0	44.0			44.0	37.0
Total Split (%)	32.9%	32.9%	32.9%	10.1%	43.0%	43.0%	29.5%	29.5%			30%	25%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	31.2	31.2	31.2	45.8	45.2	45.2		39.0	66.2	74.6		
Actuated g/C Ratio	0.23	0.23	0.23	0.34	0.33	0.33		0.29	0.49	0.55		
v/c Ratio	0.51	0.83	0.13	0.40	0.50	0.22		1.06	0.44	0.46		
Control Delay	53.4	66.5	0.6	36.4	39.1	7.7		105.7	5.0	2.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.8	2.3	0.8		
Total Delay	53.4	66.5	0.6	36.4	39.1	7.7		106.6	7.3	3.1		
LOS	D	E	A	D	D	A		F	A	A		
Approach Delay		56.8			31.0			106.6		4.0		
Approach LOS		E			C			F		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 136.2
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 46.9 Intersection LOS: D
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	37.0	4.0
Total Split (%)	3%	25%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

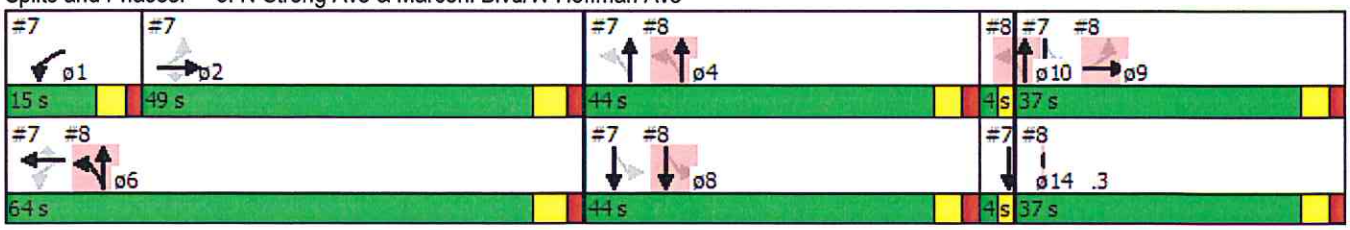
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	54	109	55	141	415	11	374				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	37.0	37.0	37.0	37.0	64.0		44.0	44.0	15.0	49.0	44.0	4.0
Total Split (%)	24.8%	24.8%	24.8%	24.8%	43.0%		29.5%	29.5%	10%	33%	30%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		31.9		31.9	83.8	89.4		34.2				
Actuated g/C Ratio		0.23		0.23	0.62	0.66		0.25				
v/c Ratio		0.46		0.96	0.19	0.40		0.83				
Control Delay		37.9		98.4	3.9	4.1		63.4				
Queue Delay		0.0		0.0	1.2	4.5		0.0				
Total Delay		37.9		98.4	5.0	8.5		63.4				
LOS		D		F	A	A		E				
Approach Delay		37.9		98.4		7.7		63.4				
Approach LOS		D		F		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 136.2
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 40.8 Intersection LOS: D
Intersection Capacity Utilization 86.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	3	54	8	6	51	50	925	23	60	864	243
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.75	0.90	0.75	0.75	0.75	0.96	0.96	0.96	0.93	0.96	0.96
Hourly flow rate (vph)	127	4	60	11	8	68	52	964	24	65	900	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.77	0.77	0.56	0.77	0.77	0.56	0.56			0.56		
vC, conflicting volume	2295	2247	1027	2171	2362	976	1153			988		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1259	1197	660	1098	1345	556	885			578		
tC, single (s)	*5.0	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 %	12	96	77	88	91	77	88			88		
cM capacity (veh/h)	143	113	263	93	92	297	436			559		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	127	64	87	52	988	65	1153
Volume Left	127	0	11	52	0	65	0
Volume Right	0	60	68	0	24	0	253
cSH	143	243	201	436	1700	559	1700
Volume to Capacity	0.88	0.26	0.43	0.12	0.58	0.12	0.68
Queue Length 95th (ft)	148	26	50	10	0	10	0
Control Delay (s)	107.0	25.0	35.8	14.4	0.0	12.3	0.0
Lane LOS	F	D	E	B		B	
Approach Delay (s)	79.5		35.8	0.7		0.7	
Approach LOS	F		E				

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	29	612	474	4	13	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.80	0.80
Hourly flow rate (vph)	31	651	551	5	16	142
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	556				1266	553
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556				1266	553
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	73
cM capacity (veh/h)	1025				183	536

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	682	556	159
Volume Left	31	0	16
Volume Right	0	5	142
cSH	1025	1700	448
Volume to Capacity	0.03	0.33	0.35
Queue Length 95th (ft)	2	0	40
Control Delay (s)	0.8	0.0	17.4
Lane LOS	A		C
Approach Delay (s)	0.8	0.0	17.4
Approach LOS			C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	69	19	1005	83	55	1108
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	77	21	1069	88	59	1191
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.76	0.57			0.57	
vC, conflicting volume	2423	1113			1157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1454	827			904	
tC, single (s)	*5.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	44	90			86	
cM capacity (veh/h)	136	215			437	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	98	1157	59	1191
Volume Left	77	0	59	0
Volume Right	21	88	0	0
cSH	148	1700	437	1700
Volume to Capacity	0.66	0.68	0.14	0.70
Queue Length 95th (ft)	92	0	12	0
Control Delay (s)	67.2	0.0	14.5	0.0
Lane LOS	F		B	
Approach Delay (s)	67.2	0.0	0.7	
Approach LOS	F			

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

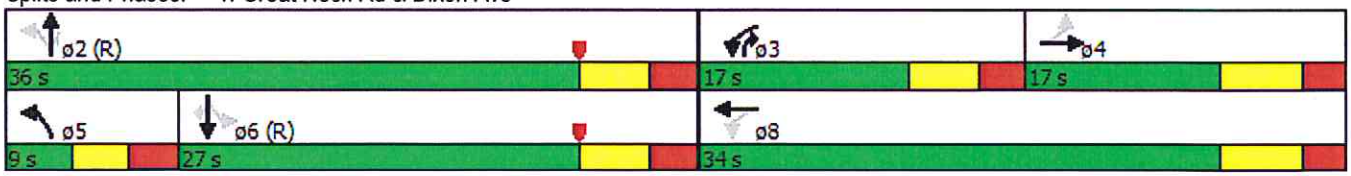
Build with Mitigation 2 Capacity Analyses

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	35	275	268	450	130	547	315	36	295	34
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	17.0	17.0	17.0	34.0	9.0	36.0	17.0	27.0	27.0	27.0
Total Split (%)	24.3%	24.3%	24.3%	48.6%	12.9%	51.4%	24.3%	38.6%	38.6%	38.6%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.2	10.2	27.9	27.2	30.5	29.9	47.1	22.7	22.7	22.7
Actuated g/C Ratio	0.15	0.15	0.40	0.39	0.44	0.43	0.67	0.32	0.32	0.32
v/c Ratio	0.39	0.79	0.81	0.49	0.50	0.75	0.33	0.23	0.65	0.09
Control Delay	38.8	42.6	35.1	16.0	18.6	23.0	7.7	22.2	27.6	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	42.6	35.1	16.0	18.6	23.0	7.7	22.2	27.6	18.5
LOS	D	D	D	B	B	C	A	C	C	B
Approach Delay		42.3		22.0		17.5			26.2	
Approach LOS		D		C		B			C	

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	17	18	140	34	17	805	42	561
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	11.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	24.0	24.0	24.0	24.0	46.0	46.0	46.0	46.0
Total Split (%)	34.3%	34.3%	34.3%	34.3%	65.7%	65.7%	65.7%	65.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		11.9	11.9	11.9	47.0	47.0	47.0	47.0
Actuated g/C Ratio		0.17	0.17	0.17	0.67	0.67	0.67	0.67
v/c Ratio		0.33	0.54	0.53	0.04	0.41	0.17	0.31
Control Delay		27.2	33.0	31.9	6.0	5.8	7.3	6.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		27.2	33.0	31.9	6.0	5.8	7.3	6.4
LOS		C	C	C	A	A	A	A
Approach Delay		27.2		32.4		5.8		6.5
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 62.4% ICU Level of Service B
Analysis Period (min) 15

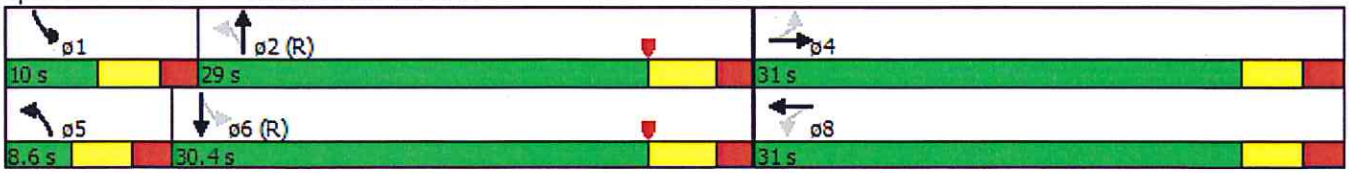
Splits and Phases: 2: Great Neck Rd & Marconi Blvd

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	153	159	35	248	61	604	75	327
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	8.5	25.6
Total Split (s)	31.0	31.0	31.0	31.0	8.6	29.0	10.0	30.4
Total Split (%)	44.3%	44.3%	44.3%	44.3%	12.3%	41.4%	14.3%	43.4%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	21.0	21.0	21.0	21.0	33.2	29.0	36.0	32.2
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.47	0.41	0.51	0.46
v/c Ratio	0.94	0.39	0.13	0.72	0.14	0.48	0.27	0.34
Control Delay	75.9	20.3	16.8	29.9	11.4	21.9	11.3	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.9	20.3	16.8	29.9	11.4	21.9	11.3	14.9
LOS	E	C	B	C	B	C	B	B
Approach Delay		44.2		28.6		21.1		14.3
Approach LOS		D		C		C		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 67.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	45	14	6	13	25	586	26	348
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.1		9.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio		0.13		0.13	0.74	0.74	0.74	0.74
v/c Ratio		0.40		0.39	0.04	0.48	0.06	0.33
Control Delay		33.3		32.3	4.3	6.8	0.9	3.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		33.3		32.3	4.3	6.8	0.9	3.0
LOS		C		C	A	A	A	A
Approach Delay		33.3		32.3		6.7		2.9
Approach LOS		C		C		A		A

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 52.8% ICU Level of Service A
Analysis Period (min) 15

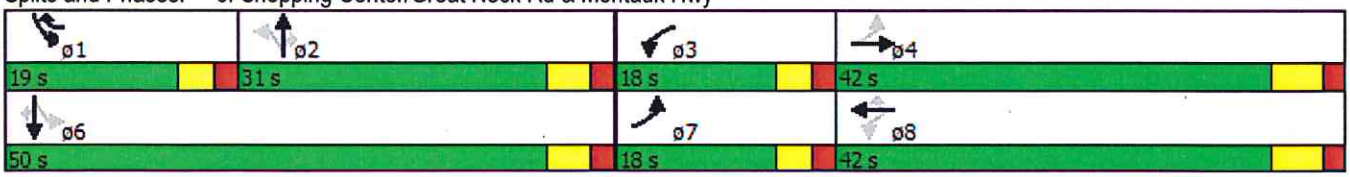
Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	125	424	7	815	196	27	23	4	127	24	108
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	18.0	42.0	18.0	42.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	16.4%	38.2%	16.4%	38.2%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	52.6	49.3	43.5	36.3	53.8		8.7	8.7	22.8	21.9	21.9
Actuated g/C Ratio	0.62	0.58	0.51	0.42	0.63		0.10	0.10	0.27	0.26	0.26
v/c Ratio	0.37	0.24	0.02	0.60	0.23		0.40	0.02	0.45	0.06	0.31
Control Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	11.6	9.4	23.2	9.3		46.4	0.0	29.1	23.3	27.1
LOS	B	B	A	C	A		D	A	C	C	C
Approach Delay		11.6		20.5			42.8			27.7	
Approach LOS		B		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 85.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 57.4% ICU Level of Service B
Analysis Period (min) 15

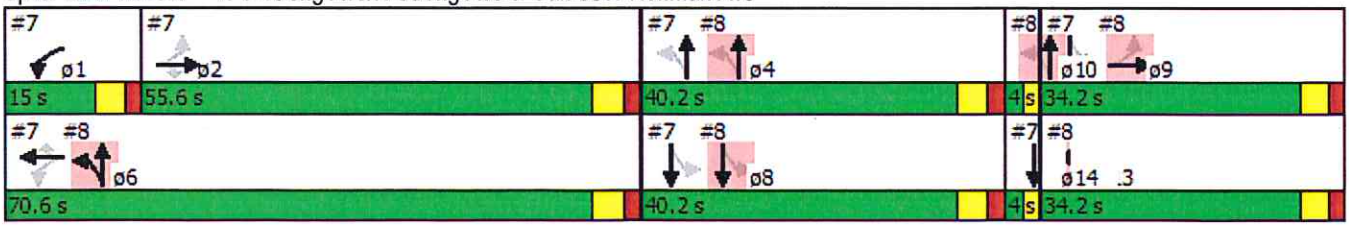
Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	159	149	22	37	270	176	16	417	69	235		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	55.6	55.6	55.6	15.0	70.6	70.6	40.2	40.2			40.2	34.2
Total Split (%)	37.3%	37.3%	37.3%	10.1%	47.4%	47.4%	27.0%	27.0%			27%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	30.0	30.0	30.0	37.9	37.3	37.3		36.1	42.6	60.7		
Actuated g/C Ratio	0.27	0.27	0.27	0.34	0.34	0.34		0.33	0.39	0.55		
v/c Ratio	0.68	0.37	0.05	0.12	0.50	0.32		0.80	0.42	0.39		
Control Delay	51.8	37.0	0.2	24.9	31.9	5.5		47.5	7.7	2.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.2	0.4	0.3		
Total Delay	51.8	37.0	0.2	24.9	31.9	5.5		47.6	8.1	2.4		
LOS	D	D	A	C	C	A		D	A	A		
Approach Delay		41.7			21.7			47.6		3.4		
Approach LOS		D			C			D		A		

Intersection Summary	
Cycle Length: 149	
Actuated Cycle Length: 110.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 28.3	Intersection LOS: C
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

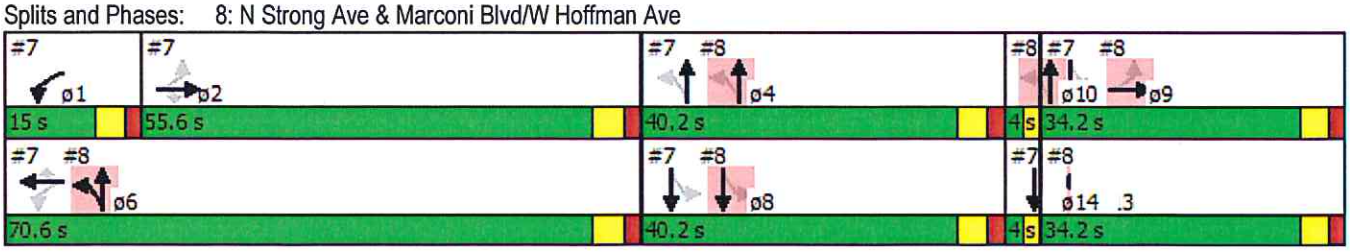
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	15	59	28	133	595	5	272				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	70.6		40.2	40.2	15.0	55.6	40.2	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	47.4%		27.0%	27.0%	10%	37%	27%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		16.5		16.5	73.0	78.7		26.1				
Actuated g/C Ratio		0.15		0.15	0.66	0.71		0.24				
v/c Ratio		0.33		0.66	0.17	0.51		0.74				
Control Delay		22.8		61.2	2.7	3.8		51.0				
Queue Delay		0.0		0.0	0.3	1.5		0.0				
Total Delay		22.8		61.2	3.0	5.3		51.0				
LOS		C		E	A	A		D				
Approach Delay		22.8		61.2		4.9		51.0				
Approach LOS		C		E		A		D				

Intersection Summary

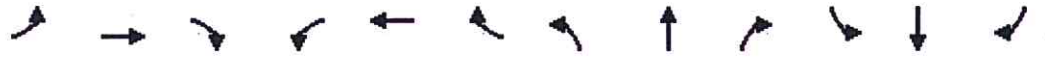
Cycle Length: 149
Actuated Cycle Length: 110.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	94	6	32	6	2	41	31	745	8	31	513	194
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.82	0.82	0.82
Hourly flow rate (vph)	125	8	43	8	3	55	33	801	9	38	626	237
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.91	0.91	0.93	0.91	0.91	0.88	0.93			0.88		
vC, conflicting volume	1343	1696	431	1307	1810	405	862			810		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858	1245	249	819	1370	50	711			510		
tC, single (s)	*5.0	6.5	7.1	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	95	94	96	98	94	96			96		
cM capacity (veh/h)	365	148	684	209	124	892	838			937		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	125	51	65	33	534	276	38	417	445
Volume Left	125	0	8	33	0	0	38	0	0
Volume Right	0	43	55	0	0	9	0	0	237
cSH	365	435	540	838	1700	1700	937	1700	1700
Volume to Capacity	0.34	0.12	0.12	0.04	0.31	0.16	0.04	0.25	0.26
Queue Length 95th (ft)	37	10	10	3	0	0	3	0	0
Control Delay (s)	19.9	14.4	12.6	9.5	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	B	B	A			A		
Approach Delay (s)	18.3		12.6	0.4			0.4		
Approach LOS	C		B						

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	44.3%	ICU Level of Service		A
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	322	450	7	6	72
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.92	0.89	0.89	0.80	0.80
Hourly flow rate (vph)	63	350	506	8	8	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	513				985	510
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	513				985	510
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				97	84
cM capacity (veh/h)	1062				261	564

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	413	513	98
Volume Left	63	0	8
Volume Right	0	8	90
cSH	1062	1700	518
Volume to Capacity	0.06	0.30	0.19
Queue Length 95th (ft)	5	0	17
Control Delay (s)	1.8	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	1.8	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	39	820	59	65	664
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.91	0.91	0.82	0.82
Hourly flow rate (vph)	50	44	901	65	79	810
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.93	0.89			0.89	
vC, conflicting volume	1497	483			966	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1018	177			719	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	94			90	
cM capacity (veh/h)	286	750			795	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	94	601	365	79	405	405
Volume Left	50	0	0	79	0	0
Volume Right	44	0	65	0	0	0
cSH	404	1700	1700	795	1700	1700
Volume to Capacity	0.23	0.35	0.21	0.10	0.24	0.24
Queue Length 95th (ft)	22	0	0	8	0	0
Control Delay (s)	16.6	0.0	0.0	10.0	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	16.6	0.0		0.9		
Approach LOS	C					

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

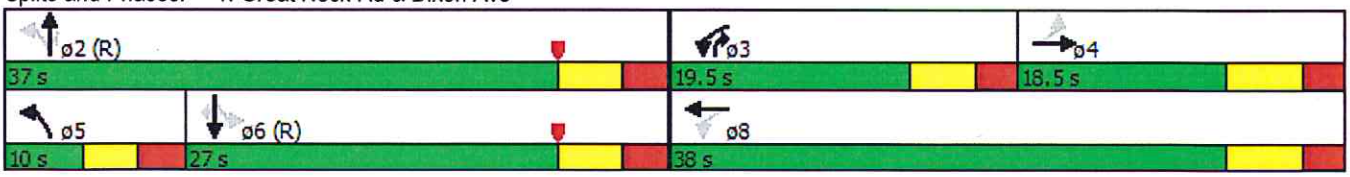
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	55	414	288	35	120	486	284	48	433	33
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	18.5	18.5	19.5	38.0	10.0	37.0	19.5	27.0	27.0	27.0
Total Split (%)	24.7%	24.7%	26.0%	50.7%	13.3%	49.3%	26.0%	36.0%	36.0%	36.0%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	32.0	31.3	31.4	30.8	50.0	20.8	20.8	20.8
Actuated g/C Ratio	0.16	0.16	0.43	0.42	0.42	0.41	0.67	0.28	0.28	0.28
v/c Ratio	0.32	0.97	0.82	0.08	0.64	0.71	0.29	0.27	0.96	0.09
Control Delay	33.3	65.8	34.6	6.0	26.1	20.1	6.2	25.5	59.2	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	65.8	34.6	6.0	26.1	20.1	6.2	25.5	59.2	20.8
LOS	C	E	C	A	C	C	A	C	E	C
Approach Delay		62.6		27.2		16.5			53.6	
Approach LOS		E		C		B			D	

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 37 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 89.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

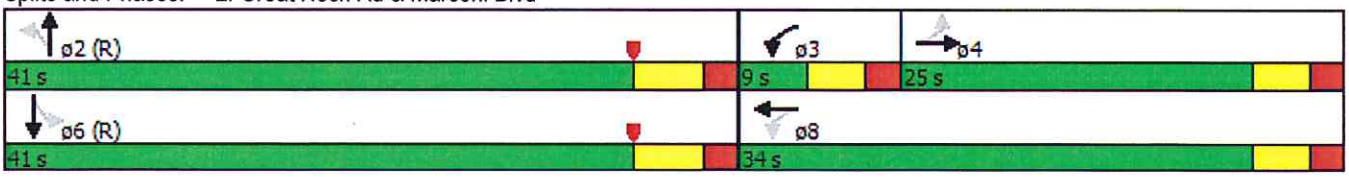


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	27	62	188	50	30	750	48	683
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	3.8	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	9.0	11.2	25.9	25.9	25.9	25.9
Total Split (s)	25.0	25.0	9.0	34.0	41.0	41.0	41.0	41.0
Total Split (%)	33.3%	33.3%	12.0%	45.3%	54.7%	54.7%	54.7%	54.7%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		16.1	25.1	25.1	38.8	38.8	38.8	38.8
Actuated g/C Ratio		0.21	0.33	0.33	0.52	0.52	0.52	0.52
v/c Ratio		0.72	0.73	0.27	0.11	0.50	0.25	0.43
Control Delay		37.7	34.6	18.7	11.7	11.8	11.4	9.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		37.7	34.6	18.7	11.7	11.8	11.4	9.5
LOS		D	C	B	B	B	B	A
Approach Delay		37.7		27.4		11.8		9.6
Approach LOS		D		C		B		A

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 2 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

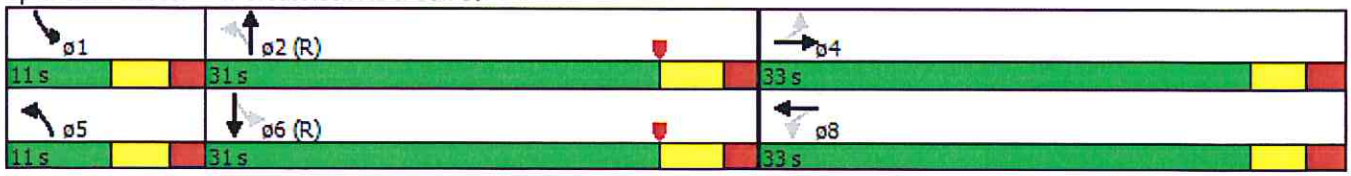


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	171	324	77	195	72	552	94	532
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	8.5	25.6
Total Split (s)	33.0	33.0	33.0	33.0	11.0	31.0	11.0	31.0
Total Split (%)	44.0%	44.0%	44.0%	44.0%	14.7%	41.3%	14.7%	41.3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	23.2	23.2	23.2	23.2	36.7	31.3	37.1	31.5
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.49	0.42	0.49	0.42
v/c Ratio	0.71	0.77	0.72	0.55	0.19	0.50	0.28	0.45
Control Delay	37.8	31.6	58.2	24.9	9.7	15.8	8.4	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	31.6	58.2	24.9	9.7	15.8	8.4	13.1
LOS	D	C	E	C	A	B	A	B
Approach Delay		33.3		32.0		15.2		12.5
Approach LOS		C		C		B		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 72.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

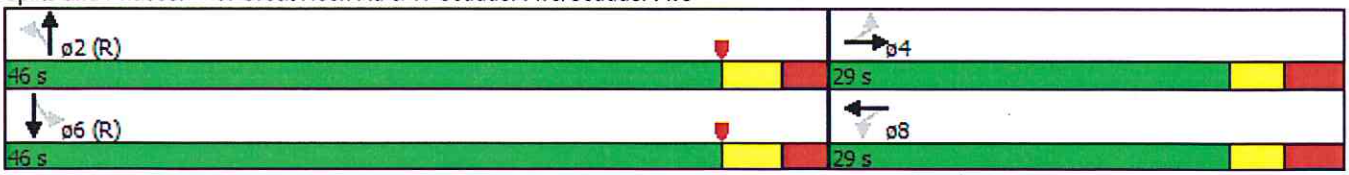


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	40	8	32	21	7	630	62	643
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	46.0	46.0	46.0	46.0
Total Split (%)	38.7%	38.7%	38.7%	38.7%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		12.6		12.6	49.9	49.9	49.9	49.9
Actuated g/C Ratio		0.17		0.17	0.67	0.67	0.67	0.67
v/c Ratio		0.31		0.59	0.02	0.59	0.16	0.58
Control Delay		29.5		36.8	5.7	10.3	13.6	19.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.5		36.8	5.7	10.3	13.6	19.5
LOS		C		D	A	B	B	B
Approach Delay		29.5		36.8		10.2		19.0
Approach LOS		C		D		B		B

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15

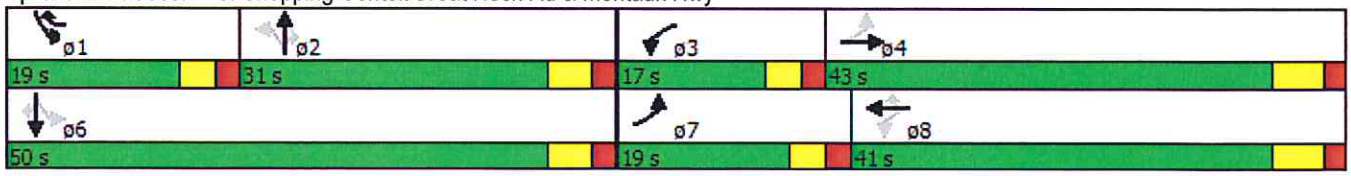
Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	201	904	32	708	215	55	64	33	229	109	160
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	19.0	43.0	17.0	41.0	19.0	31.0	31.0	31.0	19.0	50.0	50.0
Total Split (%)	17.3%	39.1%	15.5%	37.3%	17.3%	28.2%	28.2%	28.2%	17.3%	45.5%	45.5%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	53.7	45.5	42.8	34.9	54.5		15.6	15.6	34.7	33.9	33.9
Actuated g/C Ratio	0.55	0.46	0.43	0.35	0.55		0.16	0.16	0.35	0.34	0.34
v/c Ratio	0.60	0.64	0.14	0.62	0.29		0.68	0.12	0.63	0.19	0.33
Control Delay	20.2	25.1	14.0	30.3	14.1		54.6	0.7	31.7	23.3	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	25.1	14.0	30.3	14.1		54.6	0.7	31.7	23.3	25.6
LOS	C	C	B	C	B		D	A	C	C	C
Approach Delay		24.2		26.1			43.0			27.9	
Approach LOS		C		C			D			C	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 98.5	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

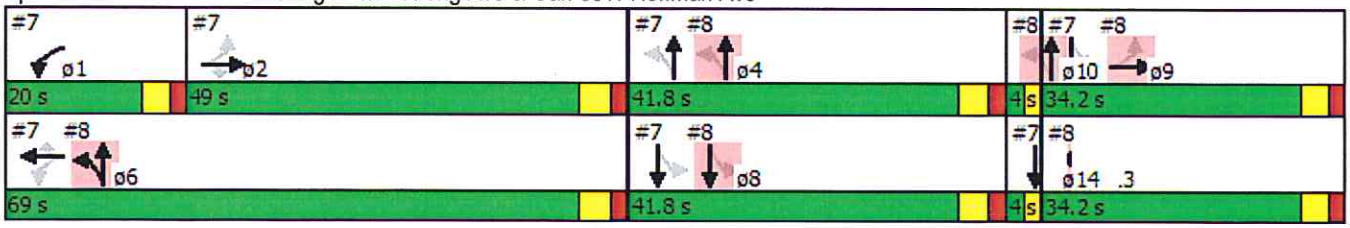


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	132	352	68	111	226	105	20	276	126	515		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	49.0	49.0	49.0	20.0	69.0	69.0	41.8	41.8			41.8	34.2
Total Split (%)	32.9%	32.9%	32.9%	13.4%	46.3%	46.3%	28.1%	28.1%			28%	23%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	Min	Min	Min	None	None			None	None
Act Effct Green (s)	32.5	32.5	32.5	49.8	49.2	49.2		37.3	55.7	55.7		
Actuated g/C Ratio	0.26	0.26	0.26	0.40	0.39	0.39		0.30	0.44	0.44		
v/c Ratio	0.50	0.81	0.16	0.49	0.36	0.18		1.25	0.42	0.76		
Control Delay	47.4	58.9	3.1	31.3	28.8	4.9		172.3	6.6	11.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	1.5	0.6		
Total Delay	47.4	58.9	3.1	31.3	28.8	4.9		172.3	8.2	11.8		
LOS	D	E	A	C	C	A		F	A	B		
Approach Delay		49.3			23.8			172.3		11.2		
Approach LOS		D			C			F		B		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 125.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 51.1 Intersection LOS: D
Intersection Capacity Utilization 100.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	34.2	4.0
Total Split (%)	3%	23%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

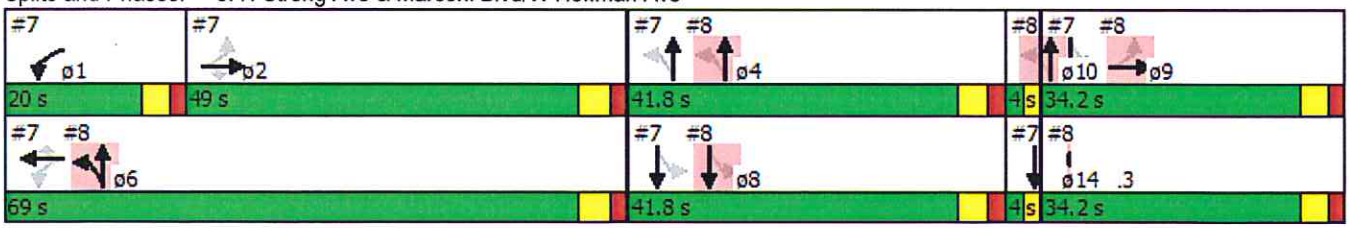
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	10	28	17	41	90	363	5	460				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	34.2	34.2	34.2	34.2	69.0		41.8	41.8	20.0	49.0	41.8	4.0
Total Split (%)	23.0%	23.0%	23.0%	23.0%	46.3%		28.1%	28.1%	13%	33%	28%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	Min	Min	None	None
Act Effct Green (s)		18.4		18.4	86.1	91.8		37.3				
Actuated g/C Ratio		0.15		0.15	0.69	0.73		0.30				
v/c Ratio		0.62		0.46	0.10	0.30		0.87				
Control Delay		27.4		52.0	2.6	2.4		59.8				
Queue Delay		0.1		0.0	0.5	2.7		0.1				
Total Delay		27.5		52.0	3.1	5.1		59.9				
LOS		C		D	A	A		E				
Approach Delay		27.5		52.0		4.7		59.9				
Approach LOS		C		D		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 125.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 76.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

PM Peak
3: Great Neck Rd & Railroad Ave 1/25/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	7	43	5	3	44	34	758	10	49	726	227
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.99	0.99	0.99	0.97	0.97	0.97
Hourly flow rate (vph)	111	8	48	5	3	47	34	766	10	51	748	234
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.94	0.94	0.88	0.94	0.94	0.89	0.88			0.89		
vC, conflicting volume	1466	1811	491	1367	1923	388	982			776		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	822	1188	159	716	1307	51	715			489		
tC, single (s)	*5.0	6.5	7.1	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	95	93	98	98	95	96			95		
cM capacity (veh/h)	386	162	742	253	137	897	790			961		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	111	56	55	34	510	265	51	499	484
Volume Left	111	0	5	34	0	0	51	0	0
Volume Right	0	48	47	0	0	10	0	0	234
cSH	386	494	573	790	1700	1700	961	1700	1700
Volume to Capacity	0.29	0.11	0.10	0.04	0.30	0.16	0.05	0.29	0.28
Queue Length 95th (ft)	29	10	8	3	0	0	4	0	0
Control Delay (s)	18.0	13.2	12.0	9.8	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	B	B	A			A		
Approach Delay (s)	16.4		12.0	0.4			0.4		
Approach LOS	C		B						

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	664	363	4	10	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.75	0.75
Hourly flow rate (vph)	31	730	427	5	13	144
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	432				1221	429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	432				1221	429
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	97				93	77
cM capacity (veh/h)	1102				195	628

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	760	432	157
Volume Left	31	0	13
Volume Right	0	5	144
cSH	1102	1700	528
Volume to Capacity	0.03	0.25	0.30
Queue Length 95th (ft)	2	0	31
Control Delay (s)	0.7	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	0.7	0.0	14.7
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	61	33	834	58	46	939
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.97	0.97	0.96	0.96
Hourly flow rate (vph)	68	37	860	60	48	978
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.92	0.90			0.90	
vC, conflicting volume	1475	460			920	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	857	177			688	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	95			94	
cM capacity (veh/h)	356	758			824	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	104	573	346	48	489	489
Volume Left	68	0	0	48	0	0
Volume Right	37	0	60	0	0	0
cSH	437	1700	1700	824	1700	1700
Volume to Capacity	0.24	0.34	0.20	0.06	0.29	0.29
Queue Length 95th (ft)	23	0	0	5	0	0
Control Delay (s)	15.8	0.0	0.0	9.6	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	15.8	0.0		0.5		
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

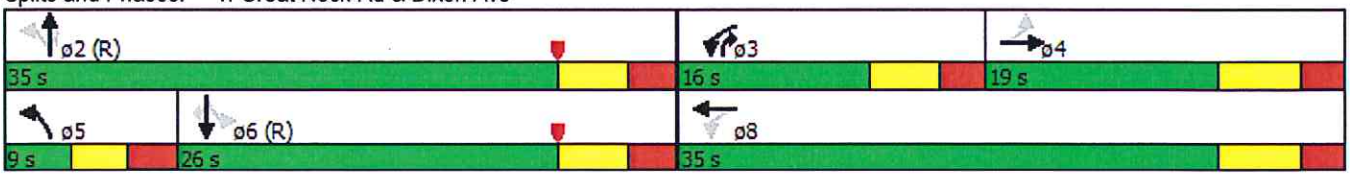
* User Entered Value

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	47	381	324	366	176	519	326	45	478	61
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm
Protected Phases		4	3	8	5	2	3		6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	3	8	5	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	6.0	6.0	3.0	6.0	3.0	15.0	3.0	15.0	15.0	15.0
Minimum Split (s)	12.7	12.7	9.0	12.7	8.6	21.2	9.0	21.2	21.2	21.2
Total Split (s)	19.0	19.0	16.0	35.0	9.0	35.0	16.0	26.0	26.0	26.0
Total Split (%)	27.1%	27.1%	22.9%	50.0%	12.9%	50.0%	22.9%	37.1%	37.1%	37.1%
Yellow Time (s)	4.3	4.3	3.6	4.3	3.0	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.4	2.4	2.4	2.4	2.6	2.6	2.4	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.0	6.7	5.6	6.2	6.0	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead		Lead		Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.3	12.3	29.0	28.3	29.4	28.8	45.0	19.8	19.8	19.8
Actuated g/C Ratio	0.18	0.18	0.41	0.40	0.42	0.41	0.64	0.28	0.28	0.28
v/c Ratio	0.38	0.98	1.06	0.36	0.93	0.70	0.33	0.25	1.06	0.16
Control Delay	34.0	64.1	86.8	14.3	60.9	11.8	2.4	23.0	82.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	64.1	86.8	14.3	60.9	11.8	2.4	23.0	82.6	20.0
LOS	C	E	F	B	E	B	A	C	F	C
Approach Delay		61.5		45.2		17.3			71.5	
Approach LOS		E		D		B			E	

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 41 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 45.2 Intersection LOS: D
Intersection Capacity Utilization 92.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Great Neck Rd & Dixon Ave

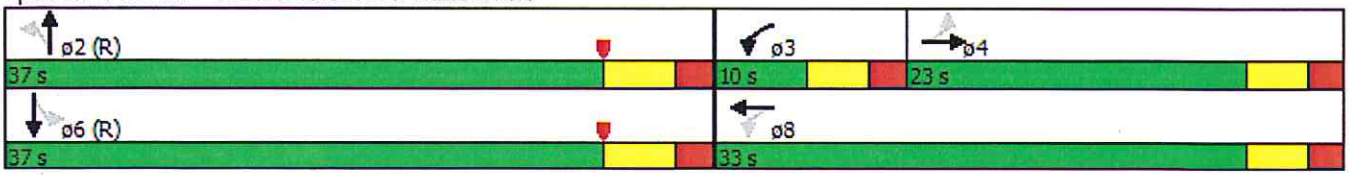


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	18	65	181	91	63	878	63	816
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	4.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	11.2	11.2	9.2	11.2	25.9	25.9	25.9	25.9
Total Split (s)	23.0	23.0	10.0	33.0	37.0	37.0	37.0	37.0
Total Split (%)	32.9%	32.9%	14.3%	47.1%	52.9%	52.9%	52.9%	52.9%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
All-Red Time (s)	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.2	5.2	5.2	5.9	5.9	5.9	5.9
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		15.8	25.8	25.8	33.1	33.1	33.1	33.1
Actuated g/C Ratio		0.23	0.37	0.37	0.47	0.47	0.47	0.47
v/c Ratio		0.77	0.59	0.32	0.29	0.64	0.41	0.52
Control Delay		38.2	23.3	16.7	11.8	11.4	12.4	10.0
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		38.2	23.3	16.7	11.8	11.4	12.4	10.0
LOS		D	C	B	B	B	B	A
Approach Delay		38.2		19.7		11.4		10.2
Approach LOS		D		B		B		B

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 13 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 15.3 Intersection LOS: B
Intersection Capacity Utilization 90.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Great Neck Rd & Marconi Blvd

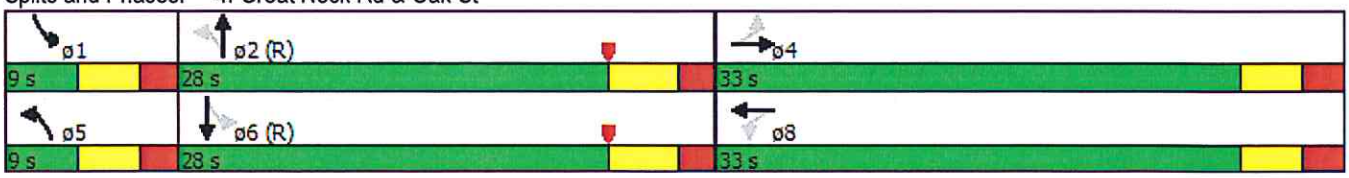


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	195	285	100	250	103	679	114	582
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	3.0	20.0	3.0	20.0
Minimum Split (s)	20.0	20.0	21.5	21.5	8.2	25.6	8.5	25.6
Total Split (s)	33.0	33.0	33.0	33.0	9.0	28.0	9.0	28.0
Total Split (%)	47.1%	47.1%	47.1%	47.1%	12.9%	40.0%	12.9%	40.0%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.6	3.2	3.6
All-Red Time (s)	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.2	5.6	5.2	5.6
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	25.0	25.0	25.0	25.0	30.2	26.3	30.2	26.3
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.43	0.38	0.43	0.38
v/c Ratio	0.98	0.63	0.61	0.70	0.35	0.67	0.46	0.54
Control Delay	80.3	22.3	33.5	25.6	13.3	19.9	21.7	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	22.3	33.5	25.6	13.3	19.9	21.7	23.2
LOS	F	C	C	C	B	B	C	C
Approach Delay		40.8		27.2		19.2		23.0
Approach LOS		D		C		B		C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 79.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Great Neck Rd & Oak St

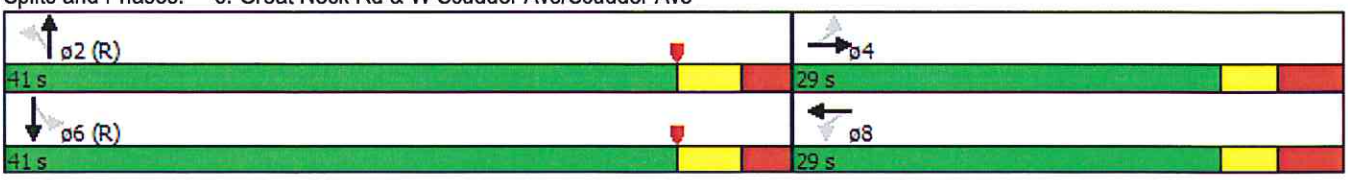


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	37	24	13	22	24	749	57	704
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	12.5	12.5	12.5	12.5	26.0	26.0	26.0	26.0
Total Split (s)	29.0	29.0	29.0	29.0	41.0	41.0	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	58.6%	58.6%	58.6%	58.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.5	3.5	3.5	2.7	2.7	2.7	2.7
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5		6.5	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		9.8		9.8	51.4	51.4	51.4	51.4
Actuated g/C Ratio		0.14		0.14	0.73	0.73	0.73	0.73
v/c Ratio		0.38		0.46	0.06	0.62	0.17	0.59
Control Delay		31.1		33.1	5.1	9.5	15.0	21.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		31.1		33.1	5.1	9.5	15.0	21.0
LOS		C		C	A	A	B	C
Approach Delay		31.1		33.1		9.3		20.6
Approach LOS		C		C		A		C

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Great Neck Rd & W Scudder Ave/Scudder Ave

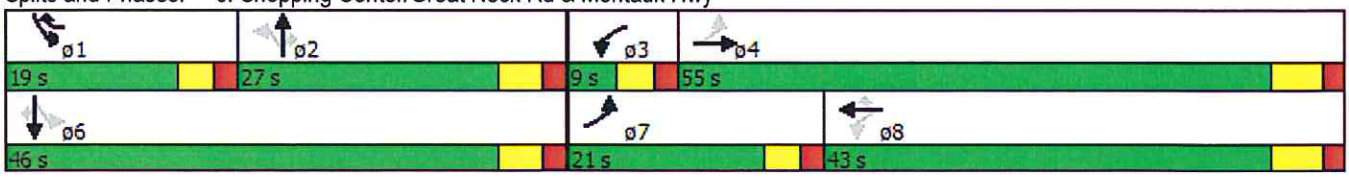


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	234	959	40	919	298	72	84	57	251	125	191
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1		2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	1	2	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.3	9.0	22.3	9.0	21.8	21.8	21.8	9.0	21.8	21.8
Total Split (s)	21.0	55.0	9.0	43.0	19.0	27.0	27.0	27.0	19.0	46.0	46.0
Total Split (%)	19.1%	50.0%	8.2%	39.1%	17.3%	24.5%	24.5%	24.5%	17.3%	41.8%	41.8%
Yellow Time (s)	3.0	4.3	3.0	4.3	3.0	3.6	3.6	3.6	3.0	3.6	3.6
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.0	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.3	5.0	6.3	5.0		5.8	5.8	5.0	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Max	None	Max	None	None	None	None	None	None	None
Act Effct Green (s)	57.5	51.1	42.2	36.9	56.7		17.2	17.2	36.5	35.7	35.7
Actuated g/C Ratio	0.55	0.49	0.41	0.35	0.54		0.17	0.17	0.35	0.34	0.34
v/c Ratio	0.77	0.63	0.20	0.79	0.39		0.77	0.16	0.71	0.21	0.38
Control Delay	35.6	23.2	15.5	36.9	16.7		63.5	0.8	37.8	25.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	23.2	15.5	36.9	16.7		63.5	0.8	37.8	25.2	28.3
LOS	D	C	B	D	B		E	A	D	C	C
Approach Delay		25.6		31.4			46.7			31.8	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 104.1
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Shopping Center/Great Neck Rd & Montauk Hwy

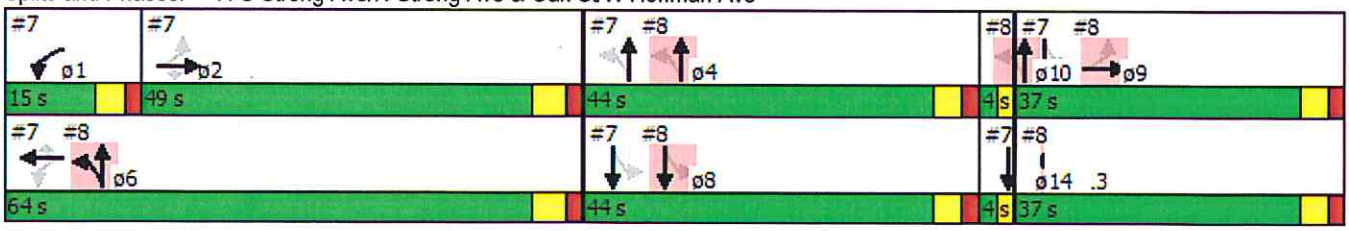


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	ø8	ø9
Lane Configurations												
Volume (vph)	112	312	47	76	282	114	31	364	128	366		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA		
Protected Phases		2		1	6			4		8 9 14	8	9
Permitted Phases	2		2	6		6	4		8 9			
Detector Phase	2	2	2	1	6	6	4	4	8 9	8 9 14		
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	4.0	18.0	18.0	6.0	6.0			6.0	6.0
Minimum Split (s)	45.0	45.0	45.0	9.0	23.6	23.6	20.0	20.0			20.0	20.0
Total Split (s)	49.0	49.0	49.0	15.0	64.0	64.0	44.0	44.0			44.0	37.0
Total Split (%)	32.9%	32.9%	32.9%	10.1%	43.0%	43.0%	29.5%	29.5%			30%	25%
Yellow Time (s)	3.6	3.6	3.6	3.2	3.6	3.6	3.2	3.2			3.2	3.2
All-Red Time (s)	2.0	2.0	2.0	1.8	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0				
Total Lost Time (s)	5.6	5.6	5.6	5.0	5.6	5.6		5.2				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None			None	None
Act Effct Green (s)	31.2	31.2	31.2	45.8	45.2	45.2		39.0	66.2	74.6		
Actuated g/C Ratio	0.23	0.23	0.23	0.34	0.33	0.33		0.29	0.49	0.55		
v/c Ratio	0.51	0.83	0.13	0.40	0.50	0.22		1.06	0.44	0.46		
Control Delay	53.4	66.5	0.6	36.4	39.1	7.7		105.7	5.0	2.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.8	2.3	0.8		
Total Delay	53.4	66.5	0.6	36.4	39.1	7.7		106.6	7.3	3.1		
LOS	D	E	A	D	D	A		F	A	A		
Approach Delay		56.8			31.0			106.6		4.0		
Approach LOS		E			C			F		A		

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 136.2
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 46.9 Intersection LOS: D
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: S Strong Ave/N Strong Ave & Oak St/W Hoffman Ave



Lane Group	ø10	ø13	ø14
Lane Configurations			
Volume (vph)			
Turn Type			
Protected Phases	10	13	14
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	2.0	6.0	2.0
Minimum Split (s)	4.0	20.0	4.0
Total Split (s)	4.0	37.0	4.0
Total Split (%)	3%	25%	3%
Yellow Time (s)	2.0	3.2	2.0
All-Red Time (s)	0.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			

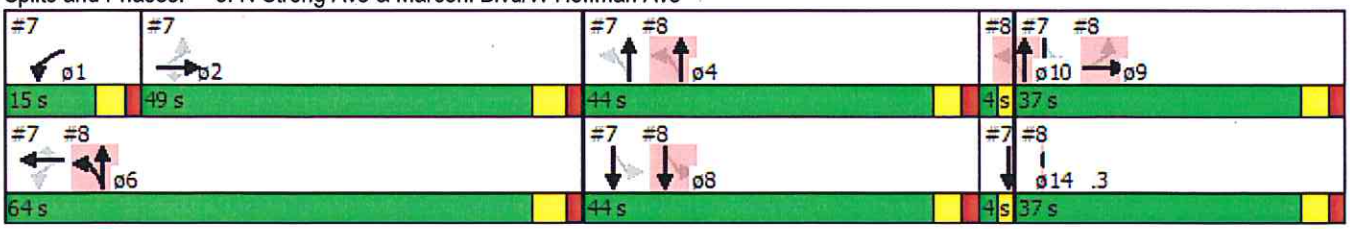
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø1	ø2	ø4	ø10
Lane Configurations												
Volume (vph)	13	54	109	55	141	415	11	374				
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA				
Protected Phases		9		13	6	6 4 10		8	1	2	4	10
Permitted Phases	9		13		6 4 10		8					
Detector Phase	9	9	13	13	6	6 4 10	8	8				
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	18.0		6.0	6.0	4.0	18.0	6.0	2.0
Minimum Split (s)	20.0	20.0	20.0	20.0	23.6		20.0	20.0	9.0	45.0	20.0	4.0
Total Split (s)	37.0	37.0	37.0	37.0	64.0		44.0	44.0	15.0	49.0	44.0	4.0
Total Split (%)	24.8%	24.8%	24.8%	24.8%	43.0%		29.5%	29.5%	10%	33%	30%	3%
Yellow Time (s)	3.2	3.2	3.2	3.2	3.6		3.2	3.2	3.2	3.6	3.2	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	1.8	2.0	2.0	0.0
Lost Time Adjust (s)		0.0		0.0	0.0			0.0				
Total Lost Time (s)		5.2		5.2	5.6			5.2				
Lead/Lag									Lead	Lag		
Lead-Lag Optimize?									Yes	Yes		
Recall Mode	None	None	None	None	Min		None	None	None	Min	None	None
Act Effct Green (s)		31.9		31.9	83.8	89.4		34.2				
Actuated g/C Ratio		0.23		0.23	0.62	0.66		0.25				
v/c Ratio		0.46		0.96	0.19	0.40		0.83				
Control Delay		37.9		98.4	3.9	4.1		63.4				
Queue Delay		0.0		0.0	1.2	4.5		0.0				
Total Delay		37.9		98.4	5.0	8.5		63.4				
LOS		D		F	A	A		E				
Approach Delay		37.9		98.4		7.7		63.4				
Approach LOS		D		F		A		E				

Intersection Summary

Cycle Length: 149
Actuated Cycle Length: 136.2
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 40.8 Intersection LOS: D
Intersection Capacity Utilization 86.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 8: N Strong Ave & Marconi Blvd/W Hoffman Ave



Lane Group	ø14
Lane Configurations	
Volume (vph)	
Turn Type	
Protected Phases	14
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	4.0
Total Split (s)	4.0
Total Split (%)	3%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Saturday Peak
3: Great Neck Rd & Railroad Ave 1/25/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	3	54	8	6	51	50	925	23	60	864	243
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.75	0.90	0.75	0.75	0.75	0.96	0.96	0.96	0.93	0.96	0.96
Hourly flow rate (vph)	127	4	60	11	8	68	52	964	24	65	900	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								366			246	
pX, platoon unblocked	0.90	0.90	0.84	0.90	0.90	0.82	0.84			0.82		
vC, conflicting volume	1814	2247	577	1721	2362	494	1153			988		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	894	1374	117	792	1501	0	803			559		
tC, single (s)	*5.0	6.5	6.9	7.5	6.5	6.9	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 %	59	96	92	95	92	92	93			92		
cM capacity (veh/h)	308	113	773	204	95	899	697			843		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	127	64	87	52	642	345	65	600	553
Volume Left	127	0	11	52	0	0	65	0	0
Volume Right	0	60	68	0	0	24	0	0	253
cSH	308	567	409	697	1700	1700	843	1700	1700
Volume to Capacity	0.41	0.11	0.21	0.07	0.38	0.20	0.08	0.35	0.33
Queue Length 95th (ft)	48	9	20	6	0	0	6	0	0
Control Delay (s)	24.6	12.2	16.2	10.6	0.0	0.0	9.6	0.0	0.0
Lane LOS	C	B	C	B			A		
Approach Delay (s)	20.4		16.2	0.5			0.5		
Approach LOS	C		C						

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	29	612	474	4	13	114
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.80	0.80
Hourly flow rate (vph)	31	651	551	5	16	142
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	556				1266	553
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556				1266	553
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	73
cM capacity (veh/h)	1025				183	536

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	682	556	159
Volume Left	31	0	16
Volume Right	0	5	142
cSH	1025	1700	448
Volume to Capacity	0.03	0.33	0.35
Queue Length 95th (ft)	2	0	40
Control Delay (s)	0.8	0.0	17.4
Lane LOS	A		C
Approach Delay (s)	0.8	0.0	17.4
Approach LOS			C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	69	19	1005	83	55	1108
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	77	21	1069	88	59	1191
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			459			153
pX, platoon unblocked	0.91	0.84			0.84	
vC, conflicting volume	1827	579			1157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	112			802	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	97			92	
cM capacity (veh/h)	320	776			696	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	98	713	445	59	596	596
Volume Left	77	0	0	59	0	0
Volume Right	21	0	88	0	0	0
cSH	367	1700	1700	696	1700	1700
Volume to Capacity	0.27	0.42	0.26	0.08	0.35	0.35
Queue Length 95th (ft)	26	0	0	7	0	0
Control Delay (s)	18.4	0.0	0.0	10.7	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	18.4	0.0		0.5		
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Appendix F: Parking Data

NELSON & POPE
ENGINEERS & SURVEYORS

Start Date: Wednesday 1/21/15

	Parking Lots															
Start Time	1	2	3	4	5	6	7	8	9	10	11A	11B	11C	11D	12	Total
10:00 AM	7	7	6	164	4	88	39	86	8	8	32	1	10	10	24	494
11:00 AM	7	7	6	165	4	88	39	86	8	8	33	1	10	10	26	498
12:00 PM	8	7	6	164	3	88	39	87	8	8	34	1	10	8	30	501
1:00 PM	9	7	6	165	4	86	40	88	8	8	34	1	10	8	30	504
2:00 PM	9	9	6	155	3	86	41	87	8	7	33	2	10	8	35	499
3:00 PM	9	11	6	152	2	84	40	76	6	6	33	2	11	8	34	480
4:00 PM	11	12	5	130	2	70	35	71	5	6	33	2	11	6	21	420
5:00 PM	11	10	4	121	2	65	33	70	3	6	31	2	8	5	18	389
6:00 PM	8	9	3	98	0	58	23	56	2	6	30	1	5	3	17	319
7:00 PM	4	9	3	72	0	32	20	45	2	3	30	1	4	3	11	239
8:00 PM	4	10	2	63	0	15	10	40	1	3	32	1	5	1	9	196
Capacity	16	33	13	230	8	98	39	81	8	6	46	12	15	8	41	654

NELSON & POPE
ENGINEERS & SURVEYORS

Start Date: Wednesday 1/21/15

	Parking Lot															
Start Time	13	14	15	16	17	18	19	20	21	22	23A	23B	24	25	Total	Grand Total
10:00 AM	14	4	33	11	10	45	150	8	14	1	62	8	9	15	384	878
11:00 AM	11	4	33	11	10	44	150	8	14	1	62	5	9	14	376	874
12:00 PM	11	4	33	11	9	45	150	8	14	1	62	5	9	15	377	878
1:00 PM	10	4	35	11	9	40	140	8	14	1	60	3	7	15	357	861
2:00 PM	10	4	40	11	9	38	140	7	12	1	56	3	8	15	354	853
3:00 PM	11	6	38	11	9	30	132	7	11	1	54	5	5	11	331	811
4:00 PM	14	7	37	12	9	29	129	8	11	1	48	4	5	13	327	747
5:00 PM	11	5	32	12	8	24	120	8	10	1	40	2	5	10	288	677
6:00 PM	11	5	30	9	8	18	88	7	9	1	41	2	5	10	244	563
7:00 PM	5	4	14	5	7	11	45	4	8	1	21	0	5	10	140	379
8:00 PM	4	2	13	4	7	5	35	5	7	1	6	0	3	10	102	298
Capacity	27	21	41	25	24	45	153	15	19	8	126	33	25	21	583	1237
Peak Parking Demand																**71%**

NELSON & POPE
ENGINEERS & SURVEYORS

On-Street Parking

Start Data - Wednesday 1/21/2015

	Great Neck Rd		Marconi Blvd		Railroad Ave North		Railroad Ave South		Barcelona Ave		Oak St		E Gate		
Time	West Side	East Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	Total
10:00 AM	9	13	3	17	15	0	4	24	1	2	4	0	0	0	92
11:00 AM	10	12	3	16	15	0	3	22	1	2	4	0	0	0	88
12:00 PM	10	16	2	15	15	0	2	24	2	1	4	0	0	0	91
1:00 PM	10	13	3	14	15	0	1	22	1	1	4	0	0	0	84
2:00 PM	11	13	3	13	15	0	2	20	2	1	4	0	0	0	84
3:00 PM	11	13	3	13	15	0	1	15	2	1	4	0	0	0	78
4:00 PM	14	10	6	11	15	0	0	13	4	1	3	3	0	0	80
5:00 PM	11	11	6	11	15	0	0	13	4	1	3	3	0	0	78
6:00 PM	10	9	5	10	12	0	0	9	5	1	4	3	0	0	68
7:00 PM	7	7	5	9	10	0	0	5	2	1	1	1	0	0	48
8:00 PM	4	8	4	7	9	0	0	4	0	1	1	1	0	0	39
Capacity	**24**	**19**	**6**	**42**	**15**	**0**	**4**	**41**	**8**	**9**	**6**	**12**	**2**	**0**	188
Peak Parking demand															**49%**

NELSON & POPE
ENGINEERS & SURVEYORS

Start Date: Saturday 1/17/2015

	Parking Lots															
Start Time	1	2	3	4	5	6	7	8	9	10	11A	11B	11C	11D	12	Total
10:00 AM	16	5	4	17	4	33	8	57	2	5	29	7	9	7	33	236
11:00 AM	19	20	4	14	8	26	12	49	2	10	27	6	11	8	36	252
12:00 PM	15	19	6	20	9	25	5	65	2	7	32	6	8	7	24	250
1:00 PM	17	16	8	17	10	27	8	67	1	8	36	7	6	7	28	263
2:00 PM	17	25	4	15	9	28	9	69	1	4	44	4	7	7	22	265
3:00 PM	17	18	4	13	7	23	9	52	2	3	38	7	8	5	23	229
4:00 PM	17	17	5	12	9	21	10	59	2	5	30	7	2	4	18	218
5:00 PM	17	16	4	8	14	14	7	23	2	3	43	6	7	3	14	181
6:00 PM	17	12	4	8	11	12	3	52	1	3	35	4	5	3	15	185
7:00 PM	17	13	4	5	11	10	4	51	0	3	29	5	1	3	12	168
8:00 PM	17	10	3	4	10	10	4	30	0	2	22	5	1	2	10	130
Capacity	16	33	13	230	8	98	39	81	8	6	46	12	15	8	41	654

NELSON & POPE
ENGINEERS & SURVEYORS

Start Date: Saturday 1/17/2015

	Parking Lot															
Start Time	13	14	15	16	17	18	19	20	21	22	23A	23B	24	25	Total	Grand Total
10:00 AM	12	10	27	12	11	2	25	11	13	1	3	16	2	14	159	395
11:00 AM	14	14	26	12	14	3	26	11	13	1	3	18	2	15	172	424
12:00 PM	21	12	27	13	13	2	28	13	17	2	4	14	5	16	187	437
1:00 PM	19	11	26	14	14	3	33	7	10	2	3	15	5	18	180	443
2:00 PM	12	8	28	11	16	3	31	9	18	3	3	11	6	18	177	442
3:00 PM	13	13	20	12	19	5	30	10	18	2	7	10	8	9	176	405
4:00 PM	12	11	18	10	18	4	24	8	19	2	2	9	5	6	148	366
5:00 PM	10	12	15	7	10	4	22	7	17	2	2	10	4	8	130	311
6:00 PM	10	10	12	7	9	3	21	6	15	2	2	8	4	7	116	301
7:00 PM	10	7	0	6	10	3	20	5	15	2	2	5	4	7	96	264
8:00 PM	8	6	0	5	9	2	15	4	14	2	2	4	4	5	80	210
Capacity	27	21	41	25	24	45	153	15	19	8	126	33	25	21	583	**1237**
Peak Parking Demand																**36%**

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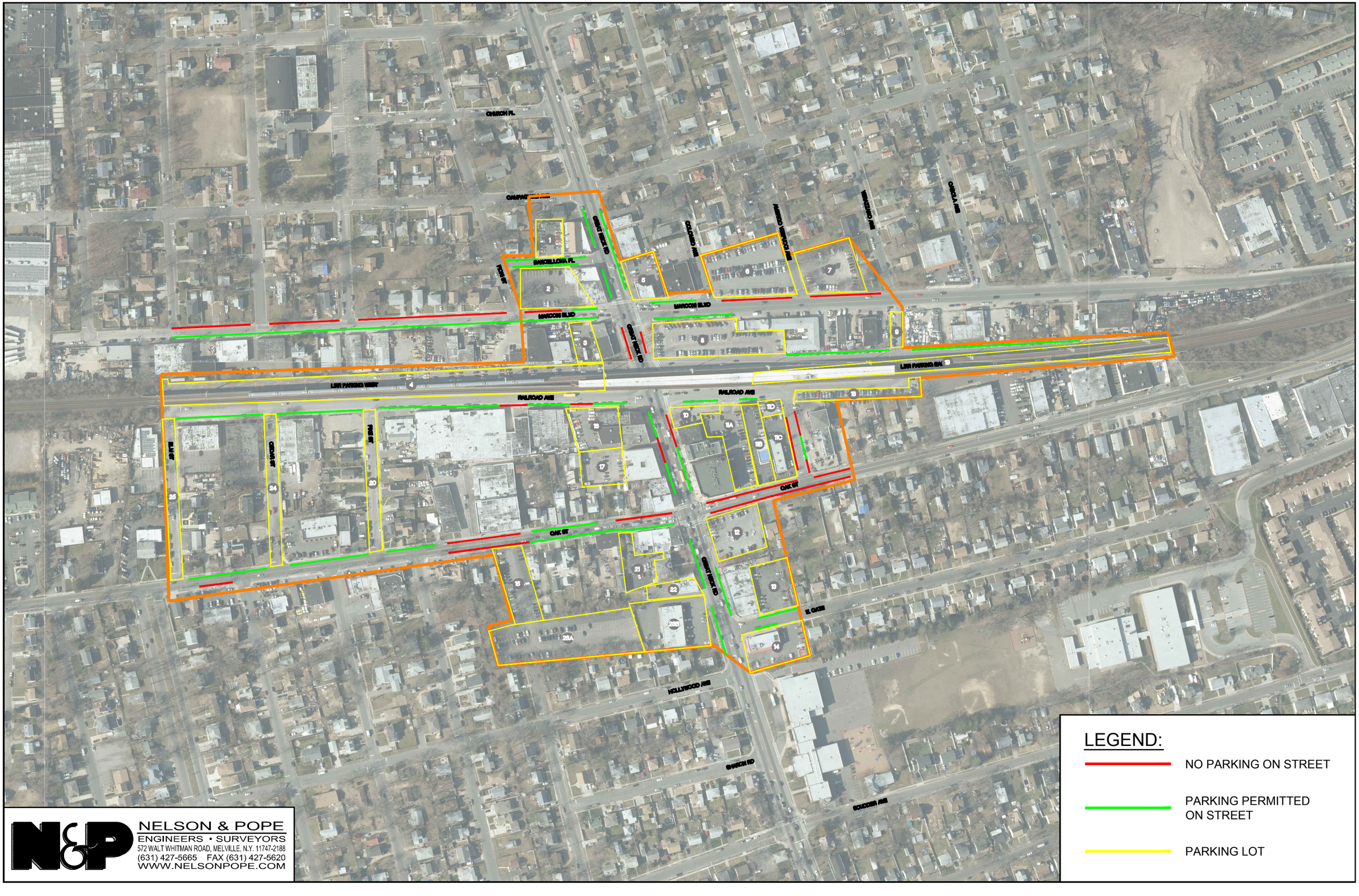
On-Street parking

Start Date: Saturday 1/17/2015

	Great Neck Rd		Marconi Blvd		Railroad Ave North		Railroad Ave South		Barcelona Ave		Oak St		E Gate		
	West Side	East Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	North Side	South Side	Total
10:00 AM	18	18	8	33	2	0	4	9	2	1	4	8	0	0	107
11:00 AM	21	24	6	46	2	0	1	10	5	4	2	13	0	1	135
12:00 PM	21	19	8	53	2	0	1	10	4	5	2	12	1	1	139
1:00 PM	22	22	5	40	1	0	2	6	5	4	7	5	0	1	120
2:00 PM	20	18	8	39	1	0	4	6	4	6	4	10	0	0	120
3:00 PM	22	21	8	40	1	0	1	5	6	5	6	11	0	0	126
4:00 PM	21	13	11	39	1	0	1	5	6	2	5	12	0	1	117
5:00 PM	16	21	8	36	1	0	0	4	6	4	7	13	0	0	116
6:00 PM	13	21	15	28	1	0	0	2	4	4	7	12	0	0	107
7:00 PM	17	17	12	20	1	0	1	0	3	0	4	10	0	1	86
8:00 PM	9	9	8	14	1	0	1	2	1	0	3	8	0	0	56
Capacity	**24**	**19**	**6**	**42**	**15**	**0**	**4**	**41**	**8**	**9**	**6**	**12**	**2**	**0**	188
Peak Parking Demand															**74%**



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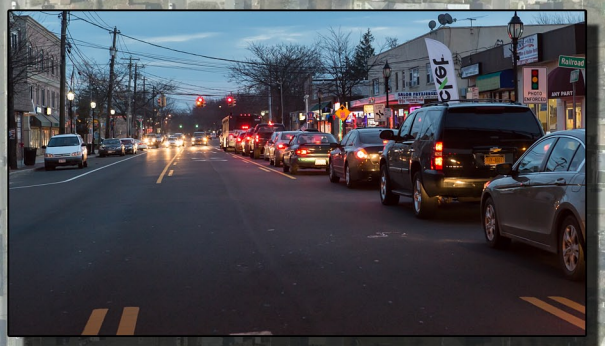
Appendix E, Traffic Impact Study

DOWNTOWN COPIAGUE
TRAFFIC IMPACT STUDY



SUBMITTED TO:

THE TOWN OF BABYLON

JANUARY 2015

NELSON & POPE
ENGINEERS & SURVEYORS
572 Walt Whitman Road
Melville, NY 11747

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EXECUTIVE SUMMARY

As part of its on-going Downtown Copiague Vision Plan, The Town of Babylon requested Nelson & Pope to conduct a Cumulative Traffic Impact Study for downtown Copiague to identify any traffic impacts that will be created by the proposed full build out plan outlined in their environmental impact statement and identify potential mitigation measures that will successfully improve traffic operation within the downtown area with minimal impact to the community.

Mitigation measures were developed based on a detailed assessment of the current and future deficiencies associated with geometry, traffic control, signal operations, existing and future capacity limitations in this study area.

In executing the scope of work, Nelson & Pope undertook the following steps:

- Conducted a detailed field inventory of the study area.
- Collected turning movement counts at the study intersections during the weekday AM, PM and Saturday midday peak periods.
- Conducted accident analyses for the intersections within the study area.
- Typically, ambient growth factors are applied to existing traffic volumes to account for traffic growth within the study area that is not related to the proposed project. However, in this study it was assumed that any growth within Copiague will be accounted for in the traffic volumes estimated to be generated by the uses in the proposed built out scenario. However, to maintain a conservative analysis, we have applied 50% of the LITP2000 ambient growth factor to the existing traffic volumes and projected them to 2024, a 10 year to develop the No Build Condition.
- Estimated trip generation for the proposed full build out scenario utilizing the Institute of Transportation Engineering (ITE) Trip Generation Manual.
- Estimated 2024 full Build-out volumes by adding the estimated trip generation to each of the resulting 2024 No Build volumes developed.

- Conducted capacity analyses at the study intersections for the 2014 Existing Condition, 2024 No Build Condition and 2024 Build Condition. The analyses were conducted using the SYNCHRO version 8 software.
- Reviewed capacity analyses to identify existing and future intersection deficiencies.
- Developed realistically executable plans to improve the anticipated future geometric and/or traffic deficiencies in the project area.
- The developed plans were analyzed. The results of the analyses with and without the improvements were compared.

Mitigation 1 consists of the following changes to study intersections:

1. Restripe the southbound Great Neck Road approach to accommodate the addition of an exclusive southbound right-turn lane on Great Neck Road at Dixon Avenue. Traffic signal timing adjustments were also performed.
2. Restripe the westbound approach of Marconi Boulevard to accommodate the addition of an exclusive westbound left-turn lane on Marconi Boulevard at Great Neck Road.
3. Restripe the eastbound approach of Railroad Avenue to accommodate an exclusive left-turn lane on Railroad Avenue at Great Neck Road.
4. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Oak Street.
5. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Montauk Highway.
6. Perform timing adjustments to the traffic signal timings at the intersection of S Strong Avenue and W Hoffman Avenue.
7. Perform timing adjustments to the traffic signal timings at the intersection of N Strong Avenue and Marconi Boulevard.

Mitigation 2 consists of the following changes to study intersections:

1. The addition of a second northbound and southbound through lane on Great Neck Road from just north of Marconi Boulevard extending south to Hollywood Avenue.
2. Timing adjustments were performed at the following study locations to optimize the operation of the intersection:

a. Great Neck Road at Marconi Boulevard
b. Great Neck Road at Oak Street

Based upon the results of the analyses, the Town of Babylon can proceed with the implementation of the proposed full build out scenario. Traffic and pedestrian flow can be improved with the implementation of the identified mitigation measures.

PURPOSE OF REPORT

As part of its on-going Downtown Copiague Vision Plan, The Town of Babylon requested Nelson & Pope to conduct a Cumulative Traffic Impact Study for downtown Copiague to identify any traffic impacts that will be created by the proposed full build out plan outlined in their environmental impact statement and identify potential mitigation measures that will successfully improve traffic operation within the downtown area with minimal impact to the community. The study area is bound by Campagnoli Avenue to the north, Elm Street to the west, Hollywood Avenue to the south.

This study evaluates the traffic impact associated with the proposed full build out scenario. The full build out Scenario will result in the following changes over the next 10 years:

- an increase in residential, office, retail and restaurant uses
- an increase in open/green space and other public/quasi-public uses
- a decrease in industrial uses
- an increase in the number of parking spaces

These changes in land use will result in an increase in traffic on the roadways in the downtown area of the Copiague, and hence the need to conduct this traffic study to identify any potential impacts by the increase in traffic and to develop executable measures to mitigate those impacts. Typical potential impacts include congestion, delay and traffic safety concerns. It is noted however that there is significant transit service and utilization for commute and other trips.

This report summarizes the results of a detailed investigation of the traffic impacts associated with the future build out scenario by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that the proposed future build out scenario will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network. The report also summarizes mitigation or improvements identified to accommodate future traffic.

The following figure shows the study area map and study intersections investigated in this study.

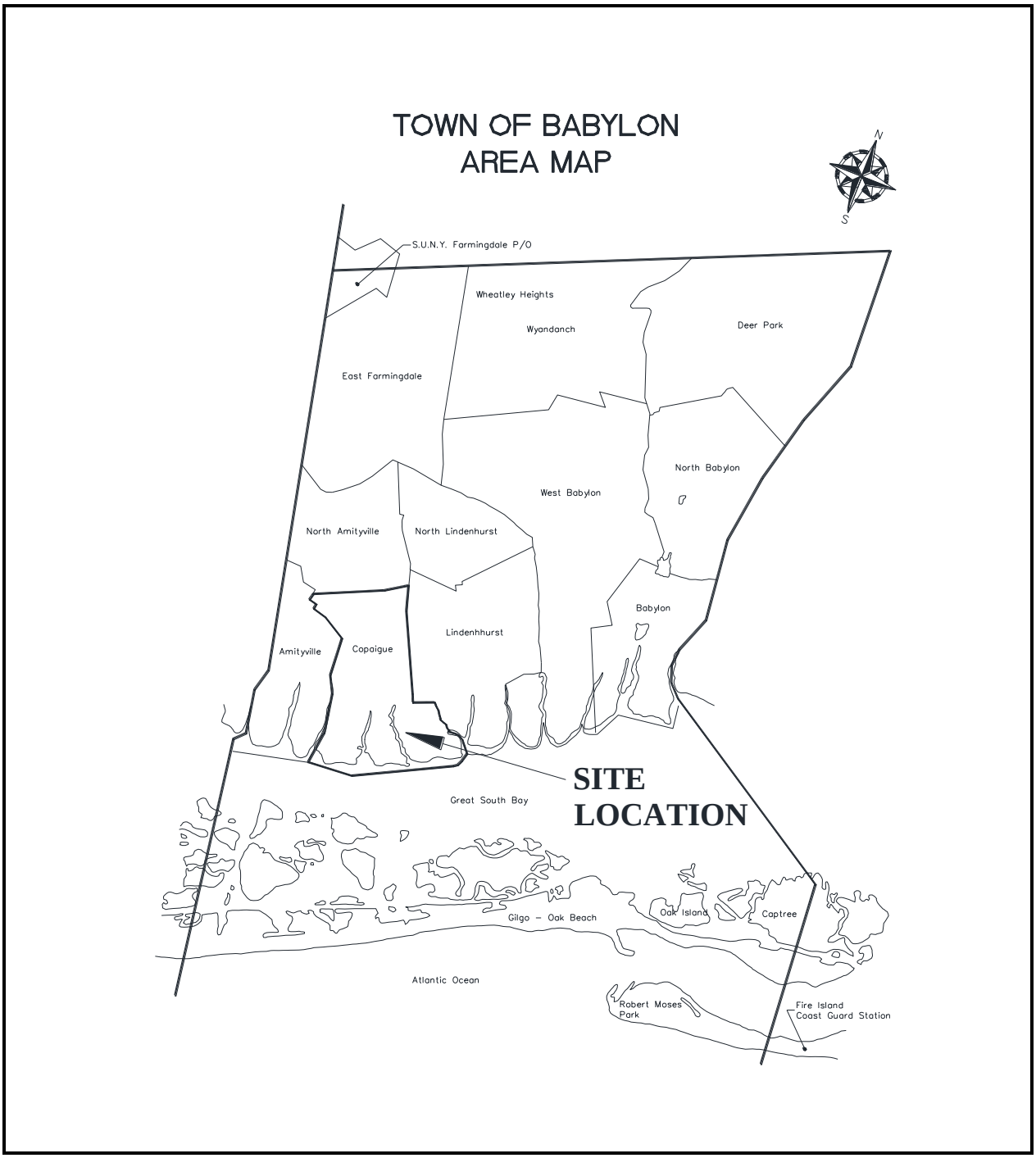
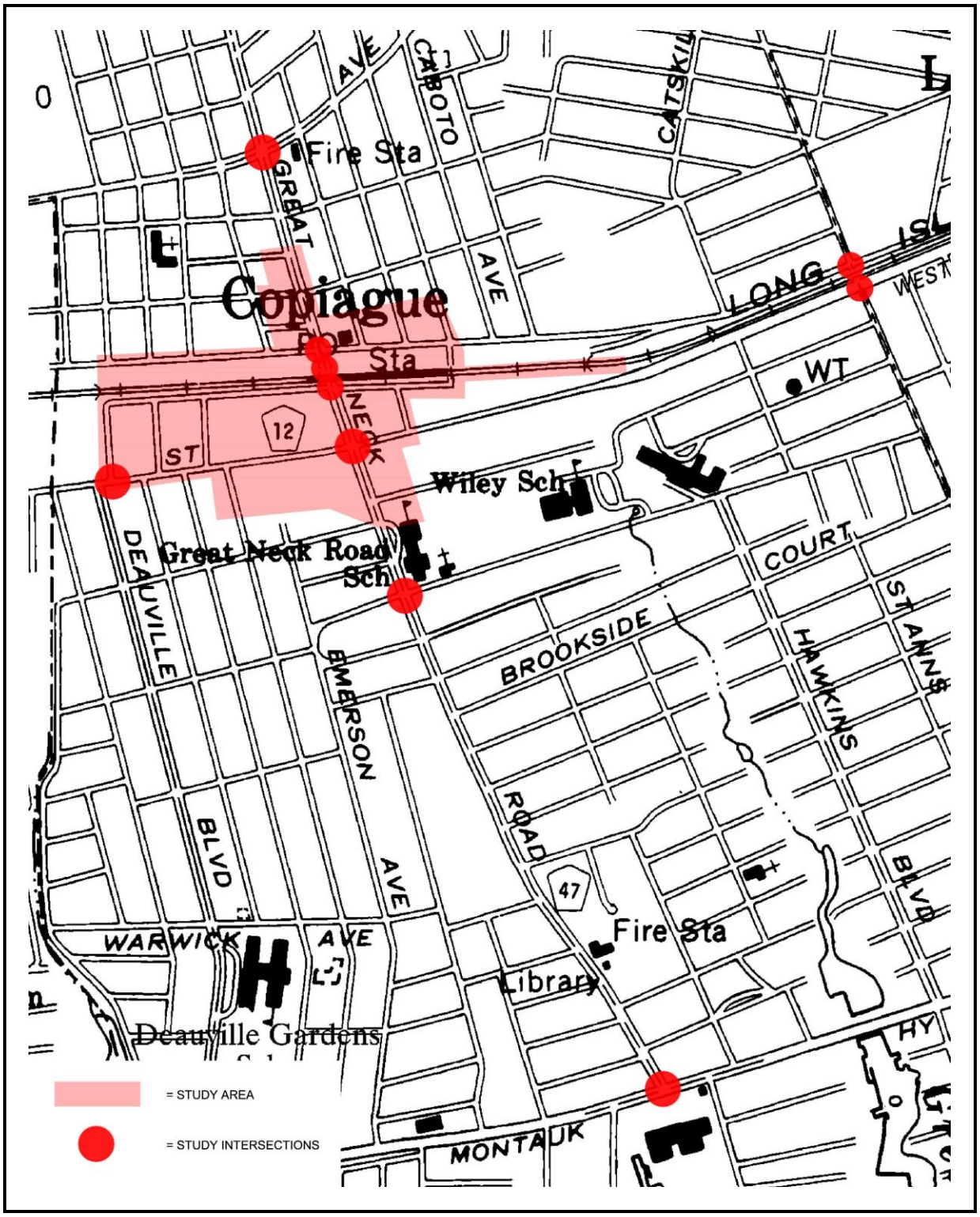


Figure 1: Area Map



Source: USGS Amityville 1991

Figure 2: Location Map

STUDY METHODOLOGY

This study assesses the traffic impacts associated with the full build out scenario and identifies appropriate mitigation, where necessary. The following steps were undertaken in executing the scope of this study:

- A detailed field inspection was conducted to obtain an inventory of existing roadway and intersection geometries along with signage, signal timings, phasing and cycle lengths. Transit services and pedestrian amenities in and near the Study Area were also identified.

- Turning movement volume counts were conducted during the weekday morning (7:00 AM to 9:00 AM), weekday evening (4:00 PM to 6:30 PM) and Saturday midday (11:00 AM to 2:00 PM) peak periods at the following Study Intersections.
    - Great Neck Road (CR 47) at Dixon Avenue (CR 2)
    - Great Neck Road (CR 47) at Marconi Boulevard
    - Great Neck Road (CR 47) at Access Road
    - Great Neck Road (CR 47) at Railroad Avenue
    - Great Neck Road (CR 47) at Oak Street (CR 12)
    - Great Neck Road (CR 47) at Scudder Avenue
    - Great Neck Road (CR 47) at Montauk Highway (NYS Route 27A)
    - Oak Street (CR 12) at Elm Street
    - N Strong Avenue at Marconi Boulevard
    - S Strong Avenue at W Hoffman Avenue

- Accident data for the most recent 3 year period for the Study Intersections was obtained from NYSDOT. The accident data was summarized and tabulated by severity of injury and type of collision.

- The existing traffic volumes obtained from the traffic counts were tabulated and adjusted for seasonal traffic fluctuation by using seasonal adjustment factors obtained from NYSDOT.

- Typically, ambient growth factors are applied to existing traffic volumes to account for traffic growth within the study area that is not related to the proposed project. However, in this

study it was assumed that any growth within the Copiague study area will be accounted for in the traffic volumes estimated to be generated by the uses in the proposed built out scenario. However, to maintain a conservative analysis, we have applied 50% of the LITP2000 ambient growth factor to the existing traffic volumes and projected them to 2024, a 10 year No Build/Build Condition.

- The Town of Babylon was contacted to obtain information on other planned projects that may impact traffic flow in the study area. The Town advised that the proposed downtown development would encompass all anticipated growth in the immediate area and be represented in the 2024 Build Condition.

- Estimates of traffic that would be generated by the proposed project were prepared utilizing trip generation data published by the Institute of Transportation Engineers ("ITE") publication, *Trip Generation, Ninth Edition*.

- The new traffic volumes generated by the proposed downtown development were assigned to the adjacent street system based upon the trip distribution model developed by Nelson & Pope.

- The estimated traffic generated by the proposed project was then added to the 2024 No Build traffic volumes to generate the proposed 2024 Build Volumes.

- Capacity analyses were performed at the Study Intersections for the following conditions:
    - 2014 Existing Conditions
    - 2024 No Build Conditions
    - 2024 Build Conditions

- The results of the analyses for the 2024 No Build Conditions and 2024 Build Conditions were compared to identify any significant impacts associated with the proposed project.

- In accordance with the findings of the capacity computations, where appropriate, recommendations were made to mitigate the projected traffic impacts.

EXISTING CONDITIONS

Land Use

The existing land uses in the Downtown area of Copiague are predominantly commercial (small local retail outlets, specialty retail stores and restaurants) with a small number of residential and industrial uses.

Roadway Conditions

Since the traffic generated by the proposed build out scenario will be distributed throughout the roadway network, the following description outlines the existing roadway network. The general descriptions provided here refer only to the sections of the roadways that exist near the study area. It is noted that roadway cross-sections may vary further away from the study area but those are not a part of the study. The Average Annual Daily Traffic (AADT) is listed for each roadway where available.

The following is a list of major roadways within the study area:

Great Neck Rd (CR 47) is a north/south roadway under the jurisdiction of Suffolk County that extends from NYS Route 110 to Montauk Highway and runs through the downtown area of Copiague. Within the Study area, Great Neck Road provides one lane per travel with a center left turn lane and left turn lanes at major intersections. Parking is permitted on each side of the road in the study area. The posted speed limit on Great Neck Road is 30 MPH. There is also a School Zone posted speed limit of 20 MPH on Great Neck Road in the vicinity of the elementary school north of Scudder Avenue.

Sidewalks are provided on both sides of Great Neck Road, making it a pedestrian friendly roadway in the Downtown area. Pedestrian crossings are painted across some intersections in the study area. The existing land uses on Great Neck Road within the Downtown area are predominantly commercial and restaurant uses.

Dixon Ave (CR 2) is an east/west roadway under the jurisdiction of Suffolk County that extends from NYS Route 110 to the west and becomes Straight Path to the northeast. Within the Study area, Dixon Avenue provides two lanes per travel with left turn lanes at major intersections. The

posted speed limit on Dixon Avenue is 35 MPH. Sidewalks are provided on most sections of Dixon Avenue in the vicinity of the study area, making it a pedestrian friendly roadway in the Downtown area. The existing land uses on Dixon Avenue within the Downtown is a mix of residential and commercial uses.

Marconi Boulevard is an east/west roadway under the jurisdiction of Town of Babylon that extends from a dead end to the west just west of Prince Chico Street and becomes W Hoffman Avenue to the east. Within the Study area, Marconi Boulevard provides one lane per travel direction. Sidewalks are provided north side of Marconi Boulevard in the vicinity of the study area, making it a pedestrian friendly roadway in the Downtown area. The existing land uses on Marconi Boulevard within the Downtown is a mix of residential and commercial uses and the Train Station.

Rail Road Avenue is an east/west roadway under the jurisdiction of Town of Babylon that extends from Elm Street to the west to a dead end. Within the Study area, Railroad Avenue provides one lane per travel direction. Sidewalks are provided on Railroad Avenue in the vicinity of the study area, making it a pedestrian friendly roadway in the Downtown area. The existing land uses on Railroad Avenue within the Downtown are predominantly commercial uses and the Train Station.

Oak Street (CR 12) is an east/west roadway under the jurisdiction of Suffolk County that extends from County Line Road to the west to a dead end to east. Within the Study area, Oak Street provides one lane per travel direction with left turn lanes at major intersections. Sidewalks are provided Oak Street in the vicinity of the study area, making it a pedestrian friendly roadway in the Downtown area. The existing land uses on Oak Street within the Downtown are a mix of residential and commercial uses.

The following table summarizes lane configurations and traffic controls at the study intersections previously mentioned:

Table 1: Study Area Intersections - Intersection Geometry

Intersection	Approach	Lane Designation*	Traffic Control
Great Neck Rd (CR 47) at Dixon Ave (CR 12)	EB WB NB SB	L-TR L-TR L-T-R L-TR	Traffic Signal
Great Neck Road (CR 47) at Marconi Blvd	EB WB NB SB	LTR LTR L-TR L-TR	Traffic Signal
Great Neck Rd (CR 47) at Access Rd	WB NB SB	LR TR L-T	Stop Control on Access Rd
Great Neck Rd (CR 47) at Railroad Ave	EB WB NB SB	LTR LTR L-TR L-TR	Stop Control on Railroad Ave
Great Neck Rd (CR 47) at Oak St (CR 12)	EB WB NB SB	L-TR L-TR L-T-R L-TR	Traffic Signal
Great Neck Rd (CR 47) at Scudder Ave	EB WB NB SB	LTR LTR L-TR L-TR	Traffic Signal
Great Neck Rd (CR 47) at Montauk Hwy (NYS RT 27A)	EB WB NB SB	L-T-TR L-2T-R L-TR L-T-R	Traffic Control
Oak St (CR 12) at Elm St	EB WB SB	LT TR LR	Stop Control on Elm St
Oak St (CR 12)/W Hoffman Ave at S Strong Ave	EB WB NB SB	L-T-R L-T-R LTR L-TR	Traffic Signal
Marconi Blvd at N Strong Ave	EB WB NB SB	LTR LTR L-TR LTR	Traffic Signal

** L = Left turn lane; T = through lane; R = Right turn lane; LT = shared left-through lane*

Traffic Volume Data

Weekday and Saturday turning movement counts were collected at the study intersections on Thursday, November 13, 2014 during the AM (6:00-9:30 AM) and PM (4:00-6:30 PM) peak periods and during the Saturday midday peak period on November 15, 2014 (11:00 AM – 2:00 PM). The volume data was tabulated to identify the peak hours at the study intersections.

Weekday and weekend seasonal adjustment factors of 1.022 and 0.87, respectively, for November (month of the counts) was obtained from data contained in the 2014 NYSDOT Traffic Data Report. These seasonal adjustment factors were developed from NYSDOT continuous data collected for a three year period. Applying the weekday normalization factor to the existing traffic volumes will decrease the existing traffic volumes. Hence, to perform a conservative analysis the traffic volumes were not normalized. The Saturday volumes were adjusted. The 2014 existing intersection peak hour volumes utilized in the analyses are contained in Appendix A.

Public Transportation

Copiague is highly served by public transit especially since the MTA Long Island Rail Road Copiague station (LIRR) is within the study area/downtown. The Copiague station is located on the Babylon line which provides service between Babylon and Penn Station. It takes approximately one hour by train from Babylon to Penn Station. The NICE (Nassau Inter County Express) bus system serves the downtown area with two routes: the N19 and N72. The Suffolk County Transit bus system also serves the downtown with eight routes: S20. S23, S25, S27, S29, S40, S42 and S47.

Accident History

Accident data for the sections of roadways and intersections in the study area was obtained from the NYSDOT. The most recent data available was from April 1, 2011 to March 31, 2014 (3 year period). The data was reviewed and analyzed.

Table 2: Accident Summary by Severity

Location	Accident Severity			
	Fatality	Injury	Property Damage	TOTAL
Great Neck Rd (CR 47) at Dixon Ave (CR 2)	-	17	20	37
Great Neck Rd (CR 47) at Marconi Blvd	-	6	6	12
Great Neck Rd (CR 47) between Marconi Blvd and Access Rd	-	1	-	1
Great Neck Rd (CR 47) at Access Rd	-	-	-	-
Great Neck Rd (CR 47) between Access Rd and Railroad Ave	-	-	-	-
Great Neck Rd (CR 47) at Railroad Ave	-	9	5	14
Great Neck Rd (CR 47) between Railroad Ave and Oak St (CR 12)	-	1	-	1
Great Neck Rd (CR 47) at Oak St (CR 12)	-	13	20	33
Great Neck Rd (CR 47) between Oak St (CR 12) and E Gate	-	-	1	1
Great Neck Rd (CR 47) at E Gate	-	5	2	7
Great Neck Rd (CR 47) between E Gate and Hollywood Ave	-	-	-	-
Great Neck Rd (CR 47) at Hollywood Ave	-	2	1	3
Great Neck Rd (CR 47) between Hollywood Ave and Sharon Rd	-	1	-	1
Great Neck Rd (CR 47) at Sharon Rd	-	1	1	2
Great Neck Rd (CR 47) between Sharon Rd and Scudder Ave	-	-	-	-
Great Neck Rd (CR 47) at Scudder Ave	-	7	5	12
Great Neck Rd (CR 47) at Montauk Hwy (NYS RT 27A)	-	13	6	19
Oak St (CR 12) at Elm St	-	-	-	-
Oak St (CR 12)/W Hoffman Ave at S Strong Ave	-	2	1	3
Marconi Blvd at N Strong Ave	-	3	4	7
Total	0 *0%*	81 *53%*	*72* *47%*	*153* *100%*

Within the study area, there were a total of 153 accidents during a three year period. No accidents involved fatalities. A slight majority of the accidents (53%) involved injury to vehicle occupants while the remainder of accidents (47%) only involved property damage. The locations that experienced the greatest number of accidents were the intersections of Great Neck Road and Dixon Avenue (37 accidents) and Great Neck Road and Oak Street (33 accidents).

Table 3: Accident Summary by Type of Collision

Location	Accident Type										
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/ Bicycle	Overtk	Side swipe	Other/ Unknown	Total
Great Neck Rd (CR 47) at Dixon Ave (CR 2)	5	17	-	3	-	1	2	3	1	5	37
Great Neck Rd (CR 47) at Marconi Blvd	-	2	-	2	1	-	3	-	-	4	12
Great Neck Rd (CR 47) between Marconi Blvd and Access Rd	-	-	-	-	1	-	-	-	-	-	1
Great Neck Rd (CR 47) at Access Rd	-	-	-	-	-	-	-	-	-	-	-
Great Neck Rd (CR 47) between Access Rd and Railroad Ave	-	-	-	-	-	-	-	-	-	-	-
Great Neck Rd (CR 47) at Railroad Ave	4	2	-	3	1	1	1	-	-	2	14
Great Neck Rd (CR 47) between Railroad Ave and Oak St (CR 12)	-	-	-	-	-	-	-	1	-	-	1
Great Neck Rd (CR 47) at Oak St (CR 12)	2	8	1	1	-	6	7	2	1	5	33
Great Neck Rd (CR 47) between Oak St (CR 12) and E Gate	-	-	-	-	-	-	-	1	-	-	1
Great Neck Rd (CR 47) at E Gate	1	1	-	2	-	-	1	-	-	2	7
Great Neck Rd (CR 47) between E Gate and Hollywood Ave	-	-	-	-	-	-	-	-	-	-	-
Great Neck Rd (CR 47) at Hollywood Ave	1	1	-	1	-	-	-	-	-	-	3
Great Neck Rd (CR 47) between Hollywood Ave and Sharon Rd	-	1	-	-	-	-	-	-	-	-	1

Location	Accident Type										
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/ Bicycle	Overtk	Side swipe	Other/ Unknown	Total
Great Neck Rd (CR 47) at Sharon Rd	-	1	-	-	-	-	-	1	-	-	2
Great Neck Rd (CR 47) between Sharon Rd and Scudder Ave	-	-	-	-	-	-	-	-	-	-	-
Great Neck Rd (CR 47) at Scudder Ave	-	4	-	1	-	1	1	-	-	5	12
Great Neck Rd (CR 47) at Montauk Hwy (NYS RT 27A)	5	4		3		2	2	1	-	2	19
Oak St (CR 12) at Elm St	-	-	-	-	-	-	-	-	-	-	-
Oak St (CR 12)/ W Hoffman Ave at S Strong Ave	1	1	-	1	-	-	-	-	-	-	3
Marconi Blvd at N Strong Ave	1	2	-	3	-	1	-	-	-	-	7
Total	*20* *13%*	*44* *29%*	1 *1%*	20 *13%*	3 *2%*	12 *8%*	17 *11%*	9 *6%*	2 *1%*	25 *16%*	153 *100%*

The most frequent type of collision consisted of rear-end accidents at 29%. Other/Unknown accidents accounted for 16% of the total number of accidents, left-turn accidents accounted for 13%, and pedestrian/bicycle accidents accounted for 11% of the total accidents. The high incidence of rear-end collisions may be associated with traffic congestion, driver inattentiveness and following too closely.

Existing Conditions Analysis

The 2014 existing peak hour traffic volumes depicted in Traffic Volume Figures 1-3 located in Appendix B 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 E.

Table 4: Existing Condition LOS Summary – Signalized Intersections

			AM Existing		PM Existing		Saturday Existing	
Signalized Intersections	Approach	Movt.	Delay	LOS	Delay	LOS	Delay	LOS
Great Neck Rd	EB	L	36.9	D	38.1	D	32.8	C
at		TR	38.5	D	49.0	D	48.1	D
Dixon Ave	WB	L	27.9	C	25.3	C	68.9	E
		TR	16.6	B	14.1	B	15.5	B
	NB	L	10.9	B	14.2	B	12.6	B
		T	16.7	B	16.8	B	7.5	A
		R	7.2	A	5.7	A	2.9	A
	SB	L	21.9	C	25.4	C	22.5	C
		TR	29.0	D	44.5	D	82.8	F
Intersection			21.5	C	27.9	C	37.8	D
Great Neck Rd	EB	LTR	21.0	C	26.2	C	24.3	C
at	WB	LTR	33.8	C	66.5	E	58.8	E
Marconi Blvd	NB	L	9.7	A	7.6	A	9.4	A
		TR	16.1	B	13.4	B	20.6	C
	SB	L	11.2	B	8.7	A	9.2	A
		TR	11.6	B	9.3	A	8.1	A
Intersection			17.5	B	22.2	C	22.6	C
Great Neck Rd	EB	L	71.8	E	40.1	D	85.9	F
at		TR	22.9	C	39.7	D	27.9	C
Oak St	WB	L	18.7	B	62.5	E	40.9	D
		TR	33.4	C	28.2	C	31.0	C
	NB	L	9.1	A	6.4	A	9.4	A
		T	24.3	C	13.5	B	24.3	C
		R	17.2	B	10.3	B	12.8	B
	SB	L	8.9	A	6.4	A	10.9	B
		TR	17.4	B	15.3	B	30.9	C
Intersection			26.7	C	23.6	C	31.1	C
Great Neck Rd	EB	LTR	33.5	C	29.4	C	30.7	C
at	WB	LTR	32.1	C	36.8	D	32.8	C
Scudder Ave	NB	L	4.0	A	5.2	A	4.5	A
		TR	5.7	A	8.2	A	7.3	A
	SB	L	0.5	A	9.0	A	10.0	A
		TR	1.3	A	11.0	B	14.0	B
Intersection			7.7	A	13.1	B	12.7	B

			AM Existing		PM Existing		Saturday Existing	
Signalized Intersections	Approach	Movt.	Delay	LOS	Delay	LOS	Delay	LOS
Great Neck Rd	EB	L	9.5	A	16.5	B	23.7	C
at		TR	10.3	B	23.4	C	25.6	C
Montauk Highway	WB	L	8.8	A	13.2	B	14.5	B
		T	18.9	B	27.4	C	33.4	C
		R	7.7	A	12.4	B	14.6	B
	NB	LT	42.4	D	53.5	D	55.0	D
		R	0.0	A	0.6	A	0.9	A
	SB	L	27.8	C	28.2	C	28.7	C
		T	23.2	C	23.4	C	23.2	C
		R	26.8	C	24.8	C	25.1	C
Intersection			16.9	B	24.9	C	28.0	C
N Strong Ave	EB	L	49.6	D	49.0	D	48.2	D
at		T	36.8	D	63.6	E	60.1	E
W Hoffman Ave		R	0.2	A	2.5	A	0.6	A
	WB	L	24.6	C	34.6	C	32.4	C
		T	31.2	C	31.7	C	36.1	D
		R	5.1	A	5.0	A	5.8	A
	NB	LTR	39.4	D	132.3	F	63.1	E
	SB	L	7.4	A	8.2	A	6.3	A
		TR	2.1	A	7.6	A	3.3	A
Intersection			25.5	C	44.7	D	34.9	C
N Strong Avenue at	EB	LTR	20.4	C	20.0	B	34.0	C
at	WB	LTR	56.1	E	106.0	F	67.5	E
Marconi Blvd	NB	L	2.5	A	3.8	A	4.2	A
		TR	3.9	A	6.9	A	6.9	A
	SB	LTR	47.0	D	66.9	E	56.4	E
Intersection			19.4	B	43.6	D	32.9	C

Great Neck Road (CR 47) and Dixon Avenue

Currently the intersection of Great Neck Road and Dixon Avenue operates at overall LOS C, C and D during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements ranging from LOS A to F.

Great Neck Road (CR 47) and Marconi Boulevard

Currently the intersection of Great Neck Road and Marconi Boulevard operates at overall LOS B, C and C during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements ranging from A to E.

Great Neck Road (CR 47) and Oak Street (CR 12)

Currently the intersection of Great Neck Road and Oak Street operates at overall LOS C during all time periods studied with LOS for individual movements ranging from A to F.

Great Neck Road (CR 47) and Scudder Avenue

Currently the intersection of Great Neck Road and Scudder Avenue will operate at LOS A, B and B during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements ranging from A to C.

Great Neck Road (CR 47) and Montauk Highway (NYS Route 27A)

Currently the intersection of Great Neck Road and Montauk Highway operates at overall LOS B, C and C during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements ranging from A to D.

South Strong Avenue and W Hoffman Avenue

Currently the intersection of South Strong Avenue and W Hoffman Avenue operates at overall LOS C, D and C during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements ranging from A to F.

North Strong Avenue and Marconi Boulevard

Currently the intersection of South Strong Avenue and W Hoffman Avenue operates at overall LOS B, D and C during the AM, PM and Saturday midday peak hours respectively with LOS for individual movements experience LOS ranging from A to F.

Table 5: Existing Condition LOS Summary – Unsignalized Intersections

			AM Existing		PM Existing		Saturday Existing	
Unsignalized Intersections	Approach	Movt.	Delay	LOS	Delay	LOS	Delay	LOS
Great Neck Rd a	WB	LR	16.6	C	15.9	C	19.1	C
Access Road	SB	L	10.1	B	9.5	A	10.9	B
Great Neck Rd	EB	LTR	21.9	C	30.0	D	42.8	E
at	WB	LTR	15.0	B	14.2	B	23.4	C
Railroad Ave	NB	L	9.2	A	9.7	A	10.9	B
	SB	L	9.4	A	9.2	A	10.6	B
Oak St at	EB	LT	1.5	A	0.4	A	0.3	A
Elm St	SB	LR	12.5	B	13.0	B	14.8	B

Great Neck Road (CR 47) and Access Road

Currently at the unsignalized intersection of Great Neck Road and Access Road the westbound stop controlled approach of the Access Road operates at LOS C during all peak hours. The southbound left-turn movement on Great Neck Road operates at LOS B, A and B during the AM, PM and Saturday peak hours.

Great Neck Road (CR 47) and Railroad Avenue

Currently at the unsignalized intersection of Great Neck Road and Railroad Avenue the eastbound stop controlled approach of Railroad Avenue operates at LOS C, D and E during the AM, PM and Saturday midday peak hours respectively. The westbound stop controlled approach of Railroad Avenue operates at LOS B, B and C during the AM, PM and Saturday midday peak hours respectively. The northbound left-turn movement on Great Neck Road operates at LOS A, A and B during the AM, PM and Saturday midday peak hours respectively. The southbound left-turn movement on Great Neck Road operates at LOS A, A and B during the AM, PM and Saturday midday peak hours respectively.

Oak Street (CR 12) and Elm Street

Currently at the unsignalized intersection of Oak Street and Elm Street the southbound stop controlled approach of Elm Street operates at LOS B during all peak hours. The eastbound left-turn on Oak Street operates at LOS A during all peak hours.

NO BUILD CONDITION

The No Build Condition represents traffic conditions expected at study intersections in the future year 2024 without the implementation of the changes proposed in the proposed full built out scenario. The No Build Condition traffic volumes are estimated based on increases in traffic due to general population growth and developments outside of the immediate study area. This traffic increase is referred to as ambient growth.

Traffic Growth

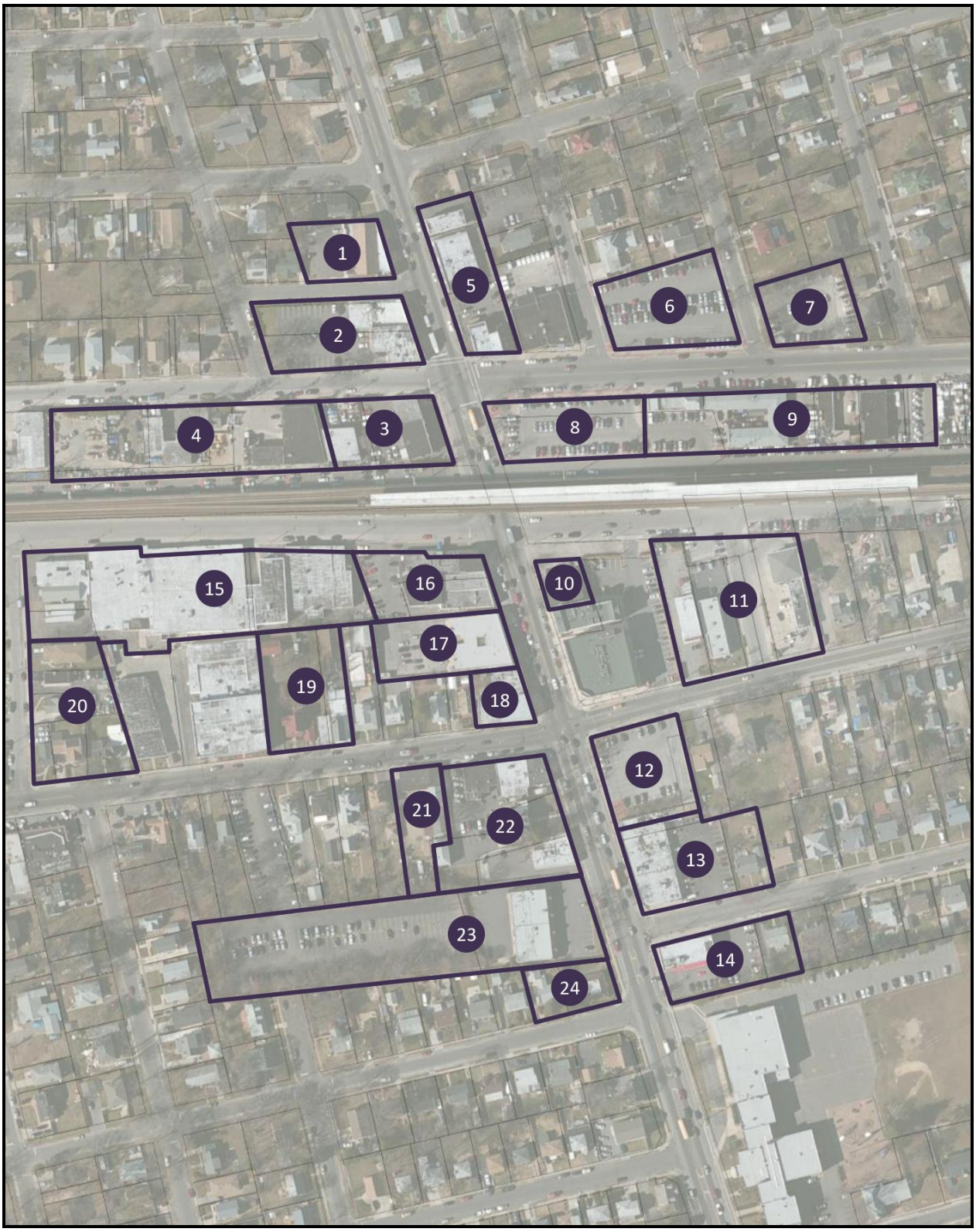
Based on the New York State Department of Transportation (NYSDOT) Long Island Transportation Plan 2000 Study (LITP2000), the Town of Babylon was envisioned to experience an annual traffic growth of 1.1%. Based on this NYSDOT annual growth factor of 1.1%, the traffic volumes in the Copiague will increase by 11% over a 10 year period (2024) even without the development of the proposed full build out scenario. However, based on our experience from repeatedly conducting traffic counts at several intersections in Suffolk County over several years, the growth factors at most of these intersections are much less than the growth factors developed by NYSDOT in their LITP2000 study. It should also be noted that the proposed full built out scenario will account for all the growth in Copiague calculated in the LITP 2000 study (1.1% per year) and no additional growth should be required in this study. However, to perform a more conservative analysis, a 0.55% per year growth factor (half of LITP 2000 growth factor) was applied to the existing traffic volumes over a 10 year period before adding the traffic volumes from the proposed full built out scenario. Therefore, to develop the anticipated traffic volumes on the roadways and intersections in the Copiague in 2024 without the implementation of the proposed full built out scenario an annual growth factor of 0.55% was applied to the 2024 traffic volumes over a 10 year period (5.5%) to develop the 2024 traffic volumes in Copiague without the implementation of the proposed full build out scenario. The future volumes will be the sum of the 2024 traffic volumes and the traffic volumes expected to be generated by the proposed full build out scenario.

PROPOSED FULL BUILD OUT SCENARIO

The following tables and figure illustrate the site specific changes in land use.

Table 6: Full Build Out Scenario

	Retail (SF)	Auto Related (SF)	Industrial /storage (SF)	Residential (Units)	Restaurant (SF)	Park/Open Space (SF)	Office (SF)	Civic /Institutional (SF)
Total Existing	50,200	7,000	87,300	41	28,300	1,850	17,200	-
Total Proposed	233163	0	0	369	43,000	28,196	79,317	15,500
Total Change	**182,963**	**(7,000)**	**(87,300)**	**328**	**14,700**	**26,346**	**62,117**	**15,500**



Source: Downtown Copiague Master Plan

Figure 3: Sites Subject to Change

The build out scenario will comprise of the following changes to the existing land uses over the next 10 years:

- Approximately 328 new residential units
- Approximately 14,700 SF of new restaurant space
- Approximately 182,963 SF of new retail space
- Approximately 62,117 SF of new office space
- Approximately 26,346 SF of new park/open space/other public/quasi-public space
- A reduction of approximately 87,300 SF of industrial space
- A reduction of approximately 7000 SF of Auto related space

In addition to these changes, as part of this project in the vicinity of the train station a new parking garage (block 9) is proposed to be constructed. Since the new garage could provide parking for potential new development in the downtown area and additional commuter parking at the station, a separate trip generation was not conducted for the new garage. However, traffic generated by the new parking garage was accounted for in this study by:

- Applying the estimated traffic for the proposed developments under the proposed full build out scenario to the intersections studied.
- The growth factors applied to the existing traffic volumes over the 10 year period also accounts for any commuter traffic using the new parking spaces in the garage.

Trip Generation

In order to identify the impacts the future development scenario will have on the adjacent street system in Copiague, it is necessary to estimate the magnitude of traffic volume generated during the peak hours and to estimate the directional distribution of the estimated traffic from the sites. The trip generation estimates for the full build out scenario were prepared utilizing data found under Land Use Codes within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition* that will closely match the uses proposed as part of the proposed project. Generally Land Use Codes contained in the ITE trip generation manual for restaurants, retail uses, office and residential uses were utilized. A table containing the ITE Land Use Codes utilized in the study is contained in Appendix C.

It should be noted that the trip generation data contained in the ITE Trip Generation Handbook is collected at single use/freestanding sites and does not take into account interaction between different uses in close proximity to each other. However a very high percentage of trips made to retail, restaurants and residential uses in close proximity to each other are linked. That is to say not all trips to new retail and restaurant uses are new trips, some of the trips utilizing the new retail uses may have originated from the new restaurant or residential uses and vice-versa. For example a significant percentage of trips that are made by shoppers also result in secondary trips to nearby restaurants for lunch, dinner, coffee, etc. Therefore, this overlap needs to be factored into the trip generation estimation. Therefore we have taken internal credit between the retail, restaurant, residential and office uses in accordance with ITE guidelines.

As indicated earlier, Copiague is highly served by public transit given the Copiague LIRR station is within the study area/downtown and the multiple Suffolk County and Nassau County bus routes. As noted in data obtained from the US Census Bureau's American Fact Finder for Copiague CDP from 2011-2013, approximately 7.5% of work trips made by Copiague residents are via public transit. Therefore, trips by the proposed developments were reduced by 7.5% to account for trips made via transit.

The following Table summarizes the trip generation estimated from ITE for the proposed build out scenario after taking credit for linked trips, pass-by trips and trips made by transit i.e., *the new trips*. Appendix C contains the trip generation worksheets.

Table 7: Trip Generation Projections (New Trips)

Time Period	Distribution	Proposed Build Out Scenario
Weekday AM Peak Hour	Enter	213
	Exit	182
	Total	**395**
Weekday PM Peak Hour	Enter	262
	Exit	249
	Total	**511**
Saturday Midday Peak Hour	Enter	346
	Exit	289
	Total	**635**

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

As can be seen from Table 5 above, the proposed full build out scenario is projected to generate approximately 395 new trips (213 entering and 182 exiting) during the weekday AM peak hour, approximately 511 trips (262 entering and 249 exiting) during the weekday PM peak hour and approximately 635 new trips (346 entering and 289 exiting) during the Saturday midday peak hour. Detailed trip generation sheets are contained in Appendix C of the report.

Trip Distribution and Assignment

The new traffic expected to be generated by the proposed build out scenario during the peak hours was distributed and assigned to each intersection movement based on existing roadway volumes and travel patterns. The nature of the proposed land use and its associated travel patterns were considered as well. The estimated trips generated by the full build out scenario were then added to the weekday AM, PM and Saturday midday 2024 No Build Condition volumes resulting in the 2024 Build Condition volumes (with the development of the proposed full build out scenario).

Traffic Analyses

In order to identify the operational characteristics of the study intersections, level of service, and capacity analyses were performed using the *SYNCHRO Version 8* Software. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersections ultimate capacity. *SYNCHRO* also implements the methods of the *2010 Highway Capacity Manual (HCM)* for urban streets, signalized intersections, and unsignalized intersections for determining intersection capacity analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining level of service for many transportation facilities and modes including signalized and unsignalized intersections.

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 definitions and threshold values for each level vary according to the type of control utilized at that intersection. A brief description is given here and a more detailed definition can be found in Appendix D.

The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity for each approach represents the maximum rate of flow (for the subject approach) which may pass through the intersection under prevailing traffic, roadway and signal conditions. The 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 LOS "F" range without exceeding roadway capacity. Substantial delays can exist

without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement 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.
The six classes of LOS, ranging from LOS A (best) to F (worst), are defined in Appendix E.

To determine the impacts that the preferred build out scenario will have on the intersections studied within the study area, a comparison of the operation (levels of service) of the intersections with and without the development of the preferred scenario was made.

In this study, impacts were quantified based on changes in delays rather than the change in level of service. This approach was utilized since a level of service class represents a range in delay and only a one second increase in delay is required to change from one LOS class to another.

The following is summary of the results of the capacity analyses at the study intersections under each of the three assumptions and the proposed mitigations. The following is a description of the mitigation measures proposed:

Mitigation 1 consists of the following changes to study intersections:

1. Restripe the southbound Great Neck Road approach to accommodate the addition of an exclusive southbound right-turn lane on Great Neck Road at Dixon Avenue. Traffic signal timing adjustments were also performed.
2. Restripe the westbound approach of Marconi Boulevard to accommodate the addition of an exclusive westbound left-turn lane on Marconi Boulevard at Great Neck Road.
3. Restripe the eastbound approach of Railroad Avenue to accommodate an exclusive left-turn lane on Railroad Avenue at Great Neck Road.

4. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Oak Street.
5. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Montauk Highway.
6. Perform timing adjustments to the traffic signal timings at the intersection of S Strong Avenue and W Hoffman Avenue.
7. Perform timing adjustments to the traffic signal timings at the intersection of N Strong Avenue and Marconi Boulevard.

Mitigation 2 consists of the following changes to study intersections:

1. The addition of a second northbound and southbound through lane on Great Neck Road from just north of Marconi Boulevard extending south to Hollywood Avenue.
2. Timing adjustments were performed at the following study locations to optimize the operation of the intersections:
    a. Great Neck Road at Marconi Boulevard
    b. Great Neck Road at Oak Street

The following tables show the results of the intersections that will be significantly impacted by the proposed full build out scenario.

Table 8: Level of Service Summary – AM Peak Hour Signalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	38.9	D	38.8	D	38.8	D		
at		TR	40.8	D	42.6	D	42.6	D		
Dixon Ave	WB	L	31.5	C	42.7	D	35.1	D		
		TR	16.9	B	16.8	B	16.0	B		
	NB	L	10.5	B	11.4	B	15.8	B		
		T	16.4	B	17.2	B	20.6	C		
		R	7.0	A	7.2	A	7.9	A		
	SB	L	22.3	C	23.0	C	22.2	C		
		TR	30.8	C	36.7	D	-	-		
		T	-	-	-	-	27.6	C		
		R	-	-	-	-	18.5	B		
Intersection			22.5	C	25.1	C	23.5	C		
Great Neck Rd	EB	LTR	20.7	C	20.2	C	27.1	C	27.2	C
at	WB	LTR	34.5	C	35.5	D	-	-	-	-
Marconi Blvd		L	-	-	-	-	32.8	C	33.0	C
		TR	-	-	-	-	31.7	C	31.9	C
	NB	L	10.9	B	10.9	B	6.6	A	6.0	A
		TR	28.2	C	25.6	C	13.8	B	5.8	A
	SB	L	12.9	B	28.5	C	9.8	A	7.3	A
		TR	12.2	B	13.2	B	9.2	A	6.4	A
Intersection			27.3	C	22.7	C	15.4	B	10.9	B
Great Neck Rd	EB	L	83.6	F	88.8	F	88.8	F	75.9	E
at		TR	22.4	C	21.8	C	21.8	C	20.3	C
Oak St	WB	L	18.6	B	19.1	B	19.1	B	16.8	B
		TR	33.2	C	32.3	C	32.3	C	29.9	C
	NB	L	9.3	A	9.6	A	9.9	A	11.4	B
		T	28.9	C	34.9	C	28.1	C	-	-
		TR	-	-	-	-	-	-	21.9	C
		R	18.1	B	18.3	B	15.5	B	-	-
	SB	L	9.4	A	11.8	B	11.8	B	11.3	B
		TR	36.4	D	22.0	C	17.7	B	14.9	B
Intersection			29.4	C	31.7	C	28.7	C	24.9	C
Great Neck Rd	EB	LTR	33.6	C	33.3	C				
at	WB	LTR	32.2	C	32.3	C				
Scudder Ave	NB	L	4.2	A	4.3	A				
		TR	6.1	A	6.8	A				
	SB	L	0.5	A	0.7	A				
		TR	1.3	A	1.3	A				
Intersection			8.0	A	8.1	A				

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	10.8	B	11.6	B				
at		TR	11.4	B	11.6	B				
Montauk Highway	WB	L	9.1	A	9.4	A				
		T	21.2	C	23.2	C				
		R	8.6	A	9.3	A				
	NB	LT	44.4	D	46.4	D				
		R	0.0	A	0.0	A				
	SB	L	26.9	C	29.1	C				
		T	23.0	C	23.3	C				
		R	26.0	C	27.1	C				
Intersection			18.3	B	19.6	B				
S Strong Ave	EB	L	50.1	D	56.6	E	51.8	D		
at		T	36.8	D	38.6	D	37.0	D		
W Hoffman Ave		R	0.2	A	0.2	A	0.2	A		
	WB	L	24.8	C	24.8	C	24.9	C		
		T	31.5	C	31.5	C	31.9	C		
		R	4.9	A	5.4	A	5.5	A		
	NB	LTR	45.0	D	48.5	D	47.6	D		
	SB	L	8.2	A	8.2	A	8.1	A		
		TR	2.3	A	2.5	A	2.4	A		
Intersection			27.2	C	29.2	C	28.3	C		
N Strong Avenue at	EB	LTR	22.7	C	22.9	C	22.8	C		
at	WB	LTR	59.3	E	61.9	E	61.2	E		
Marconi Blvd	NB	L	2.8	A	3.0	A	3.0	A		
		TR	4.7	A	5.2	A	5.3	A		
	SB	LTR	49.0	D	51.7	D	51.0	D		
Intersection			20.8	C	22.1	C	21.9	C		

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

Table 9: Level of Service Summary – AM Peak Hour Unsignalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Unsignalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	WB	LR	17.9	C	31.6	D			16.6	C
at Access Road	SB	L	10.5	B	11.9	B			10.0	B
Great Neck Rd	EB	LTR	25.1	D	44.5	E	-	-	-	-
at		L	-	-	-	-	36.1	E	19.9	C
Railroad Ave		TR	-	-	-	-	17.1	C	14.4	B
	WB	LTR	16.3	C	18.8	C	18.9	C	12.6	B
	NB	L	9.4	A	10.3	B	10.4	B	9.5	A
	SB	L	9.6	A	10.2	B	10.1	B	9.0	A
Oak St at	EB	LT	1.5	A	1.8	A				
Elm St	SB	LR	13.1	B	13.6	B				

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

Table 10: Level of Service Summary – PM Peak Hour Signalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	33.3	C	34.1	C	33.3	C		
at		TR	55.5	E	73.5	E	65.8	E		
Dixon Ave	WB	L	27.3	C	32.9	C	34.6	C		
		TR	6.0	A	6.0	A	6.0	A		
	NB	L	14.4	B	14.0	B	23.6	C		
		T	17.2	B	18.0	B	20.5	C		
		R	5.6	A	5.7	A	6.4	A		
	SB	L	25.9	C	26.7	C	25.5	C		
		TR	52.5	D	76.7	E	-	-		
		T	-	-	-	-	59.2	E		
		R	-	-	-	-	20.8	C		
Intersection			32.8	C	42.2	D	37.6	D		
Great Neck Rd	EB	LTR	26.9	C	26.9	C	30.1	C	37.7	D
at	WB	LTR	86.0	F	110.4	F	-	-	-	-
Marconi Blvd		L	-	-	-	-	64.9	E	34.6	C
		TR	-	-	-	-	24.5	C	18.7	B
	NB	L	10.9	B	10.3	B	10.5	B	11.7	B
		TR	28.2	C	21.5	C	18.9	B	11.8	B
	SB	L	9.3	A	16.7	B	11.4	B	11.4	B
		TR	9.8	A	11.3	B	10.5	B	9.5	A
Intersection			27.3	C	32.6	C	21.6	C	16.5	B
Great Neck Rd	EB	L	45.5	D	62.5	E	43.5	D	37.8	D
at		TR	42.1	D	43.6	D	34.3	C	31.6	C
Oak St	WB	L	69.3	E	96.2	F	77	E	58.2	E
		TR	28.5	C	30.1	C	26.4	C	24.9	C
	NB	L	7.2	A	8.7	A	10.8	B	9.7	A
		T	14.5	B	17.7	B	21.4	C	-	-
		TR	-	-	-	-	-	-	15.8	B
		R	10.9	B	11.8	B	13.1	B	-	-
	SB	L	6.8	A	8.7	A	10.7	B	8.4	A
		TR	36.4	D	21.4	C	24.6	C	13.1	B
Intersection			25.9	C	29.4	C	27.3	C	21.4	C
Great Neck Rd	EB	LTR	29.2	C	29.5	C				
at	WB	LTR	36.8	D	36.8	D				
Scudder Ave	NB	L	5.4	A	5.7	A				
		TR	8.9	A	10.3	B				
	SB	L	9.9	A	10.7	B				
		TR	12.5	B	13.8	B				
Intersection			14.1	B	15.1	B				

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	18.2	B	20.3	C	20.2	C		
at		TR	24.8	C	25.0	C	25.1	C		
Montauk Highway	WB	L	13.8	B	13.9	B	14.0	B		
		T	28.9	C	29.6	C	30.3	C		
		R	13.0	B	13.7	B	14.1	B		
	NB	LT	54.3	D	55.0	E	54.6	D		
		R	0.7	A	0.7	A	0.7	A		
	SB	L	28.9	C	32.1	C	31.7	C		
		T	23.4	C	23.5	C	23.3	C		
		R	24.8	C	25.8	C	25.6	C		
Intersection			26.0	C	26.6	C	26.8	C		
S Strong Ave	EB	L	44.5	D	46.0	D	47.4	D		
at		T	55.3	E	56	E	58.9	E		
W Hoffman Ave		R	3.0	A	3.0	A	3.1	A		
	WB	L	29.4	C	29.8	C	31.3	C		
		T	27.4	C	27.9	C	28.8	C		
		R	4.7	A	4.7	A	4.9	A		
	NB	LTR	191.2	F	258.2	F	172.3	F		
	SB	L	8.5	A	8.6	A	8.2	A		
		TR	12.1	B	12.9	B	11.8	B		
Intersection			53.9	D	65.3	E	51.1	D		
N Strong Avenue at	EB	LTR	27.3	C	27.2	C	27.5	C		
at	WB	LTR	47.1	D	51.1	D	52	D		
Marconi Blvd	NB	L	3.1	A	3.2	A	3.1	A		
		TR	5.7	A	6.0	A	5.1	A		
	SB	LTR	61.4	E	65.6	E	59.9	E		
Intersection			33.1	C	35.1	D	32.8	C		

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

Table 11: Level of Service Summary – PM Peak Hour Unsignalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Unsignalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd a	WB	LR	16.9	C	31.9	D			15.8	C
Access Road	SB	L	9.8	A	0.5	A			9.6	A
Great Neck Rd	EB	LTR	22.1	C	136.7	F	-	-	-	-
at		L	-	-	-	-	30.9	D	18.0	C
Railroad Ave		TR	-	-	-	-	19.2	C	13.2	B
	WB	LTR	15.4	C	18.0	C	17.8	C	12.0	B
	NB	L	10.1	B	11.4	B	11.5	B	9.8	A
	SB	L	9.4	A	10.0	A	10.0	A	9.0	A
Oak St at	EB	LT	0.4	A	0.7	A				
Elm St	SB	LR	13.8	B	14.7	B				

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

Table 12: Level of Service Summary – Saturday Peak Hour Signalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	34.0	C	34.0	C	34.0	C		
at		TR	56.2	E	64.1	E	64.1	E		
Dixon Ave	WB	L	84.4	F	153.4	F	86.8	F		
		TR	15.8	B	15.8	B	14.3	B		
	NB	L	12.9	B	12.0	B	45.0	D		
		T	7.1	A	6.8	A	12.1	B		
		R	2.8	A	2.7	A	3.2	A		
	SB	L	23.0	C	23.4	C	23.0	C		
		TR	104.4	F	165.5	F	-	-		
		T	-	-	-	-	82.6	F		
		R	-	-	-	-	20.0	B		
Intersection			45.1	D	67.3	E	44.5	D		
Great Neck Rd	EB	LTR	24.5	C	24.5	C	30.8	C	38.2	D
at	WB	LTR	68.4	E	93.7	F	-	-	-	-
Marconi Blvd		L	-	-	-	-	64.1	E	23.3	C
		TR	-	-	-	-	24.5	C	16.7	B
	NB	L	10.9	B	28.4	C	11.7	B	11.8	B
		TR	28.2	C	61.4	E	29.7	C	11.4	B
	SB	L	10.9	B	16.8	B	19.3	B	12.4	B
		TR	9.0	A	12.7	B	11.4	B	10.0	A
Intersection			27.3	C	44.8	D	25.2	C	15.3	B
Great Neck Rd	EB	L	110.6	F	218.0	F	123.1	F	80.3	F
at		TR	28.1	C	29.7	C	25.5	C	22.3	C
Oak St	WB	L	47.5	D	82.9	F	48.0	D	33.5	C
		TR	32.0	C	36.9	D	30.2	C	25.6	C
	NB	L	10.8	B	11.8	B	22.4	C	13.3	B
		T	28.9	C	48.8	D	41.6	D	-	-
		TR	-	-	-	-	-	-	19.9	B
		R	13.4	B	14.7	B	13.9	B	-	-
	SB	L	11.7	B	13.6	B	24.0	C	21.7	C
		TR	36.4	D	48.3	D	40.6	D	23.2	C
Intersection			35.8	D	53.0	D	40.6	D	26.5	C
Great Neck Rd	EB	LTR	30.8	C	31.1	C				
at	WB	LTR	32.9	C	33.1	C				
Scudder Ave	NB	L	4.7	A	5.1	A				
		TR	7.9	A	9.5	A				
	SB	L	10.4	B	11.4	B				
		TR	14.8	B	16.0	B				
Intersection			13.4	B	14.6	B				

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Signalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	EB	L	30.7	C	42.0	D	35.6	D		
at		TR	27.1	C	27.3	C	23.2	C		
Montauk Highway	WB	L	15.2	B	15.2	B	15.5	B		
		T	36.0	D	37.0	D	36.9	D		
		R	15.2	B	16.4	B	16.7	B		
	NB	LT	56.7	E	57.2	E	63.5	E		
		R	1.0	A	1.0	A	0.8	A		
	SB	L	29.6	C	33.9	C	37.8	D		
		T	23.3	C	23.3	C	25.2	C		
		R	25.2	C	26.2	C	28.3	C		
Intersection			29.9	C	31.3	C	30.4	C		
S Strong Ave	EB	L	48.9	D	50.5	D	53.4	D		
at		T	62.4	E	62.6	E	66.5	E		
W Hoffman Ave		R	0.6	A	0.6	A	0.6	A		
	WB	L	32.3	C	32.2	C	36.4	D		
		T	35.1	D	35.3	D	39.1	D		
		R	5.3	A	5.9	A	7.7	A		
	NB	LTR	114.6	F	141	F	106.6	F		
	SB	L	7.6	A	7.9	A	7.3	A		
		TR	3.2	A	3.5	A	3.1	A		
Intersection			47.3	D	53.4	D	46.9	D		
N Strong Avenue at	EB	LTR	36.9	D	37.5	D	37.9	D		
at	WB	LTR	91.1	F	108.5	F	98.4	F		
Marconi Blvd	NB	L	5.3	A	5.5	A	5.0	A		
		TR	9.7	A	10.5	B	8.5	A		
	SB	LTR	60.5	E	61.3	E	63.4	E		
Intersection			39.0	D	42.5	D	40.8	D		

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

Table 13: Level of Service Summary – Saturday Peak Hour Unsignalized

			No Build		Build		Build with Mitigation		Build with Mitigation #2	
Unsignalized Intersections	Approach	Movt.	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS	Delay Sec/Veh	LOS
Great Neck Rd	WB	LR	24.2	C	52.8	F			18.4	C
at Access Road	SB	L	11.5	B	14.5	B			10.7	B
Great Neck Rd	EB	LTR	269.7	F	379.2	F	-	-	-	-
at		L	-	-	-	-	107.0	F	24.6	C
Railroad Ave		TR	-	-	-	-	25.0	C	12.2	B
	WB	LTR	27.4	D	48.1	E	35.8	E	16.2	C
	NB	L	11.5	B	14.9	B	14.4	B	10.6	B
	SB	L	11.2	B	12.7	B	12.3	B	9.6	A
Oak St at	EB	LT	0.3	A	0.8	A				
Elm St	SB	LR	15.8	C	17.4	C				

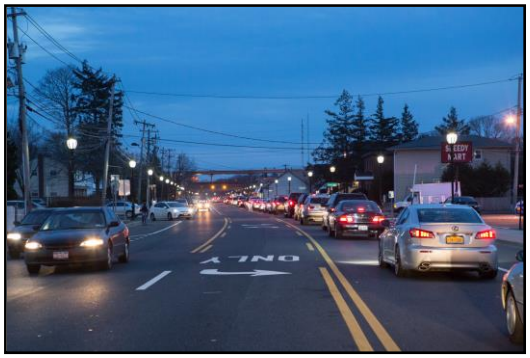
Notes: LOS = Level of Service, Delay = seconds/vehicle

Great Neck Road (CR 47) and Dixon Avenue

During the No Build Condition, the signalized intersection of Great Neck Road and Dixon Avenue operates at overall LOS C, C and D during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the AM and PM peak periods. During the Saturday midday peak hour the overall LOS will change from D to E. By restriping the southbound approach of Great Neck Road to accommodate an exclusive right-turn lane and implementing timing adjustments the LOS for all movements the operation of this intersection will improve for all time periods studied.

Great Neck Road (CR 47) and Marconi Boulevard

During the No Build Condition, the signalized intersection of Great Neck Road and Marconi Boulevard operates at overall LOS B, C and C during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the PM peak period. During the AM peak hour



the LOS will change from B to C and during the Saturday midday peak hours the overall LOS will change from C to D. By restriping the westbound approach of Marconi Boulevard to accommodate an exclusive left-turn lane, the operation of this intersection will improve for all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.

Great Neck Road (CR 47) and Access Road

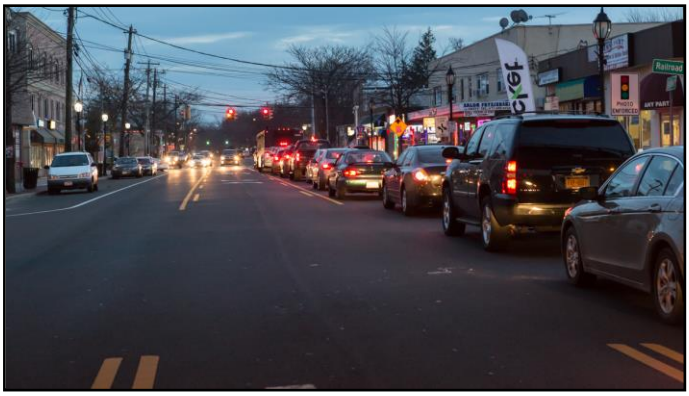
During the No Build Condition, the unsignalized intersection of Great Neck Road and Access Road has LOS for individual movements ranging from A to C. During the Build Condition all approaches except for westbound will continue to operate at No Build LOS during all peak hours. The westbound approach will change from LOS C to D during the AM and PM peak periods and from LOS C to F during the Saturday peak period. This location lacks adequate right-of-way width to accommodate an additional westbound lane, therefore mitigation is not possible. However, under Mitigation 2, the overall operation of this intersection will improve due to the additional lanes on Great Neck Road.

Great Neck Road (CR 47) and Railroad Avenue

During the No Build Condition, the unsignalized intersection of Great Neck Road and Railroad Avenue has LOS for individual movements ranging from A to F. During the Build Condition all approaches except for eastbound will continue to operate at No Build LOS during all peak hours. The eastbound approach will change from LOS E to F during the PM peak. During this AM and Saturday peak this approach continues to operate at LOS F with increased delay. In order to mitigate these impacts, the eastbound approach of Railroad Avenue should be restriped to accommodate an exclusive left-turn lane. This improvement will improve the overall operation of the intersection during all time periods studied. The overall operation of this intersection will improve further under Mitigation 2.

Great Neck Road (CR 47) and Oak Street (CR 12)

During the No Build Condition, the signalized intersection of Great Neck Road and Oak Street operates at overall LOS C, C and D during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during all peak periods. However, there will be changes to the LOS of certain individual movements during the PM and Saturday peak hours. By implementing timing adjustments at this location, the overall operation of the intersection will improve during all time periods studied. Under Mitigation 2, timing adjustments are performed in order to optimize the operation of the signal with respect to the additional through lanes on Great Neck Road.



Great Neck Road (CR 47) and Scudder Avenue

During the No Build Condition, the signalized intersection of Great Neck Road and Scudder Avenue will operate at LOS A, B and B during the AM, PM and Saturday midday peak hours respectively. Individual movements will experience LOS ranging from A to C. During the Build Condition the intersection will continue to operate at No Build LOS during all peak hours.

Great Neck Road (CR 47) and Montauk Highway (NYS Route 27A)

During the No Build Condition, the signalized intersection of Great Neck Road and Montauk Highway operates at overall LOS B, C and C during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to E. During the Build Condition, the intersection will continue to operate at No Build LOS during all peak periods. During the PM and Saturday peak hours the eastbound left-turn will experience a change in LOS. Implementing timing adjustments will improve the operation of this intersection during the PM and Saturday peak hours.

South Strong Avenue and W Hoffman Avenue

During the No Build Condition, the signalized intersection of South Strong Avenue and W Hoffman Avenue operates at overall LOS C, D and D during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the overall intersection will continue to operate at No Build LOS during the PM and Saturday peak hours. During the PM peak hour the LOS will change from D to E. During the PM and Saturday peak hours the northbound approach (which operates at LOS F) will experience an increase in delay. Implementing timing adjustments will improve the operation of this intersection during all time periods studied.

North Strong Avenue and Marconi Boulevard

During the No Build Condition, the signalized intersection of South Strong Avenue and W Hoffman Avenue operates at overall LOS C, C and D during the AM, PM and Saturday midday peak hours respectively. Individual movements experience LOS ranging from A to F. During the Build Condition, the intersection will continue to operate at No Build LOS during the AM and Saturday peak hours. During the PM peak hour the LOS will change from C to D. Implementing timing adjustments will improve the operation of this intersection during all time periods studied.

Oak Street (CR 12) and Elm Street

During the No Build Condition, the unsignalized intersection of Oak Street and Elm Street has LOS for individual movements ranging from A to C. During the Build Condition all movements will continue to operate at No Build LOS during the all peak hours.

PARKING ASSESSMENT

As part of the Copiague Vision Plan, Nelson and Pope conducted a Parking Study. A Study of the primary parking lots and on-street parking areas in the Downtown of Copiague was conducted to identify the current supply and demand for commuter and commercial parking.

The focus of the parking study includes several parking lots and on-street parking areas within the Downtown and as shown in the parking figure included in Appendix F.

The objective of the parking study was to inventory the parking supply in the study area, identify the peak parking periods and associated peak occupancy by location and provide recommendations for parking improvements if necessary.

PARKING STUDY METHODOLOGY

The study analyzed the information regarding parking utilization in the study area and estimate current parking demand for a basis of determining parking adequacy for the future build out scenario as proposed project site plans get submitted to the Town by applicants for approval. In executing the scope of work, the following steps were undertaken:

- A detailed field inspection was conducted to obtain an inventory of each of the on-street, public and private parking areas to be studied to verify the number of spaces available.

- Parking accumulation counts were conducted at each of the on-street, public and private parking areas identified. The parking surveys were conducted between the hours of 10:00 AM and 8:00 PM on an hourly basis on Wednesday January 21, 2015 and on Saturday January 17, 20015.

- The parking counts were tabulated to identify the parking utilization by time-of-day and by location. The peak parking occupancy was identified for each public parking facility and for the private and on-street parking areas.

- The results of the parking utilization were analyzed and current peak parking demand estimated.

Existing Parking Conditions

A total of twenty nine (29) parking lots and seven (7) roadways where on-street parking is permitted in downtown Copiague were studied. The following tables summarize the existing parking supply broken down into parking lots and on-street parking areas.

Table 14: Existing Parking Lot Supply

Parking Area	Total Number of Spaces
Parking Lots	
Lot 1	16
Lot 2	33
Lot 3	13
Lot 4	230
Lot 5	8
Lot 6	98
Lot 7	39
Lot 8	81
Lot 9	8
Lot 10	6
Lot 11A	46
Lot 11B	12
Lot 11C	15
Lot 11D	8
Lot 12	41
Lot 13	27
Lot 14	21
Lot 15	41
Lot 16	25
Lot 17	24
Lot 18	45
Lot 19	153
Lot 20	15
Lot 21	19
Lot 22	8
Lot 23A	126
Lot 23B	33
Lot 24	25
Lot 25	21
Total spaces	1237

Table 15: Existing On-Street Parking Supply

Parking Area	Total Number of Spaces
On Street	
Great Neck Road	43
Marconi Boulevard	48
Railroad Avenue North	15
Railroad Avenue South	45
Barcelona Avenue	17
Oak Street	18
E Gate	2
Total On-Street Spaces	188

Note: 1 parking space was measured as 25 feet in areas where the parking spaces are not delineated

As shown in Tables 14 and 15 above, a total of 1237 parking spaces on lots and 188 On-Street parking spaces are provided within the study area.

As previously stated, parking accumulation counts were conducted at each of the on-street, and parking lots identified. The parking surveys were conducted between the hours of 10:00 AM and 8:00 PM on an hourly basis on Wednesday January 21, 2015 and on Saturday January 17, 20015. The detailed parking data included in Appendix F of this report.

A review of the parking data contained in the appendix reveal that the peak parking demand times for the parking lots occurs at 10AM for weekdays and 1 PM on Saturday. The overall peak parking demand in the parking lots was 878 parking spaces (71%) during the weekday and 443 parking spaces on Saturday (36%). The parking lots are highly utilized during weekdays but still have a significant number of available parking spaces (359 parking spaces available, 29%).

A review of the On-Street parking data contained in the appendix reveals that the peak parking demand times occurs at 10AM for weekdays and 12 PM on Saturday. The overall peak parking demand was 92 parking spaces (49%) during the weekday and 139 parking spaces on Saturday (74%). There is significant number of parking spaces available on street during both the weekdays and Saturday.

Evaluations and Recommendations

After reviewing the field observations and analyzing the parking accumulation, it appears that Downtown Copiague has adequate parking to support existing conditions. However, we recommend parking demand and management plans be developed by future applicants for each proposed development under the future full build out scenario as they get submitted to the Town of Babylon for approval.

CONCLUSION

Nelson & Pope has conducted a Cumulative Traffic Impact Study for the ongoing Downtown Copiague Vision Plan to identify any traffic impacts that will be created by the proposed full build out outlined in their environmental impact statement and identify potential mitigation measures that will successfully improve traffic operation within the downtown area with minimal impact to the community.

Mitigation measures were developed based on a detailed assessment of the current and future deficiencies associated with geometry, traffic control, signal operations, existing and future capacity limitations in this study area.

In executing the scope of work, Nelson & Pope undertook the following steps:

- Conducted a detailed field inventory of the study area.
- Collected turning movement counts at the study intersections during the weekday AM, PM and Saturday midday peak periods.
- Conducted accident analyses for the intersections within the study area.
- Conducted parking counts on a typical weekday and Saturday at each on-street and parking lots identified to estimate current parking demand.
- Typically, ambient growth factors are applied to existing traffic volumes to account for traffic growth within the study area that is not related to the proposed project. However, in this study it was assumed that any growth within Copiague will be accounted for in the traffic volumes estimated to be generated by the uses in the proposed built out scenario. However, to maintain a conservative analysis, we have applied 50% of the LITP2000 ambient growth factor to the existing traffic volumes and projected them to 2024, a 10 year to develop the No Build Condition.
- Estimated trip generation for the proposed full build out scenario utilizing the Institute of Transportation Engineering (ITE) Trip Generation Manual.
- Estimated 2024 full Build-out volumes by adding the estimated trip generation to each of the resulting 2024 No Build volumes developed.

- Conducted capacity analyses at the study intersections for the 2014 Existing Condition, 2024 No Build Condition and 2024 Build Condition. The analyses were conducted using the SYNCHRO version 8 software.
- Reviewed capacity analyses to identify existing and future intersection deficiencies.
- Developed realistically executable plans to improve the anticipated future geometric and/or traffic deficiencies in the project area.
- The developed plans were analyzed. The results of the analyses with and without the improvements were compared.

Mitigation 1 consists of the following changes to study intersections:

1. Restripe the southbound Great Neck Road approach to accommodate the addition of an exclusive southbound right-turn lane on Great Neck Road at Dixon Avenue. Traffic signal timing adjustments were also performed.
2. Restripe the westbound approach of Marconi Boulevard to accommodate the addition of an exclusive westbound left-turn lane on Marconi Boulevard at Great Neck Road.
3. Restripe the eastbound approach of Railroad Avenue to accommodate an exclusive left-turn lane on Railroad Avenue at Great Neck Road.
4. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Oak Street.
5. Perform timing adjustments to the traffic signal timings at the intersection of Great Neck Road and Montauk Highway.
6. Perform timing adjustments to the traffic signal timings at the intersection of S Strong Avenue and W Hoffman Avenue.
7. Perform timing adjustments to the traffic signal timings at the intersection of N Strong Avenue and Marconi Boulevard.

Mitigation 2 consists of the following changes to study intersections:

1. The addition of a second northbound and southbound through lane on Great Neck Road from just north of Marconi Boulevard extending south to Hollywood Avenue.
2. Timing adjustments were performed at the following study locations to optimize the operation of the intersection:

a. Great Neck Road at Marconi Boulevard
b. Great Neck Road at Oak Street

Based upon the above, the Town can proceed with the implementation of its full build out scenario and traffic flow can be improved with the implementation of the identified mitigation measures. It should also be noted that the Downtown Copiague has adequate parking to support existing conditions. However, we recommend parking demand and management plans be developed by future applicants for each proposed development under the future full build out scenario as they get submitted to the Town of Babylon for approval.

Appendix F, Construction Cost Estimate

DOWNTOWN COPIAGUE (DC) ZONING DISTRICT DGEIS
CONSTRUCTION COST ESTIMATE

Use (new)	Units/SF/Spaces**	Cost per Units/SF/Spaces*	Total Cost
Residential	369	$126,875.00	$46,816,875
Retail	233,164	$150.00	$34,974,654
Restaurant	43,500	$300.00	$13,050,000
Office	79,317	$210.00	$16,656,494
Industrial	0	$150.00	$0
Park/Open Space	28,196	$0.00	$0
Institutional/Civic	15,500	$250.00	$3,875,000
Structured Parking	158	$30,000.00	$4,740,000
Sub-Total			*$120,113,023*
Soft Costs (20%)			$24,022,605
Total			***$144,135,628***

COST PER UNITS/SF/SPACES SOURCE: RS Means Square Foot Costs.
*NOTES: *Assumes all work is performed by the private sector.*
*** New units/square feet/spaces to be constructed; does not include existing to remain.*

Appendix G, Cultural Resource Documentation

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

December 11, 2014

Mr. Brian Zitani
Waterways Management Supervisor
Town of Babylon Dept. of Environmental Control
281 Phelps Lane, Room 23
North Babylon, NY 11703

Re: SEQRA
Downtown Copiague Zoning District
Copiague Hamlet, Babylon, NY
14PR05169

Dear Mr. Zitani:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the New York State Office of Parks, Recreation and Historic Preservation's opinion that your project will have no impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

TOWN OF BABYLON
Received
DEC 17 2014
ENVIRONMENTAL CONTROL

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island Resource Center, PO Box 189, Waterford, NY 12188-0189 (Mail)
Delaware Avenue, Cohoes 12047 (Delivery) **(518) 237-8643**

PROJECT REVIEW COVER FORM

Rev. 10-04

Please complete this form and attach it to the top of ***any and all information submitted to this office*** *for review. Accurate and complete forms will assist this office in the timely processing and response to your request.*

1. **This information relates to a previously submitted project.** ■

PROJECT NUMBER 09 PR 00797

If you have checked this box and noted the previous Project Review (PR) number assigned by this office you do not need to continue unless any of the required information below has changed.

COUNTY Suffolk

2. **This is a new project.** ☐ If you have checked this box you will need to complete ALL of the following information.

Submittal Date: 11/24/14

Project Name Downtown Copiague Zoning District

Location N/A
You MUST include street number, street name and/or County, State or Interstate route number if applicable.

City/Town/Village Copiague Hamlet, Town of Babylon
List the correct municipality in which your project is being undertaken. If in a hamlet you must also provide the name of the town.

County Suffolk
If your undertaking* covers multiple communities/counties please attach a list defining all municipalities/counties included.

TYPE OF REVIEW REQUIRED/REQUESTED (Please answer both questions)

A. Does this action involve a permit approval or funding, now or ultimately from any other governmental agency?

☐ No ■ Yes

If Yes, list agency name(s) and permit(s) approval(s) Agency involved	Type of permit/approval	State	Federal
Town of Babylon	Adoption of Zoning Code	☐	☐
		☐	☐
		☐	☐

B. Have you consulted the NYSHPO web site at http://www.nysparks.state.ny.us/shpo to determine the preliminary presence or absence of previously identified cultural resources within or adjacent to the project area? If yes: ■ Yes ☐ No

Was the project site wholly or partially included within an identified archeologically sensitive area? ☐ Yes ■ No

Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the NY State or National Registers of Historic Places? ☐ Yes ■ No

CONTACT PERSON FOR PROJECT

Name Brian Zitani Title Waterways Management Supervisor

Firm/Agency Town of Babylon Department of Environmental Control

Address 281 Phelps Lane, Room 23 City North Babylon State New York Zip 11703

Phone (631) 422-7640 Fax (631) 422-7686 E-Mail bzitani@townofbabylon.com

The Historic Preservation Review Process in New York State

In order to insure that historic preservation is carefully considered in publicly-funded or permitted undertakings*, there are laws at each level of government that require projects to be reviewed for their potential impact/effect on historic properties. At the federal level, Section 106 of the National Historic Preservation Act of 1966 (NHPA) directs the review of federally funded, licensed or permitted projects. At the state level, Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980 performs a comparable function. Local environmental review for municipalities is carried out under the State Environmental Quality Review Act (SEQRA) of 1978.
(regulations on line at: www.nysparks.state.ny.us/shpo Environmental Review)

Project review is conducted in two stages. First, the Field Services Bureau assesses affected properties to determine whether or not they are listed or eligible for listing in the New York State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures.

ALL PROJECTS SUBMITTED FOR REVIEW SHOULD INCLUDE THE FOLLOWING MATERIAL(S).

■ Project Description

Attach a full description of the nature and extent of the work to be undertaken as part of this project. Relevant portions of the project applications or environmental statements may be submitted.

■ Maps Locating Project

Include a map locating the project in the community. The map must clearly show street and road names surrounding the project area as well as the location of all portions of the project. Appropriate maps include tax maps, Sanborn Insurance maps, and/or USGS quadrangle maps.

☐ Photographs: Previously submitted

Photographs may be black and white prints, color prints, or color laser/photo copies; standard (black and white) photocopies are NOT acceptable.

- *If the project involves rehabilitation,* include photographs of the building(s) involved. Label each exterior view to a site map and label all interior views.

- *If the project involves new construction,* include photographs of the surrounding area looking out from the project site. Include photographs of any buildings (more than 50 years old) that are located on the project property or on adjoining property.

NOTE: Projects submissions will not be accepted via facsimile or e-mail.

Undertaking is defined as an agency's purchase, lease or sale of a property, assistance through grants, loans or guarantees, issuing of licenses, permits or approvals, and work performed pursuant to delegation or mandate.

Project Description

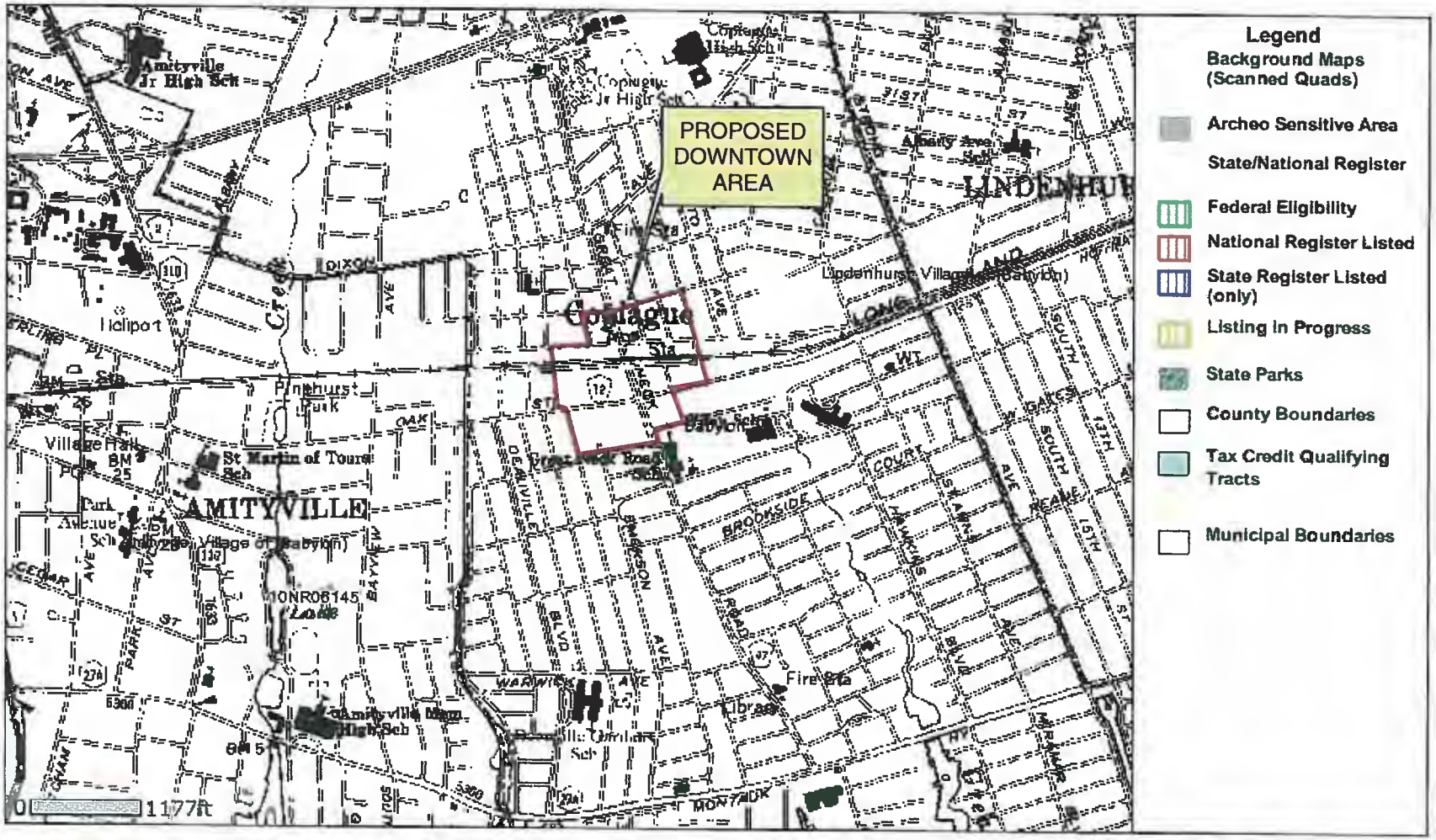
In 2009 the Town of Babylon completed and adopted the Copiague Vision Plan (i.e.: the Plan). The Plan identified a 35 acre area which has been designated as the Copiague Downtown District. To facilitate economic revitalization and proper treatment of community asset the Plan outlined redevelopment of properties and the adoption of a new form based code.

The Town has prepared a "Draft" form based Zoning Code for the Downtown District and is preparing a Generic Environmental Impact Statement to access the environmental impacts of future development based on the Code.

Attached is a copy of the district boundary and properties highlighted for full build-out if the zoning district is enacted. These properties were previously reviewed for historic significance in 2009 during preparation of the Vision Plan.

The Town is interested in any historic or archeologic resources that may be impacted by this action.

HISTORIC PRESERVATION



TOWN OF BABYLON COPIAGUE DOWNTOWN REVITALIZATION DISTRICT

Area 1	1985 Great Neck Road	SCTM #0100-177-03-18
Area 2	1905-1911 Great Neck Road 1925 Great Neck Road	SCTM #0100-177-03-51 SCTM #0100-177-03-50
Area 3	1800 Great Neck Road 520 Marconi Boulevard	SCTM #0100-177-03-52 SCTM #0100-177-03-53
Area 4	460 Marconi Boulevard 480 Marconi Boulevard 490 Marconi Boulevard 500 Marconi Boulevard	SCTM #0100-177-03-58 SCTM #0100-177-03-57.001 SCTM #0100-177-03-55 SCTM #0100-17-03-54
Area 5	603 Marconi Boulevard 1940 Great Neck Road 1950 Great Neck Road	SCTM #0100-197-01-5.001 SCTM #0100-197-01-3 SCTM #0100-197-01-2
Area 6	725 Marconi Boulevard	SCTM #0100-197-01-14
Area 7	805 Marconi Boulevard	SCTM #0100-197-01-27
Area 8	700 Marconi Boulevard Great Neck Road MTA	SCTM #0100-197-02-1 SCTM #0100-197-02-24
Area 9	782 Marconi Boulevard 790 Marconi Boulevard 810 Marconi Boulevard 860 Marconi Boulevard 960 Marconi Boulevard	SCTM #0100-197-02-2 SCTM #0100-197-02-4.001 SCTM #0100-197-02-5 SCTM #0100-197-02-6 SCTM #0100-197-02-7
Area 10	1732 Great Neck Road	SCTM #0100-197-02-40
Area 11	511 Oak Street 517 Oak Street 519 Oak Street	SCTM #0100-197-02-37 SCTM #0100-197-02-36 SCTM #0100-197-02-35

Area 11	Oak Street 521 Oak Street	SCTM #0100-197-02-34 SCTM #0100-197-02-33
Area 12	1670 Great Neck Road 1650 Great Neck Road	SCTM #0100-197-03-1 SCTM #0100-197-03-38.001
Area 13	1636-1648 Great Neck Road 1 East Gate	SCTM #0100-197-03-39 SCTM #0100-197-03-37
Area 14	1550 Great Neck Road 2 East Gate	SCTM #0100-197-03-40 SCTM #0100-197-03-41
Area 15	54 Railroad Avenue 60 Railroad Avenue 50 Pine Street	SCTM #0100-178-01-29.001 SCTM #0100-178-01-42.001 SCTM #0100-178-01-30
Area 16	1775 Great Neck Road 1729 Great Neck Road	SCTM #0100-178-01-43 SCTM #0100-178-01-44
Area 17	1723 Great Neck Road	SCTM #010-178-01-45
Area 18	1717 Great Neck Road	SCTM #0100-178-01-49
Area 19	463 Oak Street 471 Oak Street	SCTM #0100-178-01-39 SCTM #0100-178-01-40
Area 20	401 Oak Street 403 Oak Street 405 Oak Street 20 Pine Street 30 Pine Street 40 Pine Street	SCTM #0100-178-01-34 SCTM #0100-178-01-35 SCTM #0100-178-01-36 SCTM #0100-178-01-33 SCTM #0100-178-01-32 SCTM #0100-178-01-31
Area 21	482 Oak Street	SCTM #0100-178-03-41

Area 22	492-500 Oak Street 1665 Great Neck Road 1649-1653 Great Neck Road	SCTM #0100-178-03-42 SCTM #0100-178-03-43 SCTM #0100-178-03-44
Area 23	1635 Great Neck Road	SCTM #0100-178-03-45.001 SCTM #0100-178-03-45.008
Area 24	1605 Great Neck Road 615 Hollywood Avenue	SCTM #0100-178-03-46 SCTM #0100-178-03-47

DOWNTOWN COPIAGUE
PROPOSED DC ZONING DISTRICT: BUILD-OUT SCENARIO
SITES SUBJECT TO CHANGE

Site Subject to Change	Parcels	Acreage	Existing Land Use Program	Build Out Land Use Program
1	2	0.34	**Retail:** 6,000 sf retail	**Mixed (Residential, Retail, Restaurant):** 8 apartment units, 10,000 sf retail, 2,000 sf restaurant
2	3, 4	0.65	**Retail:** 8,000 sf retail	**Mixed (Residential, Retail, Restaurant):** 18 apartment units, 19,000 sf retail, 4,000 sf restaurant
3	5, 6	0.54	**Automobile-Oriented:** 7,000 sf automobile-oriented	**Mixed (Residential, Retail, Restaurant, Open Space, Civic/Institutional):** 16 apartment units, 13,000 sf retail, 4,000 sf restaurant; 1,500 sf open space; 1,500 sf civic/institutional
4	7-10	1.08	**Mixed (Residential, Industrial, Storage):** 1 apartment unit, 11,000 sf industrial/storage	**Residential:** 20 apartment units
5	14-16	0.52	**Mixed (Residential, Retail, Restaurant):** 5 apartment units, 7,000 sf retail, 2,500 sf restaurant	**Mixed (Residential, Retail, Restaurant):** 154 apartment units, 16,000 sf retail, 2,000 sf restaurant
6	18	0.68	**Parking**	**Mixed (Residential, Retail, Restaurant, Office):** 19 apartment units, 6,500 sf retail, 2,000 sf restaurant, 20,000 sf office
7	19	0.42	**Parking**	**Residential:** 12 apartment units
8	21, 27	4.17	**Mixed (Open Space, Parking):** 600 sf open space	**Open/Civic:** 13,000 sf open space, 14,000 sf civic/institutional
9	22-26	0.92	**Mixed (Industrial, Parking):** 13,000 sf industrial	**Parking Garage**
10	33	0.14	**Office:** 3,000 sf office	**Mixed (Retail, Office, Open Space):** 4,000 sf retail, 4,000 sf office, 1,000 sf open space
11	36-40	1.22	**Mixed (Residential, Retail, Office, Industrial, Parking):** 4 apartment units, 2,600 sf retail, 3,000 sf office, 3,500 sf industrial	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 31 apartment units, 27,500 sf retail, 3,500 sf restaurant, 11,000 sf office, 8,000 sf open space
12	45-46	0.56	**Parking/Open Space:** 1,250 sf open space	**Retail/Open Space:** 17,500 sf retail, 2,000 sf open space
13	49-51	0.75	**Mixed (Residential, Retail, Restaurant):** 1 apartment unit, 6,000 sf retail, 4,500 sf restaurant	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 16 apartment units, 12,500 sf retail, 3,500 sf restaurant, 7,000 sf office, 1,000 sf open space

14	52-55	0.51	**Mixed (Residential, Retail):** 1 apartment unit, 3,500 sf retail	**Mixed (Residential, Retail, Restaurant, Office):** 10 apartment units, 10,000 sf retail, 1,500 sf restaurant, 4,000 sf office
15	54-57	1.72	**Industrial:** 59,000 sf industrial	**Residential:** 90 apartment units
16	58-59	0.51	**Mixed (Retail, Restaurant):** 5,000 sf retail, 8,800 sf restaurant	**Mixed (Retail, Restaurant, Office):** 15,500 sf retail, 2,000 sf restaurant, 12,000 sf office
17	60	0.49	**Mixed (Residential, Retail, Restaurant, Office):** 2 apartment units, 4,700 sf retail, 4,700 sf restaurant, 4,700 sf office	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 14 apartment units, 14,000 sf retail, 2,000 sf restaurant, 4,000 sf office, 500 sf open space
18	75	0.22	**Mixed (Residential, Retail, Office):** 10 apartment units, 800 sf retail, 2,000 sf office	**Mixed (Residential, Retail, Restaurant, Office):** 6 apartment units, 4,000 sf retail, 1,500 sf restaurant, 3,000 sf office
19	69-70	0.65	**Mixed (Residential, Restaurant):** 7 apartment units, 800 sf restaurant	**Residential:** 15 apartment units
20	61-66	0.79	**Mixed (Residential, Retail, Restaurant, Office):** 7 apartment units, 800 sf office, 800 sf industrial	**Mixed (Residential, Retail, Restaurant, Office, Open Space):** 18 apartment units, 14,500 sf retail, 5,000 sf restaurant, 7,000 office, 1,250 open space
21	86	0.38	**Retail:** 3,200 sf retail	**Residential:** 11 apartment units
22	87-89	0.99	**Mixed (Residential, Retail, Restaurant, Office):** 3 apartment units, 8,400 sf retail, 1,000 sf restaurant, 1,000 sf office	**Mixed (Residential, Retail, Restaurant):** 27 apartment units, 29,000 retail, 6,000 sf restaurant
23	90-91	1.71	**Mixed (Restaurant, Office, Parking):** 6,000 sf restaurant, 1,000 sf office	**Mixed (Residential, Retail, Restaurant, Parking):** 20 apartment units, 21,000 sf retail, 4,000 sf restaurant
24	92-93	0.27	**Mixed (Residential, Office):** 1 apartment unit, 1,700 sf office	**Mixed (Residential, Office):** 4 apartment units, 6,000 sf office

Figure _, Sites Subject to Change

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

April 22, 2009

Brian Zitani
Town of Babylon Dept of Enviromental Control
281 Phelps Lane
North Babylon, New York 11703

Re: DOS
Copaigue Vision Plan
Great Neck Rd/Copaigue
BABYLON, Suffolk County
09PR00797

Dear Mr. Zitani:

Thank you for requesting the comments of the Field Services Bureau of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Field Services Bureau and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the OPRHP's opinion that your project will have No Adverse Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

TOWN OF BABYLON
Received
APR 30 2009
ENVIRONMENTAL CONTROL

David A. Paterson
Governor

Carol Ash
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

February 24, 2009

Brian Zitani
Town of Babylon Dept of Environmental Control
281 Phelps Lane
North Babylon, New York 11703

Re: DOS
Copaigue Vision Plan
Great Neck Rd, Copaigue
BABYLON, Suffolk County
09PR00797

Dear Mr. Zitani:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate Section 106 consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

Enclosure

TOWN OF BABYLON
Received
FEB 27 2009
ENVIRONMENTAL CONTROL

REQUEST FOR ADDITIONAL INFORMATION
BUILDINGS/STRUCTURES/DISTRICTS

PROJECT NUMBER 09PR00797

(Copaigue Vision Plan/Great Neck Rd/Copaigue/T/BABYLON)

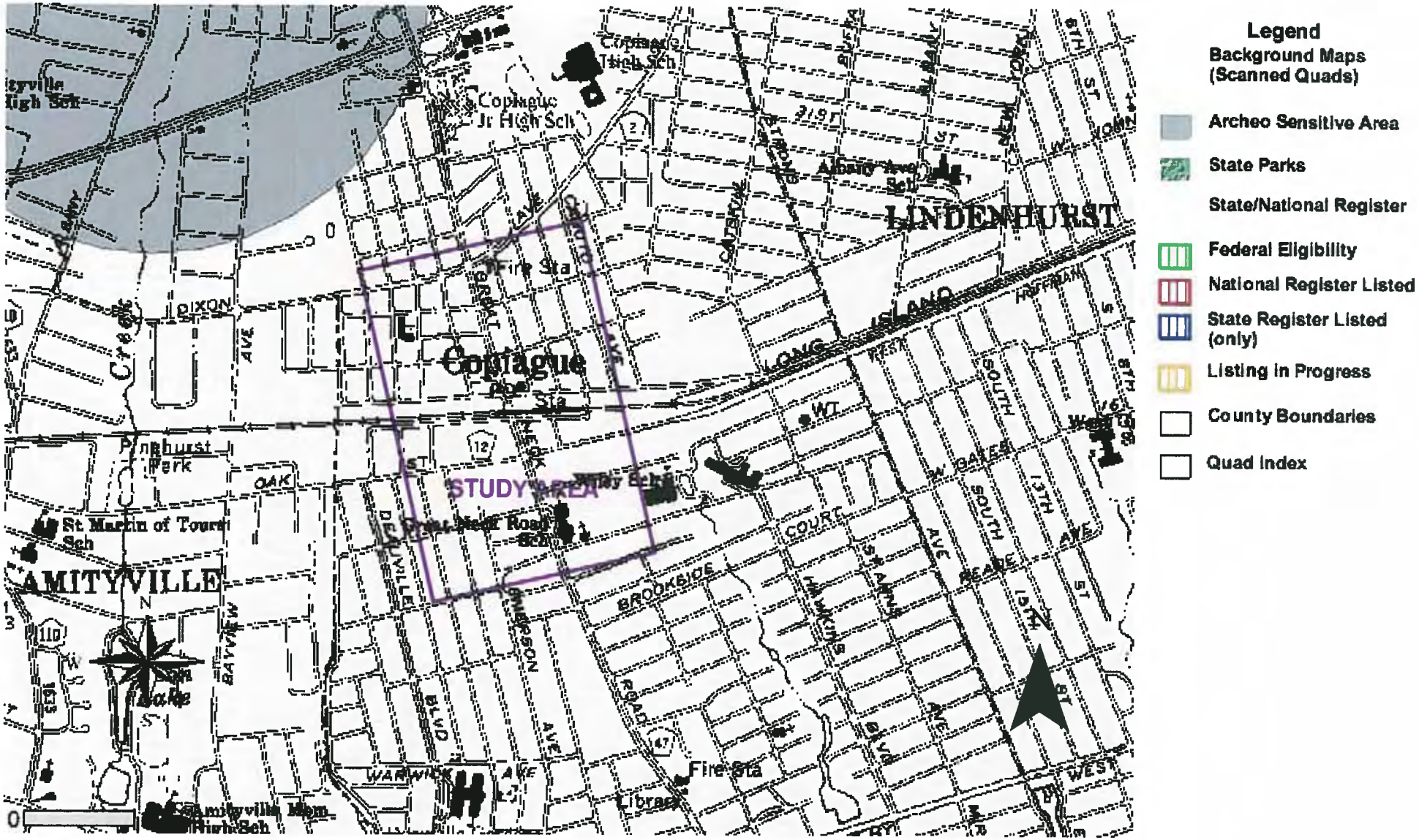
In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

- [x] Full project description showing area of potential effect.
- [x] Clear, original photographs of buildings/structures 50 years or older.
  - [x] within or [x] immediately adjacent to the project area
  - ** *key all photographs to a site map*
- [x] Clear, original photographs of the surroundings looking out from the project site in all direction, *keyed to a site map.*
- [ ] Date of construction.
- [ ] Brief history of property.
- [ ] Clear, original photographs of the following:
- [ ] Other:

Please provide only the additional information checked above. If you have any question concerning this request for additional information, please call Virginia Bartos at 518 237-8643. ext 3256

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST

COPIAGUE VISION PLAN



NEW YORK STATE HISTORIC AND ARCHEOLOGICAL SENSITIVE AREAS

ENVIRONMENTAL ASSESSMENT FORM
PART I - HISTORIC PRESERVATION ADDENDUM

TOWN OF BABYLON
ENVIRONMENTAL QUALITY REVIEW

COPIAGUE VISION PLAN

PREPARED FOR THE OFFICE OF DOWNTOWN REVITALIZATION

BY THE

DEPARTMENT OF ENVIRONMENTAL CONTROL
VICTORIA A. RUSSELL, COMMISSIONER

APRIL, 2009

Environmental Quality Review
Copiague Vision Plan
Hamlet of Copiague

Project Location:	Copiague, Town of Babylon Suffolk County, New York
Applicant:	Office of Downtown Revitalization 200 East Sunrise Highway Lindenhurst, New York
Certifying Officer:	Vanessa Pugh, Director Office of Downtown Revitalization 200 East Sunrise Highway North Lindenhurst, NY 11757
Preparer and Contact:	Town of Babylon Department of Environmental Control 281 Phelps Lane, Room 23 North Babylon, N.Y. 11703 631-422-7640 Brian Zitani, Project Manager
Researchers:	Adrienne Holmes Lauren Puccia Amanda Salerno
Date of Preparation:	April 2009

Copiague Vision Plan
Office of Downtown Revitalization

Environmental Assessment Form – Part I Addendum

Project Description

In 2004 the Town created the Office of Downtown Revitalization to identify downtown areas and promote Smart Growth in each identified district. It has been acknowledged that individual hamlets do not have the same identity that a Village Main Street possesses. To rectify this issue the office, using information in the Town Comprehensive Land Use Plan, identified Downtown Districts for each of the eight hamlets that make up the Town of Babylon.

In 2008 the process began on the Vision Plan for the Downtown Copiague area. Development recommendations in the Draft Vision Plan include: Adoption of a form-based Zoning Code, redevelopment of industrial parcels to mixed-use, shared parking and access management, improvements to pedestrian treatments along County roadways. The Draft Vision Plan Document is available on the Town of Babylon website at www.townofbabylon.com.homepage.

The Copiague Downtown District boundary encompasses an area of 72 acres and is comprised of over 270 individual tax parcels. A review of Town Building, Assessment and tax records identified 154 structures that original construction exceeds 50 years. An aerial photograph showing the District boundary and highlighting all structures over 50 years old is attached as Figure 1. A photo inventory of the front building facade on all identified structures is

included in this EAF. A second aerial keyed to street views into and out of the Downtown District is provided on Figure 2.

The Plan does provide guidance on several "Priority" sites that are targeted for immediate attention for redevelopment. They are the Long Island Railroad (LIRR) north parking lot, existing auto repair on East Marconi Blvd., former Bennet X-Ray Building, Municipal parking lot on southeast corner of Great Neck Road and Oak Street, F.E.G.S. parking lot, strip store on Great Neck Road between Oak Street and Hollywood Avenue, and existing repair shop on Great Neck Road and Marconi Blvd..

Of the sites labeled for priority development, the existing auto repair (Buildings No. 38 and 39), the former Bennet X-Ray building (Building No. 52), and the existing taxi repair shop (Building No. 30) have been inventoried on Figure 1 as being constructed over 50 years ago.

Copiague Vision Plan

Building no.1, 2355 Great Neck Rd.

Building no.2, 2350 Great Neck Rd.

Building no.3, 2340 Great Neck Rd.

Building no.4, 335 Columbo Ave.

Copiague Vision Plan

Building no.5, 390 Columbo Ave.

Building no.6, 410 Dixon Ave.

Building no.7, 320 Pio XI St.

Building no.8, 2290 Great Neck Rd.

Copiague Vision Plan

Building no.9, 2210 Great Neck Rd.

Building no.10, 595 Dante Ave.

Building no.11, 250 Pio XI St.

Building no.12, 2190 Great Neck Rd.

Copiague vision Plan

Building no.13, 195 Columbo Ave.

Building no.14, 125 Columbo Ave.

Building no.15, 110 Church Pl.

Building no.16, 10 Church Pl.

Copiague Vision Plan

Building no.17, 2095 Great Neck Rd.

Building no.18, 2015 Great Neck Rd.

Building no.19, 1995 Great Neck Rd.

Building no.20, 620 Campagnoli Ave.

Copiague Vision Plan

Building no.20, 640 Campagnoli Ave.

Building no.22, 55 Columbo Ave.

Building no.23, 1985 Great Neck Rd.

Building no.24, 65 Barcellona Pl.

Copiague vision Plan

Building no. 25, 55 Barcellona Pl.

Building no.26, 1925 Great Neck Rd.

Building no.27, 1940 Great Neck Rd.

Building no.28, 603 Marconi Bl.

Copiague Vision Plan

Building no.29, 695 Marconi Bl.

Building no.30, 1800 Great Neck Rd.

Building no.31, 490 Marconi Bl.

Building no.32, 460 Marconi Bl.

Copiague vision Plan

Building no. 33, 330 Marconi Bl.

Building no.34, 340 Marconi Bl.

Building no.35, 360 Marconi Bl.

Building no.36, 60 Marconi Bl.

Copiague vision Plan

Building no.37, 20 Marconi Bl.

Building no.38, 782 Marconi Bl.

Building no.39, 790 Marconi Bl.

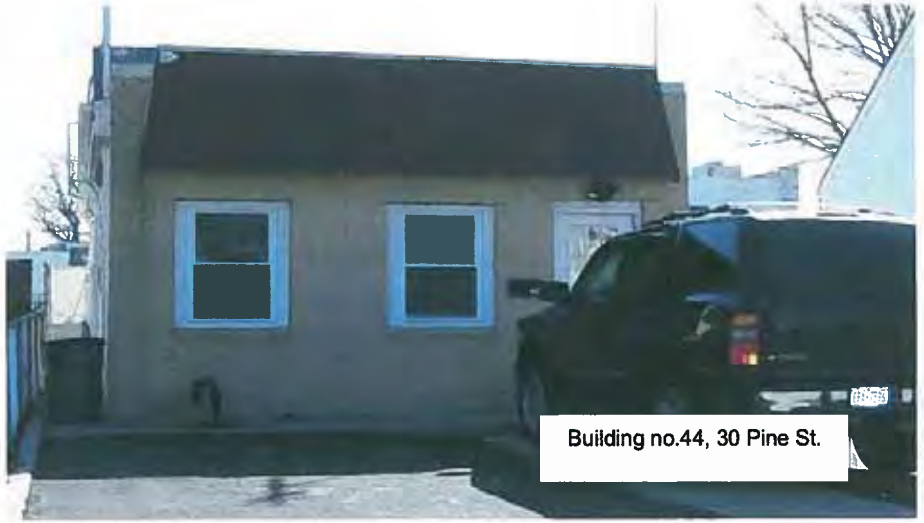
Building no.40, 1040 Marconi Bl.

Copiague vision Plan

Building no.41, 1050 Marconi Bl.

Building no.42, 1060 Marconi Bl.

Building no.43, 1104 Marconi Bl.



Building no.44, 30 Pine St.

Copiague vision Plan

Building no.45, 401 Oak St.

Building no.46, 403 Oak St.

Building no.47, 405 Oak St.

Building no.48, 445 Oak St.

Conraque vision Plan

Building no.49, 463 Oak St.

Building no.50, 471 Oak St.

Building no.51, 60 Railroad Ave.

Building no.52, Railroad Ave. (former Bennet X-Ray)

Copiague vision Plan

Building no.53, 1775 Great Neck Rd.

Building no.54, 1729 Great Neck Rd.

Building no.55, 1723 Great Neck Rd.

Building no.56, 475 Oak St.

Copiague vision Plan

Building no.57, 479 Oak St.

Building no.58, (south side) 481 & 493 Oak St.

Building no.58 (east side) 1717 Great Neck Rd.

Building no.59, 1732 Great Neck Rd.

Conlaque Vision Plan

Building no.60, 523 Oak St.

Building no.61, 529 Oak St.

Building no.62, 531 Oak St.

Building no.63, 533 Oak St.

Copiague vision Plan

Building no.64, 539 Oak St.

Building no.65, 545 Oak St.

Building no.66, 402 Oak St.

Building no.67, 404 Oak St.

Copiague Vision Plan

Building no.68, 412 Oak St.

Building no.69, 416 Oak St.

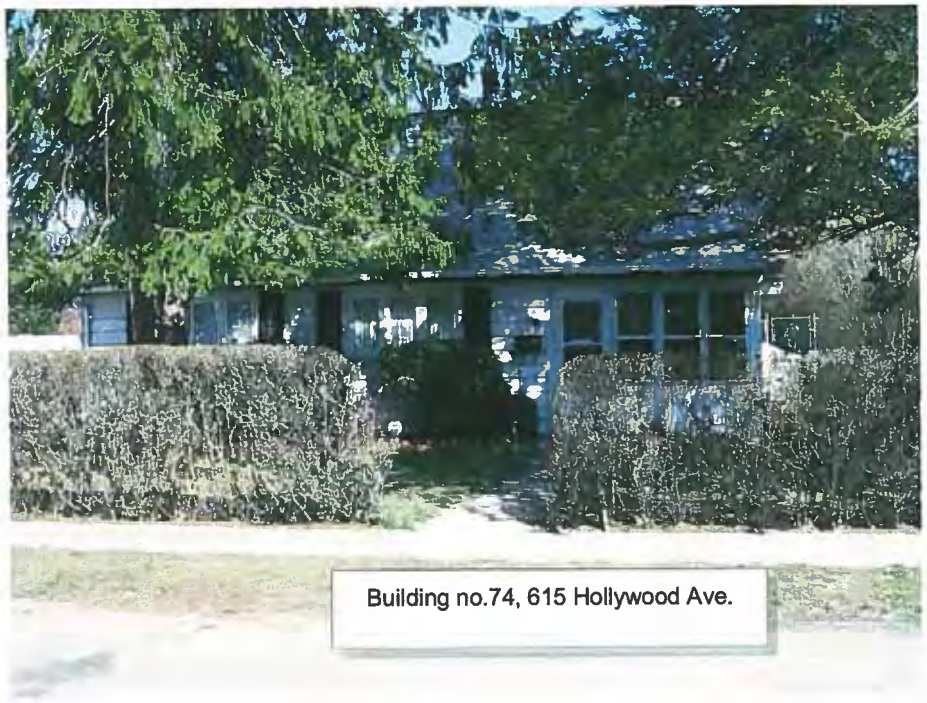
Building no.70, 418 Oak St.

Building no.71, 492-500 Oak St.

Copiague vision Plan

Building no.72, 1649-53 Great Neck Rd.

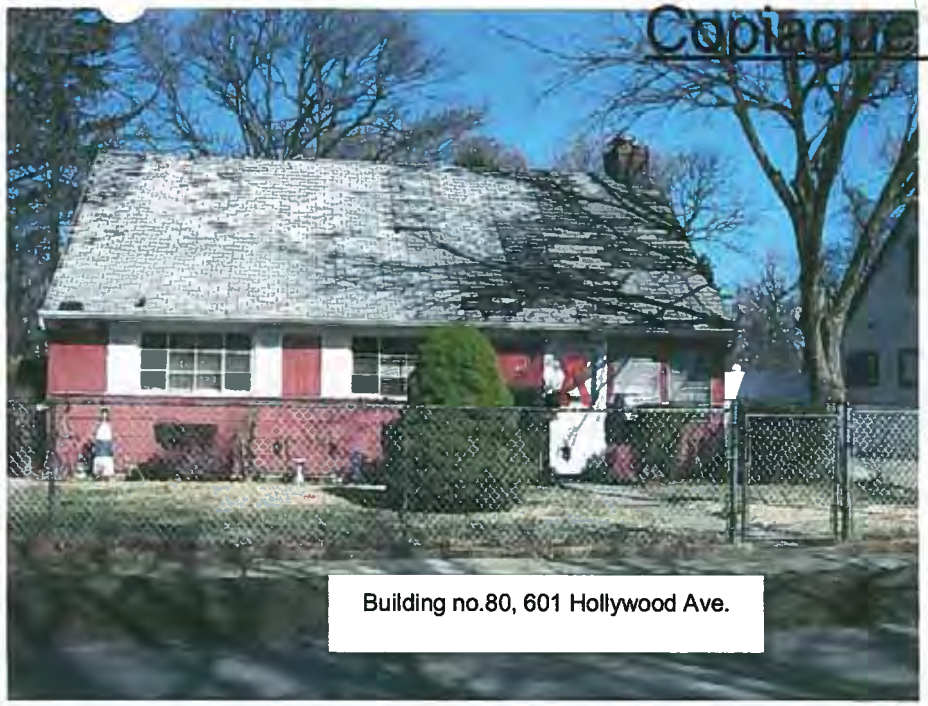
Building no.73, 1605 Great Neck Rd.



Building no.74, 615 Hollywood Ave.

Building no.75, 611 Hollywood Ave.

Coplague vision Plan



Building no.80, 601 Hollywood Ave.

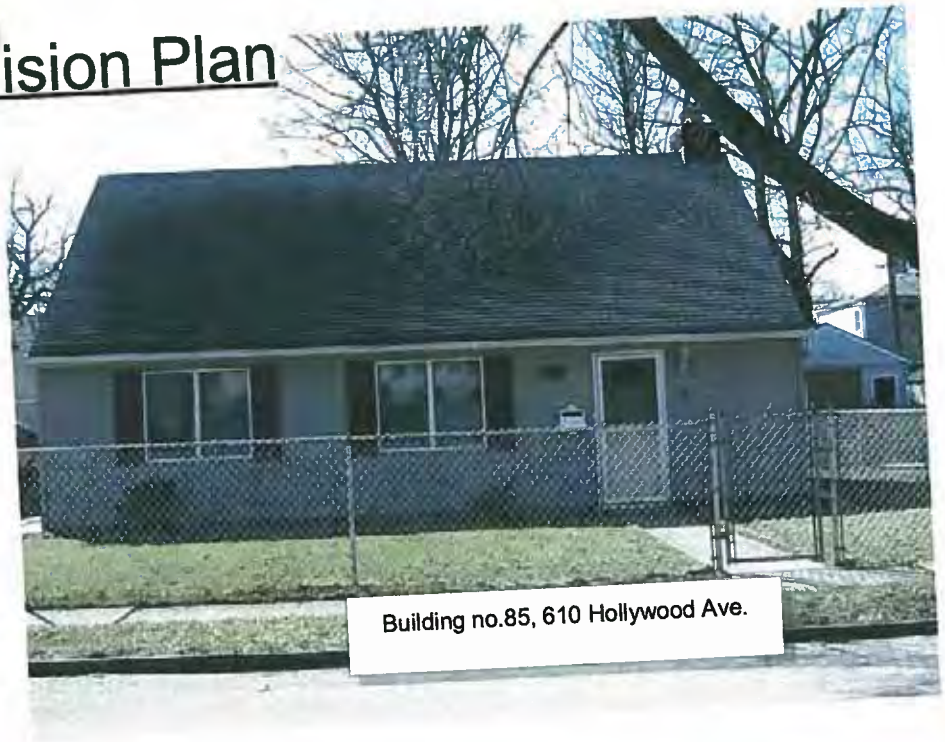
Building no.81, 102 N Emerson Ave.

Building no.82, 602 Hollywood Ave.

Building no.83, 604 Hollywood Ave.

Copiague vision Plan

Building no.84, 606 Hollywood Ave.



Building no.85, 610 Hollywood Ave.

Building no.86, 612 Hollywood Ave.

Building no.87, 614 Hollywood Ave.

Copiague Vision Plan

Building no.88, 1477 Great Neck Rd.

Building no.89, 1475 Great Neck Rd.

Building no.90, 765 Sharon Rd.

Building no.91, 755 Sharon Rd.

Copiague Vision Plan

Building no.92, 745 Sharon Rd.

Building no.93, 735 Sharon Rd.

Building no.94, 725 Sharon Rd.

Building no.95, 715 Sharon Rd.

Copiague vision Plan

Building no.100, 111 W Scudder Ave.

Building no.101, 109 W Scudder Ave.

Building no.102, 107 W Scudder Ave.

Building no.103, 105 W Scudder Ave.

Co[illegible]ue Vision Plan

Building no.108, 104 W Scudder Ave.

Building no.109, 106 W Scudder Ave.

Building no.110, 108 W Scudder Ave.

Building no.111, 110 W Scudder Ave.

Copiague vision Plan

Building no.112, 112 W Scudder Ave.

Building no.113, 11 Florida Ave.

Building no.114, 9 Florida Ave.

Building no.115, 7 Florida Ave.

Copiague vision Plan

Building no.116, 5 Florida Ave.

Building no.117, 3 Florida Ave.

Building no.118, 1 Florida Ave.

Building no.119, 84 N Emerson Ave.

Copiague Vision Plan

Building no.120, 506 Oak St.

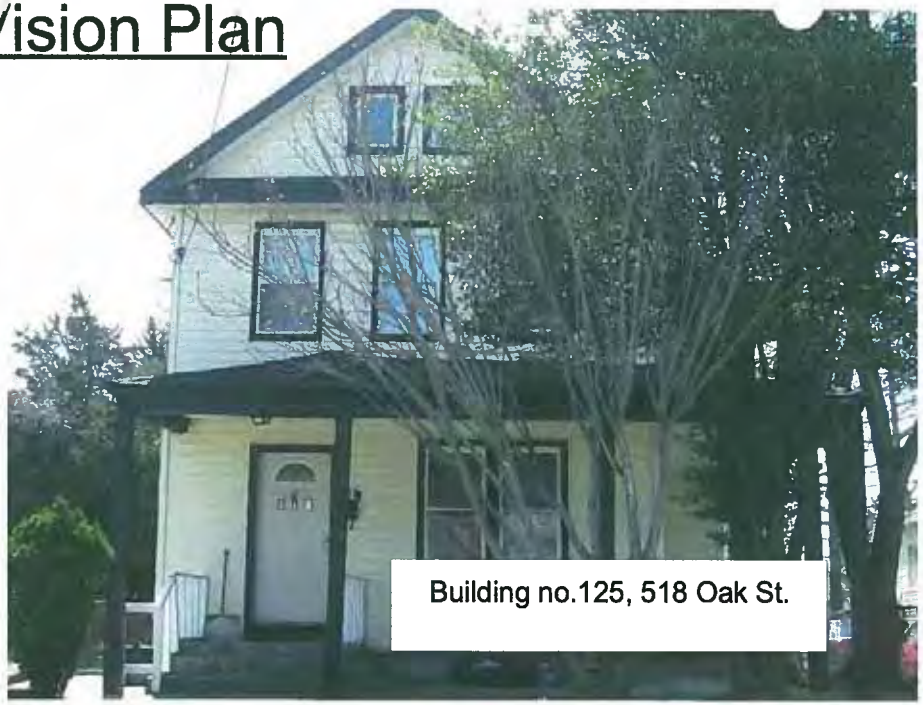
Building no. 121, 510 Oak St.

Building no.122, 512 Oak St.

Building no.123, 514 Oak St.

Copiague Vision Plan

Building no.124, 516 Oak St.



Building no.125, 518 Oak St.

Building no.126, 11 E Gate

Building no.127, 9 E Gate

Copiague Vision Plan

Building no.128, 7 E Gate

Building no.129, 5 E Gate

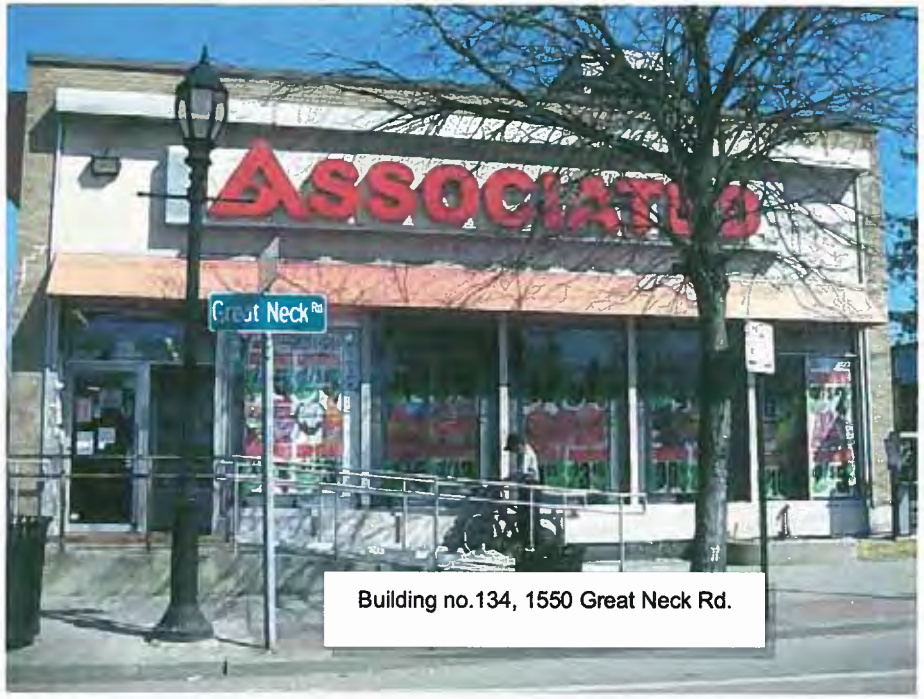
Building no.130, 3 E Gate

Building no.131, 1 E Gate

Glen Cove Vision Plan

Building no.132, 1650 Great Neck Rd.

Building no.133, 1636-48 Great Neck Rd.

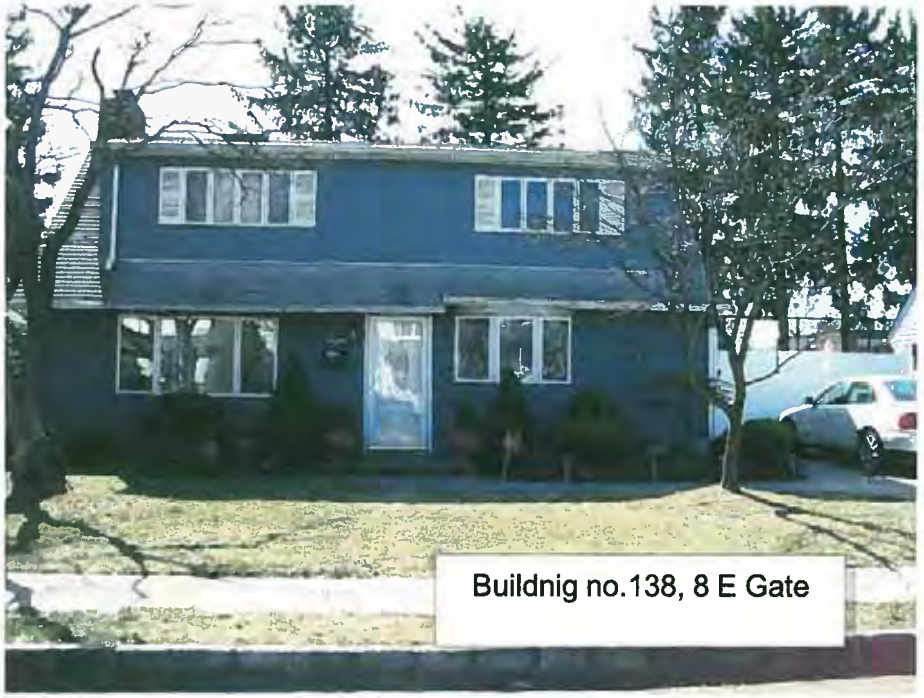


Building no.134, 1550 Great Neck Rd.

Building no. 135, 2 E Gate

Building no.136, 4 E Gate

Building no.137, 6 E Gate



Buildnig no.138, 8 E Gate

Building no.139, 10 E Gate

Copiague Vision Plan

Building no.140, 12 E Gate

Building no.142, Convent Congregational Church, 67 Scudder Ave.

Building no.143, 75 Scudder Ave.

Building no144, 1390 Great Neck Rd.

Comsque Vision Plan. Building no.51.Susan E. Wiley Elementary School

1500 Great Neck Rd (south/east facade)

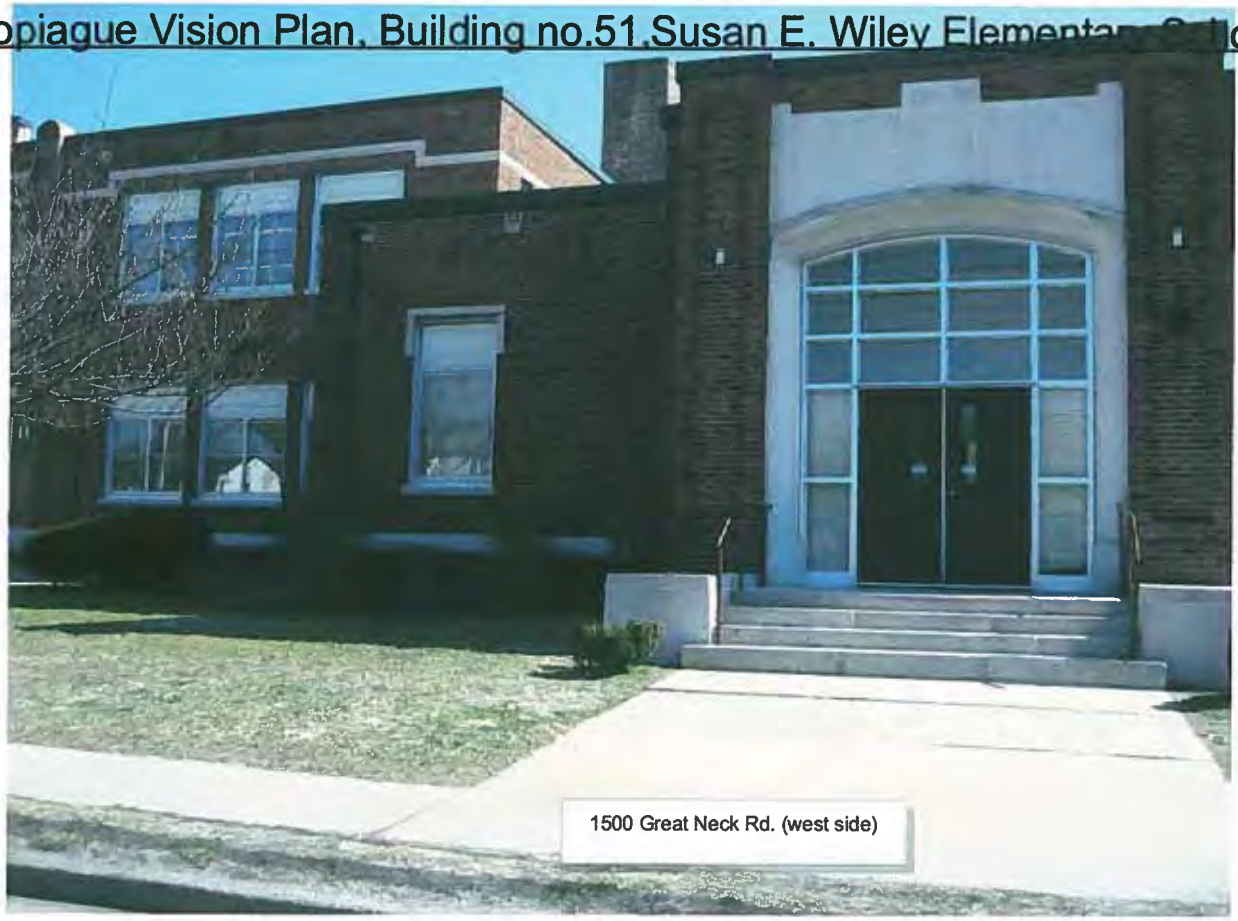
1500 Great Neck Rd (south entrance)

Copiague Vision Plan, Building no.51 Susan E. Wiley Elementary School

1500 Great Neck Rd (west side)

1500 Great Neck Rd. (west side)

Copiague Vision Plan, Building no.51,Susan E. Wiley Elementary School

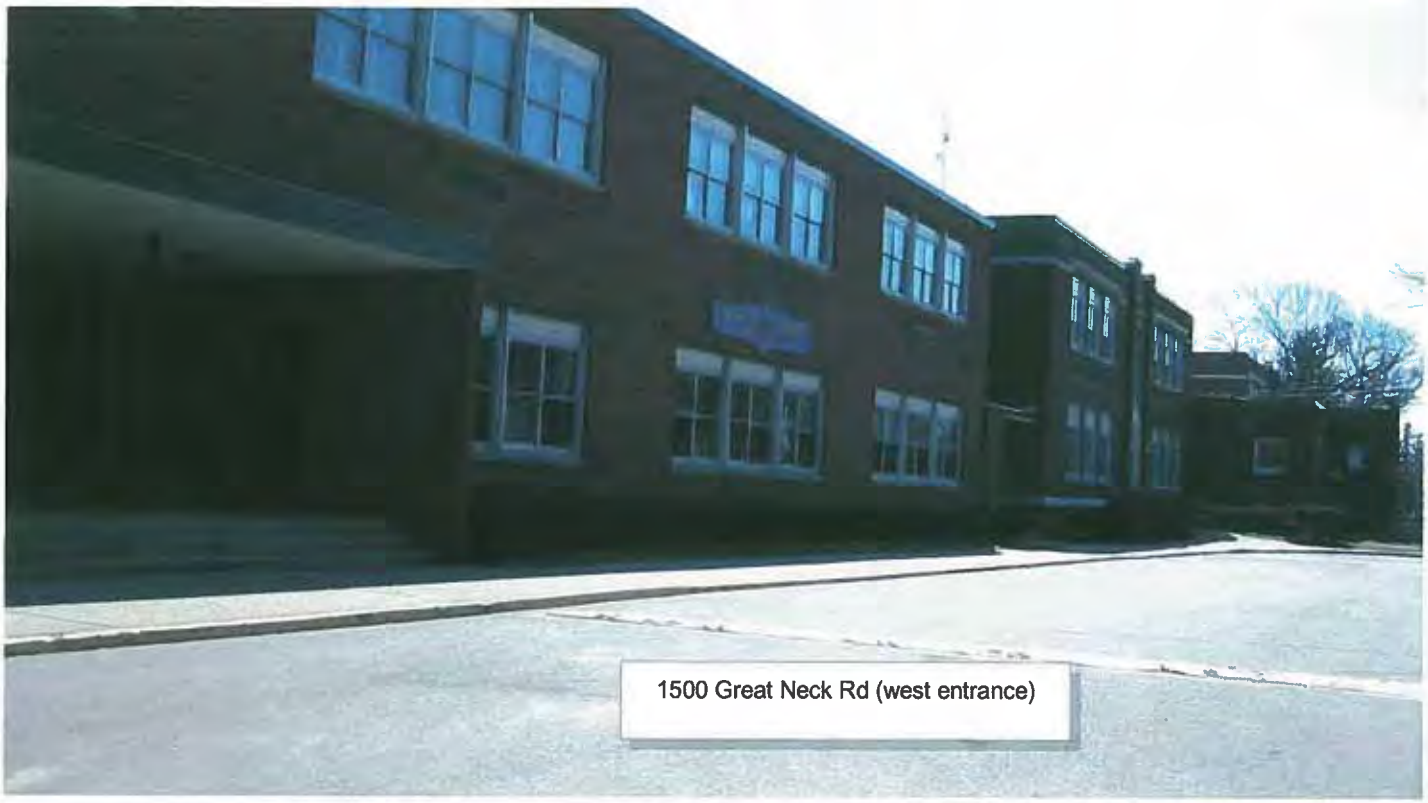


1500 Great Neck Rd. (west side)

1500 Great Neck Rd (west side)

Copiague Vision Plan. Building no.51.Susan E. Wiley Elementary School

1500 Great Neck Rd (east side)

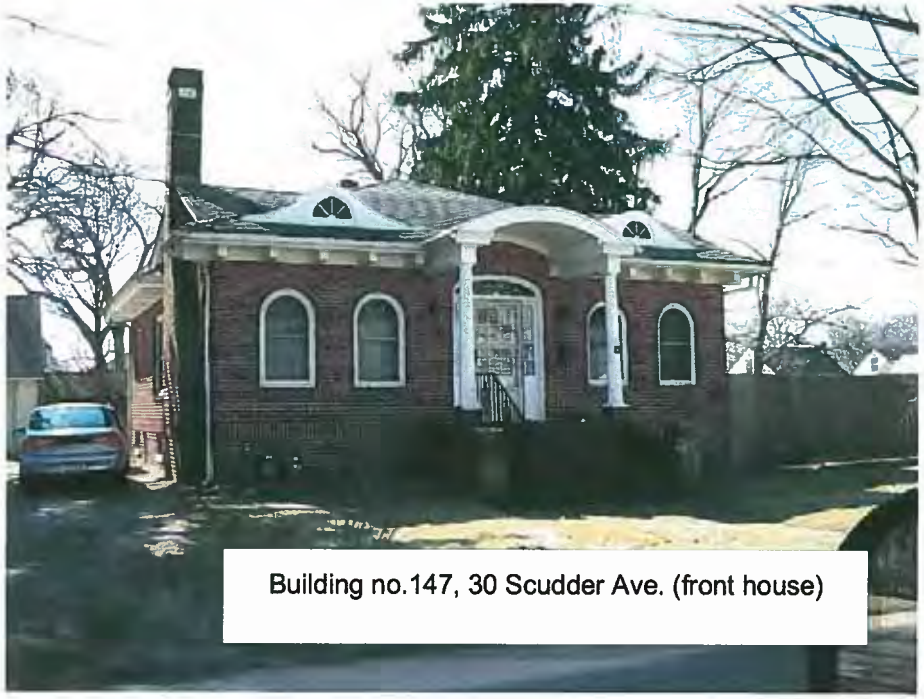


1500 Great Neck Rd (west entrance)

Copiague Vision Plan

Building no.145, 10 Scudder Ave

Building no.146, 20 Scudder Ave



Building no.147, 30 Scudder Ave. (front house)

Building no.148, 30 Scudder Ave. (rear house)

Copiague Vision Plan

Building no.149, 273 Florida Ave.

Building no.150, 271 Florida Ave.

Building no.151, 269 Florida Ave.

Building no.152, 267 Florida Ave.

Copiague Vision Plan

Building no.153, 265 Florida Ave.

Building no.154, 263 Florida Ave.

Appendix H, Hazardous Materials Documentation

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Graphic Components (Inmont Chemical)
Site Code: 152114
Program: State Superfund Program
Classification: N *
EPA ID Number:

Location

DEC Region: 1
Address: 700 Chettick Avenue
City: Copiague Zip: 11726
County:SUFFOLK
Latitude: 40.68012874
Longitude: -73.38970708
Site Type:
Estimated Size: 0.75 Acres

Site Owner(s) and Operator(s)

Current Owner Name: IRACE Realty Associates
Current Owner(s) Address: 63 Commercial Avenue
Garden City,NY, 11530
Current Owner Name: INMONT CHEMICALS/GRAPHIC COMPONENTS
Current Owner(s) Address: 63 COMMERCIAL AVE.
GARDEN CITY,NY, 11530
Owner(s) during disposal: INMONT CHEMICALS/GRAPHIC COMPONENTS
Current On-Site Operator: Graphic Components
Stated Operator(s) Address: 700 CHETTIC AVENUE
COPAIGUE,NY 11726

Site Description

This is a paint finishing and silk screening operation located adjacent to a residential area. About twenty drums per year are generated and taken off-site by a permitted hauler. This location was formerly occupied by Inmont Chemicals. They stored solvents in four underground tanks on the property. A very noticeable odor of solvents was present at the time of DEC's inspection in July 1985. A Phase I Investigation was completed in July of 1988. A State-funded Preliminary Site Assessment (PSA) was postponed due to access problems. The property owner subsequently had his own investigation conducted. The site did not qualify for addition to the Registry of Inactive Hazardous Disposal Sites.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Type of Waste	Quantity of Waste
SOLVENTS	UNKNOWN
METHYL ISO BUTYL KETONE (MIBK)	UNKNOWN
TOLUENE	UNKNOWN
CHROMATE WASTES	UNKNOWN
METHYL ETHYL KETONE {(MEK) A.K.A. 2-BUTANONE}	UNKNOWN

Site Environmental Assessment

No environmental problems exist related to hazardous waste disposal.

---

* **Class N Sites:** "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Action Anodizing Plating&Polishing Corp.
Site Code: 152037
Program: State Superfund Program
Classification: C
EPA ID Number:

Location

DEC Region: 1
Address: 33 Dixon Avenue
City: Copiague Zip: 11726
County:SUFFOLK
Latitude: 40.68479834
Longitude: -73.40486499
Site Type: STRUCTURE
Estimated Size: 1 Acres

Site Owner(s) and Operator(s)

Current Owner Name: TML REAL ESTATE CORPORATION
Current Owner(s) Address: 33 DIXON AVE.
COPIAGUE,NY, 11736
Owner(s) during disposal: FLORENCE DRAYTON & ARTHUR NEMETZ
Current On-Site Operator: TML REAL ESTATE CORPORATION
Stated Operator(s) Address: 33 DIXON AVE.
COPIAGUE,NY 11726

Hazardous Waste Disposal Period

From: unknown **To:** unknown

Site Description

Action Anodizing, Plating and Polishing Corp. (AAPP) has continuously operated at this site since 1968. AAPP's anodizing process included cleaning, sealing, and at times, dyeing of aluminum parts and cadmium plating. Prior to 1982, high concentrations of heavy metals including cadmium at 1900 ppm, chromium at 790 ppm, iron at 910 ppm and lead at 43 ppm were discharged to at least six underground pools. Wastewater samples from leaching pools demonstrated concentrations of heavy metals exceeding acceptable limits set as groundwater standards. Data is not available for estimating the amount of wastewater that was discharged. One public wellfield is within one mile of the site. Soil samples from the site contained 680 ppm and 640 ppm of chromium and cadmium, respectively. These concentrations exceeded soil cleanup guidelines. In 1981 the Suffolk County Department of Health Services (SCDHS) ordered AAPP to clean out and backfill the leaching system. The site was added to the National Priorities List (NPL) and a Remedial Investigation (RI) was performed. The results of the RI indicate that the actions taken in 1981 by the SCDHS were sufficient and that no further action was required. A No Further Action ROD which called for a one-year monitoring program was signed on June 19, 1992. Two rounds of groundwater sampling showed no presence of contaminants above acceptable standards. The site was deleted from the NPL on September 29, 1995. The site was delisted from the Registry of Inactive Hazardous Waste Disposal Sites in New York State in April 2008.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Type of Waste	Quantity of Waste
CHROMIUM	UNKNOWN
PLATING WASTES CONTAINING CADMIUM	UNKNOWN
LEAD	UNKNOWN

Site Environmental Assessment

Two rounds of groundwater sampling showed no presence of contaminants above acceptable standards. The site was deleted from the NPL on September 29, 1995. The leaching system has been cleaned out and backfilled. It has been determined that the site does not pose a significant threat.

Site Health Assessment

Contaminated soils have been remediated, and routine monitoring of the public water supply wells show compliance with drinking water standards, thereby indicating that site does not currently pose a public health threat.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Levey Property
Site Code: 152201
Program: State Superfund Program
Classification: 02
EPA ID Number:

Location

DEC Region: 1
Address: 1305 South Strong Avenue
City: Copiague Zip: 11726
County:SUFFOLK
Latitude: 40.680833333
Longitude: -73.387777778
Site Type:
Estimated Size: 1.03 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Crescent Group Realty, LLC (current owner)
Current Owner(s) Address: 71 North First Street
Deer Park,NY, 11729
Current Owner Name: Cartier, Bernstein, Auerbach & Dazzo, P.C.
Current Owner(s) Address: 100 Austin Street, Building 2
Patchogue,NY, 11772
Current Owner Name: Crescent Group Realty, LLC.
Current Owner(s) Address: 71 North First Street
Deer Park,NY, 11729

Site Document Repository

Name: Copiague Memorial Public Library

Address: 50 Deauville Blvd
Copiague,NY 11726

Site Description

Location: The Levey Property Site is located in a suburban area. It is bounded by Chettic Avenue to the north and Victoria Avenue to the south. The site address is 1305 South Strong Avenue in Copiague, NY. Site Features: The site consists of an approximately 45,000 square foot rectangular-shaped parcel of partially concrete-paved, partially unpaved and partially vegetated lot. It is developed with a two-story commercial building which formerly had a partial basement located in the northeastern portion of the on-site facility. Current Zoning and Land Use: The site is currently vacant, and is zoned for industrial use. The surrounding parcels are currently used for a combination of commercial and residential uses. Residential homes are located south of and across the street from the Levey Property. Past Use of the Site: Historically, this site was used as a small wallpaper production facility with three printing presses, and for motor vehicle parts storage. In 2001, this site operated as a car and boat repair business, along with storage and assembly of bronze sculptures. During a Suffolk County Department of Health Services (SCDHS) inspection in 2001, two unknown drums and fifty five-gallon pails of inks and paints were found to be stored indoors from previous operations. There is also a 275-gallon above-ground fuel oil tank and an unused indoor 275-gallon above-ground tank. Operable Units: The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical and administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. Operable Unit 1 (OU1) is the on-site source area. OU2 consists of the off-site groundwater and soil vapor contamination. A State-funded OU1 Remedial Investigation is currently in progress. Site Geology and Hydrogeology: The on-site and off-site consists of mainly sandy soils.The groundwater table is shallow (9' below ground surface) and flows in a southerly direction. A confining layer exists at around 70 - 80 feet below ground surface.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Type of Waste	Quantity of Waste
1,1,1-TRICHLOROETHANE	UNKNOWN
1,1,2-TRICHLORO-1,2,2-TRIFLOUROETHANE	UNKNOWN
1,1-DICHLOROETHANE	UNKNOWN
TRICHLOROETHENE (TCE)	UNKNOWN
1,1,1 TCA	UNKNOWN

Site Environmental Assessment

Nature and Extent of Contamination: OU 1: On-Site Areas Based on all investigations conducted to date, volatile organic compounds (VOCs) are the primary group of contaminants of concern at the site. On-site investigations indicate 1,1,1-trichloroethane (TCA) and 1,1-dichloroethane (DCA) exceeding standards, criteria and guidance (SCGs) in the groundwater. There is also some deeper upgradient groundwater contamination with tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (DCE) that was found to be migrating beneath the Levey site property. These deeper groundwater contaminants are not considered as site-related contaminants since they did not originate from the site. Soil samples taken during the remedial investigation indicate that the on-site soil is below the Part 375 Unrestricted Soil Cleanup Objective levels. A cesspool investigation conducted at the site found significant levels of 1,1,1-trichloroethane, 1,1-dichloroethane, Freon-113, and lesser levels of trichloroethene, 1,4-dichlorobenzene and ethylbenzene in soil/sediment in one of the eight cesspools that were sampled. Analysis of the standing water in two of the cesspools found moderate amounts of 1,1,1-trichloroethane and 1,1-dichloroethane, consistent with the concentrations of site-related groundwater contamination observed in the off-site portion. A remedy will be selected for the site (OU1) after the investigation has been completed. OU 2: Off-site Areas Soil sampling was not performed as part of the OU2 investigation because no source material was discharged off-site. Past discharges of site related contaminants occurred on the site and as such, only the on-site soil was investigated. The off-site groundwater investigation has confirmed VOC impacts from the site migrating through the shallow groundwater table to the off-site areas. Specifically, TCA is present at a maximum concentration of 170 ppb at the groundwater table. However, the results of two rounds of soil vapor sampling support that no remedial actions are warranted.

Site Health Assessment

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Since the site is fenced and the

majority of the site is covered with buildings and pavement, people will not come into contact with site-related groundwater contamination unless they dig below the surface. Volatile organic compounds in the groundwater or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Currently, there are no occupied buildings on the site. However, the potential exists for the inhalation of site contaminants in indoor air due to soil vapor intrusion in any future on-site redevelopment and occupancy. Environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Levey Property
Site Code: C152201
Program: Brownfield Cleanup Program
Classification: N *
EPA ID Number:

Location

DEC Region: 1
Address: 1305 South Strong Avenue
City: Copiague Zip: 11726
County:SUFFOLK
Latitude: 40.680721705
Longitude: -73.38786545
Site Type:
Estimated Size: 1.03 Acres

Site Owner(s) and Operator(s)

Current Owner Name: ESTATE OF IRVING LEVEY
Current Owner(s) Address: 215 HILTON AVENUE
HEMPSTEAD,NY, 11551-1200

Site Document Repository

Name: COPIAGUE MEMORIAL PUBLIC LIBRARY
Address: 50 DEAUVILLE BLVD
COPIAGUE,NY 11726-4100

Site Description

The Levey Property site is located in a suburban portion of Suffolk County, NY. This site is in the northwest quadrant of the intersection formed by South Strong Avenue and Victoria Avenue and is bounded by Chettic Avenue to the north. The site consists of an approximately 1.03 acre rectangular-shaped parcel of partially concrete-paved, partially unpaved and partially vegetated lot. It is developed with a one or two-story commercial building with a partial basement located in the northeastern portion of the on-site facility. The site is currently vacant and is intended for residential use. Historically, this site was used as a small wallpaper production process and motor vehicle parts storage. In 2001, this site operated as a car and boat repair business, along with storage and assembly of bronze sculptures. The surrounding parcels are currently used for a combination of commercial and residential. Residential homes exists south of the site across the street from Levey Property. See 152201 for current status

Contaminants of Concern (Including Materials Disposed)

Type of Waste	Quantity of Waste
TETRACHLOROETHYLENE (PCE)	UNKNOWN
1,1,1-TRICHLOROETHANE	UNKNOWN
1,1-DICHLOROETHANE	UNKNOWN

Site Environmental Assessment

The primary contaminants of concern at the site known at this time include volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). On-site investigations indicate 1,1,1-trichloroethane, 1,1-dichloroethane and tetrachloroethene exceeding standards, criteria and guidance (SCGs) in the groundwater. Soil samples taken on-site indicate benzo(a) anthracene and benzo(a)pyrene exceeding SCGs. Groundwater table is shallow (9' below ground surface) and flows in the southerly direction. An off-site investigation is currently planned to determine any VOC impacts down-gradient south of the site. The nearest public supply well is located right across the street and is north of the site. The well is not expected to be impacted by contaminants from this site since groundwater flow direction is to the south. There are no known public wells downgradient of the site. This site poses a significant threat to the environment.

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* **Class N Sites:** "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Levey Property Off-site
Site Code: C152201A
Program: Brownfield Cleanup Program
Classification: N *
EPA ID Number:

Location

DEC Region: 1
Address: 1305 South Strong Avenue
City: Copiague Zip: 11726
County:SUFFOLK
Latitude: 40.680833333
Longitude: -73.387777778
Site Type:
Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Site Description

This "site" is the off-site area associated with the Levey Prperty site, ID # C152201. The Levey Property site is located in a suburban portion of Suffolk County, NY. The Levey Property is in the northwest quadrant of the intersection formed by South Strong Avenue and Victoria Avenue and is bounded by Chettic Avenue to the north and consists of an approximately 1.03 acre rectangular-shaped parcel of partially concrete-paved, partially unpaved and partially vegetated lot. It is developed with a one or two-story commercial building with a partial

basement located in the northeastern portion of the on-site facility. The property is currently vacant but is intended for residential use. Historically, this property was used as a small wallpaper production process and motor vehicle parts storage. In 2001, it operated as a car and boat repair business, along with storage and assembly of bronze sculptures. The surrounding parcels are currently used for a combination of commercial and residential uses. Residential homes are located south of and across the street from the Levey Property. See 152201 for current status.

Site Environmental Assessment

The primary contaminants of concern coming from the site which are known at this time include volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). On-site investigations indicate that 1,1,1-trichloroethane, 1,1-dichloroethane and tetrachloroethene exceed standards, criteria and guidance (SCGs) in the groundwater. The groundwater table is shallow (9' below ground surface) and flows in the southerly direction. This site poses a significant threat to the environment.

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* **Class N Sites:** "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine This Search

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Former Elka Chemical Company
Site Code: 152239
Program: State Superfund Program
Classification: P *
EPA ID Number:

Location

DEC Region: 1
Address: 340 West Hoffman Avenue
City: Lindenhurst Zip: 11757
County:SUFFOLK
Latitude: 40.684444444
Longitude: -73.383452778
Site Type:
Estimated Size: 0.25 Acres

Site Owner(s) and Operator(s)

Current Owner Name: site owner
Current Owner(s) Address: 340 W. Hoffman
Lakehurst,NY, 11757

Site Description

Location: The Former Elka Chemical Company site was located at 340 West Hoffman Avenue in Lindenhurst, Suffolk County, New York. The physical address is currently comprised of Lot 81.5 which is approximately 0.25 acres in size, although, historically, the site may have also included adjacent lots. The site resides in proximity to the LIRR south shore branch in a

commercial/industrial area surrounded by car repair shops and auto wreckers. Site Features: The site is non-descript and a single masonry building resides on it. Little is known about the existence of on-site leaching structures, potential disposal points or contaminant source areas. Apparently, any records of historical inspections or sampling performed by the Suffolk County Department of Health Services (SCDHS) at the site have been lost or destroyed. Current Zoning/Use(s): The current zoning is believed to be commercial/industrial based upon a records search. Historic Use(s): As previously stated, little historically information exists regarding operations and inspections of the Former Elka Chemical Company site. The company was known to store chemicals on-site (presumed to be petroleum hydrocarbons) which were then re-packaged and distributed for wholesale or retail sale. There is no known on-site sampling data currently available to substantiate the disposal of hazardous wastes. However, groundwater sampling conducted immediately downgradient of the site by SCDHS, and more recently by the DEC Spill Unit (March 2011), has discovered the presence of petroleum hydrocarbons in groundwater at levels exceeding SCGs. The report of petroleum hydrocarbons in groundwater downgradient of the site by SCDHS led to the assignment of Spi11 #06-50126. Site Geology/Hydrogeology: Depth to groundwater is approximately 5 to 10 feet below land surface, depending on seasonal fluctuation. The regional groundwater flow direction is south. There are confirmed public water supply wells within one mile upgradient and side gradient of the site.

Site Environmental Assessment

Nature and Extent of Contamination: Contaminants of concern are petroleum hydrocarbons, specifically xylene, in groundwater downgradient of the site. Exceedances of groundwater standards for xylene existed in groundwater samples collected immediately downgradient of the site. Xylene levels ranged from 1 part-per-billion (ppb) to 10,200 ppb in six groundwater samples collected at the water table. The NYS Groundwater Standard for xylene is 5 ppb. Total volatile organic compounds (VOCs) ranged from 6.8 ppb to 22,206 ppb in six groundwater samples collected at the water table immediately downgradient of the site.

Site Health Assessment

As information for this site becomes available, it will be reviewed by the NYSDOH to determine if site contamination presents public health exposure concerns.

* **Class P Sites:** "DEC offers this information with the caution that it should not be used to form conclusions about site contamination beyond what is implied by the classification of this site, namely, that there is a potential for concern about site contamination. Information regarding a Class P site (potential Registry site) is by definition preliminary in nature and unverified because the DEC's investigation of the site is not yet complete. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Site Classifications

See also the "Frequently Asked Questions" provided below

Classifications for "Registry" Sites:

Classification Codes 1-5 apply to sites that are listed in the "Registry of Inactive Hazardous Waste Disposal Sites," or "Registry." The Registry was created by Environmental Conservation Law Article 27 Section 1305 and is also described in regulation (6 NYCRR Section 375-2.7). Sites listed on the Registry are commonly said to be sites in the "State Superfund Program."

Classification Code: 1

This classification is assigned to a site at which:

a. contamination constitutes a significant threat to public health and the environment; and
b. the significant threat to public health and the environment is causing, or presents an imminent danger of causing, either irreversible or irreparable damage to the environment.

Classification Code: 2

This classification is assigned to a site at which:

a. the disposal of hazardous waste has been confirmed and the presence of such hazardous waste or its components or breakdown products represents a significant threat to public health or the environment: or
b. hazardous waste disposal has not been confirmed, but the site has been listed on the Federal National Priorities List (NPL).

Classification Code: 3

This classification is assigned to a site at which contamination does not presently and is not reasonably foreseeable to constitute a significant threat to public health or the environment. This classification is not to be used for sites where insufficient data is available to make a definitive decision concerning significant threat.

Classification Code: 4

This classification is assigned to a site that has been properly closed but that requires continued site management consisting of operation, maintenance and/or monitoring. Class 4 is appropriate for a site where remedial construction actions have been completed for all operable units, but the site has not necessarily been brought into compliance with standards, criteria, or guidance (e.g., a groundwater extraction and treatment system has been installed and is operating properly but groundwater standards have not been achieved yet). The Record of Decision should define the remedial action objectives that need to be achieved during site management. If a Certificate of Completion (CoC) is to be issued for a site, the CoC is issued concurrently with the reclassification.

Classification Code: 5

The classification assigned to a site that has been properly closed and requires no further action. This may include a site where continued operation, maintenance, or monitoring is not needed to achieve/maintain protectiveness, but the site is not suitable for delisting from the Registry (e.g., DEC is unable to obtain an institutional control).

Classifications for Non-Registry Sites:

Non-Registry sites are those that are being investigated and remediated in a brownfield program or other environmental remediation program and are not listed in the Registry.

Classification Code: A (Active)

The classification assigned to a non-registry site in any remedial program where work is underway and not yet complete (i. e., Brownfield Cleanup Program, Environmental Restoration Program, Voluntary Cleanup Program and RCRA Corrective action Program sites). This may be used for Manufactured Gas Plant sites or those being remediated under an EPA Cooperative Agreement.

Classification Code: C (Completed)

The classification used for sites where the Department has determined that remediation has been satisfactorily completed under a remedial program (i. e., State Superfund, Brownfield Cleanup Program, Environmental Restoration Program, Voluntary Cleanup Program, and RCRA Corrective Action Program). State Superfund (Registry) sites must have completed all active operation, maintenance, or monitoring requirements before they can be delisted and made class C. Non-registry sites may be made a class C after successful completion of all required construction or after a no further action remedy has been selected by the Department. These sites will be issued a Certificate of Completion (COC), but may still require ongoing maintenance and periodic certification of institutional/engineering controls (IC/ECs).

Classification Code: P (Potential)

This classification is used for sites where preliminary information indicates that a site may have contamination that makes it eligible for consideration for placement on the Registry of Inactive Hazardous Waste Disposal Sites (commonly referred to as the list of State Superfund Sites). Further information and/or investigation, in the form of a site characterization, is needed to determine if a Class P site qualifies for listing of the site on the Registry. Generally, to qualify for placement on the Registry, there must be evidence that hazardous waste was disposed on the site and that any resulting contamination presents a significant threat (or reasonably foreseeable threat) to public health or the environment. Class P sites are not listed on the Registry and many are eventually found to not qualify for Registry listing. Sites that do not qualify for listing are typically then reclassified to a "Class N" site.

Classification Code: PR (Potential RCRA Corrective Action)

"Class PR" is a specialty classification code that is **not** related to the Registry. This classification code is used for sites that are, or have been, subject to the requirements of the Resource Conservation and Recovery Act (RCRA). RCRA sites are those that are managing or have actively managed hazardous waste (e.g., waste solvents from a manufacturing process). If spills occurred resulting in environmental contamination, remediation may be necessary under the RCRA corrective action program. Similar to a Class P site, Class PR sites are investigated and reviewed to determine if RCRA corrective action is necessary. If so, remediation is carried out under a RCRA permit, order, or other legal mechanism.

Classification Code: N (No Further Action at this Time)

Sites are given a classification of "N" when:

- the investigation and evaluation of a Class P site results in a determination that contamination at the site does not warrant placing the site on the Registry or it is being addressed under a brownfield program;
- a site was in a brownfield program (BCP, ERP or VCP) or other non-Registry program, remediation was not completed, and the site did not otherwise qualify for listing on the Registry. As an example, this occurs when a volunteer begins a brownfield project and then for economic or other reasons, determines they cannot complete the work and the brownfield project is terminated. If the contamination at the brownfield site qualifies it for placement on the Registry, the Department acts to do so. If the site re-enters a brownfield program, it can be reclassified to Class A (active) to indicate that work has recommenced;
- a site was identified simply as the location(s) where a drum(s) or other discrete waste was at one time present and subsequently removed by DEC or others and, based on the resulting conditions, no need for additional work was apparent; or
- an application to the BCP, ERP or VCP was submitted, and was then withdrawn or terminated before any actions were taken to investigate or remediate the site.

Frequently Asked Questions about Site Classifications

Q. Are Registry sites more heavily contaminated than non-Registry sites?

A: Sites are placed on the Registry if the Department determines that they present a significant threat to public health (as determined by the Department of Health) or the environment and therefore meet the definition of Class 2. When a Class 2 site has been remediated, it is reclassified or removed from the Registry (delisted) to indicate that the significant threat(s) has been addressed. Non-Registry sites may but usually do not also present significant threats. For all sites in a Department remedial program, the goal of investigating and remediating a site is that the result must be protective of public health and the environment regardless of whether the site is on the Registry or not.

Q. When did the Department begin to make information available on its public website about Class P?

A: Prior to 2013, information about Class P sites was available by request but was not placed on the public website because by the nature of these sites, the information is often preliminary, incomplete, or not verified. Since existing conditions at P sites are often unknown or incomplete and not fully characterized, information about these sites can easily be misunderstood. Their mere existence may unnecessarily raise concern about human exposures or environmental impacts before the sites are better characterized. This information is now being made available on the public website due to the increasing and large numbers of requests for property information that are often associated with buying and selling property. **DEC offers the information with the caution that it should not be used to form conclusions about site contamination beyond what the definition of this classification provides, namely the potential for concern. It should be noted that the information provided for a P site is preliminary in nature and unverified and that no DEC investigation has yet been completed.** Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon these summaries.

Q. When did the Department begin to make information available on its public website about Class N sites?

A: Like the Class P sites, prior to 2013, information about Class N was available by request but was not placed on the public website for several reasons. Many Class N sites were investigated decades ago before information was added to the database making the online information incomplete. Others are brownfield sites where only an application to a program was submitted and no further action taken. Still others were projects undertaken voluntarily but not completed for lack of funding or another reason. Class N site information is now being made available on the public website due to the increasing and large numbers of requests for property information that are often associated with buying and selling property. Again, DEC offers the information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the nature of this information, significant conclusions or decisions should not be based solely upon the released summaries.

Q. How can I get more information about Registry and Non-Registry Sites?

A: If you have specific questions about a remedial site and need more information, you may send an email to derweb@dec.ny.gov. Please include a description of the specific information you need and when you need it.

Q. How does DEC determine that a site should be placed on the Registry?

A. To be placed on the Registry, a site must pass two basic conditions. First, there must be evidence that hazardous waste (as defined in the law and regulations) was disposed on the site. Second, the existence of hazardous waste on the site must create an existing or reasonably foreseeable significant threat to public health or the environment. There are many criteria that define a significant threat that are described in the regulations (6 NYCRR 375-2.7(a)) including whether the contaminants disposed at the site or coming from the site result in, or are reasonably foreseeable to result in adverse impacts to public health (e.g., morbidity, disease, reproductive toxicity, etc.), adverse impacts to plants/animals, or significant environmental damage.

Q. Will DEC determine whether the P sites should be placed on the Registry?

A. All P sites are evaluated to determine if they should be placed on the Registry. The time it takes to complete an evaluation depends upon the priority of the site which reflects what is known about the nature and extent of contamination at the site and the potential for adverse impacts to public health and the environment.

Q: When is a site reclassified and how does the reclassification process work?

A: Generally, sites are given an initial classification when they enter a remedial program and are reclassified when major milestones are accomplished (e.g., remediation complete, construction complete and site management needed, decision made that no further remediation is necessary, etc.). Registry site classifications follow the requirements of the applicable regulation (6 NYCRR section 375-2.7). All Registry reclassifications include various forms of public notice as described in subdivision 375 -2.7(b). When initially placed on the Registry, public notice is provided to property and adjacent

property owners, municipal officials, and the public generally through newspaper notices and the issuance of fact sheets. Registry sites typically begin the remedial process as a "Class 2" site and progress to "Class 4" when remedial construction is complete but site management is needed to achieve the remedial goals for the site (e.g., by collecting and treating contaminated groundwater). When all work is completed at a Registry site, it is "delisted" from the Registry.

Non-Registry sites are given an "Active" (Class A) classification when they enter a program (e.g., Brownfield Cleanup Program) and are reclassified to "Complete" (Class C) when the work is finished or only site management remains. In the Brownfield Cleanup Program, public comment on the project is built in at major milestones (e.g., application to the program, investigation work plan (if applicable), remedy selection). If a party begins a voluntary investigation or remediation project under one of the non-registry programs and elects to terminate the work before completion, and the site does not otherwise qualify for listing on the Registry, it will be identified as a Class N site.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Division of Environmental Remediation

Our Programs Work...

- Division of Environmental Remediation 2012/2013 Annual Report - Highlights of the DER's recent accomplishments.
- Environmental Cleanup and Brownfields - The DEC Web "Homepage" for brownfield linformation.
- State Superfund Program (Inactive Hazardous Waste Disposal Site Remedial Program) - Oversees the identification, investigation and cleanup of sites where consequential amounts of hazardous waste exist.
- Brownfield Cleanup Program - Developed to enhance private-sector cleanup of brownfields and to reduce development pressure on "greenfields."
- Environmental Restoration Program - Provides municipalities with financial assistance for site investigation and remediation at eligible brownfield sites.
- Spill Response Program - Oversees the cleanup of releases of petroleum or other contaminants into the environment that occur throughout New York State.
- Bulk Storage Program - Provides guidelines and controls for the storage of many different hazardous chemicals in conjunction with a tank registration program.
- Hazardous Waste Management Program - Oversees all aspects of hazardous waste management in the State, including: generators, transporters, and treatment, storage and disposal facilities.
- Radiation Program - Oversees the discharge and disposal of radioactive material to the environment and the transportation and disposal of low-level radioactive waste.

More about Division of Environmental Remediation :

Environmental Remediation 2012/2013 Annual Report - The NYS Department of Environmental Conservation annually reports on progress made in pollution prevention and cleanup of contaminated properties under NYS Programs.

Environmental Cleanup and Brownfield News and Events - This page contains the latest news and updates, including information on upcoming events, related to environmental cleanup and brownfield issues in New York State.

Cleanup Programs - Division of Environmental Remediation's Remedial Programs, including the inactive hazardous waste program, also called Superfund, the brownfields programs and the petroleum spill cleanup program.

Division of Environmental Remediation Organization Chart - Organizational chart of NYSDEC's Division of Environmental Remediation. Brownfields, superfund, hazardous waste sites, voluntary cleanups, and petroleum and chemical spill prevention and response.

Division of Environmental Remediation Phone Numbers - Contact information for New York's Brownfield programs, Superfund program, and Petroleum & Chemical Spill Prevention & Response Programs.

Bulk Storage Program Regional Contacts - Contact information for questions about any of the bulk storage programs.

EPA/ROD/R02-92/172
1992

EPA Superfund
Record of Decision:

ACTION ANODIZING, PLATING, & POLISHING CORP.
EPA ID: NYD072366453
OU 01
COPIAGUE, NY
06/30/1992

EPA Superfund Record of Decision:

Action Anodizing & Plating, NY

NOTICE

The appendices listed in the index that are not found in this document have been removed at the request of the issuing agency. They contain material which supplement, but adds no further applicable information to the content of the document. All supplemental material is, however, contained in the administrative record for this site.

ROD FACT SHEET

Site

Name:	Action Anodizing Plating and Polishing
Location/State:	Town of Babylon, Suffolk County, N.Y.
EPA Region:	II
HRS Score (date):	36.61
NPL Rank (date):	Group 11 (proposed June, 1988; listed March, 1989)

ROD

Date Signed:	June 30, 1992
	Selected Remedy- No remedial action, including a 1 year groundwater monitoring program.
Capital Cost:	$0
O and M:	$0
Present Worth:	$0

LEAD

Remedial, EPA	
Primary contact:	Julia Allen- (212) 264-8476
Secondary Contact:	Douglas Garbarini- (212) 264-0109

WASTE

Type and media:	Not applicable
Origin:	Not applicable

RECORD OF DECISION

ACTION ANODIZING PLATING AND POLISHING SITE
TOWN OF BABYLON
SUFFOLK COUNTY, NEW YORK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

NEW YORK

DECLARATION FOR THE RECORD OF DECISION

Site Name and Location

Action Anodizing Plating and Polishing, Town of Babylon, Suffolk County, New York

Statement of Basis and Purpose

This decision document presents the selected remedial action for the Action Anodizing Plating and Polishing ("AAPP") site ("the Site"), located in the Town of Babylon, Suffolk County, New York, which was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. 9601-9675, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 CFR Part 300. This decision document explains the factual and legal basis for selecting the remedy for the Site. The information supporting this remedial action decision is contained in the administrative record for the Site. The administrative record index is attached (Appendix III).

The New York State Department of Environmental Conservation ("NYSDEC") concurs with the selected remedy (Appendix IV).

Description of the Selected Remedy: No Further Action

The United States Environmental Protection Agency ("EPA") in consultation with the State of New York has determined that the AAPP site does not pose a significant threat to human health or the environment and, therefore, remediation is not appropriate. This determination is based on previous cleanup activities conducted at the Site in 1980 and the remedial investigation activities conducted by EPA from March 1989 through March 1992. Thus, "No Action" is the selected remedy for the Site. A one-year monitoring program will be established to ensure that the remedy is protective of human health and the environment.

Declaration

In accordance with the requirements of CERCLA, as amended, and the NCP, it has been determined that no remedial action is necessary to protect human health and the environment at the Action Anodizing Plating and Polishing site. Previous cleanup activities conducted in response to Suffolk County Department of Health Services enforcement actions have remediated the significant contamination present at the Site. However, a program to monitor the groundwater beneath the Site will be implemented. Because this remedy will not result in hazardous substances remaining on-site above health-based levels, the fiveyear review will not apply to this action.

EPA has determined that no further remedial action is necessary at this site. Therefore, the site now qualifies for inclusion in the "sites awaiting deletion" subcategory of the Construction Completion category of the National Priorities List.

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DECISION SUMMARY
ACTION ANODIZING PLATING AND POLISHING SITE

TOWN OF BABYLON
SUFFOLK COUNTY, NEW YORK

United States Environmental Protection Agency

Region II

New York

SITE NAME, LOCATION AND DESCRIPTION

The Action Anodizing Plating and Polishing (AAPP) site is located at 33 Dixon Avenue in the Hamlet of Copiague in the Town of Babylon, Suffolk County, New York. It is approximately one acre in size and is one mile east of the Nassau-Suffolk County line and one-half mile south of Sunrise Highway (see Figure 1).

The population of the Town of Babylon is estimated to be 203,483 (Bureau of the Census, 1980). The area that surrounds the AAPP site is comprised predominantly of light industrial and single family residential units. The Town of Babylon zoning map (May 1986) designates the area as GA-Industry (GAIndustry is defined as light manufacturing, warehouse, storage, offices and retail facilities) and Residential (with typical lot sizes of 7,500 square feet). Public supply wells are the primary source of drinking water in the area and approximately one million residents of Suffolk and Nassau Counties obtain drinking water from public wells within three miles of the Site.

The AAPP facility occupies approximately one-half of the subject property on the corner of Galvani Street and Dixon Avenue (See Figure 2). The operating facility is approximately 3000 square feet in area with an additional 2000 square feet of office space. Attached to the operating facility is an approximate 7500 square foot equipment storage area addition which was built in 1984. The Site is accessed by two unpaved driveways. One driveway enters the southern end of the property from Dixon Avenue and the other driveway enters the eastern side from Galvani Street. On the northern side of the facility, a dirt area, approximately 20 feet wide, separates the building from a heavily vegetated area which extends to the property's northern border. Vegetation in this area consists primarily of ragweed and young black locust trees. A two-story house occupies a lot along the eastern side of the property with frontage on Galvani Street. There does not appear to be any significant wildlife habitat on the property.

The Site is at an approximate elevation of 30 feet above mean sea level. The ground surface of the Site slopes down about one-half foot from the north to the south. The shallowest groundwater in the region, the Upper Glacial Aquifer, occurs approximately 10 feet below ground level at the Site. The thickness of the saturated upper Pleistocene deposits under the Site is estimated to be approximately 75 feet. The Upper Pleistocene deposits and Mattawan/Magothy Aquifers form a thick sequence of sand with varying amounts of silt and clay. The stratification of these silt and clay layers impedes vertical groundwater movement. The groundwater flows approximately one foot/day and is generally towards the south, to the Great South Bay, but local variations in the direction of movement occur. Amityville Creek and Woods Creek, the nearest downgradient surface water bodies to the Site, are located approximately onehalf mile south of the Site (see Figure 1). Residential development abuts both creeks which eventually feed into the Great South Bay. Wildlife observed in these areas include Canada goose, snowy egret, mockingbird, song sparrow and purple finch. Other birds and small mammals common to the area are also likely to utilize these habitats.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

For approximately thirty years prior to 1968, a commercial laundry facility operated on the Site's premises. Since 1968, AAPP has operated at the Site as a small metal-finishing shop.

AAPP's operations primarily involve sulfuric acid anodizing of aluminum parts for the electronics industry, cadmium plating, chromate conversion coatings, metal dyeing and vapor degreasing. Liquid wastes from these

operations include rinses of spent caustic and acidic solutions contaminated with cadmium, chromium, zinc and sodium cyanide. Prior to 1980, rinse water was reportedly stored in a concrete waste holding trough in the floor of the facility from which it was pumped into a low pressure steam boiler. The steam was condensed and reused as process make-up water. The solids from the rinse water were allowed to build up in the boiler tubes until the tubes became plugged, at which time, the boiler would be replaced with a new unit.

The concrete trough had previously been used by the commercial laundry as part of its drainage system. The trough was connected to a septic tank on the north side of the building. Tank overflow fed into a series of six leaching pits on the east side of the building. The bottoms of the pits were reportedly several feet below ground.

During an inspection of the Site by the Suffolk County Department of Health Services (SCDHS) in January 1980, it was discovered that rinse water from AAPP's operation was discharging to the leaching pits rather than the low pressure steam boiler. SCDHS sampled the leaching pits, process tanks, surface soils, and septic tank on the Site. The results showed elevated levels of several metals, notably cadmium, chromium and nickel in the leaching pits. AAPP was told by SCDHS to cease discharge to the leaching pits immediately and remove the soils and sediments of the entire leaching system.

In the spring of 1980, AAPP contracted with the Patterson Chemical Company for the cleanup and closing of the leaching system. This work was supervised and approved by SCDHS. In September 1980, SCDHS notified AAPP that the leaching pits could be back-filled with clean sand and gravel. The 7,500 foot equipment storage area, built in 1984, lies directly on top of the former leaching pits. AAPP reports that its industrial waste is currently hauled off-site for disposal.

In January 1986, the New York State Department of Environmental Conservation (NYSDEC) issued a Phase 1 Investigation Report which summarized past investigations and included a Hazard Ranking System (HRS) score for the Site. Based on the HRS score, the Site was proposed for inclusion on the National Priorities List (NPL) in June 1988 and was placed on the NPL in March 1989.

On March 7, 1989, EPA sent "general notice" letters to two potentially responsible parties (PRPs), affording them the opportunity to conduct the Remedial Investigation and Feasibility Study (RI/FS) for the Site. PRPs are companies or individuals who are potentially responsible for contributing to the contamination at the Site and/or are past or present owners of the property. EPA did not receive any good faith proposals from the PRPs to undertake or finance the RI/FS. Therefore, beginning in July 1989, the necessary work was performed by EPA's contractor, Malcolm Pirnie, Inc., using Superfund monies.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The RI report and the Proposed Plan for the Site were released for public comment on April 3, 1992. These documents were made available to the public in the administrative record file at the EPA Docket Room in Region II, New York and the information repositories at the NYSDEC, Albany, New York, the Town of Babylon Department of Environmental Control, Babylon, New York and the Copiague Memorial Library, Copiague, New York. A press release announcing the availability of these documents was issued on April 3, 1992. Originally, the public comment period was set by EPA to end on May 2, 1992. At the community's request, an extension to the public comment period was granted until June 8, 1992.

A public participation meeting was conducted by EPA on April 22, 1992 at the Babylon Town Library, Babylon, New York to discuss the RI report and to provide an opportunity for interested parties to present oral comments and questions to EPA. Due to community interest, a follow-up public availability session was held in coordination with the Suffolk County Department of Health Services and the Town of Babylon Department of Environmental Control on May 4, 1992 at the Copiague Junior High School, Copiague, New York. At the community's request, a second public meeting was held on June 2, 1992 at the Copiague Junior High School, Copiague, New York.

A summary of the significant comments relating to the selection of the remedy received during the public meetings and public comment period and EPA's responses to these comments are presented in the Responsiveness Summary (see Appendix V).

SCOPE AND ROLE OF RESPONSE ACTION

This is the first and only planned operable unit for the Site. The primary objective of this operable unit is to determine the nature and extent of contamination at the Site and to take measures, as appropriate, to ensure protection of human health and the environment.

The specific objectives of the RI for the AAPP site were the following:

- to identify all potential source areas of contamination;
- to characterize the nature and extent of possible contamination in environmental media on-site;
- to determine the hydrogeologic characteristics of the Site to assess potential present or future impacts on downgradient receptors; and,
- to assess the present and future potential risks to public health and the environment caused by site contamination in the absence of any remedial action.

SUMMARY OF SITE CHARACTERISTICS

Previous investigations (SCDHS, 1980) showed that there were discharges of untreated process wastewater to leaching pits prior to 1980. Under the direction of EPA, Malcolm Pirnie, Inc. conducted an RI from July 1989 to April 1992 to characterize the geology, groundwater hydrology and chemical quality of the soil and groundwater at the Site. The investigation consisted of drilling borings and constructing monitoring wells, collecting soil and groundwater samples, a geophysical survey and an air-monitoring survey. In addition, a soil-gas survey was performed by EPA in September 1989. The results of the RI are summarized below.

Groundwater

In February 1991, ten wells were installed at the Site. Two wells were drilled upgradient of the Site's operations, four wells were drilled onsite and four wells were drilled downgradient of the Site. The wells were installed and screened in both shallow (20-25 feet below surface) and deep (60-70 feet below surface) portions of the Upper Glacial Aquifer. In March and July 1991, filtered and unfiltered groundwater samples were taken from the ten monitoring wells and analyzed for organic and inorganic constituents.

Table 1 lists the contaminants detected in the groundwater at the Site, as well as the frequency and range of detection. In the first round of groundwater samples, two organic compounds, toluene and xylenes (total), were detected in one on-site well, at 39 and 46 parts per billion (ppb), respectively, and one downgradient well, at 14 and 20 ppb, respectively. These levels exceed the State drinking water standard of 5 ppb for both contaminants, but are well below the Federal standards of 1000 ppb for toluene and 10,000 ppb for xylenes (total). State and Federal primary drinking water standards are often referred to as maximum contaminant levels, or MCLs. Toluene and xylenes (total) were not detected in the second round of groundwater samples. No other volatile organic compounds exceeded their respective MCLs.

With the exception of the chromium analyses, results of the first two rounds of unfiltered groundwater samples indicated relatively low levels of inorganic contamination. In the first round, chromium was detected in the deep upgradient well at 555 ppb, which is significantly higher than the State and Federal MCLs of 50 and 100 ppb, respectively. This level was also significantly higher than the highest level (11.7 ppb in a deep well) detected on-site, where levels did not exceed MCLs, and downgradient where chromium was detected in a deep well at 96.5 ppb. In the second round, chromium exceeded both State and Federal MCLs in the deep upgradient well (130 ppb) and the State MCL in one shallow on-site well (67 ppb) and a deep downgradient well (90 ppb). The highest level of chromium (130 ppb) was detected in the same upgradient well as in round one. Chromium was not detected in any of the filtered samples.

A third round of groundwater samples was taken in January 1992 and analyzed for total chromium only. Chromium was not detected at levels exceeding MCLs in any of the samples collected in the January sampling effort. Given that the highest levels of chromium were detected in an upgradient well, and that the levels

decreased significantly from March 1991 to January 1992, it is likely the chromium contamination originated from a source upgradient of the Site or that the elevated chromium results were due to suspended solids present in the samples.

Lead was also detected in the groundwater at levels which exceeded its applicable standards. Lead was detected in one on-site well at 26 ppb, which is slightly higher than the Federal action level of 15 ppb and the New York State water quality standard of 25 ppb. All other samples contained levels of lead which were below the Federal action level. No other inorganic constituents exceeded MCLs.

Both iron and manganese were detected in the groundwater at levels which exceed the Federal secondary drinking water standards. However, these standards are based on aesthetic qualities rather than health concerns.

In February 1992, SCDHS sampled the residential well of the private residence adjacent to the Site to determine drinking-water quality. Results of the sampling indicated that contaminants were not present above State or Federal MCLs. This is believed to be the only residential well used as a potable water supply in the vicinity of the Site. A homeowner residing diagonally across from the Site on Galvani Street has a well limited to outdoor use. This well was sampled in July 1991 and results showed no contaminants exceeding State or Federal MCLs.

Surface/Subsurface Soils

Soil borings were drilled at the Site in order to obtain information on Site geology and to determine the extent of subsurface contamination. The locations of the indoor and outdoor soil borings and surface soil samples are identified on Figure 3. Results of the subsurface soil samplings from indoor and outdoor test borings did not indicate the presence of inorganic constituents at elevated levels. Similarly, although the results of the analyses for organic constituents indicated the presence of a limited number of organic compounds in both the indoor and outdoor borings, the compounds were not present in any significant concentration or in any consistent pattern.

Surface soil samples were collected from the top six-inch strata at twenty locations across the AAPP site. Table 2 provides a comparison of the surface soil contaminants detected at the Site with the background range reported in the literature for inorganics in surface soils in the United States and typical sandy soils. Of the metals detected in these samples, only cadmium was detected above both the background range for surface soils in the United States (0.01 - 2 mg/kg) and typical sandy soils (0.07 - 1.1 mg/kg) (see Table 2). The highest level of cadmium detected in on-site surface soils was 29.4 mg/kg. All other metals detected on-site were either within or close to reported background ranges. Some semi-volatiles were detected, mostly compounds which are by-products of fossil fuel combustion and are typical of what is found near road surfaces. Two volatile organic compounds were detected in two samples at relatively low levels.

Sediment samples were also taken from two on-site drainage systems. A clam shell sampler was used to take two samples from each pool for a total of eight samples from each drainage system. The samples were composited and then analyzed for inorganic and organic compounds and cyanide (amenable to oxidation). Two organic compounds were detected in trace amounts. Inorganic contaminants were detected at relatively low levels. Results indicate that industrial materials were not being discharged to the drainage systems from site-related operations.

In February 1992, the New York State Department of Health sampled soils in the adjacent resident's backyard to determine whether elevated levels of metals were present. Of the metals detected in the surface soils, two metals, lead and arsenic, were detected at levels much higher on the residential property than on the Site property. These results were confirmed through SCDHS testing of the soils in April 1992. The contaminants are not the result of siterelated plating and polishing operations. The possible application of a lead arsenate pesticide on the property is one explanation for the high levels of lead and arsenic. As lead arsenate does not degrade once applied, it will always remain in the soil as lead and arsenic metals regardless of when it was applied to the soil, unless the soil itself is removed from the area. Cadmium was found at levels generally below those detected on-site. No other metals were detected above background levels. SCDHS will continue to perform additional sampling and monitoring of the metal contamination at the

adjacent homeowner's property. SCDHS has informed EPA that, since the contaminants found at the residence are not site-related, SCDHS will be responsible for implementing any appropriate follow-up measures.

Air Monitoring and Geophysical Surveys

Air monitoring and geophysical surveys were conducted at the Site. The air monitoring data collected at the Site are indicative of typical urban conditions. No unusual metallic subsurface objects, such as buried drums, were identified by the geophysical survey.

Soil-Gas Survey

In September 1989, EPA conducted a soil-gas survey at the Site, the results of which are presented in Table 3. Soil gas contaminated by volatile organic compounds (VOCs) is not widespread throughout the Site. The highest levels of VOCs detected were in soil gas collected from the periphery of onsite structures and paved surfaces. Subsurface soil samples and groundwater samples collected during the RI were relatively free of VOC contamination. Therefore, long-term release of VOCs in the soil gas to the atmosphere is unlikely.

SUMMARY OF SITE RISKS

EPA conducted a baseline risk assessment to evaluate the potential risks to human health and the environment associated with the AAPP Site in its current state. The baseline risk assessment focused on contaminants in the groundwater and surface soils which are likely to pose significant risks to human health and the environment. The summary of the contaminants of concern in sampled matrices is listed in Table 4.

The baseline risk assessment evaluated the health effects, which could result from exposure to contamination at the Site, under current and future land-use scenarios. The potential exposure pathways of concern for current land uses include ingestion of chemicals in the soil, and dermal contact with chemicals in the soil. The potential exposure pathways of concern for future land use include those for current land use as well as the following: ingestion of chemicals in groundwater, dermal contact with chemicals in groundwater and inhalation of airborne chemicals in groundwater.

A summary of the complete exposure pathways at the Site evaluated as part of the risk assessment is provided in Table 5. Based on current land uses, workers may be exposed to contaminants at the Site through incidental ingestion and dermal contact with soils during their designated work activities. Similarly, those who trespass onto the Site may be exposed to the contaminants onsite by dermal contact with soils and by incidental ingestion of the soil. If the upper aquifer serves as a drinking water source for the area in the future, the potential would exist for residents and workers to be exposed to chemicals in groundwater through ingestion of drinking water. Future on-site residents might also be exposed to contaminants in groundwater through dermal contact and inhalation of VOCs during showering or bathing.

Under current EPA guidelines, the likelihood of carcinogenic (cancer causing) and noncarcinogenic effects due to exposure to site chemicals are considered separately. Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and safe levels of intake (Reference doses, or RfDs). RfDs have been developed by EPA for indicating the potential for adverse health effects. RfDs, which are expressed in units of mg/kg-day, are estimates of daily exposure levels for humans which are thought to be safe over a lifetime (including sensitive individuals). Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) are compared with the RfD to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HQ's are then summed to give a pathway HI. When the HI, or sum of sub-threshold exposures (HQs) exceeds one, there may be concern for potential noncarcinogenic health effects, if the contaminants in question are believed to cause a similar toxic effect. The reference doses for the compounds of concern at the AAPP site and a summary of the noncarcinogenic risks associated with these chemicals across various exposure pathways under both current and future land use scenarios is found in Table 6. The results of the baseline risk assessment indicate that under the current-use scenarios, noncarcinogenic health effects are not likely based on the potential exposure pathways and routes evaluated for workers and trespassers. The calculated HQs for these scenarios, as well as the total exposure HIs, are significantly less than one. Under the future-use scenarios, noncarcinogenic health effects are unlikely based on the potential exposure pathways and routes

evaluated for workers, trespassers and residents. As with the results of the current-use scenarios, all calculated pathway specific HQs are less than one. The highest calculated HQ is 0.7, which is the HQ for ingestion of arsenic in groundwater by children in the event of future residential development on the Site. When the pathway HIs for this future land-use scenario are combined, the total exposure HI exceeds 1; however, the critical effects of the two contributing contaminants, i.e., arsenic (skin disorder) and cadmium (kidney damage), are different. Consequently, the simultaneous subthreshold exposure to these two elements would not be expected to result in adverse health effects.

Potential carcinogenic risks were evaluated using the cancer potency factors developed by EPA for the compounds of concern. Cancer slope factors (Sfs) have been developed by EPA's Carcinogenic Risk Assessment Verification Endeavor for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. SFs, which are expressed in units of (mg/kg-day)[-1], are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to generate an upper-bound estimate of the excess lifetime cancer risk associated with exposure to the compound at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the SF. Use of this approach makes the underestimation of the risk highly unlikely. The SFs for the compounds of concern are presented in Table 7.

For known or suspected carcinogens, EPA considers excess upperbound individual lifetime cancer risks of between 10[-4] to 10[-6] to be allowable. This can be interpreted to mean that an individual may have a one in ten thousand to a one in a million increased chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at the Site.

Under current land-use scenarios, estimated carcinogenic risks are within or less than EPA's allowable cancer risk range based on the potential exposure pathways and routes evaluated for workers and trespassers, respectively. The exposure pathway with the greatest risk (1.17 x 10[-6]) is for ingestion of and dermal contact with chemicals in the soil by workers at the Site. None of the fifteen exposure pathways evaluated under the future land-use scenarios have estimated carcinogenic risks which are greater than EPA's allowable cancer risk range; six of these pathways have risks within the range; the estimated carcinogenic risk for the remaining pathways are less than the range. The exposure pathway with the greatest risk (7.25 x 10[-5]) is for the future ingestion of chemicals in the groundwater by an adult. This assumes that the aquifer beneath the Site would be utilized as an untreated source of drinking water.

In summary, none of the current or future risks to human health posed by carcinogenic and noncarcinogenic contaminants from the various pathways considered exceeded EPA's allowable levels.

Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- environmental parameter measurement
- fate and transport modeling
- exposure parameter estimation
- toxicological data

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled. Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the chemicals of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure. Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the Risk Assessment provides upper bound estimates of the risks to populations near the Site, and is

highly unlikely to underestimate actual risks related to the Site.

Ecological Risk Assessment

The ecological risk assessment evaluated potential exposure routes of terrestial wildlife and aquatic life to Site contamination. Sampling results from Site soils and groundwater were utilized to conduct this assessment. Cadmium was chosen as the chemical of potential concern for surface soils at the Site because it was detected at levels greater than typical background soil concentrations. However, the overall risk to wildlife in the general vicinity of the Site from exposure to contaminated soils is considered to be low, due to the small size of the contaminated area and the limited habitat potential of the Site. The chemicals of potential concern chosen for assessing environmental risk due to exposure to contaminants in the groundwater at the Site are: aluminum, chromium, copper, lead, nickel and zinc, since the detected levels of these compounds exceeded State and/or Federal Ambient Water Quality Criteria for marine and/or fresh water. Groundwater from the Site may ultimately discharge into Amityville Creek and Woods Creek, both located approximately 1/2 mile south of the Site, and the Great South Bay, located 2 miles south of the Site. The potential risk to aquatic life inhabiting these surface water bodies, however, is considered low. This is due to the natural dilution of any low levels of groundwater contamination that may be associated with the Site. Furthermore, the streams in the Babylon area of Long Island are only partially fed by groundwater and unlikely to receive a large input of groundwater flowing from the Site.

State Acceptance

The State of New York, through the NYSDEC, concurs with EPA's selected remedy. See Appendix IV.

Community Acceptance

Following a substantial community outreach effort by EPA to explain the "no action" remedy selected for the Site, the community in general concurs with the selected remedy. The community outreach effort included three meetings during the public comment period. The first was held at the Babylon Town Library, Babylon, New York on April 22, 1992. Due to community interest, a follow-up public availability session was held in coordination with the SCDHS and the Town of Babylon Department of Environmental Control on May 4, 1992 at the Copiague Junior High School, Copiague, New York. At the May 4, 1992 availability session, the community formally requested, through a signed petition, an extension to the public comment period as well as another public meeting. The community was granted an extension to the public comment period until June 8, 1992. A second public meeting was held on June 2, 1992 at the Copiague Junior High School, Copiague, New York.

DESCRIPTION OF THE "NO ACTION" REMEDY

The risk assessment indicates that the levels of contaminants present in the soil, air and groundwater at the Site present risks which fall within or below the Superfund remediation range. In addition, sampling results indicate the majority of contaminants do not exceed MCLs in the groundwater, or background levels in the soil and air. The 1980 SCDHS-ordered remediation of the leaching pits removed the most significant contamination known to exist at the Site.

Based upon the findings of the RI performed at the Site, the EPA, in consultation with the State, has determined that the Site does not pose a significant threat to human health and the environment. The EPA, therefore, has selected a no action remedy for the Site. A one-year monitoring program will be established to ensure that the remedy is protective of human health and the environment. Because this remedy will not result in hazardous substances remaining on-site above health-based levels, the five-year review will not apply to this action.

DOCUMENTATION OF SIGNIFICANT CHANGES

There are no significant changes from the preferred alternative presented in the Proposed Plan.

APPENDIX I

FIGURES

APPENDIX II
ABLES

APPENDIX III

ADMINISTRATIVE RECORD INDEX

Index Document Number Order
ACTION ANODIZING PLATING AND POLISHING CORPORATION Documents

Document Number: ACT-001-0001 To 0155

Date: 01/01/86

Title: Phase I Investigations, Action Anodizing, Plating and Polishing Corporation, Town of Copiague, Suffolk County, New York

Type: REPORT
Author: none: Woodward-Clyde Consultants
Recipient: none: NY Dept of Environmental Conservation

Document Number: ACT-001-0156 To 0492
Date: 03/01/90

Title: Quality Assurance Project Plan, Remedial Planning Activities at Action Anodizing, Plating and Polishing, Copiague, Suffolk County, New York

Type: PLAN
Author: Griffin, David: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-0493 To 0591

Date: 03/01/90

Title: Field Sampling Plan, Action Anodizing Plating and Polishing, Copiague, Suffolk County, New York

Type: PLAN
Author: Griffin, David: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-0592 To 0673

Date: 03/01/90

Title: Health and Safety Plan, Action Anodizing Plating and Polishing, Copiague, Suffolk County, New York

Type: PLAN
Author: Griffin, David: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-0674 To 0675

Date: 02/11/92

Title: Results of Examination (Results of sampling conducted at the Action Anodizing Plating and Polishing site)

Type: DATA
Author: Laccetti, Jeffrey: NY Dept of Health
Recipient: none: none

Document Number: ACT-001-0676 To 0835

Date: 03/01/90

Title: Work Plan, Action Anodizing Plating and Polishing, Copiague, Suffolk County, New York Type: PLAN
Author: Griffin, David: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-0836 To 0836

Date: 03/27/92

Title: (Letter forwarding the enclosed Final Remedial Investigation Report for the Action Anodizing Plating and Polishing site)

Type: CORRESPONDENCE
Author: Logigian, John M.: Malcolm Pirnie, Inc.
Recipient: Allen, Julia E.: US EPA
Attached: ACT-001-0837

Document Number: ACT-001-0837 To 1117

Parent: ACT-001-0836

Date: 03/01/92

Title: Action Anodizing Plating and Polishing, Final Remedial Investigation
Report

Type: REPORT
Author: none: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-1118 To 1118

Date: 11/06/90

Title: (Letter discussing activities being conducted as part of the Remedial Investigation/Feasibility Study and forwarding the attached Superfund update for the site)

Type: CORRESPONDENCE
Author: Echols, Cecilia: US EPA
Recipient: resident: none
Attached: ACT-001-1119

Document Number: ACT-001-1119 To 1121

Parent: ACT-001-1118

Date: 11/01/90

Title: Superfund Update - Action Anodizing Plating and Polishing, Town of Babylon, Nassau County, New York

Type: PLAN
Author: none: US EPA
Recipient: none: none

Document Number: ACT-001-1122 To 1122

Date: 07/24/91

Title: (Letter requesting information so that it can be determined whether any property owners in the area of the site are utilizing private wells)

Type: CORRESPONDENCE
Author: Allen, Julia E.: US EPA
Recipient: Foy, C.J.: Suffolk County Water Authority

Document Number: ACT-001-1123 To 1124

Date: 08/07/91

Title: (Letter stating that the Suffolk County Water Authority does not maintain records of homes and/or businesses utilizing private wells)

Type: CORRESPONDENCE
Author: Foy, C.J.: Suffolk County Water Authority
Recipient: Allen, Julia E.: US EPA

Document Number: ACT-001-1125 To 1126

Date: 08/23/91

Title: (Letter discussing the results of irrigation well sampling conducted on July 18, 1991)

Type: CORRESPONDENCE
Author: Trent, Martin: County of Suffolk
Recipient: Simoneli, Sal: none

Document Number: ACT-001-1127 To 1149

Date: 01/15/92

Title: (Letter responding to questions raised regarding the potential for inhalation of contaminants detected at the Action Anodizing Plating and Polishing site, with attachments)

Type: CORRESPONDENCE
Author: Califano, Richard J.: Malcolm Pirnie, Inc.
Recipient: Allen, Julia E.: US EPA

Document Number: ACT-001-1150 To 1153

Date: 02/14/92

Title: (Letter discussing the results of water sampling conducted on January 22, 1992)

Type: CORRESPONDENCE
Author: Trent, Martin: County of Suffolk
Recipient: Clark, Mrs. W.: none

Document Number: ACT-001-1154 To 1169

Date: 04/13/92

Title: (Letter forwarding the attached revisions of Tables 5-8, 59, 5-10, and Tables 17 and 19 of Appendix C for the Human Health Risk Assessment of the Final Remedial Investigation Report, March 1992)

Type: CORRESPONDENCE
Author: Califano, Richard J.: Malcolm Pirnie, Inc.
Recipient: Allen, Julia E.: US EPA

Document Number: ACT-001-1170 To 1170

Date: 04/15/92

Title: (Memorandum discussing contractor rating for Malcolm Pirnie, Inc.)

Type: CORRESPONDENCE
Author: Swanston, Samara F.: US EPA
Recipient: Lieber, Thomas K.: US EPA
Attached: ACT-001-1171

Document Number: ACT-001-1171 To 1171

Parent: ACT-001-1170

Date: 04/09/92

Title: (Letter discussing the New York State Department of Environmental Conservation's classification of freshwater wetlands within the Town of Babylon, New York)

Type: CORRESPONDENCE
Author: Groh, Richard: Town of Babylon
Recipient: Swanston, Samara F.: US EPA

Document Number: ACT-001-1172 To 1172

Date: 04/27/92

Title: (Memoranda to file regarding the availability of sampling data, guidance documents, and technical literature)

Type: CORRESPONDENCE
Author: Allen, Julia E.: US EPA
Recipient: none: none

Document Number: ACT-001-1173 To 1177

Date: 04/01/92

Title: Superfund Proposed Plan - Action Anodizing Plating and Polishing Site, Town of Babylon, Suffolk County, New York

Type: PLAN
Author: none: US EPA
Recipient: none: none

Document Number: ACT-001-1178 To 1179

Date: 02/19/92

Title: (Letter forwarding the enclosed information about the Action Anodizing Plating and Polishing site and requesting a written statement on whether any endangered or threatened species may be present in the project area)

Type: CORRESPONDENCE
Author: Hargrove, Robert W.: US EPA
Recipient: Corin, Leonard P.: US Fish & Wildlife Service
Attached: ACT-001-1180 ACT-001-1181 ACT-001-1185

Document Number: ACT-001-1180 To 1180

Parent: ACT-001-1178

Date: 02/18/92

Title: (Letter forwarding the enclosed laboratory data package for total chromium from the third round of groundwater sampling and a data assessment)
Type: CORRESPONDENCE Author: Logigian, John M.: Malcolm Pirnie, Inc.
Recipient: Garbarini, Doug: US EPA

Document Number: ACT-001-1181 to 1184

Parent: ACT-001-1178

Date: 01/29/92

Title: Evaluation of Inorganic Data using protocols of the Contract Laboratory Program

Type: DATA
Author: Ponte, Dorothy M.: Malcolm Pirnie, Inc.
Recipient: none: none

Document Number: ACT-001-1185 To 1326

Parent: ACT-001-1178

Date: / /

Title: Sample Data Package

Type: DATA
Author: none: iea
Recipient: none: Malcolm Pirnie, Inc.

Document Number: ACT-001-1327 To 1329

Date: 03/16/92

Title: (Letter responding to a February 19, 1992, letter and enclosing an updated compilation of federally

listed and proposed endangered and threatened species in New York)

Type: CORRESPONDENCE
Author: Corin, Leonard P.: US Fish & Wildlife Service
Recipient: Hargrove, Robert W.: US EPA

Document Number: ACT-001-1330 To 1330

Date: 04/09/92

Title: Affidavit of Publication

Type: LEGAL DOCUMENT
Author: Mangano, Edward P.: Notary Public
Recipient: McCool, H.: The Beacon

Document Number: ACT-001-1331 To 1332

Date: 04/08/92

Title: Affidavit of Publication

Type: LEGAL DOCUMENT
Author: Bortle, Julia: Notary Public
Recipient: Acerra, Pamela: Newsday, Inc.

Document Number: ACT-001-1333 To 1344

Date: 03/07/89

Title: (General Notice Letter and 104(e) Request for Information Letter)

Type: CORRESPONDENCE
Condition: MARGINALIA
Author: Luftig, Stephen D.: US EPA
Recipient: various: various

Document Number: ACT-001-1345 To 1358

Date: 01/27/89

Title: (104(e) Request for Information Letter)

Type: CORRESPONDENCE
Author: Luftig, Stephen D.: US EPA
Recipient: Nemetz, Arthur A.: none
Attached: ACT-001-1359

Document Number: ACT-001-1359 To 1363

Parent: ACT-001-1345

Date: 03/14/89

Title: (Response to 104(e) Request for Information Letter)

Type: CORRESPONDENCE

Author: Nemetz, Arthur A.: none
Recipient: Allen, Dorothy: US EPA

Document Number: ACT-001-1364 To 1378

Date: 01/30/89

Title: (104(e) Request for Information Letter)

Type: CORRESPONDENCE
Author: Luftig, Stephen D.: US EPA
Recipient: Cohen, Shepard: Action Anodizing Plating and
PolishingCorporation Attached: ACT-001-1379

Document Number: ACT-001-1379 To 1396

Parent: ACT-001-1364

Date: 05/31/89

Title: (Response to 104(e) Request for Information Letter)

Type: CORRESPONDENCE
Author: Cohen, Shepard: Action Anodizing Plating and Polishing Corporation
Recipient: Miles, Joan: US EPA

Document Number: ACT-001-1397 To 1410

Date: 03/08/89

Title: (Letter forwarding a copy of the attached Request for Information Letter that was sent to Mr. Nemetz's client, Arthur Nemetz)

Type: CORRESPONDENCE
Author: Miles, Joan: US EPA
Recipient: Nemetz, Jerold: none

Document Number: ACT-001-1411 To 1427

Date: 09/20/91

Title: (104(e) Request for Information Letter with attached response)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Cohen, Shepard: Action Anodizing Plating and Polishing
Corporation

Document Number: ACT-001-1428 To 1452/A

Date: 09/20/91

Title: (104(e) Request for Information Letter with attached response)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Cohen, Shepard & Judith: S.J.C. Realty Co., Inc.

Document Number: ACT-001-1453 To 1524

Date: 09/20/91
Title: (104(e) Request for Information Letter with attached response)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Cohen, Shepard: Action Anodizing Plating and Polishing
Corporation

Document Number: ACT-001-1525 To 1541

Date: 09/20/91

Title: (104(e) Request for Information Letter with attached response)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Cohen, Judith: none

Document Number: ACT-001-1542 To 1556

Date: 09/20/91

Title: (104(e) Request for Information Letter)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Hornaday, Florence: none
Attached: ACT-001-1557

Document Number: ACT-001-1557 To 1571

Parent: ACT-001-1542

Date: 10/16/91

Title: (Response to 104(e) Request for Information Letter)

Type: CORRESPONDENCE
Author: Hornaday, Florence: none
Recipient: various: US EPA

Document Number: ACT-001-1572 To 1589

Date: 09/20/91

Title: (104(e) Supplemental Request for Information Letter with attached response)

Type: CORRESPONDENCE
Author: Callahan, Kathleen C.: US EPA
Recipient: Nemetz, Arthur A.: none

Document Number: ACT-001-1590 To 1590

Date: 11/06/91

Title: (Letter stating which entities and/or persons were given an extension until November 27, 1991, to respond to the information Request Letters dated September 20, 1991)

Type: CORRESPONDENCE
Author: Allen, Julia E.: US EPA
Recipient: Cohen, Shepard: Action Anodizing Plating and Polishing Corporation

Document Number: ACT-001-1591 To 1603

Date: 02/21/91

Title: Preliminary Health Assessment for Action Anodizing, Plating, and Polishing Corporation, Copiague, Suffolk County, New York

Type: PLAN
Author: none: Agency for Toxic Substances & Disease Registry (ATSDR)
Recipient: none: none

Document Number: ACT-001-1604 To 1629

Date: 03/01/90

Title: Community Relations Plan, Action Anodizing Plating and Polishing, Copiague, Suffolk County, New York

Type: PLAN
Author: Griffin, David: Malcolm Pirnie, Inc.
Recipient: none: US EPA

Document Number: ACT-001-1630 To 1642

Date: 04/22/92

Title: Public Meeting - Action Anodizing Plating and Polishing Site

Type: CORRESPONDENCE
Author: none: US EPA
Recipient: none: none

Document Number: ACT-001-1643 To 1645

Date: / /
Title: Paid Advertisement: The United States Environmental Protection Agency Announces Proposed Remedial Alternative for the Action Anodizing Plating and Polishing site, Suffolk County, New York

Type: CORRESPONDENCE
Author: none: US EPA
Recipient: none: none
Attached: ACT-001-1646

Document Number: ACT-001-1646 To 1647

Parent: ACT-001-1643

Date: 02/01/90

Title: Superfund Update, Action Anodizing Plating and Polishing, Town of Babylon, Nassau County, New York

Type: CORRESPONDENCE
Author: none: US EPA
Recipient: none: none

Document Number: ACT-001-1648 To 1650

Date: 04/01/92

Title: (News Release:) EPA to Hold Public Meeting to Discuss Findings at Superfund Site in Babylon, Long Island

Type: CORRESPONDENCE
Author: none: US EPA
Recipient: none: none

Document Number: ACT-001-1651 To 1665

Date: 05/23/91

Title: (Memorandum providing guidance for planning and conducting five-year reviews)

Type: CORRESPONDENCE
Author: Longest, Henry L., II: US EPA
Recipient: various: US EPA

APPENDIX IV

NYSDEC LETTER OF CONCURRENCE

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 -7010

Thomas C. Jorling
Commissioner

JUN 19 1992

Ms. Kathleen C. Callahan
Director
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Dear Ms. Callahan:

Re: Action Anodizing ROD
Site ID #152037

We have reviewed the Draft Record of Decision for the Action Anodizing site and concur with the no-action alternative. We will require that the groundwater monitoring referred to in the ROD include volatile organics and metal analysis, and that it will be performed twice within the next year on monitoring wells 2, 4, 6 and 10.

If you have any questions regarding this matter, please contact Michael J. O'Toole, Jr., at (518) 457-5861.

Sincerely,

David Markell
Acting Deputy Commissioner

APPENDIX V

RESPONSIVENESS SUMMARY
ACTION ANODIZING PLATING AND POLISHING SUPERFUND SITE - TOWN OF BABYLON, NEW YORK

The U.S. Environmental Protection Agency (EPA) held a public comment period from April 3, 1992 to June 8, 1992 to receive comments from interested parties on the Remedial Investigation (RI) report and Proposed Plan for the Action Anodizing Plating and Polishing (AAPP) Superfund site (Site). A public participation meeting was conducted by EPA on April 22, 1992 at the Babylon Town Library, Babylon, New York to discuss the RI report and to provide an opportunity for the interested parties to present oral comments and questions to EPA. Due to community interest, a follow-up public availability session was held in coordination with the Suffolk County Department of Health Services (SCDHS) and the Town of Babylon Department of Environmental Control (TOBDEC) on May 4, 1992 at the Copiague Junior High School, Copiague, New York. At the community's request, a second public meeting was held on June 2, 1992 at the Copiague Junior High School, Copiague, New York.

This responsiveness summary provides a synopsis of citizens' comments and concerns about the Site as raised during the public comment period, and EPA's responses to those comments. All comments summarized in this document were considered in EPA's final decision for selection of the No Action remedy at the AAPP Site.

This responsiveness summary is divided into the following sections:

I. Responsiveness Summary Overview - This section briefly describes the background of the AAPP Site and selection of the No Action remedy at the Site.

II. Background on Community Involvement and Concerns - This section provides a brief history of community interests and concerns regarding the AAPP Site.

III. Summary of Public Comments and EPA's Responses - This section summarizes comments expressed verbally at the public meetings or in writing during the comment period, and provides EPA's responses to these comments.

IV. Appendices - Attached to the Responsiveness Summary are the following Appendices:

Appendix A - Proposed Plan and Public Meeting Information

1) Attachment A.1 - Proposed Plan, Action Anodizing Plating and Polishing Site, Town of Babylon, Suffolk County, N.Y., April 1992.

2) Attachment A.2 - Public Notice of April 22, 1992 Public Meeting

3) Attachment A.3 - Public Notice of June 2, 1992 Public Meeting and Extension to Public Comment Period

4) Attachment A.4 - Attendance Sheets for the April 22, 1992 and June 2, 1992 Public Meetings

I. Responsiveness Summary Overview

Site Background

The AAPP site is located at 33 Dixon Avenue in the Hamlet of Copiague in the Town of Babylon, Suffolk County, New York. It is approximately one acre in size and is one mile east of the Nassau-Suffolk County line and one-half mile south of Sunrise Highway.

The population of the Town of Babylon is estimated to be 203,483 (Bureau of the Census, 1980). The area that surrounds the AAPP site is predominantly light industrial and single family residential units. The Town of Babylon zoning map (May 1986) designates the area as GA-Industry (GA-Industry is defined as light manufacturing, warehouse, storage, offices and retail facilities) and Residential (with typical lot sizes of 7,500 square feet). Public supply wells have been the primary source of drinking water in the area since

1984; approximately one million residents of Suffolk and Nassau Counties obtain drinking water from public wells within three miles of the Site.

The AAPP facility occupies approximately one-half of the subject property on the corner of Galvani Street and Dixon Avenue. The operating facility is approximately 3000 square feet with an additional 2000 square feet of office space. Attached to the operating facility is an approximate 7500 square foot equipment storage area addition which was built in 1985. The Site is accessed by two unpaved driveways. One driveway enters the southern end of the property from Dixon Avenue and the other driveway enters the eastern side from Galvani Street. On the northern side of the facility, a dirt area, approximately 20 feet wide, separates the building from a heavily vegetated area which extends to the property's northern border. Vegetation in this area is primarily ragweed and young black locust trees. A two-story house occupies a lot along the eastern side of the property with frontage on Galvani Street. There does not appear to be any significant wildlife habitat on the property.

The Site is at an approximate elevation of 30 feet above mean sea level. The ground surface of the Site slopes down about one-half foot from north to south. The shallowest groundwater in the region, the Upper Glacial Aquifer, occurs approximately 10 feet below ground level at the Site. The thickness of the saturated upper Pleistocene deposits under the Site is estimated to be approximately 75 feet. The Upper Pleistocene deposits and Mattawan/Magothy Aquifers form a thick sequence of sand with varying amounts of silt and clay. The stratification of these silt and clay layers impedes vertical groundwater movement. The groundwater flows approximately one foot/day and is generally towards the south, to the Great South Bay, but local variations in the direction of movement occur. Amityville Creek and Woods Creek, the nearest downgradient surface water bodies to the Site, are located approximately onehalf mile south of the Site. Residential development abuts both creeks which eventually feed into the Great South Bay. Several rare and endangered species may utilize the limited open water areas of these creeks.

For approximately thirty years prior to 1968, a commercial laundry facility operated on the Site's premises. Since 1968, AAPP has operated at the Site as a small metal-finishing shop.

AAPP's operations primarily involve sulfuric acid anodizing of aluminum parts for the electronics industry, cadmium plating, chromate conversion coatings, metal dyeing and vapor degreasing. Liquid wastes from these operations include rinses of spent caustic and acidic solutions contaminated with cadmium, chromium, zinc and sodium cyanide. Prior to 1980, rinse water was reportedly stored in a concrete waste holding trough in the floor of the facility from which it was pumped into a low pressure steam boiler. The steam was condensed and reused as process make-up water. The solids from the rinse water were allowed to build up in the boiler tubes until the tubes became plugged, at which time, the boiler would be replaced with a new unit.

The concrete trough had previously been used by the commercial laundry as part of its drainage system. The trough was connected to a septic tank on the north side of the building. Tank overflow fed into a series of six leaching pits on the east side of the building. The bottoms of the pits were reportedly several feet below ground.

During an inspection of the Site by the SCDHS in January 1980, it was discovered that rinse water from AAPP's operation was discharging to the leaching pits rather than the low pressure steam boiler. SCDHS sampled the leaching pools, process tanks, surface soils, and septic tank on the Site. The results showed elevated levels of several metals, notably cadmium, chromium and nickel in the leaching pits. AAPP was told by SCDHS to cease discharge to the leaching pits immediately and remove the sediments of the entire leaching system.

In the spring of 1980, AAPP contracted with the Patterson Chemical Company for the cleanup and closing of the leaching system. This work was supervised and approved by SCDHS. In September 1980, SCDHS notified AAPP that the leaching pits could be back-filled with clean sand and gravel. The 7,500 square foot equipment storage area, built in 1985, lies directly on top of the former leaching pits. AAPP reports that its industrial waste is currently hauled off-site for disposal.

In January 1986, the New York State Department of Environmental Conservation (NYSDEC) issued a Phase 1 Investigation Report which summarized past investigations and included a Hazard Ranking System (HRS) score for the Site. Based on the HRS score, the Site was proposed for inclusion on the National Priorities List

(NPL) in June 1988 and was placed on the NPL in March 1989.

On March 7, 1989, EPA sent "general notice" letters to two potentially responsible parties (PRPs), affording them the opportunity to conduct the Remedial Investigation and Feasibility Study (RI/FS) for the Site. PRPs are companies or individuals who are potentially responsible for contributing to the contamination at the Site and/or are past or present owners of the property. EPA did not receive any good faith proposals from the PRPs to undertake or finance the RI/FS. Therefore, beginning in July 1989, the necessary work was performed by EPA's contractor, Malcolm Pirnie, Inc., using Superfund monies.

Summary of the Selected No Action Remedy

The risk assessment indicates that the levels of contaminants present in the soil, air and groundwater at the Site present risks which fall within or below the Superfund remediation range. In addition, although groundwater sampling results indicate the infrequent occurrence of contaminants exceeding maximum contaminant limits (MCLs), the majority of contaminants do not exceed MCLs in the groundwater or background levels in the soil and air. The 1980 SCDHS-ordered remediation of the leaching pits removed the most significant contamination found at the Site.

Based upon the findings of the RI performed at the Site, the EPA, in consultation with the State, has determined that the Site does not pose a significant threat to human health and the environment. EPA, with the concurrence of NYSDEC, has selected a no action remedy for the Site. A one-year groundwater monitoring program will be established to ensure that the remedy is protective of human health and the environment.

II. BACKGROUND OF COMMUNITY INVOLVEMENT

During the course of the RI and Proposed Plan, EPA has sought to promote community awareness of activities at the Site through local newspaper articles, fact sheets, press releases, public notices and public information meetings.

Because EPA had heard from only a few members of the community and not from any local public officials following distribution of Fact Sheets on the Site in February and November 1990, EPA believed that community interest in the Site was low. It was not until after the Proposed Plan was released to the public on April 3, 1992 that community interest in the Site became evident.

A public meeting was held at the Babylon Town Library, Babylon, New York on April 22, 1992. Due to community interest, a follow-up public availability session was held in coordination with the SCDHS and TOBDEC on May 4, 1992 at the Copiague Junior High School, Copiague, New York. The SCDHS and TOBDEC were asked to participate in this session, since many of the community's concerns fell within their areas of jurisdiction (e.g., public water supply and local ordinance issues). At the May 4, 1992 availability session, the community formally requested, through a signed petition, an extension to the public comment period as well as another public meeting. The community was granted an extension to the public comment period until June 8, 1992. A second public meeting was held on June 2, 1992 at the Copiague Junior High School, Copiague, New York.

III. SUMMARY OF PUBLIC COMMENTS AND EPA'S RESPONSES

The comments detailed below include those expressed at the public meetings on April 22, 1992 and June 2, 1992, and those received in writing during the public comment period. Comments heard during the public availability session held in coordination with the SCDHS and the TOBDEC on May 4, 1992 at the Copiague Junior High School, Copiague, New York were not recorded. However, most of the issues raised at the public availability session on May 4, 1992 were addressed at the public meetings on April 22, 1992 and June 2, 1992.

Significant questions and comments expressed at the two public meetings and/or in writing during the public comment period concerning the Site and EPA's proposed remedy selection are summarized below. Comments contained in this section are grouped according to subject discussed. Each question or comment is followed by EPA's response.

THE SUPERFUND PROCESS

COMMENT: How was the AAPP Site discovered, and had any cleanup action been taken previously at the Site?

ANSWER: SCDHS discovered the discharge of hazardous plating waste to the leaching system during a routine annual inspection of the Site in 1980. SCDHS ordered the owner to clean out the leaching system and fill in the former leaching pools with clean sand and gravel. As a follow-up, SCDHS reinspected the leaching system and determined it to be clean.

COMMENT: How did the AAPP Site get placed on the NPL in 1989?

ANSWER: The HRS score for the Site qualified the Site for placement on the NPL in 1989 at which time EPA assumed responsibility for the Site. The potential for groundwater contamination by the wastewater discharged to the leaching pools prior to 1980 was the major contributor to the HRS score. Once a site gets placed on the NPL, a field investigation is conducted at the site to discover what levels of contamination, if any, are present at the site.

COMMENT: If EPA decides not to do any more studies at the AAPP Site, does the Site automatically get deleted from the Superfund NPL?

ANSWER: A groundwater monitoring program will be developed for the AAPP Site as outlined in the Record of Decision (ROD). If contamination levels generally remain below State and/or Federal drinking water standards, the Site would then be proposed for deletion from the NPL at the conclusion of the groundwater monitoring program. EPA would publish a "Notice of Intent to Delete" the Site and accept and respond to public comment on the proposed deletion. In the event that unacceptable levels of contamination are detected at the Site during the subsequent monitoring program, EPA would reexamine the need for remedial measures at the Site. After a site is deleted from the NPL, it is still eligible for Federal funds for remedial action, should evidence indicate that such action is warranted.

COMMUNITY RELATIONS ACTIVITIES

COMMENT: Why were no signs posted on the Site property notifying the community of the Site's Superfund status?

RESPONSE: Prior to and during the performance of the RI, EPA did not identify any acute health threats associated with this Site. Because of this, and the fact that the Site is a currently operating facility, EPA did not determine that it was necessary to post signs designating the facility as a Superfund site.

COMMENT: Why weren't Site activities and meetings better publicized?

RESPONSE: A Community Relations Plan for the AAPP Site was developed by EPA's contractor, Malcolm Pirnie, Inc., in March 1990.

At that time, a list of interested parties, which included local officials, community civic leaders and neighborhood residents, was developed as a mailing list for the Site.

In November of 1990, a fact sheet announcing major fieldwork for EPA's remedial investigation (RI) was distributed to parties identified on the mailing list.

After completion of the RI, EPA issued a press release on April 3,1992, which announced the release of the RI report and the Agency's Proposed Plan for the Site, as well as the date and location of a public meeting to present and answer questions on the Proposed Plan. In addition, EPA placed a public notice in NEWSDAY on April 8, 1992, and THE BEACON on April 9, 1992, notifying readers of the public meeting.

At the public meeting, which was held on April 22, 1992, many questions and concerns were raised by interested community members encompassing a wide range of site and nonsite-related issues. The community's level of concern at this meeting prompted EPA to plan a Public Availability Session on May 4, 1992. After

providing notification to the community, EPA conducted the Public Availability Session in coordination with the SCDHS and the TOBDEC. At this session, community members formally requested, through a signed petition, an extension to the public comment period, as well as another public meeting.

Based on the level of community concern expressed at the Public Availability Session, EPA issued a press release on May 15, 1992, which announced that the Agency had decided to extend the public comment period to June 8, 1992, and hold a second public meeting on June 2, 1992. In addition, EPA placed a public notice in NEWSDAY on May 18, 1992, and SOUTH BAY'S NEWSPAPER and SUFFOLK LIFE NEWS on May 20, 1992, notifying readers of the meeting. Also, EPA mailed meeting notices and information packages to more than 300 interested residents. At the second public meeting, representatives of EPA, Malcolm Pirnie, Inc. and the New York State Department of Health (NYSDOH) again presented the Proposed Plan and provided a thorough discussion of the conclusions reached from the RI that led EPA to propose the preferred remedy. A vigorous questionand-answer period followed this presentation.

Following the selection of a remedy for the Site and throughout the duration of the monitoring program, EPA will continue to keep the community aware of activities at the Site through fact sheets, press releases, or public notices, as appropriate.

THE REMEDIAL INVESTIGATION AND PROPOSED PLAN

COMMENT: Where did the lead and arsenic detected in soil samples of the adjacent resident's backyard come from, and could these contaminants be site-related?

RESPONSE: The possible application of pesticide on the property is one explanation for the high levels of lead and arsenic detected in the surface soil samples of the adjacent resident's backyard. As lead arsenate does not degrade once applied, it will always remain in the soil as lead and arsenic metal, regardless of when it was applied to the soil. At present, SCDHS is investigating the property and has contacted the owners to try to determine the source of the metals detected in the surface soil samples.

Since both lead and arsenic occur naturally in soil (albeit at relatively low levels), EPA expected to detect some lead and arsenic in surface soil on the AAPP site. The on-site concentrations of these substances were in the typical background range, indicating that they are naturally occurring. This suggests that the lead and arsenic detected in the adjacent resident's backyard are not site-related.

COMMENT: Were the soil and air tested off-site, in the surrounding community?

RESPONSE: During the RI for the AAPP Site, an air-monitoring survey was conducted at and in the immediate vicinity of the Site. Survey stations were established at seven on- and off-site locations. The air-monitoring data collected for the Site indicate typical urban conditions. Data collected at or near Dixon Avenue, a four-lane thoroughfare, were slightly higher than levels observed one block south of the Site on a residential street. Subsurface soil samples were taken from all ten monitoring well boreholes, including the four wells located downgradient of the AAPP property. Concentrations of iron and manganese, which are naturally occurring metals, were slightly higher at the downgradient locations. No metals which represented site-related contaminants were found at elevated levels at downgradient locations. Volatile organic compound levels were insignificant.

COMMENT: Was clean backfill used to fill in the leaching pits following the 1980 cleanup activities ordered by the SCDHS?

RESPONSE: The backfill and gravel used by the Site owner to fill in the excavated leaching pits was reportedly clean fill material. Sampling of the areas which correspond to the location of the old leaching pits during the RI found no contamination in either the fill material or the soil below.

COMMENT: Was a well survey ever performed during the RI?

RESPONSE: EPA did not perform a survey of private residential wells as part of the field investigation at the Site. At the request of EPA and the NYSDOH, SCDHS sampled the two residential wells closest to the Site.

One well is used solely as a potable water supply; the other well is reserved for outdoor use. No contaminants were detected above Federal and/or State primary drinking water standards in these wells. Both the SCDHS and the Suffolk County Water Authority do not maintain records of homes and/or businesses utilizing private wells. TOBDEC estimates that 99% of all homes in Copiague are hooked up to a public water supply for primary drinking water purposes.

COMMENT: How close is the nearest public water supply to the Site?

ANSWER: The nearest public water supply is the Lambert Avenue well field, which is approximately 5000 feet east/southeast from the Site. This well is screened in the Magothy Aquifer at a depth of 558 feet.

COMMENT: Could a groundwater plume of contamination have been generated from this Site, prior to the cleaning of the leaching pits in 1980? Could it have travelled downgradient of the Site and therefore now pose a danger to downgradient residents? This possibility should be investigated.

RESPONSE: EPA conducted a comprehensive RI of soil, groundwater and air at the Site from July 1989 to April 1992. The RI included, among other things, examination of site history and existing data, as well as obtaining soil and groundwater samples. The historical information, together with the soil boring data, suggest that action taken by the Site owners in 1980 pursuant to a directive from the Suffolk County Department of Health Services (SCDHS) resulted in remediation of the significant contamination at the Site. During the course of the RI, EPA did not uncover any evidence that contamination from the Site ever entered groundwater. The groundwater sampling conducted during the RI further indicates that groundwater within 300 feet downgradient of the Site does not contain any evidence of a plume of hazardous substance(s). The SCDHS has also recently sampled some private wells in the area and no hazardous substances were detected.

Therefore, the findings of the RI do not support the notion that a plume of site-related contaminants migrated from the Site in the past. In addition, in the event that a release of hazardous substances into groundwater did occur, the release would have ended 12 years ago, when the contamination was removed from the leaching system. Consequently, a resultant "disconnected" plume of contaminated groundwater would be extremely difficult to find, due to migration of a naturally attenuating plume. Further, if evidence of contamination were found downgradient of the Site, it would be difficult to characterize the plume as site-related, due to the regional existence of other potential sources of similar contamination. The plume would have to be characterized as site-related in order for EPA to be authorized to undertake remedial action.

COMMENT: Why won't the groundwater be remediated, since there was an on-site groundwater sample which detected lead in excess of drinking water standards?

RESPONSE: A total of twenty groundwater samples were analyzed for inorganic compounds. Lead was detected in one sample from an on-site well at 26 ppb, which is slightly higher than the Federal action level of 15 ppb and the New York State drinking water standard of 25 ppb. All other samples contained levels of lead which were below these standards. EPA believes that the small excursion of one out of twenty samples above the Federal action level for lead is not indicative of site-related groundwater contamination, and therefore does not warrant groundwater remediation.

COMMENT: Were there unacceptable levels of cyanide found in the groundwater?

RESPONSE: There were no unacceptable levels of cyanide detected in the two samplings of the ten monitoring wells. Cyanide was reported as non-detected for all cases except one where an upgradient well (MW-1) had a detectable level of cyanide, 0.01 ug/l which is well below the New York State groundwater quality standard of 100 ug/l, or the Federal proposed MCL of 200 ug/l.

COMMENT: Did the RI evaluate the damage to the environment that the prior occupant, the commercial laundry, may have caused?

RESPONSE: EPA analyzed the surface and subsurface soils, air and groundwater for a full range of hazardous inorganic and organic chemical compounds. EPA's investigation did not discern between the type of

contamination, if any, which the prior occupant may have caused at the Site.

COMMENT: Did the risk assessment account for the fact that in the event of future residential development of the Site, the residents of a home situated entirely on the portion of the Site with the highest detectable levels of cadmium in the surface soils would be exposed to greater risks than residents of a home built elsewhere on the property? Would a change in the zoning from GA-Industry (GA-Industry is defined as light manufacturing, warehouse, storage, offices and retail facilities) uses to future residential uses change the results of the risk assessment? In the event of future development of the Site, would soils removed from the site be treated as hazardous and would site construction activities change the risk assessment for potential human contact with surface and sub-surface material?

RESPONSE: The risk assessment which is presented in Chapter 5 of the RI report considered possible future residential development on the undeveloped portion of the Site. Potential exposure to resident adults and children through inadvertent ingestion of and dermal contact with chemicals in soil was evaluated using the reasonable maximum exposure (RME) scenario, which is the highest exposure that might be reasonably expected to occur at the Site, one that is well above the average case of exposure but within the range of possibility. The concentration used to determine the RME is derived by using the 95% upper confidence limit on the mean of representative cadmium soil data. Representative cadmium soil data differed for each potentially exposed population. Worker exposure was calculated using data from surface soil samples SS-1 to SS-13 (RME concentration = 11.0 ppm). Trespasser exposure was calculated using all of the surface soil samples, SS-1 through SS20, since all these samples were collected on the AAPP property (RME concentration = 17.2 ppm). EPA believed that surface soil samples SS-12 and SS-14 through SS-20 represented the areas most suitable for a residential dwelling, and therefore used the data from these samples to estimate potential future residential exposures (RME concentration = 26.7 ppm). Therefore, the data used in the future residential scenario resulted in the generation of a more conservative exposure concentration (26.7 ppm) than would have resulted had all the surface soil data been utilized (17.2 ppm). In fact, the residentialexposure concentration approached the highest cadmium concentration detected in surface soils (29 ppm).

In general, the risk assessment indicated that potential exposure is unlikely to significantly impact human health since the risk estimates are within EPA's allowable risk range. The assessment indicates that, in the event of a zoning change from the present industrial classification to a residential classification, unrestricted residential use of the property would be acceptable.

The soil samples from the indoor soil boring investigation were within the Toxicity Characteristic Leaching Procedure (TCLP) leachable limits for all metals tested. If the soil had to be removed as part of some future development scenario, it would not be handled as a TCLP hazardous waste as defined by the Resource Conservation and Recovery Act.

The public health evaluation did not specifically consider the potential worker exposure through contact with subsurface soil during future construction activities, since the subsurface soil was relatively free of contamination, and consequently deemed to pose little risk to potential workers.

COMMENT: Shouldn't beryllium, which exceeded a USEPA corrective action level, qualify as a potential concern? Why was arsenic chosen as a chemical of special concern, while beryllium was excluded?

RESPONSE: The proposed EPA corrective action levels were used for comparison purposes only in Table 5-1 of the RI report. Proposed EPA corrective action levels are not cleanup standards or legally applicable or relevant and appropriate requirements (ARARs). Contamination exceeding action levels indicate a potential threat to human health or the environment which may require further study.

Since inorganic chemicals are naturally occurring in soils, consideration was given to typical background levels in the selection of chemicals of concern. Beryllium was not selected as a chemical of potential concern, since it was detected in only five of twenty surface soil samples, and at concentrations within naturally occurring background levels. In addition, all of the beryllium concentrations were estimated, because the detected concentrations were below the limit the analytical laboratory is contractually required to quantify. As a result, little significance was given to the estimated concentrations relative to the proposed EPA corrective action level.

Although the arsenic concentrations detected in all twenty of the surface soil samples collected on-site are less than the typical background levels and the proposed EPA corrective action level, arsenic was evaluated as a chemical of potential concern solely because it is classified by EPA as a human carcinogen through oral exposure.

COMMENT: Which level of government has the most stringent allowable contamination standards?

RESPONSE: The answer will vary from State to State, and will also depend on the medium of concern. However, in the Superfund program, EPA typically makes a determination of applicable or relevant and appropriate standards for each affected medium. If there are conflicting standards, EPA generally relies on the more stringent (protective) standard, assuming site-specific circumstances support this approach.

COMMENT: Why were samples that failed quality control standards disregarded and not redrawn?

RESPONSE: The quality control procedures in the Superfund program are very comprehensive and rigorous. Some of the data that are generated during an RI do not pass all the quality control standards. For these cases, additional samples are not customarily obtained, if a sufficient quantity of validated data exist to draw appropriate conclusions. Data that do not meet all the quality control standards are either rejected or qualified for limited use. EPA believes that the amount of valid and qualified data collected at the Site were sufficient to meet the objectives of the RI and to provide a basis for the selected remedy.

COMMENT: Isn't it likely that contaminants detected in the groundwater would affect the Great South Bay rather than the public water supply? What would the potential impact to the Great South Bay be from site-related chemicals that are discharged into the Bay via groundwater transport?

RESPONSE: EPA agrees that groundwater flow from the Site would eventually discharge to the Great South Bay, and not be captured by any public supply wells.

As discussed in the response to a previous question concerning the possibility of a groundwater plume, EPA believes that, given the unlikely possibility that significant groundwater contamination migrated from this Site in the past, groundwater contamination would naturally attenuate en route to the Great South Bay, which is two miles south of the Site. In addition, the Bay's own assimilative capacity would further reduce the potential impacts to the Bay.

COMMENT: Are the cancer incidence figures used by EPA in the risk assessment and at the second public meeting actual figures, or a prediction?

RESPONSE: The figure of 25% cancer incidence that EPA used at the second public meeting was an estimate of the actual cancer incidence presently existing in the United States. The actual national cancer incidence of 25% means that approximately one out of every four people in the U.S. will develop some form of cancer during their lifetime.

The risk numbers presented in the risk assessment (RI Report, Chapter 5) represent a theoretical prediction of the number of cancer incidences that would arise from the documented exposures at the AAPP Site. This prediction is generated by a highly conservative series of technical assumptions and therefore represents an upper bound estimate of cancer risk. The hypothetical upper bound cancer risk for this Site was estimated to be less than 1 person in 10,000 exposed population.

COMMENT: What are the Site owner's current disposal practices?

RESPONSE: The owner stores chemical wastes onsite until they are transported offsite by a licensed chemical transporter.

COMMENT: TOBDEC commented that portions of the Town of Babylon are situated within Groundwater Management Zones I and II, both deep recharge areas, and not entirely within Groundwater Management Zone VII, as stated in the RI report.
RESPONSE: TOBDEC's comments are valid and the record is hereby revised.

Appendix A

Proposed Plan and Public Meeting Information

Attachment A.1

Superfund Proposed Plan

Action Anodizing
Plating and Polishing Site

Town of Babylon
Suffolk County, New York

EPA
Region 2

April 1992

PURPOSE OF PROPOSED PLAN

This Proposed Plan identifies a preferred no action remedy for the Action Anodizing Plating & Polishing (AAPP) Superfund site (the Site). The Proposed Plan was developed by the U.S. Environmental Protection Agency (EPA), as lead agency, with support from the New York State Department of Environmental Conservation (DEC). EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, and Section 300.430(f) of the National Contingency Plan.

This Proposed Plan is being provided as a supplement to the Remedial Investigation (RI) report to inform the public of EPA's and DEC's preferred no action remedy and to solicit public comments on this action.

The no action remedy described in this Proposed Plan is the preferred remedy for the Site. Changes to the preferred remedy or a change from the preferred remedy to another remedy may be made, if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. Therefore, we are encouraging public comment on this Proposed Plan and the RI report.

COMMUNITY ROLE IN SELECTION PROCESS

EPA and DEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the RI report, Proposed Plan, and supporting documentation have been made available to the public for a public comment period which begins on April 3, 1992 and concludes on May 2, 1992.

A public meeting will be held during the public comment period at the Babylon Public Library located at 24 South Carll Avenue, Babylon, New York on Wednesday, April 22, 1992 at 7:00 PM to present the conclusions of the RI, to elaborate further on the reasons for recommending the no action remedy, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document which formalizes the selection of the remedy.

Dates to remember: MARK YOUR CALENDAR

April 3, 1992 to May 2, 1992
Public comment period on RI report, Proposed Plan, and remedy considered.

April 22, 1992
Public meeting to be held at 7:00 PM at the Babylon Public Library, 24 Carll Avenue, Babylon, New York.

All written comments should be addressed to:

Julia E. Allen
U.S. Environmental Protection Agency
Emergency and Remedial Response Division
Rm. 29-102
26 Federal Plaza
New York, New York 10278

SITE BACKGROUND

The Site is located at 33 Dixon Avenue in the Hamlet of Copiague in the Town of Babylon, Suffolk County, New York. It is approximately one acre in size and is one mile east of the Nassau-Suffolk County line and one-half mile south of the Sunrise Highway. Public supply wells are the primary source of drinking water in the area and approximately

Copies of the RI report, Proposed Plan, and supporting documentation are available at the following repositories:

Town of Babylon
Department of Environmental Control
Room 23
281 Phelps Lane
North Babylon, New York 11703
(516) 422-7640
Mon.-Fri., 9:00 am - 4:00 pm.

Copiague Memorial Library
50 Deauville Blvd.
Copiague, New York 11726
(516) 691-1111
Mon.-Fri., 9:00 am - 9:00 pm; Sat. 10:00 am - 5:00 pm.

U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278
(212) 264-8476
Mon.-Fri., 9:00 am - 5:00 pm.

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, New York 12233
(518) 457-3976
Mon.-Fri., 9:00 am - 5:00 pm.

One million residents of Suffolk and Nassau Counties obtain drinking water from public wells within three miles of the Site. Prior to 1968, a commercial laundry facility operated on the premises for approximately thirty years. Since 1968, AAPP has operated at the Site as a small metal finishing shop. The operating facility is approximately 3000 square feet in area with an additional 2000 square feet of office space. Attached to the operating facility is an approximate 7500 square foot addition which was built in 1984. The Site is accessed by two unpaved driveways; one enters the southern end of the property from Dixon Avenue and the other enters the eastern side from Galvani Street.

AAPP's operations primarily involve sulfuric acid anodizing of aluminum parts for the electronics industry, cadmium plating, chromate conversion coatings, metal dyeing and vapor degreasing. Liquid wastes from these operations include rinses of spent caustic and acidic solutions contaminated with cadmium, chromium, zinc and sodium cyanide. Prior to 1980, rinse water was reportedly stored in a concrete waste holding trough in the floor of the facility from which it was pumped into a low pressure steam boiler. The steam was condensed and reused as process make-up water. The solids from the rinse water were allowed to build up in the boiler tubes until the tubes became plugged, at which time, the boiler would be replaced with a new unit.

The concrete trough had been used by the commercial laundry as part of its drainage system. The trough was connected to a septic tank on the north side of the building. Tank overflow fed into a series of six leaching pits on the east side of the building. The bottom of the pits was reportedly several feet below ground.

During an inspection of the Site by the Suffolk County Department of Health Services (SCDHS) in January 1980, it was discovered that rinse water from AAPP's operation was discharging to the leaching pits rather than the low pressure steam boiler. SCDHS sampled the leaching pools, process tanks, surface soils, and septic tank on the Site. The results showed elevated levels of several metals, notably cadmium, chromium and nickel in the leaching pits. AAPP was ordered by SCDHS to cease discharge to the leaching pits immediately and remove the sediments of the entire leaching system. In the spring of 1980, AAPP contracted with the Patterson Chemical Company for the cleanup and closing of the leaching system. This work was supervised and approved by SCDHS. In September 1980, SCDHS notified AAPP that the leaching pits could be back-filled with clean sand and gravel. The 7,500 foot equipment storage area, built in 1984, lies directly on top of the former leaching pits. AAPP reports that it currently has its industrial waste hauled off-site for disposal.

In January 1986, DEC issued a Phase 1 Investigation Report which summarized past investigations and included a Hazard Ranking System (HRS) score for the Site. Based on the HRS score, the Site was proposed for inclusion on the National Priorities List (NPL) in June 1988 and was placed on the NPL in March 1989.

On March 7, 1989, EPA sent "general notice" letters to two potentially responsible parties (PRPs), affording them the opportunity to conduct the Remedial Investigation and Feasibility Study (RI/FS) for the Site. PRPs are companies or individuals who are potentially responsible for contributing to the contamination at the Site and/or are past or present owners of the property. EPA did not receive any good faith proposals from the PRPs to undertake or finance the RI/FS. Therefore, the necessary work was performed by EPA's contractor, Malcolm Pirnie, Inc., beginning in March 1989.

REMEDIAL INVESTIGATION SUMMARY

Under the direction of EPA, Malcolm Pirnie, Inc. implemented an RI to characterize the geology, groundwater hydrology and chemical quality of the soil and groundwater at the Site. The investigation consisted of drilling borings and constructing monitoring wells, collecting soil and groundwater samples, conducting a geophysical survey, and conducting an air monitoring survey.

The Site is at an approximate elevation of 30 feet above mean sea level. The shallowest groundwater in the region, the Upper Glacial Aquifer, occurs approximately 10 feet below ground level at the Site. The thickness of the saturated upper Pleistocene deposits under the Site is estimated to be approximately 75 feet. The Upper Pleistocene deposits and Mattawan/Magothy Aquifers form a thick sequence of sand with varying amounts of silt and clay. The stratification of these silt and clay layers impedes vertical groundwater movement. Groundwater movement is generally towards the south, to the Great South Bay, but local variations in the direction of movement occur.

In February 1991, ten wells were installed at the Site. Two wells were drilled upgradient of the Site's operations, four wells were drilled onsite and four wells were drilled downgradient of the Site. In March and July 1991, filtered and unfiltered groundwater samples were taken from ten monitoring wells and analyzed for organic and inorganic constituents.

With the exception of the chromium analyses, results of the first two rounds of unfiltered groundwater samples did not indicate significant contamination. In the first round, chromium was detected in an

upgradient ell at 555 parts per billion (ppb), which is significantly higher than its State and Federal drinking water standards (also referred to as maximum contaminant levels (MCLs)) of 50 and 100 ppb, respectively. This level was also significantly higher than the highest level (11.7 ppb) detected on- site, where levels did not exceed MCLs, and downgradient where chromium was detected in one well above the State drinking water standard (96.5 ppb). In the second round, chromium exceeded both the State and Federal drinking water standards in one upgradient well (130 ppb) and the State drinking water standard in one on-site well (67 ppb) and one downgradient well (90 ppb). The highest level of chromium (130 ppb) was detected in the same upgradient well as in round one. Chromium was not detected in any of the filtered samples.

A third round of groundwater samples was taken in January 1992 and analyzed for total chromium only. Chromium was not detected at levels exceeding MCLs in any of the samples collected in the January sampling effort. The fact that the highest levels of chromium were detected in an upgradient well, and that the levels decreased significantly from March 1991 to January 1992, suggests that a possible source of chromium contamination may be present upgradient of the Site.

Lead was also detected in the groundwater at levels which exceeded its applicable standard. Lead was detected in one on-site well at 26 ppb, which is slightly higher than the Federal action level of 15 ppb. All other samples contained levels of lead which were below the action level. No other inorganic constituents exceeded MCLs.

As noted above, the wells were also analyzed for organic constituents. In the first round of groundwater samples, toluene and xylenes (total) were detected in one on-site well, at 39 and 46 ppb, respectively, and one downgradient well, at 14 and 20 ppb, respectively. These levels exceed the Statedrinking water standard (5 ppb) for both contaminants, but were well below the Federal standard of 1000 ppb for toluene and 10,000 ppb for xylenes (total). Toluene and xylenes (total) were not detected in the second round of groundwater samples. No other volatile organic compounds exceeded MCLs.

Air monitoring and geophysical surveys were conducted at the Site. The air monitoring data collected at the Site indicate typical urban conditions. No unusual metallic subsurface objects, such as buried drums, were identified by the geophysical survey.

Soil borings were drilled at the Site in order to develop information on site geology and to determine the extent of horizontal and vertical contamination. Results of both the subsurface soil samplings from outdoor test borings and indoor test borings did not indicate the presence of inorganic constituents at elevated levels. Similarly, although the results of the analyses for organic constituents indicated the presence of a limited number of organic compounds in both the indoor and outdoor borings, the compounds were not present in any significant concentration or in any consistent pattern.

Twenty surface soil samples were collected at the Site. Of the metals detected in these samples, only cadmium was detected above both the background range reported for cadmium in surface soils in the United States (0.01-2 mg/kg) and typical sandy soils (0.07-1.1 mg/kg). The highest level of cadmium detected in on-site surface soils was 29.4 mg/kg. All other metals detected on-site were either within or close to the background range found in surface soils in the United States or typical sandy soils. Some semi-volatiles were detected, mostly compounds which are by-products of fossil fuel combustion and are typical of what is found near road surfaces. A few volatile organic compounds were detected in one sample, but all were present at insignificant levels.

In February 1992, SCDHS sampled the residential well of the private residence adjacent to the Site to ensure that the water was a suitable source of drinking water. Results of the sampling indicated that this was the case, as contaminants were not present above State or Federal primary drinking water standards. In addition, the New York State Department of Health sampled soils in the resident's backyard to determine whether elevated levels of metals were present. Of the metals detected in the surface soils, two metals, lead and arsenic, were detected at levels much higher on the residential property than on the Site property. However, these contaminants are believed to be the results of residues from the application of a lead arsenate pesticide commonly used in the 1940s and 1950s and not a result of site-related plating and polishing operations. Cadmium was found at levels generally below those detected on-site. No other metals were

detected above background levels.

SUMMARY OF SITE RISKS

Based upon the results of the RI, a baseline risk assessment was conducted to estimate the risks associated with current and future site conditions. The baseline risk assessment estimates the human health and environmental risk which could result from the contamination at the site, if no remedial action were taken.

As part of the baseline risk assessment, the following four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: Hazard Identification--identifies the contaminants of concern at the site based on several factors such as toxicity, frequency of occurrence, and concentration-Exposure Assessment– estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated wellwater) by which humans are potentially exposed. Toxicity Assessment--determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). Risk Characterization– summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative (e.g., one-in-amillion excess cancer risk) assessment of site-related risks.

The baseline risk assessment began with selecting contaminants of concern which are representative of site risks. Chemicals of concern were identified for Site surface soil and groundwater underlying the Site. These contaminants include benzene, carbon disulfide, 1,1-dichloroethane, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, xylenes (total), arsenic, cadmium, chromium, and lead.

The baseline risk assessment evaluated the health effects, which could result from exposure to contamination at the Site, under current and future land-use scenarios. The potential exposure pathways of concern for current land uses include: ingestion of chemicals in the soil and dermal contact with chemicals in the soil. The potential exposure pathways of concern for future land use include those for current land use as well as the following: ingestion of chemicals in groundwater, dermal contact with chemicals in groundwater and inhalation of airborne chemicals in groundwater.

Based on current land uses, workers may be exposed to contaminants at the Site through incidental ingestion and dermal contact with soils during their designated work activities. Similarly, those who trespass onto the Site may be exposed to the contaminants on-site by dermal contact with soils and by incidental ingestion of the soil. If the upper aquifer serves as a drinking water source for the area in the future, the potential would exist for residents and workers to be exposed to chemicals in groundwater through ingestion of drinking water. Future on-site residents might also be exposed to contaminants in groundwater through dermal contact and inhalation of volatile organic compounds during showering or bathing.

EPA's acceptable cancer risk range is 10[-4] to 10[-6] which can be interpreted to mean that an individual may have a one in ten thousand to a one in a million increased chance of developing cancer as a result of a site -related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at the site.

To assess the overall potential for noncarcinogenic effects posed by more than one contaminant, EPA has developed the hazard index (HI). This index measures the assumed simultaneous subthreshold exposures to several chemicals which could result in an adverse health effect. When the sum of subthreshold exposures (i.e., the HI) exceeds one, there may be concern for potential noncarcinogenic health effects, if the contaminants in question are believed to cause a similar toxic effect.

The results of the baseline risk assessment indicate that under the current-use scenarios, noncarcinogenic health effects are not likely based on the potential exposure pathways and routes evaluated for workers and trespassers. The calculated HIs for these scenarios are significantly less than one. Similarly, estimated carcinogenic risks are within or less than EPA's acceptable cancer risk range based on the potential exposure pathways and routes evaluated for workers and trespassers, respectively. The exposure pathway with the greatest risk is for ingestion of and dermal contact with chemicals in the soil by workers at the Site. The estimated carcinogenic risk is 1.17 x 10[-6], which is within EPA's acceptable cancer risk range.

Under the future-use scenarios, noncarcinogenic health effects are unlikely based on the potential exposure pathways and routes evaluated for workers, trespassers and residents. As with the results of the current-use scenarios, all calculated pathway specific HIs are less than one. The highest calculated HI is 0.7, which is the HI for ingestion of cadmium in surface soils by children in the event of future residential development on the Site. For this future land-use scenario, when the subthreshold exposures to arsenic and cadmium by children are combined, the HI exceeds 1; however, the most sensitive adverse effect from arsenic (skin disorder) and cadmium (kidney damage) are different. Consequently, the simultaneous subthreshold exposure to these two elements would not be expected to result in adverse health effects. Six of the fifteen exposure pathways evaluated under the future-use scenarios have estimated carcinogenic risks within EPA's acceptable cancer risk range; the estimated carcinogenic risk for the remaining pathways are less than the range. The exposure pathway with the greatest risk is for the future ingestion of chemicals in the groundwater by an adult. This assumes that the aquifer beneath the Site would be utilized as an untreated source of drinking water. The estimated carcinogenic risk for this pathway is 7.25 x 10[-5], which is within EPA's acceptable cancer risk range.

The ecological risk assessment evaluated potential exposure routes of site contamination to terrestrial wildlife and aquatic life. Cadmium was chosen as the chemical of potential concern for surface soils at the Site because it was detected at levels greater than typical background soil concentrations. However, the overall risk to wildlife in the general vicinity of the Site is considered to be low, due to the small size of the contaminated area and the limited habitat potential of the Site. The chemicals of potential concern chosen for groundwater at the Site are: aluminum, chromium, copper, lead, nickel and zinc, since the detected levels of these compounds exceeded State and/or Federal Ambient Water Quality Criteria for marine and/or fresh water. Groundwater from the Site may ultimately discharge into Amityville Creek and Woods Creek, both located approximately 1/2 mile south of the Site, and the Great South Bay, located 2 miles south of the Site. The potential risk to aquatic life inhabiting these surface water bodies, however, is considered low. This is due to the natural dilution of any low levels of groundwater contamination that may be associated with the Site. Furthermore, the streams in the Babylon area of Long Island are only partially fed by groundwater and unlikely to receive a large input of groundwater flowing from the Site.

SCOPE AND ROLE OF ACTION

This is the first and only planned operable unit for the Site. The primary objective of this operable unit is to determine the nature and extent of contamination at the Site and to take measures, as appropriate, to ensure the protection of human health and the environment.

SUMMARY OF THE PREFERRED NO ACTION REMEDY

Based on the findings of the RI performed at the Site, a no action remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective.

The risk assessment indicates that the levels of contaminants present in the soil, air and groundwater at the Site present risks which fall within or below the Superfund remediation range. In addition although groundwater sampling results indicate the infrequent occurrence of contaminants exceeding MCLs, the majority of contaminants do not exceed MCLs in the groundwater or background levels in the soil and air. It appears as though the 1980 SCDHSordered remediation of the leaching pits removed the most significant contamination found at the Site. Therefore, EPA and DEC recommend a no action remedy for this site.

State Acceptance

DEC concurs with the preferred no action remedy.

Community Acceptance

Community acceptance of the preferred remedy will be assessed in the ROD, following review of the public comments received on the RI report and the Proposed Plan.

Attachment A.2

PAID ADVERTISEMENT

The United States Environmental Protection Agency Announces
Proposed Remedial Alternative for the
ACTION ANODIZING PLATING AND POLISHING SITE
Hamlet of Copiague, Town of Babylon,
Suffolk County, New York

The U.S. Environmental Protection Agency (EPA) recently completed a Remedial Investigation (RI) for the Action Anodizing Plating and Polishing site in Babylon, New York. Based on the findings of the RI performed at the site, EPA is announcing a preferred no action remedy for the site.

Before selecting a final remedy, EPA will consider written and oral comments on this preferred alternative. All comments must be received on or before May 2, 1992. The final decision document will include a summary of public comments and EPA responses.

EPA will hold an informational public meeting on Wednesday, April 22, 1992, at 7:00 p.m., at the Babylon Town Library, 24 South Carll Avenue, Babylon, New York, to discuss the findings of the RI and the preferred remedy for the site.

An integral component of the RI report, the risk assessment, indicates that the levels of contamination present in the soil, air and groundwater at the site present acceptable risks for each exposure pathway evaluated, i.e. risks which fall within or below the Superfund remediation range. Furthermore, although groundwater sampling results indicate the infrequent occurrence of contaminants exceeding primary drinking water standards, the majority of contaminants do not exceed primary drinking water standards in the groundwater or background levels in the soil and air. Therefore, EPA is not evaluating or proposing cleanup activities at the site. The preferred no action remedy is protective of human health and the environment and complies with federal and state requirements that are legally applicable or relevant and appropriate to any remedial action that must be performed at the site.

The preferred no action remedy is outlined and discussed in the Proposed Plan.

The Remedial Investigation report, Proposed Plan, and other siterelated documents can be consulted at the information repositories listed below:

Town of Babylon
Department of Environmental Control
Room 23
231 Phelps Lane
North Babylon, New York 117073

Copiague Memorial Library
50 Deauville Road
Copiague, New York 11726

Written comments on the preferred alternative, should be sent to:

Julia E. Allen, Project Manager
U.S. Environmental Protection Agency
26 Federal Plaza, Room 29-102
New York, New York 10278

Written comments must be received at the above address on or before May 2,
1992.

Attachment A.3

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Announces

AN EXTENSION TO THE PUBLIC COMMENT PERIOD FOR THE ACTION ANODIZING PLATING & POLISHING SUPERFUND SITE COPIAGUE, SUFFOLK COUNTY NEW YORK EPA has extended the public period on the proposed plan for addressing the Action Anodizing Plating & Polishing Superfund site at 33 Dixon Avenue in Copiague, New York. The comment period has been extended from May2, 1992 to June 8, 1992 in response to community requests. In addition, EPA will be holding an additional informational meeting at 7:00 p.m. on Tuesday, June 2, 1992 in the Copiague Junior High School at 2650 Great Neck Road, Copiague. Residents may review site-related documents at local information repositories established by EPA at:

Copiague Memorial Library
50 Deauville Blvd.
Copiague, NY 11726

Town of Babylon
Dept. of Environmental Control
281 Phelps Lane, Control Room 23
North Babylon, NY 11703

Written comments may be addressed to:
Julia Allen, Project Manager
U.S. Environmental Protection Agency
Emergency and Remedial Response Division
26 Federal Plaza, Room 29-100
New York, NY 10278

LT672 5/20/92

Attachment A.4

APPENDIX IV

NYSDEC LETTER OF CONCURRENCE

New York State Department of Environmental Conservation 50 Wolf Road, Albany, New York 12233 -7010

Thomas C. Jorling
Commissioner

JUN 19 1992

Ms. Kathleen C. Callahan
Director
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Dear Ms. Callahan:

Re: Action Anodizing ROD
Site ID #152037

We have reviewed the Draft Record of Decision for the Action Anodizing site and concur with the no-action alternative. We will require that the groundwater monitoring referred to in the ROD include volatile organics and metal analysis, and that it will be performed twice within the next year on monitoring wells 2, 4, 6 and 10.

If you have any questions regarding this matter, please contact Michael J. O'Toole, Jr., at (518) 457-5861.

Sincerely,

David Markell
Acting Deputy Commissioner