


# *Brynwood Golf & Country Club*

568 Bedford Road  
Town of North Castle  
Westchester County  
New York

(Section 2, Block 8, Lot 7.C1A)

Prepared for **Brynwood Partners, LLC**  
**New York, New York**

Prepared by

 **Engineering, Surveying and Landscape Architecture, P.C.**

*White Plains, New York*

Date Submitted: March 22, 2013

Date Revised: June 4, 2013

**Date Accepted: June 11, 2013**

**Public Hearing Date: June 27, 2013**

**DEIS Comments Due By: 30 days after close of hearing**

## VIII. APPENDIX

### Volume 2:

- A. All SEQRA documentation, including a copy of the Environmental Assessment Form (EAF), the Positive Declaration and the DEIS Scope
- B. Copies of all official correspondence related to issues discussed in the DEIS
- C. Petition and Proposed Zoning Amendment
- D. Report on Preliminary Subsurface Soil and Foundation Investigation (Carlin Simpson & Associates, 2/13/13)
- E. Integrated Turfgrass and Pest Management Plan with Environmental Risk Assessment (ITPMP), (A. Martin Petrovic, March 2013)
- F. Stormwater Pollution Prevention Plan (SWPPP), (John Meyer Consulting, PC, March 13, 2013) *Note: Appendices under separate cover*
- G. Phase IA Archeological and Historic Resources investigation (Historical Perspectives, Inc., January 2013)
- H. Wetland/Natural Resources documentation (including correspondence regarding wetlands and vegetation, Tree survey lists, Soils and Wetland Delineation Report, HGM model sheets, NYSDEC Management of Dredged Sediments information)
- I. Proposed Surface Water Sampling Program (LBG, 2/12/13); Surface Water Sampling Program, Leggette Brashears & Graham (May 13, 2013)
- J. Town of North Castle Water District No. 2 Well Field Parcel, Town of North Castle, NY (Leggette, Brashears & Graham, Inc. March 2013)
- K. Memorandum from VHB regarding school children generation (dated 6/5/12)

### VOLUME 3:

- L. Phase 1 Environmental Site Assessment (ESA) (Ecosystems Strategies, Inc., 5/15/08)
- M. Traffic Impact Analysis (Maser Consulting, PA, March 2013; revised May 2013)
- N. Air Quality Appendix (VHB)
- O. Noise Appendix (VHB)
- P. Brynwood Golf & Country Club Residential Analysis (HR&A, March 18, 2013)
- Q. Brynwood Spill Prevention and Containment Protocol (2013)
- R. 72- Hour Pump Test Report (Leggette Brashears & Graham, June 2013)



## **APPENDIX L**

**PHASE I**

**ENVIRONMENTAL**

**SITE ASSESSMENT**

**May 15, 2008**

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**Site Identification:** Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York

**Tax Lot Identification:** Section 2, Block 8, Lot 7.C1A

**Property Description:** Approximately 156-acre property containing the  
Canyon Club golf course

**ESI File: JA08039.10**

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**Prepared By:**



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**PHASE I**

**ENVIRONMENTAL**

**SITE ASSESSMENT**

**May 15, 2008**

**ESI File: JA08039.10**

**Prepared By:**


**Ecosystems Strategies, Inc.  
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**Prepared For:**

**JBM Realty  
10 Glenville Street  
Greenwich, Connecticut 06831**

Phase I Environmental Site Assessment services performed by Ecosystems Strategies, Inc. have been conducted in accordance with ASTM Method E 1527-05.

The undersigned has reviewed this Phase I Environmental Site Assessment and certifies to JBM Realty that the information provided in this document is accurate as of the date of issuance by this office.

  
\_\_\_\_\_  
Paul H. Ciminello  
President

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
1.1	Purpose of the Investigation	
1.2	Methodology	
1.3	Limitations	
1.4	Key Definitions	
2.0	SITE LOCATION AND DESCRIPTION .....	3
2.1	Description of the Subject Property	
2.1.1	Site Topography	
2.1.2	Site Geology	
2.1.3	Site Hydrogeology	
2.1.4	Surface Hydrology and Wetlands	
2.1.5	Sensitive Environmental Receptors	
2.2	Description of Adjoining and Surrounding Area Properties	
3.0	INVESTIGATION .....	8
3.1	Site History	
3.1.1	User-Reported Information	
3.1.2	Interview with Key Site Manager	
3.1.3	Ownership Records	
3.1.4	Historical Topographic Map, Sanborn Fire Insurance Map, and Aerial Photographs	
3.1.5	Local Records	
3.1.6	Previous Environmental Reports	
3.2	Review of Federal and State Agency Records	
3.2.1	Methodology	
3.2.2	Findings of Regulatory Records Review	
3.3	Site Inspection	
3.3.1	Protocol	
3.3.2	Physical Characteristics of the Subject Property	
3.3.3	Specific On-Site Environmental Conditions	
3.3.4	Environmental Concerns at Adjoining and Nearby Properties	
4.0	CONCLUSIONS AND RECOMMENDATIONS .....	22
5.0	SOURCES OF INFORMATION .....	24
5.1	Maps and Documents	
5.2	Local Agency Records	
5.3	Communications	
6.0	ENVIRONMENTAL PROFESSIONAL STATEMENT .....	25

## FIGURES AND TABLES

Page 5	Table 1: Land Uses in the Vicinity of the Subject Property
Page 6	Site Location Map
Page 7	Selected Site Features Map
Page 9	Table 2: Ownership Information
Page 16	Table 3: Basement Radon Levels in Vicinity of Subject Property

## APPENDICES

A	Site Photographs	D	Excerpts of Previous Environmental Reports
B	Physical-Setting Maps	E	Regulatory Review Database Report
C	Historical Topographic Map, Sanborn Fire Insurance Map, and Aerial Photographs	F	Qualifications of Environmental Professional(s)
		G	Scope of Services



## 1.0 INTRODUCTION

### 1.1 Purpose of the Investigation

This Phase I Environmental Site Assessment (Phase I ESA) identifies recognized environmental conditions (RECs) and/or other significant environmental liabilities resulting from or associated with the storage, use, transport, or disposal of hazardous or regulated materials on the property located at 568 Bedford Road, Town of North Castle, Westchester County, New York (property descriptions are presented in Sections 2.1 and 3.3.2).

### 1.2 Methodology

This Phase I ESA has been prepared in conformance with guidelines set forth by the American Society for Testing and Materials (ASTM) Method E1527-05 (no exceptions to or deletions from this practice have occurred). A detailed Scope of Services is provided in Appendix G. This environmental site assessment was performed under the direct supervision and responsible charge of an environmental professional (see Appendix F), following the requirements for "all appropriate inquiry" as defined in 40 CFR Part 312.

Ecosystems Strategies, Inc. (ESI) performed the following work:

1. Investigation of the subject property's history and characteristics through the analysis of available historic maps and aerial photographs, local and regional maps, local governmental and/or Tribal records, and information provided by subject property representatives and other knowledgeable individuals (see Section 5.0 for references).
2. Review of Federal, State, and/or Tribal regulatory-agency computer databases and printed records for documentation of potential environmental liabilities relevant to the property, consistent with (or exceeding) applicable ASTM requirements.
3. Inspection of the property by Brian Brannick of ESI on March 14, 2008 (Jeffrey Mendell, the prospective purchaser, Osamu Yada, representing the property owner, and Chad Anderson, the Golf Course Superintendent, were present during portions of the site inspection).

### 1.3 Limitations

This Phase I ESA is an evaluation of the property described in Section 2.1 below and is not valid for any other property or location. It is a representation of the property analyzed as of the dates that services were provided. This Phase I ESA cannot be held accountable for activities or events resulting in environmental liability after the respective dates of the site inspection or historic and regulatory research.

This Phase I ESA is based in part on certain information provided in writing or verbally by federal, state, and local officials (including public records) and other parties referenced herein. The accuracy or completeness of this information was not independently verified. Unless specifically noted, the findings and conclusions contained herein must be considered not as scientific certainties, but as probabilities based on professional judgment.

## 1.4 Key Definitions

Definitions of some common terms found in ASTM Standard 1527-05, as used in this Phase I ESA, are provided below.

### Activity and Use Limitations (AULs)

Legal or physical restrictions or limitations on the use of, or access to, a site or facility to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or ground water on the property, or to prevent activities that could interfere with the effectiveness of a response action. AULs may include institutional and/or engineering controls.

### Key Site Manager

The person identified by the owner or operator of a property as having good knowledge of the uses and physical characteristics of the property.

### Practically Reviewable

Information that is provided by a source in a manner and in a form that yields information relevant to the property without the need for extraordinary analysis of irrelevant data is Practically Reviewable. Records must be for a limited geographic area. Records arranged chronologically, lacking adequate address information to be located geographically, in large databases that are not sorted by zip code, or are so numerous to be unmanageable are not generally practically reviewable (i.e. data cannot be feasibly reviewed for its impact on the property).

### Reasonably Ascertainable

Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable is Reasonably Ascertainable.

### Recognized Environmental Conditions (RECs)

The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate (1) an existing release, (2) a past release, or (3) a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. Material threat means a physically observable or obvious threat that is reasonably likely to lead to a release that is threatening and might result in impact to public health or the environment.

The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

### User

The party using ASTM Standard 1527-05 to complete an environmental site assessment.

## 2.0 SITE LOCATION AND DESCRIPTION

### 2.1 Description of the Subject Property

The subject property as defined in this Phase I ESA consists of the approximately 156-acre Canyon Club golf course property located at 568 Bedford Road, Town of North Castle, Westchester County, New York (identified as Town of North Castle tax lot parcel: Section 2, Block 8, Lot 7.C1A). A site location map is provided on Page 6.

The property is located on the western side of Bedford Road and the eastern side of Interstate 684 (the property has an irregular shape). The property is composed of the eighteen-hole Canyon Club golf course and associated buildings. A one-story clubhouse building and pool are located on the east-central portion of the property. A one-story golf cart storage barn is located to the south of the clubhouse building, and a two-story maintenance building, with associated pesticide storage shed is located to the north of the clubhouse building. Nine tennis courts with an associated one-story tennis shack are located to the northeast of the maintenance area and a small pavilion containing a snack shack is located to the northwest of the maintenance area. A large one-story building containing a sewage treatment plant is located in the central portion of the property, a small one-story pump house is located on the south-central portion of the property at the northern end of a large on-site pond, and a small former water supply well house is located to the east of the maintenance building. The remainder of the property is composed of paved cart paths throughout the golf course and paved parking areas surrounding the clubhouse. A map illustrating the layout of the property is provided on Page 7 and photographs of the property are provided in Appendix A.

#### 2.1.1 Site Topography

Information on the subject property's topography was obtained from the review of the United States Geological Survey Topographic Map of the Mount Kisco, New York-Connecticut Quadrangle (a copy of the relevant portion of this map, with the subject property indicated, is provided in Appendix B). According to the Topographic Map, the property is located in an area of varied relief with somewhat moderate downward slopes to the west, towards the Byram River and the property has surface elevations ranging from approximately 450 to 630 feet above mean sea level. Field observations indicate that the property has gentle to moderate downward slopes to the west.

The topographic map did not indicate the presence of any soil/gravel mining operations or unusual topographic patterns indicative of landfilling activities on the subject property. Structures depicted on the topographic map appear to correspond to the currently existing on-site buildings (see Section 2.1, above).

#### 2.1.2 Site Geology

No information regarding site-specific investigations of the subsurface (e.g., test pits or borings) was readily available; therefore, no documented determinations are provided in this Phase I ESA.

A review of the Geologic Map of New York and the Surficial Geologic Map of New York (lower Hudson sheets) indicates that soils on the subject property are likely to consist of glacial till deposits, overlying gneiss. Soil maps presented in the USDA NRCS Soil Survey of Putnam and Westchester Counties, New York (Soil Survey) indicate that the subject property contains numerous soil types. Several of the predominant soils include the Charlton-Chatfield complex, rolling, very rocky (2 to 15 % slopes), the Chatfield-Charlton, hilly, very rocky (15 to 35% slopes), the Paxton fine sandy loam (2 to 8 % slopes), and the Sutton loam (3 to 8 % slopes) soil series. The subject property also contains smaller areas consisting of the Leicester loam, Ridgebury loam, Riverhead loam, the Woodbridge loam, and the Udorthodents, smoothed soil types. The



Charlton-Chatfield soils consist of the very deep, well drained, and somewhat excessively well drained Chatfield loam and the very deep, well drained Charlton loam. The Paxton soil type is a very deep, well drained, gently sloping soil, and the Sutton soil type is a very deep, and moderately well drained, gently sloping soil. The presence of on-site structures suggests that soils located on the property may have been altered by cutting, regrading and/or filling activities.

Depth to bedrock is likely to be greater than 60 inches below grade in the Charlton, Paxton, and Sutton soil types, and from 20 to 40 inches below grade in the Chatfield soil type. Small areas of bedrock outcrops were observed on the central portion of the property.

### **2.1.3 Site Hydrogeology**

The Soil Survey notes that groundwater is likely to be present at depths of greater than 6.0 feet in the Chatfield and Charlton soil types, from 1.5 to 2.5 feet below grade from February to April in the Paxton soil type, and from 1.5 to 2.5 feet below grade from November to April in the Sutton soil type. A report issued by National Environmental Specialists, Inc. regarding the removal of a 3,000-gallon fuel oil underground storage tank (UST) did not document the presence of groundwater during tank removal activities (see Section 3.1.6, below). No other data documenting groundwater depth, or site-specific investigation of groundwater direction of flow, has been reviewed by this office. Shallow groundwater flow in the vicinity of the property is likely to follow surficial topography and be to the west, toward the Byram River (located in the immediate vicinity of the subject property).

### **2.1.4 Surface Hydrology and Wetlands**

#### **On-Site Waterbodies and Wet Areas**

Several ponds were observed in the central portion of the property, and federally designated wetland areas are located in the central and western portions.

#### **Regulated Wetlands**

Applicable New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands and the United States Department of the Interior National Wetlands Inventory maps were reviewed in order to determine the presence or absence of regulated wetlands on or in the immediate vicinity of the subject property. The federal wetlands map shows several designated wetland areas in the central and western portions of the subject property. A copy of the relevant section of the federal wetlands map is included in Appendix B.

### **2.1.5 Sensitive Environmental Receptors**

Sensitive Environmental Receptors (SERs) are valued physical, biological, and/or man-made features that may be adversely impacted by environmental contamination, and where a discharge or release could pose a greater threat than a discharge or release to other less valued areas. SERs include (but are not limited to) potable supply wells, wetlands, and protected wildlife habitat.

Federally designated wetland areas and several ponds are located on the central and western portions of the property. The Byram River is located in the immediate vicinity to the west and southwest of the property.



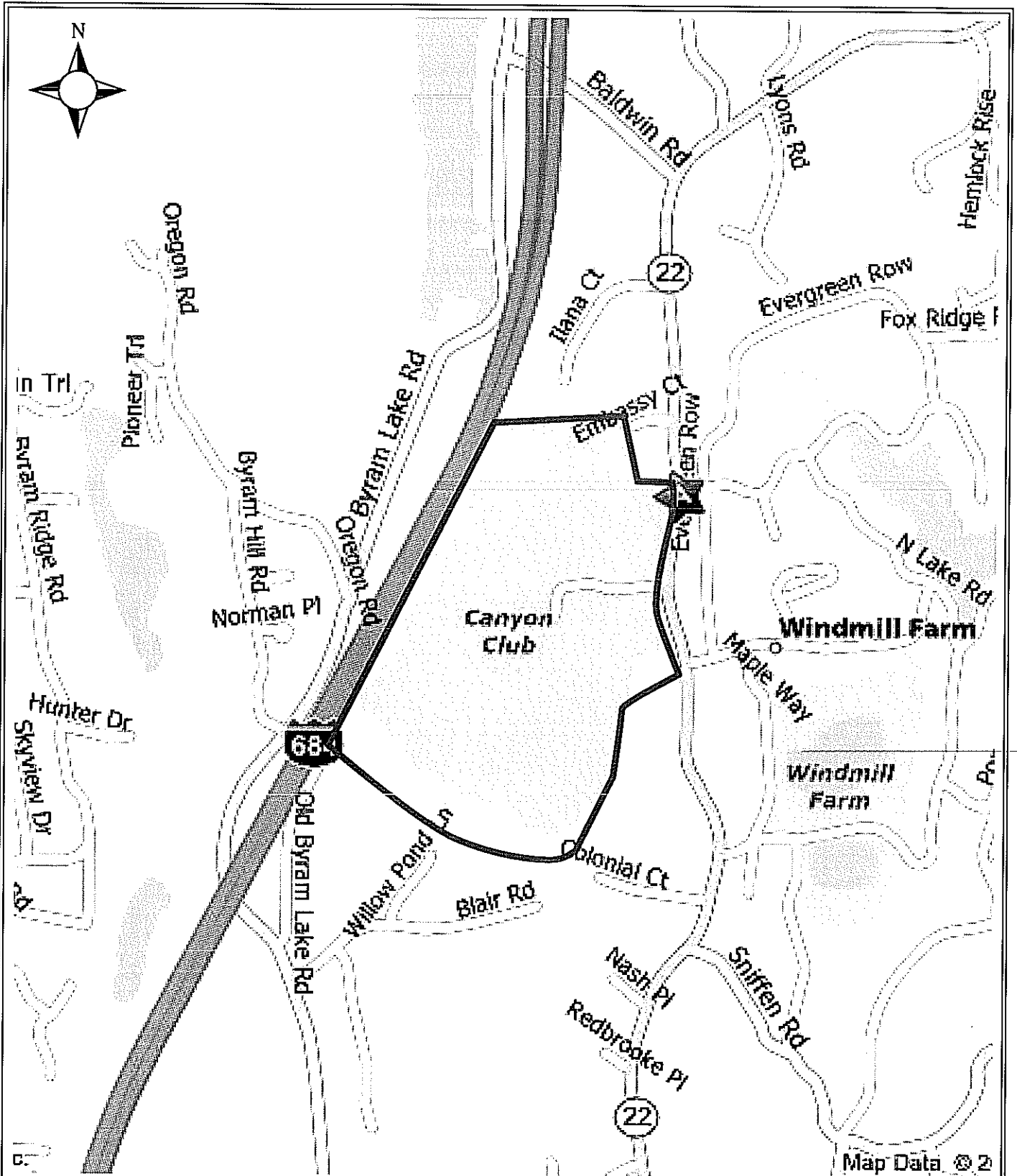


## 2.2 Description of Adjoining and Surrounding Area Properties

The subject property is located in a suburban area comprised primarily of single-family residential properties. A description of the adjoining and nearby properties is provided in Table 1, below.

**Table 1: Land Uses in the Vicinity of the Subject Property**

Direction	Adjoining Use(s)	Vicinity Use(s)
North	<ul style="list-style-type: none"><li>Residential</li></ul>	<ul style="list-style-type: none"><li>Residential</li><li>Byram Lake Reservoir</li></ul>
East	<ul style="list-style-type: none"><li>Residential</li></ul>	<ul style="list-style-type: none"><li>Residential</li><li>Commercial</li></ul>
South	<ul style="list-style-type: none"><li>Caman Hill School</li><li>Vacant Land</li></ul>	<ul style="list-style-type: none"><li>Residential</li><li>Commercial</li><li>Byram River</li></ul>
West	<ul style="list-style-type: none"><li>Interstate-684</li></ul>	<ul style="list-style-type: none"><li>Residential</li><li>Vacant Land</li><li>Byram River</li></ul>



## Site Location Map

Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York

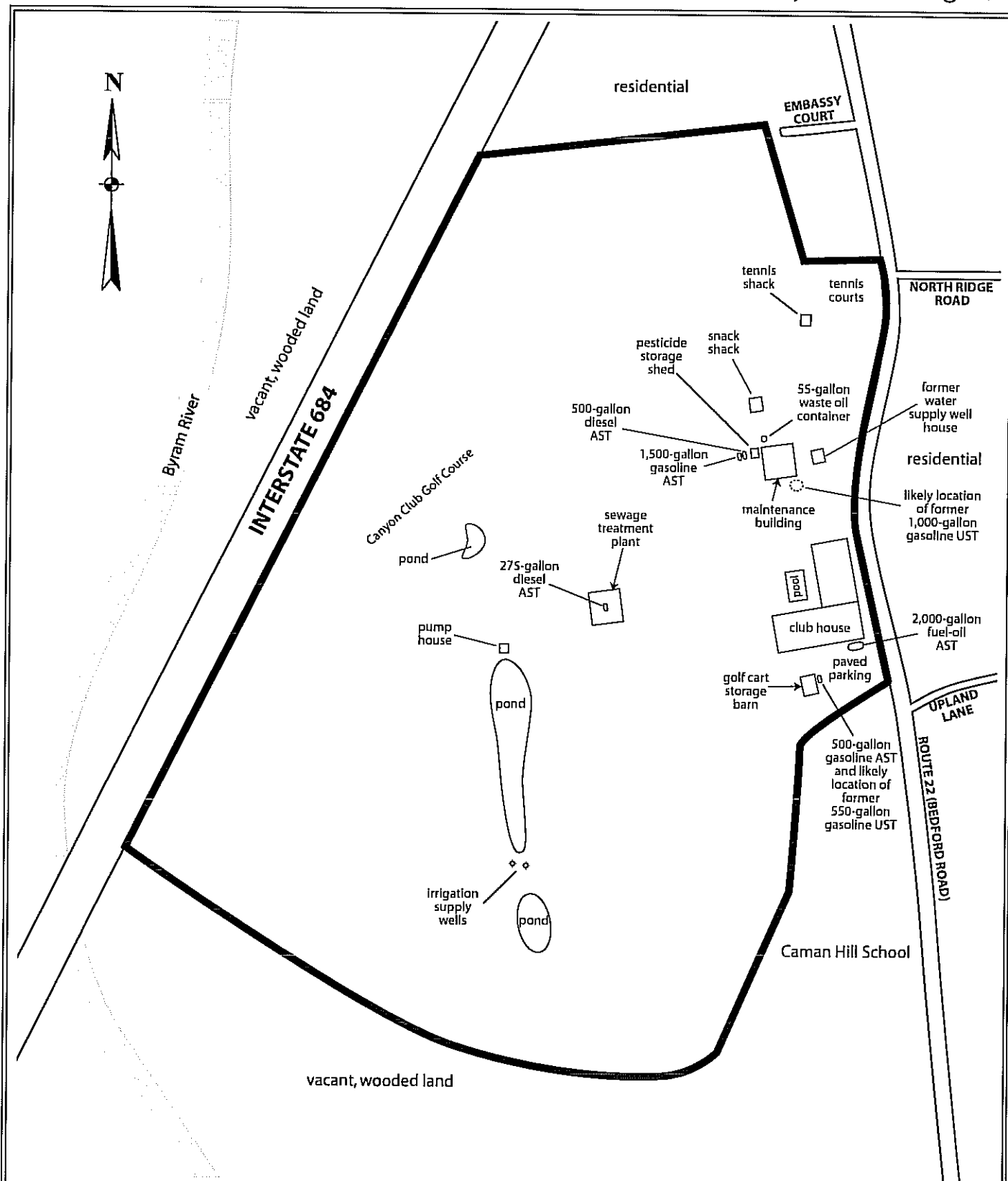
### Legend:

— subject property border

ESI File: JA08039.10

May 2008

Page 6



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

## Selected Site Features Map

Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York

### Legend:

— subject property border

ESI File: JA08039.10

May 2008

Scale: 1" = 440' approximately

Page 7

### **3.0 INVESTIGATION**

#### **3.1 Site History**

The history of the subject property was researched using interviews with knowledgeable individuals, and reviews of ownership records, historic maps and aerial photographs, and local records. This review included both standard environmental record sources (as specified in ASTM 1527-05) and additional sources (if such sources were judged to be reasonably ascertainable and sufficiently useful, accurate, and complete in light of the objective of the records review).

##### **3.1.1 User-Reported Information**

ASTM Practice E 1527-05, Section 6, requires that the User (the party seeking to complete the environmental site assessment of the property) provide specific information to the Environmental Professional in order to meet the requirements for "all appropriate inquiry". Jeffrey Mendell, representing JBM Realty (the User), has responded to a questionnaire provided by ESI, which requested information regarding the subject property as specified in Section 6. Mr. Mendell had no specialized knowledge or experience, actual knowledge, or knowledge of commonly known or reasonably ascertainable information regarding: 1) information material to recognized environmental conditions or other environmental liabilities in connection with the property; 2) the results of a review of title and/or judicial records for environmental liens/AULs; or, 3) reason(s) for a purchase price that does not reasonably reflect fair market value because of known or suspected contamination.

Mr. Mendell stated that JBM Realty wanted to have the Phase I Environmental Site Assessment performed in order to qualify for one or more Landowner Liability Protections (LLPs) to CERCLA liability and to document potential environmental liabilities on the subject property.

##### **3.1.2 Interview with Key Site Manager**

Osamu Yada (representing the property owner) was identified by Mr. Mendell as a Key Site Manager for the subject property. Mr. Yada was interviewed by ESI personnel regarding the topics detailed in the User Questionnaire (see Section 3.1.1, above), and was additionally asked to provide specific information regarding property features, site history and use, and commonly known information related to the property. Mr. Yada stated that all on-site USTs had been removed from the property in 1996 and 2001 and that any spill events have been properly closed by the NYSDEC (see Section 3.2.2, below). Mr. Yada also stated that a NYSDEC permit exists for the discharge of treated sanitary waste into the Byram River. Mr. Yada had no other specialized knowledge or experience, actual knowledge, or knowledge of commonly known or reasonably ascertainable information regarding potential environmental conditions and/or liabilities in connection with the property. Pertinent information from this interview is provided in relevant report sections, where appropriate.

##### **3.1.3 Ownership Records**

Property ownership information, based on interviews with Mr. Yada and a review of Town of North Castle Assessor's Office records, is presented in Table 2, below. This ownership summary does not constitute a title search.

**Table 2: Ownership Information**

Parcel ID	Owner	Date of Conveyance
Section 2, Block 8, Lot 7.C1A	N.C. Leisure Enterprise Inc. (Current Owner)	5/24/1977
	Leisure Enterprise Co.	12/28/1973
	Queensland Realty Corp.	12/28/1973
	Leisure Enterprise Co.	12/28/1973
	Mediteh Products, Inc.	2/10/1972
	Kralyn Enterprises	8/8/1967
	Swartz, Gerald & Miseo, John	11/11/1964
	Tobin	unknown

### 3.1.4 Historical Topographic Map, Sanborn Fire Insurance Map, and Aerial Photographs

A summary of the information obtained from the review of a historical topographic map dated 1899, a Sanborn Fire Insurance Map dated 1942, and aerial photographs dated 1947, 1960, 1970, 1976, 1986, and 1995 is provided below. The small scale and quality of the photographs made distinguishing details difficult. Copies of these photographs and relevant maps are provided in Appendix C (note: subject property outlines on these maps and photographs, as drawn by ESI, may vary depending on map accuracy, and are approximations chosen to best reflect likely on-site historic uses).

#### Historical Map:

1899: Two structures (likely to be residential) are located on the eastern portion of the property. A road bisects the central portion of the property from east to west. Two structures (likely to be residential) are located on the adjoining properties to the east; all other adjoining properties are vacant. The surrounding area is lightly developed.

#### Sanborn Map:

1942: This is an overview map making distinguishing details difficult. The subject property is noted as containing the North Castle Golf and Tennis Club. Structures are located on adjoining properties to the east and south; all other adjoining properties appear to be vacant. The surrounding area is lightly developed and Byram Lake is located in the surrounding area to the northwest.

#### Aerial Photographs:

1947: The subject property is open agricultural fields (no orchard trees or row crops appear to be located on the property). The adjoining properties to the north and east contain residential structures; all other adjoining properties are vacant, wooded areas or agricultural fields. The surrounding area is lightly developed with residential and commercial uses. Lake Byram is visible in the surrounding area to the northwest.

- 1960: There are no significant changes to the subject property. A large structure (likely to be the current Caman Hill School) and several associated outbuildings are now located on the adjoining property to the southeast. Residential development has now occurred on several adjoining properties to the east. The surrounding area shows increased commercial and residential development.
- 1970: The current golf course (under construction), clubhouse, maintenance area, and on-site ponds are now visible on the subject property. Additional residential development has now occurred on adjoining properties to the north, and Interstate 684 is now visible on the adjoining property to the west.
- 1976: The clubhouse building has now expanded and a pool is now located to the west of the clubhouse building. Several tennis courts are now located to the north of the clubhouse, and the on-site ponds appear to have been enlarged. The surrounding area is more developed, mainly with residential uses.
- 1986: The snack shack is now located to the north of the maintenance area. There are no significant changes to any adjoining properties.
- 1995: The sewage treatment plant building is now visible on the central portion of the subject property. There are no other significant changes to the property.

### **3.1.6 Local Records**

#### **Assessor's Office Records**

Town of North Castle Assessor's Office property card records for the subject property were reviewed on March 14, 2008. According to notations made on the property cards, the golf course, clubhouse, and maintenance building were built in 1964, the snack shack was built in 1985, and the sewage treatment plant and golf cart storage building were built in 1993. According to the property cards, the maintenance building and clubhouse are heated with oil and a 1,000-gallon gasoline UST is located on the property. No other information pertinent to the environmental integrity of the subject property was present in these records. A summary of the readily available property ownership information is provided in Table 2.

#### **Building Department Records**

Town of North Castle Building Department records for the subject property were reviewed on March 14, 2008. Included in the files provided for review was a Building Permit dated December 2001 for the excavation and removal of a 3,000-gallon fuel oil tank, and a certificate of compliance for the installation of a prefabricated 2,000-gallon concrete vault fuel oil aboveground storage tank (AST), dated January 2002. Also included in Building Department records were a permit for the construction of a wastewater treatment plant, dated March 1990, and a Certificate to Operate Pollution Discharge permit issued by the NYSDEC in 2001 and 2003. No other information pertinent to the environmental integrity of the subject property was present in Building Department records provided for review.

#### **Local Agency Interviews**

A request was made on March 18, 2008 to search the available NYSDEC records for information regarding the subject property. No response from this agency has been received by this office as of the date of this Phase I ESA.

A request was made on March 18, 2008 to search the available Westchester County Department of Health (WCDOH) records for information regarding the subject property. A summary of information found in WCDOH records can be found in Section 3.1.6, below.

### 3.1.6 Previous Environmental Reports

ESI was provided with copies of tank and spill closure documentation provided by National Environmental Specialists, Inc., dated May 3, 2002, and February 27, 1997 (NES Reports), and a Closure Report, issued by Dutchess Environmental Construction, Inc. dated August 20, 2007 (Dutchess Report).

The NES Reports indicated that a 3,000-gallon fuel oil UST was removed from the portion of the property to the south of the clubhouse and was replaced with the current 2,000-gallon fuel oil AST in April 2002. The report indicated that petroleum contaminated soil was observed during tank removal activities and that NYSDEC spill event number 0107727 was subsequently issued for the property. The NES Reports indicated that 96.72 tons of petroleum contaminated soil were excavated and removed from the tank grave and that laboratory results documented an absence of petroleum compounds in endpoint samples collected from the excavation base. A letter from Frederick Beck Jr. of the WCDOH to Martin Badinelli of the Canyon Club golf course, dated May 9, 2002, indicated that the WCDOH recommended no further action regarding NYSDEC spill number 0107727.

The NES Reports also indicated that a 1,000-gallon UST was removed from the property in December 1996. The reports indicate that approximately 56 tons of petroleum contaminated soil was excavated and removed from the tank area and that NYSDEC spill number 9611455 was reported for the property. Laboratory data documented low-level concentrations of several volatile organic compounds (VOCs), below guidance levels, in endpoint samples likely to have been collected from the walls of the tank grave. Although these endpoint samples indicate that remaining soils do not contain elevated concentrations of VOCs, soils exhibiting field evidence of petroleum contamination are likely to remain in this area. The report indicates that approximately 377 gallons of liquid product were vacuumed from a 1,000-gallon, a 550-gallon, and two, 275-gallon tanks. According to Martin Badinelli, General Manager of the Canyon Club, the second 1,000-gallon gasoline UST on an expired PBS Registration (see Section 3.2.2, below) is a 550-gallon gasoline UST that was excavated and removed from the cart barn area in 1996 and that the 1,000-gallon gasoline UST was removed from the maintenance area of the property. No tank removal documentation, other than a set of confirmatory samples and liquid removal documentation is included in the NES Reports. No VOCs were detected in confirmatory samples likely to have been collected from the walls of the 550-gallon UST tank grave.

The Dutchess Report indicated that NYSDEC spill number 0702809 was reported for the property as the result of the release of hydraulic fluid onto the ground following a traffic accident. The report indicates that 11.56 tons of contaminated soil was subsequently excavated and disposed of off-site in June 2007. A letter from Wayne Schneider of the WCDOH to the Canyon Club, dated August 23, 2007, indicated that the WCDOH recommended no further action regarding NYSDEC spill number 0702809.

Excerpts of these reports are provided in Appendix D.

## 3.2 Review of Federal and State Agency Records

### 3.2.1 Methodology

Federal and state computer databases and printed records were reviewed for documentation of environmental conditions and/or liabilities relevant to the property (see Section 3.2.2, below). The following ASTM Standard Environmental Record Sources (as available for the subject property's locality) were reviewed (search distances are consistent with, or exceed, ASTM requirements).

Federal National Priority List (1.0 mile) and delisted National Priority List sites (0.5 mile)  
Federal CERCLIS list and CERCLIS NFRAP site list (0.5 mile)  
Federal RCRA CORRACTS facilities list (1.0 mile)

Federal RCRA non-CORRACTS TSD facilities list (0.5 mile)  
Federal RCRA generators list (subject/adjoining properties)  
Federal ERNS list (subject property)  
Federal, State, and Tribal Institutional Control / Engineering Control registries (subject property)  
State- and Tribal-equivalent NPL (1.0 mile)  
State- and Tribal-equivalent CERCLIS (0.5 mile)  
State and Tribal Brownfield and voluntary cleanup sites (0.5 mile)  
State and Tribal leaking storage tank lists (0.5 mile)  
State (including locally administered) and Tribal registered storage tank lists (subject/adjoining)  
State and Tribal landfill and/or solid waste disposal site lists (0.5 mile)  
The following Additional Environmental Record Sources (as available for the subject property's locality) were reviewed in order to enhance and supplement the review of standard sources:

State spill file records (0.5 mile)  
State MOSF list (0.5 mile)  
State radon data (by local municipality as available)  
Federal and State wastewater discharge permits (subject/adjoining properties)

A copy of relevant portions of a database search conducted by Environmental FirstSearch Corporation for ESI is provided in Appendix E. Not all of the sites contained in the attached database search may be referenced in Section 3.2.2. Some sites may have been excluded based on either ASTM requirements, ESI's scope of services or professional opinion, and/or information obtained during the review of historic records and the site inspection. Some information may have been deemed to not be practically reviewable (e.g., records lack adequate address information). Sites or additional information not included in the database search may also be referenced based on ESI's knowledge of the subject property area.

### **3.2.2 Findings of Regulatory Records Review**

#### **Federal Hazardous Waste-Contaminated Sites**

The subject property is not identified on the United States Environmental Protection Agency's (USEPA) National Priority List (NPL) of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions. No NPL sites are located within one mile of the property and no delisted NPL sites are located within a half mile of the property.

The subject property is not identified on the USEPA's CERCLIS list of sites that are proposed to the NPL or that are in the screening and assessment phase for possible proposal to the NPL. No CERCLIS sites are located within a half mile of the property.

The subject property is not identified on the USEPA's CERCLIS No Further Remedial Action Planned (NFRAP) list, which are former CERCLIS sites that were delisted because no significant hazardous waste contamination was found, or because the site has been remediated. No CERCLIS NFRAP sites are located within a half mile of the property.

The subject property is not identified on readily available USEPA Institutional Control/Engineering Control registries.

#### **State Sites**

##### *Inactive Hazardous Waste Disposal Sites*

The subject property is not identified on the NYSDEC's registry of Inactive Hazardous Waste Disposal (IHWDS) sites (a state equivalent to the federal NPL), and has not been listed as a site under investigation for inclusion in the IHWDS registry (a state equivalent to the federal CERCLIS List). No NYSDEC IHWDS sites are located within 1.0 mile of the property.



*Voluntary Cleanup, Brownfields Cleanup, and Environmental Restoration Programs*

The subject property is not identified as participating in the NYSDEC's Voluntary Cleanup (VCP), Brownfields Cleanup (BCP), or Environmental Restoration (ERP) programs, which are designed to provide NYSDEC oversight of significantly contaminated properties. No participating sites are located within a half mile of the subject property.

*Registry of Institutional and Engineering Controls in New York State*

The subject property is not identified on the NYSDEC's Registry of Institutional and Engineering Controls in New York State.

**Federal Hazardous Waste Handlers**

The USEPA Resource Conservation and Recovery Information System (RCRIS) database details facilities that report treatment, storage or disposal of hazardous waste (TSD facilities) or generation or transportation of hazardous waste. Facilities that have been notified by the USEPA to take corrective action with regard to their handling of hazardous waste are classified as CORRACTS facilities.

*CORRACTS AND/OR TSD FACILITIES*

The subject property is not registered with the USEPA as a CORRACTS and/or TSD facility for hazardous waste or materials, and no CORRACTS and/or TSD facilities are located within one mile of the property.

*GENERATORS OR TRANSPORTERS (NON-CORRACTS)*

The subject property is not registered with the USEPA as a generator or transporter of hazardous waste, and no generators or transporters of hazardous waste are located on adjoining properties.

**Landfills and Solid Waste Disposal Facilities**

The NYSDEC's Facility Register does not list the subject property as an active or inactive landfill or solid waste disposal facility, and no landfills or solid waste disposal facilities are located within a half mile of the property.

**Chemical Bulk Storage**

A review of NYSDEC records indicates that the subject property is not registered as a chemical bulk storage (CBS) facility. Observations made during the site inspection did not indicate the presence of chemical bulk storage on the subject property. No adjoining properties are registered with the NYSDEC as CBS facilities.

**Petroleum Bulk Storage**

The Westchester County Department of Health (WCDOH) is a designated administrator of the NYSDEC petroleum bulk storage (PBS) program and WCDOH maintains the current database of PBS facilities within Westchester County. PBS database searches conducted by FirstSearch Technology include the WCDOH database and older PBS records maintained by the NYSDEC prior to WCDOH administration of the program.

#### SUBJECT PROPERTY

A review of the NYSDEC and WCDOH PBS databases indicates that the subject property is registered as a PBS facility (PBS ID: W3-104507) containing two active 1,000-gallon gasoline USTs, two, active 275-gallon diesel ASTs, and an active 3,000-gallon fuel oil UST (note: no indication of the presence of USTs was observed during the site inspection). The NES Reports indicate that a 3,000-gallon fuel oil UST was removed from the property in 2002, and that a 1,000-gallon gasoline UST, a 550-gallon gasoline UST, and two, 275-gallon ASTs were removed from the property in December 1996 (see Section 3.1.6, above). Mr. Badinelli stated that the second 1,000-gallon gasoline UST listed in the database is incorrect and is actually the 550-gallon gasoline UST). This information appears to be related to a former PBS Registration (see below).

A current PBS Registration form found in WCDOH records indicates that the property contains a 500-gallon diesel AST, a 1,500-gallon and 500-gallon gasoline AST, a 2,000-gallon fuel oil AST, and a 275-gallon diesel AST (see Appendix D). Observations made during the site inspection indicated the presence of a 500-gallon gasoline AST located near the cart barn, co-joined 500-gallon diesel and 1,500-gallon gasoline ASTs located near the maintenance area, a 2,000-gallon fuel oil AST located near the clubhouse, and a 275-gallon diesel AST located in the sewage treatment plant. Five closed NYSDEC spills have been reported for the subject property (see the State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events subsection, below).

#### *County PBS Regulations*

WCDOH petroleum bulk storage regulations (Article XXV of the Westchester County Sanitary Code) apply to facilities with a combined storage capacity greater than 1,100 gallons (a property is not a facility if tanks are not interconnected, are used to store oil for on-premises consumption and no single tank has a capacity greater than 1,100 gallons). Based on the known capacity and use of the on-site tanks, the subject property is subject to regulation as a PBS facility. These regulations call for the proper registration of all regulated on-site tanks and require specific tank testing protocols.

#### *Federal Regulations*

Federal regulation 40 CFR Part 280 specifies that all underground storage tanks greater than 110 gallons be upgraded, closed, or replaced by December 1998 (exclusions include tanks containing fuel oil for on-site heating, and farm or residential tanks of 1,100 gallons or less used for storing motor fuel for noncommercial purposes). According to the owner representative, all on-site USTs have been removed. No indications of the presence of on-site USTs was observed during the site inspection.

Federal regulation 40 CFR Part 112 applies to facilities storing greater than 42,000 gallons of petroleum product underground or 1,320 gallons aboveground. Based on the known storage capacity of the subject property (4,775 gallons aboveground), the property may be subject to these regulations, which require, among other things, that a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) be prepared. No SPCC Plan is known to exist for the subject property.

#### ADJOINING PROPERTIES

A review of the NYSDEC and WCDOH PBS databases indicates that the property at 558 Bedford Road, which adjoins the subject property to the southeast, is a PBS facility (PBS Number: W3-600469) containing an active 7,500-gallon fuel oil UST. No open NYSDEC spill events have been reported for this adjoining property.

**Major Oil Storage Facilities**

The subject property is not listed with the NYSDEC as a major oil storage facility (MOSF) and no MOSFs are located within 0.5 mile of the subject property.

**Federal Chemical and Petroleum Spills**

The USEPA Emergency Response Notification System (ERNS) database details initial reports of releases of oil and hazardous substances as reported to federal authorities. There are currently no chemical or petroleum spills on record for the subject property.

**State Chemical and Petroleum Spill and Leaking Underground Storage Tank Events**

A review of the NYSDEC spill database (maintained since 1986) indicates that five closed NYSDEC spill events have been reported for the subject property. NYSDEC spill number 0107727 was reported in October 2001 as the result of the discovery of petroleum contaminated soil during the removal of a tank (likely to be the former 3,000-gallon fuel oil UST, see Section 3.1.6, above). This spill event was provided with a closure date of July 2002.

NYSDEC spill number 9611455 was reported for the subject property on December 18, 1996 as the result of the discovery of a small amount of petroleum contaminated soil during a tank removal (the former 1,000-gallon gasoline UST at the maintenance area). Documentation located in the NES Reports indicates that approximately 56 tons of petroleum contaminated soil was excavated and removed from the property and that laboratory data of endpoint samples did not document that presence of any VOCs above guidance levels (see Section 3.1.6, above). This spill event was provided with a closure date of December 18, 1996.

NYSDEC spill numbers 9606282 and 0212521 were reported for in August 1996 and March 2003, respectively, as the result of the discovery of a transformer oil leak from a bushing on an on-site transformer. These spill events were all closed the same day they were opened indicating that NYSDEC personnel did not feel they represented a significant threat to the environment.

NYSDEC spill number 0702809 was reported on June 7, 2007 as the result of the release of a small quantity of hydraulic oil following a traffic accident (see Section 3.1.6, above). This spill event was provided with a closure date of June 11, 2007.

Available information indicates that twenty-nine other spill events are known to have occurred within a half mile of the subject property (twenty-five of these spills are classified as leaking underground storage tank [LUST] events). Information in these spill file records was reviewed to determine the possible impact from these releases to the subject property. The data considered included distance and direction from the subject property, cause of the spill, type and quantity of spilled material, and NYSDEC and caller comments. Based on ESI's review of this information, no reported spills were identified which might impact the subject property.

**Air Discharges**

No NYSDEC permits for air discharges from the subject property are known to exist. No operations likely to require a NYSDEC air discharge permit were noted on the subject property.

**Wastewater Discharges**

A SPDES permit (NYSDEC ID: 3-0069299) has been issued for the subject property. The permit indicates that treated sanitary wastewater from all on-site structures is discharged into a Byram River tributary from the subject property (see Appendix D). No adjoining properties are registered as NPDES or SPDES facilities.

### **Radon**

Information on radon levels was obtained from New York State Department of Health (NYSDOH) documents. No regulatory standards for radon levels currently exist in New York State. The USEPA has established a guidance value (the level where mitigation measures may be appropriate) for radon concentrations of 4.0 or greater picoCuries/liter (pCi/l). Other regulatory authorities (e.g., OSHA) have established guidance levels that are directly related to specific site activities (a determination as to applicable radon guidance levels is beyond the scope of this Phase I Environmental Site Assessment). A summary of available radon information for the subject property's vicinity is provided below in Table 3.

**Table 3: Basement Radon Levels in Vicinity of Subject Property**

All radon levels provided in picoCuries/liter (pCi/l)

NYSDOH Radon Information	Westchester County	Town of North Castle
Number of Homes Tested	2141	55
Median Radon Level	1.9	2.3
Percent of Homes >4.0 pCi/l	17.4	27.3

These median radon levels are below the USEPA's guidance value of 4.0 pCi/l and less than a third of the homes tested in the subject property's vicinity had levels in excess of this guidance value. These data support the conclusion that elevated radon levels are not likely to be present on the subject property. According to Mr. Yada, radon testing has not been conducted on the subject property.

## **3.3 Site Inspection**

### **3.3.1 Protocol**

The site inspection was conducted on March 14, 2008 in order to address any potential concerns raised during the investigation of the site's history (Section 3.1) and the regulatory agency records review (Section 3.2), and to identify any additional indications of contamination from the use, storage, or disposal of hazardous or regulated materials. To the extent possible, site structures, vegetation, topography, surface waters, and other relevant site features were examined for any obvious evidence of existing or previous contamination or unusual patterns (e.g., vegetative stress, soil staining, surface water sheen, or the physical presence of contaminants), which would indicate that the environmental integrity had been or could be impacted.

Section 3.3.2 describes the physical characteristics of the subject property. Section 3.3.3 is divided into topics on specific environmental conditions or concerns, actual or potential, noted on the subject property during the site inspection. Section 3.3.4 describes the physical characteristics of adjoining properties as they concern the potential or actual environmental condition of the subject property.

A Selected Site Features Map illustrating the general layout of the subject property and the locations of specific areas of concern (if any) is provided on Page 7. Photographs of the subject property are provided in Appendix A.

### **3.3.2 Physical Characteristics of the Subject Property**

#### **3.3.2.1 Property**

The subject property is an irregular-shaped, approximately 156-acre parcel, which has 1,100 feet of frontage on the western side of Bedford Road and 2,500 feet of frontage on the eastern side of Interstate 684. The property is composed of the eighteen-hole Canyon Club Golf Course and associated buildings. A one-story clubhouse building with a finished basement and pool is located on the east-central portion of the property. A one-story golf cart storage barn is located to the south of the clubhouse building, and a two-story maintenance building, with associated pesticide storage shed, is located to the north of the clubhouse building. Nine tennis courts with an associated one-story building are located to the northeast of the maintenance area and a small pavilion containing a snack shack is located to the northwest of the maintenance area. A large one-story building containing a sewage treatment plant is located in the central portion of the property, a small one-story pump house is located on the south-central portion of the property at the northern end of a large on-site pond, and a small former well house is located to the east of the maintenance building. The remainder of the property is composed of paved cart paths throughout the golf course and paved parking areas surrounding the clubhouse building. Chain-link fences define the majority of the property lines.

#### **3.3.2.2 Structures**

The clubhouse building is a one story masonry structure with a full finished basement and a flat roof. Exterior siding is brick and stone and the roof is covered by asphaltic materials. Town of North Castle Assessor's Office records indicate that the building dates from 1963 (note: according to Mr. Yada, the building underwent renovations in 1995). The building contains facilities associated with a golf course clubhouse (kitchen, ballroom/dining areas, locker rooms, golf course pro shop, storage and utility rooms, as well as twenty-two motel style apartments utilized as employee housing. Interior floors are covered with ceramic and 12" by 12" vinyl floor tiles, and carpeting. Walls are generally covered with gypsum wallboard and ceilings are generally dropped acoustic tile or gypsum wallboard. A pool is located to the west of the clubhouse building.

The golf cart storage barn is a one-story masonry structure with no basement and a sloped metal roof. Exterior siding is brick. Town of North Castle Assessor's Office records indicate that the building dates from 1993. The building contains a large storage area for golf carts and other golf course-related equipment. Interior floors are bare concrete and walls and ceilings are generally composed of gypsum wallboard.

The maintenance building is a two-story masonry structure with no basement and a flat roof. Exterior siding is concrete block and the roof is likely to be covered by asphaltic materials (note: the roof was not accessible during the site inspection). Town of North Castle Assessor's Office records indicate that the building dates from 1964. The first floor of the building contains repair bays for golf course equipment, storage for fertilizer and other golf course maintenance supplies, and offices. The second floor contains vacant residential housing for employees. Interior floors are bare concrete or carpeting. Walls are generally covered with gypsum wallboard and ceilings are generally dropped acoustic tile. A small, locked metal shed containing pesticides associated with golf course maintenance is located to the west of the maintenance building. A small concrete block structure is located to the east of the maintenance building. According to Mr. Yada, this building is a former water supply well house that is no longer in service (note: the building was locked at the time of the site inspection and no access to the interior of the structure was available).

The snack shack is a one-story, octagon-shaped, wood-frame structure with no basement and a sloped roof. Exterior siding is wood and the roof is covered by asphaltic shingles. Town of North Castle Assessor's Office records indicate that the building dates from 1985. The snack shack

contains a small kitchen and dining area. Interior floors are composite floor tiles, interior walls are wood, and the ceiling is dropped acoustic tile.

The tennis shack is a one-story wood-frame structure with no basement and a sloped roof. Exterior siding is wood and the roof is covered by asphaltic shingles. Town of North Castle Assessor's Office records indicate that the building dates from 1975. The building is utilized as a storage area for tennis equipment and as an enclosure for the tennis court attendant. Interior floors are carpeting and walls and ceilings are generally covered by gypsum wallboard.

The sewage treatment plant is a one-story wood-frame structure with no basement and a sloped roof. Exterior siding is wood and the roof is covered by asphaltic shingles. Town of North Castle Assessor's Office records indicate that the building dates from 1993. The building contains a sewage treatment facility for all on-site sewage disposal facilities (note: the sewage treatment plant operates under the authority of a NYSDEC SPDES permit [see Section 3.2.2, above]). Interior floors are bare concrete and walls are generally covered with gypsum wallboard.

The pump house is a small, one-story masonry structure with no basement and a sloped roof. Exterior siding is concrete block and the roof is covered by asphaltic shingles. Town of North Castle Assessor's Office records indicate that the building dates from 1963. The building contains pumps used for golf course irrigation purposes, as well as several 55-gallon drums containing surfactants. Interior floors are bare concrete.

#### *Potable Water Supply*

According to Mr. Yada, the subject property is serviced by the municipal water system. Two irrigation water supply wells were noted on the subject property in the vicinity of a large on-site pond and the irrigation pump house. According to Mr. Anderson, these wells are utilized as a recharge source for the on-site irrigation supply pond. According to Mr. Yada, a small well house, located to the east of the maintenance building, contains an inactive water supply well.

#### *Sewage Disposal System*

According to Mr. Yada, on-site sanitary wastes are treated by a microbial sewage treatment system located in the sanitary sewer treatment building located in the central portion of the property. The treated water is discharged to a tributary of the Byram River under the authority of a SPDES permit (see Section 3.2.2, above).

#### *Heating/Cooling*

The clubhouse building is heated with hot air generated by an oil-fired furnace located in the utility room. Cooling is provided by central air conditioning units. A fuel oil-fired water heater is located near the furnace. The golf cart storage barn, maintenance building, and snack shack are heated by propane gas-fired furnaces. The maintenance building contains a propane gas-fired water heater and the snack shack contains an electric water heater. Cooling in the maintenance building is provided by wall-mounted air conditioning units. The sewage treatment plant is heated by fuel oil-fired furnaces located in the building; no means of artificial cooling were observed. The tennis shack is unheated.

### **3.3.3 Specific On-Site Environmental Conditions**

#### **Debris Areas**

Approximately 20-30 cubic yards of construction debris consisting of wood, metal, and household trash is present near the sewage treatment plant. None of these materials are likely to represent a threat to the environmental integrity of the subject property.



### **Petroleum Storage**

A concrete vaulted 2,000-gallon fuel oil AST is located at the southern exterior wall of the clubhouse building, a concrete vaulted 500-gallon gasoline AST is located at the eastern exterior wall of the golf cart storage barn, a co-joined and concrete vaulted 1,500-gallon gasoline and 500-gallon diesel AST are located to the west of the maintenance building, an approximately 55-gallon container of waste oil is located near the ASTs at the maintenance area, and a 275-gallon diesel AST is located at the eastern interior wall of the sewage treatment plant. These tanks appeared to be sound and were noted to be free of signs of corrosion, staining, or leakage. The fill ports and vents pipe servicing the ASTs are located on the tanks, with the exception of the 275-gallon AST in the sewage treatment plant, where they are located at the eastern exterior wall. No staining was noted on or near the fill ports and vent pipes. Several small containers of petroleum products (lubricants, etc.) are located in the maintenance building and in a utility room in the clubhouse. No staining or other evidence of a release from these containers was noted. No other small quantities of petroleum products, aboveground storage tanks, or indications of underground petroleum bulk storage tanks (e.g., fill ports or vent pipes) were observed on the subject property.

### **Chemical Storage**

Pesticides associated with golf course maintenance activities were observed in a locked shed to the west of the maintenance building, and chemicals associated with the maintenance and repair of golf course equipment were observed in the repair bay areas. No staining or other evidence of a release from these containers was noted. Chemicals associated with pool maintenance were observed in storage areas in the clubhouse building. No staining or other evidence of a release from these containers was noted. Chemicals, stored in 55-gallon drums, associated with sewage treatment activities are located in the sewage treatment plant, and 55-gallon drums, containing surfactants, are located in the pump house. No staining or other evidence of a release from these containers was noted. No other small quantities of chemicals, aboveground chemical bulk storage tanks, or indications of underground chemical bulk storage tanks (e.g., fill ports or vent pipes) were observed on the subject property.

The potential exists that the historic uses of chemicals for pesticides on the golf course may have impacted subject property soils and/or groundwater. No pesticide soil or groundwater sampling documentation has been reviewed.

### **Asbestos-Containing Materials**

Asbestos-containing materials (ACMs) are those materials containing over 1% of any type of asbestos. The presence or absence of asbestos within a material can only be determined through the physical analysis of material samples.

According to Mr. Yada, the clubhouse underwent renovations in the mid 1990s and no ACMs were found at the time (note: no asbestos survey documentation has been provided for review). The date of construction of the clubhouse and maintenance building (circa 1964) indicates that asbestos-containing materials could potentially be present. Suspect ACMs noted during the site inspection included 12" by 12" vinyl floor tiles and dropped acoustic ceiling tiles. All materials appeared to be in good condition. Other building construction materials not readily observable during the site inspection (e.g., mastics, pipe insulation present within walls, etc.) could also potentially contain asbestos.

### **Lead-Based Paint**

The presence or absence of lead-based paint (paint containing 0.5% lead by weight) can only be determined through the material analysis of paint samples. However, given that the manufacture of lead-based paint (LBP) has been regulated since 1978, a building's date of construction is

often used to help assess the likelihood that LBP was used during initial construction and/or subsequent maintenance work. The presence of deteriorated paint is indicative of a potential health risk in that paint dust and chips containing lead could be inhaled and/or ingested. According to Mr. Yada, a lead-based paint survey of the subject property's structures has not been conducted. The date of construction of the clubhouse and maintenance building (circa 1964) indicates that LBP is likely to have been used; however, in the absence of a LBP survey, no definitive statement can be made by this office regarding the presence or absence of LBP on the subject property.

All of the painted surfaces in the areas inspected by this office were in good condition at the time of the site visit.

#### **Wastewater Discharges**

The term "wastewater" indicates water that: is or has been used in an industrial or manufacturing process; or is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant; or conveys or has conveyed sewage (water originating on or passing through or adjacent to a site, such as stormwater flows, is not generally considered to be wastewater). The subject property operates a sewage treatment plant under the authority of SPDES permit number 3-0069299 (see Section 3.2.2, above). No other evidence of wastewater discharges into drains, ditches, or streams on or adjacent to the property was observed on the subject property.

#### **Interior Floor Drains/Sumps/Conduits**

Floor drains are located in kitchen and in storerooms in the clubhouse. No staining, odors, or other evidence of contamination was noted in or near any of the drains. According to Mr. Yada, all floor drains inside the building lead to the on-site sewage treatment plant. A sump is located in the pump house. According to Mr. Anderson, the sump discharges to a tributary of the on-site pond near the building. No other floor drains, sumps, or conduits to the subsurface were noted inside on-site structures.

#### **Stormwater Management and Exterior Drains/Sumps/Conduits**

Stormwater drains are located in the parking lot and in landscaped areas surrounding the buildings. No staining, odors, or other evidence of contamination was noted in or near any of the drains. According to Mr. Anderson, all stormwater drains lead to golf course drainage system which leads to a tributary of the Byram River. No other exterior stormwater catch basins, drains, sumps, or other potential significant conduits to the subsurface, or indications of liquid discharges into drains, ditches, or streams on or adjacent to the property, were observed on the subject property.

#### **Staining/Corrosion/Leaks**

A small area of staining was observed on concrete in the sewage treatment plant (likely to be grease from the treatment plant turbines). This staining is likely to have been contained by the concrete and does not represent a significant environmental concern. No other evidence of corrosion, leaks, or staining (indicative of an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products onto the subject property, including on-site structures and paved areas) was observed during the site inspection.

#### **Topographic Irregularities**

No overt topographic irregularities (e.g., sinkholes or berms) indicative of the presence of non-natural materials (including debris) in the subsurface were observed on the subject property.





### **Vegetative Features**

No overt areas of stressed or dying vegetation indicative of the presence of contaminants in surface or subsurface soils were observed on the subject property.

### **Pits, Ponds, or Lagoons**

No pits, ponds, or lagoons exhibiting evidence (e.g., discolored water, distressed vegetation, obvious wastewater discharge) of holding liquids or sludge containing hazardous substances or petroleum products were observed on the subject property.

### **Surface Waters**

No evidence of contamination (e.g., unusual odors, sheens, coloration patterns, or staining) was noted on the surface waters accessible for inspection by this office.

### **Odors**

No unusual odors indicative of the presence of contamination were noted.

### **Polychlorinated Biphenyls**

An inspection for the presence of equipment likely to contain polychlorinated biphenyls (PCBs) was conducted by this office. PCBs were widely used in equipment such as transformers, capacitors, and hydraulic equipment until 1979 when the USEPA regulated their use in this capacity.

A utility company-owned, pad-mounted transformer was noted to the north of the subject property near the clubhouse building. A cleanup of a release from this transformer would be the responsibility of the utility company. No staining indicative of a release was noted on the unit, the pole, or on the ground around the base of the pole. An elevator, used to transport supplies from the basement to the kitchen, is located in the clubhouse building. Elevator pumps are not likely to be a significant source of PCBs.

### **3.3.4 Environmental Concerns at Adjoining and Nearby Properties**

Adjoining and nearby properties were observed from the subject property and from public thoroughfares for the purpose of identifying any recognized environmental conditions or other potential environmental concerns. No conditions likely to significantly impact the subject property were observed during the site inspection.



## 4.0 CONCLUSIONS AND RECOMMENDATIONS

Ecosystems Strategies, Inc. (ESI) has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-05 of the property located at 568 Bedford Road, Town of North Castle, Westchester County, New York. Any exceptions to, or deletions from, this practice are described in Section 1.2 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property except for potential subsurface impacts from the former presence of on-site gasoline underground storage tanks (USTs). ESI's conclusions and recommendations (in **bold**) regarding these RECs, and any other potential environmental liabilities associated with the property, are presented below. Cost estimates for any proposed investigations and/or remedial actions are provided in *italics* where appropriate.

1. The subject property is likely to have been used as a golf course country club since circa 1964 (the property is likely to have been used for agricultural and limited residential purposes prior to this time). No significant impacts are likely from historical site usage (see, however, paragraph # 2, below). The potential exists that debris from the demolition of former on-site structures may be present in the subsurface (such debris could contain lead based paint, asbestos, or other regulated materials).

**No further investigation of historic records is recommended. Any future development activities at the property should be conducted with an awareness of the potential presence of subsurface debris and provision should be made for the proper management of any materials that warrant special handling.**

2. The subject property is the site of five closed NYSDEC spill events. NYSDEC spill numbers 0107727 and 9611455 were reported for the property in relation to the former presence of USTs (3,000-gallon fuel oil and 1,000-gallon gasoline). Spill and tank closure reports issued in 1996 and 2002 documented the excavation and removal of the tanks and associated petroleum contaminated soil. Laboratory documentation of endpoint samples likely to have been collected from the walls of the tank grave of the former 1,000-gallon UST indicate that low-level concentrations of VOCs are likely to remain in soils in this area. These soils are likely to contain field evidence (odors, staining, etc.) of contamination and in the event of future excavation would require to be managed as regulated materials. Spill number 0702809 was reported for a traffic accident involving a release of a small quantity of hydraulic oil. A spill closure report issued in 2007 documented the excavation and removal of petroleum contaminated soil associated with this spill event. Spill numbers 9606282 and 0212521 were reported for minor leaks on an on-site transformer. These closed spill events are considered to be historical RECs that are unlikely to have significantly impacted the property. The property discharges treated sanitary wastewater under the authority of SPDES permit number 3-0069299. No adjoining or nearby properties were identified that are likely to impact the environmental integrity of the property.

**No further investigation of regulatory records is recommended. Any future excavation of soils in the vicinity of the former 1,000-gallon UST may expose soils that will be required to be managed as regulated waste (soils exhibiting field evidence of contamination).**

3. Information provided by an expired PBS Registration Form indicates the historic presence of two 1,000-gallon gasoline USTs on the property. Information provided by Mr. Badinelli, however, indicates that a 1,000-gallon gasoline UST, a 550-gallon gasoline UST, and two, 275-gallon fuel oil ASTs were removed from the property in 1996. Tank removal documentation indicates that a 1,000-gallon UST, a 550-gallon UST and two, 275-gallon ASTs were removed from the property in 1996. A current PBS Registration Form indicates that a 2,000-gallon fuel oil aboveground storage tank (AST), two 500-gallon gasoline ASTs, a 500-gallon diesel AST, and a 275-gallon diesel AST are located on the property. These tanks appeared to be in sound condition and no evidence of a release or an impending threat of a release was observed during the site inspection. Future releases from these tanks, however, could impact the subject property. Based on the total combined capacity of these tanks, the property is likely to be subject to federal regulations specified in 40 CFR Part 112, which may require, among other things, the implementation of a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan).

**It is recommended that all PBS tanks be periodically inspected and managed in accordance with applicable state and local regulations, and that determination as to the need for an SPCC Plan be made.**

4. Small quantities of petroleum products and chemicals are stored on the subject property. Releases from these containers could potentially impact the property.

**It is recommended that all petroleum and chemical products be properly stored within adequate secondary containment areas and that appropriate absorbent materials be maintained in all areas where releases could potentially occur.**

The potential exists that the historic uses of chemicals for pesticides on the golf course may have impacted subject property soils and/or groundwater. No soil or groundwater sampling documentation has been reviewed.

**It is recommended that on-site groundwater be sampled for pesticides.**

*Estimated cost of groundwater sampling: \$1,500*

5. Asbestos-containing materials and lead-based paint could potentially be present on the subject property. Suspect vinyl floor tiles and dropped acoustic ceiling tiles were noted during the site inspection. Other building construction materials not readily observable during the site inspection (e.g., mastics) could also potentially contain asbestos.

**No further investigation is recommended. Any suspect material encountered during maintenance, renovation, or demolition activities should be tested for asbestos or lead, or, in the absence of analytical data, be treated as though it contained asbestos or lead. All maintenance, renovation, or demolition activities should be conducted in accordance with applicable regulations.**

6. Approximately 20-30 cubic yards of debris consisting of wood, metal, and household trash is located on the central portion of the subject property near the sewage treatment plant. None of these debris materials were judged by this office to pose a threat to the environmental integrity of the subject property.

**It is recommended that debris materials be segregated into appropriate waste streams (i.e., those which can be disposed of as non-regulated solid waste and those which require special handling) and be disposed of off-site. Any regulated wastes encountered in on-site debris (e.g., construction and demolition debris) should be managed in accordance with applicable local, state and federal regulations, including (as necessary) sampling and analysis of materials for asbestos and leachable concentrations of lead.**

## 5.0 SOURCES OF INFORMATION

### 5.1 Maps and Documents

Dutchess Environmental Construction, Inc., Closure Report, dated August 20, 2007.

FirstSearch Technology Corporation, Environmental FirstSearch Report, March 11, 2008.

National Environmental Specialists, Inc., NES Reports, dated February 27, 1997 and May 3, 2002.

New York State Department of Environmental Conservation, Freshwater Wetlands Map of the Mount Kisco, New York Quadrangle, dated 1973 second edition.

Sanborn Fire Insurance Company Map dated 1942.

United States Department of Agriculture, Natural Resources Conservation Service, Soil Survey for Putnam and Westchester Counties, New York, dated September 1994.

United States Department of the Interior National Wetlands Inventory Map of the Mount Kisco, New York Quadrangle, dated March 1984.

United States Geological Survey Topographic Map of the Mount Kisco, New York Quadrangle, dated 1955 (photinspected 1975 and photorevised 1971).

United States Geological Survey Topographic Map of the Stamford, NY-CT Quadrangle (dated 1899), digital image provided by the University of New Hampshire Diamond Library Documents Department & Data Center (<http://docs.unh.edu/nhtopos/nhtopos.htm>).

University of the State of New York, Geologic Map of New York, Fisher, *et al.*, editors (dated 1970, reprinted 1995) and Surficial Geologic Map of New York, D. Cadwell, editor (dated 1989), Lower Hudson Sheets.

Westchester County Department of Health, letters to Canyon Club representatives, dated May 2002 and August 2007.

Westchester County Soil and Water Conservation District Office, aerial photographs dated 1947, 1960, 1970, 1976, 1986, and 1995.

### 5.2 Local Agency Records

Town of North Castle Assessor's Office and Building Department records, reviewed March 14, 2008.

NYSDEC records, requested March 18, 2008.

Westchester County Department of Health records, reviewed April 30, 2008.

### 5.3 Communications

Chad Anderson, Golf Course Superintendent, March 14, 2008.

Martin Badinelli, General Manager of the Canyon Club, various dates, May 2008.

Jeffrey Mendell, representing JBM Realty, various dates March through May 2008.

Osamu Yada, representing the property owner, March 14, 2008.

## 6.0 Environmental Professional Statement

The following statements are required by 40 CFR 312.21(d) of the environmental professional(s) responsible for conducting and preparing the Phase I Environmental Site Assessment report.

**We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312.**

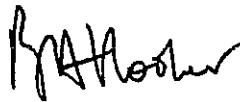
*and*

**We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.**



---

Paul H. Ciminello  
President, Ecosystems Strategies, Inc.



---

Richard Hooker  
Project Manager, Ecosystems Strategies, Inc.

**APPENDIX A**  
***Site Photographs***

**PHOTOGRAPHS**



**1. Clubhouse building, looking north from parking lot.**



**2. Southwestern portion of clubhouse building.**





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**PHOTOGRAPHS**



3. **Golf cart storage barn, located to the south of the clubhouse building.**



4. **Maintenance building, located to the north of the clubhouse building.**





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**PHOTOGRAPHS**



5. Sewage treatment plant building located on central portion of property.



6. Tennis shack, located to the north of the clubhouse building.

## **APPENDIX B**

### ***Physical-Setting Maps***



Source: U.S. Department of Interior Geologic Survey Topographic Map of the Mount Kisco, NY-Conn. Quadrangle, dated 1955 (photoinspected 1975 and photorevised 1971)

## U.S.G.S. Topographic Map

Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York

### Legend:

— subject property border

ESI File: JA08039.10

May 2008

Scale: 1:24000

Appendix B





Source: U.S. Department of Interior National Wetlands Inventory Map of the Mount Kisco, NY-Conn. Quadrangle, dated March 1984

## National Wetlands Inventory Map

Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York

### Legend:

— subject property border

ESI File: JA08039.10

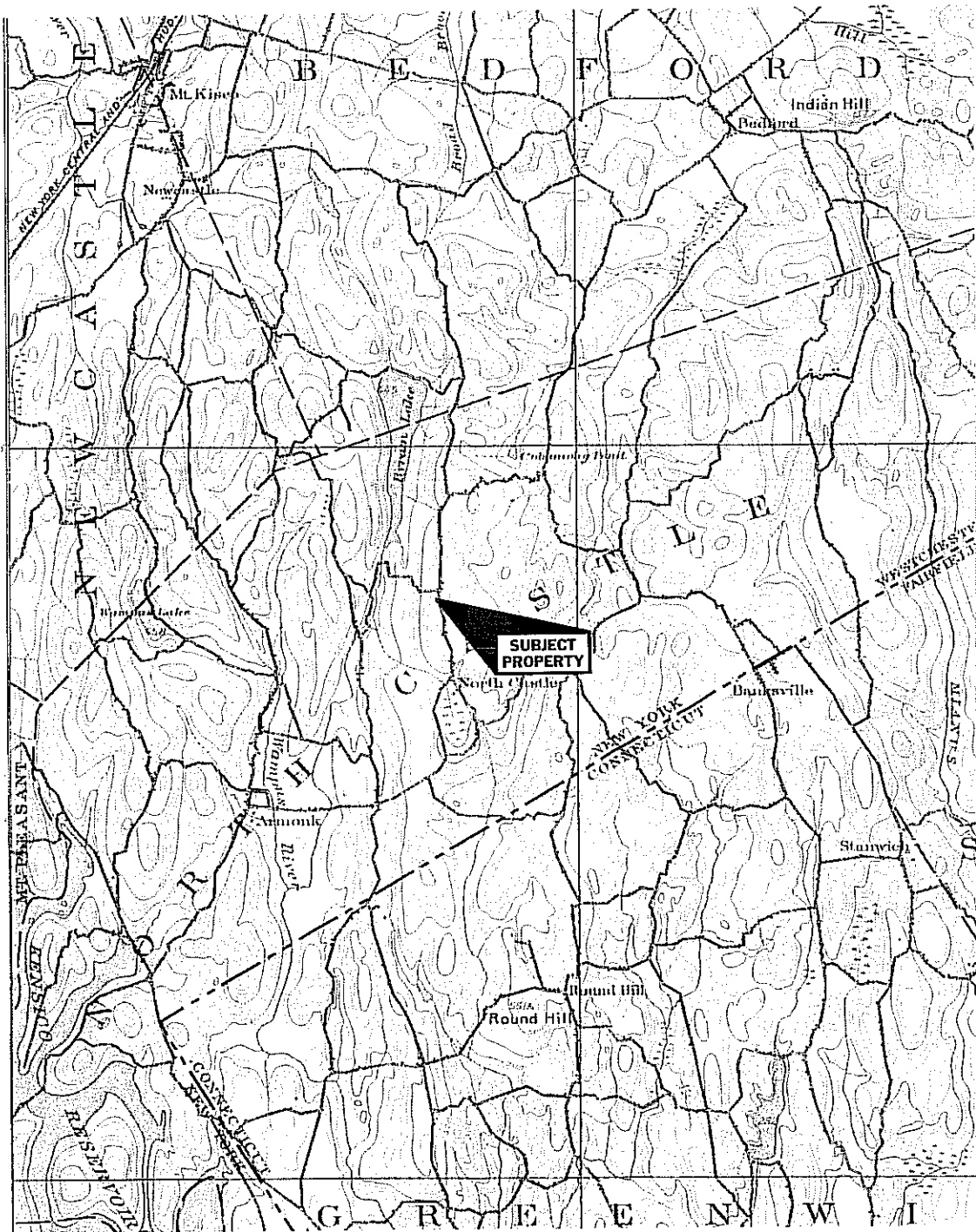
May 2008

Scale: 1:24000

Appendix B

## **APPENDIX C**

***Historical Topographic Map, Sanborn Fire Insurance Map,  
and Aerial Photographs***



Source: U.S. Department of the Interior Geological Survey Topographic Map of the Stanford, NY-CT Quadrangle, dated 1899

# 1899 Historical - U.S.G.S. Topographic Map

Canyon Club Property  
568 Bedford Road  
Town of North Castle  
Westchester County, New York



ESI File: JA08039.10

May 2008

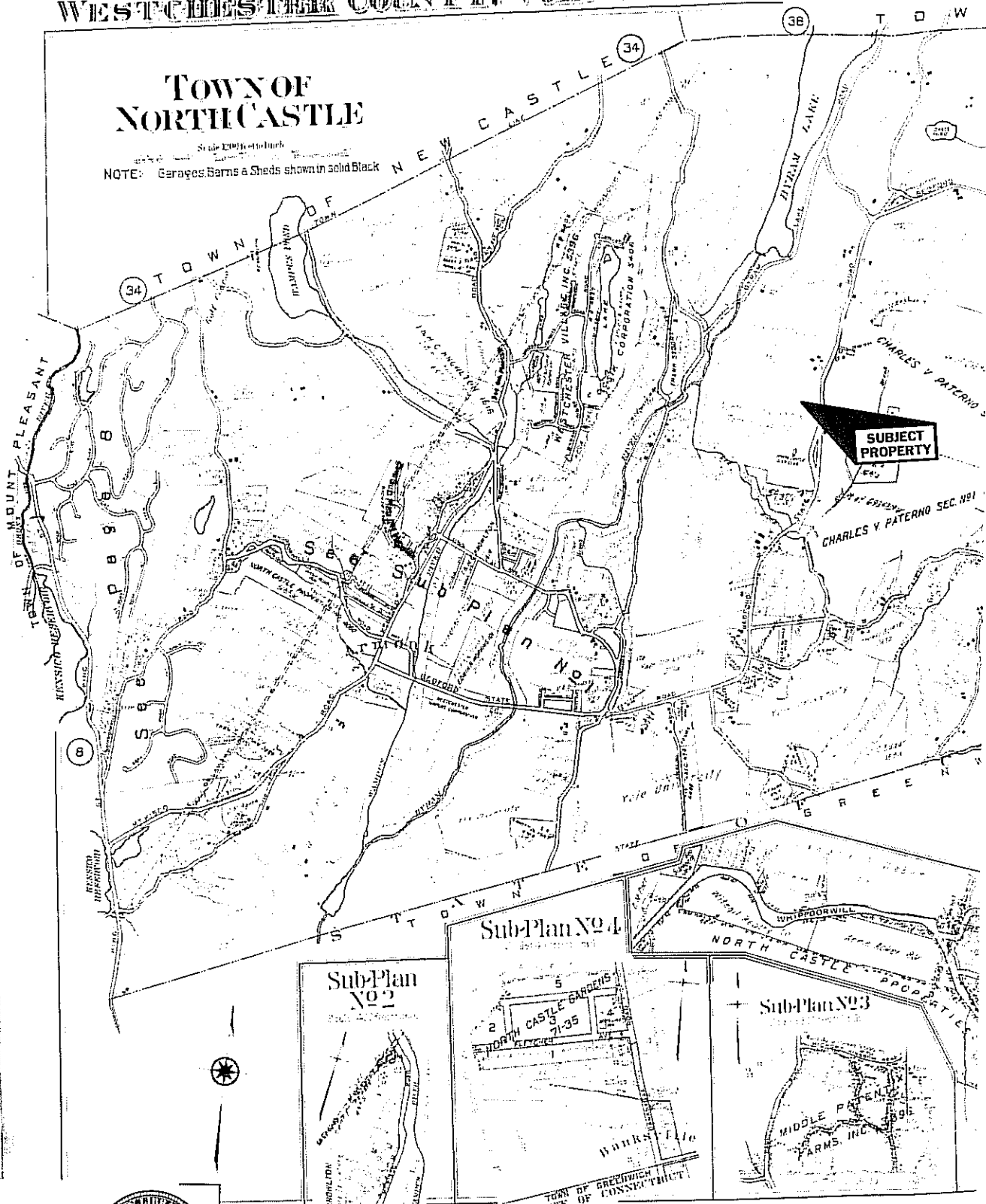
Scale: 1:24000

# WESTCHESTER COUNTY, VOL. 4

## TOWN OF NORTH CASTLE

Scale 1:2000 feet to inch

NOTE: Garages, Barns & Sheds shown in solid black

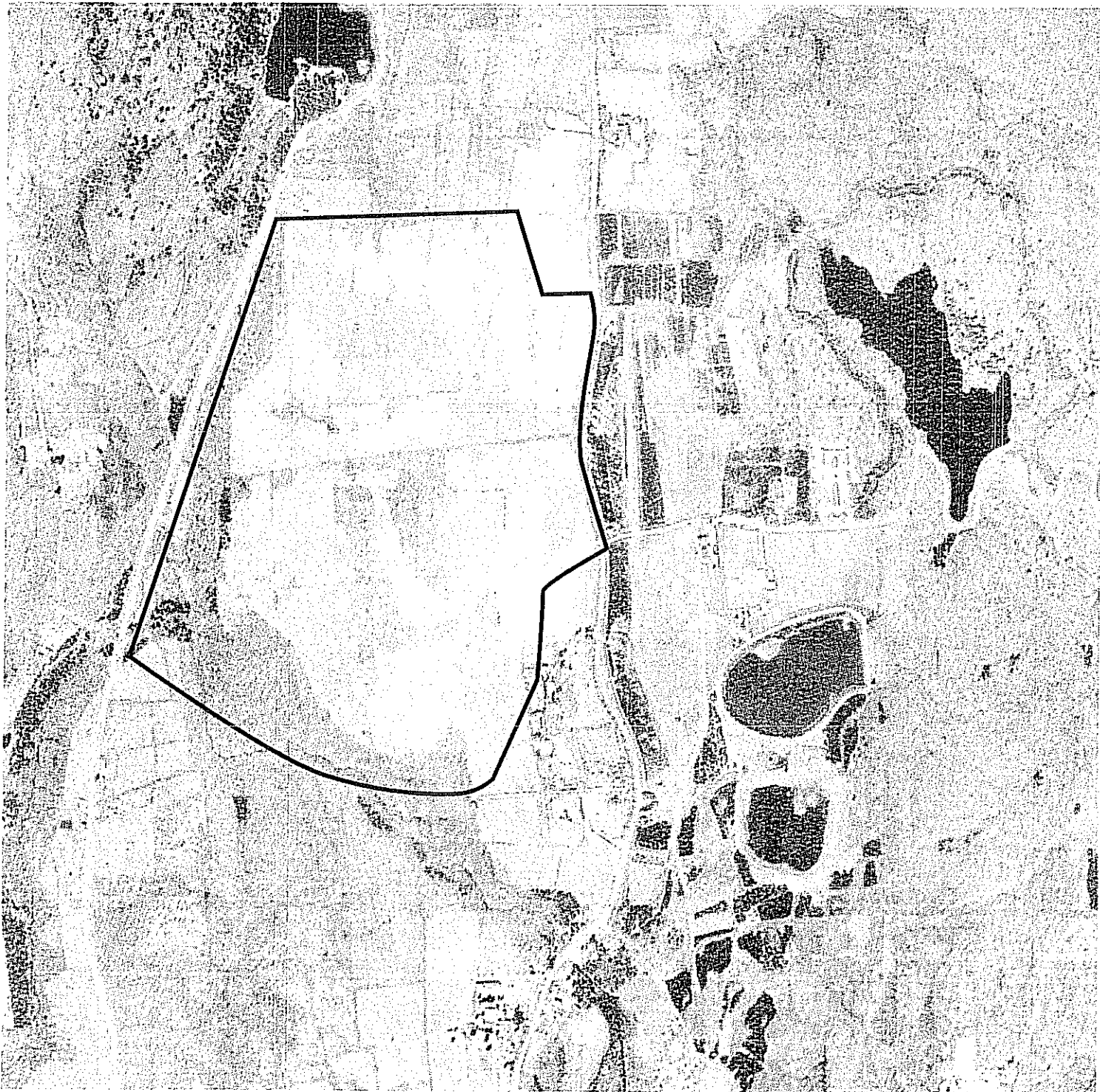


The certified Sanborn Library search results in this report can be substantiated by visiting www.edr.com and entering the certification number. Only Environmental Data Resources, Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC; the copyright holder for the collection.

Certification # 4EOD-4260-BA07

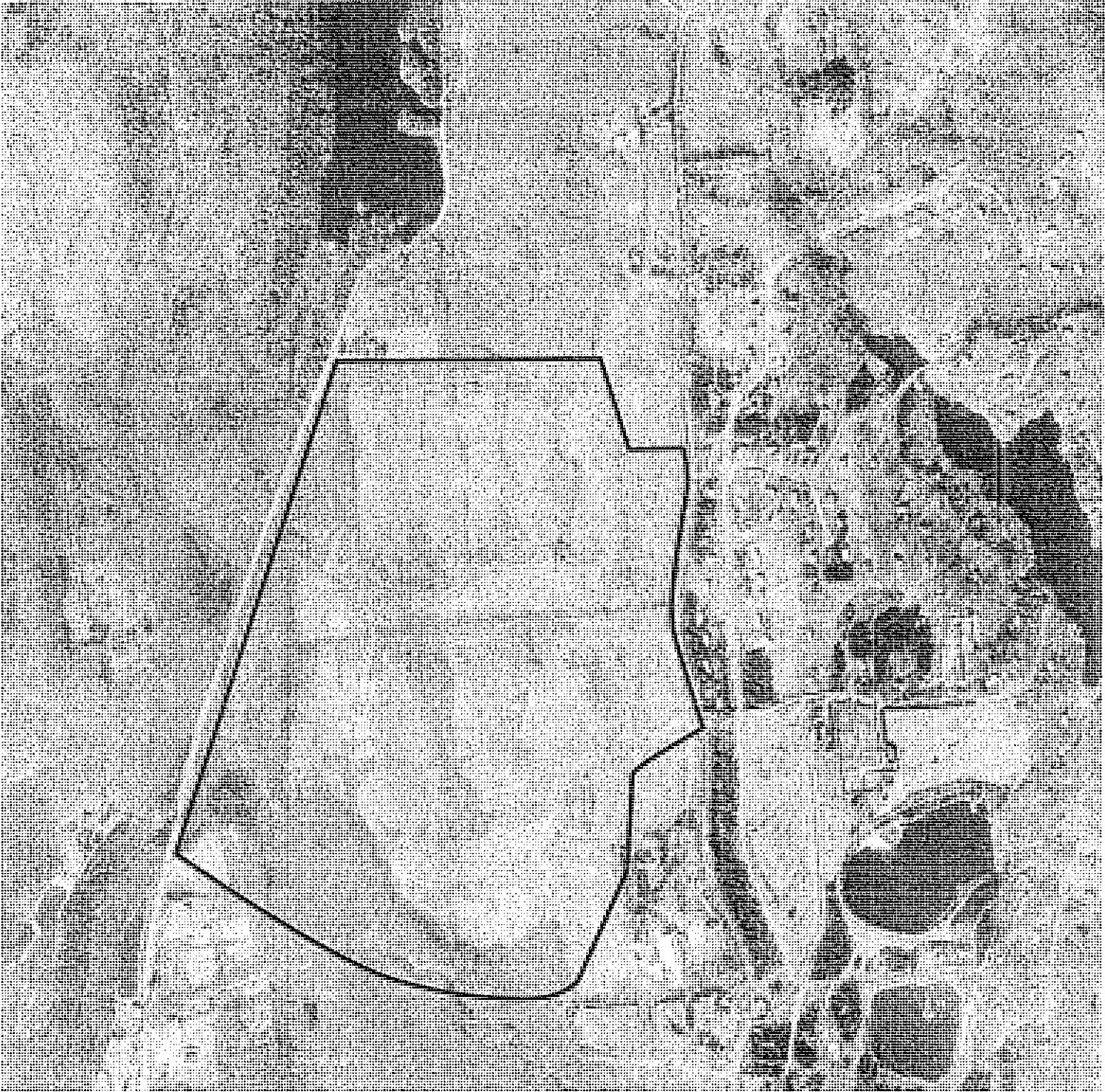
Site Name: Canyon Club  
Address: 565 Bedford Road  
City, ST, ZIP: Armonk NY 10504  
Client: Ecovisions Strategies, Inc.  
EDR Inquiry: 2105258.1x  
Order Date: 3/12/2008 9:41:54 AM  
Certification #: 4EOD-4260-BA07

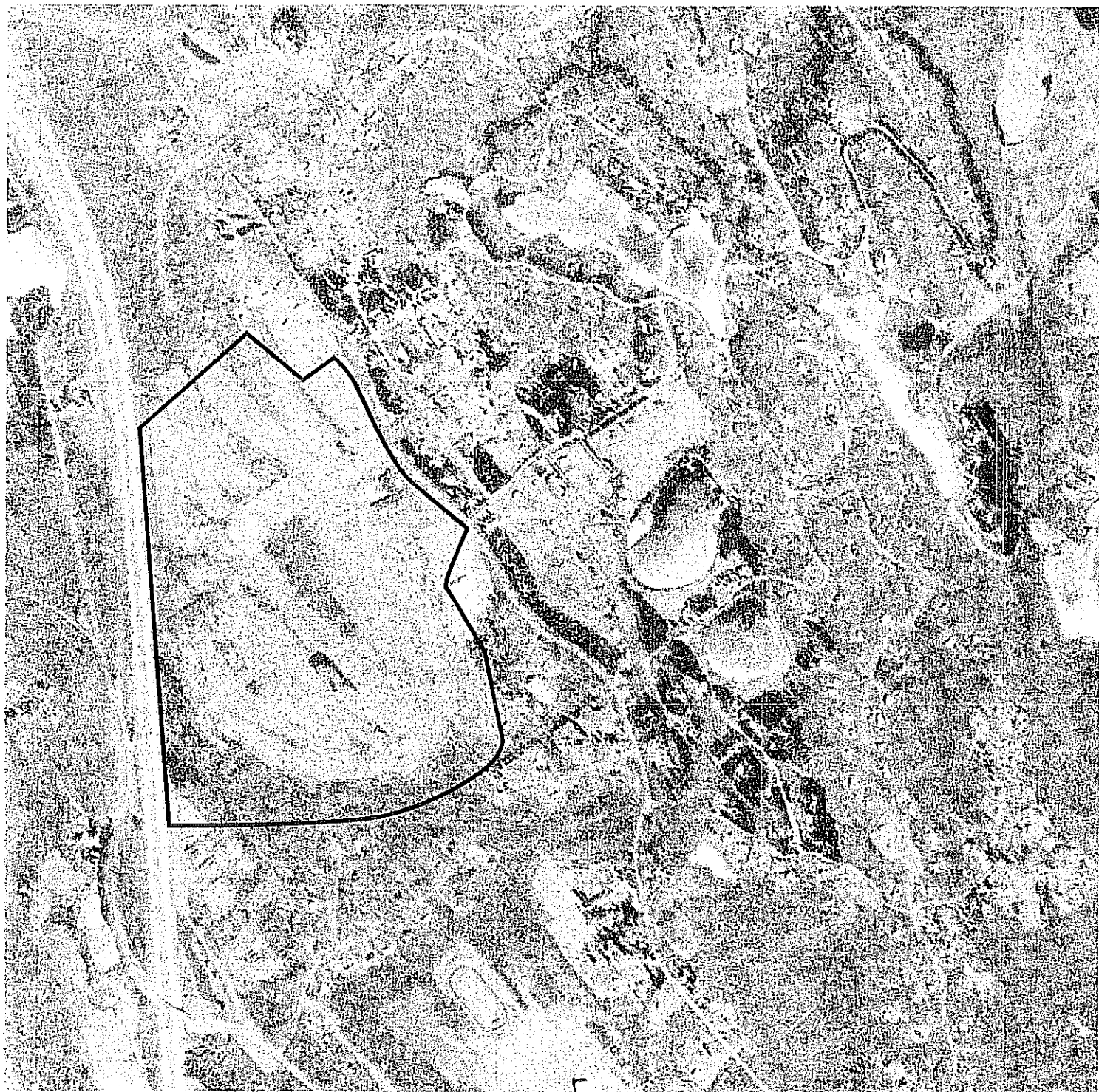




Scale: 1" = 918'

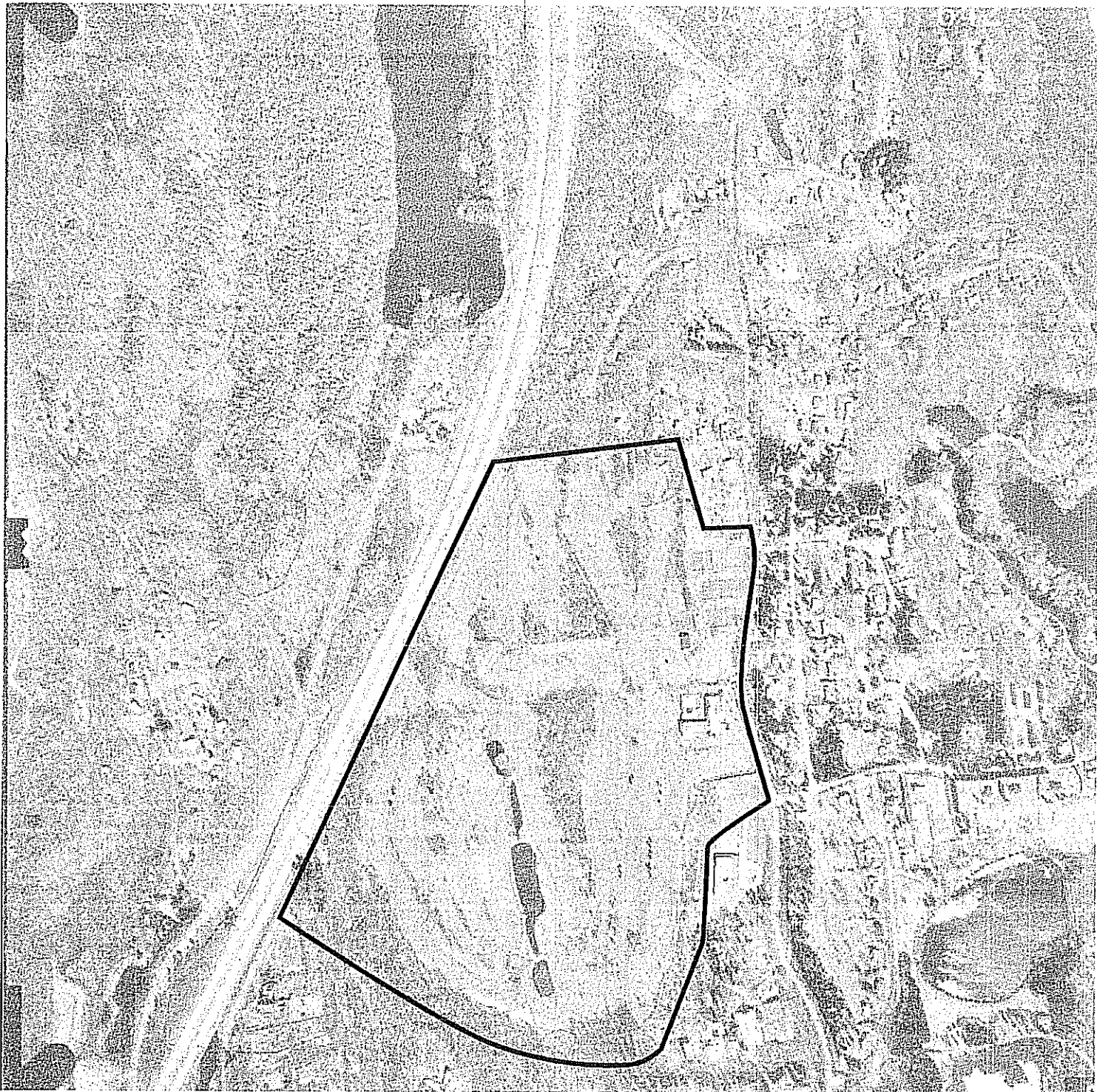




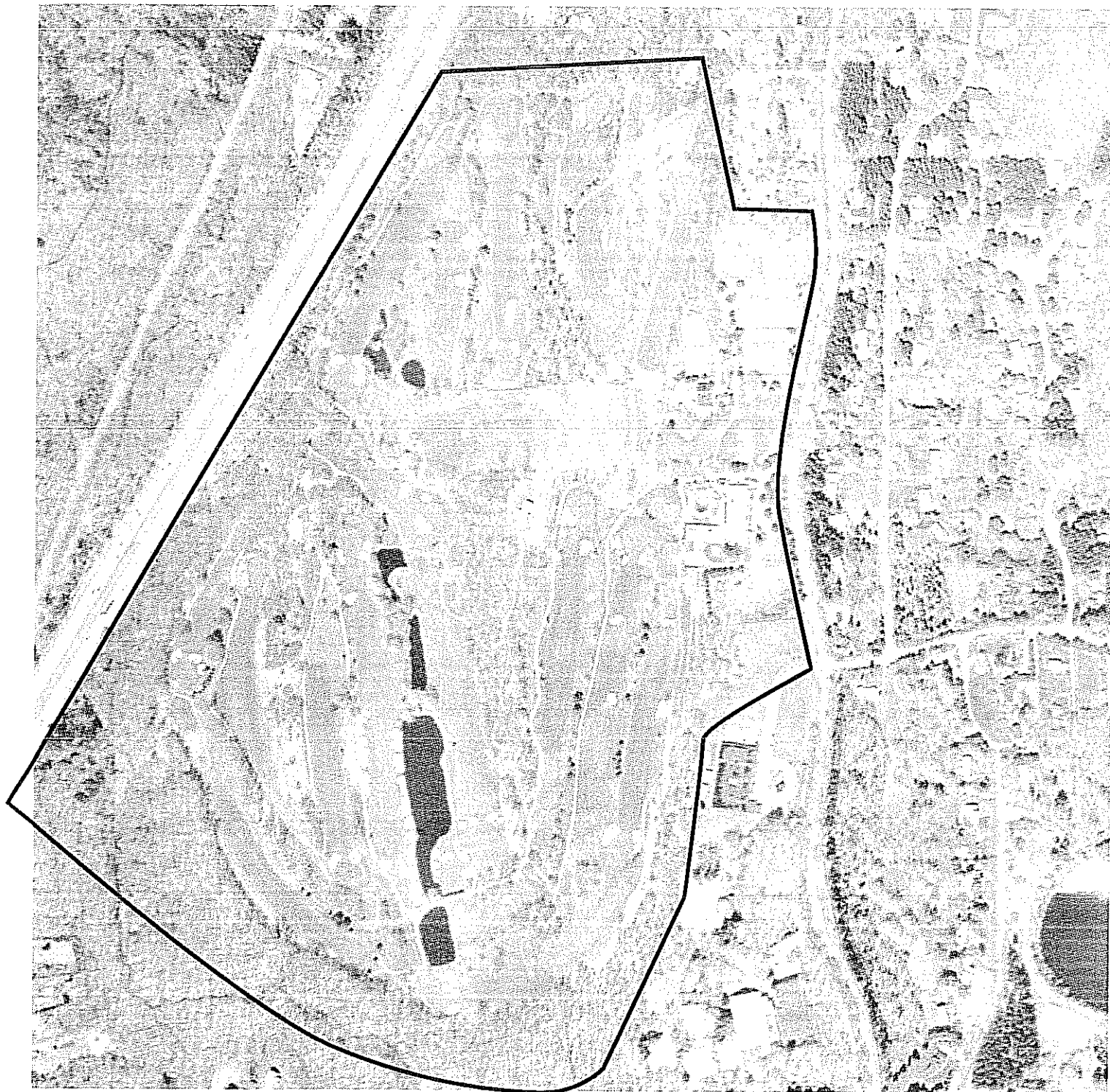


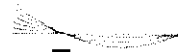
Scale: 1" = 1,080'





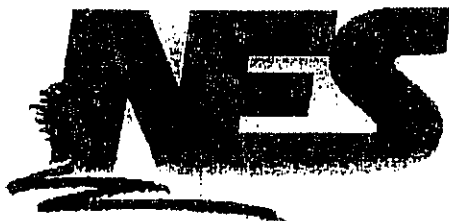






## **APPENDIX D**

### ***Excerpts of Previous Environmental Reports***



NATIONAL  
ENVIRONMENTAL  
SPECIALISTS INC.

February 27, 1997

Mike Buzzelli  
New York State Department of  
Environmental Conservation  
200 White Plains Road  
Tarrytown, NY 10591

RE: Canyon Country Club  
568 Bedford Road  
Armonk, NY 10504

Spill #96-11455

National Environmental Specialists, Inc. was contracted to remove a 1000 gallon oil tank at the above referenced address.

The tank was removed, cut, cleaned, and disposed of according to D.E.C. Regulations 613.9 (B). Approximately 56.32 tons of contaminated soil was removed for reclamation to TT Materials, Wingdale, NY. NYDEC Permit #3-1326-00144/000001-0.

Upon approvals and site inspection, the hole was backfilled with clean fill. The entire area was rough graded.

-----  
Nick Barnaba

NB:kb

**TT Materials Corp**  
**Non-Hazardous Waste Manifest**  
Solid Waste Facility #14M03  
NYDEC Permit Number # 3-1328-00144/00001-0



**TT MATERIALS CORP.**

**Generator**

Generator Name Cayuga County Club  
Generator Address 368 Bedford Rd  
Address Armonk, N.Y.  
Phone # ( )

**Site**

Site Name \_\_\_\_\_  
Site Address \_\_\_\_\_  
Address Same  
Phone # ( )

**Waste Description**

#2 Oil ☒ Diesel Fuel ☐ Gasoline ☐ Jet Fuel ☐  
#4 Oil ☐ #6 Oil ☐ Mineral Oil ☐ Kerosene ☐

I hereby certify that the above designated soils are not a hazardous waste nor does it contain PCB's as defined by 40 CFR Part 261 or any applicable state law.

Nick Barnaba - as agent  
Generator or authorized name

X [Signature]  
Signature

11/07/97  
Date

**Transporter**

Transporter name National Environmental Spec.  
Address 26 Broadway, Hawthorne, NY  
Contact Nick Barnaba  
Phone ( 914 ) 741-5472

Driver name JOSEPH PASQUALE  
Veh. No./Lic # PAJ 1674 N.Y. #12  
Vehicle cert # 3A-402

I hereby certify that the above named material was picked up at the generator site listed above:

I hereby certify that the above named material was delivered without incident to the facility listed below:

X [Signature]  
Driver signature

11/7/97  
Shipment date

X [Signature]  
Driver signature

11/7/97  
Delivery date

**Facility**

This Manifest document certifies that 23.99 Tons of the above described non-hazardous virgin contaminated petroleum soils was received at TT Materials Corp. Solid Waste Facility in Wingdale, NY.

I hereby certify that the above named materials has been accepted and to the best of my knowledge the foregoing is true and accurate.

[Signature]  
Print name of Facility authorized agent

X [Signature]  
Signature of Facility authorized agent

11/7/97  
Date

White: Facility

Yellow: Transporter

Pink: Generator

Gold: Other \_\_\_\_\_



**TT Materials Corp**  
**Non-Hazardous Waste Manifest**  
 Solid Waste Facility #14M03  
 NYDEC Permit Number # 3-1326-00144/00001-0



**Generator**

Generator Name Canyon Country Club  
 Generator Address 568 Bedford Rd.  
 Address Armonk N.Y.  
 Phone # ( )

**Site**

Site Name \_\_\_\_\_  
 Site Address SAME  
 Address \_\_\_\_\_  
 Phone # ( )

**Waste Description**

#2 Oil ☒ Diesel Fuel ☐ Gasoline ☐ Jet Fuel ☐  
 #4 Oil ☐ #6 Oil ☐ Mineral Oil ☐ Kerosene ☐

I hereby certify that the above designated soils are not a hazardous waste nor does it contain PCB's as defined by 40 CFR Part 261 or any applicable state law.

Nick Barnaba -- as agent  
 Generator or authorized name

X

Signature

Date

11/7/97

**Transporter**

Transporter name National Environmental Spec.  
 Address 26 Broadway, Hawthorne, NY  
 Contact Nick Barnaba  
 Phone ( 914 ) 741-5472

Driver name JOSEPH REGALANTE  
 Veh. No./Lic # PAJ 1644 N.Y. #12  
 Vehicle cert # 3A-402

I hereby certify that the above named material was picked up at the generator site listed above:

I hereby certify that the above named material was delivered without incident to the facility listed below:

X [Signature]  
 Driver signature

Shipment date

11/7/97

X

Driver signature

Delivery date

11/2/97

**Facility**

This Manifest document certifies that 10.52 Tons of the above described non-hazardous virgin contaminated petroleum soils was received at TT Materials Corp. Solid Waste Facility in Wingdale, NY.

I hereby certify that the above named materials has been accepted and to the best of my knowledge the foregoing is true and accurate.

[Signature]  
 Print name of Facility authorized agent

X

Signature of Facility authorized agent

Date

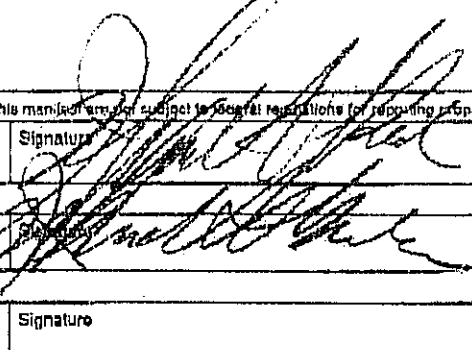
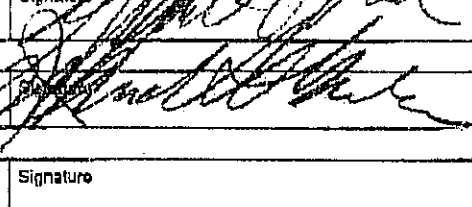
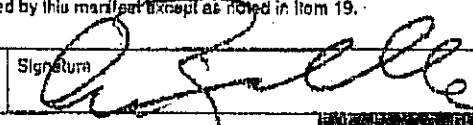
11/7/97

White: Facility

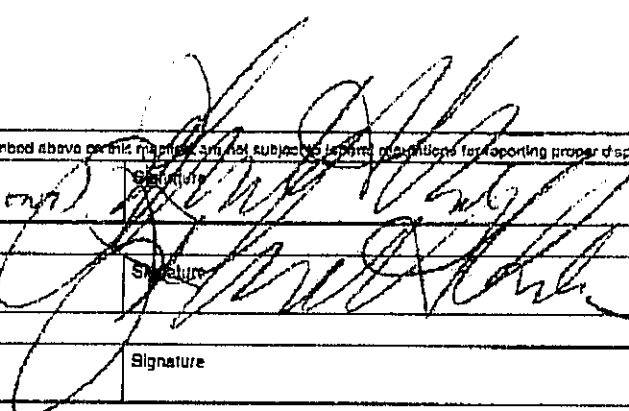
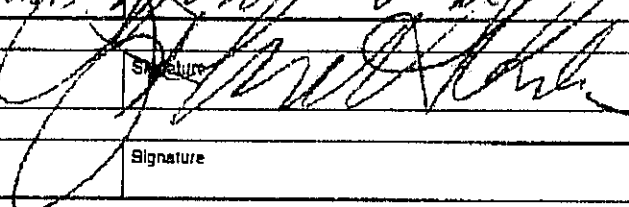
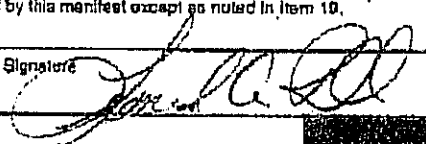
Yellow: Transporter

Pink: Generator

Gold: Other

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address <b>CANYON CLUB RT-22 ARMONK, N.Y.</b>		DEC 3A-402		
4. Generator's Phone ( )				
5. Transporter 1 Company Name <b>National Environmental Spec.</b>		6. US EPA ID Number <b>NYD-987-004-850</b>		
7. Transporter 2 Company Name		8. US EPA ID Number		
9. Designated Facility Name and Site Address <b>Paradise Energy Quincy Street Ossining, NY</b>		10. US EPA ID Number <b>NY-000000-41830</b>		A. Transporter's Phone <b>914-741-5472</b> B. Transporter's Phone C. Facility's Phone <b>914-945-0528</b>
11. Waste Shipping Name and Description		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol
a. <b>VAC OUT EXCAVATION OF</b>		<b>VAC</b>	<b>Truck #10</b>	
b. <b>CONTAMINATED WATER</b>				
c. <b>300 gals</b>				
d.				
D. Additional Descriptions for Materials Listed Above		E. Handling Codes for Wastes Listed Above <b>N-D18</b>		
15. Special Handling Instructions and Additional Information  <b>NYS DGT #1993</b>				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to special regulations for managing proper disposal of Hazardous Waste				
Printed/Typed Name <b>JOHN H. KULWA (ASHGWT)</b>		Signature 		Month Day Year <b>12 23 96</b>
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature 		Month Day Year <b>12 23 96</b>
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.				
Printed/Typed Name <b>Arthur Revell</b>		Signature 		Month Day Year <b>12 23 96</b>

TRANSPORTER #1

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address <b>CANYON CLUB RT-22 ARMONK, N.Y.</b>		DEC 3A-402		
4. Generator's Phone ( )				
5. Transporter 1 Company Name <b>National Environmental Spec.</b>		6. US EPA ID Number <b>NYD-967-004-850</b>		
7. Transporter 2 Company Name		8. US EPA ID Number		
9. Designated Facility Name and Site Address <b>Paradise Energy Quinby Street Ossining, NY</b>		10. US EPA ID Number <b>NY-000000-41830</b>		A. Transporter's Phone <b>914-741-5472</b> B. Transporter's Phone C. Facility's Phone <b>914-945-0528</b>
11. Waste Shipping Name and Description		12. Containers No.	Type	13. Total Quantity Unit
a. <b>VAC OUT (1) 1,000 GAL (2) 275 GALS</b>		VAC		Truck #10
b. <b>(1) 550 gal TANK OF ALL PRODUCT</b>				
c. <b>+ TANK BOTTOM</b>				
d. <b>(77 gals)</b>				
D. Additional Descriptions for Materials Listed Above		E. Handling Codes for Wastes Listed Above <b>N-013 N-013</b>		
15. Special Handling Instructions and Additional Information  <b>NYS DOT #1993</b>				
16. GENERATOR'S CERTIFICATION: I certify the materials described above are not subject to reporting requirements for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name <b>John H. Kulon (154600)</b>		Signature 		Month Day Year <b>12 16 96</b>
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature 		Month Day Year <b>12 16 96</b>
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 10.				
Printed/Typed Name <b>LEONARD A. REVELLESE</b>		Signature 		Month Day Year <b>12 16 96</b>

TRANSPORTER #1

JAN-06-97 MON 12:13

P. 03

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St. S. Waverly PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
Project Description: Canyon Club, Armonk, NY

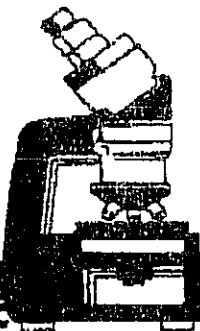
Sample ID #: 96-12-27-070

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extractor	Analyzed	Analyst
TCLP Lead (includes extraction)	ND<0.20 mg/L	5.0 mg/L	MCL EPA 6010	01/03/97	01/06/97	BRJ

Reviewed by:

*Barry R. Jones*  
Barry R. Jones  
Inorganic Manager

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St. S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DER # 08380 ICR PA017

Sample ID #: 96-12-27-070

Sample Date: 12/26/96

Sample Time: 8:00

Sampled by: KP

Received by: CMD

Date & Time Recd: 12/27/96 11:20

Project Description: Canyon Club, Armonk, NY  
Station Location: Soil

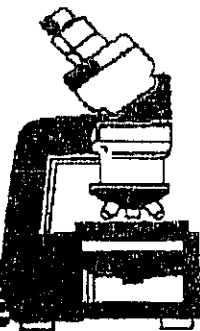
Parameter	Results	Detection Limit (DL)		Method	Extracted	Analyzed	Analyst
		Max. Cont. Level (MCL)					
Total Petroleum Hydrocarbons (GC-FID)	94.1 mg/Kg			GC-FID	12/30/96	12/30/96	RJH

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager

JAN-06-97 MON 12:12

P. 01

**Dairy and Environmental Analysis****Eastern  
Laboratory  
Services, LTD**Main Office: S. Waverly 717-688-0169  
800-533-9972

387 Fulton St. S. Waverly, PA 18840

## LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATTN: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DER # 06380 ICR PA017Sample ID #: 96-12-27-070  
Sample Date: 12/26/96  
Sample Time: 3:00  
Sampled by: KF  
Received by: CMD

Date &amp; Time Recd: 12/27/96 11:20

Project Description: Canyon Club, Armonk, NY  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
EPA 602/8020 - BTEX			EPA 8020		01/04/97	RJM
Benzene	ND<0.5 ug/Kg					
Toluene	0.9 ug/Kg					
Ethylbenzene	6.1 ug/Kg					
p/a-Xylene	22.7 ug/Kg					
m-Xylene	97.8 ug/Kg					

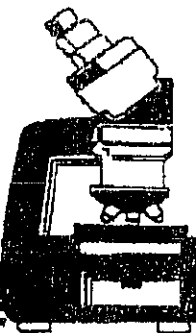
Reviewed by:

Ralph J. Hendershot  
Organic Manager

JAN-13-97 MON 13:11

P. 02

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St. S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 DT # PH-0201  
PA DER # 06580 ICR PA017

Sample ID #: 97-01-06-003

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KP

Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit South  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
SW646/B021 (STAR6)			SW646/8021		01/09/97	RJH
Benzene	ND<1 ug/Kg					
Ethylbenzene	ND<1 ug/Kg					
Toluene	ND<1 ug/Kg					
p-xylene	1.0 ug/Kg					
o-xylene	ND<1 ug/Kg					
Isopropylbenzene	ND<1 ug/Kg					
n-Propylbenzene	ND<1 ug/Kg					
p-Isopropyltoluene	6.4 ug/Kg					
1,2,4-Trimethylbenzene	ND<1 ug/Kg					
1,3,5-Trimethylbenzene	ND<1 ug/Kg					
n-Butylbenzene	12.2 ug/Kg					
sec-Butylbenzene	ND<1 ug/Kg					
t-Butylbenzene	22.8 ug/Kg					
Naphthalene	3.6 ug/Kg					
Methyl tert butyl ether	12.4 ug/Kg					

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-553-9972

387 Fulton St., S. Waverly, PA 18940

### LABORATORY REPORT

Clients: National Environmental Specialists  
18 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DER # 08360 ICR #A017

Sample ID #: 97-01-06-004

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KF

Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit East  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
SWB46/8021 (STARS)			SWB46/8021		01/09/97	RJH
Benzene	ND<1 ug/kg					
Ethylbenzene	ND<1 ug/kg					
Toluene	ND<1 ug/kg					
p-Xylene	ND<1 ug/kg					
o-Xylene	ND<1 ug/kg					
Isopropylbenzene	ND<1 ug/kg					
n-Propylbenzene	ND<1 ug/kg					
p-Isopropyltoluene	ND<1 ug/kg					
1,2,4-Triethylbenzene	ND<1 ug/kg					
1,3,5-Triethylbenzene	ND<1 ug/kg					
n-Butylbenzene	1.5 ug/kg					
sec-Butylbenzene	ND<1 ug/kg					
t-Butylbenzene	ND<1 ug/kg					
Naphthalene	1.4 ug/kg					
Methyl tert Butyl ether	13.4 ug/kg					

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager



JAN-13-97 MON 13:13

P.04

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-535-9972

387 Fulton St., S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
16 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 18216 CT # PH-0201  
PA DER # 08380 ICR PA017

Sample ID #: 97-01-06-008

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KP

Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit West  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
SW846/8021 (STARS)			SW846/8021		01/09/97	RJH
Benzene	ND<1 ug/Kg					
Ethylbenzene	ND<1 ug/Kg					
Toluene	ND<1 ug/Kg					
p/a-Xylene	ND<1 ug/Kg					
m-Xylene	ND<1 ug/Kg					
Isopropylbenzene	ND<1 ug/Kg					
n-Propylbenzene	ND<1 ug/Kg					
p-Isopropyltoluene	ND<1 ug/Kg					
1,2,4-Trimethylbenzene	ND<1 ug/Kg					
1,3,5-Trimethylbenzene	ND<1 ug/Kg					
n-Butylbenzene	ND<1 ug/Kg					
sec-Butylbenzene	ND<1 ug/Kg					
t-Butylbenzene	ND<1 ug/Kg					
Naphthalene	1.1 ug/Kg					
Methyl tert butyl ether	9.9 ug/Kg					

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager

JAN-13-97 MON 13:11

P. 01

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

587 Fulton St., S. Waverly, PA 16840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATTN: Nicholas Barnaba

NY DOM # 11216 CT # PH-0201  
PA DER # 08380 ICR PA017

Sample ID #: 97-01-06-002  
Sample Date: 12/31/96  
Sample Time: 13:00  
Sampled by: KP  
Received by: CMD  
Date & Time Recd: 01/06/97 16:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit North  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
SN846/8021 (STARS)				SN846/8021	01/07/97	RJR
Benzene	ND<1 ug/Kg					
Ethylbenzene	ND<1 ug/Kg					
Toluene	ND<1 ug/Kg					
p/a-Xylene	2.3 ug/Kg					
o-Xylene	2.2 ug/Kg					
Isopropylbenzene	ND<1 ug/Kg					
n-Propylbenzene	3.1 ug/Kg					
p-Isopropyltoluene	1.8 ug/Kg					
1,2,4-Trimethylbenzene	ND<1 ug/Kg					
1,3,5-Trimethylbenzene	2.8 ug/Kg					
n-Butylbenzene	16.5 ug/Kg					
sec-Butylbenzene	2.3 ug/Kg					
t-Butylbenzene	13.4 ug/Kg					
Naphthalene	16.0 ug/Kg					
methyl tert butyl ether	15.0 ug/Kg					

Reviewed by:

*Ralph J. Wendershot*  
Ralph J. Wendershot  
Organic Manager

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St. S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DER H 08380 ICR PA017

Sample ID #: 97-01-06-003

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KP

Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit South  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
NR SW946/B270 B/N (STARS)				SW946/B270	01/09/97	01/11/97 NJC
Naphthalene	ND<100 ug/Kg					
Anthracene	ND<100 ug/Kg					
Fluorene	ND<100 ug/Kg					
Phenanthrene	ND<100 ug/Kg					
Pyrene	ND<100 ug/Kg					
Acenaphthene	ND<100 ug/Kg					
Benzo(a)anthracene	ND<100 ug/Kg					
Fluoranthene	ND<100 ug/Kg					
Benzo(b)fluoranthene	ND<100 ug/Kg					
Benzo(k)fluoranthene	ND<100 ug/Kg					
Chrysene	ND<100 ug/Kg					
Benzo(a)pyrene	ND<100 ug/Kg					
Benzo(g,h,i)perylene	ND<100 ug/Kg					
Indeno(1,2,3-cd)pyrene	ND<100 ug/Kg					
Dibenzo(a,h)anthracene	ND<100 ug/Kg					

Reviewed by:

*Ralph J. Henderson*  
Ralph J. Henderson  
Organic Manager

AN Analysis performed by NYS DOH# 11543, PA DER# 35-506

JAN-13-97 MON 13:14

P. 07

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St., S. Waverly, PA 16840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-C201  
PA DEP # 09380 ICR PA017

Sample ID #: 97-01-06-004

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KP

Received by: CHD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit East  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
At SW846/8270 B/N (STARS)				SW846/8270	01/08/97	01/11/97 NJC
Naphthalene	ND<100 ug/Kg					
Anthracene	ND<100 ug/Kg					
Fluorene	ND<100 ug/Kg					
Phenanthrene	ND<100 ug/Kg					
Pyrene	ND<100 ug/Kg					
Acenaphthene	ND<100 ug/Kg					
Benzo(a)anthracene	ND<100 ug/Kg					
Fluoranthene	ND<100 ug/Kg					
Benzo(b)fluoranthene	ND<100 ug/Kg					
Benzo(k)fluoranthene	ND<100 ug/Kg					
Chrysene	ND<100 ug/Kg					
Benzo(a)pyrene	ND<100 ug/Kg					
Benzo(g,h,i)perylene	ND<100 ug/Kg					
Indeno(1,2,3-cd)pyrene	ND<100 ug/Kg					
Bibenz(a,h)anthracene	ND<100 ug/Kg					

Reviewed by:

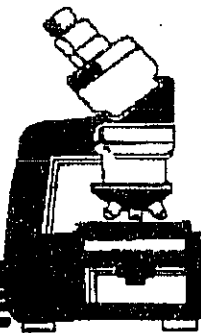
*Ralph J. Henderson*  
Ralph J. Henderson  
Organic Manager

All Analysis performed by NYS DOH 11543, PA DEP 35-506

JAN-13-97 MON 13:15

P. 08

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0189  
800-533-9972

387 Fulton St., S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DER # 08380 ICR PA017

Sample ID #: 97-01-06-005

Sample Date: 12/31/96

Sample Time: 13:00

Sampled by: KP

Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit West  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
AT SW846/8270 B/N (STARS)				SW846/8270	01/08/97	01/11/97 HJC
Naphthalene	ND<100 ug/Kg					
Anthracene	ND<100 ug/Kg					
Fluorene	ND<100 ug/Kg					
Phenanthrene	ND<100 ug/Kg					
Pyrene	ND<100 ug/Kg					
Acenaphthene	ND<100 ug/Kg					
Benzo(a)anthracene	ND<100 ug/Kg					
Fluoranthene	ND<100 ug/Kg					
Benzo(b)fluoranthene	ND<100 ug/Kg					
Benzo(k)fluoranthene	ND<100 ug/Kg					
Chrysene	ND<100 ug/Kg					
Benzo(a)pyrene	ND<100 ug/Kg					
Benzo(g,h,i)perylene	ND<100 ug/Kg					
Indeno(1,2,3-cd)pyrene	ND<100 ug/Kg					
Dibenzo(a,h)anthracene	ND<100 ug/Kg					

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager

\* Analysis performed by NYS DOHW 11543, PA DEP# 35-506

JAN-13-97 MON 13:13

P. 05

# Eastern Laboratory Services, LTD



## Dairy and Environmental Analysis

Main Office: S. Waverly 717-888-0169  
800-533-9972

387 Fulton St. S. Waverly, PA 18840

### LABORATORY REPORT

Client: National Environmental Specialists  
15 Broadway  
Hawthorne NY 10532

ATT: Nicholas Barnaba

NY DOH # 11216 CT # PH-0201  
PA DEP # 08360 ICR PA017

Sample ID #: 97-01-06-002  
Sample Date: 12/31/96  
Sample Time: 13:00  
Sampled by: KF  
Received by: CMD

Date & Time Recd: 01/06/97 10:30

Project Description: Canyon Club, Armonk, NY/ Tank Pit North  
Station Location: Soil

Parameter	Results	Detection Limit (DL) Max. Cont. Level (MCL)	Method	Extracted	Analyzed	Analyst
AT SW846/B270 B/X (STARS)			SW846/B270	01/08/97	01/11/97	KJC
Naphthalene	ND<100 ug/Kg					
Anthracene	ND<100 ug/Kg					
Fluorene	ND<100 ug/Kg					
Phenanthrene	ND<100 ug/Kg					
Pyrene	ND<100 ug/Kg					
Acenaphthene	ND<100 ug/Kg					
Benzo(a)anthracene	ND<100 ug/Kg					
Fluoranthene	ND<100 ug/Kg					
Benzo(b)fluoranthene	ND<100 ug/Kg					
Benzo(k)fluoranthene	ND<100 ug/Kg					
Chrysene	ND<100 ug/Kg					
Benzo(a)pyrene	ND<100 ug/Kg					
Benzo(g,h,i)perylene	ND<100 ug/Kg					
Indene(1,2,3-cd)pyrene	ND<100 ug/Kg					
Dibenzo(a,h)anthracene	ND<100 ug/Kg					

Reviewed by:

*Ralph J. Hendershot*  
Ralph J. Hendershot  
Organic Manager

AN Analysis performed by KYS DDH# 11543, PA DEP# 35-506

**WESTCHESTER COUNTY DEPARTMENT OF HEALTH  
 PETROLEUM BULK STORAGE REGISTRATION  
 CERTIFICATE**

**THIS CERTIFICATE IS NON-TRANSFERABLE**

Tank Number	Date Installed	Tank Type	Capacity (gallons)	Date Last Tested	Testing Due Date
1		Steel/Carbon Steel	500		NTR
2		Steel/Carbon Steel	1,500		NTR
3	06/1986	Steel/Carbon Steel	500		NTR
004	12/2001	Steel/Carbon Steel	2,000		NTR
5		Steel/Carbon Steel	275		NTR
<b>Total:</b>			<b>4,775</b>		

Office of Environmental Health Risk Control  
 145 Huguenot Street - 7th Floor (914) 637-4896  
 New Rochelle, NY 10801 Page 1 of 1  
 24 Hour Emergency Phone Number: (914) 637-4700

**Owner:**  
 North Castle Leisure Enterprise  
 520 Madison Ave  
 New York, NY 10022

**Site:**  
 Canyon Club, Inc.  
 568 Bedford Road  
 Armonk, NY 10504

**Operator (Name and Phone #):**  
 Paul Gonzalez  
 (914) 273-9300

**Emergency Contact (Name and Phone #):**  
 Paul Gonzalez  
 (914) 273-9300

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for ensuring that this facility is in compliance with all Sections of the Westchester County Sanitary Code Article XXV

b. The facility must be as registered at time of a transfer of ownership.  
 c. The Department must be notified within 30 days prior to adding, reducing, relocating, or permanently closing a petroleum tank.  
 d. The facility must be operated in accordance with the code for storing petroleum under the Westchester County Sanitary Code Article XXV.  
 e. Any new facility or substantially modified facility must comply with Article XXV of the Westchester Sanitary Code.  
 f. THIS CERTIFICATE MUST BE POSTED ON THE PREMISES AT ALL TIMES.  
 g. Posting must be at the tank, at the entrance of the facility, on the main office, where the storage tanks are located.  
 h. Any person with knowledge of a spill, leak or discharge must report the incident to the Westchester County Department of Health immediately at 914 637-4700 and the New York State Department of Environmental Conservation at 1 800 457-7362.

**Mailing Correspondence:**  
 Martin Badinelli  
 The Canyon Club  
 568 Bedford Road  
 Armonk, NY 10504

**Issued By: Joshua Lipsman, M.D., M.P.H.**  
**Petroleum Bulk Storage Number** 3-104507  
**Date Issued:** 02/09/2000 **Expiration Date** 05/24/2004  
**Fee Paid:** \$curri valid

**Signature of Authorized Representative / Owner:** *[Signature]* **Date:** 5-15-02  
**Name of Authorized Representative / Owner (Please Print Clearly):** Martin A. Badinelli, Esq.  
**Title:** General Manager



## PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

NYS DEC - REGION 3  
21 SOUTH PUTT CORNERS ROAD  
NEW PALTZ, NY 12561

(914) 255-5453

Page 1 of 1

P. 21-30-2008 15:58

TANK NUMBER	DATE INSTALLED	TANK TYPE	CAPACITY (GALLONS)	DATE LAST TESTED	TESTING DUE DATE	OWNER
1	00/00	Steel/Carbon Steel	1,000			NORTH CASTLE LEISURE ENTERPRISE
2	00/00	Steel/Carbon Steel	1,000			520 MADISON AVE
3	06/86	Steel/Carbon Steel	275			MANHATTAN, NY 10022
4	00/00	Steel/Carbon Steel	3,000	10/87	10/92	
5	00/00	Steel/Carbon Steel	275			

SITE

CANYON CLUB INC  
568 BEDFORD ROAD  
ARMONK, NY 10504

\*1

\*1

OPERATOR (Name and Telephone Number)

CANYON CLUB INC  
(914) 273-9300

EMERGENCY CONTACT (Name and Telephone Number)

MR VINCENT R CARILLI GEN MGR  
(914) 946-3539

As an authorized representative of the above-named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with the code for new and substantially modified facilities, 6 NYCRR Part 614.
- This certificate must be posted on the premises at all times. Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7362).

\*1 - Aboveground tanks require monthly visual inspections and documented internal inspections as described in 6 NYCRR Pt. 613.

ISSUED BY:

Commissioner Thomas C. Jorling

PETROLEUM BULK STORAGE ID NUMBER

3-104507

DATE ISSUED

03/31/92

EXPIRATION DATE

03/24/97

FEE PAID

\$ 250

MAILING CORRESPONDENCE

NORTH CASTLE LEISURE ENTERPRISE  
520 MADISON AVE  
MANHATTAN, NY 10022

Signature of Authorized Representative/Owner

Date

Name of Authorized Representative/Owner (Please Print)

Title

THIS REGISTRATION CERTIFICATE IS NON-TRANSFERABLE

P. 07



# Tank Information for Petroleum Bulk Storage Facility

## SECTION B—See Instructions on Cover Sheet

EXPIRATION DATE: 03/24/92

APR-30-2008 15:57

Page 1 of 1

Action	Tank Number	Tank Location	Status	Installation or Permanent Closure Date		Capacity (Gallons)	Product Stored	Tank Type	Tank Internal Prot.	Tank External Protection	Piping Location	Piping Type	Piping Internal Prot.	Piping External Protection	Secondary Containment	Leak Detection	Spill/Overflow Prevention	Dispenser (underground tank) (MO)	Last Test Date (MO)
				(MO)	(YR)														
1	1		4	1	0	0	0	1,000	1	1		2			0	0		2	
1	2		4	1	0	0	0	1,000	1	1		2			0	0		2	
1	3		1	1	0	6	8	275	6	1		2			0	0		2	
1	4		4	1	0	0	0	3,000	2	1		2			0	0		2	1
2	5		1	1	0	0	0	275	6	1		2			0	0		2	1

### KEY FOR SECTION B

- ACTION**
- Initial Listing
  - Add Tank
  - Close/Remove Tank
  - Information Correction
  - Recommendation/Repair
- TANK LOCATION**
- Aboveground
  - Aboveground on saddles
  - legs, stilts, rack, or cradle
  - Aboveground: 10% or more below ground
  - Underground
  - Underground, vaulted, with access
- STATUS**
- In-service
  - Temporarily out-of-service
  - Close—Removed
  - Close—In Place
  - Tank Converted to Non-Regulated Use
- PRODUCT STORED**
- Empty
  - Leaded Gasoline
  - Unleaded Gasoline
  - Nos. 1, 2, or 4 Fuel Oil
  - Nos. 5 or 6 Fuel Oil
  - Kerosene
  - Diesel
  - Lubricant
  - Other\*
- TANK TYPE**
- Steel/Carbon Steel
  - Stainless Steel Alloy
  - Concrete
  - Fiberglass Coated Steel
  - Fiberglass Reinforced Plastic (FRP)
  - Equivalent Technology
  - Other\*
- PIPING TYPE**
- None
  - Steel/Inconel
  - Galvanized Steel
  - Fiberglass (FRP)
  - Copper
  - Other\*
- INTERNAL PROTECTION: Tank/Piping**
- None
  - Epoxy Liner
  - Rubber Liner
  - Fiberglass Liner (FRP)
  - Glass Liner
  - Other\*
- EXTERNAL PROTECTION: Tank/Piping**
- None
  - Painted/Asphalt Coating
  - Sacrificial Anode
  - Impressed Current
  - Fiberglass
  - Jacketed
  - Wrapped (Piping)
  - Other\*
- PIPING LOCATION**
- None
  - Aboveground
  - Underground
  - Aboveground/Underground Combination

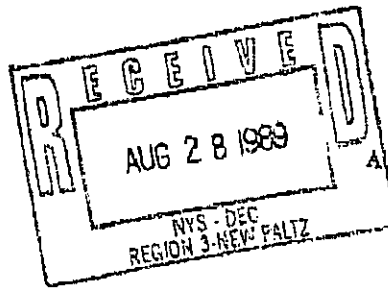
### SECONDARY CONTAINMENT

- None
  - Vault
  - Double-Walled Tank
  - Excavation Liner
  - Cut-off Walls
  - Imperious Underlayment
  - Earthen Dike
  - Prefabricated Steel Dike
  - Concrete Dike
  - Synthetic Liner
  - Natural Liner
  - Other\*
- LEAK DETECTION**
- None
  - Interstitial Monitoring
  - Vapor Trail
  - Groundwater Well
  - In-tank System
  - Concrete Pad with Annals
  - Double Bottom
  - Other\*

### SPILLOVERFILL PREVENTION

- None
  - Flood Vent Valve
  - High Level Alarm
  - Automatic Shut-off
  - Product Level Gauge
  - Catch Basin
  - Vent Whistle
  - Other\*
- DISPENSER**
- Submersible
  - Suction
  - Gravity

\* If Other, please list on separate sheet including the Tank Number



August 25, 1989

NYS Environmental Conservation;

Enclosed please find a copy of a form sent to us regarding petroleum bulk storage. It indicates we have a 3,000 gallon tank for unleaded gas. The only 3,000 gallon tank at Canyon Club is for heating oil. It was tested by Barrier Oil of Tarrytown and found to have no leaks. The results were sent to you. To my knowledge there is no tank in violation at Canyon Club.

If you have any questions or additional information please advise me.

Richard Sills

Maintenance Dept.

**Canyon Club**

568 Bedford Road, Armonk, New York 10504 (914) 273-9300 / Fax (914) 273-2248

TOWN OF NORTH CASTLE  
17 BEDFORD ROAD  
ARMONK, N.Y. 10504

## CERTIFICATE OF COMPLIANCE

CC No: 0000000000

CC Date: 01/20/2001

CC FEE: \$75.00

SEC-BLK-LOT: 0000000000

ZONED: FEA

Location: 17 BEDFORD RD. ARMONK, NY 10504

Building Permit No: 1000000000

THIS CERTIFIES that the structure described herein, conforms substantially to the approved plans and specifications heretofore filed in this office with Application for Building Permit dated: 12/31/2000, pursuant to which Building Permit was issued, and conforms to all the requirements of the applicable provisions of the law.

The structure for which this certificate is issued is as follows:

Permit Type: BUILDING

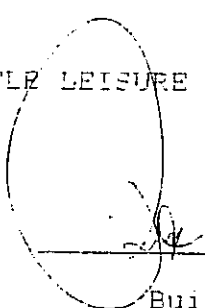
Number of Families: 1

Use of Permit: TANK/TANK REMOV

Number of Bedrooms: 0

Scope of Constr: REMOVAL & DISPOSAL OF A 3000-GALLON OIL TANK.

This certificate is issued to: NO CASTLE LEISURE ENTERPRISES INC  
for the aforesaid structure.

  
Building Inspector

(The Certificate of Compliance will be issued only after affidavits or other competent evidence is submitted to the Superintendent of Buildings that the completion of the construction is in compliance with the State Building Construction Code and with other laws, ordinances or regulations affecting the premises, and in conformity with the approved plans and specifications. A final electrical, plumbing, heating or sanitation certificate or other evidence of compliance may be required before the issuance of the Certificate of Compliance).



Andrew J. Spano  
County Executive

Joshua Lipstman, M.D., M.P.H.  
Commissioner

Department of Health

May 9, 2002

Mr. Martin Badinelli  
The Canyon Club  
568 Bedford Road  
Armonk, NY 10504

Re: 568 Bedford Road  
Armonk, NY 10504  
PBS No. 3-104507  
NYSDEC Spill No. 01-07727

Dear Mr. Badinelli:

I have reviewed the closure report submitted by National Environmental Specialists, Inc. dated May 3, 2002 regarding the removal of one (1) 3,000-gallon underground storage tank. The soil sample results were satisfactory and the Westchester County Department of Health requires no further action regarding the work performed.

If you have any questions, please call me at (914) 813-5162.

Sincerely,

A handwritten signature in black ink, appearing to read "Frederick Beck, Jr.".

Frederick Beck, Jr.  
Sanitarian  
Office of Environmental Health Risk Control

Cc: Mr. Todd Ghiosav, NYSDEC  
Mr. Scott Taylor, NES, Inc.  
OEHRC File

PETROLEUM BULK STORAGE REGISTRATION  
CERTIFICATE

THIS CERTIFICATE IS NON-TRANSFERRABLE

Tank Number	Date Installed	Tank Type	Capacity (gallons)	Date Last Tested	Testing Due Date
1		Steel/Carbon Steel	500		NTR
2		Steel/Carbon Steel	1,500		NTR
3	06/1986	Steel/Carbon Steel	500		NTR
004	12/2001	Steel/Carbon Steel	2,000		NTR
5		Steel/Carbon Steel	275		NTR

Total: 4,775

145 Huguenot Street - 7th Floor (914) 637-4890  
New Rochelle, NY 10801 Page 1 of 1  
24 Hour Emergency Phone Number: (914) 637-4700

Owner:  
North Castle Leisure Enterprise  
520 Madison Ave  
New York, NY 10022

Site:  
Canyon Club Inc  
568 Bedford Road  
Armonk, NY 10504

Operator (Name and Phone #):  
Paul Gonzalez  
(914) 273-9300

Emergency Contact (Name and Phone #):  
Paul Gonzalez  
(914) 273-9300

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all Sections of the Westchester County Sanitary Code, Article XXV.

- a. The facility must be registered if there is a transfer of ownership
- a. The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank
- a. The facility must be operated in accordance with the code for storing petroleum under the Westchester County Sanitary Code Article XXV.
- a. Any new facility or substantially modified facility must comply with Article XXV of the Westchester Sanitary Code
- a. THIS CERTIFICATE MUST BE POSTED ON THE PREMISES AT ALL TIMES
- a. Fencing must be at the tank, at the entrance of the facility, on the main office, where the storage tanks are located
- a. Any person with knowledge of a spill, leak or discharge must report the incident to the Westchester County Department of Health immediately at 914-637-4700 and the New York State Department of Environmental Conservation at 1-800-457-7362.

Issued By: Joshua Lipsman, M.D., M.P.H.

Petroleum Bulk Storage Number: 3-104507

Issued: 02/09/2000 Expiration Date: 05/24/2004

Secure Valid

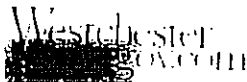
Outgoing Correspondence

Martin Badinelli  
The Canyon Club  
568 Bedford Road  
Armonk, NY 10504

Signature of Authorized Representative / Owner: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Authorized Representative / Owner (Please Print Clearly): \_\_\_\_\_

Title: \_\_\_\_\_



Westchester County Department of Health  
Petroleum Bulk Storage

WORK SUMMARY

To: Petroleum Bulk Storage Section  
Westchester County Department of Health  
115 Huguenot Street  
New Rochelle, NY 10801

FACILITY	PBS No.	3-104507		NYSDEC Spill No. (if applicable)		0107727						
	Facility	Cannon Club										
	Address	568 Bedford Rd										
	City	Armonk	State	NY	Zip							
CONTRACTOR	Company	National Environmental Specialists Inc.										
	Address	36 Broadway										
	City	Hawthorne	State	NY	Zip	10532						
	Contact	Scott Tapp	Telephone	914 791 5472								
WORK PERFORMED	Tank No.	1	Removed	<input checked="" type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	11/2/01
	Tank No.	2	Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input checked="" type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	11/01
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	
	Tank No.		Removed	<input type="checkbox"/>	Closed in Place	<input type="checkbox"/>	Installed**	<input type="checkbox"/>	Modified**	<input type="checkbox"/>	Date	

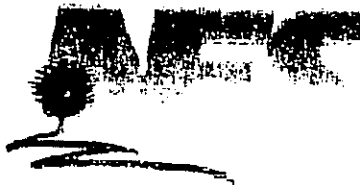
\*The tank number must be the same identification number as it appears on the current PBS Registration Certificate. Reports with incorrect identification numbers may be rejected.

\*\*Submit a Petroleum Bulk Storage Application listing new tank information.

Office of Environmental Health Policy Control  
115 Huguenot Street  
New Rochelle, NY 10801

Telephone: (914) 637-4800

westchestnycov.com/health



WESTCHESTER COUNTY  
DEPARTMENT OF HEALTH  
145 HUGENOT STREET  
7TH FLOOR  
NEW ROCHELLE, NEW YORK

Barbara McDonald  
Westchester County Department of Health  
145 Huguenot Street  
7th Floor  
New Rochelle, New York

May 3, 2002

Re: UST Removal  
The Canyon Club  
568 Bedford Road  
Armonk, New York  
NYSDEC Spill # 010722  
WCPHS # 3-104507

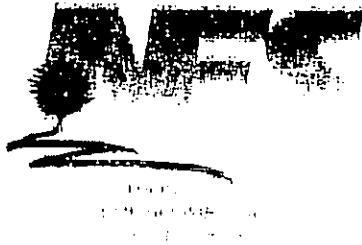
Dear Ms. McDonald:

The purpose of this letter is to summarize the underground storage tank (UST) removal activities, for the above listed site, and to provide all pertinent information required by your office.

On November 1, 2001, National Environmental Specialists, Inc. (NES) removed one 3,000-gallon UST from the above listed site. The UST was located to the left of the golf club on the southern side of the property in the parking lot area (see attached map). The UST was removed at the request of the club owner. The UST was used to store #2 fuel oil for the facility.

NES utilized a 426 CAT Backhoe to unearth the UST. All residual product and sludge was removed with a vacuum truck. NES removed 1,081 gallons of #2 fuel oil and residual sludge from the UST. All liquids removed from the UST were properly disposed of at Paradise Oil Recovery located in Ossining, NY. NES techs cut open, entered, and cleaned the UST of any remaining sludge. NES observed holes in the UST prior to removal. The UST was then removed and transported off site for proper disposal at Brookfield Auto Wreckers located in Elmford, New York.

HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
26 BROADWAY • HAWTHORNE, NY 10532 • PHONE: (914) 741-5472 • FAX: (914) 741-6310



Upon removal of the UST, NYS observed petroleum-contaminated soils in the tank grave. NYS utilized excavation and ex-situ treatment of contaminated soils to address the petroleum impacted soils. A total of 96.27 tons of petroleum-contaminated soil was removed and properly disposed of at TPS Technologies, located in New Windsor, NY (see Appendix I). No ground water was encountered during said endeavor.

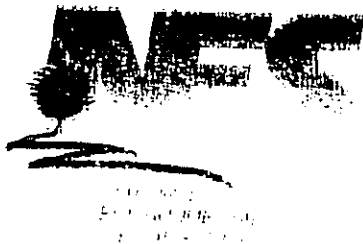
Composite soil samples were collected from each of the sidewalls and the bottom of the excavation. No water samples were collected due to the absence of ground water. Each sample was collected and placed in laboratory-cleaned glass jars, labeled, placed on ice, and shipped to York Analytical Laboratories in Stamford, Connecticut for analysis. Soil samples collected from the excavations were analyzed for volatile organic compounds (VOC's) by EPA Method 8021 and semi-volatile organic compounds (SVOC's) by EPA Method 8270. The analytical results are summarized in **Table I**. The laboratory analytical reports are included in **Appendix II**.

The summary above details the removal of one 3,000-gallon UST and associated contaminated soil from the above referenced site. During said endeavor, NYS remediated 96.27 tons of petroleum contaminated soil by means of excavation and ex-situ thermal degradation. Five post-excavation composite soil samples were collected from excavation. Analysis of post-excavation soil sample showed non detectable concentrations of target analytes in all samples collected with the exception of the north composite sample. Concentrations of target analytes were present in the soil sample collected from the north wall of the excavation; however, they did not exceed the NYSDDEC Guidance Values according to TAGM #4046.

Based on the data collected from the above referenced site and the absence of sensitive environmental receptors, NYS requests that the New York State Department of Environmental Conservation, active spill number be closed with a letter from your office stating that no further remedial actions are necessary at this site.

The Canyon Club elected to install one 2,000-gallon Convault AST to replace the form 3,000-gallon UST. Location of said tank is depicted in **Figure 1**.





This report has been prepared for the use of the WCDI and the Canyon Club, Inc. Reasonable due diligence was exercised by the staff of National Environmental Specialists, Inc. in conducting the research and investigation necessary for the development of this report. The conclusions provided by NESI in this report are based solely on the information reported in this document. Results of future subsurface investigations may result in a modification of the conclusions stated above. The conclusions presented herein are based upon the current regulatory climate and may require revision if future regulatory changes occur. This investigation and preparation of this report has been conducted in accordance with generally accepted practices. No other warranties, expressed or implied, are made.

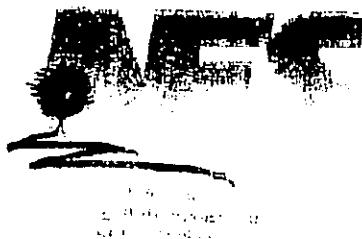
If you have any questions regarding this report, please contact Scott Taylor at (914) 741-5472

Sincerely,

Scott Taylor  
Environmental Scientist  
National Environmental Specialists, Inc.

CC: The Canyon Club

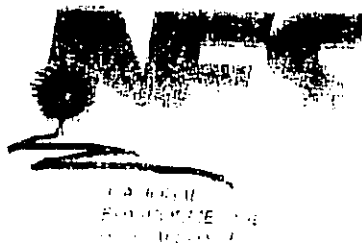
HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
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Soil Sample Summary Table 1  
Concentration Given in Parts Per Billion  
Collected October 30, 31, 2001  
Volatile

Chemical	North Comp	South Comp	East Comp	West Comp	Bottom Comp	NYSDEC TAGM
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	10,000
1,2,5-Trimethylbenzene	ND	ND	ND	ND	ND	3,300
Benzene	ND	ND	ND	ND	ND	60
Ethylbenzene	ND	ND	ND	ND	ND	5,500
Isopropylbenzene	ND	ND	ND	ND	ND	2,300
MIBK	ND	ND	ND	ND	ND	120
Naphthalene	44	ND	ND	ND	ND	13,000
n-Butylbenzene	11	ND	ND	ND	ND	10,000
n-Propylbenzene	ND	ND	ND	ND	ND	3,700
o-Xylene	ND	ND	ND	ND	ND	1,500
m-Xylenes	10	ND	ND	ND	ND	800
p-Xylenes	25	ND	ND	ND	ND	1,200
p-Isopropyltoluene	ND	ND	ND	ND	ND	10,000
sec-Butylbenzene	ND	ND	ND	ND	ND	10,000
tert-Butylbenzene	ND	ND	ND	ND	ND	10,000
Toluene	ND	ND	ND	ND	ND	1,500
Total Xylenes	ND	ND	ND	ND	ND	1,200
Note:						
All Analytes are compared to Appendix A of TAGM #4046						
1) Concentrations in Bold Exceed NYSDEC Guidance Values						
2) ND = None Detect						
3) NA = Not Analyzed						

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Soil Sample Summary Table 1						
Concentration Given in Parts Per Billion						
Collected October 30 & 31, 2001						
Semi-Volatile						
Chemical	North Comp	South Comp	East Comp	West Comp	Bottom Comp	NYSDEC TAGM
Acenaphthene	ND	ND	ND	ND	ND	50,000
Acenaphthylene	ND	ND	ND	ND	ND	41,000
Anthracene	ND	ND	ND	ND	ND	50,000
Benzo[a]anthracene	ND	ND	ND	ND	ND	224
Benzo[a]pyrene	ND	ND	ND	ND	ND	61
Benzo[b]fluoranthene	ND	ND	ND	ND	ND	61
Benzo[g,h,i]perylene	ND	ND	ND	ND	ND	50,000
Benzo[k]fluoranthene	ND	ND	ND	ND	ND	61
Chrysene	ND	ND	ND	ND	ND	400
Dibenz[a,h]anthracene	ND	ND	ND	ND	ND	14
Fluoranthene	ND	ND	ND	ND	ND	50,000
Fluorene	ND	ND	ND	ND	ND	50,000
Indeno[1,2,3-cd]pyrene	ND	ND	ND	ND	ND	3,200
Naphthalene	ND	ND	ND	ND	ND	13,000
Phenanthrene	ND	ND	ND	ND	ND	50,000
Pyrene	ND	ND	ND	ND	ND	50,000
Note:						
All Analytes are compared to Appendix A of TAGM #1046						
1) Concentrations in Bold Exceed NYSDEC Guidance Values						
2) ND = None Detect						
3) NA = Not Analyzed						

HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
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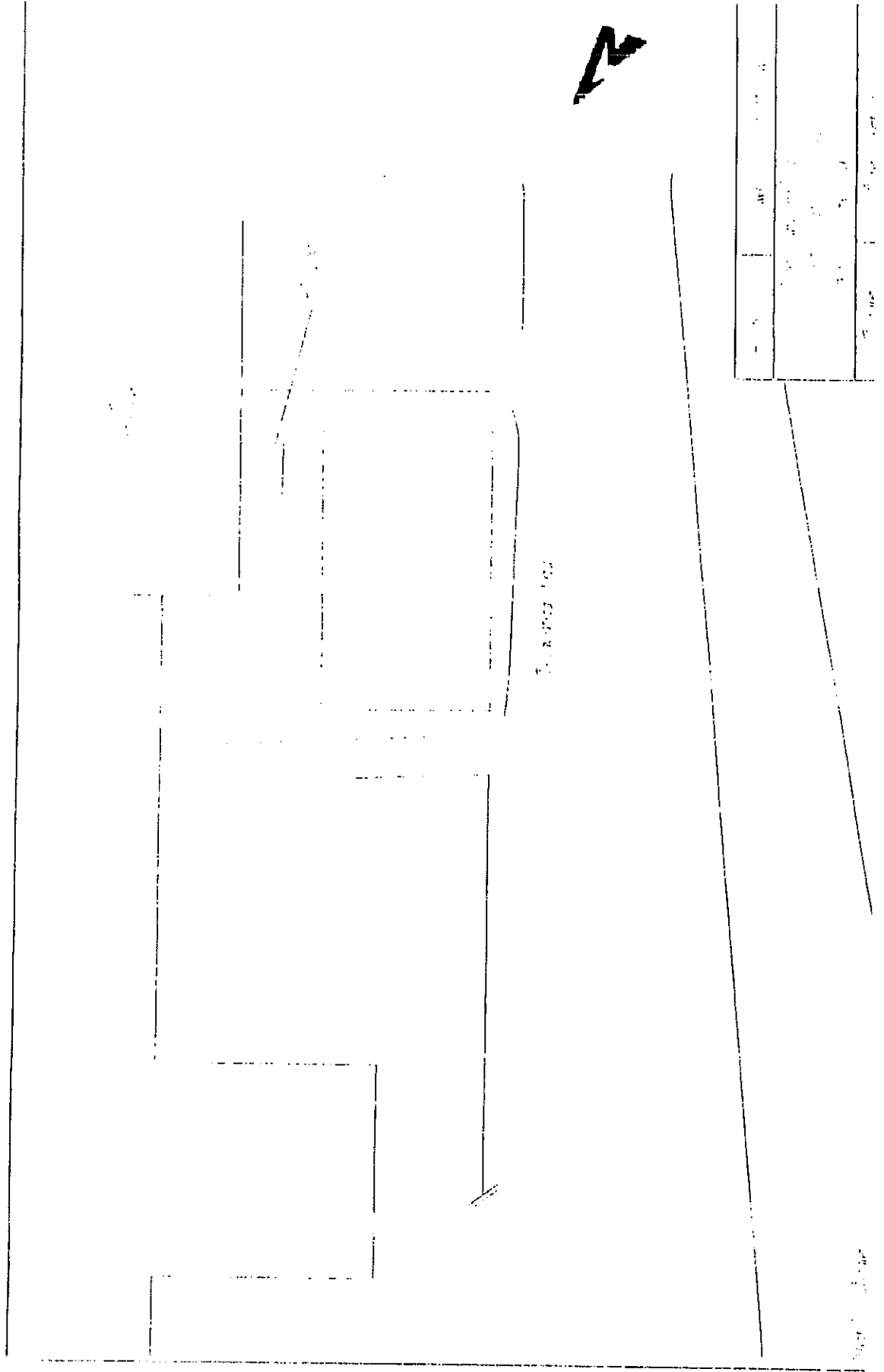


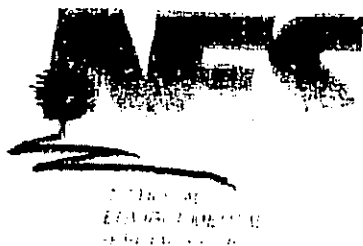
## FIGURES

HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
26 BROADWAY • HAWTHORNE, NY 10532 • PHONE: (914) 741-5472 • FAX: (914) 741-6310

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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## APPENDIX I

### Manifests

HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
26 BROADWAY • HAWTHORNE, NY 10532 • PHONE: (914) 741-5472 • FAX: (914) 741-6310

Manifest # 401 0402 004

1106 01

Contract Site Information  
Bath Castle Leizure Enterprise  
100 Bedford Road

WEIGHMASTER Weighing And  
TIS Technologies Inc.  
1106 First Road

Armed. NY 10001 USA

New Windsor, NY 12553 USA

BY REFUSE:

III 100 10:11:21am

Gross Wt: 39,580 39.64 Manual Wt

IV 100 10:19:57am

Tare Wt: 35,460 35.78 Manual Wt

Roll Number 11

NET WT: 44,100 42.86

Roller Number

Contents: Pot. Lead Contaminated Soil

Owner Of Goods: Bath Castle Enterprises

# SOIL TRACKING FORM

## TPS

TECHNOLOGIES INC.

DATE OF COMPLETION

DATE OF RECEIPT

DATE OF RECEIPT

DATE OF RECEIPT

GENERATOR'S NAME AND ADDRESS

GENERATOR'S PHONE NO.

GENERATOR'S FAX NO.

GENERATOR'S E-MAIL

GENERATOR'S E-MAIL

CONSULTANT'S NAME AND ADDRESS

CONSULTANT'S PHONE NO.

CONSULTANT'S FAX NO.

CONSULTANT'S E-MAIL

CONSULTANT'S E-MAIL

RECEIVING SITE ADDRESS AND ADDRESS

SITE PHONE NO.

SITE FAX NO.

SITE E-MAIL

RECEIVING SITE ADDRESS AND ADDRESS

RECEIVING SITE PHONE NO.

RECEIVING SITE FAX NO.

RECEIVING SITE E-MAIL

TRANSPORTER'S NAME AND ADDRESS

TRANSPORTER'S PHONE NO.

TRANSPORTER'S FAX NO.

TRANSPORTER'S E-MAIL

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### MATERIAL TESTING

NUMBER OF SAMPLES FOR TESTING

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DESCRIPTION OF DELIVERY

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ITEMS

TAKE

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ITEMS

NET

WEIGHT

ITEMS

GENERATOR'S AND/OR CONSULTANT'S CERTIFICATION: I CERTIFY THAT THE SOIL RECEIVED HEREIN IS TAKEN ENTIRELY FROM THE SOILS DESCRIBED IN THE GENERATOR'S SITE PROFILE SHEET COMPLETED AND CERTIFIED BY ME FOR THE GENERATION SITE SHOWN ABOVE AND NOTHING HAS BEEN ADDED OR REMOVED TO SUCH SOIL SINCE THE GENERATOR'S SITE PROFILE SHEET WAS COMPLETED. I FURTHER CERTIFY THAT THE INFORMATION PROVIDED ON THIS DOCUMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I AM AWARE THAT ANY FALSE STATEMENT MADE HEREIN IS PUNISHABLE AS A CLASS 4 MISDEMEANOR PURSUANT TO SECTION 210.45 OF THE PENAL LAW.

PRINT OR TYPE NAME

GENERATOR

CONSULTANT

SIGNATURE

MONTH

DATE

YEAR

TRANSPORTER'S CERTIFICATION: I ACKNOWLEDGE RECEIPT OF THE SOIL DESCRIBED ABOVE AND CERTIFY THAT SUCH SOIL IS BEING DELIVERED IN EXACTLY THE SAME CONDITION AS WHEN RECEIVED. I FURTHER CERTIFY THAT THE SOIL IS BEING DELIVERED TO THE RECEIVING SITE TO THE PROCESSING FACILITY WITHIN THE DELIVERY SCHEDULE SPECIFIED ON THE TRANSPORTER'S SITE PROFILE SHEET.

PRINT OR TYPE NAME

TRANSPORTER

SIGNATURE

MONTH

DATE

YEAR

RECEIVING SITE CERTIFICATION: I ACKNOWLEDGE RECEIPT OF THE SOIL DESCRIBED ABOVE AND CERTIFY THAT SUCH SOIL IS BEING DELIVERED IN EXACTLY THE SAME CONDITION AS WHEN RECEIVED. I FURTHER CERTIFY THAT THE SOIL IS BEING DELIVERED TO THE RECEIVING SITE TO THE PROCESSING FACILITY WITHIN THE DELIVERY SCHEDULE SPECIFIED ON THE TRANSPORTER'S SITE PROFILE SHEET.

PROCESSING FACILITY CERTIFICATION: I CERTIFY THE RECEIPT OF THE SOIL COVERED BY THIS SOIL TRACKING FORM EXCEPT AS NOTED BELOW.

PRINT OR TYPE NAME

PROCESSING FACILITY

SIGNATURE

MONTH

DATE

YEAR

PROCESSING FACILITY DISCREPANCY: ONLY SOIL DISCREPANCIES IN ABOVE INFORMATION SHOULD BE NOTED HERE.

### INSTRUCTIONS

1. GENERATOR COMPLETES ALL ITEMS IN GENERATOR AND/OR CONSULTANT BOXES, RETAINS COPY #1, AND GIVES REMAINING COPIES TO TRANSPORTER.
2. TRANSPORTER COMPLETES ALL ITEMS IN TRANSPORTER BOXES, RETAINS COPY #3, AND GIVES REMAINING COPIES TO THE PROCESSING FACILITY.
3. PROCESSING FACILITY COMPLETES ALL ITEMS IN PROCESSING FACILITY BOXES, RETAINS COPY #2, AND RETURNS COPY #4 TO THE GENERATOR WITHIN TWO (2) WEEKS.

TRANSPORTER COPY



Manifest # 811 03106 001

11/08/03

Operator Site Information  
North Castle Leasing Enterprise  
566 Bedford Road

WETGIDMASTER Watched At:  
TPS Technologies Inc.  
1106 River Road

Armonk, NY 10504 USA

New Windsor, NY 12553 USA

LF11EPPD1  
08:56:13am  
09:12:04am

	LES	PONS	
Gross Wt:	78.280	49.14	Manual Wt
Tare Wt:	34.100	17.06	Manual Wt
NET WT:	44.180	32.08	

Truck Number 11  
Trailer Number  
Commodity: Petroleum Contaminated Soil  
Driver On Gross 50.4 Tare Transported:

# TPS

2006年6月15日 星期二

TRANSPORTER COPY

Manifest # 811 7146 163

01 08 01

Generator Site Information  
North Castle Technical Enterprises  
444 Bedford Road

WEIGHMASTER Weighing All  
TES Technologies Inc.  
1176 River Road

Account: NY 1001 HCA

New We (Net) 08 1.553 1000

WEIGHTS  
1000 1000 02000:46pm

Net Wt: 75,000 10.00 Natural Wt

1000 1000 02011:05pm

Tare Wt: 74,980 10.00 Natural Wt

Scale Number 11

Net Wt: 90,000 10.41

Trailer Number

Cont. Unit: External Contaminated Soil

Driver: G. Green and Tare Transporters:

TECHNOLOGIES INC.  
2000 35TH STREET, SUITE 100  
BOSTON, MA 02116

TRANSPORTER COPY

Manifest # 511 03156 002

11-08-01

WEIGHMASTER DATA INFORMATION  
North Tustin Service Enterprise  
4500 River Road

WEIGHMASTER Weighed At:  
TFS Technologies Inc  
1106 River Road

Truck ID: 11061

02A

Raw Weights: Wt 1215:

02A

WEIGHTS:

12:24:05pm

12:33:46pm

185 TONS  
Gross Wt: 60,800 30.41 Manual Wt

Tare Wt: 44,680 17.74 Manual Wt

NET WT: 16,140 13.07

Truck Number 17

Trailer Number

Commodity: Petroleum Contaminated Soil

Truck ID: 11061 Tare Transferred:

**TPS**  
TECHNOLOGIES INC.

TECHNOLOGIES INC.

[illegible]

### INSTRUCTIONS

1. GENERATOR COMPLETES ALL ITEMS IN GENERATOR AND/OR CONSULTANT BOOKS, RETAINS COPY #1 AND GIVES REMAINING COPIES TO TRANSPORTER  
2. TRANSPORTER COMPLETES ALL ITEMS IN TRANSPORTER BOOKS, RETAINS COPY #2, AND GIVES REMAINING COPIES TO THE PROCESSING FACILITY  
3. PROCESSING FACILITY COMPLETES ALL ITEMS IN PROCESSING FACILITY BOOKS, RETAINS COPY #2, AND RETURNS COPY #1 TO THE GENERATOR WITHIN TWO (2) WEEKS

TRANSPORTER COPY

Manifest # 417 03136 104

11/24/01

Originator Site Information  
North Coast Leisure Enterprise  
448 Bedford Road

WEIGHMASTER Weighed At:  
TPE Technologies Inc.  
1106 River Road

Airport, NY 10001 USA

New Weigher, NY 12553 USA

WEIGHMASTER

10:14:39am

Gross Wt: 11,880 LBS TONS 5.4 Manual Wt:

10:24:58am

Tare Wt: 4,500 LBS TONS 2.0 Manual Wt:

Crack Number 10

NET WT: 7,380 LBS TONS 3.4

Crack Number

Crack Number Petroleum Contaminated (C)

Crack Number and Tare Transporter:

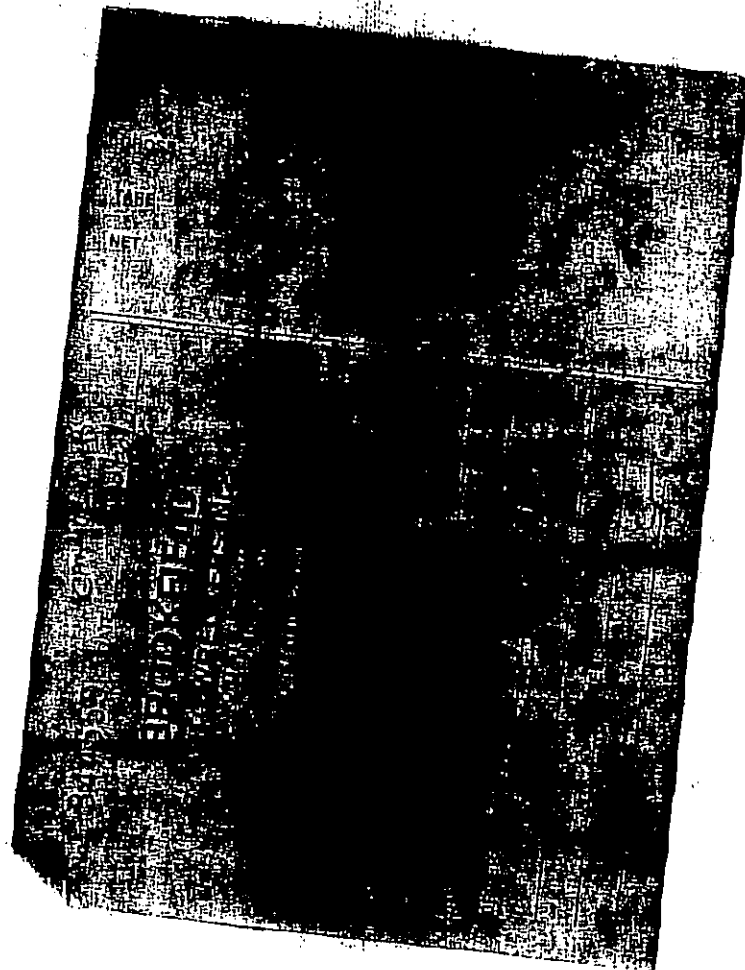
TECHNOLOGIES INC.  
1400 36-2 11-02 11

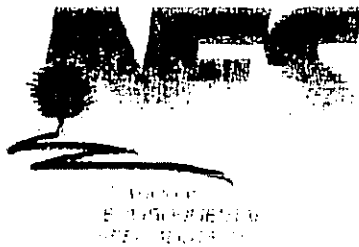
TRANSPORTED COPY



NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Rec. No.	2. Page 1 of 1
3. Generator's Name and Mailing Address <b>CANYON CLUB RT-22 ARMONIC, N.Y.</b>		DEC 3A-402		
4. Generator's Phone ( )				
5. Transporter 1 Company Name <b>National Environmental Spec.</b>		6. US EPA ID Number <b>NYD-987-004-850</b>	A. Transporter's Phone <b>914-741-5472</b>	
7. Transporter 2 Company Name		8. US EPA ID Number	B. Transporter's Phone	
9. Designated Facility Name and Site Address <b>Paradise Oil Recovery Quimby Street Ossining, NY</b>		10. US EPA ID Number <b>NY-00000-41830</b>	C. Facility's Phone <b>914-945-0528</b>	
11. Waste Shipping Name and Description		12. Containers	13. Total Quantity	14. Unit Wt/Vol
a. <b>VAC OUT 3000 gal #2 OIL</b>		No.	Type	
b. <b>TANK OF 1081 gal OF</b>		VAC	Truc. #10	
c. <b>CONTAMINATION #2 OIL + TANK</b>				
d. <b>BOTTOMS</b>				
D. Additional Descriptions for Materials Listed Above		E. Handling Codes for Wastes Listed Above <b>N-018 N-013</b>		
15. Special Handling Instructions and Additional Information  <b>NYS D.O.T. #1993</b>				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste. Printed Name: <b>John H. Kula (AGWT)</b> Signature: <i>[Signature]</i> Month: <b>10</b> Day: <b>30</b> Year: <b>01</b>				
17. Transporter 1 Acknowledgment of Receipt of Materials Printed Name: <b>John H. Kula</b> Signature: <i>[Signature]</i> Month: <b>10</b> Day: <b>30</b> Year: <b>01</b>				
18. Transporter 2 Acknowledgment of Receipt of Materials Printed/Typed Name: Signature: Month: Day: Year:				
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19. Printed/Typed Name: <b>L.H. REVELLESE</b> Signature: <i>[Signature]</i> Month: <b>10</b> Day: <b>30</b> Year: <b>01</b>				

TRANSPORTER #1





## APPENDIX II

### Laboratory Analytical Reports

HAZMAT RESPONSE TEAM • TANK REMOVAL • TERMINAL REPAIR  
26 BROADWAY • HAWTHORNE, NY 10532 • PHONE: (914) 741-5472 • FAX: (914) 741-6310

# Technical Report

prepared for

National Environmental Spec.  
26 Broadway  
Hawthorne, NY 10532  
Attention: Mr. Al Cianflone

Report Date: 11/7/2001  
*Re: Client Project ID: North Castle Leisure*  
York Project No.: 01110079

CT License No. 0110021 New York License No. 10854 Mass License No. M-C1105 Rhode Island License No. 92 ELA CP No. 010009



ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 11/1/2001  
 Client Project ID: North Castle Leisure  
 York Project No.: 01110079

National Environmental Spec.  
 26 Broadway  
 Hawthorne, NY 10532  
 Attention: Mr. Al Cianflone

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 11/02/01. The project was identified as your project "North Castle Leisure".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the NELAP acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

## Analysis Results

Client Sample ID			2211-1/North		2211-2 South	
York Sample ID			01110079-01		01110079-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles-8021 STARS soil	SW846-8260	ug/Kg	---	---	---	---
1,2,4-Trimethylbenzene			Not detected	10	Not detected	5.0
1,2,5-Trimethylbenzene			Not detected	10	Not detected	5.0
Benzene			Not detected	10	Not detected	5.0
Ethylbenzene			Not detected	10	Not detected	5.0
Isopropylbenzene			Not detected	10	Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	10	Not detected	5.0
Naphthalene			Not detected	10	Not detected	5.0
n-Butylbenzene			44	10	Not detected	5.0
n-Propylbenzene			11	10	Not detected	5.0
o-Xylene			Not detected	20	Not detected	10
p- & m-Xylenes			Not detected	20	Not detected	10
p-Isopropyltoluene			10	10	Not detected	5.0
sec-Butylbenzene			25	10	Not detected	5.0
tert-Butylbenzene			Not detected	10	Not detected	5.0
Toluene			Not detected	10	Not detected	5.0
Total Xylenes			Not detected	20	Not detected	10

**YORK**

Client Sample ID			2211-1-North		2211-2-South	
York Sample ID			01110079-01		01110079-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Polynuclear Aromatic Hydroc.(BN)	SW846-8270	ug/kg	---	---	---	---
Acenaphthene			Not detected	330	Not detected	330
Acenaphthylene			Not detected	330	Not detected	330
Anthracene			Not detected	330	Not detected	330
Benzo[a]anthracene			Not detected	330	Not detected	330
Benzo[a]pyrene			Not detected	330	Not detected	330
Benzo[b]fluoranthene			Not detected	330	Not detected	330
Benzo[g,h,i]perylene			Not detected	330	Not detected	330
Benzo[k]fluoranthene			Not detected	330	Not detected	330
Chrysene			Not detected	330	Not detected	330
Dibenz[a,h]anthracene			Not detected	330	Not detected	330
Fluoranthene			Not detected	330	Not detected	330
Fluorene			Not detected	330	Not detected	330
Indeno[1,2,3-cd]pyrene			Not detected	330	Not detected	330
Naphthalene			Not detected	330	Not detected	330
Phenanthrene			Not detected	330	Not detected	330
Pyrene			Not detected	330	Not detected	330

Client Sample ID			2211-3/East		2211-4/West	
York Sample ID			01110079-03		01110079-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles-8021 STARS soil	SW846-8260	ug/kg	---	---	---	---
1,2,4-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0	Not detected	5.0
Benzene			Not detected	5.0	Not detected	5.0
Ethylbenzene			Not detected	5.0	Not detected	5.0
Isopropylbenzene			Not detected	5.0	Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	5.0	Not detected	5.0
Naphthalene			Not detected	5.0	Not detected	5.0
n-Butylbenzene			Not detected	5.0	Not detected	5.0
n-Propylbenzene			Not detected	5.0	Not detected	5.0
m-Xylene			Not detected	10	Not detected	10
p- & m-Xylenes			Not detected	10	Not detected	10
p-Isopropyltoluene			Not detected	5.0	Not detected	5.0
sec-Butylbenzene			Not detected	5.0	Not detected	5.0
tert-Butylbenzene			Not detected	5.0	Not detected	5.0
Toluene			Not detected	5.0	Not detected	5.0
Total Xylenes			Not detected	10	Not detected	10
Polynuclear Aromatic Hydroc.(BN)	SW846-8270	ug/kg	---	---	---	---
Acenaphthene			Not detected	330	Not detected	330
Acenaphthylene			Not detected	330	Not detected	330
Anthracene			Not detected	330	Not detected	330
Benzo[a]anthracene			Not detected	330	Not detected	330
Benzo[a]pyrene			Not detected	330	Not detected	330
Benzo[b]fluoranthene			Not detected	330	Not detected	330
Benzo[g,h,i]perylene			Not detected	330	Not detected	330
Benzo[k]fluoranthene			Not detected	330	Not detected	330
Chrysene			Not detected	330	Not detected	330

**YORK**

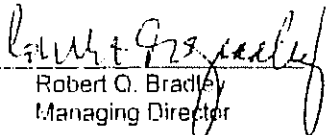
Client Sample ID			2211-3/East		2211-4/West	
York Sample ID			01110079-03		01110079-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Indenz[a,h]anthracene			Not detected	330	Not detected	330
Fluoranthene			Not detected	330	Not detected	330
Fluorene			Not detected	330	Not detected	330
Indeno[1,2,3-cd]pyrene			Not detected	330	Not detected	330
Naphthalene			Not detected	330	Not detected	330
Phenanthrene			Not detected	330	Not detected	330
Pyrene			Not detected	330	Not detected	330

Units Key: For Metals: mg/kg L - ppm; mg/L - ppb For Soils: Solids: mg/kg L - ppm; mg/kg L - ppb

#### Notes for York Project No. 01110079

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By:

  
Robert O. Bradley  
Managing Director

Date: 11-17-2011

**YORK**

ANALYTICAL LABORATORIES, INC.  
ONE REBELLE DRIVE  
STAMFORD, CT 06904  
(203) 325-1371 FAX (203) 327-0188

Field Chain-of-Custody Record

Page 1 of 1

[illegible]



# Technical Report

prepared for

**National Environmental Spec.  
26 Broadway  
Hawthorne, NY 10532  
Attention: Mr. Al Cianflone**

Report Date: 11/5/2001  
*Re: Client Project ID: North Castle #2210*  
York Project No.: 01110013

PA License No. PH-0723 New York License No. 40854 Mass License No. M-01106 Rhode Island License No. 93 EPA ID No. 100106



ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 Fax (203) 357-0166

Report Date: 11/5/2001  
 Client Project ID: North Castle #2210  
 York Project No.: 01110013

National Environmental Spec.  
 26 Broadway  
 Hawthorne, NY 10532  
 Attention: Mr. Al Cianflone

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 10/31/01. The project was identified as your project "North Castle/#2210."

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the NELAP acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as received basis unless otherwise noted, are summarized in the following table(s).

## Analysis Results

Client Sample ID			2210-1/Post-Ex-Bottom	
York Sample ID			01110013-01	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Volatiles-8021 STARS soil	SW846-8260	ug/kg	---	---
1,2,4-Trimethylbenzene			Not detected	5.0
1,2,5-Trimethylbenzene			Not detected	5.0
Benzene			Not detected	5.0
Ethylbenzene			Not detected	5.0
Isopropylbenzene			Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	5.0
Naphthalene			Not detected	5.0
n-Butylbenzene			Not detected	5.0
n-Propylbenzene			Not detected	5.0
o-Xylene			Not detected	10
p- & m-Xylenes			Not detected	10
p-Isopropyltoluene			Not detected	5.0
sec-Butylbenzene			Not detected	5.0
tert-Butylbenzene			Not detected	5.0
Toluene			Not detected	5.0
Total Xylenes			Not detected	10

**YORK**

Client Sample ID			2210-1 Post-Er-Bottom	
York Sample ID			01110013-01	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Polynuclear Aromatic Hydroc (BN)	SW846-8270	ug/kg	---	---
Acenaphthene			Not detected	330
Acenaphthylene			Not detected	330
Anthracene			Not detected	330
Benzo[a]anthracene			Not detected	330
Benzo[a]pyrene			Not detected	330
Benzo[b]fluoranthene			Not detected	330
Benzo[g,h,i]perylene			Not detected	330
Benzo[k]fluoranthene			Not detected	330
Chrysene			Not detected	330
Dibenz[a,h]anthracene			Not detected	330
Fluoranthene			Not detected	330
Fluorene			Not detected	330
Indeno[1,2,3-cd]pyrene			Not detected	330
Naphthalene			Not detected	330
Phenanthrene			Not detected	330
Pyrene			Not detected	330

Units Key: For Waters Liquids: mg/L = ppm; ug/L = ppb For Soils Solids: mg/kg = ppm; ug/kg = ppb

#### Notes for York Project No. 01110013

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By: \_\_\_\_\_

Robert O. Bradley  
Managing Director

Date: 11/5/2001

**YORK**





Andrew J. Spano  
County Executive

Department of Health  
Joshua Lipsman, MD, JD, MPH  
Commissioner

Date: August 23, 2007

Canyon Club  
568 Bedford Road  
Armonk, NY 10504

Re: Spill # 0702809

To Whom It May Concern:

This Department has reviewed the closure report dated August 20, 2007 by Dutchess Environmental regarding the removal of hydraulic oil contaminated soil on June 26, 2007 at the above location. Soil samples results are below TAGM guidelines and waste manifests have been provided. This Department requires no further action in regards to the above referenced spill.

Information regarding this spill is being forwarded to the New York State Department of Environmental Conservation (NYSDEC) for appropriate action. Please note that in order to address and resolve this open spill case: 1) This Department acts pursuant to the Westchester County Sanitary Code, 2) The NYSDEC will act pursuant to New York State Laws and regulations (Article 12 of the Navigation Law/Environmental Conservation Law and implementing regulations).

Sincerely,

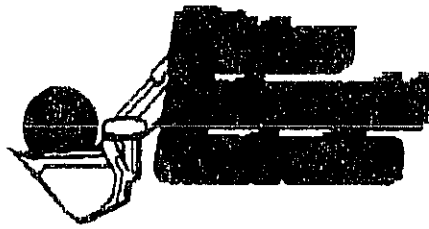
A handwritten signature in dark ink, appearing to be "WS" or "Wayne Schneider".

Wayne Schneider

Sanitarian

Office of Environmental Health Risk Control  
(914) 813-5972; [wt1@westchestergov.com](mailto:wt1@westchestergov.com)

cc: Dutchess  
NYSDEC  
file



## **Closure Report**

**Prepared for:**  
**Waste Management**

**Site:**  
**568 Bedford Road**  
**Armonk, New York 10504**  
**Spill Number: 07-02809**

**Prepared By:**  
**Dutchess Environmental Construction, Inc.**  
**936 Route 6**  
**Mahopac, New York 10541**

**Putnam County License No. PC2299-A**  
**Rockland County License No. H-09869-10-00-00**  
**Westchester County License No. WC-13721-H03**  
**NYSDEC #3A491      EPA #000047506**

**[www.DutchessEnviro.com](http://www.DutchessEnviro.com)**

**August 20, 2007**

# **TABLE OF CONTENTS**

- 1) Report Summary
- 2) Soil Disposal Ticket
- 3) Laboratory Analysis

# **Section 1**

## **Report Summary**



~~DUPLICATE~~  
936 Route 6, Mahopac, New York 10541  
Website: [www.dutchessenviro.com](http://www.dutchessenviro.com)

Email: [info@dutchessenviro.com](mailto:info@dutchessenviro.com)

Phone: 845-628-3610

NYSDEC #3A491

EPA #000047506

Fax: 845-628-3591

---

August 16, 2007

Westchester County Dept. of Health  
Attn: Fred Beck  
Office of Environmental Health Risk Control  
145 Huguenot Street, 8<sup>th</sup> Floor  
New Rochelle, New York 10801

Re: Canyon Club  
568 Bedford Rd.  
Armonk, NY 10504  
Spill #07-02809

On 6/12/07, Dutchess Environmental Construction arrived at the above location to begin the soil remediation process. A Waste Management Company vehicle broke a hydraulic line while on the above premises emptying its contents onto a blacktop parking area. A mini excavator was used to perform the excavation. Contaminated soils were stockpiled on site for future disposal. Post excavation soil samples include two 8270/8021 STARS and one waste classification soil sample. The excavated area was backfilled with 9 yards of item 4. All disturbed areas were graded and tamped.

On 6/26/07, Dutchess Environmental returned to the site to dispose of contaminated soils. 11.56 tons of contaminated soils were loaded, trucked and disposed of at Deep Green of New York in New Windsor, NY.

Please, review the enclosed documentation and advise so that the spill number may be closed as quickly as possible. Thank you.

Respectfully yours,



Keith Troccoli


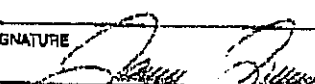

cc: Waste Management  
file

# **Section 2**

## **Soil Disposal Ticket**

## SOIL TRACKING FORM

Deep Green of New York, Inc.

DATE OF SHIPMENT		RESPONSIBLE FOR PAYMENT		PART 364 VEHICLE PLATE NO.		FACILITY NO.		JOB NO.		LOAD NO.			
6/26/07		DUTCH				B11		7292					
GENERATOR NAME AND BILLING ADDRESS						GENERATOR PHONE NO.							
565 BEDFORD ROAD ARMONK, N.Y. 10504 914-278-7384													
GENERATOR CONTACT													
GENERATOR FAX NO.						CUSTOMER ACCT. NO. WITH DEEP GREEN							
CONSULTANT NAME AND BILLING ADDRESS						CONSULTANT PHONE NO.							
NOT APPLICABLE													
CONSULTANT CONTACT													
CONSULTANT FAX NO.						CUSTOMER ACCT. NO. WITH DEEP GREEN							
GENERATION SITE (TRANSPORT FROM) NAME AND ADDRESS						SITE PHONE NO.							
NOT APPLICABLE													
SITE CONTACT													
SITE FAX NUMBER													
PCS PROCESSING FACILITY (TRANSPORT TO) NAME AND ADDRESS						FACILITY PHONE NO.		PART 360 PERMIT NO.					
DEEP GREEN OF NEW YORK, INC. 1106 RIVER ROAD NEW WINDSOR, N.Y. 12553 845-667-8776 AMY KANE													
FACILITY CONTACT													
FACILITY FAX NO.													
TRANSPORTER NAME AND ADDRESS						TRANSPORTER PHONE NO.		TRANSPORTER PART 364 PERMIT NO.					
DUTCH ENVIRONMENTAL 936 ROUTE 8 MAHOPAC, N.Y. 10541													
TRANSPORTER CONTACT								TRANSPORTER DOT NO.					
TRANSPORTER FAX NO.								CUSTOMER ACCT. NO. WITH DEEP GREEN					
MATERIAL TESTING (CHECK APPROPRIATE BOXES FOR TESTS CONDUCTED)						DESCRIPTION OF DELIVERY		GROSS WEIGHT (TONS)		TARE WEIGHT (TONS)		NET WEIGHT (TONS)	
<input type="checkbox"/> TOTAL PETROLEUM HYDROCARBONS <input type="checkbox"/> BENZENE (TOTAL) <input type="checkbox"/> LEAD (TOTAL) <input type="checkbox"/> BENZENE/TOLUENE/ETHYL BENZENE/XYLENE <input type="checkbox"/> METHYL T-BUTYL ETHER (MTBE) <input type="checkbox"/> HALOGENATED VOLATILE ORGANICS <input type="checkbox"/> HEAVY METALS (TOTAL) <input type="checkbox"/> OTHER (PLEASE LIST):						PCS		25.71		14.15		11.56	
<input type="checkbox"/> BENZENE (TCLP) <input type="checkbox"/> LEAD (TCLP) <input type="checkbox"/> HEAVY METALS (TCLP)													
GENERATOR'S AND/OR CONSULTANT'S CERTIFICATION: I CERTIFY THAT THE SOIL REFERENCED HEREIN IS TAKEN ENTIRELY FROM THOSE SOILS DESCRIBED IN THE GENERATOR WASTE PROFILE SHEET COMPLETED AND CERTIFIED BY ME FOR THE GENERATION SITE SHOWN ABOVE AND NOTHING HAS BEEN ADDED OR DONE TO SUCH SOIL THAT WOULD ALTER IT IN ANY WAY. I HEREBY AFFIRM UNDER PENALTY OF PERJURY THAT INFORMATION PROVIDED ON THIS DOCUMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT I HAVE THE AUTHORITY AS <u>General Manager</u> (TITLE) OF <u>Deep Green of New York, Inc.</u> (ENTITY) TO SIGN THIS TRACKING DOCUMENT PURSUANT TO 8 NYCRR PART 360. I AM AWARE THAT ANY FALSE STATEMENT MADE HEREIN IS PUNISHABLE AS A CLASS A MISDEMEANOR PURSUANT TO SECTION 210.45 OF THE PENAL LAW.													
PRINT OR TYPE NAME						SIGNATURE		MONTH		DATE		YEAR	
<input type="checkbox"/> GENERATOR <input checked="" type="checkbox"/> CONSULTANT								6		26		07	
TRANSPORTER'S CERTIFICATION: I ACKNOWLEDGE RECEIPT OF THE SOIL DESCRIBED ABOVE AND CERTIFY THAT SUCH SOIL IS BEING DELIVERED IN EXACTLY THE SAME CONDITION AS WHEN RECEIVED. I FURTHER CERTIFY THAT THIS SOIL IS BEING DIRECTLY TRANSPORTED FROM THE GENERATION SITE TO THE PCS PROCESSING FACILITY WITHOUT OFF-LOADING, ADDING TO, SUBTRACTING FROM OR IN ANY WAY DELAYING DELIVERY TO SUCH SITE.													
PRINT OR TYPE NAME						SIGNATURE		MONTH		DATE		YEAR	
Amy Kane								6		26		07	
TRANSPORTER DISCREPANCY BOX (ANY DISCREPANCIES IN THE TRANSPORTER NAME OR LOCATION, PCS PROCESSING NAME OR LOCATION, OR MATERIAL TESTING OR QUANTITY SHOULD BE NOTED HERE.)													
PCS PROCESSING FACILITY CERTIFIES THE RECEIPT OF THE SOIL COVERED BY THIS SOIL TRACKING FORM EXCEPT AS NOTED BELOW.													
PRINT OR TYPE NAME						SIGNATURE		MONTH		DATE		YEAR	
Amy Kane								6		26		07	
PROCESSING FACILITY DISCREPANCY BOX (ANY DISCREPANCIES IN ABOVE INFORMATION SHOULD BE NOTED HERE.)													
INSTRUCTIONS													
1. GENERATOR COMPLETES ALL ITEMS IN GENERATOR AND/OR CONSULTANT BOXES, RETAINS COPY #4, AND GIVES REMAINING COPIES TO TRANSPORTER.													
2. TRANSPORTER COMPLETES ALL ITEMS IN TRANSPORTER BOXES, RETAINS COPY #3, AND GIVES REMAINING COPIES TO THE PROCESSING FACILITY.													
3. PROCESSING FACILITY COMPLETES ALL ITEMS IN PROCESSING FACILITY BOXES, RETAINS COPY #2, AND RETURNS COPY #1 TO THE GENERATOR WITHIN TWO (2) WEEKS.													

GENERATOR/CONSULTANT COPY

# **Section 3**

## **Laboratory Analysis**

**CHAIN OF CUSTODY/REQUEST FOR ANALYSIS DOCUMENT**

CLIENT NAME/ADDRESS		CONTACT		PHONE		FAX		PROJECT ID		PROJECT LOCATION		LABORATORY ID #		MATRIX		TYPE		PRES.		SAMPLE # - LOCATION		SAMPLER SIGNATURE		DATE		TIME		SAMPLE(S) SEALED YES / NO		CORRECT CONTAINER(S) YES / NO	
Dutchless Environmental		Kenosia Ave		203-798-2229		203-798-2229		Waste Management		Canterbury Club		Armonk										Low		Mussel		6/12					
LABORATORY ID #		MATRIX		TYPE		PRES.		SAMPLE # - LOCATION																							
1		S		G				Shoreline Soils														X		X							
2		S		C				East Composite																X		X					
3		S		C				West Composite																X		X					
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
MATRIX: S=SOIL; L=LIQUID; SL=SLUDGE; A=AIR; P=PAINT CHIPS; B=BULK MATERIAL		TYPE: G=GRAB; C=COMPOSITE; SS=SPLIT SPOON PRES: ICE, HCL, H <sub>2</sub> SO <sub>4</sub> , NACH		RELINQUISHED BY (SIGNATURE)		DATE		PRINTED NAME		TURNAROUND REQUIRED:		NORMAL		STAT		BY		/		/		COMMENTS / INSTRUCTIONS		DATE		TIME		PRINTED NAME			
RELINQUISHED BY (SIGNATURE)		DATE		TIME		RELINQUISHED BY (SIGNATURE)		DATE		TIME		RECEIVED BY LAB (SIGNATURE)		DATE		TIME		PRINTED NAME		RECEIVED BY SAMPLE CUSTODIAN		DATE		TIME		PRINTED NAME					

### Dutchess Environmental: Waste Management

**Mailing Information:**

Name: Dutchess Environmental  
 Address: 936 Route 8

**Collector's Information:**

Name: Lou Muscardi  
 Address of site: Canyon Club

**JMS ID:** 067580

City: Mahopac

State: NY

Phone: (845) 828-3610

Zip: 10641

Fax: (845) 628-3591

City: Armonk

State: NY

Phone:

Zip:

**Sample's Information:**

Sample ID: 1

Site: stockpiled soils

Date Collected: 6/12/2007

Date Received: 6/14/2007

Preservative:

Time Collected:

Time Received: 12:00:00 PM

Temperature:

Lab No.: J0708316

Matrix: Soil

**Date Analyzed**
**Test Name**
**Result**
**MCL**
**Method**

06/16/07

Total TPH

2010 ppm

N/A

418.1

06/15/07

Benzene

<5 ppb

8280

06/20/07

Pb

15.3 ppm

EPA 7420

MCL = Maximum Contaminant Level

N/A = Not Applicable

ppb = parts per billion

ppm = parts per million

Signature:

*Michael Lapman*  
 Michael Lapman  
 President

Reviewed By:

*Sharon Houlahan*  
 Sharon Houlahan, Director

State #: PH-0218 ELAP #: 11715

CONNECTICUT, NEW YORK AND NJLAC CERTIFIED

Toll Free 888-JMS-6367 | Corporate Fax 203-798-2408 | Lab Fax 203-798-2107 | [www.jmseenvironmental.com](http://www.jmseenvironmental.com)

## Dutchess Environmental; Waste Management

**Mailing Information:**

Name: Dutchess Environmental

Address: 936 Route 6

City: Mahopac

State: NY

Phone: (845) 628-3810

Zip: 10541

Fax: (845) 628-3891

**Collector's Information:**

JMS ID: 057551

Name: Lou Muscenti

Address of site: Canyon Club

City: Armonk

State: NY

Phone:

Zip:

**Sample's Information:**

Sample ID: 2

Site: east composite

Date Collected: 6/12/2007

Date Received: 6/14/2007

Preservative:

Time Collected:

Time Received: 12:00:00 PM

Temperature:

Lab No.: J0706317

Matrix: Soil

Date Analyzed	Test Name	Result	Method
06/15/07	1,2,4-Trimethylbenzene	<5 ppb	8260
06/15/07	1,3,5-Trimethylbenzene	<5 ppb	8260
06/15/07	Benzene	<5 ppb	8260
06/15/07	Ethylbenzene	<5 ppb	8260
06/15/07	Isopropylbenzene	<5 ppb	8260
06/15/07	m&p xylene	<5 ppb	8260
06/15/07	MTBE	<5 ppb	8260
06/15/07	Naphthalene	<5 ppb	8260
06/15/07	n-Butylbenzene	<5 ppb	8260
06/15/07	n-Propylbenzene	<5 ppb	8260
06/15/07	o-Xylene	<5 ppb	8260
06/15/07	p-Isopropyltoluene	<5 ppb	8260
06/15/07	sec-Butylbenzene	<5 ppb	8260
06/15/07	tert-Butylbenzene	<5 ppb	8260
06/15/07	Toluene	<5 ppb	8260
06/15/07	Total Xylenes	<5 ppb	8260
06/18/07	Naphthalene	<330 ppb	EPA 8270
06/18/07	Acenaphthene	<330 ppb	EPA 8270
06/18/07	Acenaphthylene	<330 ppb	EPA 8270
06/18/07	Fluorene	<330 ppb	EPA 8270
06/18/07	Phenanthrene	480 ppb	EPA 8270
06/18/07	Anthracene	<330 ppb	EPA 8270
06/18/07	Fluoranthene	<330 ppb	EPA 8270
06/18/07	Benzo(a)anthracene	<330 ppb	EPA 8270
06/18/07	Chrysene	<330 ppb	EPA 8270
06/18/07	Pyrene	<330 ppb	EPA 8270
06/18/07	Indeno(1,2,3-cd)pyrene	<330 ppb	EPA 8270
06/18/07	Benzo(b)fluoranthene	<330 ppb	EPA 8270
06/18/07	Benzo(k)fluoranthene	<330 ppb	EPA 8270
06/18/07	Benzo(g,h,i)perylene	<330 ppb	EPA 8270
06/18/07	Benzo(a)pyrene	<330 ppb	EPA 8270

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**JMS Environmental Services, Inc.**  
WATER, SOIL AND AIR ANALYSIS  
41 Kenosia Avenue  
Danbury, Connecticut 06810 | Telephone 203-798-2020

### Dutchess Environmental: Waste Management

**Mailing Information:**

Name: Dutchess Environmental  
Address: 936 Route 6

**Collector's Information:**

Name: Lou Muscanti  
Address of site: Canyon Club

JMS ID: 057581

City: Mahopac

State: NY

Phone: (845) 828-3810

Zip: 10541

Fax: (845) 628-3891

City: Armonk

State: NY

Phone:

Zip:

**Sample's Information:**

Sample ID: 2

Site: east composite

Date Collected: 6/12/2007

Date Received: 8/14/2007

Preservative:

Time Collected:

Time Received: 12:00:00 PM

Temperature:

Lab No.: J0706317

Matrix: Soil

Date Analyzed  
08/18/07

Test Name  
Dibenz(a,h)anthracene

Result  
<330 ppb

Method  
EPA 8270

ppb = parts per billion

Signature:

*Michael Lapman*  
Michael Lapman  
President

Reviewed By:

*Sharon Houlahan*  
Sharon Houlahan, Director

State #: PH-0218 ELAP #: 11715

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### Dutchess Environmental: Waste Management

**Mailing Information:**
**Name:** Dutchess Environmental

**Address:** 938 Route 6

**Collector's Information:**
**Name:** Lou Muscenti

**Address of site:** Canyon Club

**JMS ID:** 057582

**City:** Mahopac

**State:** NY

**Zip:** 10841

**Phone:** (845) 828-3810

**Fax:** (845) 628-3591

**City:** Armonk

**State:** NY

**Zip:**
**Phone:**
**Sample's Information:**
**Sample ID:** 3

**Site:** west composite

**Date Collected:** 6/12/2007

**Date Received:** 6/14/2007

**Preservative:**
**Time Collected:**
**Time Received:** 12:00:00 PM

**Temperature:**
**Lab No.:** j0709318

**Matrix:** Soil

Date Analyzed	Test Name	Result	Method
06/15/07	1,2,4-Trimethylbenzene	<5 ppb	8280
06/16/07	1,3,5-Trimethylbenzene	<5 ppb	8280
06/15/07	Benzene	<5 ppb	8280
06/16/07	Ethylbenzene	<5 ppb	8280
06/15/07	Isopropylbenzene	<5 ppb	8280
06/16/07	m&p xylene	<5 ppb	8280
06/15/07	MTBE	<5 ppb	8280
06/15/07	Naphthalene	<5 ppb	8280
06/16/07	n-Butylbenzene	<5 ppb	8280
06/15/07	n-Propylbenzene	<5 ppb	8280
06/16/07	o-Xylene	<5 ppb	8280
06/15/07	p-Isopropyltoluene	<5 ppb	8280
06/16/07	sec-Butylbenzene	<5 ppb	8280
06/15/07	tert-Butylbenzene	<5 ppb	8280
06/16/07	Toluene	<5 ppb	8280
06/15/07	Total Xylenes	<5 ppb	8280
06/16/07	Naphthalene	<330 ppb	EPA 8270
06/16/07	Acenaphthene	<330 ppb	EPA 8270
06/16/07	Acenaphthylene	<330 ppb	EPA 8270
06/16/07	Fluorene	<330 ppb	EPA 8270
06/16/07	Phenanthrene	<330 ppb	EPA 8270
06/16/07	Anthracene	<330 ppb	EPA 8270
06/16/07	Fluoranthene	<330 ppb	EPA 8270
06/16/07	Benzo(a)anthracene	<330 ppb	EPA 8270
06/16/07	Chrysene	<330 ppb	EPA 8270
06/16/07	Pyrene	<330 ppb	EPA 8270
06/16/07	Indeno(1,2,3-cd)pyrene	<330 ppb	EPA 8270
06/16/07	Benzo(b)fluoranthene	<330 ppb	EPA 8270
06/16/07	Benzo(k)fluoranthene	<330 ppb	EPA 8270
06/16/07	Benzo(g,h,i)perylene	<330 ppb	EPA 8270
06/16/07	Benzo(a)pyrene	<330 ppb	EPA 8270

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41 Kenosia Avenue  
Danbury, Connecticut 06810 | Telephone 203-798-2220

Page 2 of 2

### Dutchess Environmental: Waste Management

**Mailing Information:**
**Name:** Dutchess Environmental

**Address:** 936 Route 6

**City:** Mahopac

**State:** NY

**Phone:** (845) 828-3510

**Zip:** 10541

**Fax:** (845) 828-3591

**Collector's Information:**
**JMS ID:** 057582

**Name:** Lou Muscenti

**Address of site:** Canyon Club

**City:** Armonk

**State:** NY

**Phone:**
**Zip:**
**Sample's Information:**
**Sample ID:** 3

**Site:** west composite

**Date Collected:** 8/12/2007

**Date Received:** 8/14/2007

**Preservative:**
**Time Collected:**
**Time Received:** 12:00:00 PM

**Temperature:**
**Lab No.:** J0708318

**Matrix:** Soil

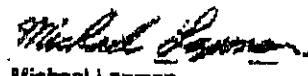
**Date Analyzed**  
08/18/07

**Test Name**  
Dibenz(a,h)anthracene

**Result**  
<330 ppb

**Method**  
EPA 8270

ppb = parts per billion

**Signature:**


Michael Lapman  
President

**Reviewed By:**


Sharon Houlahan, Director

**State #:** PH-0218 **ELAP #:** 11715

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TOTAL P.21

TOWN OF NORTH CASTLE  
WETLANDS AND DRAINAGE LAW

APPLICATION AND PERMIT

Date: March 13,

Fee: \_\_\_\_\_

1. Name and address of Applicant: North Castle Leisure Enterprises  
Mitsubishi International Corp.  
520 Madison Ave, N.Y., Zip 10022  
(Phone) (212)-605-2454  
Owner (if different): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Zip \_\_\_\_\_  
(Phone) \_\_\_\_\_
2. Street Address of Property: Canyon Country Club 568 Bedford Rd., Armonk, N.Y. 10  
Tax Map Designation: Section 2 Block A Lot(s) 7C1A
3. Description of proposed work and materials, plans and specifications annexed hereto. State name and occupation of preparor:  
Construction of a new Wastewater Treatment Plant with surface water discharge  
to replace a failing subsurface disposal system which serves Canyon Country  
Club. Plans for the proposed project have been furnished with this applicat  
\_\_\_\_\_  
\_\_\_\_\_
4. Impact Statement (if required) prepared by: Short Environmental Assessment Form  
As prepared By: Daniel F. Wheeler, P.E.  
D.F. Wheeler Engineers, P.C.

DATED: March 13, 1990

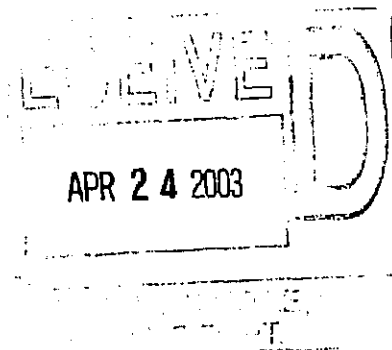
APPLICANT'S SIGNATURE [Signature]



Andrew J. Spano  
County Executive

Department of Health

Joshua Lipsman, M.D., M.P.H.  
Commissioner



April 8, 2003

North Castle Leisure Enterprises, Inc.  
c/o Canyon Club, Inc.  
568 Bedford Road  
Armonk, NY 10504  
Attn: Osamu Yada

Re: Canyon Club  
Sewage Treatment Facility  
Certificates to Operate Pollution  
Discharges

Dear Mr. Yada:

Forwarded herewith, please find your Certificate for the operation of a pollution discharge located at the above premises, issued by the Westchester County Department of Health pursuant to Chapter 873, Article XXII, Section 873.2204.1 of the Laws of Westchester County. You will note that the approval is valid from February 1, 2003 to January 31, 2004.

Please be advised that the applicant is responsible for the proper maintenance and operation of the above-referenced installation in such a manner that it will not exceed the effluent limits of your certificate or contravene the applicable provisions of the State and County Regulations.

I remain,

Michael J. Sakala, P.E.  
Assistant Commissioner  
Bureau of Environmental Quality

MJS:kf  
Encl.

cc: [Redacted]  
Leo Gustafson, North Castle Bldg. Dept.  
File





## **APPENDIX E**

### ***Regulatory Review Database Report***

# ***FirstSearch Technology Corporation***

## **Environmental FirstSearch™ Report**

Target Property:

**568 BEDFORD ROAD**

**ARMONK NY 10504**

Job Number: JA08039.10

### **PREPARED FOR:**

Ecosystems Strategies, Inc.

24 Davis Avenue

Poughkeepsie, NY 12603

03-11-08



*Tel: (781) 551-0470*

*Fax: (781) 551-0471*

# *Environmental FirstSearch*

## *Search Summary Report*

**Target Site:** 568 BEDFORD ROAD  
ARMONK NY 10504

### FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	02-08-08	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	02-08-08	0.50	0	0	0	0	-	0	0
CERCLIS	Y	02-08-08	0.50	0	0	0	0	-	0	0
NFRAP	Y	02-08-08	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	06-06-06	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	06-06-06	1.00	0	0	0	0	0	0	0
RCRA GEN	Y	06-06-06	0.12	0	0	-	-	-	0	0
RCRA NLR	Y	06-06-06	0.12	0	0	-	-	-	0	0
Federal IC / EC	Y	02-08-08	0.50	0	0	0	0	-	0	0
ERNS	Y	12-31-07	0.12	0	0	-	-	-	0	0
Tribal Lands	Y	12-01-05	0.50	0	0	0	0	-	0	0
State/Tribal Sites	Y	12-06-08	1.00	0	0	0	0	0	0	0
State Spills 90	Y	08-13-07	0.50	3	2	0	2	-	0	7
State Spills 80	Y	10-18-00	0.50	0	0	0	0	-	0	0
State/Tribal SWL	Y	05-03-06	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	10-01-07	0.50	2	2	7	16	-	0	27
State/Tribal UST/AST	Y	12-06-07	0.12	2	2	-	-	-	0	4
State/Tribal EC	Y	12-06-07	0.50	0	0	0	0	-	0	0
State/Tribal IC	Y	12-06-07	0.50	0	0	0	0	-	0	0
State/Tribal VCP	Y	09-12-07	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	12-06-07	0.50	0	0	0	0	-	0	0
NPDES	Y	07-21-07	0.12	0	0	-	-	-	0	0
State Permits	Y	04-01-06	0.50	1	0	0	0	-	0	1
State Other	Y	10-02-07	0.50	0	0	0	0	-	0	0
- TOTALS -				8	6	7	18	0	0	39

### Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch  
Site Information Report***

**Request Date:** 03-11-08  
**Requestor Name:** Brian Brannick  
**Standard:** AAI

**Search Type:** AREA  
0.17 sq mile(s)  
**Job Number:** JA08039.10  
**Filtered Report**

**Target Site:** 568 BEDFORD ROAD  
ARMONK NY 10504

***Demographics***

<b>Sites:</b> 39	<b>Non-Geocoded:</b> 0	<b>Population:</b> NA
<b>Radon:</b> OF THE 41 HOMES TESTED, THE AVG. PCI/L LEVEL WAS 3.8		

***Site Location***

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
<b>Longitude:</b>	-73.688952	-73:41:20	<b>Easting:</b>	610015.999
<b>Latitude:</b>	41.149445	41:8:58	<b>Northing:</b>	4555963.264
			<b>Zone:</b>	18

***Comment***

**Comment:**

***Additional Requests/Services***

**Adjacent ZIP Codes:** 0 Mile(s)

**Services:**

ZIP		ST	Dist/Dir	Sel
Code	City Name			

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	



# Environmental FirstSearch

## Sites Summary Report

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**TOTAL:** 39      **GEOCODED:** 39      **NON GEOCODED:** 0      **SELECTED:** 39

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
6	LUST	0107727/CLOSED	568 BEDFORD RD ARMONK NY 10504	0.00 --	1
6	LUST	CANYON COUNTRY CLUB 9611455/CLOSED	RT 22 ARMONK NY 10504	0.00 --	2
6	PERMITS	CANYON COUNTRY CLUB 3-0069299/NSIGPCI	NORTH CASTLE NY 10504	0.00 --	3
6	SPILLS	CANYON CLUB 9606282/CLOSED	BEDFORD STATE RD ARMONK NY 10504	0.00 --	4
6	SPILLS	CANYON CLUB 0702809/CLOSED	568 BEDFORD ROAD ARMONK NY 10504	0.00 --	5
6	SPILLS	CANYON CLUB 0212521/CLOSED	BEDFORD STATE ROAD NORTH CASTLE NY 10504	0.00 --	6
6	UST	CANYON CLUB INC PBS3-104507/ACTIVE PBS FACILITY	568 BEDFORD ROAD ARMONK NY 10504	0.00 --	7
6	UST	CANYON CLUB, INC. W3-104507/ACTIVE PBS	568 BEDFORD ROAD NORTH CASTLE NY 10504	0.00 --	10
4	LUST	PRIVATE HOME 0705481/ACTIVE	15 EVERGREEN ROW ARMONK NY 10504	0.06 NE	11
4	SPILLS	BERMAN RESIDENCE 0705481/CLOSED	15 EVERGREEN ROW ARMONK NY 10504	0.06 NE	12
5	SPILLS	CAMANHILL SCHOOL 9406564/CLOSED	558 BEDFORD ROAD ARMONK NY 10504	0.08 SE	13
5	UST	BRYAN HILLS CENTRAL SCHOOLS PBS3-600469/ACTIVE PBS FACILITY	558 BEDFORD RD ARMONK NY 10504	0.08 SE	14
5	UST	BRYAM HILLS CENTRAL SCHOOLS - COMA W3-600469/ACTIVE PBS	558 BEDFORD RD ARMONK NY 10504	0.08 SE	16
13	LUST	MILLER 9905015/CLOSED	23 EVERGREEN ROW ARMONK NY 10504	0.12 NE	17
11	LUST	KAHN HOME 0602582/CLOSED	25 EVERGREEN ROW ARMONK NY 10504	0.14 NE	18
9	LUST	GUSSACK RESIDENCE 9308959/CLOSED	11 UPTON LANE ARMONK NY 10504	0.18 NE	19
22	LUST	0004722/CLOSED	12 HARD SCRABBLE CIR ARMONK NY 10504	0.19 NE	20
17	LUST	RESIDENCE 0413161/CLOSED	6 HARDCRABBLE CIRCLE ARMONK NY 10504	0.20 NE	21
23	LUST	0207363/CLOSED	10 HARD SCRABBLE CIRCLE ARMONK NY 10504	0.20 NE	22
27	LUST	9912486/CLOSED	5 EVAN PL ARMONK NY 10504	0.23 NW	23
12	LUST	MICKENBERG HOME 0703200/ACTIVE	7 EVANS PLACE ARMONK NY 10504	0.25 NW	24

# Environmental FirstSearch

## Sites Summary Report

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**TOTAL:** 39      **GEOCODED:** 39      **NON GEOCODED:** 0      **SELECTED:** 39

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
15	LUST	RES 9901606/CLOSED	6 COLONIAL CT ARMONK NY 10504	0.26 SE	25
21	LUST	SOFAIR RESIDENCE 0604715/CLOSED	34 NORTH LAKE ROAD ARMONK NY 10504	0.27 NE	26
16	LUST	RESI: GRUBIAK 0101696/CLOSED	16-18 UPLAND LN ARMONK NY 10504	0.28 NE	27
8	LUST	GOLDFARB RESIDENCE 0402295/CLOSED	33 BYRAM HILL RD ARMONK NY 10504	0.29 NW	28
7	LUST	FRISHMAN HOME 0501848/CLOSED	13 NORTH LAKE ROAD ARMONK NY 10504	0.30 NE	29
26	LUST	0200194/CLOSED	4 COLONIAL CT ARMONK NY 10504	0.30 SE	30
20	LUST	ROSENBERG RESIDENCE 0501251/CLOSED	3 SPRUCE HOLLOW ROAD ARMONK NY 10504	0.31 SE	31
18	LUST	RESIDENCE 0406088/CLOSED	4 SPRUCE HOLLOW ROAD ARMONK NY 10504	0.32 SE	32
1	LUST	18 0008594/CLOSED	WINDMILL RD ARMONK NY 10504	0.33 SE	33
24	LUST	9605108/CLOSED	405 BEDFORD RD NORTH CASTLE NY 10504	0.37 SE	34
19	LUST	RESIDENCE 9800027/CLOSED	43 BYRAM LAKE ROAD ARMONK NY 10504	0.38 SW	35
3	LUST	403 BEDFORD ROAD 9614034/CLOSED	403 BEDFORD ROAD ARMONK NY 10504	0.39 SE	36
25	LUST	9900015/CLOSED	5 LYONS CT ARMONK NY 10504	0.40 NE	37
14	SPILLS	PRIVATE DWELLING 0704302/ACTIVE	10 LYONS COURT ARMONK NY 10504	0.42 NE	38
10	SPILLS	JACOBS RESIDENCE 0407032/ACTIVE	37 WINDMILL ROAD ARMONK NY 10504	0.48 SE	39
2	LUST	22 SNIFFEN ROAD 9704998/CLOSED	RESIDENTS ARMONK NY 10504	0.50 SE	40
2	LUST	22 SNIFFEN ROAD 9704999/CLOSED	RESIDENTS ARMONK NY 10504	0.50 SE	41
2	LUST	MELTER RESIDENCE 0303997/CLOSED	22 SNIFFEN RD ARMONK NY 10504	0.50 SE	42

**JOB:** JA08039.10

**JOB:** JA08039.10

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

PERMITS SITE

<b>SEARCH ID:</b> 8	<b>DIST/DIR:</b> 0.00 --	<b>MAP ID:</b> 6
---------------------	--------------------------	------------------

<b>NAME:</b> CANYON COUNTRY CLUB <b>ADDRESS:</b> NORTH CASTLE NY 10504 WESTCHESTER <b>CONTACT:</b> KAZUAKI HIKIDA	<b>REV:</b> <b>ID1:</b> 3-0069299 <b>ID2:</b> 03 <b>STATUS:</b> NSIGPCI <b>PHONE:</b>
--	---

<b>SOURCE:</b>	<b>CLASS:</b> NSIGPCI
<b>REC WATER:</b> BYRAM RIVER TRIB	<b>DES FLOW:</b> 0.017 MG/D

<b>MAIL CONTACT:</b> <b>COMPANY:</b> NORTH CASTLE LEIS ENT C/O MITS <b>ADDRESS:</b> 520 MADISON AVE 23RD FLOOR NEW YORK <b>CITY:</b> NY	<b>TELEPHONE:</b> <b>ISSUE DATE:</b> <b>EXPIRE DATE:</b>
---	--

<b>NOV:</b>	<b>ACTION NO:</b>	<b>REV DATE:</b>
<b>TYPE:</b> SURFACE	<b>ISS:</b>	<b>TYPE:</b> UNKNOWN
<b>TYPE:</b>	<b>ISS:</b>	<b>ISS:</b>
<b>ISS:</b>		

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 3                      **DIST/DIR:** 0.00 --                      **MAP ID:** 6

<b>NAME:</b> CANYON CLUB	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> BEDFORD STATE RD	<b>ID1:</b> 9606282
ARMONK NY	<b>ID2:</b> 194390
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 8/15/1996	<b>DATE REPORTED:</b> 8/15/1996
<b>CLOSED DATE:</b> 8/15/1996	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> TRANSFORMER OIL	<b>AMOUNT SPILLED:</b> 1 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 1 G

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

<b>CAUSE OF SPILL:</b>	EQUIPMENT FAILURE
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	COMMERCIAL/INDUSTRIAL
<b>REPORTED BY:</b>	RESPONSIBLE PARTY

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	tdghiosa
<b>SPILL CONTACT:</b>	
<b>TELEPHONE:</b>	

<b>SPILLER:</b>	CON ED
	JOE DEVOTI
<b>ADDRESS:</b>	4 IRVING PLACE
	MANHATTAN, NY 10003

<b>TELEPHONE:</b>	(212) 580-6763
-------------------	----------------

<b>REPORTED BY:</b>	RESPONSIBLE PARTY
---------------------	-------------------

<b>LAST DEC UPDATE:</b>	9/17/1996
<b>CLEAN UP MEET STANDARDS?</b>	YES
<b>PENALTY RECOMMENDED?</b>	NO

<b>CALLER REMARKS:</b>	START CALLERREMARK - 9606282 BUSHING LEAK ON TRANSFORMER END CALLERREMARK
- 9606282	

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 4                      **DIST/DIR:** 0.00 --                      **MAP ID:** 6

<b>NAME:</b> CANYON CLUB	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 568 BEDFORD ROAD	<b>ID1:</b> 0702809
ARMONK NY	<b>ID2:</b> 382605
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 6/7/2007	<b>DATE REPORTED:</b> 6/7/2007
<b>CLOSED DATE:</b> 6/11/2007	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> HYDRAULIC OIL	<b>AMOUNT SPILLED:</b> 30 G
<b>MATERIAL CLASS:</b> OTHER	<b>AMOUNT RECOVERED:</b> 0 G

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

<b>CAUSE OF SPILL:</b>	TRAFFIC ACCIDENT
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	COMMERCIAL VEHICLE
<b>REPORTED BY:</b>	OTHER

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	jbodee
<b>SPILL CONTACT:</b>	JAY KAPLAN
<b>TELEPHONE:</b>	(718) 533-5310

<b>SPILLER:</b>	WASTE MANAGMENT TRUCK
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<b>ADDRESS:</b>	, ZZ
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**TELEPHONE:**

<b>REPORTED BY:</b>	OTHER
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<b>LAST DEC UPDATE:</b>	6/11/2007
<b>CLEAN UP MEET STANDARDS?</b>	YES
<b>PENALTY RECOMMENDED?</b>	NO

**CALLER REMARKS:** START CALLERREMARK - 0702809 TRUCK STRUCK AN STATIONARY OBJECT AND CAUSED SPILL AND IS ALL CONTAINED AND IN PROCESS OF CLEANING UP END CALLERREMARK - 0702809

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 5                      **DIST/DIR:** 0.00 --                      **MAP ID:** 6

<b>NAME:</b> CANYON CLUB	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> BEDFORD STATE ROAD	<b>ID1:</b> 0212521
NORTH CASTLE NY	<b>ID2:</b> 62211
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 3/19/2003	<b>DATE REPORTED:</b> 3/19/2003
<b>CLOSED DATE:</b> 3/19/2003	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> DIELECTRIC FLUID	<b>AMOUNT SPILLED:</b> 5 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

<b>CAUSE OF SPILL:</b>	EQUIPMENT FAILURE
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	INSTITUTIONAL, EDUCATIONAL, GOV., OTHER
<b>REPORTED BY:</b>	RESPONSIBLE PARTY

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	jbodee
<b>SPILL CONTACT:</b>	TOM MARCINEK
<b>TELEPHONE:</b>	(212) 580-6763

<b>SPILLER:</b>	CON ED
	CALLER
<b>ADDRESS:</b>	128 WESTEND AVE
	MANHATTAN, NY 10003-

<b>TELEPHONE:</b>	(212) 580-6763
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<b>REPORTED BY:</b>	RESPONSIBLE PARTY
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<b>LAST DEC UPDATE:</b>	4/10/2003
<b>CLEAN UP MEET STANDARDS?</b>	YES
<b>PENALTY RECOMMENDED?</b>	NO

**CALLER REMARKS:** START CALLERREMARK - 0212521 LEAK FROM A BUSHING ON A PAD MOUNT  
TRANSFORMER - SPILL TO BLUESTONE AND PADS HAVE BEEN PLACED - CON ED 147598 END CALLERREMARK - 0212521



***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 11                      **DIST/DIR:** 0.00 --                      **MAP ID:** 6

<b>NAME:</b> CANYON CLUB INC <b>ADDRESS:</b> 568 BEDFORD ROAD ARMONK NY 10504 WESTCHESTER <b>CONTACT:</b> CANYON CLUB INC	<b>REV:</b> 01/01/99 <b>ID1:</b> PBS3-104507 <b>ID2:</b> <b>STATUS:</b> ACTIVE PBS FACILITY <b>PHONE:</b> (914) 273-9300
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**PETROLEUM BULK STORAGE FACILITY INFORMATION**

<b>TYPE OF SITE:</b>	OTHER		
<b>TOTAL ACTIVE TANKS ON SITE:</b>	5		
<b>TOTAL FACILITY CAPACITY:</b>	5550 GALLONS		
<b>OLD PBS NUMBER:</b>		<b>CBS NUMBER:</b>	<b>SPDES NUMBER:</b>
<b>ADDITIONAL ADDRESS INFO:</b>			
<b>TYPE OF OWNER:</b>			
<b>OWNER SUB TYPE:</b>			
<b>OWNER ADDRESS:</b>	520 MADISON AVE MANHATTAN NY 10022		
<b>PHONE:</b>	(212) 605-2316		
<b>EMERGENCY CONTACT:</b>	MR VINCENT R CARILLI GEN MGR		
<b>PHONE:</b>	(914) 946-3539		
<b>MAILING NAME:</b>	NORTH CASTLE LEISURE ENTERPRIS		
<b>ADDRESS:</b>	520 MADISON AVE MANHATTAN NY 10022		
<b>ATTENTION:</b>			
<b>PHONE:</b>	(212) 605-2316		
<b>CERTIFICATE DATE:</b>	3/31/92	<b>EXP. DATE:</b>	3/24/97
<b>RENEWAL DATE:</b>	12/4/96		

**TANK INFORMATION**

<b>TANK NUMBER:</b>	1	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	00/00	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	1000 GALLONS		
<b>PRODUCT:</b>	LEADED GASOLINE		
<b>TANK TYPE:</b>	STEEL/CARBON STEEL		
<b>TANK LOCATION:</b>	UNDERGROUND		
<b>INTERNAL PROTECTION:</b>			
<b>EXTERNAL PROTECTION:</b>			
<b>PIPE TYPE:</b>	GALVANIZED STEEL		
<b>PIPE LOCATION:</b>			
<b>INTERNAL PROTECTION:</b>			
<b>EXTERNAL PROTECTION:</b>			
<b>SECONDARY CONTAINMENT:</b>	NONE		
<b>LEAK DETECTION:</b>	NONE		
<b>OVERFILL PROTECTION:</b>			
<b>DISPENSER:</b>	SUCTION		
<b>DATE TESTED:</b>			
<b>NEXT TEST:</b>	NO TEST REQUIRED		
<b>TEST METHOD:</b>			

- Continued on next page -

# *Environmental FirstSearch*

## *Site Detail Report*

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

## REGISTERED UNDERGROUND STORAGE TANKS

**SEARCH ID:** 11

**DIST/DIR:** 0.00 --

MAP ID: 6

**NAME:** CANYON CLUB INC  
**ADDRESS:** 568 BEDFORD ROAD  
ARMONK NY 10504  
WESTCHESTER  
**CONTACT:** CANYON CLUB INC

**REV:** 01/01/99  
**ID1:** PBS3-104507  
**ID2:**  
**STATUS:** ACTIVE PBS FACILITY  
**PHONE:** (914) 273-9300

TANK NUMBER:	2	TANK STATUS:	IN SERVICE
INSTALLED:	00/00	CLOSED:	
TANK CAPACITY:	1000 GALLONS		
PRODUCT:	LEADED GASOLINE		

TANK TYPE:	STEEL/CARBON STEEL
TANK LOCATION:	UNDERGROUND
INTERNAL PROTECTION:	
EXTERNAL PROTECTION:	

PIPE TYPE:	GALVANIZED STEEL
PIPE LOCATION:	
INTERNAL PROTECTION:	
EXTERNAL PROTECTION:	

SECONDARY CONTAINMENT:	NONE
LEAK DETECTION:	NONE
OVERFILL PROTECTION:	
DISPENSER:	SUCTION
DATE TESTED:	
NEXT TEST:	NO TEST REQUIRED
TEST METHOD:	

TANK NUMBER:	3	TANK STATUS:	IN SERVICE
INSTALLED:	06/86	CLOSED:	
TANK CAPACITY:	275 GALLONS		
PRODUCT:	DIESEL		

<b>TANK TYPE:</b>	STEEL/CARBON STEEL
<b>TANK LOCATION:</b>	ABOVEGROUND
<b>INTERNAL PROTECTION:</b>	
<b>EXTERNAL PROTECTION:</b>	

PIPE TYPE:	GALVANIZED STEEL
PIPE LOCATION:	
INTERNAL PROTECTION:	
EXTERNAL PROTECTION:	

SECONDARY CONTAINMENT:	NONE
LEAK DETECTION:	NONE
OVERFILL PROTECTION:	
DISPENSER:	SUCTION
DATE TESTED:	
NEXT TEST:	NO TEST REQUIRED
TEST METHOD:	

TANK NUMBER:	4	TANK STATUS:	IN SERVICE
INSTALLED:	00/00	CLOSED:	
TANK CAPACITY:	3000 GALLONS		
PRODUCT:	UNLEADED GASOLINE		

- Continued on next page -

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**REGISTERED UNDERGROUND STORAGE TANKS**

<b>SEARCH ID:</b> 11	<b>DIST/DIR:</b> 0.00 --	<b>MAP ID:</b> 6
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<b>NAME:</b> CANYON CLUB INC <b>ADDRESS:</b> 568 BEDFORD ROAD ARMONK NY 10504 WESTCHESTER <b>CONTACT:</b> CANYON CLUB INC	<b>REV:</b> 01/01/99 <b>ID1:</b> PBS3-104507 <b>ID2:</b> <b>STATUS:</b> ACTIVE PBS FACILITY <b>PHONE:</b> (914) 273-9300
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**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** UNDERGROUND  
**INTERNAL PROTECTION:**  
**EXTERNAL PROTECTION:**

**PIPE TYPE:** GALVANIZED STEEL  
**PIPE LOCATION:**  
**INTERNAL PROTECTION:**  
**EXTERNAL PROTECTION:**

**SECONDARY CONTAINMENT:** NONE  
**LEAK DETECTION:** NONE  
**OVERFILL PROTECTION:**  
**DISPENSER:** SUCTION  
**DATE TESTED:** 10/87  
**NEXT TEST:** 10/92  
**TEST METHOD:** AINLAY

<b>TANK NUMBER:</b> 5 <b>INSTALLED:</b> 00/00 <b>TANK CAPACITY:</b> 275 GALLONS <b>PRODUCT:</b> DIESEL	<b>TANK STATUS:</b> IN SERVICE <b>CLOSED:</b>
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**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** ABOVEGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION:** NONE

**PIPE TYPE:** GALVANIZED STEEL  
**PIPE LOCATION:** NONE  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION:** NONE

**SECONDARY CONTAINMENT:** 00  
**LEAK DETECTION:** 00  
**OVERFILL PROTECTION:** NONE  
**DISPENSER:** SUCTION  
**DATE TESTED:**  
**NEXT TEST:** NO TEST REQUIRED  
**TEST METHOD:**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**REGISTERED UNDERGROUND STORAGE TANKS**

<b>SEARCH ID:</b> 12	<b>DIST/DIR:</b> 0.00 --	<b>MAP ID:</b> 6
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<b>NAME:</b> CANYON CLUB, INC. <b>ADDRESS:</b> 568 BEDFORD ROAD NORTH CASTLE NY 10504 WESTCHESTER <b>CONTACT:</b> MARTIN BADINELLI	<b>REV:</b> 11/12/04 <b>ID1:</b> W3-104507 <b>ID2:</b> <b>STATUS:</b> ACTIVE PBS <b>PHONE:</b> 914-273-9300
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**SITE INFORMATION**

<b>SWIS CODE:</b>	5538
<b>OPERATOR:</b>	STEVEN DIPAOLO
<b>OPERATOR PHONE:</b>	914-273-9300
<b>INSESRVICE CAPACITY:</b>	4775
<b>CERT DATE:</b>	5/21/2004
<b>EXPIRE DATE:</b>	5/24/2009
<b>CBS NUM:</b>	
<b>SPDES NUM:</b>	
<b>ACTIVE TANKS:</b>	5
<b>OLD PBS NUM:</b>	
<b>LAST INSPECTED:</b>	
<b>EMERGENCY NAME:</b>	STEVEN DIPAOLO
<b>EMERGENCY PHONE:</b>	914-273-9300
<b>SITE STATUS:</b>	ACTIVE PBS; >1100 GAL. PBS, REGARDLESS IF SUBPART 360-14 TANKS EXISTS OR NOT

**OWNER INFORMATION**

<b>OWNER TYPE:</b>	NORTH CASTLE LEISURE ENTERPRISE 520 MADISON AVENUE NEW YORK NY 10022 212-605-2316 CORPORATE/COMMERCIAL
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**MAILING INFORMATION**

<b>ATTENTION:</b>	THE CANTON CLUB 568 BEDFORD ROAD ARMONK NY 10504 914-273-9300 MARTIN BADINELLI
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***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 25                      **DIST/DIR:** 0.06 NE                      **MAP ID:** 4

<b>NAME:</b> PRIVATE HOME <b>ADDRESS:</b> 15 EVERGREEN ROW ARMONK NY Westchester <b>CONTACT:</b>	<b>REV:</b> 8/13/07 <b>ID1:</b> 0705481 <b>ID2:</b> 385803 <b>STATUS:</b> ACTIVE <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 8/13/2007 <b>CLOSED DATE:</b> 12:00:00 AM	<b>DATE REPORTED:</b> 8/13/2007 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0705481 HAS BEEN CLEANED; END CALLERREMARK - 0705481

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** TDGHIOSA  
**SPILL CONTACT:** DUFF PRICE  
**TELEPHONE:** (914) 533-2005

**SPILLER:** PRIVATE HOME  
JEFF AND ALISON BERNAN  
**ADDRESS:** 15 EVERGREEN ROW  
ARMONK, NY 10504

**TELEPHONE:** (914) 273-5976

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 8/15/2007  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**  
Start DECRemark - 0705481 CALLED AND LEFT MESSAGE FOR DUFF PRICE TO RETURN CALL. (TWICE) END DECRemark - 0705481

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 1                      **DIST/DIR:** 0.06 NE                      **MAP ID:** 4

<b>NAME:</b> BERMAN RESIDENCE	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 15 EVERGREEN ROW	<b>ID1:</b> 0705481
ARMONK NY 10504	<b>ID2:</b> 385803
Westchester	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 8/13/2007	<b>DATE REPORTED:</b> 8/13/2007
<b>CLOSED DATE:</b> 10/26/2007	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

<b>CAUSE OF SPILL:</b>	EQUIPMENT FAILURE
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	PRIVATE DWELLING
<b>REPORTED BY:</b>	OTHER

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	TDGHIOSA
<b>SPILL CONTACT:</b>	DUFF PRICE
<b>TELEPHONE:</b>	(914) 533-2005

<b>SPILLER:</b>	PRIVATE HOME
	JEFF AND ALISON BERNAN
<b>ADDRESS:</b>	15 EVERGREEN ROW
	ARMONK, NY 10504

<b>TELEPHONE:</b>	(914) 273-5976
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<b>REPORTED BY:</b>	OTHER
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<b>LAST DEC UPDATE:</b>	11/14/2007
<b>CLEAN UP MEET STANDARDS?</b>	NO
<b>PENALTY RECOMMENDED?</b>	NO

<b>CALLER REMARKS:</b>	START CALLERREMARK - 0705481 HAS BEEN CLEANED; END CALLERREMARK - 0705481
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***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 2                      **DIST/DIR:** 0.08 SE                      **MAP ID:** 5

<b>NAME:</b> CAMANHILL SCHOOL	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 558 BEDFORD ROAD	<b>ID1:</b> 9406564
ARMONK NY	<b>ID2:</b> 182376
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 8/15/1994	<b>DATE REPORTED:</b> 8/15/1994
<b>CLOSED DATE:</b> 2/17/2006	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

**CAUSE OF SPILL:** TANK OVERFILL  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** INSTITUTIONAL, EDUCATIONAL, GOV., OTHER  
**REPORTED BY:** OTHER

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** tdghiosa  
**SPILL CONTACT:**  
**TELEPHONE:**

**SPILLER:** BYRAM HILLS SCHOOL

**ADDRESS:**  
 , ZZ

**TELEPHONE:**

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 2/17/2006  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**CALLER REMARKS:** START CALLERREMARK - 9406564 DISCOVERED IN TANK PULL 40-50 YARDS SOIL  
STOCKPILED AT SITE END CALLERREMARK - 9406564

**JOB:** JA08039.10

Site Details Page - 14



***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

REGISTERED UNDERGROUND STORAGE TANKS

<b>SEARCH ID:</b> 10	<b>DIST/DIR:</b> 0.08 SE	<b>MAP ID:</b> 5
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**NAME:** BRYAN HILLS CENTRAL SCHOOLS  
**ADDRESS:** 558 BEDFORD RD  
ARMONK NY 10504  
WESTCHESTER  
**CONTACT:** BRYAN HILLS CSO

**REV:** 01/01/99  
**ID1:** PBS3-600469  
**ID2:**  
**STATUS:** ACTIVE PBS FACILITY  
**PHONE:** (914) 273-4084

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**REGISTERED UNDERGROUND STORAGE TANKS**

<b>SEARCH ID:</b> 9	<b>DIST/DIR:</b> 0.08 SE	<b>MAP ID:</b> 5
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<b>NAME:</b> BRYAM HILLS CENTRAL SCHOOLS - COMAN HILL <b>ADDRESS:</b> 558 BEDFORD RD ARMONK NY 10504 WESTCHESTER <b>CONTACT:</b> ROGER ENSIGN	<b>REV:</b> 11/12/04 <b>ID1:</b> W3-600469 <b>ID2:</b> <b>STATUS:</b> ACTIVE PBS <b>PHONE:</b> 914-273-4084
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**SITE INFORMATION**

<b>SWIS CODE:</b>	5538
<b>OPERATOR:</b>	BYRAM HILLS CSO
<b>OPERATOR PHONE:</b>	914-273-4084
<b>INSESRVICE CAPACITY:</b>	7500
<b>CERT DATE:</b>	7/14/2003
<b>EXPIRE DATE:</b>	9/21/2003
<b>CBS NUM:</b>	
<b>SPDES NUM:</b>	
<b>ACTIVE TANKS:</b>	1
<b>OLD PBS NUM:</b>	
<b>LAST INSPECTED:</b>	8/17/2004
<b>EMERGENCY NAME:</b>	ROGER ENSIGN
<b>EMERGENCY PHONE:</b>	914-694-0040
<b>SITE STATUS:</b>	ACTIVE PBS; >1100 GAL. PBS, REGARDLESS IF SUBPART 360-14 TANKS EXISTS OR NOT

**OWNER INFORMATION**

	BYRAM HILLS CENTRAL SCHOOLS
	558 BEDFORD RD
	ARMONK NY 10504
	914-273-4084
<b>OWNER TYPE:</b>	LOCAL GOVERNMENT

**MAILING INFORMATION**

	BYRAM HILLS CENTRAL SCHOOLS
	10 TRIPP LANE
	ARMONK NY 10504-9999
	914-273-4084
<b>ATTENTION:</b>	ROGER ENSIGN

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 24                      **DIST/DIR:** 0.12 NE                      **MAP ID:** 13

<b>NAME:</b> MILLER <b>ADDRESS:</b> 23 EVERGREEN ROW ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 9905015 <b>ID2:</b> 234896 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 7/27/1999 <b>CLOSED DATE:</b> 9/2/1999	<b>DATE REPORTED:</b> 7/27/1999 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 9905015 CALLER REPORTS THEY WERE DEACTIVATING TANK  
AND FOUND IT HAD LEAKED AND CONTAMINATED SOIL. END CALLERREMARK - 9905015

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** CALLER  
**TELEPHONE:** (914) 769-5050

**SPILLER:** DAVID MILLER  
DAVID MILLER  
**ADDRESS:** 23 EVERGREEN ROW  
ARMONK, NY 10598-

**TELEPHONE:** (914) 273-6816

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 9/7/1999  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 9905015 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 8/02/99 DUTCHESS ENVIRONMENTAL PULLED 1000-GALLON FUEL OIL TANK AND CONTAMINATED SOIL. CLOSURE REPORT TO FOLLOW. 9/02/99 DUTCHESS ENVIRONMENTAL REMOVED TANK AND 22.55 TONS OF CONTAMINATED SOIL. CLEANUP COMPLETE. NFA END DECRemark - 9905015

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 21                      **DIST/DIR:** 0.14 NE                      **MAP ID:** 11

<b>NAME:</b> KAHN HOME	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 25 EVERGREEN ROW	<b>ID1:</b> 0602582
ARMONK NY	<b>ID2:</b> 365090
Westchester	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 6/7/2006	<b>DATE REPORTED:</b> 6/7/2006
<b>CLOSED DATE:</b> 8/10/2006	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0602582 1000 GALLON TANK HAD HOLES END CALLERREMARK - 0602582

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** JBODec  
**SPILL CONTACT:** KAHN HOME  
**TELEPHONE:** (914) 381-1071

**SPILLER:** KAHN HOME  
KAHN HOME  
**ADDRESS:** 25 EVERGREEN ROW  
ARMONK, NY

**TELEPHONE:** (914) 381-1071

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 8/10/2006  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0602582 06/09/06: LOTS OF HOLES IN TANK. HOMEOWNERS OUT OF TOWN. WILL CONTACT THEM ASAP. THEY DID ENCOUNTER GW DURING TANK PULL. August 10, 2006: NES DISPOSED OF LUST AND 19.55 TONS OF CONTAMINATED SOIL. CLOSURE REPORT REVIEWED BY DEC. BASED UPON INFORMATION PROVIDED, NO FURTHER ACTION IS REQUIRED AT THIS TIME. jod END DECRemark - 0602582

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 20                      **DIST/DIR:** 0.18 NE                      **MAP ID:** 9

<b>NAME:</b> GUSSACK RESIDENCE	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 11 UPTON LANE	<b>ID1:</b> 9308959
ARMONK NY	<b>ID2:</b> 282692
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 10/23/1993	<b>DATE REPORTED:</b> 10/25/1993
<b>CLOSED DATE:</b> 1/3/1994	<b>INSP DATE:</b> 10/26/1993

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 9308959 CONTAMINATED SOIL ENCOUNTERED DURING TANK  
REMOVAL END CALLERREMARK - 9308959

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** tdghiosa  
**SPILL CONTACT:**  
**TELEPHONE:**

**SPILLER:** SAME

**ADDRESS:**  
 , NN

**TELEPHONE:**

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 1/3/1994  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 9308959 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was GHIOSAY 01/03/94: 550 GALLON FUEL TANK PROBLEM.DURING EXCAVATION 2000GAL TANK DISCOVERED IN GOOD CONDITION.SOIL EXCAVATED TO ROCK.NES INSTALLED NEW TANK. END DECRemark - 9308959

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**JOB:** JA08039.10

**Environmental FirstSearch**  
**Site Detail Report**

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 28                      **DIST/DIR:** 0.20 NE                      **MAP ID:** 17

<b>NAME:</b> RESIDENCE	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 6 HARDSCRABBLE CIRCLE	<b>ID1:</b> 0413161
ARMONK NY	<b>ID2:</b> 339017
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 3/17/2005	<b>DATE REPORTED:</b> 3/17/2005
<b>CLOSED DATE:</b> 5/22/2005	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK TEST FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** TANK TESTER  
**CALLER REMARKS:**

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** JBODec  
**SPILL CONTACT:** BETH GROTTA  
**TELEPHONE:** (914) 273-8668

**SPILLER:** RESIDENCE  
BETH GROTTA  
**ADDRESS:** 6 HARD SCRAPPLE CIRCLE  
ARMONK, NY

**TELEPHONE:** (914) 273-8668

**REPORTED BY:** TANK TESTER

**LAST DEC UPDATE:** 5/22/2005  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0413161 04/22/05 Tank removed by Elite Environmental. Inspector for the Armonk Building Dept reportedly stated to home owner that there were no holes in tank. Excavation was backfilled by Elite. Home owner is currently in dispute with Elite over payment. jod 05/22/05 Report received from Advanced Environmental that includes Inspection certificate from Armonk Bldg Dept. No spill or contamination occurred. NFA jod END DECRemark - 0413161

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 37                      **DIST/DIR:** 0.20 NE                      **MAP ID:** 23

<b>NAME:</b> <b>ADDRESS:</b> 10 HARD SCRABBLE CIRCLE ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0207363 <b>ID2:</b> 232975 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 10/16/2002	<b>DATE REPORTED:</b> 10/16/2002
<b>CLOSED DATE:</b> 10/31/2002	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK TEST FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** TANK TESTER  
**CALLER REMARKS:** START CALLERREMARK - 0207363 IT HAS BEEN RECOMMENDED THAT THE TANK BE UNCOVERED, REPAIRED AND RETESTED. END CALLERREMARK - 0207363

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** STEVE LIBOV  
**TELEPHONE:** (914) 273-4391

**SPILLER:** STEVE LIBOV

**ADDRESS:** 10 HARD SCRABBLE CIRCLE  
ARMONK, NY 10504-

**TELEPHONE:** (914) 273-4391

**REPORTED BY:** TANK TESTER

**LAST DEC UPDATE:** 11/7/2002  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**  
Start DECRemark - 0207363 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE TANK PASSED RETEST AFTER BEING REPIPED. END DECRemark - 0207363

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**



***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 33                      **DIST/DIR:** 0.23 NW                      **MAP ID:** 27

<b>NAME:</b>	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 5 EVAN PL	<b>ID1:</b> 9912486
ARMONK NY	<b>ID2:</b> 211287
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 2/1/2000	<b>DATE REPORTED:</b> 2/1/2000
<b>CLOSED DATE:</b> 3/31/2000	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK TEST FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** TANK TESTER  
**CALLER REMARKS:** START CALLERREMARK - 9912486 HOME OWNER NOTIFIED RECOMMEND UNCOVER CHECK  
LINES AND CALL FOR RETEST END CALLERREMARK - 9912486

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** BARBARA ALVERONE  
**TELEPHONE:** (914) 273-8047

**SPILLER:**  
**ADDRESS:** BARBARA ALVERONE  
5 EVAN PL  
ARMONK, NY

**TELEPHONE:** (914) 273-8047

**REPORTED BY:** TANK TESTER

**LAST DEC UPDATE:** 4/12/2000  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**  
Start DECRemark - 9912486 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 03/31/2000 TANK PASSED RETEST  
PERFORMED BY ELITE TANK TESTING. TANK TEST DATA WAS NOT PROVIDED. NFA END DECRemark - 9912486

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**JOB:** JA08039.10

**JOB:** JA08039.10

**JOB:** JA08039.10

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

<b>SEARCH ID:</b> 27	<b>DIST/DIR:</b> 0.28 NE	<b>MAP ID:</b> 16
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<b>NAME:</b> RESI: GRUBIAK <b>ADDRESS:</b> 16-18 UPLAND LN ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0101696 <b>ID2:</b> 296829 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 5/14/2001	<b>DATE REPORTED:</b> 5/14/2001
<b>CLOSED DATE:</b> 8/8/2001	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

<b>CAUSE OF SPILL:</b>	TANK FAILURE
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	PRIVATE DWELLING
<b>REPORTED BY:</b>	OTHER
<b>CALLER REMARKS:</b>	

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	WCHD
<b>SPILL CONTACT:</b>	JOHN GRUBIAK
<b>TELEPHONE:</b>	

<b>SPILLER:</b>	RESI: GRUBIAK
	JOHN GRUBIAK
<b>ADDRESS:</b>	16-18 UPLAND LN
	ARMONK, ZZ

**TELEPHONE:**

<b>REPORTED BY:</b>	OTHER
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<b>LAST DEC UPDATE:</b>	9/9/2003
<b>CLEAN UP MEET STANDARDS?</b>	YES
<b>PENALTY RECOMMENDED?</b>	NO

**DEC REMARKS:**

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 19                      **DIST/DIR:** 0.29 NW                      **MAP ID:** 8

<b>NAME:</b> GOLDFARB RESIDENCE <b>ADDRESS:</b> 33 BYRAM HILL RD ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0402295 <b>ID2:</b> 196511 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 6/1/2004 <b>CLOSED DATE:</b> 7/7/2004	<b>DATE REPORTED:</b> 6/1/2004 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0402295 TANK HAD HOLES IN IT. CAUSED AN UNKNOWN AMOUNT TO SPILL OUT END CALLERREMARK - 0402295

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbo dee  
**SPILL CONTACT:** ANDREW CALDERONE  
**TELEPHONE:** (914) 906-5416

**SPILLER:** GOLDFARB RESIDENCE  
ANDREW CALDERONE  
**ADDRESS:** 33 BYRAM HILL RD  
ARMONK, NY

**TELEPHONE:** (914) 906-5416

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 7/7/2004  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0402295 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 07/07/04 EGS DISPOSED OF LUST AND 7.41 TONS OF CONTAMINATED SOIL. BASED UPON INFORMATION PROVIDED TO DEC, NO FURTHER ACTION IS REQUIRED. jbo END  
DECRemark - 0402295

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**Environmental FirstSearch**  
**Site Detail Report**

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 18                      **DIST/DIR:** 0.30 NE                      **MAP ID:** 7

<b>NAME:</b> FRISHMAN HOME <b>ADDRESS:</b> 13 NORTH LAKE ROAD ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0501848 <b>ID2:</b> 346075 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 5/16/2005 <b>CLOSED DATE:</b> 8/28/2005	<b>DATE REPORTED:</b> 5/16/2005 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0501848 FOUND HOLES IN TANK WHILE REMOVING END  
CALLERREMARK - 0501848

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** JBODec  
**SPILL CONTACT:** JACK FRISHMAN  
**TELEPHONE:** (914) 273-1657

**SPILLER:** FRISHMAN HOME  
JACK FRISHMAN  
**ADDRESS:** 13 NORTH LAKE ROAD  
ARMONK, NY

**TELEPHONE:** (914) 273-1657

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 8/28/2005  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0501848 05/17/05 Tank had been out of service for approx 20 years. Home owner fired contractor for reporting spill and wants to backfill. jod August 28, 2005: NORTHEAST ENVIRONMENTAL DISPOSED OF 6.89 TONS OF CONTAMINATED SOIL. BASED UPON INFORMATION PROVIDED TO DEC, NO FURTHER ACTION IS REQUIRED AT THIS TIME. jod END DECRemark - 0501848

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**Environmental FirstSearch**  
**Site Detail Report**

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 34                      **DIST/DIR:** 0.30 SE                      **MAP ID:** 26

<b>NAME:</b> <b>ADDRESS:</b> 4 COLONIAL CT ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0200194 <b>ID2:</b> 268171 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 4/5/2002	<b>DATE REPORTED:</b> 4/5/2002
<b>CLOSED DATE:</b> 5/21/2002	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> DIESEL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0200194 DURING TANK REMOVAL AT ABOVE LOCATION SOIL CONTAMINATION HAS BEEN DISCOVERED. AMOUNT REPORTED AS MINIMAL. AREA TO BE EXCAVATED. END CALLERREMARK - 0200194

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** ANDY CALDERONE  
**TELEPHONE:** (914) 593-0281

**SPILLER:** ROGER H HESS

**ADDRESS:** SAME  
, ZZ

**TELEPHONE:** (212) 719-2233

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 6/24/2002  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0200194 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 05/21/02 - ENVIROGUIDE REMOVED TWO TANKS. ONE 500 GAL DIESEL TANK WAS NOT LEAKING, ONE 1,000 GAL FUEL OIL TANK WAS LEAKING. DISPOSED OF 5.53 TONS CONTAMIN SOIL. NFA END DECRemark - 0200194

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**



***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 31                      **DIST/DIR:** 0.31 SE                      **MAP ID:** 20

<b>NAME:</b> ROSENBURG RESIDENCE	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 3 SPRUCE HOLLOW ROAD	<b>ID1:</b> 0501251
ARMONK NY	<b>ID2:</b> 344483
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 4/29/2005	<b>DATE REPORTED:</b> 4/29/2005
<b>CLOSED DATE:</b> 11/13/2005	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 0501251 1000 GAL TANK WITH NO GROUND WATER. END  
CALLERREMARK - 0501251

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** JBODec  
**SPILL CONTACT:** JEENEEN FERRARA  
**TELEPHONE:** (914) 741-5472

**SPILLER:** ROSENBURG RESIDENCE  
JEENEEN FERRARA  
**ADDRESS:** 3 SPRUCE HOLLOW ROAD  
ARMONK, NY

**TELEPHONE:** (914) 741-5472

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 11/13/2005  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0501251 November 13, 2005: NES DISPOSED OF LUST AND 437.26 TONS OF CONTAMINATED SOIL. GROUND WATER WAS IMPACTED AND SAMPLED. CLOSURE REPORT RECEIVED FROM HYDRO ENVIRONMENTAL SOLUTIONS. BASED UPON INFORMATION PROVIDED TO DEC, NO FURTHER ACTION IS REQUIRED AT THIS TIME. jod END DECRemark - 0501251

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 29                      **DIST/DIR:** 0.32 SE                      **MAP ID:** 18

<b>NAME:</b> RESIDENCE <b>ADDRESS:</b> 4 SPRUCE HOLLOW ROAD ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0406088 <b>ID2:</b> 77605 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 9/2/2004 <b>CLOSED DATE:</b> 11/13/2005	<b>DATE REPORTED:</b> 9/2/2004 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 <b>AMOUNT RECOVERED:</b> 0
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**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER  
**CALLER REMARKS:**

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** DOMINICK D ANGELICO  
**TELEPHONE:** (914) 835-3232

**SPILLER:** RESIDENCE  
DOMINICK D ANGELICO  
**ADDRESS:** 4 SPRUCE HOLLOW ROAD  
ARMONK, NY 10504

**TELEPHONE:** (914) 835-3232

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 11/13/2005  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 0406088 November 13, 2005: ENVIROSTAR DISPOSED OF LUST AND 27.73 TONS OF CONTAMINATED SOIL. BASED UPON INFORMATION PROVIDED TO DEC, NO FURTHER ACTION IS REQUIRED AT THIS TIME. jod END DECRemark - 0406088

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 13                      **DIST/DIR:** 0.33 SE                      **MAP ID:** 1

<b>NAME:</b> 18	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> WINDMILL RD	<b>ID1:</b> 0008594
ARMONK NY	<b>ID2:</b> 141160
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 10/23/2000	<b>DATE REPORTED:</b> 10/23/2000
<b>CLOSED DATE:</b> 12/5/2000	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

<b>CAUSE OF SPILL:</b>	TANK TEST FAILURE
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	PRIVATE DWELLING
<b>REPORTED BY:</b>	TANK TESTER
<b>CALLER REMARKS:</b>	START CALLERREMARK - 0008594 UNCOVER - REPAIR AND RETEST. END CALLERREMARK - 0008594

<b>REGION:</b>	3
<b>UST TRUST?</b>	NO

<b>SPILL INVESTIGATOR:</b>	jbodee
<b>SPILL CONTACT:</b>	MR WEATHERS
<b>TELEPHONE:</b>	(914) 273-6506

<b>SPILLER:</b>	MR WEATHERS
	MR WEATHERS
<b>ADDRESS:</b>	18 WINDMILL RD
	ARMONK, NY

<b>TELEPHONE:</b>	(914) 273-6506
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<b>REPORTED BY:</b>	TANK TESTER
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<b>LAST DEC UPDATE:</b>	12/13/2000
<b>CLEAN UP MEET STANDARDS?</b>	YES
<b>PENALTY RECOMMENDED?</b>	NO

**DEC REMARKS:**

Start DECRemark - 0008594 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 11/02/2000 TANK TEST FAILURE LETTER SENT 12/05/2000 NORTHEAST PULLED TANK AND DISPOSED OF 6.12 TONS OF CONTAMIANATED SOIL; NFA. END DECRemark - 0008594

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**Environmental FirstSearch**  
**Site Detail Report**

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 35                      **DIST/DIR:** 0.37 SE                      **MAP ID:** 24

<b>NAME:</b> <b>ADDRESS:</b> 405 BEDFORD RD NORTH CASTLE NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 9605108 <b>ID2:</b> 63280 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 7/19/1996	<b>DATE REPORTED:</b> 7/19/1996
<b>CLOSED DATE:</b> 9/5/1996	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** COMMERCIAL/INDUSTRIAL  
**REPORTED BY:** OTHER  
**CALLER REMARKS:** START CALLERREMARK - 9605108 DURING TANK PULL - CONTAMINATED SOIL FOUND -  
CALLER REQ CALLBACK DO TO THE LOCATION OF SPILL - DUE TO LEACH FIELD AND RETAINING WALL LIMITED AMOUNT OF SOIL  
CAN BE DUG END CALLERREMARK - 9605108

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** tdghiosa  
**SPILL CONTACT:** DAVID LENT  
**TELEPHONE:** (914) 454-3980

**SPILLER:** DAIRY MART  
DAVID LENT  
**ADDRESS:** 405 BEDFORD RD  
NORTH CASTLE, ZZ

**TELEPHONE:** (914) 454-3980

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 10/22/1996  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**  
Start DECRemark - 9605108 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was GHIOSAY 09/05/96 TANK REMOVAL IN  
PROXIMITY OF SEPTIC FIELD AND WELL CONTAMINATED SOILS REMOVED TO VISUAL AND FIELD SCREENING FINAL  
LAB ANALYSIS UNDECIDED MINIMAL REMAINING CONTAMINATION UNDER STARS END DECRemark - 9605108

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

**JOB:** JA08039.10

**JOB:** JA08039.10

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 38                      **DIST/DIR:** 0.40 NE                      **MAP ID:** 25

<b>NAME:</b> <b>ADDRESS:</b> 5 LYONS CT ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 9900015 <b>ID2:</b> 259014 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 4/1/1999	<b>DATE REPORTED:</b> 4/1/1999
<b>CLOSED DATE:</b> 4/29/1999	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> 2 FUEL OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

**CAUSE OF SPILL:** TANK FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** AFFECTED PERSONS  
**CALLER REMARKS:** START CALLERREMARK - 9900015 CONTAMINATED SOIL DISCOVERED DURING  
EXCAVATION END CALLERREMARK - 9900015

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** MR MALTESE  
**TELEPHONE:** (914) 273-9060

**SPILLER:** MR LYONS  
MR MALTESE  
**ADDRESS:** 5 LYONS CT  
ARMONK, NY

**TELEPHONE:** (914) 273-9060

**REPORTED BY:** AFFECTED PERSONS

**LAST DEC UPDATE:** 5/6/1999  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 9900015 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 4/29/99 NES REMOVED TANK AND 162 TONS CONTAMINATED SOIL. END DECRemark - 9900015

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 7                      **DIST/DIR:** 0.42 NE                      **MAP ID:** 14

<b>NAME:</b> PRIVATE DWELLING	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> 10 LYONS COURT	<b>ID1:</b> 0704302
ARMONK NY	<b>ID2:</b> 384425
Westchester	<b>STATUS:</b> ACTIVE
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 7/17/2007	<b>DATE REPORTED:</b> 7/17/2007
<b>CLOSED DATE:</b> 12:00:00 AM	<b>INSP DATE:</b> 12:00:00 AM

<b>MATERIAL SPILLED:</b> UNKNOWN MATERIAL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> OTHER	<b>AMOUNT RECOVERED:</b> 0 G

**RESOURCE AFFECTED**

<b>SOIL:</b> YES	<b>AIR:</b> NO
<b>INDOOR AIR:</b> NO	<b>GROUNDWATER:</b> NO
<b>SURFACE WATER:</b> NO	<b>DRINKING WATER:</b> NO
<b>SEWER:</b> NO	<b>IMPERVIOUS SURFACE:</b> NO
<b>SUBWAY:</b> NO	<b>UNDERGROUND UTILITIES:</b> NO

**CAUSE OF SPILL:** OTHER  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** jbodee  
**SPILL CONTACT:** BROKER - ANGELA  
**TELEPHONE:** (914) 625-7358

**SPILLER:**  
**ADDRESS:** BROKER - ANGELA  
10 LYONS COURT  
ARMONK, NY

**TELEPHONE:** (914) 625-7358

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 8/9/2007  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**CALLER REMARKS:** START CALLERREMARK - 0704302 BENZENO (A) PYRENE- 340 PPB END CALLERREMARK - 0704302



***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

STATE SPILLS SITE

**SEARCH ID:** 6                      **DIST/DIR:** 0.48 SE                      **MAP ID:** 10

<b>NAME:</b> JACOBS RESIDENCE <b>ADDRESS:</b> 37 WINDMILL ROAD ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0407032 <b>ID2:</b> 138363 <b>STATUS:</b> ACTIVE <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 9/24/2004 <b>CLOSED DATE:</b> 12:00:00 AM	<b>DATE REPORTED:</b> 9/24/2004 <b>INSP DATE:</b> 1/4/2005
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 110 G <b>AMOUNT RECOVERED:</b> 50 G
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**RESOURCE AFFECTED**

<b>SOIL:</b> YES <b>INDOOR AIR:</b> YES <b>SURFACE WATER:</b> NO <b>SEWER:</b> NO <b>SUBWAY:</b> NO	<b>AIR:</b> NO <b>GROUNDWATER:</b> YES <b>DRINKING WATER:</b> NO <b>IMPERVIOUS SURFACE:</b> NO <b>UNDERGROUND UTILITIES:</b> NO
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**CAUSE OF SPILL:** HUMAN ERROR  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** OTHER

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** JBODee  
**SPILL CONTACT:** RITA JACOBS  
**TELEPHONE:** (914) 273-8584

**SPILLER:** AandM BROADBAND NEXT LINK  
BUTCH BRAULT

**ADDRESS:**  
ZZ

**TELEPHONE:** 914-674-2258

**REPORTED BY:** OTHER

**LAST DEC UPDATE:** 12/29/2005  
**CLEAN UP MEET STANDARDS?** NO  
**PENALTY RECOMMENDED?** NO

**CALLER REMARKS:** START CALLERREMARK - 0407032 THE CABLE CO. WAS AT HOME SETTING UP CABLE AND DRILLED FROM WALL INTO OIL TANK: WORKING ON IT AT THIS TIME: OIL CO STILL WORKING ON IT. HEALTH DEPT ON SCENE END CALLERREMARK - 0407032

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 14                      **DIST/DIR:** 0.50 SE                      **MAP ID:** 2

<b>NAME:</b> 22 SNIFFEN ROAD	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> RESIDENTS	<b>ID1:</b> 9704998
ARMONK NY	<b>ID2:</b> 128217
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 7/25/1997	<b>DATE REPORTED:</b> 7/25/1997
<b>CLOSED DATE:</b> 9/8/1997	<b>INSP DATE:</b> 12:00:00 AM

**CAUSE OF SPILL:** TANK TEST FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** TANK TESTER  
**CALLER REMARKS:** START CALLERREMARK - 9704998 VACANT HOUSE WHICH IS OWNED BY THE BANK OF INDIA NOQ CONTACT PERSON IS FROM A ROBISON OIL COMPANY TANK 1 FRT OF DECK. END CALLERREMARK - 9704998

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** tdghiosa  
**SPILL CONTACT:** VACANT  
**TELEPHONE:**

**SPILLER:** SAME  
JIM ROOD

**ADDRESS:**  
 , NY -

**TELEPHONE:** (914) 345-5700 205

**REPORTED BY:** TANK TESTER

**LAST DEC UPDATE:** 11/12/1997  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 9704998 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was GHIOSAY 07/25/97 SEE SPILL 9704999; 09/08/97 ONE TANK PASSED RETEST AFTER REPAIRS; SECOND TANK FAILED RETEST; NES REMOVED THE FAILED TANK; NO HOLES OR CONTAMINATION FOUND; END DECRemark - 9704998

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 15                      **DIST/DIR:** 0.50 SE                      **MAP ID:** 2

<b>NAME:</b> 22 SNIFFEN ROAD	<b>REV:</b> 12/6/07
<b>ADDRESS:</b> RESIDENTS	<b>ID1:</b> 9704999
ARMONK NY	<b>ID2:</b> 128218
WESTCHESTER	<b>STATUS:</b> CLOSED
<b>CONTACT:</b>	<b>PHONE:</b>

**SITE INFORMATION**

<b>SPILL DATE:</b> 7/25/1997	<b>DATE REPORTED:</b> 7/25/1997
<b>CLOSED DATE:</b> 7/25/1997	<b>INSP DATE:</b> 12:00:00 AM

**CAUSE OF SPILL:** TANK TEST FAILURE  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** PRIVATE DWELLING  
**REPORTED BY:** TANK TESTER  
**CALLER REMARKS:** START CALLERREMARK - 9704999 TANK 2 SIDE OF DECK SAME CONTACT PERSON JIM  
ROOD END CALLERREMARK - 9704999

**REGION:** 3  
**UST TRUST?** NO

**SPILL INVESTIGATOR:** tdghiosa  
**SPILL CONTACT:** VACANT  
**TELEPHONE:**

**SPILLER:** SAME  
JIM ROOD

**ADDRESS:**  
 , NY -

**TELEPHONE:** (914) 345-5700

**REPORTED BY:** TANK TESTER

**LAST DEC UPDATE:** 8/26/1997  
**CLEAN UP MEET STANDARDS?** YES  
**PENALTY RECOMMENDED?** NO

**DEC REMARKS:**

Start DECRemark - 9704999 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was GHIOSAY 07/25/97 SEE SPILL 9704998; 09/08/97  
TANK REMOVED; END DECRemark - 9704999

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch  
Site Detail Report***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

**LEAKING UNDERGROUND STORAGE TANKS**

<b>SEARCH ID:</b> 22	<b>DIST/DIR:</b> 0.50 SE	<b>MAP ID:</b> 2
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<b>NAME:</b> MELTER RESIDENCE <b>ADDRESS:</b> 22 SNIFFEN RD ARMONK NY WESTCHESTER <b>CONTACT:</b>	<b>REV:</b> 12/6/07 <b>ID1:</b> 0303997 <b>ID2:</b> 313427 <b>STATUS:</b> CLOSED <b>PHONE:</b>
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**SITE INFORMATION**

<b>SPILL DATE:</b> 7/16/2003 <b>CLOSED DATE:</b> 7/31/2003	<b>DATE REPORTED:</b> 7/16/2003 <b>INSP DATE:</b> 12:00:00 AM
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<b>MATERIAL SPILLED:</b> 2 FUEL OIL <b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT SPILLED:</b> 0 G <b>AMOUNT RECOVERED:</b> 0 G
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<b>CAUSE OF SPILL:</b> <b>WATERBODY AFFECTED:</b> <b>SOURCE OF SPILL:</b> <b>REPORTED BY:</b> <b>CALLER REMARKS:</b>	TANK TEST FAILURE  PRIVATE DWELLING TANK TESTER START CALLERREMARK - 0303997 NO CONTAMINATION FOUND END CALLERREMARK - 0303997
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<b>REGION:</b> <b>UST TRUST?</b>	3 NO
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<b>SPILL INVESTIGATOR:</b> <b>SPILL CONTACT:</b> <b>TELEPHONE:</b>	jbodee MIKE GLICKMAN (BUYER) (914) 967-5540
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<b>SPILLER:</b> <b>ADDRESS:</b>	JEAN FARBER - REALTOR 22 SNIFFEN RD ARMONK, NY 10503-
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<b>TELEPHONE:</b>	(914) 234-3647
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<b>REPORTED BY:</b>	TANK TESTER
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<b>LAST DEC UPDATE:</b> <b>CLEAN UP MEET STANDARDS?</b> <b>PENALTY RECOMMENDED?</b>	7/31/2003 YES NO
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**DEC REMARKS:**

Start DECRemark - 0303997 Prior to Sept, 2004 data translation this spill Lead\_DEC Field was O DEE 07/31/03 TANK PASSED A RETEST AFTER PIPING WAS REPAIRED. NFA END DECRemark - 0303997

**THERE MAYBE MORE DEC REMARKS AVIALBLE, PLEASE CONTACT THE NY DEC (518) 402-9549 FOR FURTHER INFORMATION**

***Environmental FirstSearch***  
***Street Name Report for Streets within .25 Mile(s) of Target Property***

**Target Property:** 568 BEDFORD ROAD  
ARMONK NY 10504

**JOB:** JA08039.10

<b>Street Name</b>	<b>Dist/Dir</b>	<b>Street Name</b>	<b>Dist/Dir</b>
Bedford Rd	0.02 NE		
Byram Hill Rd	0.17 SW		
Byram Lake Rd	0.07 NW		
Colonial Ct	0.25 SE		
Embassy Ct	0.04 NE		
Evans Pl	0.17 NW		
Evergreen Row	0.07 NE		
Hardscrabble Cir	0.19 NE		
I-684	0.00 --		
Ilana Ct	0.14 NW		
Maple Way	0.14 SE		
Norman Pl	0.16 NW		
North Lake Rd	0.25 NE		
North Ln	0.03 NE		
North Ridge	0.16 NE		
Old Byram Lake Rd	0.04 SW		
Oregon Rd	0.10 NW		
Pondfield Dr SOUTH	0.08 NW		
Upland Ln	0.02 NE		

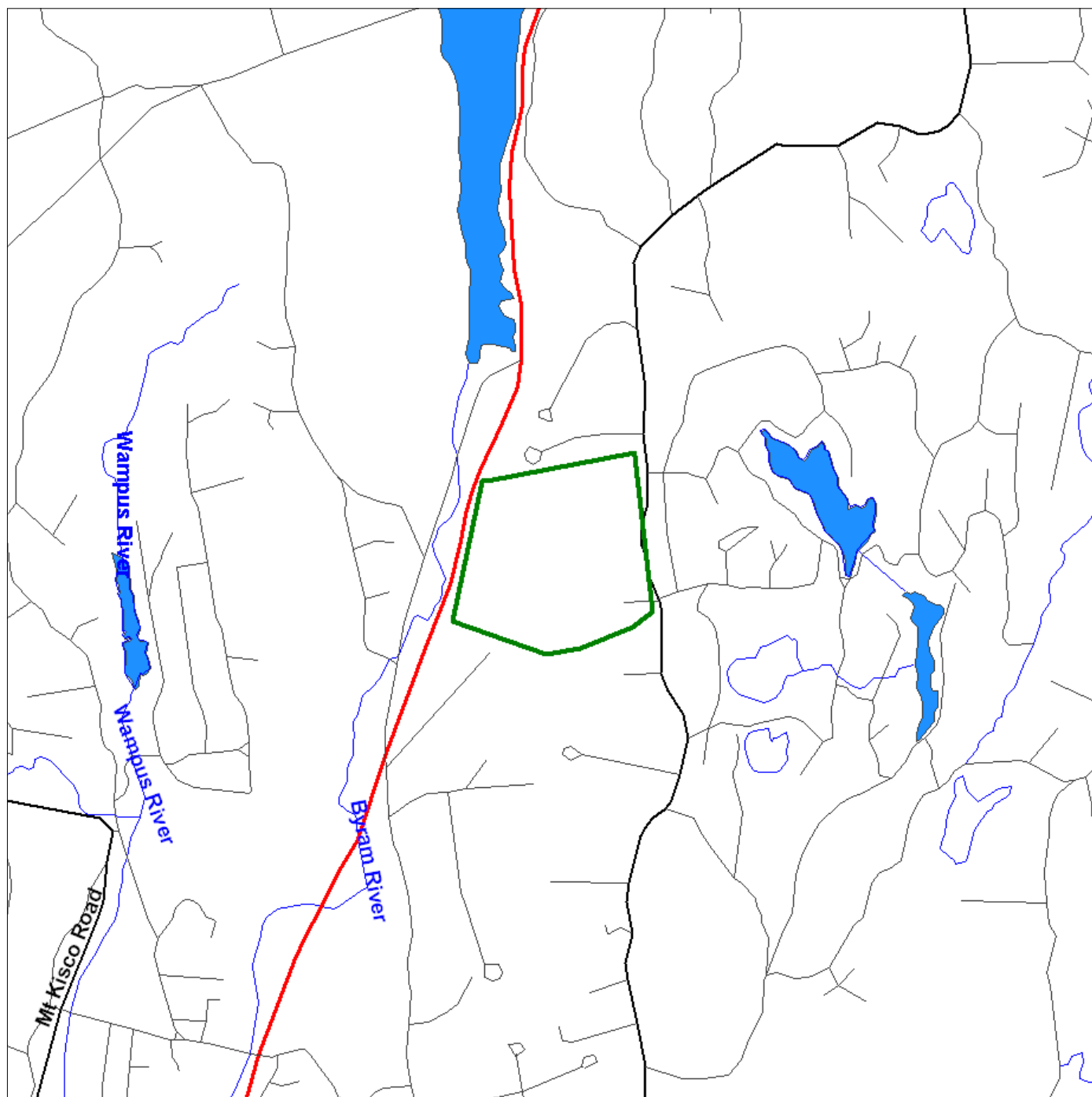


# Environmental FirstSearch

1 Mile Radius from Area  
ASTM Map: NPL, RCRA COR, STATE Sites



**568 BEDFORD ROAD, ARMONK NY 10504**



Source: 2005 U.S. Census TIGER Files

Area Polygon .....				
Identified Site, Multiple Sites, Receptor .....				
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste .....				
Triballand.....				
Railroads .....				

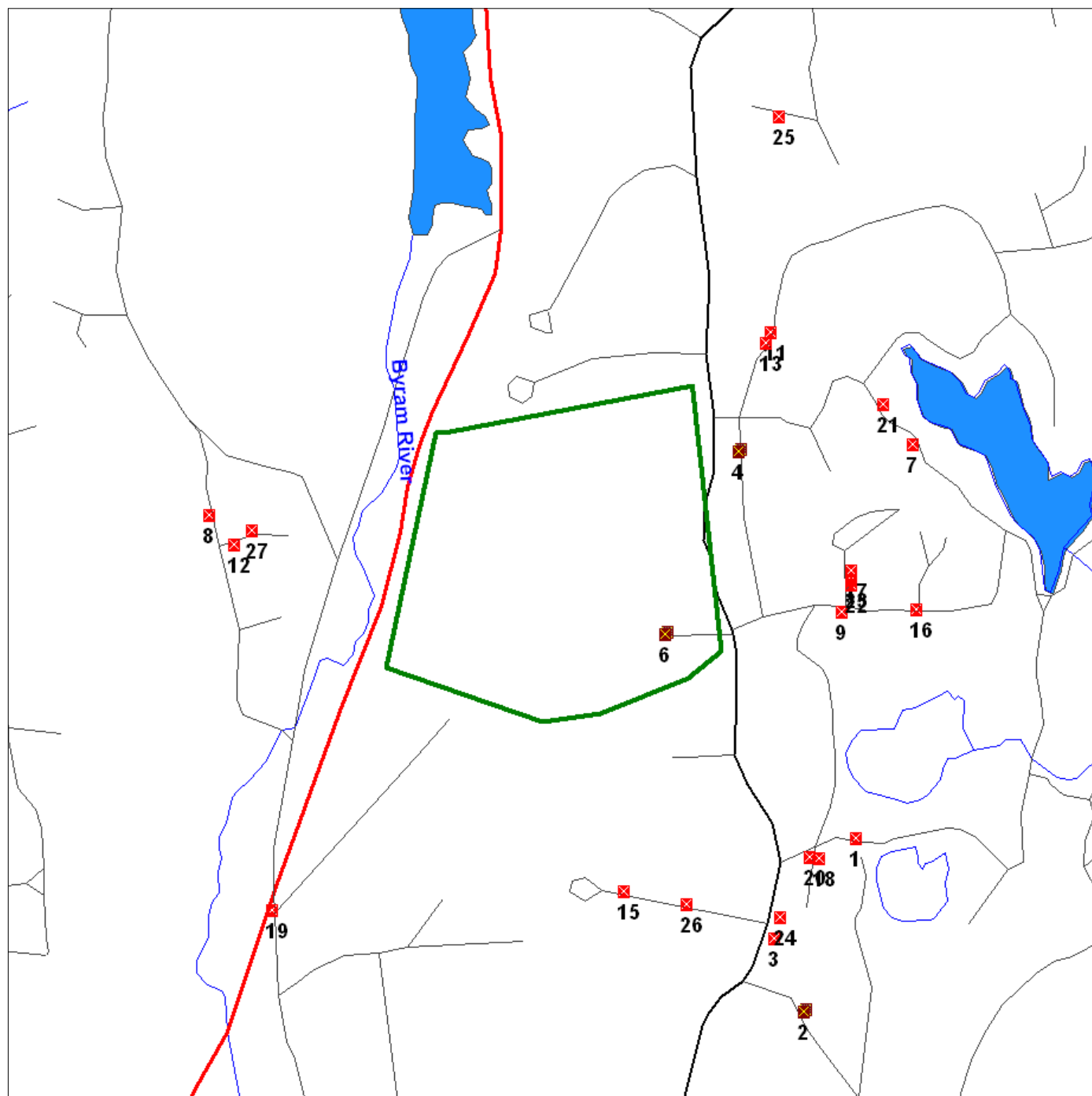


# Environmental FirstSearch

.5 Mile Radius from Area  
ASTM Map: CERCLIS, RCRATSD, LUST, SWL

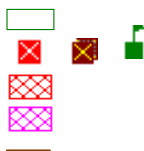


**568 BEDFORD ROAD, ARMONK NY 10504**



Source: 2005 U.S. Census TIGER Files

Area Polygon .....  
Identified Site, Multiple Sites, Receptor .....  
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste  
Triballand.....  
Railroads .....





## Environmental FirstSearch

.25 Mile Radius from Area  
ASTM Map: RCAGEN, ERNS, UST

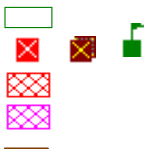


**568 BEDFORD ROAD, ARMONK NY 10504**



Source: 2005 U.S. Census TIGER Files

Area Polygon .....  
Identified Site, Multiple Sites, Receptor .....  
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste .....  
Triballand.....  
Railroads .....





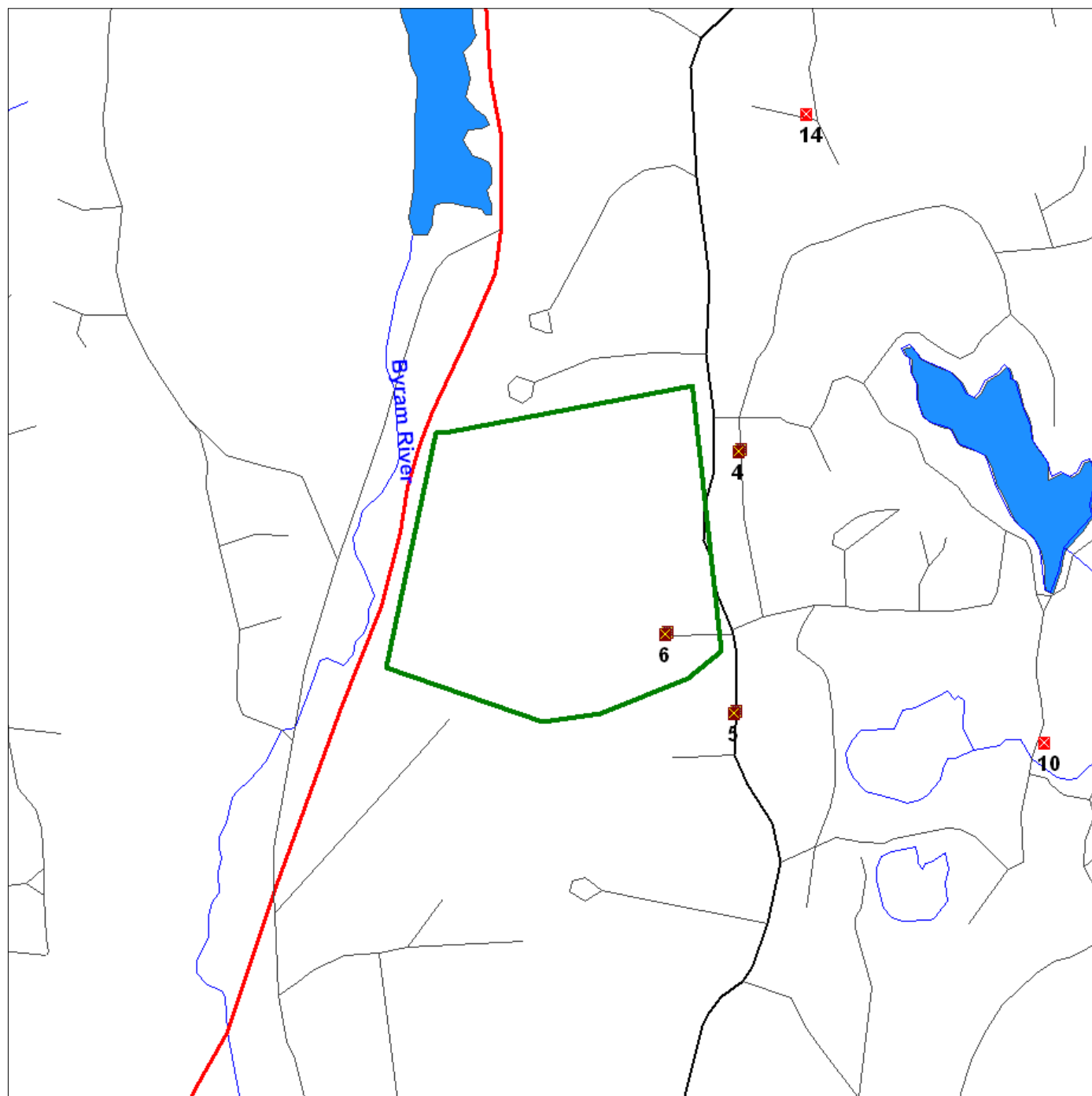


# Environmental FirstSearch

.5 Mile Radius from Area  
Non-ASTM Map: Spills 90, Permits, Other



**568 BEDFORD ROAD, ARMONK NY 10504**



Source: 2005 U.S. Census TIGER Files

Area Polygon .....				
Identified Site, Multiple Sites, Receptor .....				
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste				
Triballand.....				
National Historic Sites and Landmark Sites .....				
Railroads .....				



## **APPENDIX F**

### ***Qualifications of Environmental Professional(s)***

**Paul H. Ciminello, CEM, CAQS**  
*PRESIDENT*

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**EDUCATION**

Master of Environmental Management, 1986

School of the Environment, Duke University, Durham, North Carolina

Master of Arts in Public Policy Sciences, 1986

Institute of Policy Sciences and Public Affairs, Duke University, Durham, North Carolina

Bachelor of Arts, 1980

Tufts University, Medford, Massachusetts

**CERTIFICATIONS AND TRAINING**

Certified Environmental Manager, Environmental Assessment Association, 2006

Certified Air Quality Specialist, Environmental Assessment Association, 2007

NJ Dept. of Environmental Protection Licensed Subsurface Evaluator (License Number: 0014686)

NYS Dept. of Labor Certified Asbestos Building Inspector (Cert. Number: AH92-14884)

Connecticut Department of Environmental Protection Interim Environmental Professional

NYS Department of State, Division of Licensing Services, Real Estate Instructor

In compliance with OSHA Hazardous Materials Safety (29 CFR 1910) requirements

**PROFESSIONAL EXPERIENCE**

President, Ecosystems Strategies, Inc., Poughkeepsie, New York

*1992 to present*

Coordinates corporate strategic planning, financial management and marketing activities.

Oversees corporate work on state and federal superfund sites and manages education/training services. Responsible for technical services in areas of pollution prevention, contaminant delineation and site remediation. Twenty years experience in the investigation and remediation of petroleum contamination at commercial and residential properties. Major recent projects of relevance include:

- Irvington Waterfront Park (Irvington, NY): Project Manager for site investigation and remedial design of abandoned industrial riverfront properties. Documented soil and groundwater contamination and designed remediation including soil removal and site capping. Project completed in 2000; project awarded the 2000 Gold Medal Award by Consulting Engineers Council of New York State, Inc.
- Greyston Bakery Site (Yonkers, NY): Project Manager for site investigation and remedial design of former manufactured gas plant site for future use as a bakery. Documented soil, groundwater and soil gas contamination. Remedial systems included installations of a DNAPL collection system, a barrier layer, a subsurface depressurization system under the building, and groundwater monitoring. Project completed in 2004.
- 400 Block Redevelopment (Poughkeepsie, NY): Project Manager for site investigation and remedial design of multi-use industrial development property (boiler repair, clothing manufacturer, auto repair) for future retail/residential use. Documented soil (petroleum, PCBs, metals) and groundwater (petroleum) contamination. Remedial systems include: soil (and tank) removal, installation of a barrier, and groundwater monitoring. Project completed in 2006.
- Parkview Commons Site (Bronx, NY): Project Manager for site investigation and remedial design of former gas station/auto repair facility for future use as a residential/commercial building. Remedial investigation and design is currently on-going. Project completed in 2006.

Senior Hazardous Waste Specialist, U.S. Hydrogeologic, Inc., Poughkeepsie, New York 1986 to 1992  
Supervisor for corporate hazardous and solid waste investigatory and remedial services. Major projects included:

- Coordination of subsurface investigations at a New York State Superfund site (former industrial facility); project manager in charge of site reclassification (delisted as of January, 1991).
- Coordination of petroleum storage tank management plan for Dutchess County (NY) Department of Public Works, including an assessment of regulatory compliance, product utilization and physical conditions of more than 100 tanks at over 20 facilities.
- Environmental compliance Audit of 42,000-square foot printing facility with specific remediations for solvent handling/disposal, inks storage and metal recovery processes.

Adjunct Professor, (various institutions)

1991 to Present

Dutchess Community College, Poughkeepsie, New York  
Marist College, Poughkeepsie, New York  
Vassar College, Poughkeepsie, New York

Courses: Macroeconomics, Environmental Economics (DCC)  
Introduction to Environmental Issues (Marist)  
Environmental Geology (Vassar)

Policy Intern, Southern Growth Policies Board, North Carolina

1985

Prepared several in-depth and short analyses of environmental and economic issues, with specific concern for their impact on Southern state policies. Analyses included: hazardous waste facility setting policies and environmental impacts of "high tech" industries on host communities.

Research Assistant, University of Oregon, Eugene, Oregon

1983

Analyzed (with Dr. John Baldwin, Chairman of the Department of Planning, Public Policy and Management, U. of Oregon) the "Oregon Riparian Tax Incentive Program". Designed survey, conducted interviews and analyzed data. Summary paper with programmatic recommendations, was presented at the Annual Conference of the National Association of Environmental Educators.

## RELATED EXPERIENCE

Research Assistant, School of the Environment, Duke University, North Carolina

1986

Assisted in the design and evaluation of risk assessment models to estimate the impact of landfill leachate on human health. Monte Carlo simulation and pollutant transport models used in the analyses.

Research Assistant, USDA Forest Service, Duke University, North Carolina

1985

Collected economic data and assisted in statistical analyses for a study isolating research as a variable in timber production functions.

Research Assistant, School of the Environment, Duke University, North Carolina

1984

Preliminary research on the use of mathematical models by water resource administrators.

Teacher, Eugene, Oregon

1980-1983

## PRESENTATIONS

- "Environmental Risks in Lending" Training Session for Pawling Savings Bank employees, December 18 and 19, 1989; and July 1, 1993.
- "Identifying Environmental Concerns in Appraisals", Workshops for Lakewood Appraisal Corporation, October, and November, 1989 and April, 1990.
- "State and Local Groundwater Protection Strategies", Annual meeting of the New York State Association of Towns, February, 1990.
- "Environmental Audits on Orchards and Agricultural Properties", Resource Education Institute, Inc., Real Estate Site Assessment and Environmental Audits Conference, December 4, 1990.
- "Environmental Audits on Orchards and Agricultural Properties", National Water Well Association Annual Conference, July 29-31, 1991.
- "Principles of Environmental Economics for Ground Water Professionals", National Groundwater Association Outdoor Action Conference, May 27, 1993.
- "Impact of Environmental Liabilities on Real Estate Transactions", a NYS Department of Education approved course for licensed real estate professionals, March 1995; April 1995; May 1995; October 1995.
- "Brownfields Redevelopment in New York: A Discussion of Two Case Studies", New England Environmental Conference 1996, March, 1996.
- "Quantifying Environmental Liabilities", a NYS Department of Education approved course for licensed real estate professionals, March 1997.
- "Environmental Assessments in Urban Settings", Vassar College, Fall 1999 and Fall 2000.
- "Navigating Property Contaminant Problems", Land Trust Alliance Rally 2001, Oct 2001

## ARTICLES

Ciminello, P. 1993. *A Primer on Petroleum Bulk Storage Tanks and Petroleum Contamination of Property*, ASHI Technical Journal, Volume 3, No. 1

Ciminello, P. 1991. *Environmental Audits on Orchard and Other Agricultural Properties*, *Proceedings of the National Water Well Association Annual Conference*

Ciminello, P. 1991. *Property Managers Should Carefully Examine Current Fuel Storage Practices*, NYS Real Estate Journal, Vol. 3, No. 9

Ciminello, P. 1991. *New DEC Regulations Affect Development of Agricultural Lands*, NYS Real Estate Journal, Vol. 3, No. 6

Ciminello, P., Hodges-Copple, J. 1986. *Managing Toxic Risks From High Tech Manufacturing, Growth and Environmental Management Series* (Southern Growth Policies Board)

Ciminello, P. 1986. *State Assistance in Financing Water Treatment Facilities*, Growth and Environmental Management Series (Southern Growth Policies Board)

Ciminello, P. 1985. *Plants Amid Plantings: The Future Role of Environmental Factors in Business Climate, Ratings*, Southern Growth ALERT (Southern Growth Policies Board)

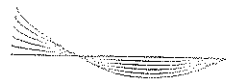
Ciminello, P., J. Baldwin, N. Duhnkrack, 1984, *An Incentive Approach to Riparian Lands Conservation*, Monographs in Environmental Education and Environmental Studies (North American Association of Environmental Educators)

**PROFESSIONAL AFFILIATIONS**

*American Water Resources Association*  
*National Groundwater Association*  
*Hazardous Materials Control Research Institute*  
*Environmental Assessment Association*

**ADDITIONAL INFORMATION**

*Member, Dutchess County (NY) Youth Board (1987-1992); Chairman, 1992*  
*Member, City of Poughkeepsie (NY) School District Ad Hoc Committee on Teen Parents and Pregnancy Prevention (1991)*  
*Member, City of Poughkeepsie School District Budget Advisory Committee (1994 to 2000)*  
*Member, City of Poughkeepsie PTA and Middle School Building Level Team*



# Ecosystems Strategies, Inc.

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**Richard Hooker**  
*Project Manager*

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## PROFESSIONAL EXPERIENCE

*Project Manager, Ecosystems Strategies, Inc., Poughkeepsie, NY*

*2001 - present*

- Conducts Environmental Site Investigations and prepares final site assessment reports. Over 300 Investigations and Final Reports completed to date.
- Investigates site histories.
- Conducts facility inspections.
- Reviews regulatory agency records.
- Documents facility compliance with relevant State and Federal regulations.
- Conducts Phase II Technical Environmental Investigations and prepares technical reports.
- Researches field and regulatory information.
- Manages tank removals.
- Coordinates subcontractors.
- Oversees fieldwork and handles collection of material, soil and water samples.

## EDUCATION

*Ph.D. from the University of St. Andrews, St. Andrews, Scotland*

*1997*

*BA from Staffordshire University, Stoke-on-Trent, England*

*1989*

## SELECT PROJECTS

### ***Former Fur Processing Facility, Bronx, NY***

Documented the presence of chlorinated hydrocarbon, petroleum, and metals contamination beneath and/or near a former industrial structure. Coordinated the sampling and removal of multiple drums of hazardous and non-hazardous material from the structure and secured NYCDEP approval. Developed a Workplan for site remediation and directed environmental restoration activities, including: excavation and removal of both aboveground and underground storage tanks, removal of contaminated soils, installation of a barrier layer soil cap, and pre-demolition removal of asbestos materials.

### ***Jamaica Hospital Medical Center, Queens, NY***

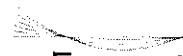
Coordinated and supervised the removal of two, large underground storage tanks and documented site conditions through soil and groundwater sampling. Secured NYSDEC approval of PBS tank closure and registration requirements.

### ***The Point CDC, Bronx, NY***

ESI assisted with the open space for community access to the waterfront in revitalization of a former fur processing plant. Activities included subsurface investigation, hazardous waste characterization/disposal program. Worked with architects, engineers, and demolition contractors to demolish existing structure and assisted with site redesign as a multi-purpose community access point to the Bronx River.

## PROFESSIONAL CERTIFICATIONS

- OSHA Hazardous Waste Site Operations
- OSHA Emergency Response Training
- 29 CFR 1910.120 (e) – 40 Hour Hazwoper



## **APPENDIX G**

### ***Scope of Services***





## **Phase I Environmental Site Assessment** **Scope of Services**

### **Task 1.0: Description of Subject Property and Surrounding Area Physical Settings**

- 1.1 Description of property location, topography, geology, hydrogeology, surface hydrology and wetlands
- 1.2 Identification of adjoining and surrounding area properties

### **Task 2.0: Historic Investigation (Review of Applicable, Reasonably Ascertainable Sources)**

- 2.1 Review of historic maps and plans
- 2.2 Review of aerial photographs
- 2.3 Review of local records (e.g., building department), including cursory ownership information
- 2.4 Interviews with User, Key Site Manager, and other knowledgeable individuals
- 2.5 Review of User or property owner provided documents and/or analytical results

### **Task 3.0: Federal and State Regulatory Agency Records Review**

- 3.1 Review of ASTM-required federal, state, and/or tribal databases at required search distances:
  - Federal NPL (1.0 mile) and delisted NPL sites (0.5 mile)
  - Federal CERCLIS list and CERCLIS NFRAP site list (0.5 mile)
  - Federal RCRA CORRACTS facilities list (1.0 mile)
  - Federal RCRA non-CORRACTS TSD facilities list (0.5 mile)
  - Federal RCRA generators list (subject/adjoining properties)
  - Federal ERNS list (subject property)
  - Federal, state, and tribal institutional control/engineering control registries (subject property)
  - State- and tribal-equivalent NPL (1.0 mile)
  - State- and tribal-equivalent CERCLIS (0.5 mile)
  - State and tribal Brownfield and voluntary cleanup sites (0.5 mile)
  - State and tribal leaking storage tank lists (0.5 mile)
  - State (including locally administered) and tribal registered storage tank lists (subject/adjoining)
  - State and tribal landfill and/or solid waste disposal site lists (0.5 mile)
- 3.2 Review of additional federal and state environmental databases:
  - State spill file records (0.5 mile)
  - State MOSF list (0.5 mile)
  - State radon data (by local municipality as available)
  - Federal and state wastewater discharge permits (subject/adjoining properties)
- 3.3 Interviews (as applicable) with government representative regarding regulatory compliance

### **Task 4.0: Physical Inspection**

- 4.1 Inspection of property and structures for potential contamination and contaminant sources, including:
  - Hazardous/medical/radioactive waste storage and disposal areas
  - Petroleum and/or chemical storage (including tanks and associated piping)
  - Overt indications of asbestos-containing materials and lead-based paint
  - Wastewater and stormwater discharge systems
  - Equipment potentially containing polychlorinated biphenyls (PCBs)
- 4.2 Inspection of property for the following:
  - Presence of contamination (e.g., debris, soil staining)
  - Evidence of prior structures and uses
  - Unusual or man-made topographical formations (e.g., berms, sinkholes)
  - On-site surface water quality
  - Evidence and location of wells
  - Vegetative stress
- 4.3 Identification of overt on-site sensitive environmental receptors (e.g., wetlands)
- 4.4 Limited inspection of adjoining and nearby properties for:
  - Potential off-site sources of contamination
  - Sensitive environmental receptors
- 4.5 If appropriate, interviews with owners/tenants/operators and other available knowledgeable individuals present during physical inspection

### **Task 5.0: Preparation of Written Summary Report**

- 5.1 Summary of findings of Tasks 1.0 through 4.0
- 5.2 Identification of any Recognized Environmental Conditions and/or other potential concerns
- 5.3 Conclusions and Recommendations, including any specific additional investigatory or remedial work
- 5.4 Production and transmission of up to two (2) copies of the final Phase I ESA to Client.

## **APPENDIX M**



**Engineers  
Planners  
Surveyors  
Landscape  
Architects  
Environmental  
Scientists**

**Engineering  
For Tomorrow's  
Challenges**

## **TRAFFIC IMPACT STUDY**

**FOR**

### **BRYNWOOD GOLF AND COUNTRY CLUB**

**Town of North Castle, Westchester County, NY**

**MARCH 8, 2013**

**REVISED: MAY 8, 2013**

*Prepared For*

**Brynwood Partners LLC  
505 Fifth Avenue  
New York, NY 10017**

*Prepared By*

**MASER CONSULTING P.A.**

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Hawthorne, NY 10532  
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**John T. Collins, Ph.D., P.E.  
License No. 46029**

  
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**Ronald P. Rieman  
Assistant Project Manager**

**MC Project No. 12100120A**

<b>TABLE OF CONTENTS</b>	<b>PAGE NO.</b>
A. INTRODUCTION.....	1
B. PROJECT DESCRIPTION (FIGURE NO. 1).....	1
C. STUDY AREA INTERSECTIONS (FIGURES NO. 1 AND 1A) .....	1
D. YEAR 2013 EXISTING TRAFFIC VOLUMES (FIGURES NO. 2, 2A, 3, 3A AND 4, 4A).....	2
E. YEAR 2018 NO-BUILD TRAFFIC VOLUMES (FIGURES NO. 5, 5A THROUGH 13, 13A)....	3
F. SITE GENERATED TRAFFIC VOLUMES .....	3
G. ARRIVAL/DEPARTURE DISTRIBUTION (FIGURES NO. 14 AND 14A).....	4
H. YEAR 2018 BUILD TRAFFIC VOLUMES (FIGURES NO. 15, 15A THROUGH 20, 20A).....	4
I. DESCRIPTION OF ANALYSIS PROCEDURES.....	4
J. RESULTS OF ANALYSIS (TABLE NO. 1).....	5
K. EVALUATION OF PEAK SCHOOL HOUR (NYS ROUTE 22/TRIPP LANE) .....	15
L. ALTERNATIVE ACCESS - BYRAM HILLS HIGH SCHOOL .....	15
M. GATEHOUSE .....	16
N. ACCIDENT DATA.....	16
O. SUMMARY AND CONCLUSION .....	17

## **APPENDICES**

APPENDIX A .....	FIGURES
APPENDIX B .....	TABLES
APPENDIX C .....	LEVEL OF SERVICE STANDARDS
APPENDIX D .....	CAPACITY ANALYSIS SUMMARY SHEETS
APPENDIX E .....	TRAFFIC COUNT DATA
APPENDIX F.....	ACCIDENT DATA
APPENDIX G .....	EVALUATION OF PEAK SCHOOL HOUR (NYS ROUTE 22/TRIPP LANE)
APPENDIX H .....	ALTERNATIVE ACCESS – BYRAM HILLS HIGH SCHOOL
APPENDIX I.....	GATEHOUSE – SINGLE LANE CHANNEL QUEUING ANALYSIS

## **A. INTRODUCTION**

This Study was prepared to evaluate the potential traffic impacts of the proposed Project. The following sections provide a description of the proposed Project and the tasks undertaken in completing our evaluation.

## **B. PROJECT DESCRIPTION (Figure No. 1)**

As part of the Brynwood Golf and Country Club Project, an 88 unit adult oriented residential community is proposed. Access to the site is proposed via the existing driveway to NYS Route 22. In addition improvements and renovations to the Club's facilities and amenities will be made. A secondary access (right turn exit only) is also proposed from the existing clubhouse parking lot. This secondary access will result in improved circulation and serve as an emergency access.

## **C. STUDY AREA INTERSECTIONS (Figures No. 1 and 1A)**

As required by the Scoping Document and shown on Figure No. 1A, the following intersections (the Study Area Intersections) were analyzed:

- 1) NYS Route 22 and Chestnut Ridge Road
- 2) NYS Route 22 and Baldwin Road
- 3) NYS Route 22 and Site Access
- 4) NYS Route 22 and Upland Lane/Coman Hill Elementary School
- 5) NYS Route 22 and Tripp Lane (Byram Hills High School)
- 6) NYS Route 22 and Banksville Road
- 7) NYS Route 22 and NYS Route 433/Niles Avenue
- 8) NYS Route 22 and I-684 NB On/Off Ramps
- 9) NYS Route 22 and I-684 SB On/Off Ramps

Section J of this Study provides a description of the existing geometrics, traffic control and a summary of the Existing and Future Levels of Service for each of the study area intersections.

**D. YEAR 2013 EXISTING TRAFFIC VOLUMES (Figures No. 2, 2A, 3, 3A and 4, 4A)**

In order to identify current traffic conditions for the Study Area Intersections, turning movement counts were conducted in December 2010, April 2011, January 2013 and February 2013 between the hours of 6:30 AM and 9:30 AM to determine the “Weekday Peak AM Hour” and between the hours of 3:00 PM and 6:30 PM to determine the “Weekday PM Peak Hour”. In addition Automatic Traffic Recorder (ATR) counts were also collected in September 2012. A copy of the traffic count data (manual traffic counts including a vehicle classification count at the NYS Route 22/Upland Lane/Coman Hill Elementary School and NYS Route 22/Tripp Lane (Byram Hills High School) intersections/ATR counts) is contained in Appendix “E” of this Study.

Based on a review of the manual and machine traffic count data, there were two distinct Weekday Peak AM Hours; 7:00AM to 8:00AM, which corresponds to the peaking of the Byram Hills High School, and 8:15AM to 9:15AM, which corresponds to the peaking of the Coman Hill Elementary School and were elected to be analyzed. Based on a review of this data, it was determined that there was no peaking along NYS Route 22 during the School Peak Hour with the commuter peak hour occurring during the 5:00 PM to 6:00 PM time period ( Weekday Peak PM Highway Hour) Thus only one PM Peak Hour was evaluated. However to address the School Peak Hour, an analysis of the Byram Hills High School Driveway (NYS Route 22/Tripp Lane) has been evaluated for the 3:00 PM to 4:00 PM Hour and is further discussed in Section K. In addition based on a comparison of the ATR counts, Saturday combined traffic volumes are lower than the Weekday Peak PM Highway Hour. Therefore, no intersection analysis is needed for Saturday.

The following peak hours were evaluated.

Weekday Peak AM Hour	7:00 AM – 8:00 AM
Weekday Peak AM Hour	8:15 AM – 9:15 AM
Weekday Peak PM Highway Hour	5:00 PM – 6:00 PM

The resulting Year 2013 Existing Traffic Volumes are shown on Figures No. 2, 2A, 3, 3A and 4, 4A for each of the Peak Hours, respectively.

#### **E. YEAR 2018 NO-BUILD TRAFFIC VOLUMES (Figures No. 5, 5A through 13, 13A)**

For the purpose of analysis, a Design Year of 2018 has been utilized in completing the traffic analysis.

In order to account for normal background traffic growth in the area, the Year 2013 Existing Traffic Volumes were increased by a growth factor of 1% per year (NYSDOT historical data has shown little to no traffic growth in the area) to the 2018 Design Year for a total background growth of 5%. The resulting Year 2018 Projected Traffic Volumes are shown on Figures No. 5, 5A, 6, 6A and 7, 7A for each of the Peak Hours, respectively.

In addition, traffic for other potential developments in the area, including the approved St. Nersess Seminary, as well as 135 Bedford Road (vacant office building), 170 Bedford Road (retail/office), and 37-41 Maple Avenue (retail/office), all based on information contained in the Armonk CBD Area Traffic Management Study, 90-92 Business Park Drive based on information contained in our March 17, 2011 Traffic Impact Study for that project, and Armonk Square based on information contained in our August 11, 2011 Traffic Impact Study for that project was included. The Other Development Traffic Volumes are shown on Figures No. 8, 8A, 9, 9A and 10, 10A for each of the Peak Hours, respectively.

The resulting Year 2018 No-Build Traffic Volumes are shown on Figures No. 11, 11A, 12, 12A and 13, 13A for each of the Peak Hours, respectively.

#### **F. SITE GENERATED TRAFFIC VOLUMES**

As previously discussed as part of the Brynwood Golf and Country Club Project, an 88 unit adult oriented residential community is proposed. In addition improvements and renovations to the Club's facilities and amenities will be made. The improvements and renovations to the Club's facilities and amenities would not generate additional traffic to the area roadways, that traffic is already included in the existing traffic patterns.

Based on information published by the Institute of Transportation Engineers, "Trip Generation Handbook", 9<sup>th</sup> Edition for ITE Land Use 230 – Residential Condominium/Townhouse units, the 88 residential units would generate a total of 47 trips (8 entering trips and 39 exiting trips) during the Weekday Peak AM Hours and a total of 55 trips (37 entering trips and 18 exiting trips) during the Weekday Peak PM Highway

Hour. The Hourly Trip Generation Rates and anticipated Site Generated Traffic Volumes are summarized below:

	Entry		Exit		Total	
	HTGR	Volume	HTGR	Volume	HTGR	Volume
<b>88 units</b>						
Weekday Peak AM Hour	0.09	<b>8</b>	0.44	<b>39</b>	0.53	<b>47</b>
Weekday Peak PM Highway Hour	0.42	<b>37</b>	0.20	<b>18</b>	0.62	<b>55</b>

Based on Institute of Transportation Engineers, "Trip Generation Handbook", 9<sup>th</sup> Edition  
ITE Land Use 230 – Residential Condominium/Townhouse Units

#### **G. ARRIVAL/DEPARTURE DISTRIBUTION (Figures No. 14 and 14A)**

In order to assign the Site Generated Traffic Volumes to the roadway network, it was necessary to establish an arrival/departure distribution. Based on a review of the existing traffic volumes on the surrounding roadway network and expected travel patterns, an arrival/departure distribution was established and is shown on Figures No. 14 and 14A.

#### **H. YEAR 2018 BUILD TRAFFIC VOLUMES (Figures No. 15, 15A through 20, 20A)**

The Site Generated Traffic Volumes were assigned to the roadway network based on the arrival/departure distribution patterns shown on Figure No. 14 and 14A. The resulting Site Generated Traffic Volumes are shown on Figures No. 15, 15A, 16, 16A and 17, 17A for each of the Peak Hours, respectively. The Site Generated Traffic Volumes were then added to the Year 2018 No-Build Traffic Volumes to obtain the Year 2018 Build Traffic Volumes.

The resulting Year 2018 Build Traffic Volumes are shown on Figures No. 18, 18A, 19, 19A and 20, 20A for each of the Peak Hours, respectively.

#### **I. DESCRIPTION OF ANALYSIS PROCEDURES**

In order to determine existing and future traffic operating conditions at the study area intersections, it was necessary to perform capacity analyses. The following is a brief description of the analysis method utilized in this report:



- Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *Highway Capacity Manual*, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service “A” represents the best condition and a Level of Service “F” represents the worst condition. A Level of Service “C” is generally used as a design standard while a Level of Service “D” is acceptable during peak periods. A Level of Service “E” represents an operation near capacity. In order to identify an intersection’s Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *Highway Capacity Manual*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix “C” of this Study.

## **J. RESULTS OF ANALYSIS (Table No. 1)**

In order to evaluate current and future traffic operating conditions at each of the Study Area Intersections, a SYNCHRO analysis was conducted utilizing the procedures described above. The SYNCHRO analysis takes into consideration existing geometry including grades, conflict points, roadway widths and sight distances. Summarized below is a description of the existing geometrics, traffic control and a summary of the Existing and Future Levels of Service and any potential improvements.

Table No. 1 summarizes the results of the capacity analysis for the Year 2013 Existing Condition, Year 2018 No-Build Condition, and 2018 Build Condition. The capacity

analysis which also contains the lane geometry, lane widths, traffic control and speed limits is contained in Appendix “D”.

1. NYS Route 22 and Chestnut Ridge Road

Chestnut Ridge Road intersects NYS Route 22 at a “T” shaped, unsignalized intersection. All approaches to the intersection consist of one lane in each direction and the Chestnut Ridge Road approach is “Stop” sign controlled. There are no sight distance restrictions at this intersection.

Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the Chestnut Ridge Road eastbound approach (minor movements) is currently operating at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour.

Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build Traffic Volumes indicates that the Chestnut Ridge Road eastbound approach (minor movements) is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the Chestnut Ridge Road eastbound approach (minor movements) is projected to continue to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

2. NYS Route 22 and Baldwin Road

Baldwin Road intersects NYS Route 22 at a “T” shaped, unsignalized intersection. All approaches to the intersection consist of one lane in each direction and the Baldwin Road approach is “Stop” sign controlled. There are no sight distance restrictions at this intersection.

#### Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the Baldwin Road eastbound approach (minor movements) is currently operating at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build Traffic Volumes indicates that the Baldwin Road eastbound approach (minor movements) is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the Baldwin Road eastbound approach (minor movements) is projected to continue to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

### 3. NYS Route 22 and Site Access

All approaches to the driveway consist of one lane in each direction and the driveway approach is “Stop” sign controlled. The sight distance provided at the Site access is in excess of 750 feet to the left and in excess of 750 feet to the right. For the posted 40 mph speed limit, the stopping sight distance is 305 feet and the intersection sight distance is 445 feet looking to the left and 385 feet looking to the right. Based on the above, there is more than adequate sight distance at the Site access.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the driveway eastbound approach (minor movements) is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM

Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

4. NYS Route 22 and Upland Road/Coman Hill Elementary School

Upland Road intersects NYS Route 22 opposite the Coman Hill Elementary School at a four-way unsignalized intersection. All approaches to the intersection consist of one lane in each direction and the Upland Road and Coman Hill Elementary School approaches are “Stop” sign controlled. There are no sight distance restrictions at this intersection.

Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the Upland Road westbound approach (minor movements) is currently operating at a Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “E” during the 8:15AM – 9:15AM Weekday Peak AM Hour (which corresponds to the peaking of the Coman Hill Elementary School), and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour and the Coman Hill Elementary School eastbound approach is currently operating at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour.

Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build Traffic Volumes indicates that the Upland Road westbound approach (minor movements) is projected to operate at a Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “F” during the 8:15AM – 9:15AM Weekday Peak AM Hour (which corresponds to the peaking of the Coman Hill Elementary School) and is projected to operate at a Level of Service “C” during the Weekday Peak PM Highway Hour and the Coman Hill Elementary School eastbound approach is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the Upland Road westbound approach (minor movements) is projected to continue to operate at a Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “F” during the 8:15AM – 9:15AM Weekday Peak AM Hour (which corresponds to the peaking of the Coman Hill Elementary School) and is projected to continue to operate at a Level of Service “C” during the Weekday Peak PM Highway Hour and the Coman Hill Elementary School eastbound approach is projected to continue operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “C” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

5. NYS Route 22 and Tripp Lane (Byram Hills High School)

Tripp Lane (Byram Hills High School) intersects NYS Route 22 at a “T” shaped, signalized intersection. All approaches to the intersection consist of one lane in each direction. There are no sight distance restrictions at this intersection.

#### Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the intersection is currently operating at an overall Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour (which corresponds to the peaking of Byram Hills High School), is currently operating at an overall Level of Service “A” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at an overall Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build traffic Volumes indicates that the intersection is projected to operate at an overall Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour (which corresponds to the peaking of Byram Hills High School), is projected to operate at an overall Level of Service “A” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the intersection is projected to continue to operate at an overall Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour (which corresponds to the peaking of Byram Hills High School)<sup>(1)</sup>, is projected to continue to operate at an overall Level of Service “A” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour<sup>(1)</sup>. It should be noted that while the intersection will continue to operate at an overall Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour (which corresponds to the peaking of Byram Hills High School), the northbound approach is projected to experience an increase in delay. This can be reduced by increasing the amount of green time for the northbound approach. In addition, alternative access plans have been discussed in Section L which would also improve the operating condition at this location.

#### 6. NYS Route 22 and Banksville Road

Banksville Road intersects NYS Route 22 at a “T” shaped, signalized intersection. All approaches to the intersection consist of one lane in each direction. There are no sight distance restrictions at this intersection.

#### Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the intersection is currently operating at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at an overall Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build traffic Volumes indicates that the intersection is projected to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the intersection is projected to continue to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour.

7. NYS Route 22 and NYS Route 433/Niles Avenue

NYS Route 433 intersects NYS Route 22 opposite Niles Avenue at a full movement, signalized intersection. The NYS Route 22 northbound approach consists of two lanes in the form of a shared left/through lane and a separate right turn lane. All other approaches to the intersection consist of one lane in each direction. There are no sight distance restrictions at this intersection.

#### Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the intersection is currently operating at an overall Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at an overall Level of Service “C” during the Weekday Peak PM Highway Hour.

#### Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build traffic Volumes indicates that the intersection is projected to operate at an overall Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at an overall Level of Service “C” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the intersection is projected to continue to operate at an overall Level of Service “C” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to

operate at an overall Level of Service “C” during the Weekday Peak PM Highway Hour.

8. NYS Route 22 and I-684 NB On/Off Ramps

The I-684 Northbound On/Off Ramps intersects NYS Route 22 with the I-684 Northbound On-Ramp under signal control and the I-684 Northbound Off-Ramp to NYS Route 22 north under “Stop” sign control and the I-684 Northbound Off-Ramp to NYS Route 22 south under “Yield” sign control. The NYS Route 22 northbound approach consists of a double left turn lane for I-684 northbound traffic and two through lanes and the NYS Route 22 southbound approach consists of two through lanes and a separate right turn lane for I-684 northbound traffic. There are no sight distance restrictions at the NYS Route 22/I-684 NB On/Off Ramps.

Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the NYS Route 22/I-684 Northbound On-Ramp which is under signal control is currently operating at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at an overall Level of Service “A” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at an overall Level of Service “B” during the Weekday Peak PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 north which is under “Stop” sign control is currently operating at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 south which is under “Yield” sign control is currently operating at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour.

Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build Traffic Volumes indicates that the NYS Route 22/I-684 Northbound On-Ramp which is under signal control is projected to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at an overall Level of Service “B” during the Weekday Peak



PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 north which is under “Stop” sign control is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 south which is under “Yield” sign control is projected to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the NYS Route 22/I-684 Northbound On-Ramp which is under signal control is projected to continue to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 north which is under “Stop” sign control is projected to continue to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “C” during the Weekday Peak PM Highway Hour. The I-684 Northbound Off-Ramp to NYS Route 22 south which is under “Yield” sign control is projected to continue to operate at a Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour.

#### 9. NYS Route 22 and I-684 SB On/Off Ramps

The I-684 Southbound On/Off Ramps intersects NYS Route 22 with the I-684 Southbound Off-Ramp left turn under signal control and the I-684 Southbound Off-Ramp right turn to NYS Route 22 south under “Yield” sign control. The NYS Route 22 North On-Ramp and NYS Route 22 South On-Ramp to I-684 Southbound are free flow right turns. There are no sight distance restrictions at the NYS Route 22/I-684 SB On/Off Ramps.

#### Year 2013 Existing Traffic Volumes

Capacity analysis conducted utilizing the Year 2013 Existing Traffic Volumes indicates that the NYS Route 22/I-684 Southbound Off-Ramp left turn which is under signal control is currently operating at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at an overall Level of Service “A” during the Weekday Peak PM Highway Hour. The I-684 Southbound Off-Ramp right turn to NYS Route 22 south which is under “Yield” sign control is currently operating at a Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is currently operating at a Level of Service “F” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour. The NYS Route 22 South On-Ramp to I-684 Southbound and NYS Route 22 North On-Ramp to I-684 Southbound (free flow right turns) are currently operating at a Level of Service “A”.

#### Year 2018 No-Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 No-Build Traffic Volumes indicates that the NYS Route 22/I-684 Southbound Off-Ramp left turn, which is under signal control, is projected to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at an overall Level of Service “A” during the Weekday Peak PM Highway Hour. The I-684 Southbound Off-Ramp right turn to NYS Route 22 south which is under “Yield” sign control is projected to operate at a Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to operate at a Level of Service “F” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour. The NYS Route 22 South On-Ramp to I-684 Southbound and NYS Route 22 North On-Ramp to I-684 Southbound (free flow right turns) are projected to operate at a Level of Service “A”.

#### Year 2018 Build Traffic Volumes

Capacity analysis conducted utilizing the Year 2018 Build Traffic Volumes indicates that the NYS Route 22/I-684 Southbound Off-Ramp (left turn) which is under signal control is projected to continue to operate at an overall Level of Service “B” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at an overall Level of Service “B” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at an

overall Level of Service “A” during the Weekday Peak PM Highway Hour. The I-684 Southbound Off-Ramp right turn to NYS Route 22 south which is under “Yield” sign control is projected to continue to operate at a Level of Service “F” during the 7:00AM – 8:00AM Weekday Peak AM Hour, is projected to continue to operate at a Level of Service “F” during the 8:15AM – 9:15AM Weekday Peak AM Hour, and is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour. The NYS Route 22 South On-Ramp to I-684 Southbound and NYS Route 22 North On-Ramp to I-684 Southbound (free flow right turns) are projected to continue to operate at a Level of Service “A”.

#### **K. EVALUATION OF PEAK SCHOOL HOUR (NYS ROUTE 22/TRIPP LANE)**

As discussed in Section D, based on a review of the manual and machine traffic count data, it was determined that there was no peaking along NYS Route 22 during the School Peak Hour with the commuter peak hour occurring during the 5:00 PM to 6:00 PM time period (Weekday Peak PM Highway Hour). Thus only one PM Peak Hour was evaluated. However to address the School Peak Hour, an analysis of the Byram Hills High School Driveway (NYS Route 22/Tripp Lane) has been evaluated for the 3:00 PM to 4:00 PM Hour. The Resulting Year 2013 Existing Traffic Volumes, Year 2018 No-Build Traffic Volumes, Site Generated Traffic Volumes (assuming the conservative Peak PM Hour trip generation rates), Year 2018 Build Traffic Volumes and resulting analysis (Level of Service Summary Table A) are contained in Appendix “G” of this Study. As shown on Table A, the NYS Route 22 and Tripp Lane (Byram Hills High School) intersection is currently operating at an overall Level of Service “B” and is projected to continue operate at an overall Level of Service “B”.

#### **L. ALTERNATIVE ACCESS - BYRAM HILLS HIGH SCHOOL**

While the proposed Project would not significantly impact the operation of the NYS Route 22 and Tripp Lane (Byram Hills High School) intersection, the Scoping Document requested the evaluation of alternatives to reduce existing congestion at the High School during school hours. Although not proposed by the Applicant as part of the Project, two alternative access scenarios were developed for the Byram Hills High School. (See DEIS Exhibit III.M-21, High School Access Road Plan Key Map). Alternative 1 provides a connection to Perry Court providing access to Byram Lake Road. (See DEIS Exhibit III.M-22, High School Access Road Plan Alternative 1). Alternative 2 provides a connection to Blair Road also providing access to Byram Lake Road. (See DEIS Exhibit III.M-23, High School Access Road Plan Alternative 2). Each of these alternatives would reduce school traffic destined to/from the Byram Lake Road area as well as some traffic destined to/from NYS Route 22 south and would provide improved operation at Tripp Lane.

Appendix “H” contains an analysis of the NYS Route 22 and Tripp Lane (Byram Hills High School) intersection with 25 % of the exiting traffic diverted from the NYS Route 22 and Tripp Lane intersection to either of the above alternative access plans. As shown on the Level of Service Summary Table (Table B), the NYS Route 22 and Tripp Lane intersection will operate at improved Levels of Service with either of the alternative access plans.

Given the configuration of on-site parking on the High School campus, the Byram Hills School District has indicated that it favors the Perry Court alternative. The Applicant will consider assisting in the construction of this roadway.

#### **M. GATEHOUSE**

A gatehouse will be located at the entry, approximately 65 feet from NYS Route 22 and will be staffed 24 hours a day. Based on a single lane channel queue analysis (Appendix I of this Study) no significant queuing is expected at the gatehouse (less than 2 vehicles). In addition, since the guardhouse will be staffed 24 hours a day, any queuing that occurs can be controlled by the guard during peak times or during event conditions. During periods of high club activity, including Weekends, the gate may remain open to further reduce the potential of queuing onto NYS Route 22.

#### **N. ACCIDENT DATA**

Accident data was obtained from the New York State Department of Transportation Records Access Office for the Study Area Intersections (NYS Route 22 from Chestnut Ridge Road to NYS Route 433 and NYS Route 22 in the vicinity of the I-684 ramps) for the latest available three year period (January 1, 2009 to December 31, 2011).

Over this three year period there were 19 reported accidents in 2009, 20 reported accidents in 2010 and 19 reported accidents in 2011 along NYS Route 22 from Chestnut Ridge Road to NYS Route 433 and 7 reported accidents in 2009, 3 reported accidents in 2010 and 6 reported accidents in 2011 along NYS Route 22 in the vicinity of the I-684 Ramps.

Based on a review of the Accident Data, the type of accidents are typical, including rear end accidents and turning accidents with apparent contributing factors such as failure to yield right of way and driver following too close. It is expected that the proposed Project will not have a significant impact on the accident rate on the area roadways. A copy of the accident data is contained in Appendix “F” of this Study.

## **O. SUMMARY AND CONCLUSION**

As summarized in this Study and shown on Table No. 1, the proposed Project will not significantly affect the area roadways. Similar Levels of Service and delays will be experienced under Future No-Build and Future Build Conditions. As a result no roadway improvements are recommended as a result of the Project.

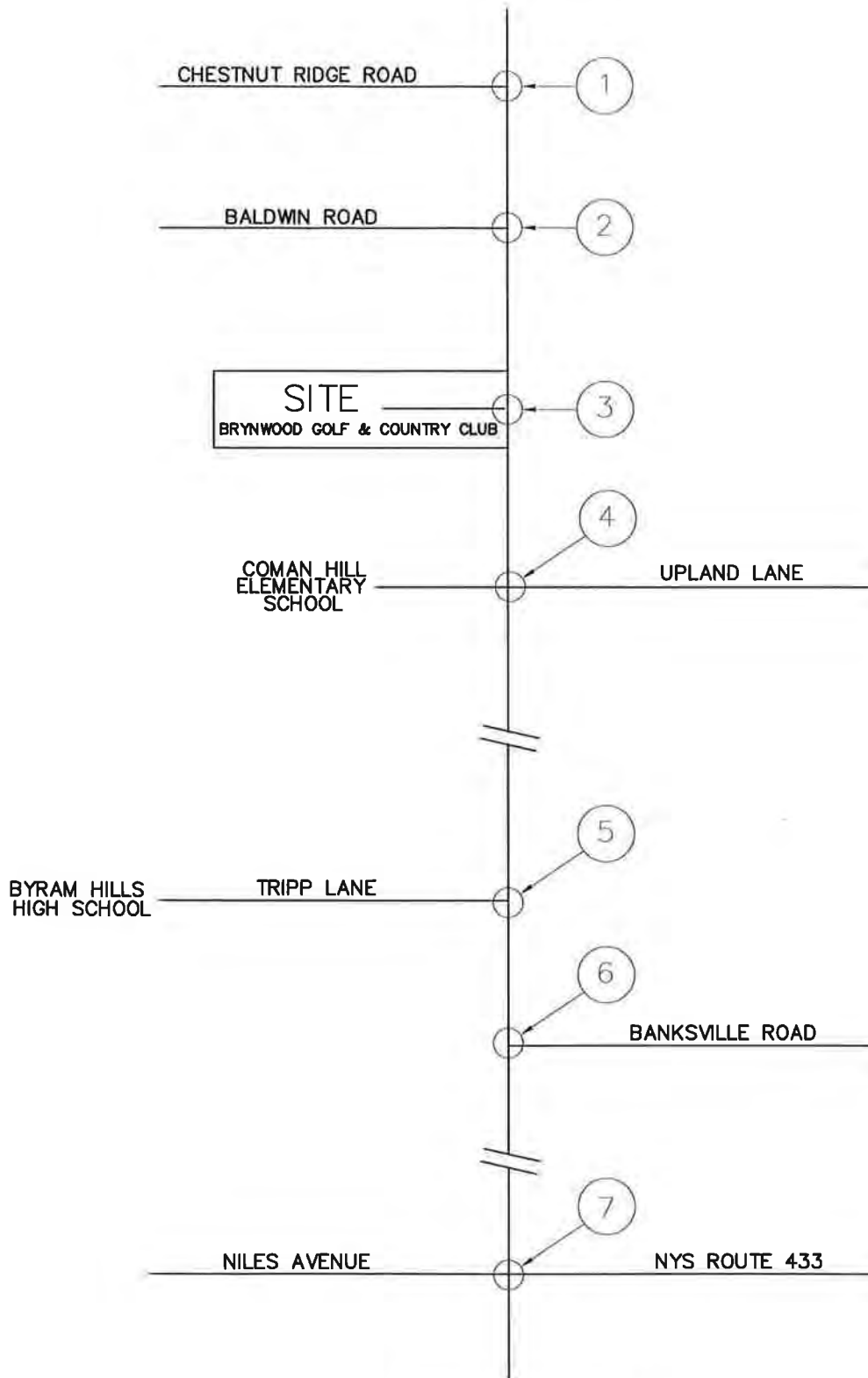
# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX A**

### **FIGURES**

NYS ROUTE 22 (BEDFORD ROAD)



SEE INSERT A

NOTE: LINE DIAGRAM NOT TO SCALE



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SITE LOCATION AND STUDY AREA  
INTERSECTIONS

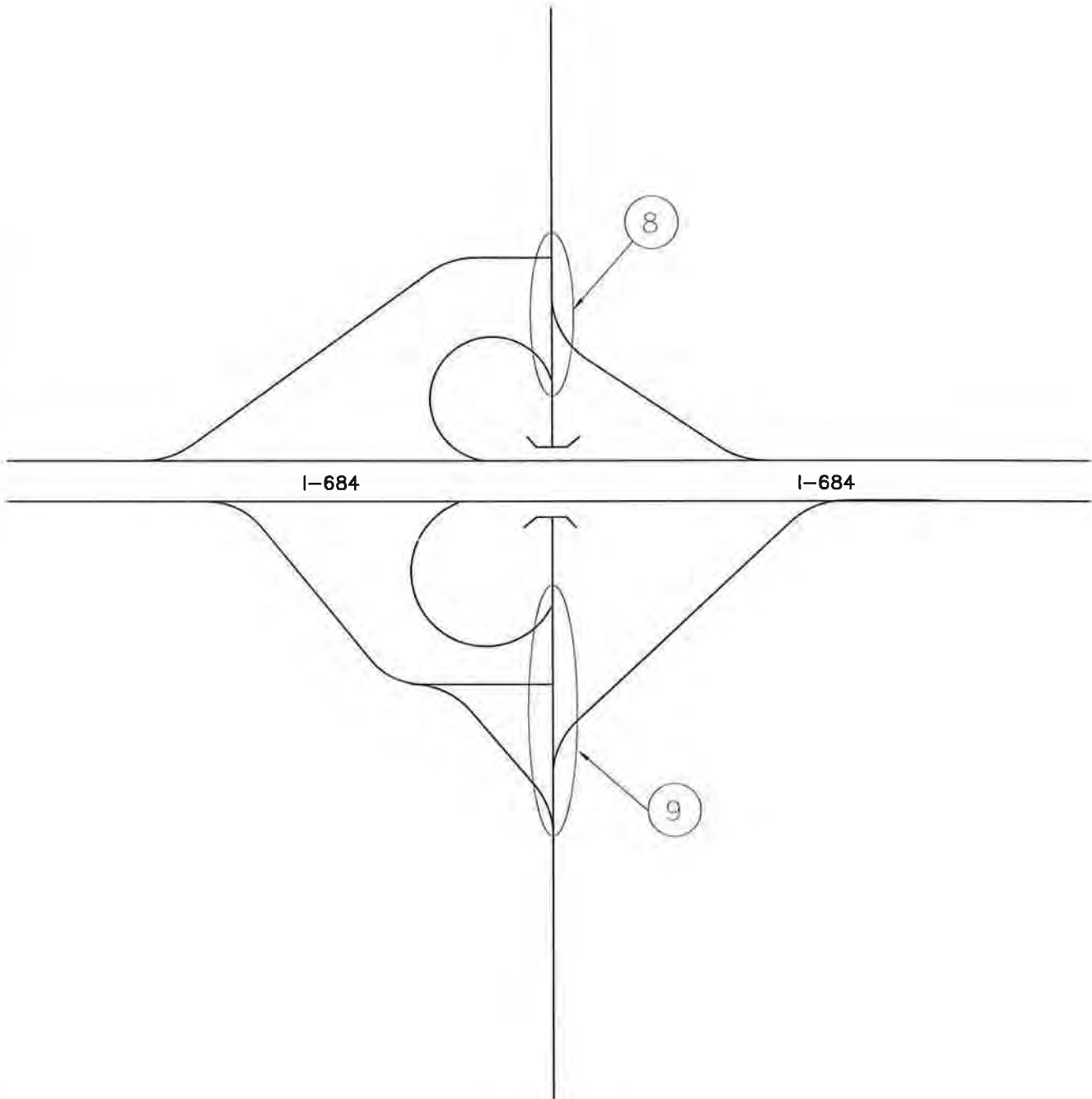


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NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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INTERSECTIONS



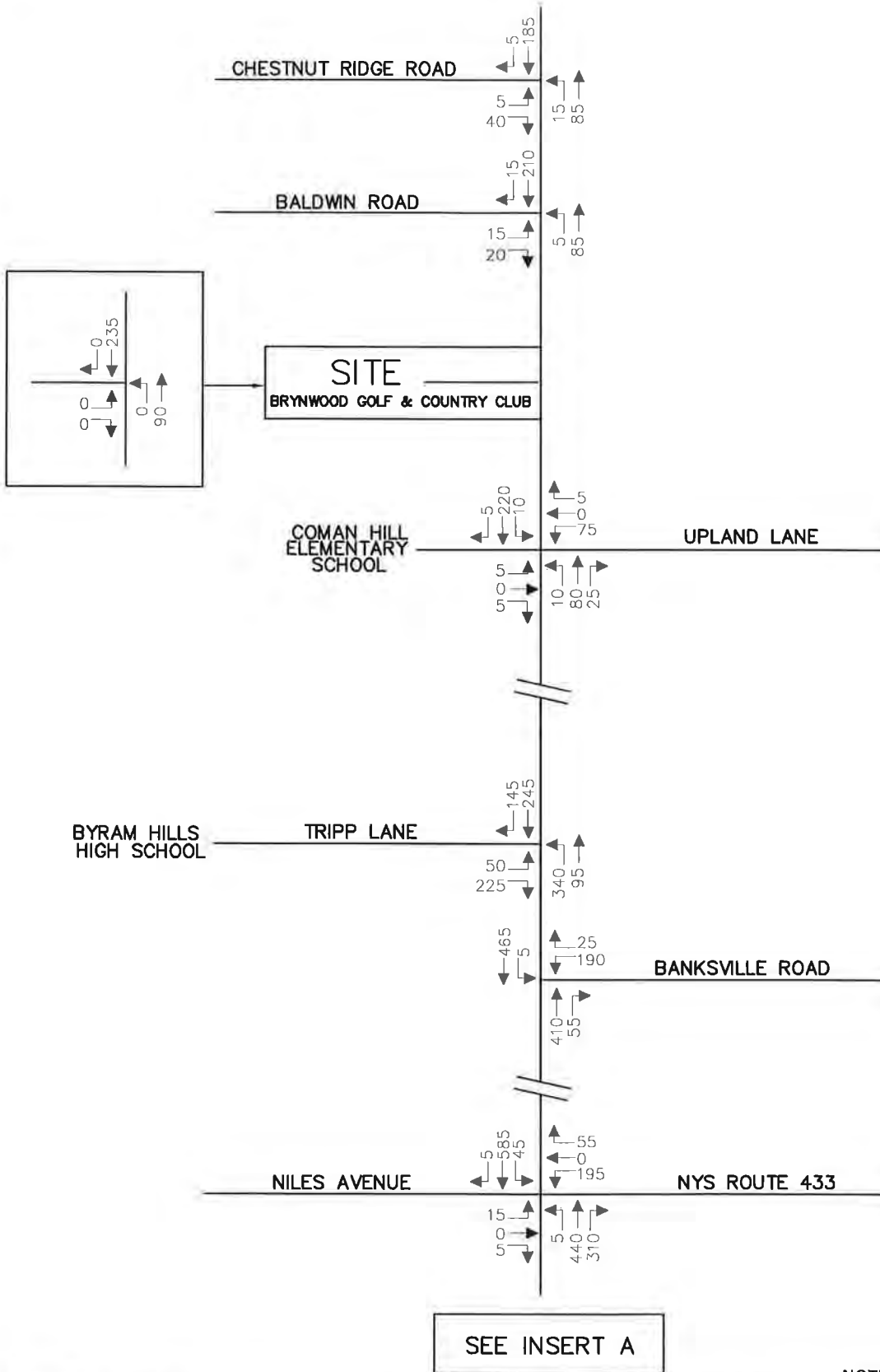
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# NYS ROUTE 22 (BEDFORD ROAD)



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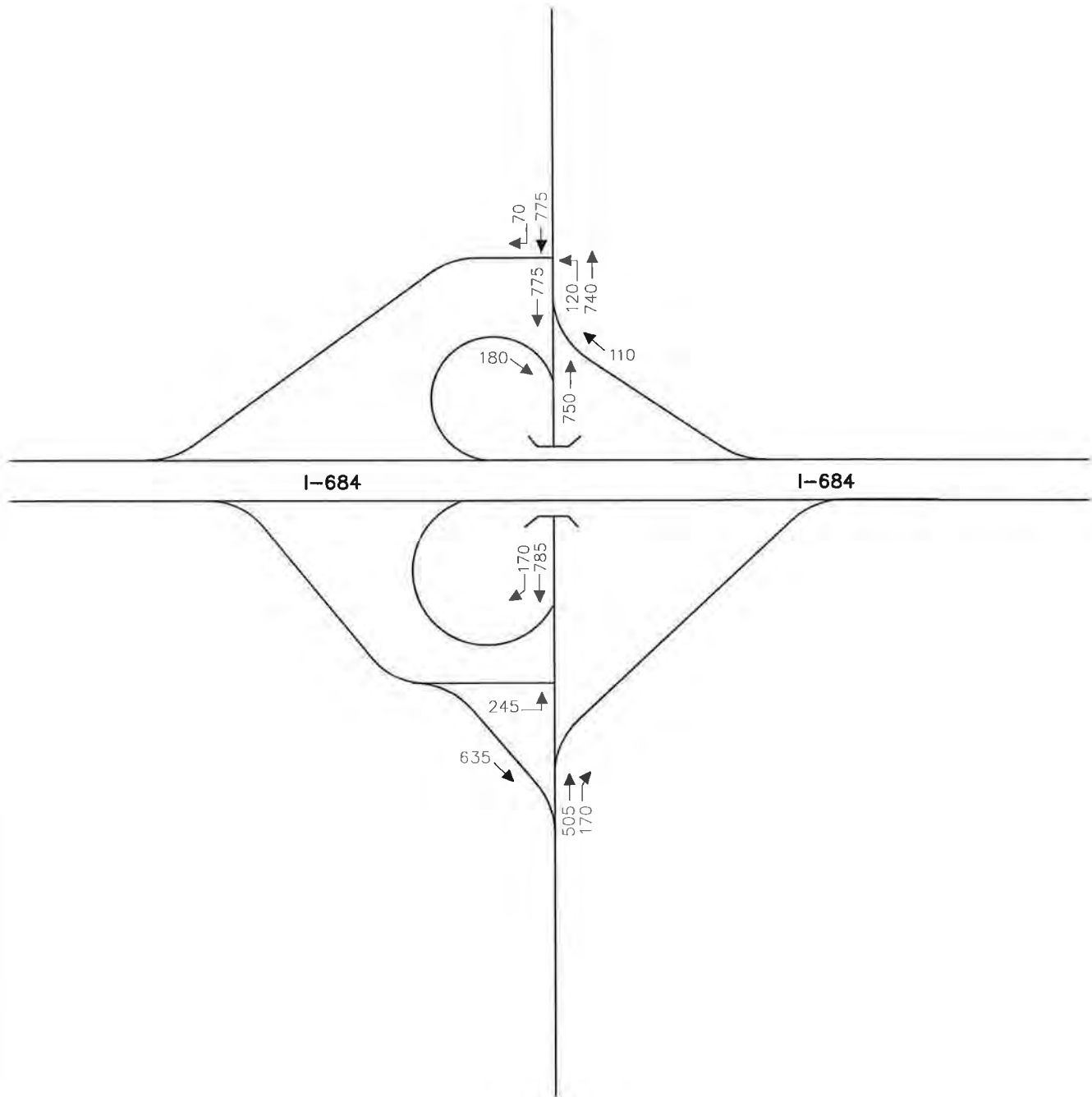
YEAR 2013 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)



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NYS ROUTE 22 (BEDFORD ROAD)



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YEAR 2013 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

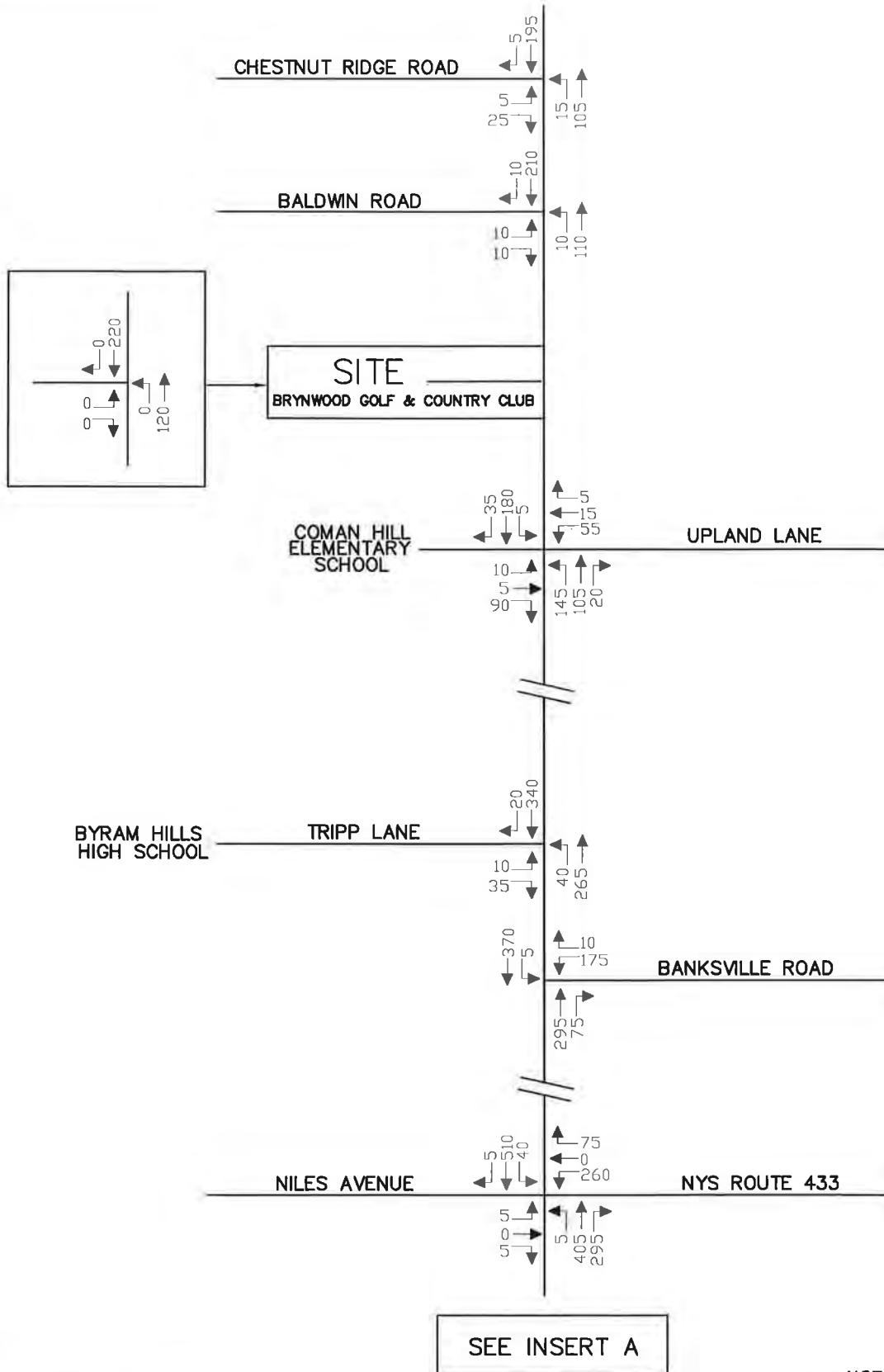


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2A

# NYS ROUTE 22 (BEDFORD ROAD)



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YEAR 2013 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)

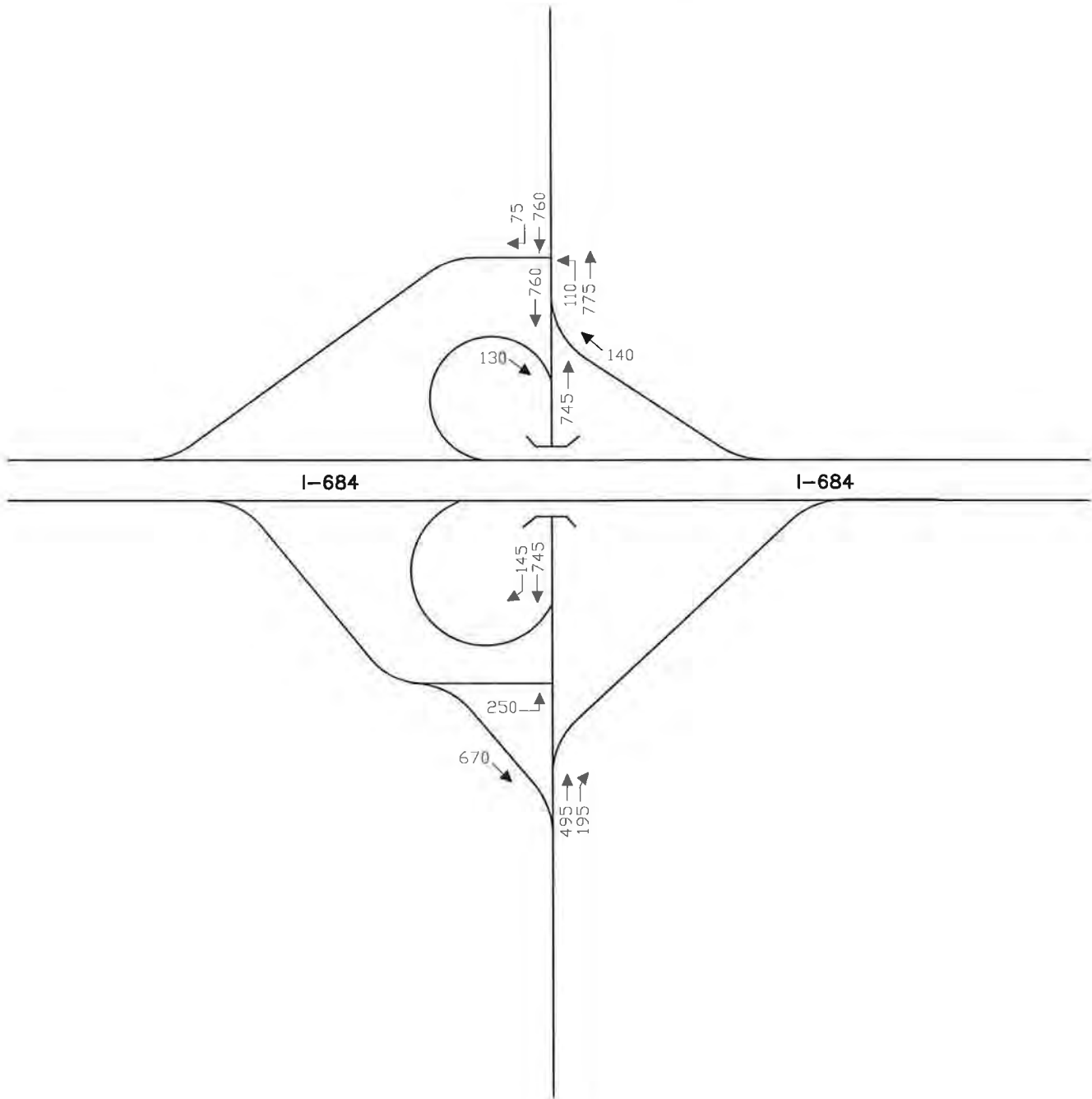


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NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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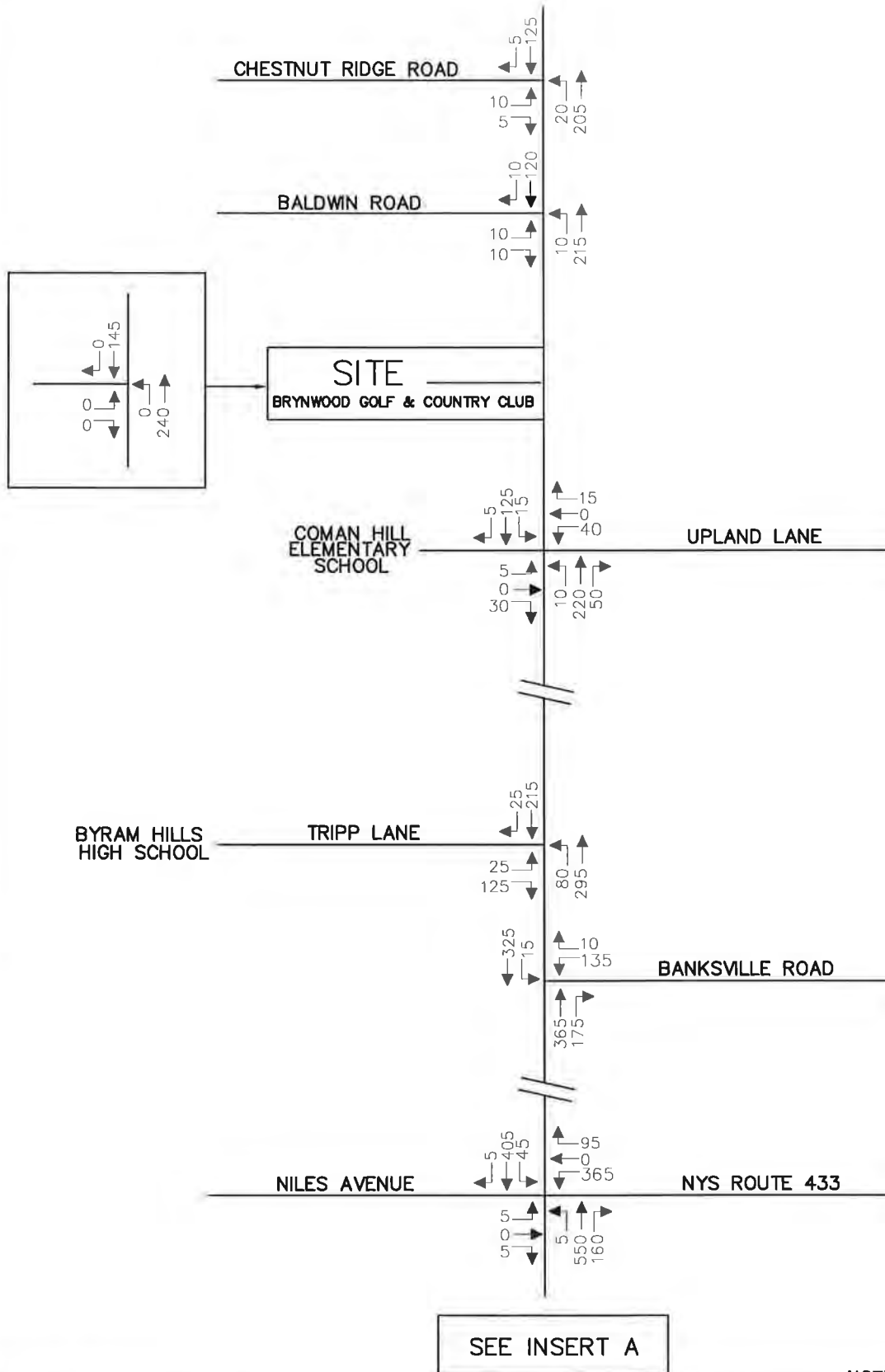
YEAR 2013 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)



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# NYS ROUTE 22 (BEDFORD ROAD)



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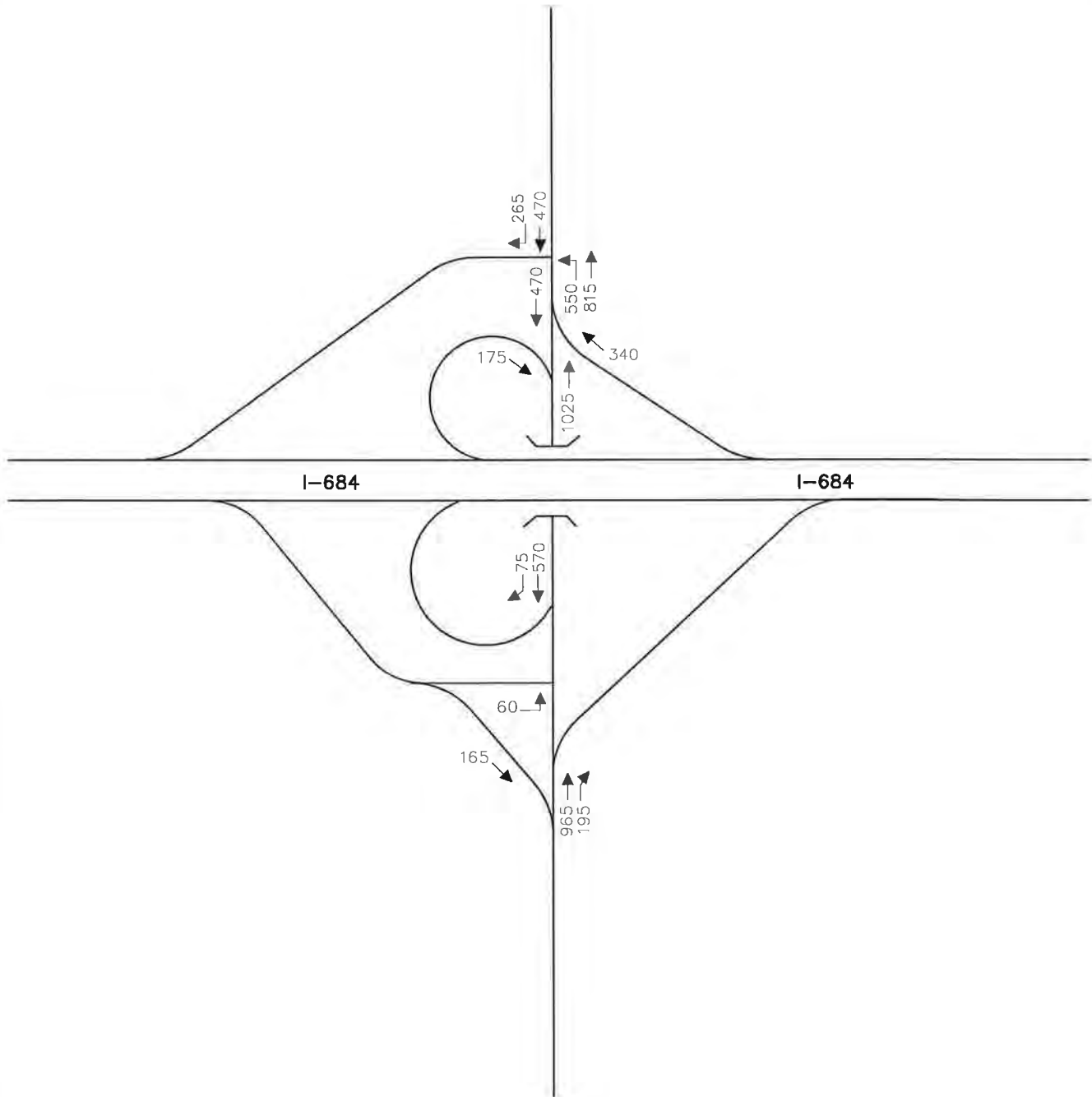
YEAR 2013 EXISTING TRAFFIC VOLUMES  
 WEEKDAY PEAK PM HIGHWAY HOUR  
 (5:00 PM - 6:00 PM)



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NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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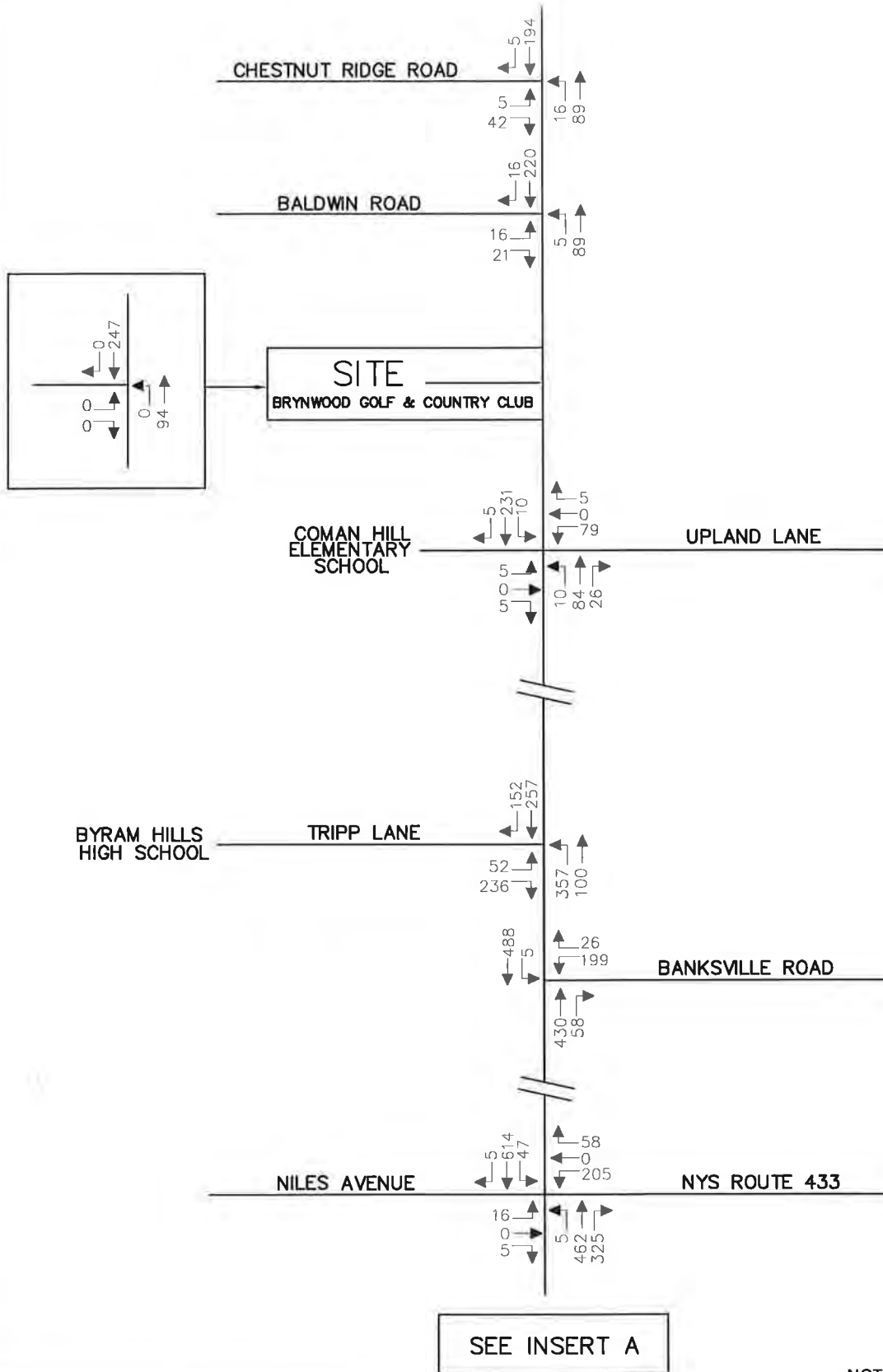
YEAR 2013 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)



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4A

# NYS ROUTE 22 (BEDFORD ROAD)



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YEAR 2018 PROJECTED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

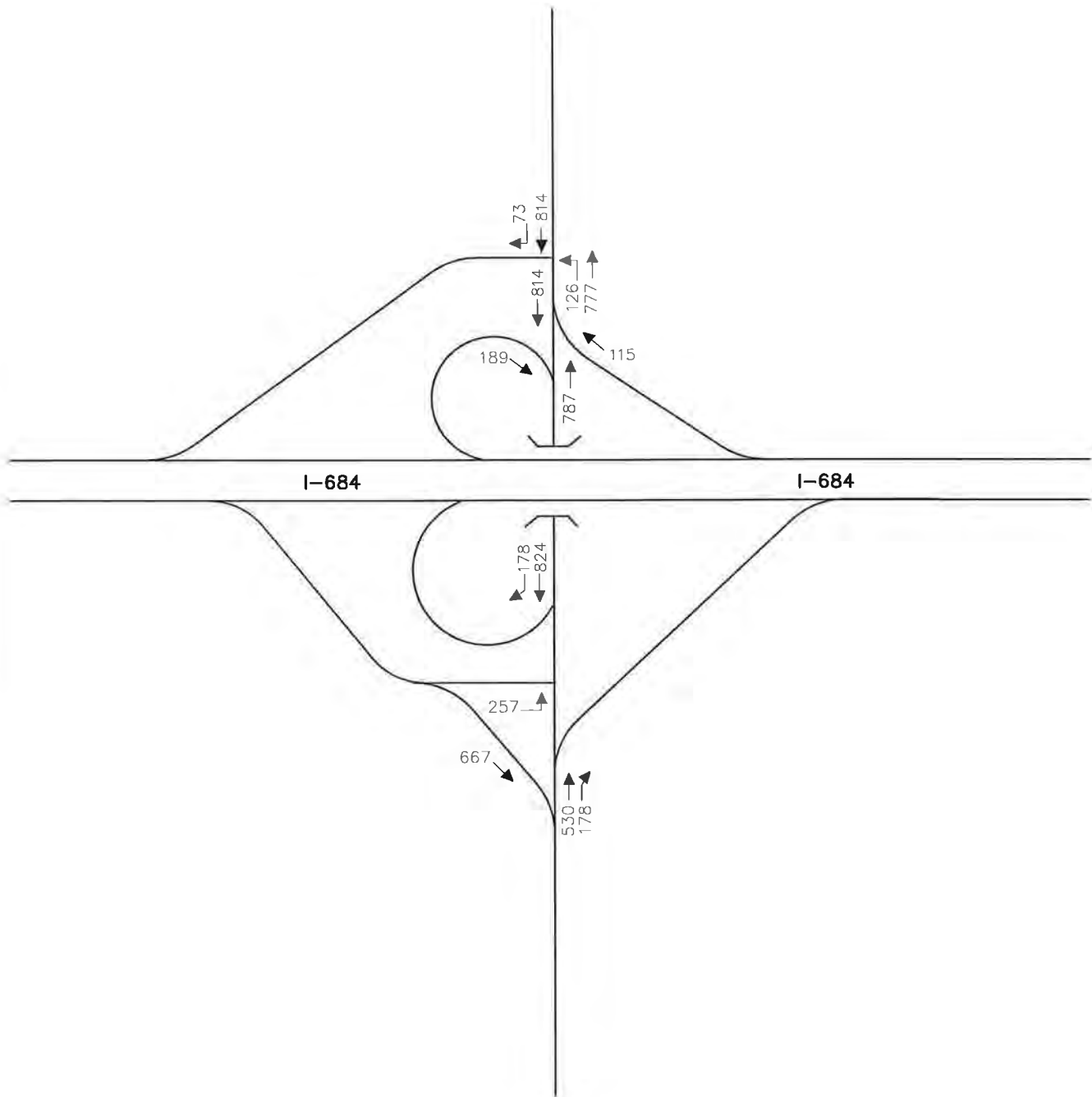


JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER: 5

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

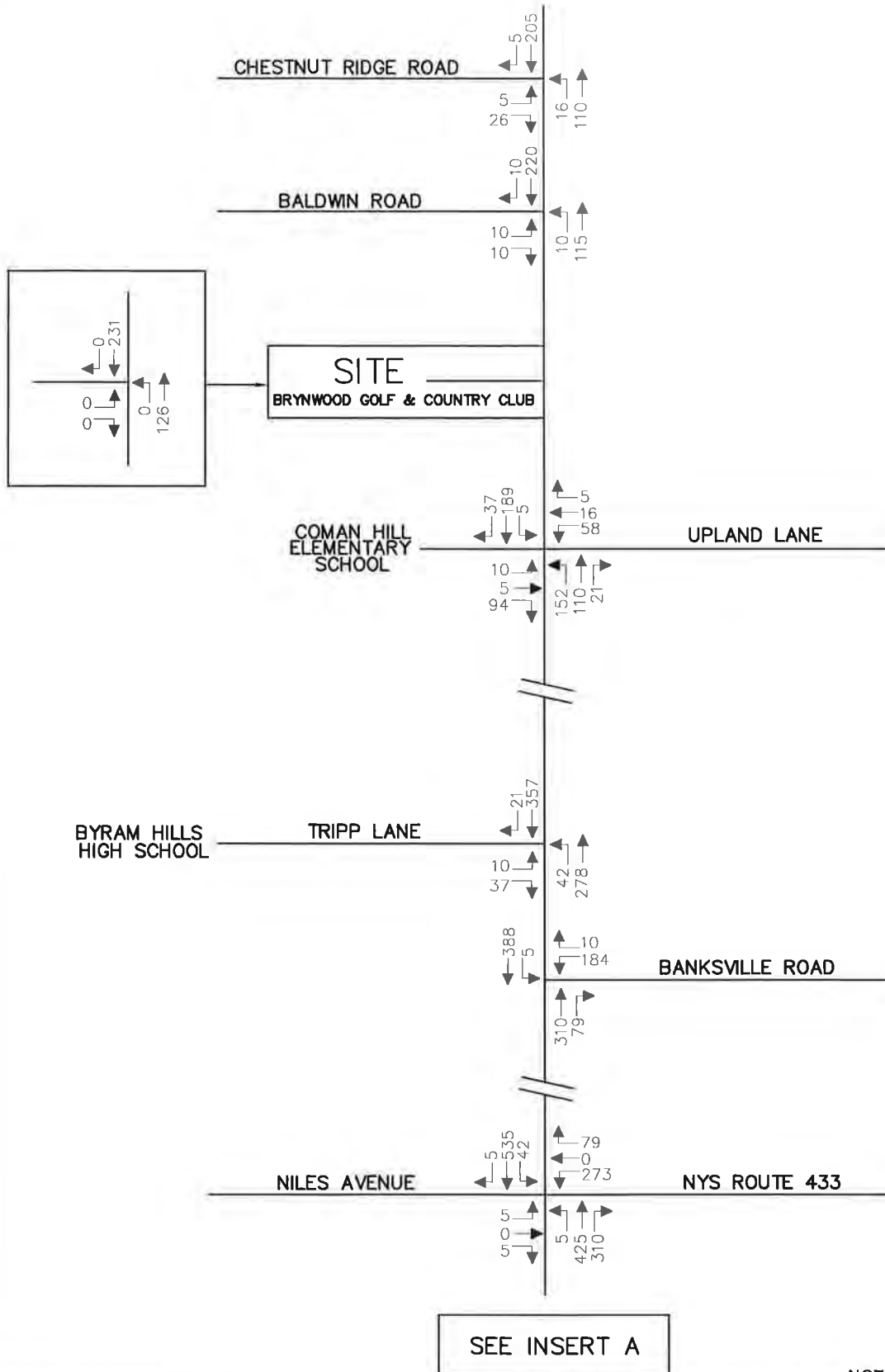


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:	5A
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# NYS ROUTE 22 (BEDFORD ROAD)



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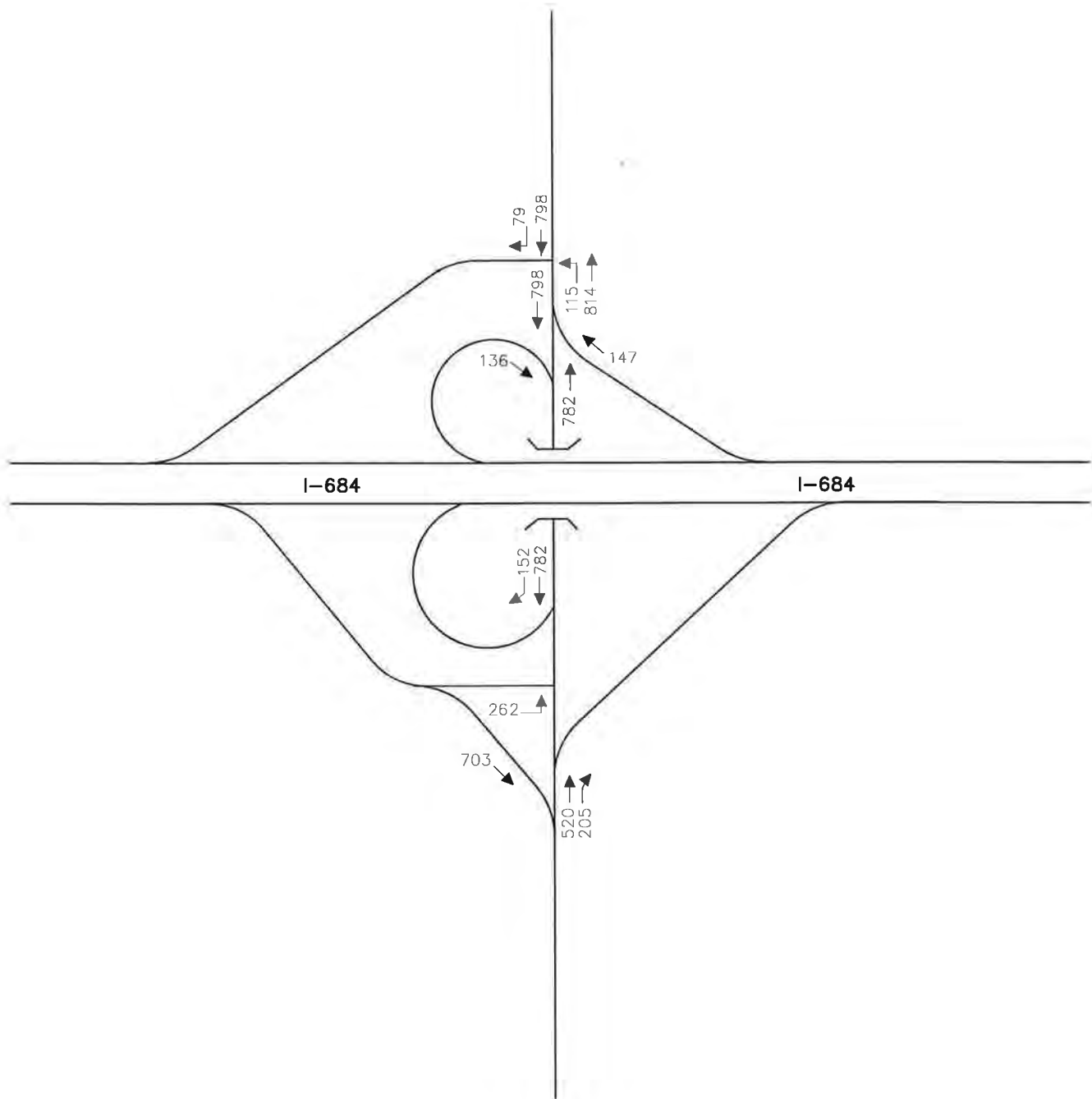
**YEAR 2018 PROJECTED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)**



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
6	

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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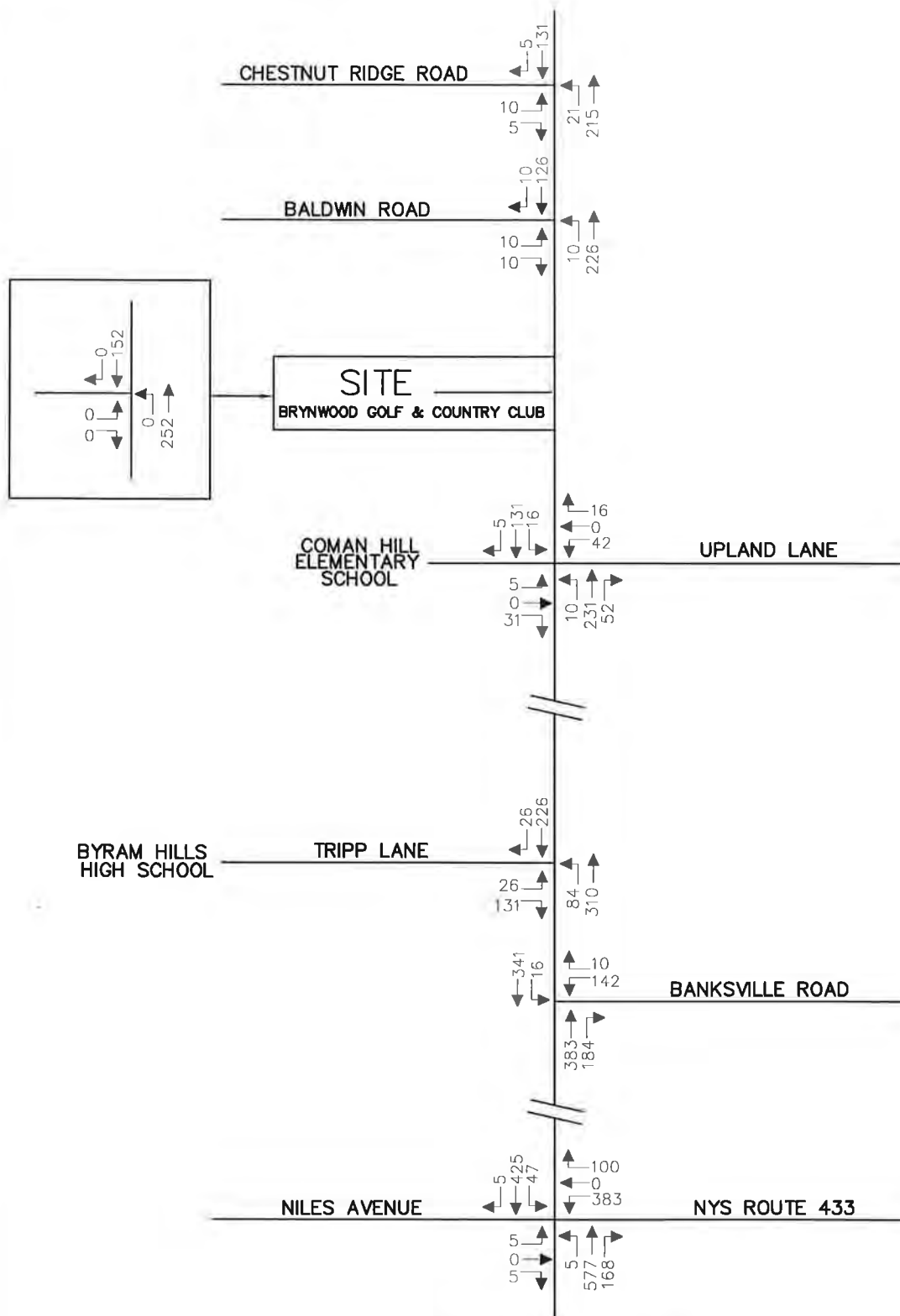
**BRYNWOOD GOLF AND COUNTRY CLUB  
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**YEAR 2018 PROJECTED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)**



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
6A	

# NYS ROUTE 22 (BEDFORD ROAD)



SEE INSERT A

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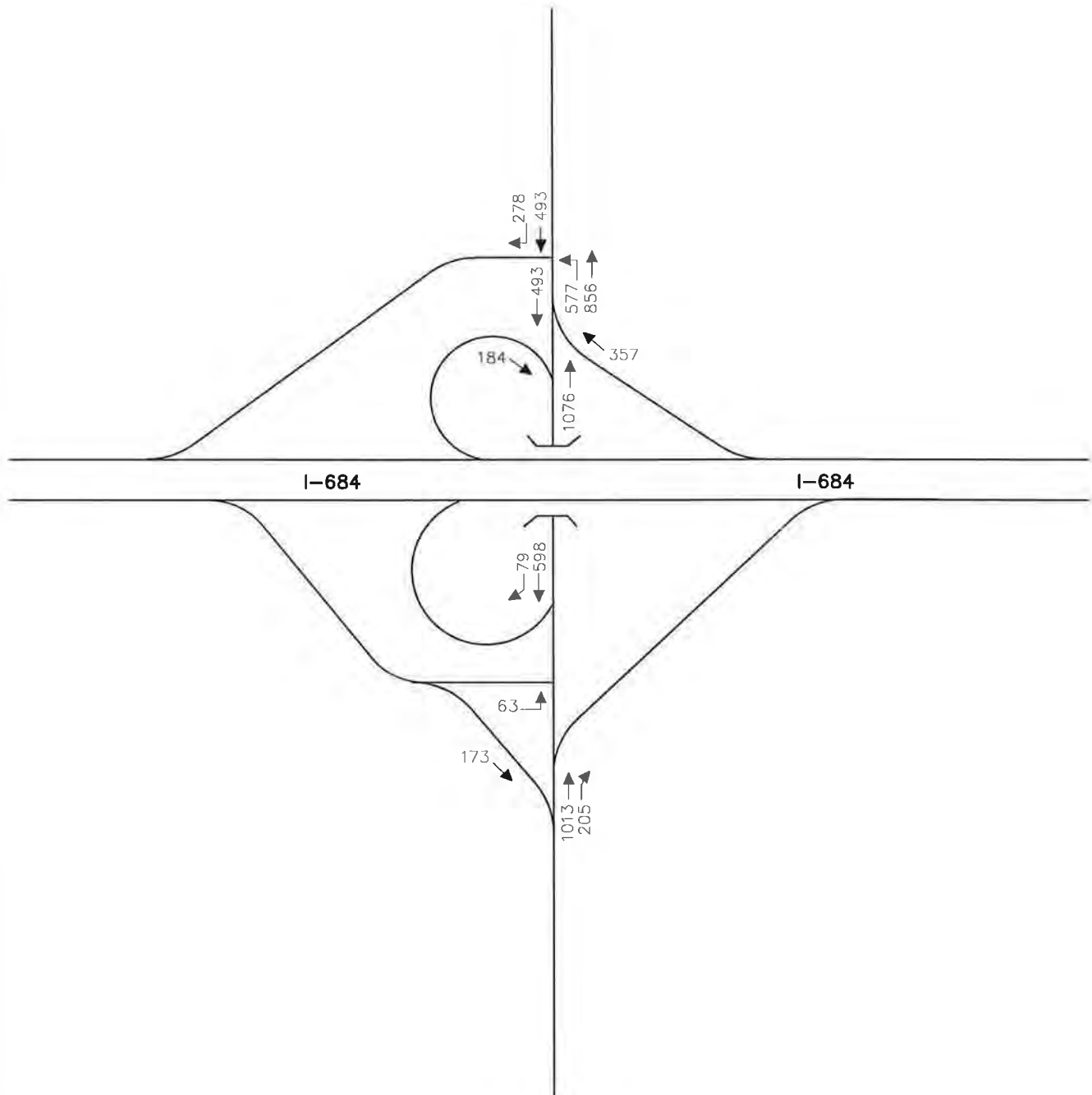
YEAR 2018 PROJECTED TRAFFIC VOLUMES  
WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)

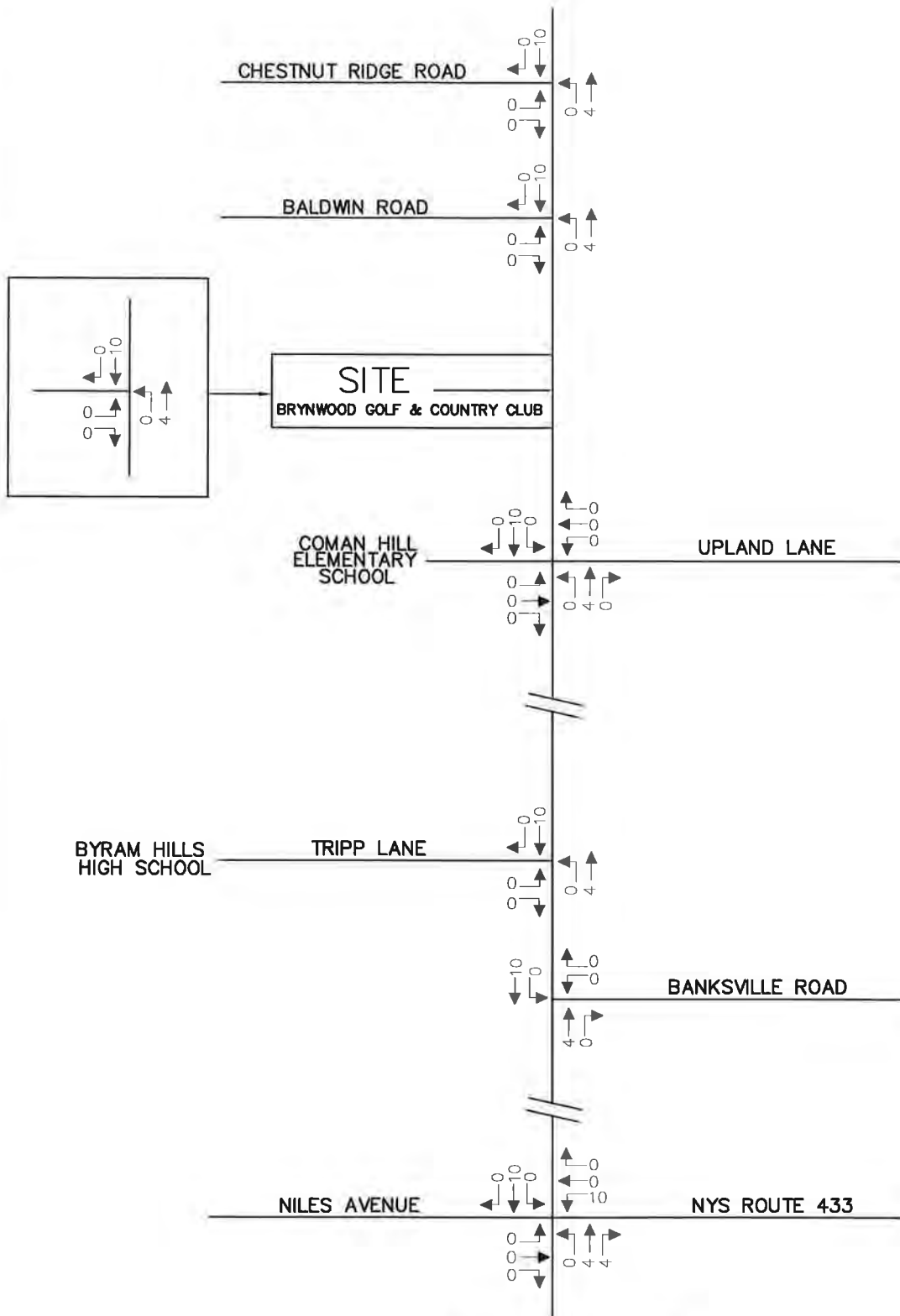


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

7A

NYS ROUTE 22 (BEDFORD ROAD)



SEE INSERT A

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OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

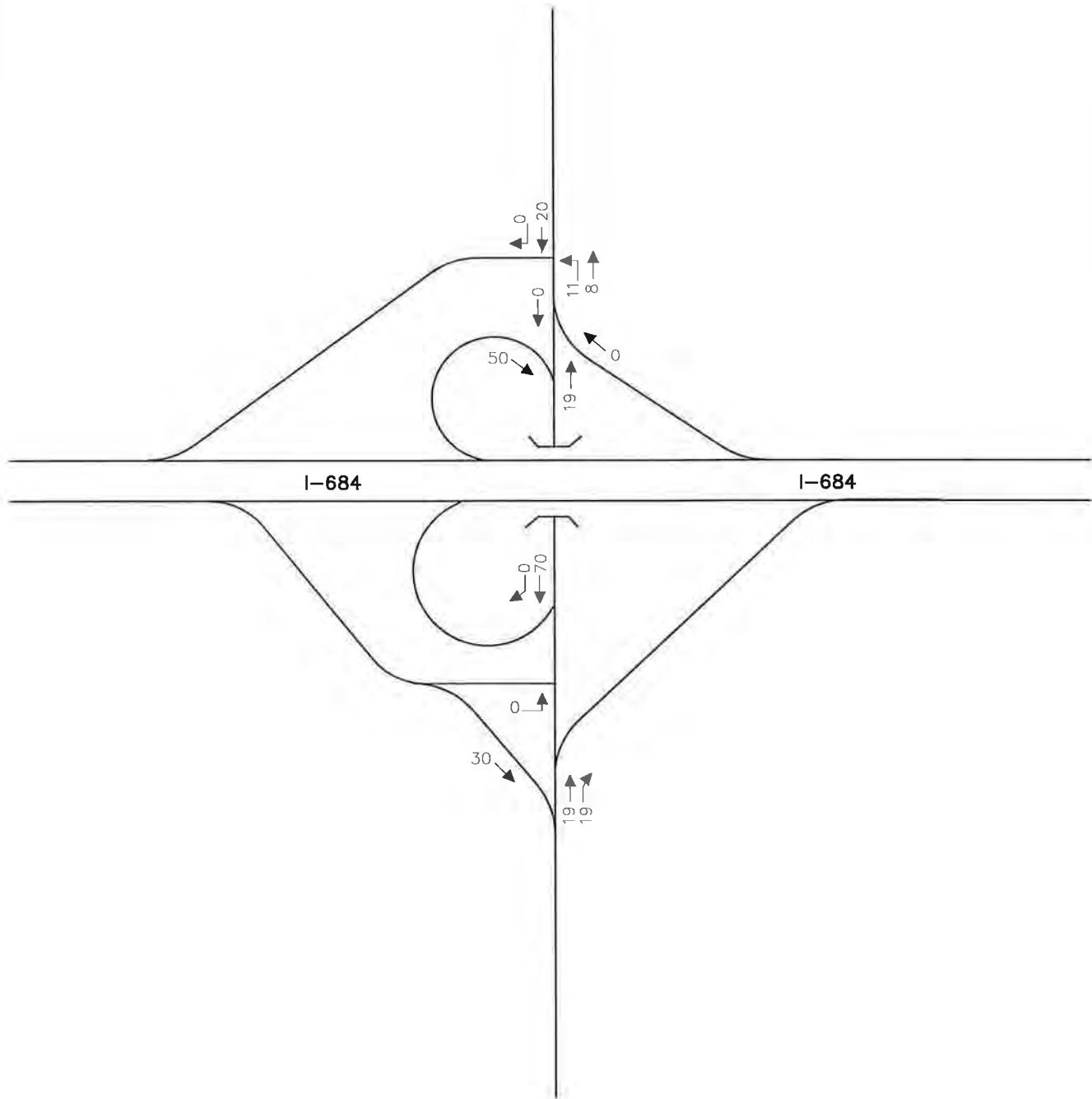


JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER: 8

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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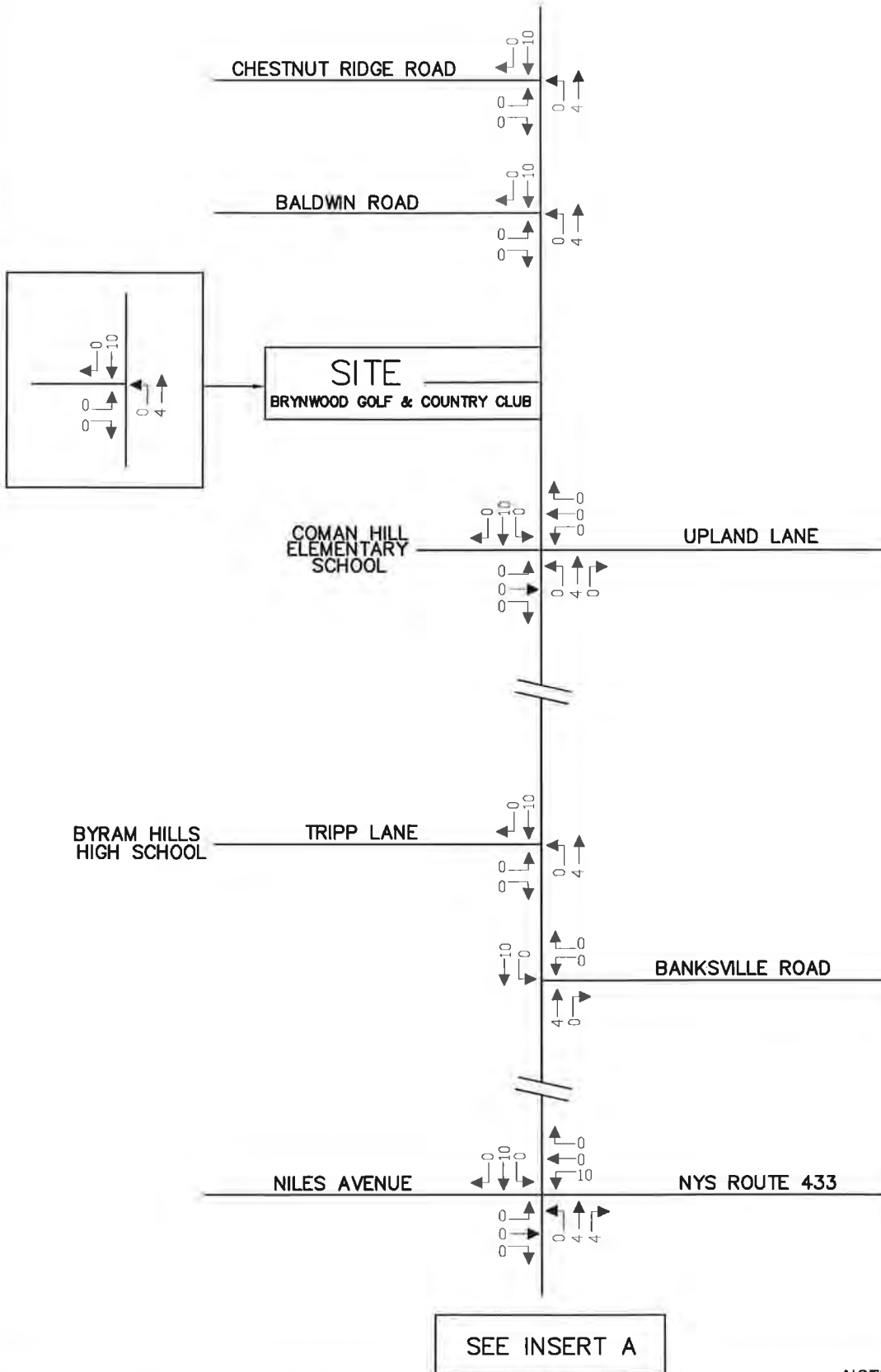
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OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
8A	

NYS ROUTE 22 (BEDFORD ROAD)



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**WEEKDAY PEAK AM HOUR**  
**(8:15 AM - 9:15 AM)**



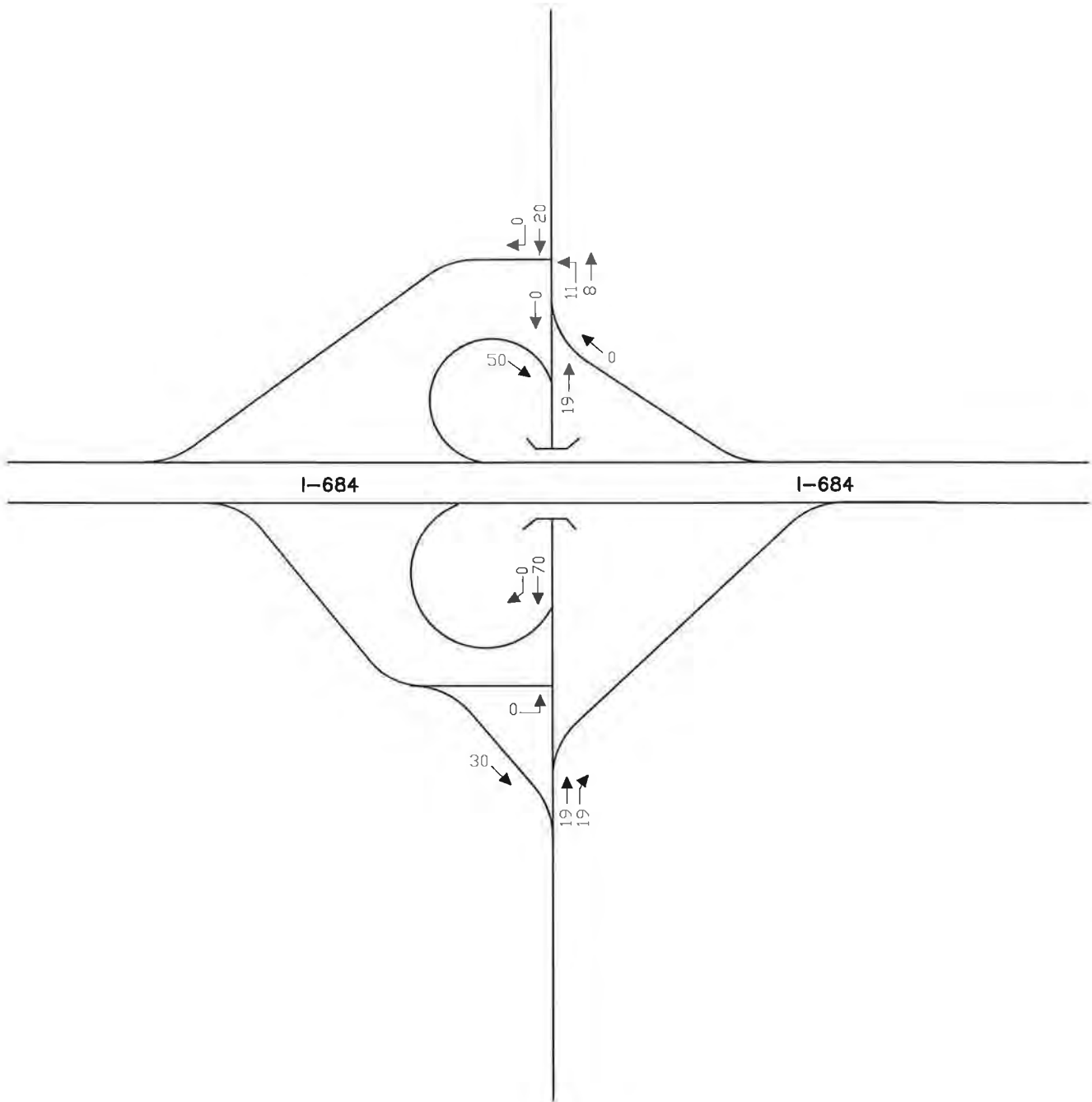
JOB NUMBER: DATE:

12100120A 02/04/2013

FIGURE NUMBER:

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)



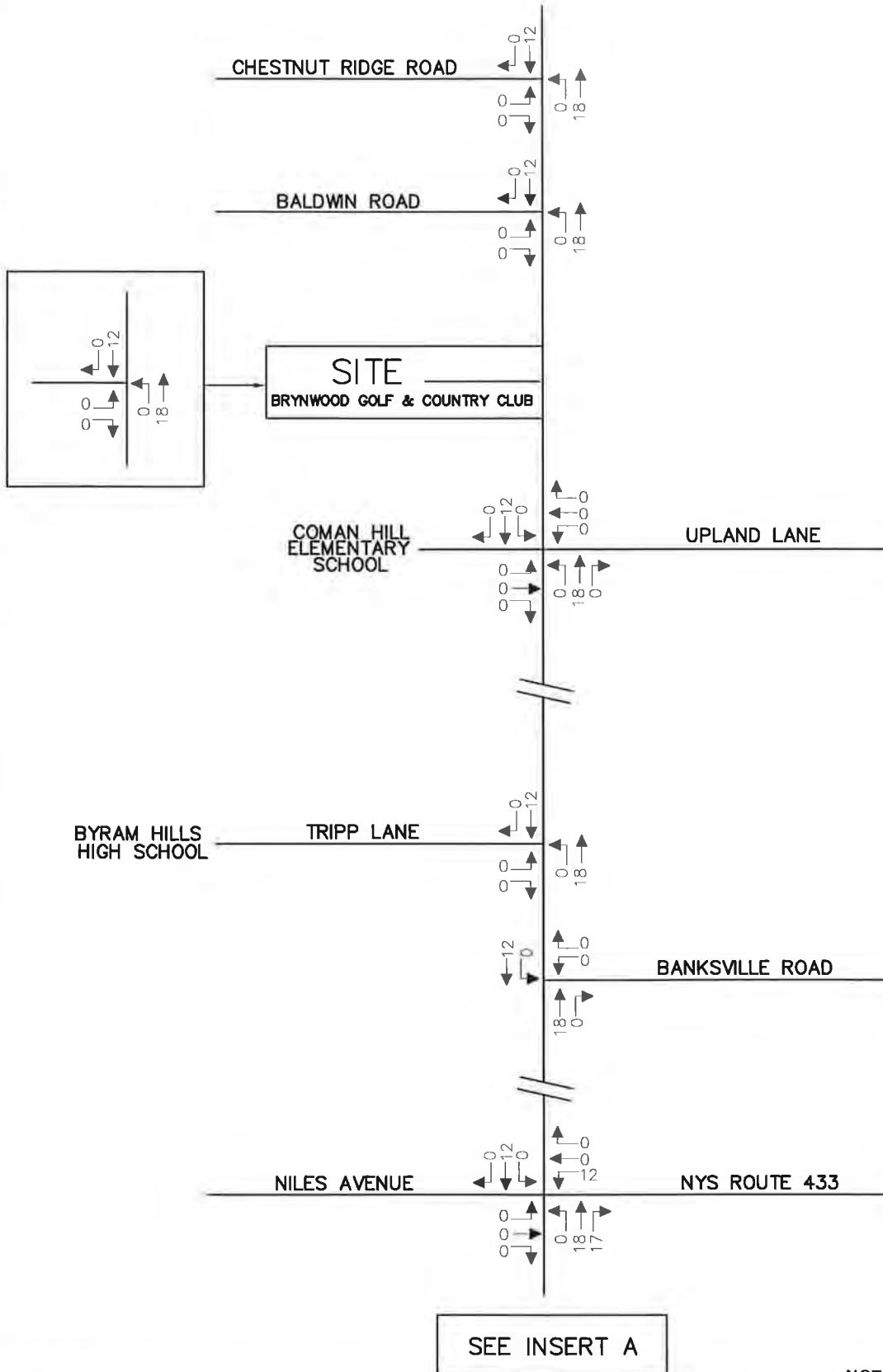
JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

9A



NYS ROUTE 22 (BEDFORD ROAD)



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**WEEKDAY PEAK PM HIGHWAY HOUR**  
**(5:00 PM - 6:00 PM)**

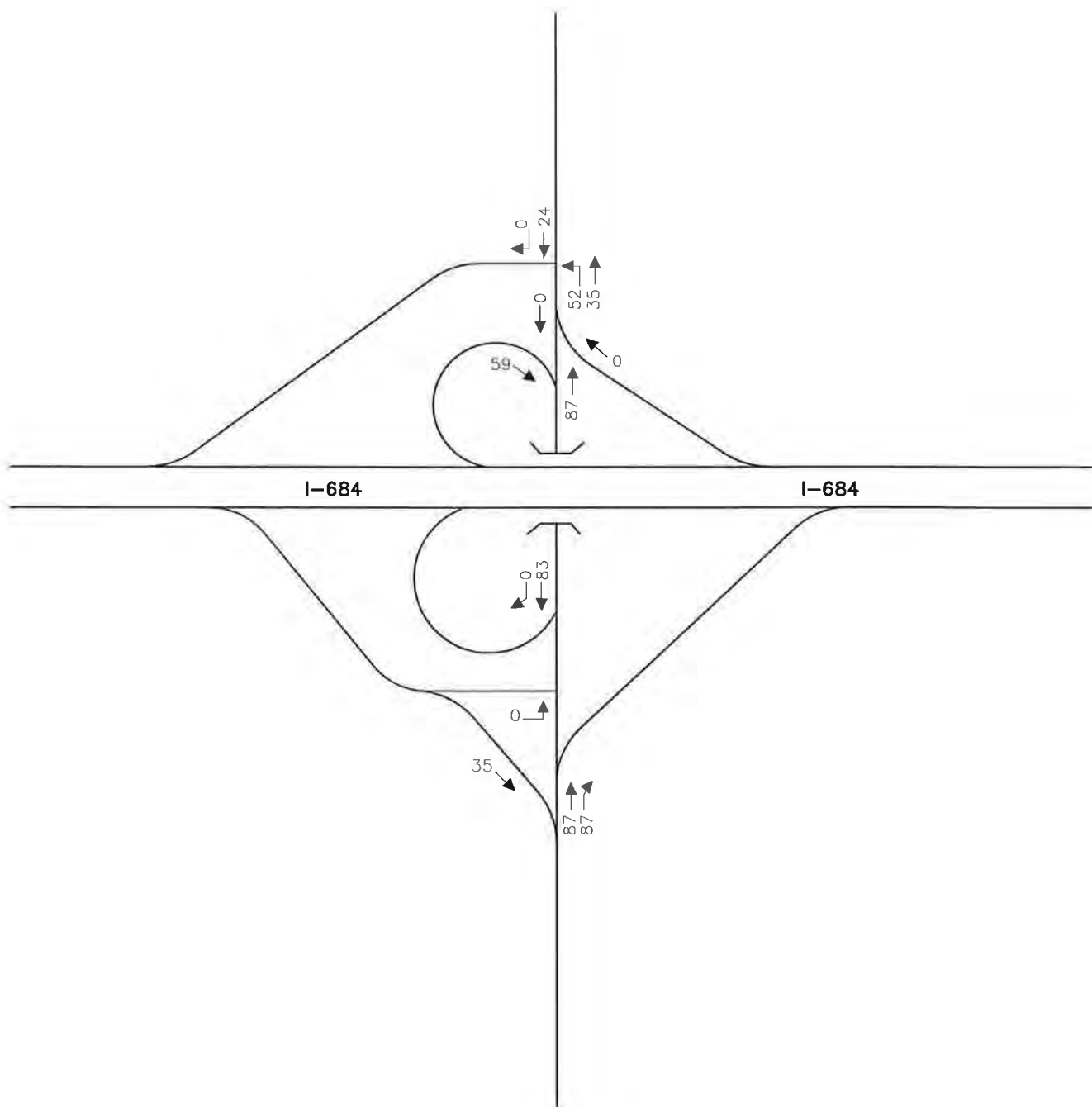


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:
10

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



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WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)

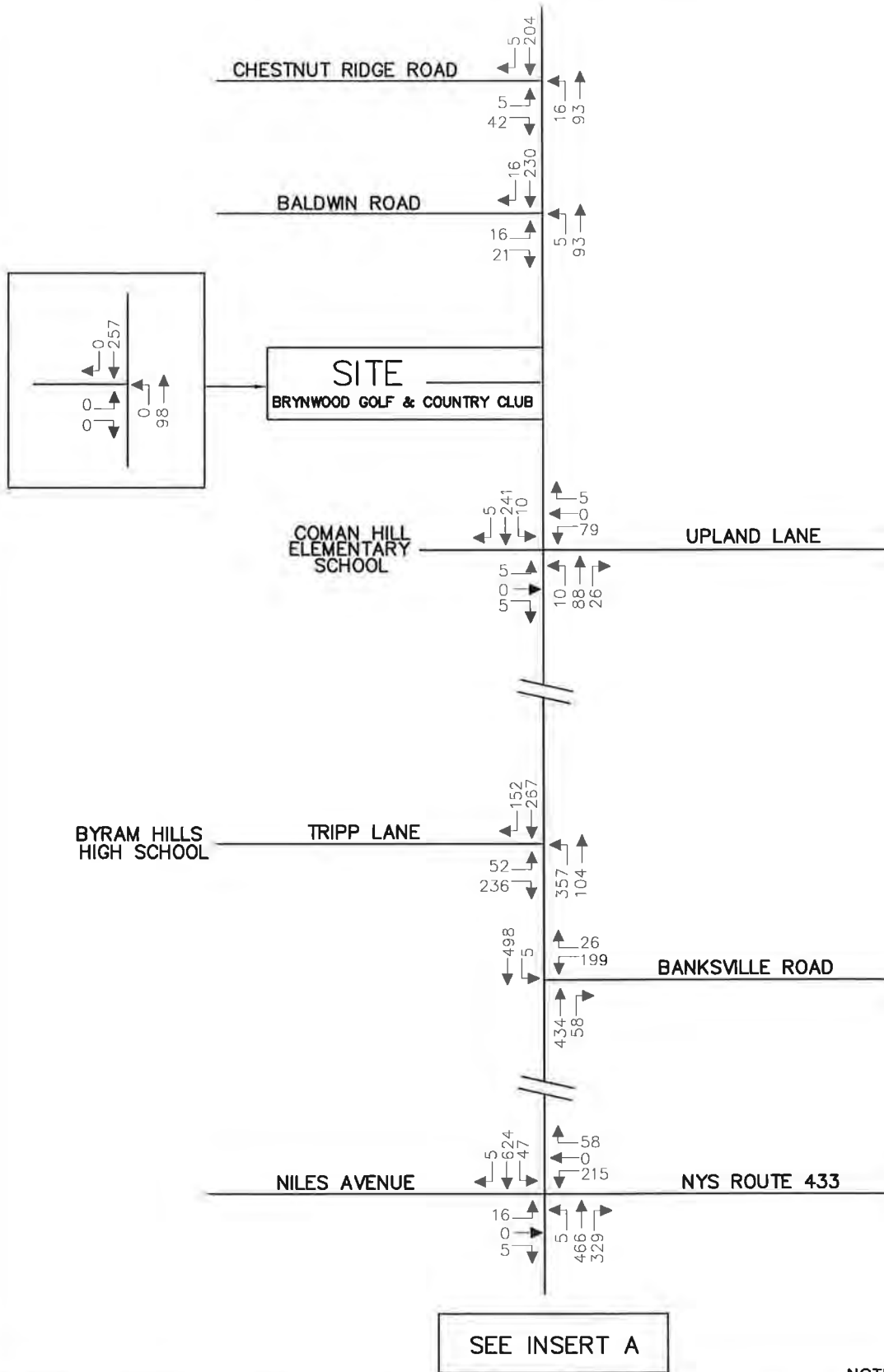


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

10A

# NYS ROUTE 22 (BEDFORD ROAD)



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WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

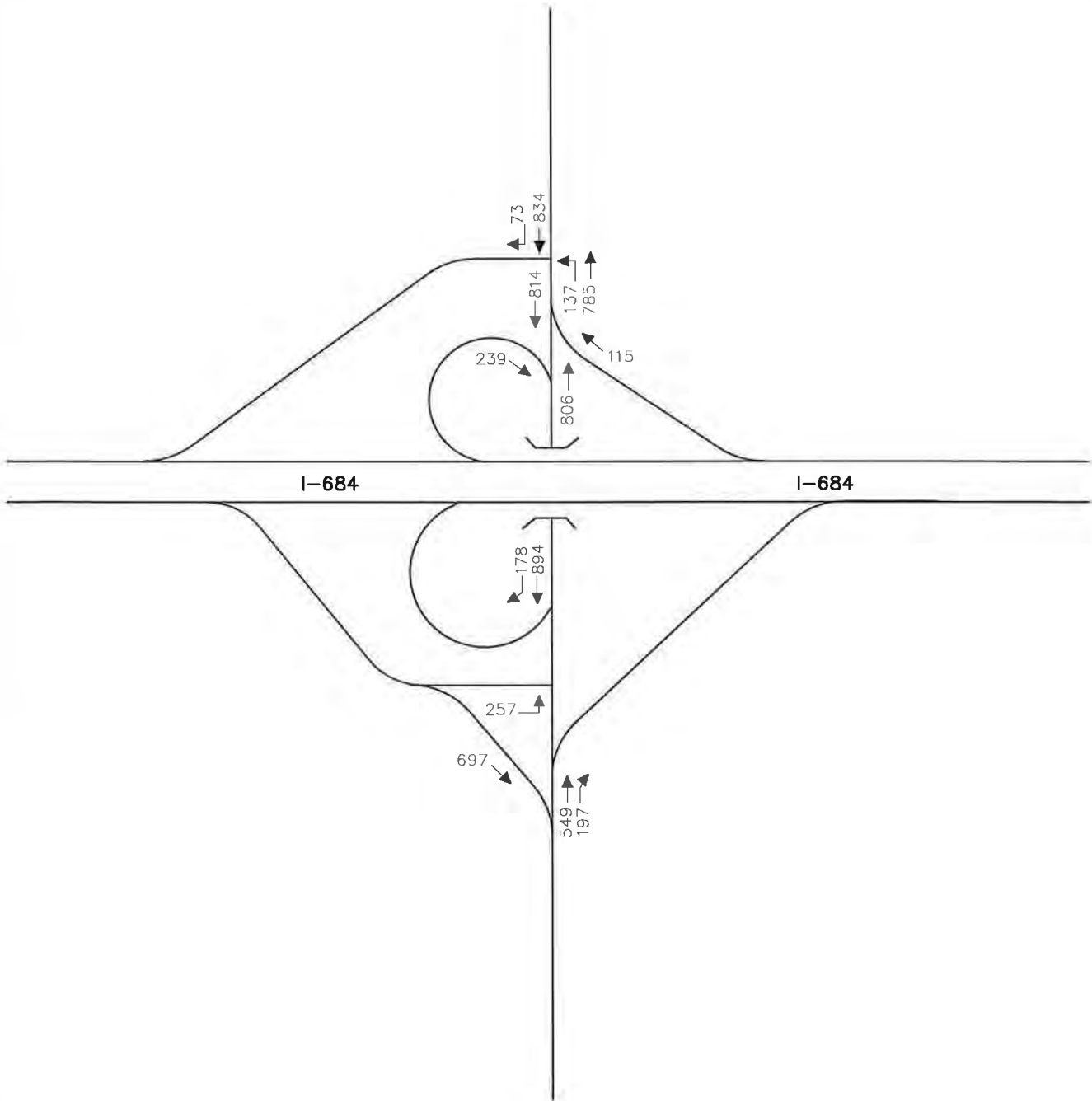


JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER: 11

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

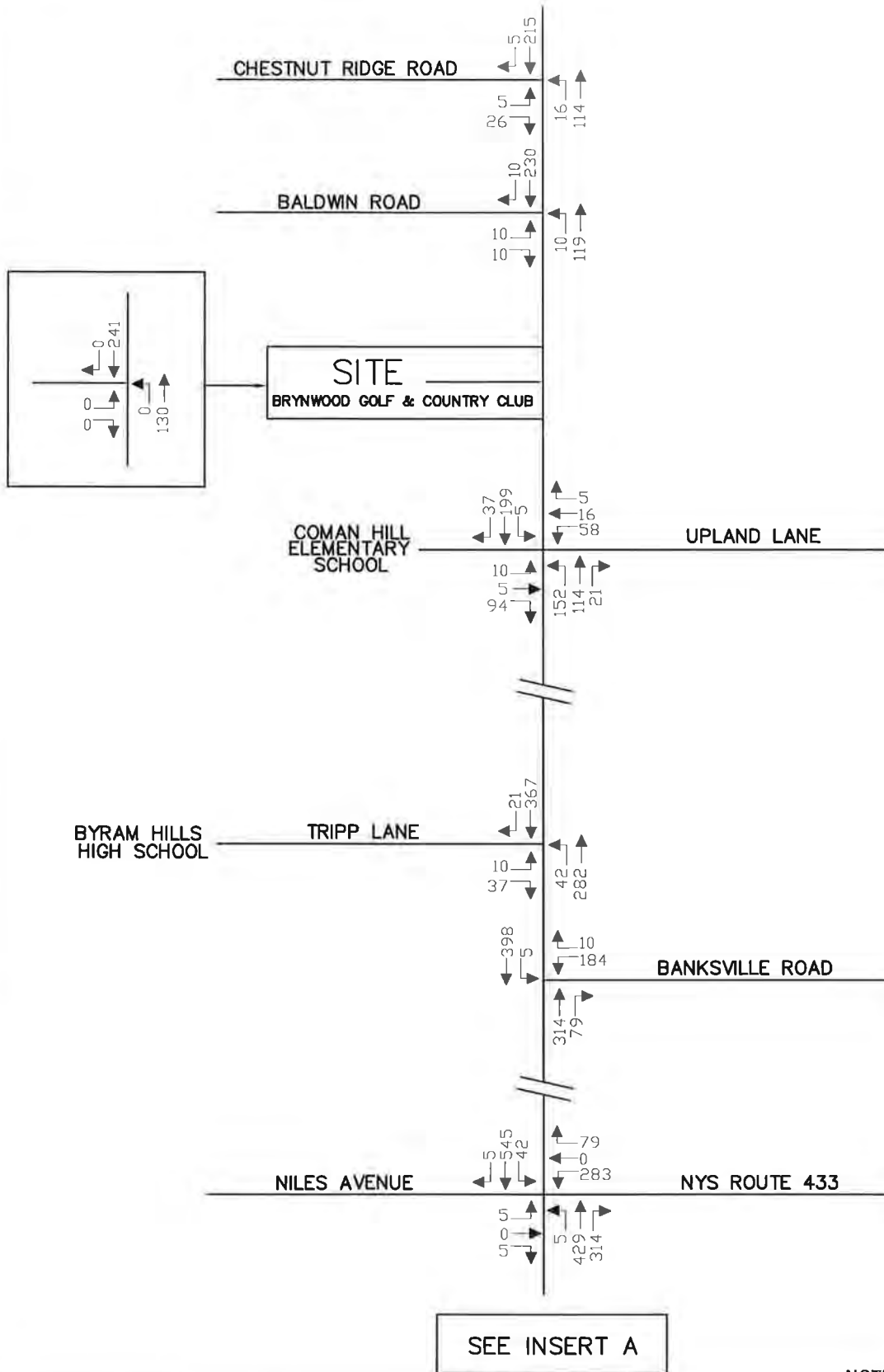


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

11A

# NYS ROUTE 22 (BEDFORD ROAD)



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YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)

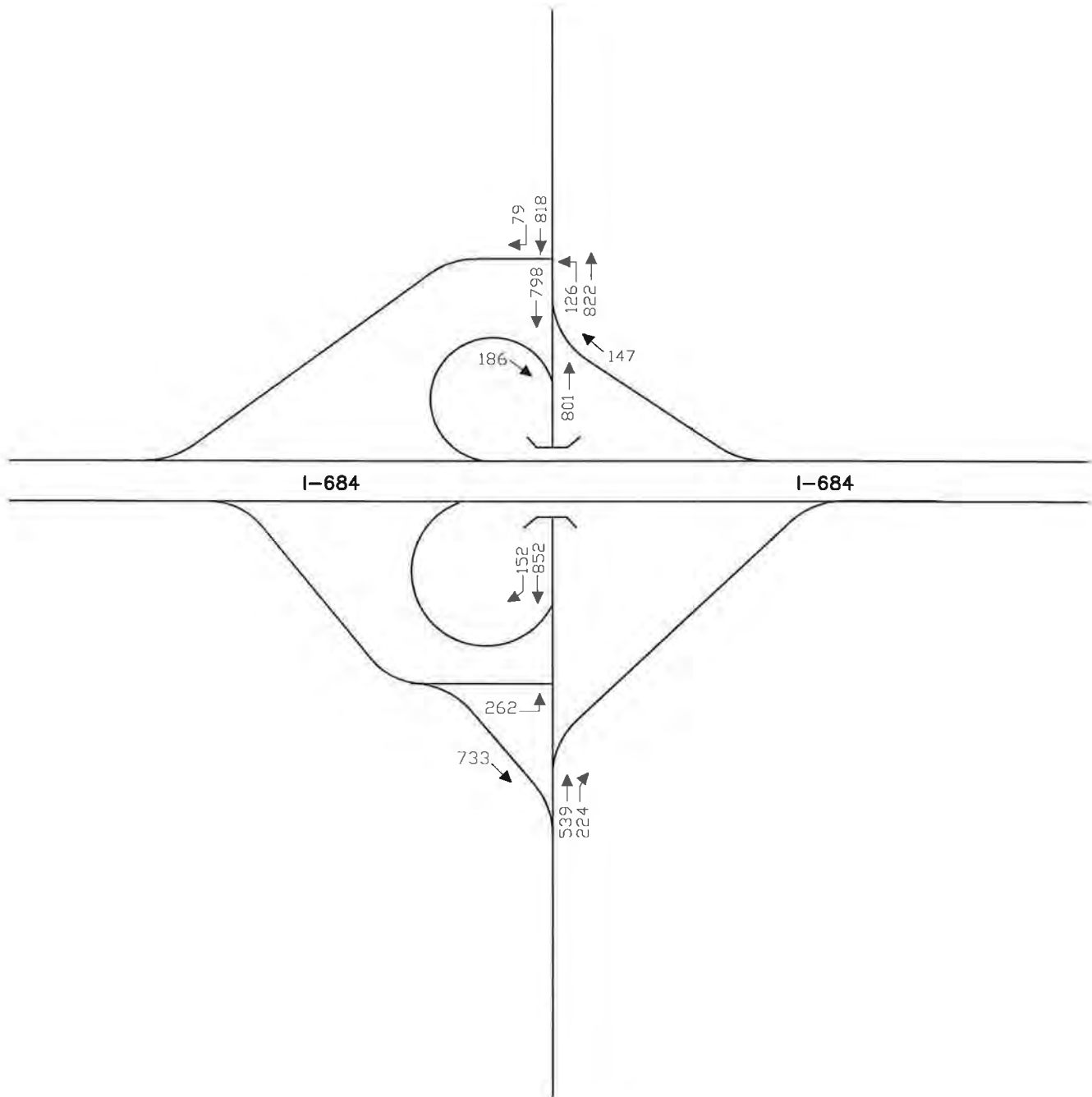


JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER: 12

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)

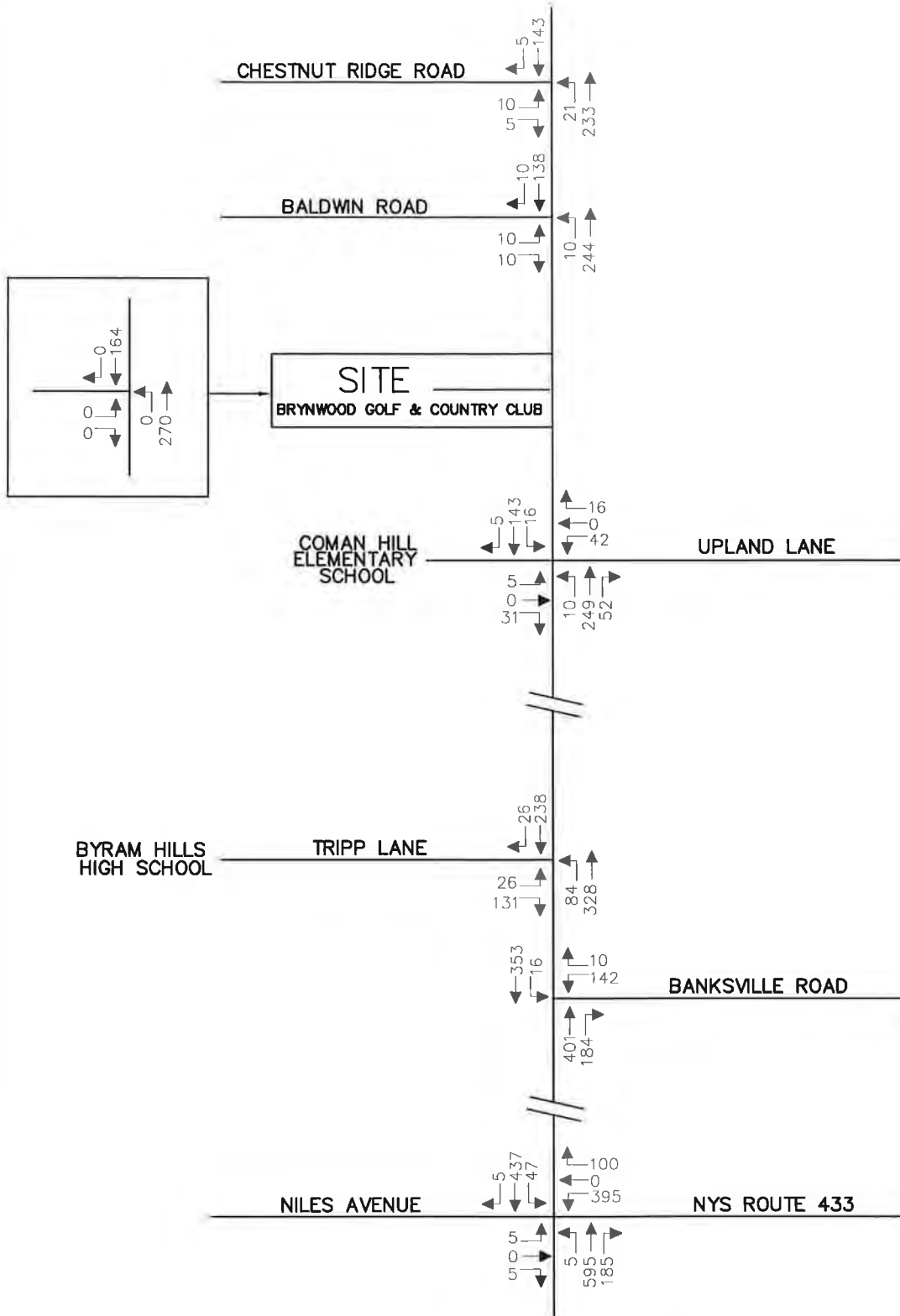


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

12A

# NYS ROUTE 22 (BEDFORD ROAD)



SEE INSERT A

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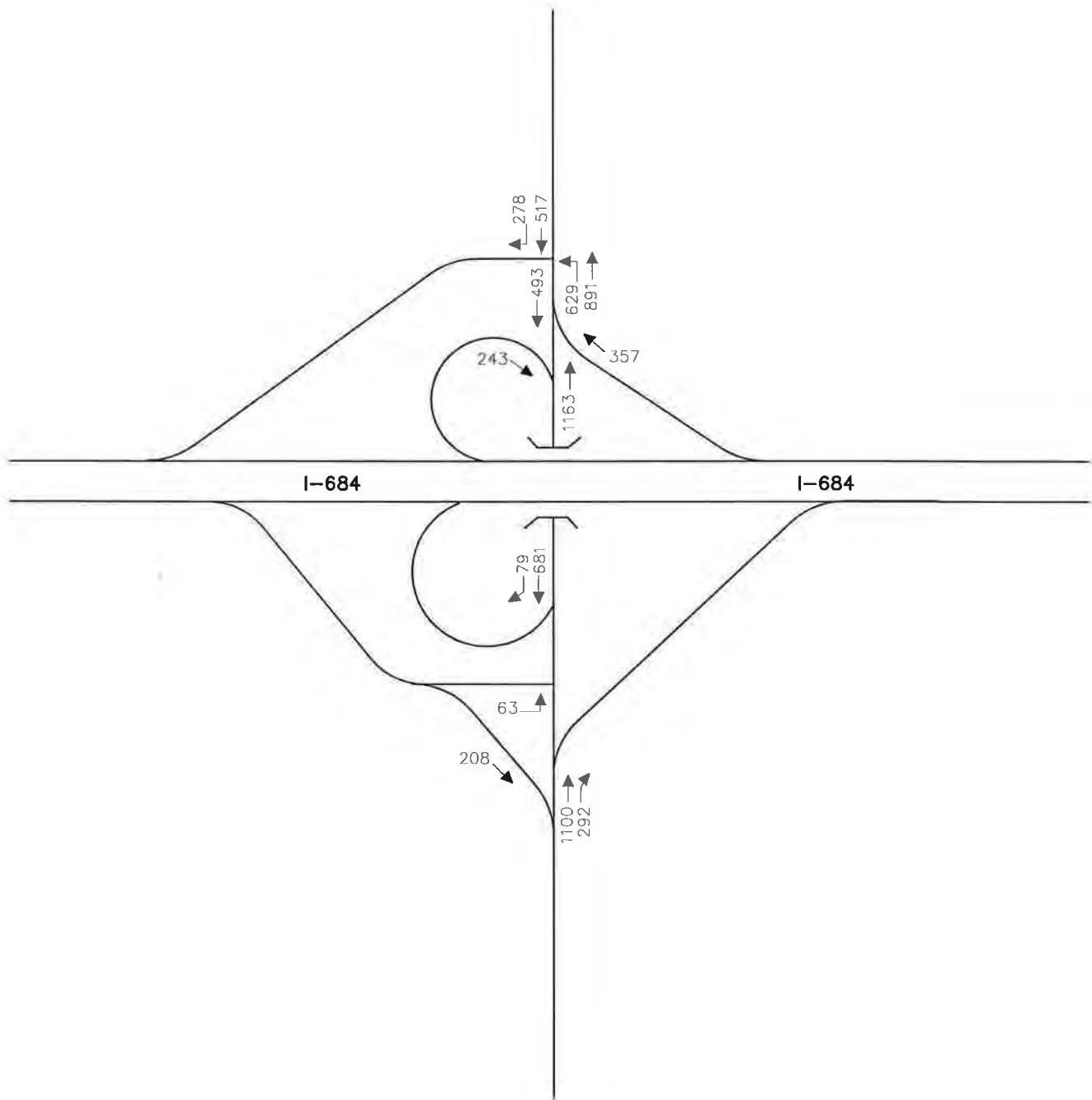
YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)



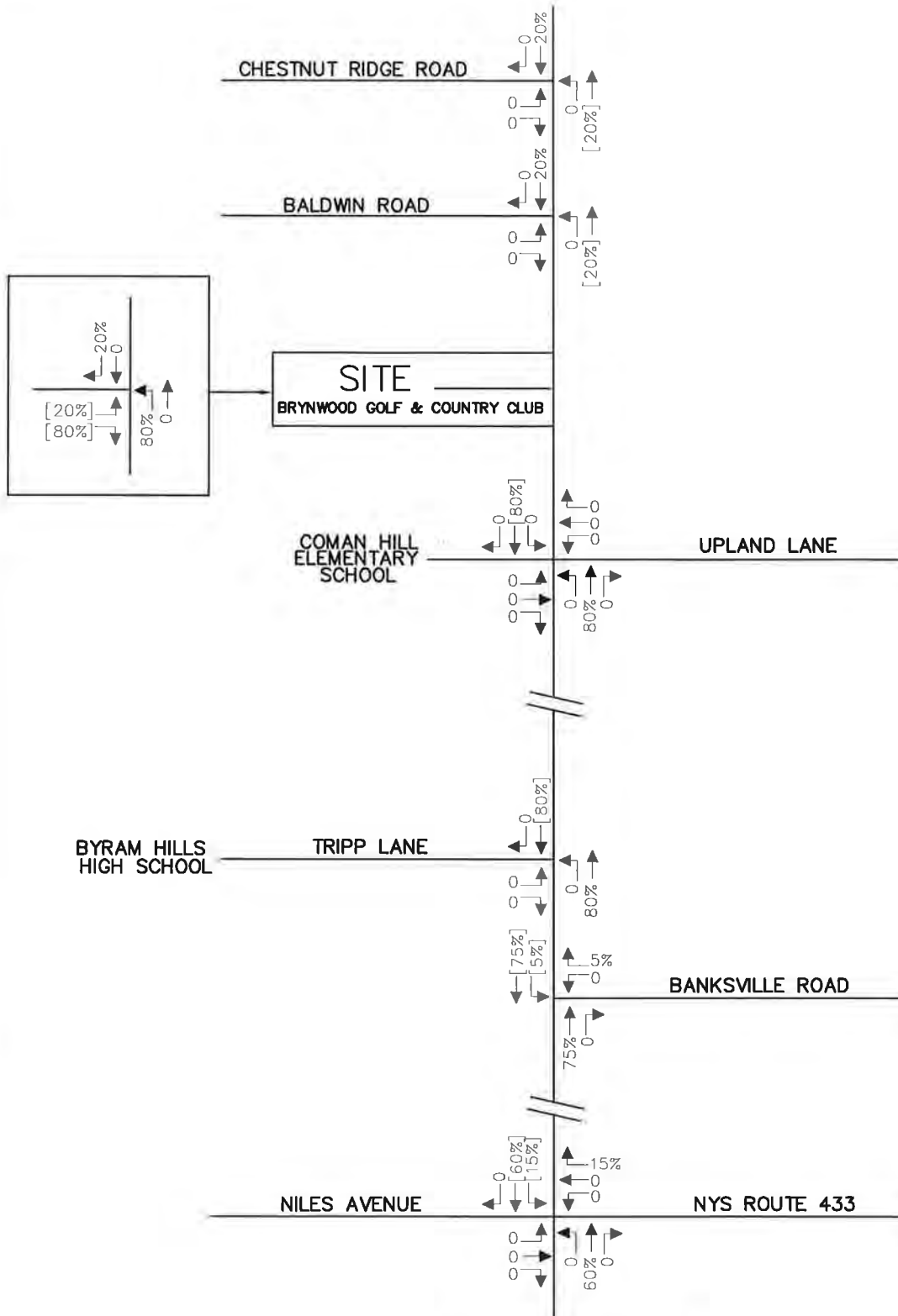
JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

13A



NYS ROUTE 22 (BEDFORD ROAD)



SEE INSERT A

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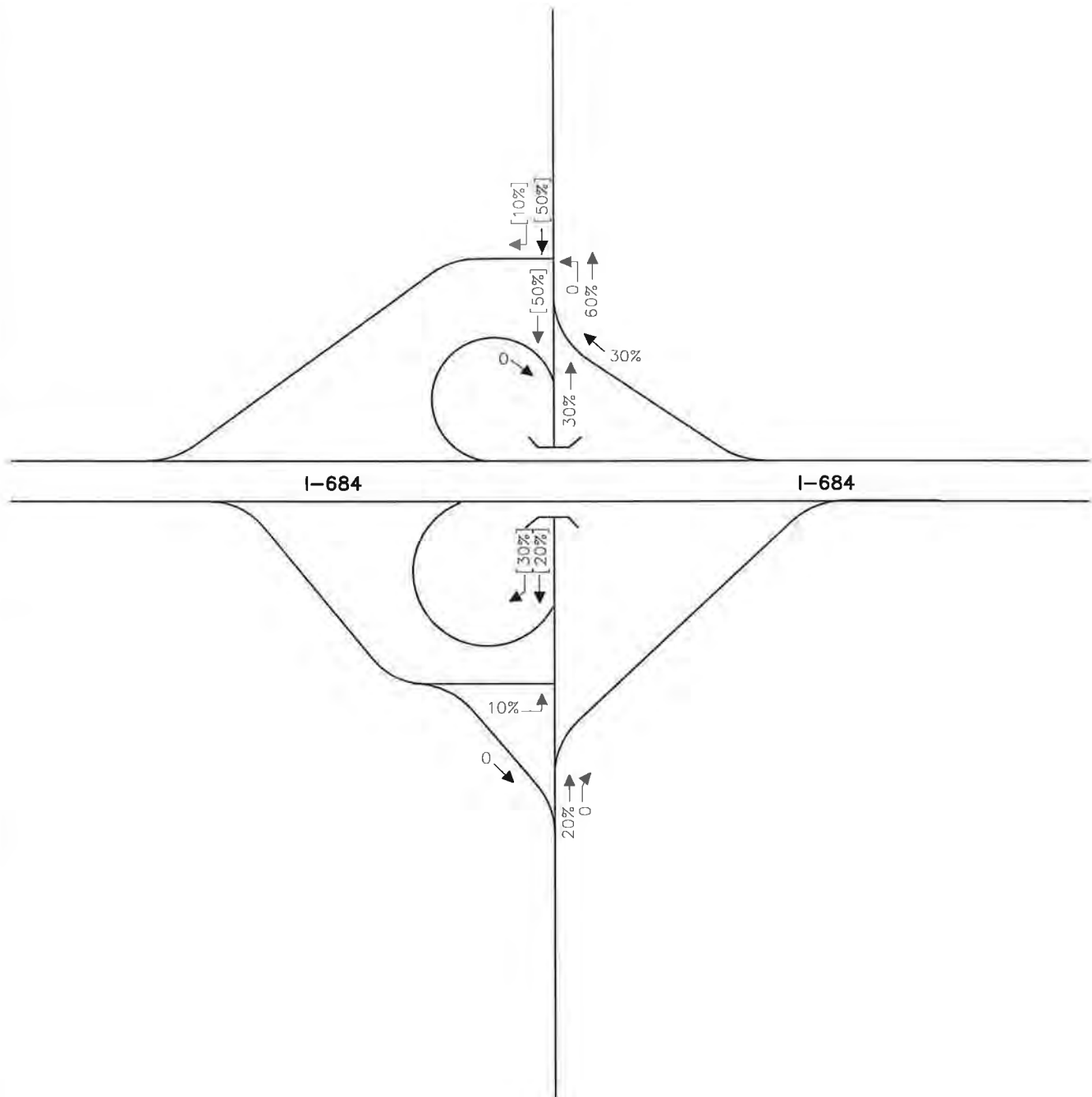
**ARRIVAL / DEPARTURE DISTRIBUTION**



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	

# INSERT A

## NYS ROUTE 22 (BEDFORD ROAD)



## NYS ROUTE 22 (BEDFORD ROAD)

00 — ENTERING  
[00] — EXITING

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ARRIVAL / DEPARTURE DISTRIBUTION

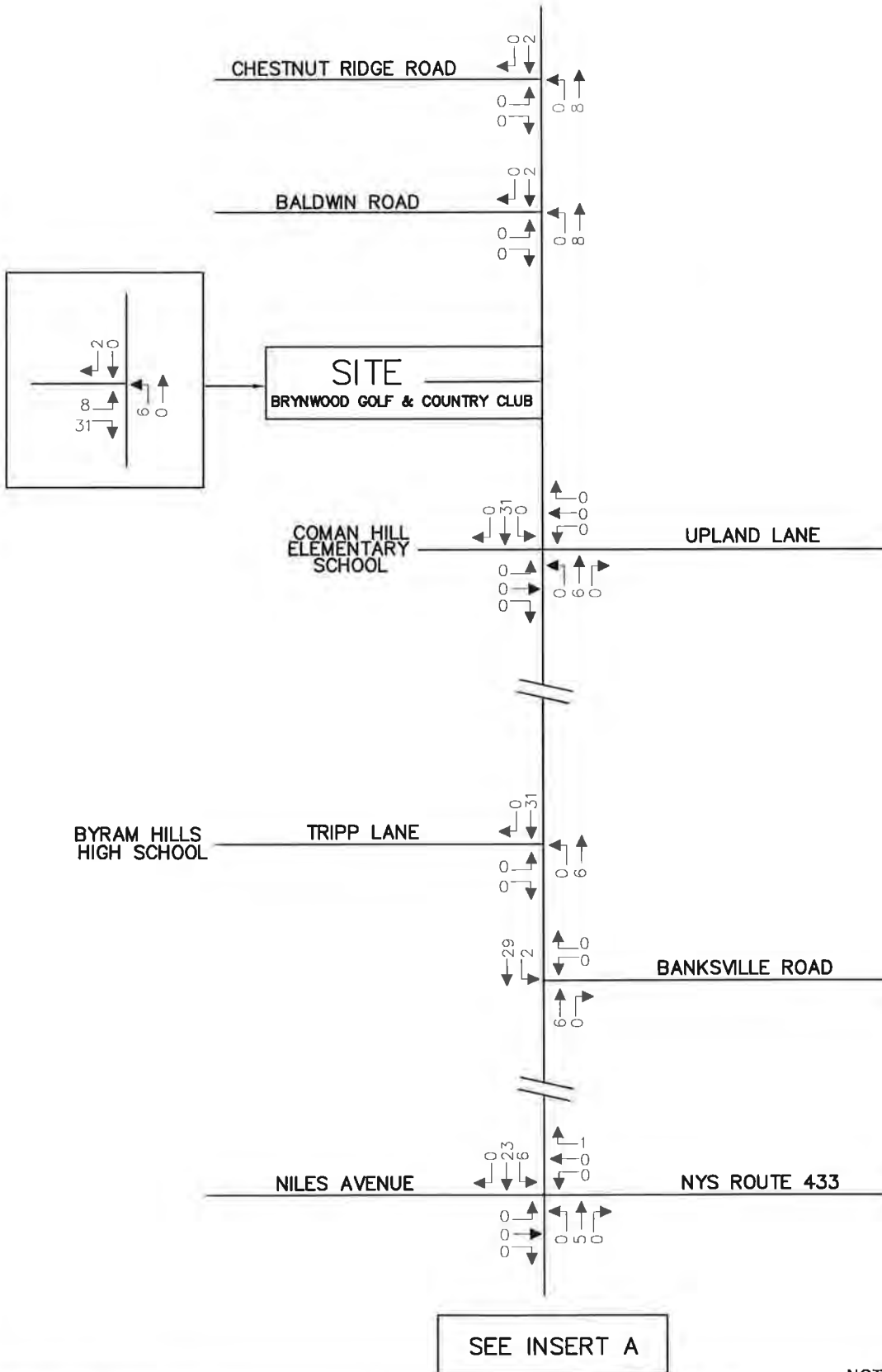


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

14A

NYS ROUTE 22 (BEDFORD ROAD)



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**SITE GENERATED TRAFFIC VOLUMES**  
**WEEKDAY PEAK AM HOUR**  
**(7:00 AM - 8:00 AM)**

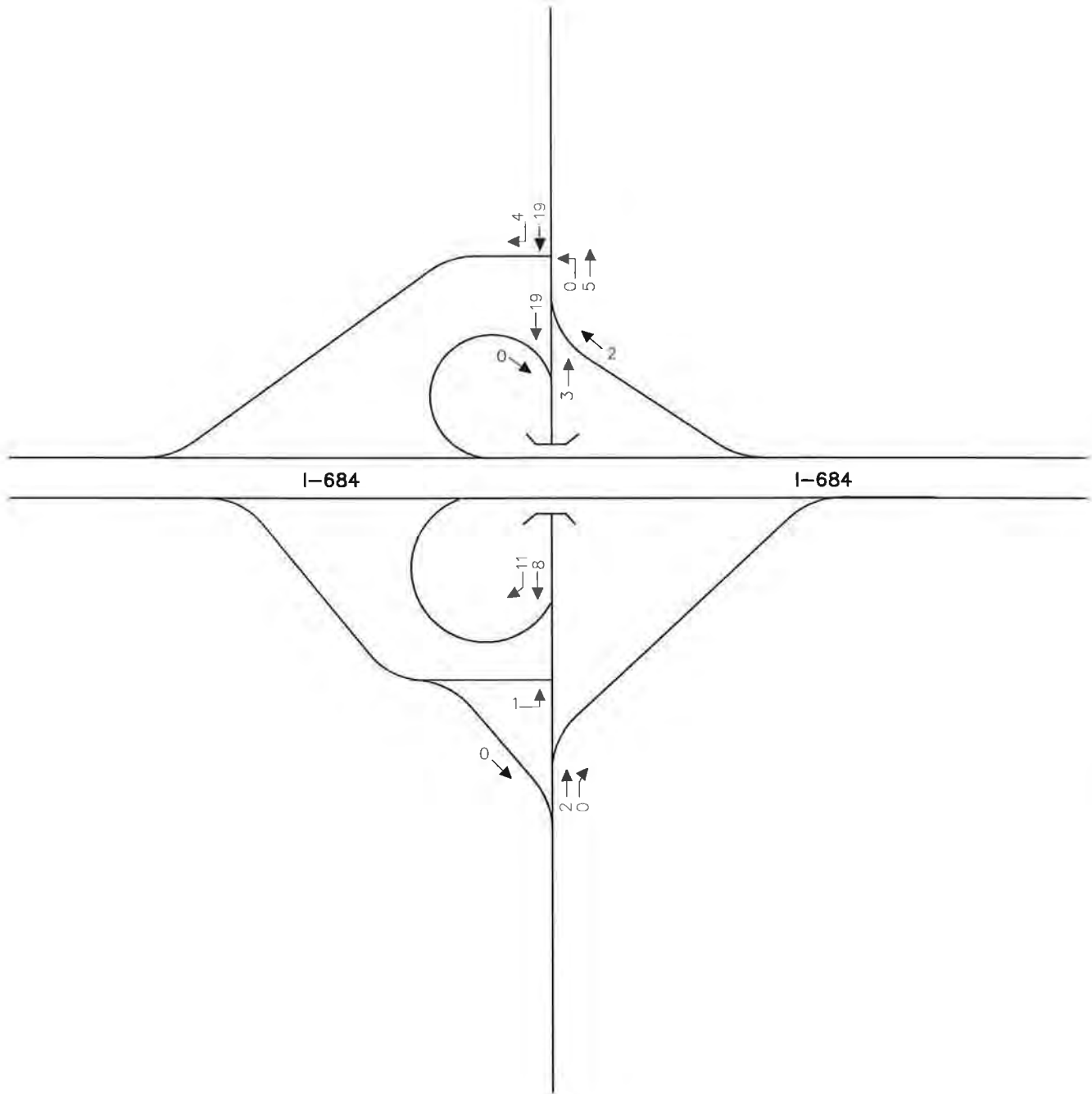


JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER: 15

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)

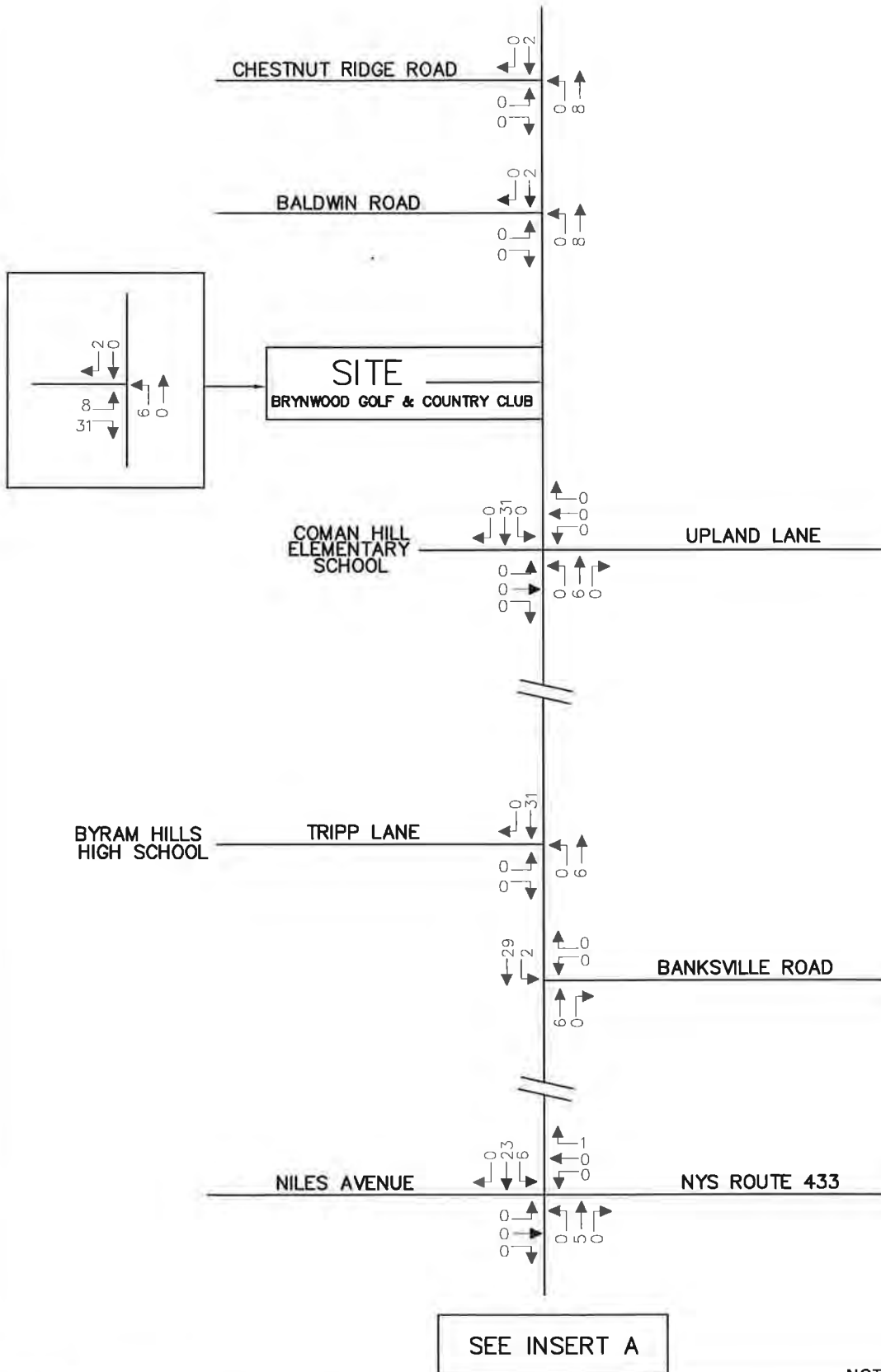


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

15A

# NYS ROUTE 22 (BEDFORD ROAD)



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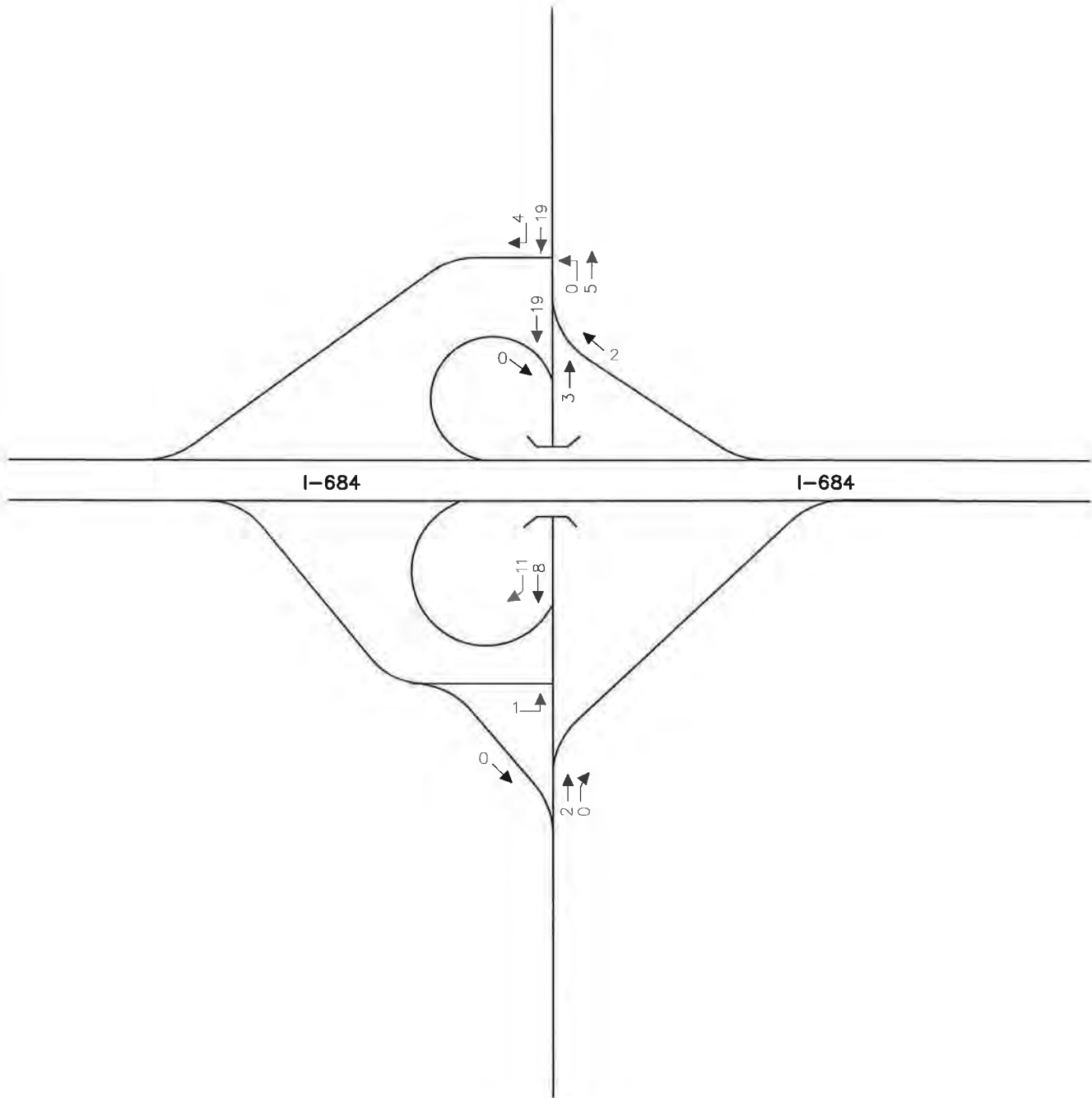
SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

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SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)

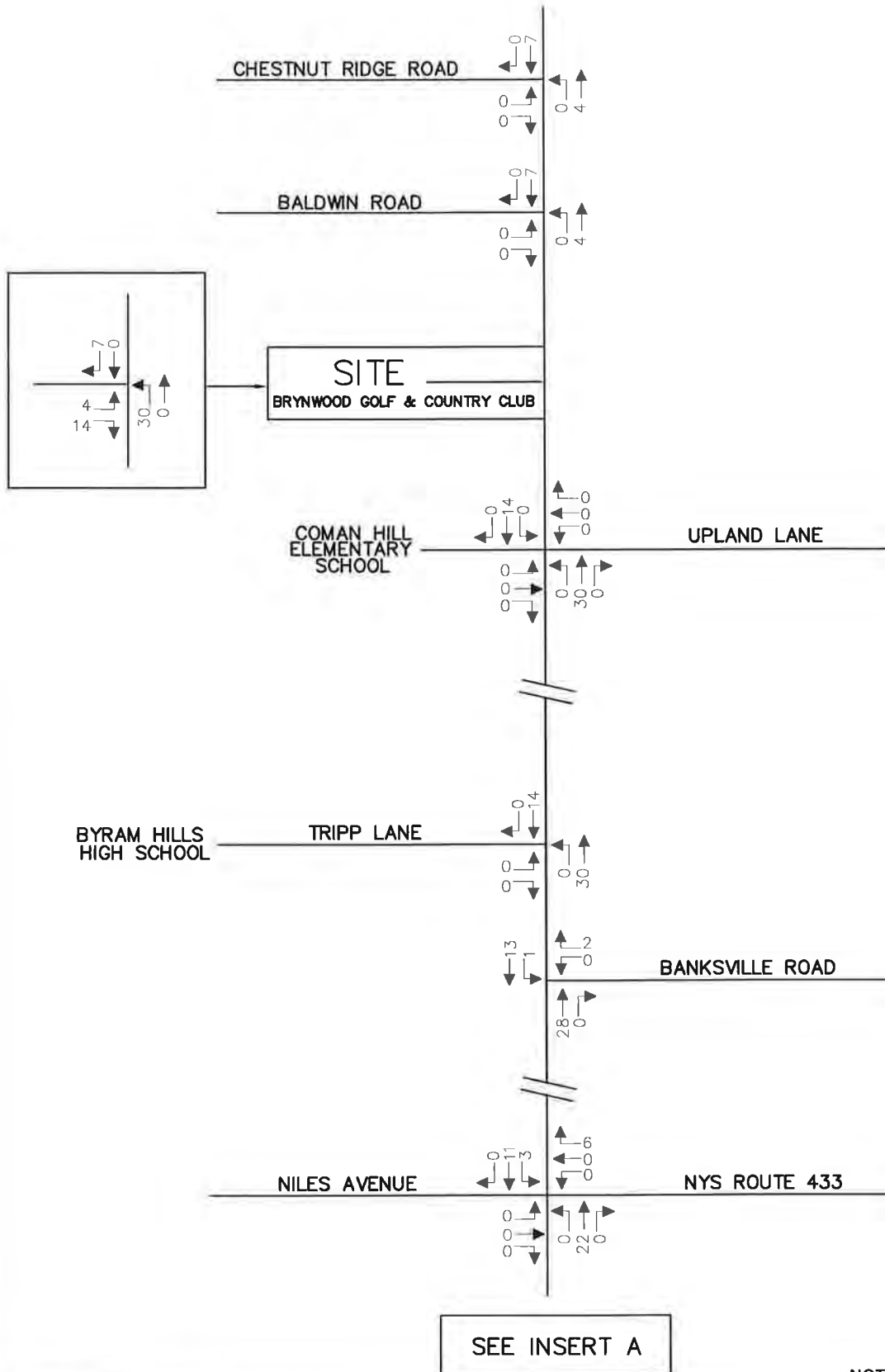


JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

16A

NYS ROUTE 22 (BEDFORD ROAD)



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**TOWN OF NORTH CASTLE, NEW YORK**

**SITE GENERATED TRAFFIC VOLUMES**  
**WEEKDAY PEAK PM HIGHWAY HOUR**  
**(5:00 PM - 6:00 PM)**



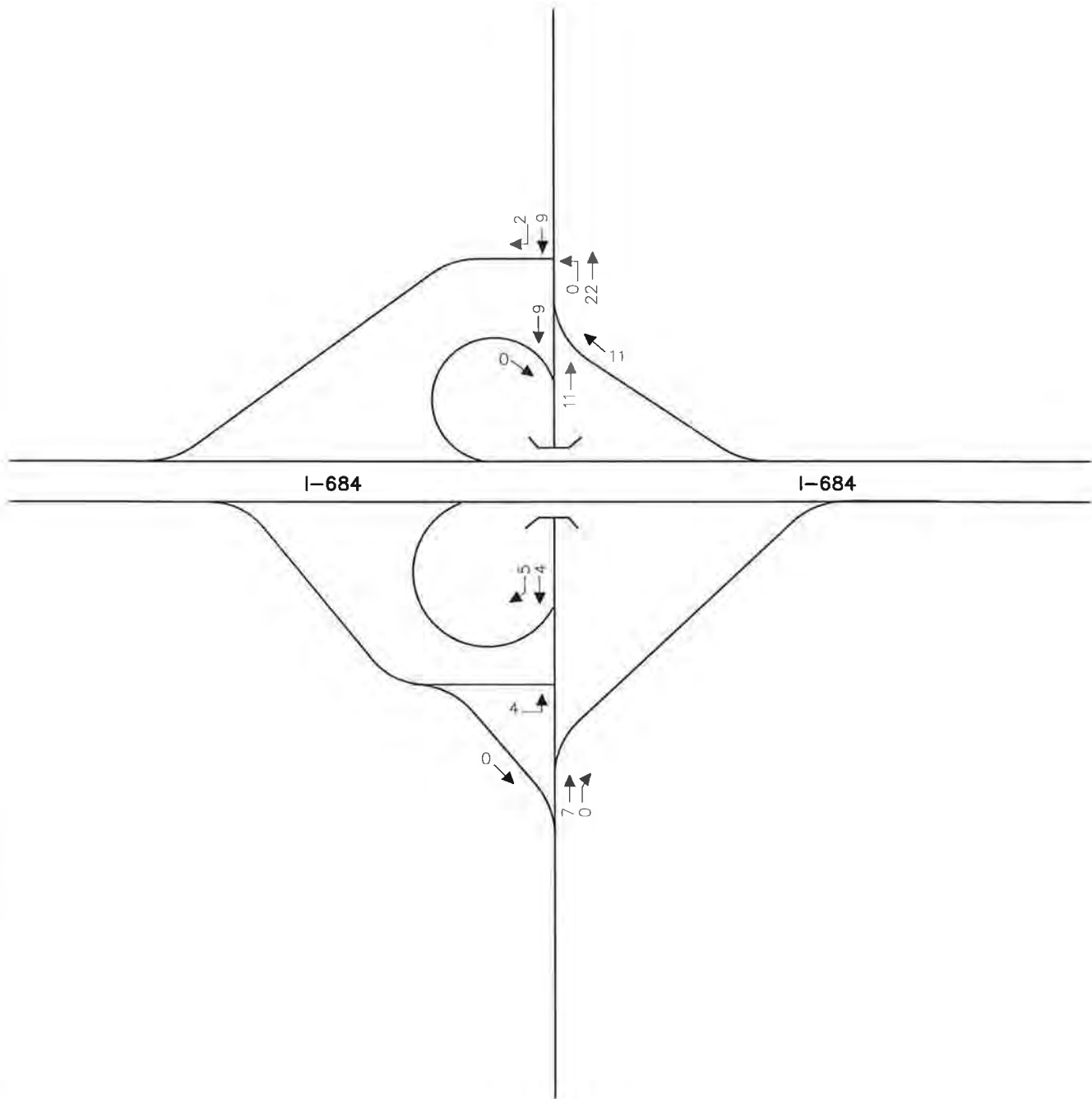
JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

17

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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TOWN OF NORTH CASTLE, NEW YORK

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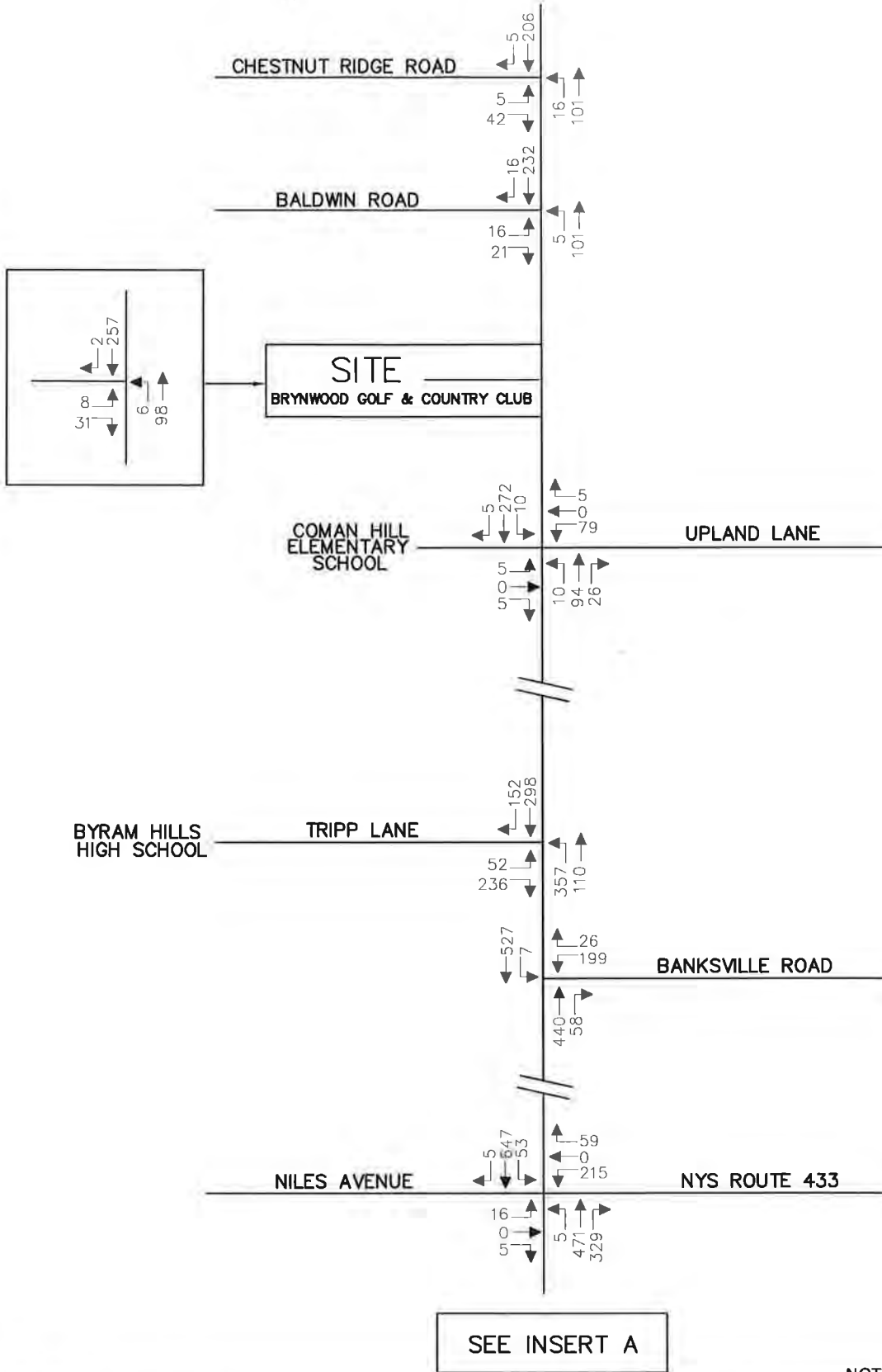
JOB NUMBER:	DATE:
12100120A	02/04/2013

FIGURE NUMBER:

17A



# NYS ROUTE 22 (BEDFORD ROAD)



NOTE: LINE DIAGRAM NOT TO SCALE



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BRYNWOOD GOLF AND COUNTRY CLUB  
TOWN OF NORTH CASTLE, NEW YORK

YEAR 2018 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)



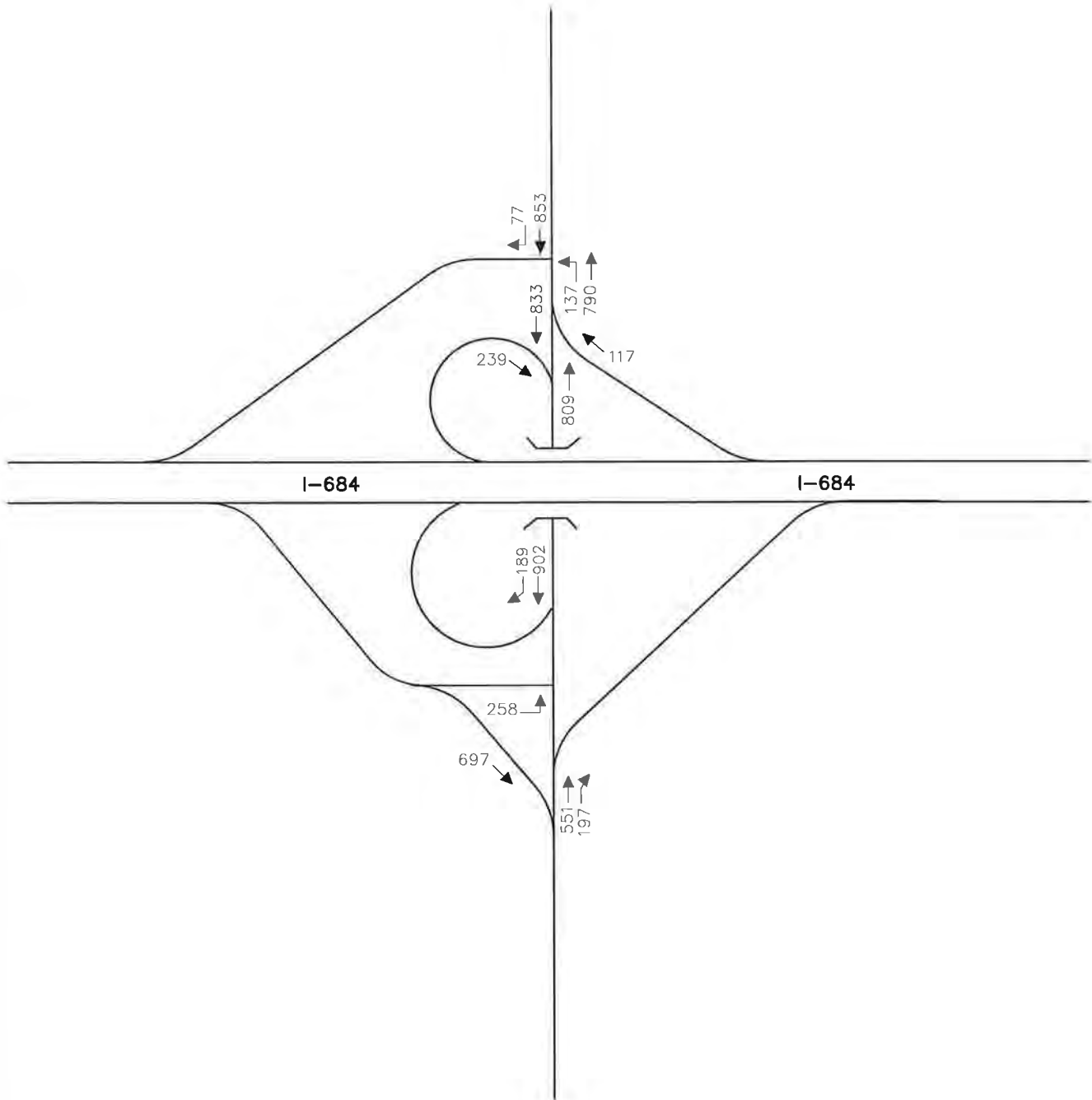
JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER:

18

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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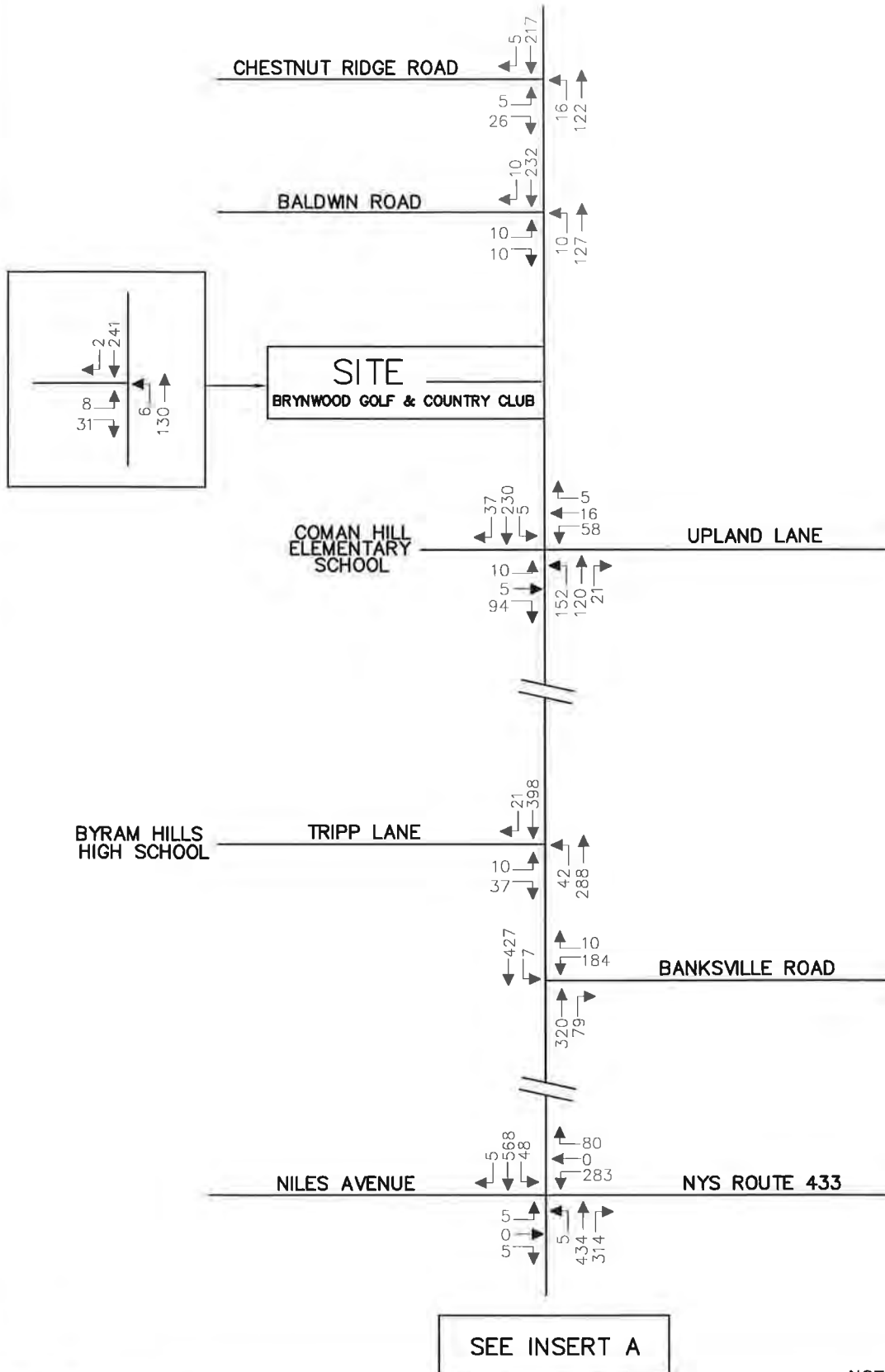
BRYNWOOD GOLF AND COUNTRY CLUB  
TOWN OF NORTH CASTLE, NEW YORK

YEAR 2018 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(7:00 AM - 8:00 AM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
18A	

# NYS ROUTE 22 (BEDFORD ROAD)



NOTE: LINE DIAGRAM NOT TO SCALE



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**TOWN OF NORTH CASTLE, NEW YORK**

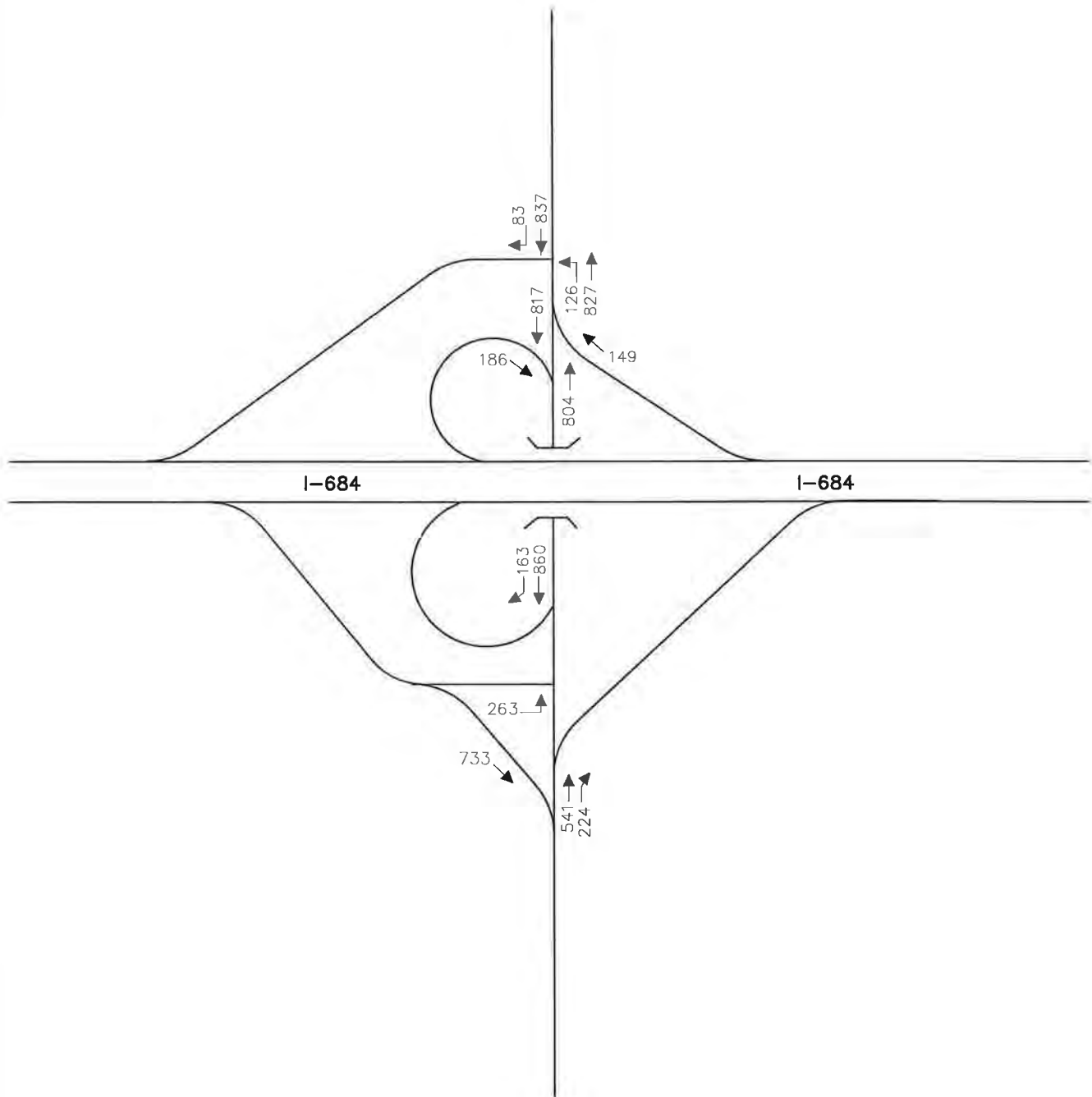
**YEAR 2018 BUILD TRAFFIC VOLUMES**  
**WEEKDAY PEAK AM HOUR**  
**(8:15 AM - 9:15 AM)**



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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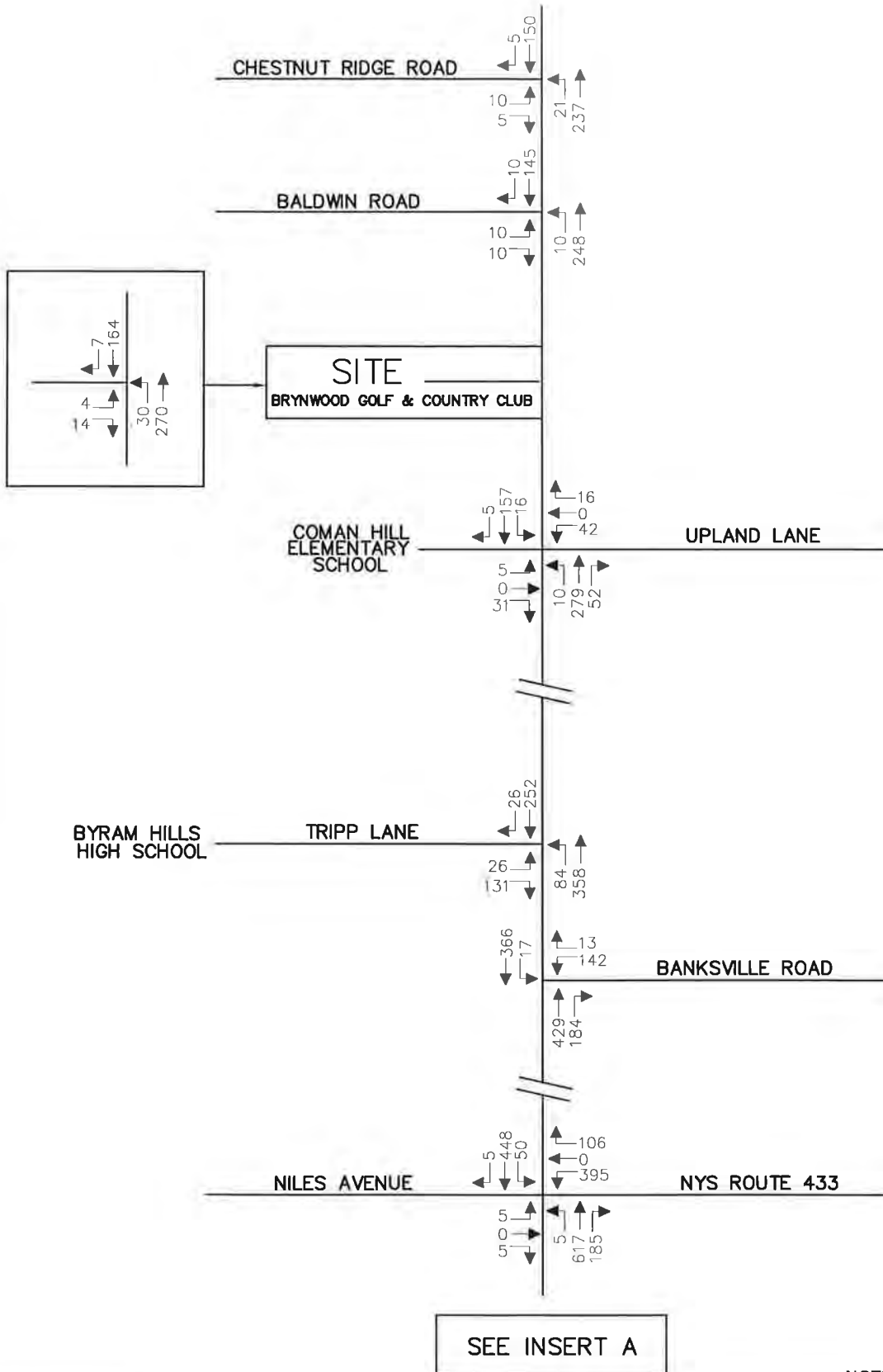
BRYNWOOD GOLF AND COUNTRY CLUB  
TOWN OF NORTH CASTLE, NEW YORK

YEAR 2018 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(8:15 AM - 9:15 AM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
19A	

# NYS ROUTE 22 (BEDFORD ROAD)



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YEAR 2018 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HIGHWAY HOUR  
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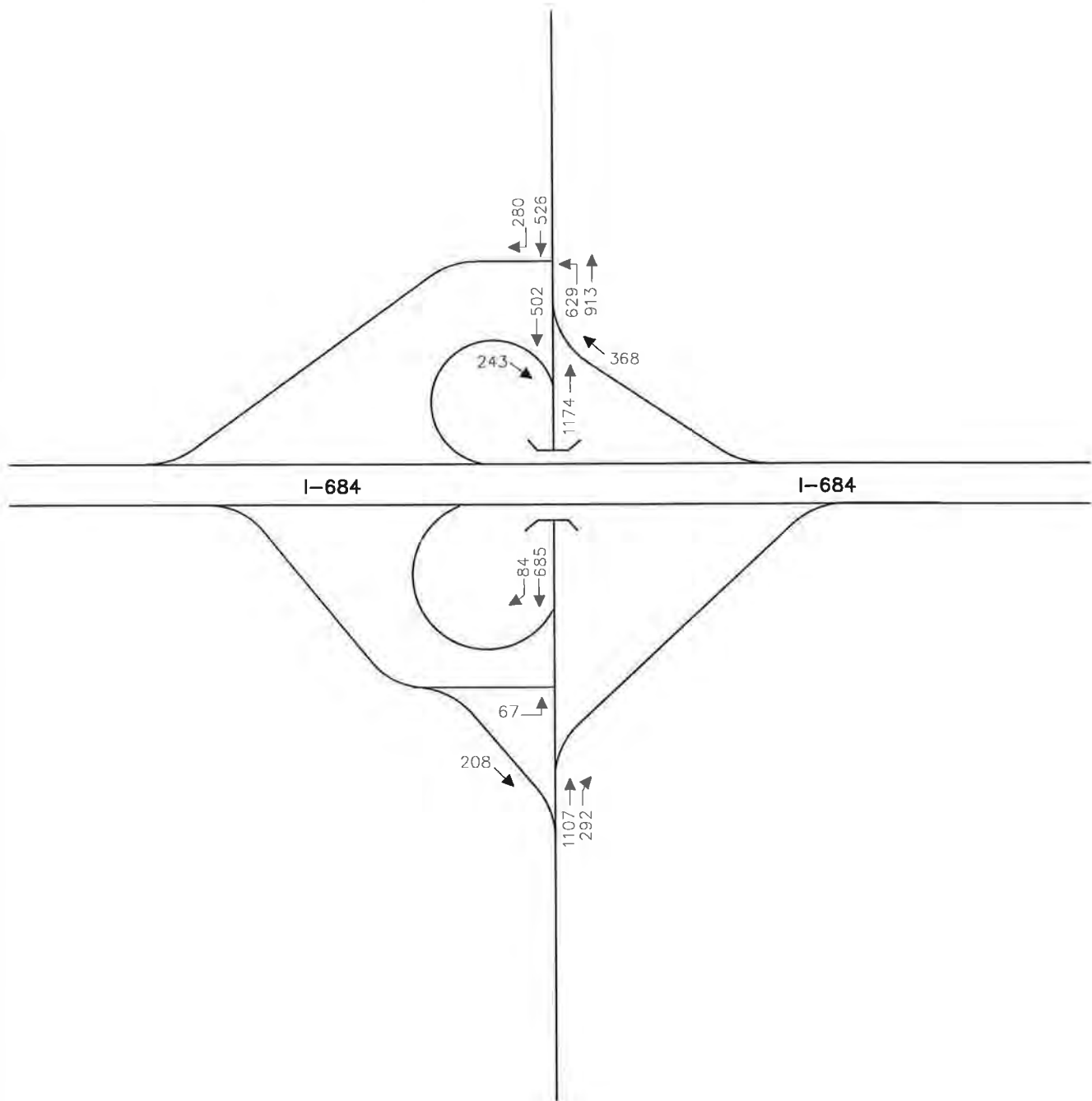
JOB NUMBER: 12100120A DATE: 02/04/2013

FIGURE NUMBER:

20

# INSERT A

NYS ROUTE 22 (BEDFORD ROAD)



NYS ROUTE 22 (BEDFORD ROAD)

NOTE: LINE DIAGRAM NOT TO SCALE



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YEAR 2018 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HIGHWAY HOUR  
(5:00 PM - 6:00 PM)



JOB NUMBER:	DATE:
12100120A	02/04/2013
FIGURE NUMBER:	
20A	



# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX B**

### **TABLES**

TABLE NO. 1

## LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS			YEAR 2018 NO-BUILD CONDITIONS			YEAR 2018 BUILD CONDITIONS		
		AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00	AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00	AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00
1	NYS ROUTE 22 & CHESTNUT RIDGE ROAD  UNSIGNALIZED  MAJOR MOVEMENTS NORTHBOUND LEFT / THROUGH  MINOR MOVEMENTS EASTBOUND LEFT / RIGHT	A (1.3)   B (10.3)	A (1.1)   B (10.1)	A (0.8)   B (11.2)	A (1.3)   B (10.5)	A (1.1)   B (10.3)	A (0.8)   B (11.6)	A (1.2)   B (10.5)	A (1.0)   B (10.3)	A (0.8)   B (11.7)
2	NYS ROUTE 22 & BALDWIN ROAD  UNSIGNALIZED  MAJOR MOVEMENTS NORTHBOUND LEFT / THROUGH  MINOR MOVEMENTS EASTBOUND LEFT / RIGHT	A (0.5)   B (11.1)	A (0.7)   B (10.7)	A (0.4)   B (10.4)	A (0.5)   B (11.4)	A (0.7)   B (10.9)	A (0.4)   B (10.7)	A (0.4)   B (11.5)	A (0.6)   B (10.9)	A (0.4)   B (10.8)
3	NYS ROUTE 22 & SITE ACCESS  UNSIGNALIZED  MAJOR MOVEMENTS NORTHBOUND LEFT / THROUGH  MINOR MOVEMENTS EASTBOUND LEFT / RIGHT							A (0.5)   B (11.4)	A (0.4)   B (10.7)	A (1.0)   B (10.4)
4	NYS ROUTE 22 & UPLAND LANE / COMAN HILL ELEMENTARY SCHOOL  UNSIGNALIZED  MAJOR MOVEMENTS NORTHBOUND LEFT / THROUGH / RIGHT SOUTHBOUND LEFT / THROUGH / RIGHT  MINOR MOVEMENTS EASTBOUND LEFT / THROUGH / RIGHT WESTBOUND LEFT / THROUGH / RIGHT	A (0.8) A (0.4)  B (11.9) C (15.6)	A (5.3) A (0.2)  B (13.8) E (47.5)	A (0.4) A (1.0)  B (10.2) B (14.5)	A (0.8) A (0.4)  B (12.3) C (16.8)	A (5.4) A (0.2)  B (14.6) F (63.8)	A (0.3) A (0.9)  B (10.5) C (15.7)	A (0.7) A (0.4)  B (12.9) C (18.1)	A (5.4) A (0.2)  C (15.5) F (77.8)	A (0.3) A (0.9)  B (10.7) C (16.7)
5	NYS ROUTE 22 & TRIPP LANE (BYRAM HILLS HIGH SCHOOL)  SIGNALIZED  EASTBOUND LEFT / RIGHT EASTBOUND APPROACH NORTHBOUND LEFT / THROUGH NORTHBOUND APPROACH SOUTHBOUND THROUGH / RIGHT SOUTHBOUND APPROACH  OVERALL INTERSECTION	F [125.0] F [125.0] F [221.6] F [221.6] A [8.9] A [8.9]  F [122.1]	D [41.7] D [41.7] A [3.0] A [3.0] A [3.0] A [3.0]  A [5.5]	D [41.6] D [41.6] A [5.8] A [5.8] A [4.7] A [4.7]  B [12.5]	F [144.5] F [144.5] F [312.5] F [312.5] A [9.4] A [9.4]  F [162.3]	D [42.5] D [42.5] A [3.2] A [3.2] A [3.2] A [3.2]  A [5.6]	D [42.5] D [42.5] A [6.5] A [6.5] A [4.9] A [4.9]  B [12.8]	F [144.5] F [144.5] F [385.1] F [385.1] B [10.0] B [10.0]  F [187.6]	D [43.0] D [43.0] A [3.4] A [3.4] A [3.4] A [3.4]  A [5.7]	D [43.0] D [43.0] A [6.7] A [6.7] A [5.0] A [5.0]  B [12.7]
6	NYS ROUTE 22 & BANKSVILLE ROAD  SIGNALIZED  WESTBOUND LEFT / RIGHT WESTBOUND APPROACH NORTHBOUND THROUGH / RIGHT NORTHBOUND APPROACH SOUTHBOUND LEFT / THROUGH SOUTHBOUND APPROACH  OVERALL INTERSECTION	D [39.2] D [39.2] A [9.4] A [9.4] A [9.3] A [9.3]  B [15.0]	D [36.9] D [36.9] A [6.8] A [6.8] A [6.7] A [6.7]  B [12.7]	D [40.4] D [40.4] A [6.1] A [6.1] A [4.5] A [4.5]  B [10.5]	D [40.1] D [40.1] B [10.2] B [10.2] B [10.2] B [10.2]  B [15.8]	D [37.1] D [37.1] A [7.3] A [7.3] A [7.2] A [7.2]  B [13.1]	D [41.1] D [41.1] A [6.7] A [6.7] A [4.8] A [4.8]  B [10.8]	D [41.4] D [41.4] B [10.3] B [10.3] B [10.9] B [10.9]  B [16.1]	D [38.4] D [38.4] A [7.3] A [7.3] A [7.6] A [7.6]  B [13.3]	D [41.9] D [41.9] A [7.1] A [7.1] A [4.9] A [4.9]  B [11.1]
7	NYS ROUTE 22 & NYS ROUTE 433 / NILES AVENUE  SIGNALIZED  NORTHBOUND LEFT / THROUGH NORTHBOUND RIGHT NORTHBOUND APPROACH SOUTHBOUND LEFT / THROUGH / RIGHT SOUTHBOUND APPROACH WESTBOUND LEFT / THROUGH / RIGHT WESTBOUND APPROACH EASTBOUND LEFT / THROUGH / RIGHT EASTBOUND APPROACH  OVERALL INTERSECTION	B [13.1] A [1.3] A [8.2] C [27.1] C [27.1] D [40.4] D [40.4] D [46.3] D [46.3]  C [20.7]	B [13.8] A [0.7] A [8.4] B [19.5] B [19.5] C [24.6] C [24.6] D [38.0] D [38.0]  B [15.8]	C [20.9] A [0.6] B [16.4] C [30.0] C [30.0] C [31.5] C [31.5] D [44.2] D [44.2]  C [24.6]	B [14.2] A [1.6] A [9.0] C [35.0] C [35.0] D [52.4] D [52.4] D [49.6] D [49.6]  C [26.1]	B [14.7] A [0.8] A [8.8] C [22.0] C [22.0] C [27.0] C [27.0] D [40.3] D [40.3]  B [17.4]	C [21.6] A [0.6] B [16.7] D [36.7] D [36.7] D [40.2] D [40.2] D [46.3] D [46.3]  C [28.9]	B [13.2] A [1.6] A [8.4] D [37.8] D [37.8] E [64.0] E [64.0] D [51.3] D [51.3]  C [28.8]	B [14.1] A [0.8] A [8.6] C [23.1] C [23.1] C [29.9] C [29.9] D [42.3] D [42.3]  B [18.3]	C [21.6] A [0.6] B [16.8] D [40.4] D [40.4] D [44.5] D [44.5] D [46.7] D [46.7]  C [31.1]

THE ABOVE REPRESENTS THE LEVELS OF SERVICE AND VEHICLE DELAY IN SECONDS, B [10.9], FOR THE SIGNALIZED INTERSECTIONS  
AND THE LEVELS OF SERVICE AND AVERAGE TOTAL DELAY IN SECONDS, B [10.9], FOR THE UNSIGNALIZED INTERSECTIONS



TABLE NO. 1A

LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS			YEAR 2016 NO-BUILD CONDITIONS			YEAR 2016 BUILD CONDITIONS		
		AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00	AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00	AM 7:00 - 8:00	AM 8:15 - 9:15	PM 5:00 - 6:00
8	NYS ROUTE 22 & I-684 NORTHBOUND ON/OFF RAMP									
	NYS ROUTE 22 & I-684 NB ON RAMP (8)									
	SIGNALIZED									
	NORTHBOUND (EB) LEFT	C [22.2]	C [22.0]	C [26.8]	C [22.3]	C [22.1]	C [27.9]	C [22.3]	C [22.1]	C [27.9]
	NORTHBOUND (EB) THROUGH	A [0.2]	A [0.2]	A [0.2]	A [0.2]	A [0.2]	A [0.2]	A [0.2]	A [0.2]	A [0.2]
	NORTHBOUND (EB) APPROACH	A [3.2]	A [2.9]	B [10.9]	A [3.5]	A [3.1]	B [11.7]	A [3.4]	A [3.1]	B [11.5]
	SOUTHBOUND (WB) THROUGH	B [18.6]	B [17.7]	B [15.7]	B [19.2]	B [18.3]	B [16.0]	B [19.5]	B [18.4]	B [16.1]
	SOUTHBOUND (WB) RIGHT	B [14.1]	B [14.1]	B [17.4]	B [14.2]	B [14.1]	B [17.7]	B [14.2]	B [14.2]	B [17.7]
	SOUTHBOUND (WB) APPROACH	B [18.2]	B [17.4]	B [16.3]	B [18.8]	B [17.9]	B [16.6]	B [19.0]	B [18.0]	B [16.6]
	OVERALL INTERSECTION	B [10.7]	A [9.9]	B [12.8]	B [11.1]	B [10.3]	B [13.4]	B [11.2]	B [10.4]	B [13.3]
9	NYS ROUTE 22 & I-684 SOUTHBOUND ON/OFF RAMP									
	FREE FLOW									
	NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB (11)	A	A	A	A	A	A	A	A	A
	NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH (12)									
	SIGNALIZED									
	NORTHBOUND (EB) THROUGH	A [6.2]	A [6.1]	A [7.8]	A [6.3]	A [6.2]	A [8.5]	A [6.3]	A [6.2]	A [8.5]
	NORTHBOUND (EB) APPROACH	A [6.2]	A [6.1]	A [7.8]	A [6.3]	A [6.2]	A [8.5]	A [6.3]	A [6.2]	A [8.5]
	SOUTHBOUND (WB) THROUGH	A [7.2]	A [6.8]	A [6.3]	A [7.7]	A [7.2]	A [8.7]	A [7.7]	A [7.3]	A [8.7]
	SOUTHBOUND (WB) APPROACH	A [7.2]	A [6.8]	A [6.3]	A [7.7]	A [7.2]	A [8.7]	A [7.7]	A [7.3]	A [8.7]
	SOUTHBOUND LEFT	D [41.2]	D [39.9]	C [29.0]	D [43.0]	D [41.3]	C [29.1]	D [43.2]	D [41.4]	C [29.3]
	SOUTHBOUND APPROACH	D [41.2]	D [39.9]	C [29.0]	D [43.0]	D [41.3]	C [29.1]	D [43.2]	D [41.4]	C [29.3]
	OVERALL INTERSECTION	B [12.3]	B [12.1]	A [8.1]	B [12.6]	B [12.3]	A [8.5]	B [12.6]	B [12.3]	A [8.6]
	FREE FLOW									
	NYS ROUTE 22 NORTH ON RAMP TO I-684 SB (13)	A	A	A	A	A	A	A	A	A
	UNSIGNALIZED									
	I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH	F (87.9)	F (65.9)	B (11.2)	F (158.5)	F (123.0)	B (12.4)	F (160.9)	F (125.0)	B (12.4)

THE ABOVE REPRESENTS THE LEVELS OF SERVICE AND VEHICLE DELAY IN SECONDS, B [10.9], FOR THE SIGNALIZED INTERSECTIONS  
AND THE LEVELS OF SERVICE AND AVERAGE TOTAL DELAY IN SECONDS, B (10.9), FOR THE UNSIGNALIZED INTERSECTIONS.



# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX C**

### **LEVEL OF SERVICE STANDARDS**

## **LEVEL OF SERVICE STANDARDS**

### **LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS**

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

**LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

**LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

**LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

**LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

**LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 18-4 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

**Exhibit 18-4**

<b>Control Delay (s/veh)</b>	<b>LOS by Volume-to-Capacity Ratio</b>	
	<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>
≤ 10	A	F
> 10-20	B	F
> 20-35	C	F
> 35-55	D	F
> 55-80	E	F
> 80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

## **LEVEL OF SERVICE CRITERIA**

### **FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS**

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

**Exhibit 19-1**

<b>Control Delay (s/veh)</b>	<b>LOS by Volume-to-Capacity Ratio</b>	
	<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.  
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

## **LEVEL OF SERVICE CRITERIA**

### **FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS**

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 20-2. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 20-2 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

**Exhibit 20-2**

<b>Control Delay (s/veh)</b>	<b>LOS by Volume-to-Capacity Ratio</b>	
	<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX D**

### **CAPACITY ANALYSIS SUMMARY SHEETS**

## **YEAR 2013 EXISTING TRAFFIC VOLUMES**












**WEEKDAY PEAK AM HOUR**

**(7:00 AM – 8:00 AM)**

YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.880	
Flt Protected		0.993			0.994	
Satd. Flow (prot)	0	1715	1720	0	1511	0
Flt Permitted		0.993			0.994	
Satd. Flow (perm)	0	1715	1720	0	1511	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	15	85	185	5	5	40
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	18	102	223	6	6	48
Lane Group Flow (vph)	0	120	229	0	54	0
Sign Control		Free	Free		Stop	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 30.3% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00










2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	85	185	5	5	40
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	18	102	223	6	6	48
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	239				384	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	239				384	246
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				99	94
cM capacity (veh/h)	1272				585	761
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	120	229	54			
Volume Left	18	0	6			
Volume Right	0	6	48			
cSH	1272	1700	736			
Volume to Capacity	0.01	0.13	0.07			
Queue Length 95th (ft)	1	0	6			
Control Delay (s)	1.3	0.0	10.3			
Lane LOS	A		B			
Approach Delay (s)	1.3	0.0	10.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization		30.3%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013










						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.922	
Flt Protected		0.997			0.979	
Satd. Flow (prot)	0	1722	1712	0	1559	0
Flt Permitted		0.997			0.979	
Satd. Flow (perm)	0	1722	1712	0	1559	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	5	85	210	15	15	20
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	110	273	19	19	26
Lane Group Flow (vph)	0	116	292	0	45	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 25.2% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	85	210	15	15	20
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	110	273	19	19	26
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	302				426	302
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	302				426	302
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				97	96
cM capacity (veh/h)	1204				558	707
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	117	292	45			
Volume Left	6	0	19			
Volume Right	0	19	26			
cSH	1204	1700	634			
Volume to Capacity	0.01	0.17	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.5	0.0	11.1			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		25.2%		ICU Level of Service	A	
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	90	235	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	120	313	0
Lane Group Flow (vph)	0	0	0	120	313	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 25.5% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

















WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	90	235	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	120	313	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	453	333	323			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	453	333	323			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	541	679	1183			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	120	313			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1183	1700			
Volume to Capacity	0.00	0.00	0.18			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay		0.0				
Intersection Capacity Utilization		25.5%		ICU Level of Service	A	
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.932			0.991			0.971			0.997	
Flt Protected		0.976			0.955			0.996			0.998	
Satd. Flow (prot)	0	1571	0	0	1635	0	0	1670	0	0	1719	0
Flt Permitted		0.976			0.955			0.996			0.998	
Satd. Flow (perm)	0	1571	0	0	1635	0	0	1670	0	0	1719	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	5	75	0	5	10	80	25	10	220	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	7	0	7	103	0	7	14	110	34	14	301	7
Lane Group Flow (vph)	0	14	0	0	110	0	0	158	0	0	322	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.2%

















ICU Level of Service A

Analysis Period (min) 15



YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22










WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	5	75	0	5	10	80	25	10	220	5
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	7	0	7	103	0	7	14	110	34	14	301	7
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	513	523	325	513	510	147	318			154		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	513	523	325	513	510	147	318			154		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	98	100	99	76	100	99	99			99		
cM capacity (veh/h)	435	430	687	434	438	865	1188			1368		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	110	158	322								
Volume Left	7	103	14	14								
Volume Right	7	7	34	7								
cSH	533	448	1188	1368								
Volume to Capacity	0.03	0.24	0.01	0.01								
Queue Length 95th (ft)	2	24	1	1								
Control Delay (s)	11.9	15.6	0.8	0.4								
Lane LOS	B	C	A	A								
Approach Delay (s)	11.9	15.6	0.8	0.4								
Approach LOS	B	C										
<b>Intersection Summary</b>												
Average Delay			3.5									
Intersection Capacity Utilization			30.2%			ICU Level of Service			A			
Analysis Period (min)			15									

YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00







2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				0.98	
Frt	0.889				0.950	
Flt Protected	0.991			0.962		
Satd. Flow (prot)	1471	0	0	1723	1638	0
Flt Permitted	0.991			0.345		
Satd. Flow (perm)	1462	0	0	618	1638	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	50	225	340	95	245	145
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	5%	10%	5%	10%	10%	5%
Adj. Flow (vph)	69	312	472	132	340	201
Lane Group Flow (vph)	381	0	0	604	541	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	27.0	0.0	10.0	73.0	63.0	0.0
Total Split (%)	27.0%	0.0%	10.0%	73.0%	63.0%	0.0%
Maximum Green (s)	22.0		5.0	68.0	58.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	23.0			69.0	69.0	
Actuated g/C Ratio	0.23			0.69	0.69	
v/c Ratio	1.13			1.42	0.48	
Control Delay	125.0			221.6	8.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	125.0			221.6	8.9	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	F			F	A	
Approach Delay	125.0			221.6	8.9	
Approach LOS	F			F	A	
Queue Length 50th (ft)	~283			~521	140	
Queue Length 95th (ft)	#325			#529	146	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	338			426	1130	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.13			1.42	0.48	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 150

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.42

Intersection Signal Delay: 122.1

Intersection LOS: F

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15





~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

	ø2		ø4
73 s		27 s	
	ø5		ø6
10 s		63 s	







YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			
Frt	0.984		0.984			
Flt Protected	0.958					0.999
Satd. Flow (prot)	1780	0	1689	0	0	1726
Flt Permitted	0.958					0.995
Satd. Flow (perm)	1731	0	1689	0	0	1719
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	190	25	410	55	5	465
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	241	32	519	70	6	589
Lane Group Flow (vph)	273	0	589	0	0	595
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	39.0	0.0	61.0	0.0	61.0	61.0
Total Split (%)	39.0%	0.0%	61.0%	0.0%	61.0%	61.0%
Maximum Green (s)	34.0		56.0		56.0	56.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	19.1		58.7			58.7
Actuated g/C Ratio	0.22		0.68			0.68
v/c Ratio	0.69		0.51			0.51
Control Delay	39.2		9.4			9.3
Queue Delay	0.0		0.0			0.0

YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	39.2		9.4			9.3
LOS	D		A			A
Approach Delay	39.2		9.4			9.3
Approach LOS	D		A			A
Queue Length 50th (ft)	132		132			132
Queue Length 95th (ft)	179		218			218
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	614		1155			1176
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.44		0.51			0.51

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 85.8  
 Natural Cycle: 50  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 15.0  
 Intersection Capacity Utilization 47.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22

	ø2		
61 s			
	ø6		
61 s			
			ø8
		39 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.970			0.968	
Flt Protected		0.999			0.996			0.963			0.963	
Satd. Flow (prot)	0	1808	1538	0	1800	0	0	1690	0	0	1687	0
Flt Permitted		0.993			0.898			0.963			0.963	
Satd. Flow (perm)	0	1797	1538	0	1623	0	0	1690	0	0	1687	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	440	310	45	585	5	195	0	55	15	0	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	6	564	397	58	750	6	250	0	71	19	0	6
Lane Group Flow (vph)	0	570	397	0	814	0	0	321	0	0	25	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	62.0	62.0	28.0	62.0	62.0	0.0	28.0	28.0	0.0	10.0	10.0	0.0
Total Split (%)	62.0%	62.0%	28.0%	62.0%	62.0%	0.0%	28.0%	28.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	56.0	56.0	23.0	56.0	56.0		23.0	23.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		41.9	69.1		41.9			19.0			6.6	
Actuated g/C Ratio		0.57	0.94		0.57			0.26			0.08	
v/c Ratio		0.55	0.27		0.88			0.73			0.18	
Control Delay		13.1	1.3		27.1			40.4			46.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		13.1	1.3		27.1			40.4			46.3	
LOS		B	A		C			D			D	
Approach Delay		8.2			27.1			40.4			46.3	
Approach LOS		A			C			D			D	
Queue Length 50th (ft)		140	0		273			133			11	
Queue Length 95th (ft)		242	37		452			245			37	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1189	1242		1074			555			140	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.48	0.32		0.76			0.58			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 73.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 20.7





Intersection LOS: C

Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

		
ø2	ø6	ø4
28 s	10 s	62 s
		
	ø8	
	62 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/11/2013







						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	120	740	775	70	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	138	851	891	80	0	0
Lane Group Flow (vph)	138	851	891	80	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.10	0.25	0.49	0.10		
Control Delay	22.2	0.2	18.6	14.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.2	0.2	18.6	14.1		



YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		3.2	18.2			
Approach LOS		A	B			
Queue Length 50th (ft)	32	0	215	29		
Queue Length 95th (ft)	52	0	256	53		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.10	0.25	0.49	0.10		

Intersection Summary

Area Type: Other

Cycle Length: 117

Actuated Cycle Length: 117

Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 10.7




Intersection LOS: B

Intersection Capacity Utilization 31.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP

	
ø2	ø1
66 s	51 s
	
ø6	
117 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	750	0	0	775	0	110
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	862	0	0	891	0	126
Lane Group Flow (vph)	862	0	0	891	0	126
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.2%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
 9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH 2/11/2013







	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	750	0	0	775	0	110
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	862	0	0	891	0	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.84	
vC, conflicting volume			862		1307	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			862		1172	287
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	82
cM capacity (veh/h)			757		151	700
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	287	287	287	445	445	126
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	126
cSH	1700	1700	1700	1700	1700	700
Volume to Capacity	0.17	0.17	0.17	0.26	0.26	0.18
Queue Length 95th (ft)	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.3
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.3
Approach LOS						B
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			39.2%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	750	775	0	0	180
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	862	891	0	0	207
Lane Group Flow (vph)	0	862	891	0	0	207
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.2%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013









Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	750	775	0	0	180
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	862	891	0	0	207
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	891				1178	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	674				1017	141
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	72
cM capacity (veh/h)	747				191	729
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	287	287	287	445	445	207
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	207
cSH	1700	1700	1700	1700	1700	729
Volume to Capacity	0.17	0.17	0.17	0.26	0.26	0.28
Queue Length 95th (ft)	0	0	0	0	0	29
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.9
Approach LOS						B
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			39.2%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	750	785	170	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	852	892	193	0	0
Lane Group Flow (vph)	0	852	892	193	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.9%

ICU Level of Service A







Analysis Period (min) 15

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	750	785	170	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	852	892	193	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.86				0.89	0.86
vC, conflicting volume	1085				1318	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938				1033	196
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	610				199	692
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	426	426	446	446	193	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	193	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.25	0.25	0.26	0.26	0.11	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			41.9%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	505	785	0	245	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	574	892	0	278	0
Lane Group Flow (vph)	0	574	892	0	278	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.25	0.38		0.68	
Control Delay		6.2	7.2		41.2	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.2	7.2		41.2	
LOS		A	A		D	
Approach Delay		6.2	7.2		41.2	



# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		60	105		148	
Queue Length 95th (ft)		80	133		229	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.25	0.38		0.68	

## Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 41.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

← ø2	→ ø3
66 s	26 s
→ ø6	
66 s	

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

	→	↗	↖	←	↙	↘
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	505	170	0	785	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	574	193	0	892	0	0
Lane Group Flow (vph)	574	193	0	892	0	0
Sign Control	Free			Free	Stop	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.0%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013







	→	↗	↖	←	↙	↘
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	505	170	0	785	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	574	193	0	892	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				245		
pX, platoon unblocked					0.89	
vC, conflicting volume			767		1020	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			767		894	287
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			823		244	701
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	287	287	193	446	446	
Volume Left	0	0	0	0	0	
Volume Right	0	0	193	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.17	0.17	0.11	0.26	0.26	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			25.0%	ICU Level of Service		A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	505	785	0	0	635
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	574	892	0	0	722
Lane Group Flow (vph)	0	574	892	0	0	722
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other







Control Type: Unsignalized

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
 14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH 2/11/2013










						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	505	785	0	0	635
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	574	892	0	0	722
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			398			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	892				1179	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751				1074	248
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	740				186	659
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	287	287	446	446	722	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	722	
cSH	1700	1700	1700	1700	659	
Volume to Capacity	0.17	0.17	0.26	0.26	1.09	
Queue Length 95th (ft)	0	0	0	0	520	
Control Delay (s)	0.0	0.0	0.0	0.0	87.9	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		87.9	
Approach LOS					F	
Intersection Summary						
Average Delay			29.0			
Intersection Capacity Utilization			67.7%		ICU Level of Service	C
Analysis Period (min)			15			

**WEEKDAY PEAK AM HOUR**

**(8:15 AM – 9:15 AM)**

YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.886	
Flt Protected		0.994			0.992	
Satd. Flow (prot)	0	1717	1722	0	1518	0
Flt Permitted		0.994			0.992	
Satd. Flow (perm)	0	1717	1722	0	1518	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	15	105	195	5	5	25
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	16	113	210	5	5	27
Lane Group Flow (vph)	0	129	215	0	32	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 31.0% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	105	195	5	5	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	16	113	210	5	5	27
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	225				378	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	225				378	232
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				99	97
cM capacity (veh/h)	1287				591	774










Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	129	215	32
Volume Left	16	0	5
Volume Right	0	5	27
cSH	1287	1700	736
Volume to Capacity	0.01	0.13	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.1	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	10.1
Approach LOS			B

<b>Intersection Summary</b>			
Average Delay		1.2	
Intersection Capacity Utilization		31.0%	ICU Level of Service A
Analysis Period (min)		15	



YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.932	
Flt Protected		0.996			0.976	
Satd. Flow (prot)	0	1720	1717	0	1571	0
Flt Permitted		0.996			0.976	
Satd. Flow (perm)	0	1720	1717	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	110	210	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	118	226	11	11	11
Lane Group Flow (vph)	0	129	237	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 26.9% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	110	210	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	118	226	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	247				391	251
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	247				391	251
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1263				583	756
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	129	237	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1263	1700	658			
Volume to Capacity	0.01	0.14	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.7	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	10.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization		26.9%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Fr t						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	120	220	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	133	244	0
Lane Group Flow (vph)	0	0	0	133	244	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 24.9% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

















WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	120	220	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	133	244	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	398	264	254			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398	264	254			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	583	743	1255			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	133	244			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1255	1700			
Volume to Capacity	0.00	0.00	0.14			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			24.9%	ICU Level of Service		A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.991			0.990			0.978	
Flt Protected		0.995			0.965			0.974			0.999	
Satd. Flow (prot)	0	1519	0	0	1652	0	0	1666	0	0	1688	0
Flt Permitted		0.995			0.965			0.974			0.999	
Satd. Flow (perm)	0	1519	0	0	1652	0	0	1666	0	0	1688	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	10	5	90	55	15	5	145	105	20	5	180	35
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	13	7	120	73	20	7	193	140	27	7	240	47
Lane Group Flow (vph)	0	140	0	0	100	0	0	360	0	0	294	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

















Intersection Capacity Utilization 48.8%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22










WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	5	90	55	15	5	145	105	20	5	180	35
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	13	7	120	73	20	7	193	140	27	7	240	47
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	853	850	283	960	860	173	297			177		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	853	850	283	960	860	173	297			177		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	94	97	83	54	91	99	84			100		
cM capacity (veh/h)	213	238	725	158	234	836	1210			1341		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	140	100	360	293								
Volume Left	13	73	193	7								
Volume Right	120	7	27	47								
cSH	546	180	1210	1341								
Volume to Capacity	0.26	0.56	0.16	0.00								
Queue Length 95th (ft)	25	73	14	0								
Control Delay (s)	13.8	47.5	5.3	0.2								
Lane LOS	B	E	A	A								
Approach Delay (s)	13.8	47.5	5.3	0.2								
Approach LOS	B	E										
<b>Intersection Summary</b>												
Average Delay			9.7									
Intersection Capacity Utilization			48.8%		ICU Level of Service				A			
Analysis Period (min)			15									

YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15







2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				1.00	
Frt	0.894				0.992	
Flt Protected	0.989			0.994		
Satd. Flow (prot)	1536	0	0	1727	1713	0
Flt Permitted	0.989			0.887		
Satd. Flow (perm)	1526	0	0	1541	1713	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	10	35	40	265	340	20
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	13	47	53	353	453	27
Lane Group Flow (vph)	60	0	0	406	480	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	30.0	0.0	18.0	70.0	52.0	0.0
Total Split (%)	30.0%	0.0%	18.0%	70.0%	52.0%	0.0%
Maximum Green (s)	25.0		13.0	65.0	47.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	11.0			95.2	95.2	
Actuated g/C Ratio	0.10			0.85	0.85	
v/c Ratio	0.41			0.31	0.33	
Control Delay	41.7			3.0	3.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	41.7			3.0	3.0	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	41.7			3.0	3.0	
Approach LOS	D			A	A	
Queue Length 50th (ft)	43			49	60	
Queue Length 95th (ft)	60			72	84	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	313			1318	1465	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.19			0.31	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 111.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 5.5





Intersection LOS: A

Intersection Capacity Utilization 51.6%

ICU Level of Service A

Analysis Period (min) 15










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 ø2	 ø4
70 s	30 s
 ø5	 ø6
18 s	52 s



YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22







WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			1.00
Frt	0.993		0.973			
Flt Protected	0.955					0.999
Satd. Flow (prot)	1797	0	1663	0	0	1726
Flt Permitted	0.955					0.995
Satd. Flow (perm)	1744	0	1663	0	0	1718
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	175	10	295	75	5	370
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	213	12	360	91	6	451
Lane Group Flow (vph)	225	0	451	0	0	457
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	41.0	0.0	59.0	0.0	59.0	59.0
Total Split (%)	41.0%	0.0%	59.0%	0.0%	59.0%	59.0%
Maximum Green (s)	36.0		54.0		54.0	54.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	16.4		58.4			58.4
Actuated g/C Ratio	0.20		0.71			0.71
v/c Ratio	0.63		0.38			0.38
Control Delay	36.9		6.8			6.7
Queue Delay	0.0		0.0			0.0

YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

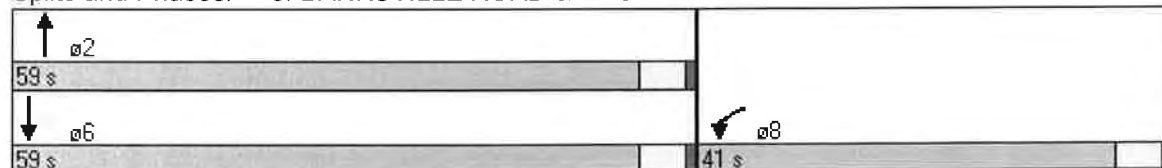
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	36.9		6.8			6.7
LOS	D		A			A
Approach Delay	36.9		6.8			6.7
Approach LOS	D		A			A
Queue Length 50th (ft)	102		78			78
Queue Length 95th (ft)	152		142			142
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	645		1172			1211
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.35		0.38			0.38

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 82.8  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.63  
 Intersection Signal Delay: 12.7  
 Intersection Capacity Utilization 41.3%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22



YEAR 2013 EXSITING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 8:15 - 9:15













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.970			0.932	
Flt Protected		0.999			0.996			0.963			0.976	
Satd. Flow (prot)	0	1808	1538	0	1800	0	0	1690	0	0	1646	0
Flt Permitted		0.994			0.945			0.963			0.976	
Satd. Flow (perm)	0	1799	1538	0	1708	0	0	1690	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	405	295	40	510	5	260	0	75	5	0	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	435	317	43	548	5	280	0	81	5	0	5
Lane Group Flow (vph)	0	440	317	0	596	0	0	361	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	53.0	53.0	37.0	53.0	53.0	0.0	37.0	37.0	0.0	10.0	10.0	0.0
Total Split (%)	53.0%	53.0%	37.0%	53.0%	53.0%	0.0%	37.0%	37.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	47.0	47.0	32.0	47.0	47.0		32.0	32.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		26.3	53.9		26.3			18.4			6.7	
Actuated g/C Ratio		0.47	0.97		0.47			0.33			0.11	
v/c Ratio		0.52	0.21		0.74			0.64			0.06	
Control Delay		13.8	0.7		19.5			24.6			38.0	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		13.8	0.7		19.5			24.6			38.0	
LOS		B	A		B			C			D	
Approach Delay		8.4			19.5			24.6			38.0	
Approach LOS		A			B			C			D	
Queue Length 50th (ft)		77	0		121			81			3	
Queue Length 95th (ft)		269	35		421			296			23	

YEAR 2013 EXSITING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1161	1094		1102			839			174	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.38	0.29		0.54			0.43			0.06	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 55.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.8





Intersection LOS: B

Intersection Capacity Utilization 86.6%

ICU Level of Service E

Analysis Period (min) 15











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 02	 06	 04
37 s	10 s	53 s
		 08
		53 s

YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP







WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	110	775	760	75	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	115	807	792	78	0	0
Lane Group Flow (vph)	115	807	792	78	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.09	0.23	0.43	0.10		
Control Delay	22.0	0.2	17.7	14.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.0	0.2	17.7	14.1		

YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/11/2013




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		2.9	17.4			
Approach LOS		A	B			
Queue Length 50th (ft)	27	0	184	28		
Queue Length 95th (ft)	46	0	233	54		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.09	0.23	0.43	0.10		

Intersection Summary

Area Type: Other  
 Cycle Length: 117  
 Actuated Cycle Length: 117  
 Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.43  
 Intersection Signal Delay: 9.9  
 Intersection Capacity Utilization 31.0%  
 Analysis Period (min) 15

Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP

	
ø2	ø1
66 s	51 s
	
ø6	
117 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	745	0	0	760	0	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	776	0	0	792	0	146
Lane Group Flow (vph)	776	0	0	792	0	146
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.7%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	745	0	0	760	0	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	776	0	0	792	0	146
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.86	
vC, conflicting volume			776		1172	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			776		1038	259
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	80
cM capacity (veh/h)			817		191	731
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	259	259	259	396	396	146
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	146
cSH	1700	1700	1700	1700	1700	731
Volume to Capacity	0.15	0.15	0.15	0.23	0.23	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.1
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.1
Approach LOS						B
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			35.7%		ICU Level of Service	A
Analysis Period (min)			15			









YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	745	760	0	0	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	776	792	0	0	135
Lane Group Flow (vph)	0	776	792	0	0	135
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.7%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	745	760	0	0	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	776	792	0	0	135
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	792				1050	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597				897	137
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	82
cM capacity (veh/h)	823				236	755
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	259	259	259	396	396	135
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	135
cSH	1700	1700	1700	1700	1700	755
Volume to Capacity	0.15	0.15	0.15	0.23	0.23	0.18
Queue Length 95th (ft)	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			35.7%		ICU Level of Service	A
Analysis Period (min)			15			

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	745	745	145	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	793	793	154	0	0
Lane Group Flow (vph)	0	793	793	154	0	0
Sign Control		Free	Free		Stop	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.1%

ICU Level of Service A







Analysis Period (min) 15

## YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 &amp; NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	745	745	145	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	793	793	154	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.88				0.91	0.88
vC, conflicting volume	947				1189	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806				933	182
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	702				236	723
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	396	396	396	396	154	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	154	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.23	0.23	0.23	0.23	0.09	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			41.1%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

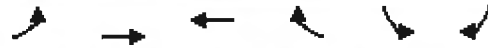
						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	495	745	0	250	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	527	793	0	266	0
Lane Group Flow (vph)	0	527	793	0	266	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.23	0.34		0.65	
Control Delay		6.1	6.8		39.9	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.1	6.8		39.9	
LOS		A	A		D	
Approach Delay		6.1	6.8		39.9	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		54	90		140	
Queue Length 95th (ft)		75	119		225	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.23	0.34		0.65	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 41.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← Ø2	↘ Ø3
66 s	26 s
→ Ø6	
66 s	

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	495	195	0	745	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	527	207	0	793	0	0
Lane Group Flow (vph)	527	207	0	793	0	0
Sign Control	Free			Free	Stop	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.9%

ICU Level of Service A







Analysis Period (min) 15

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15







13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	495	195	0	745	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	527	207	0	793	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				245		
pX, platoon unblocked					0.90	
vC, conflicting volume			734		923	263
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			734		808	263
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			847		283	726
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	263	263	207	396	396	
Volume Left	0	0	0	0	0	
Volume Right	0	0	207	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.15	0.15	0.12	0.23	0.23	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			23.9%		ICU Level of Service	A
Analysis Period (min)			15			



YEAR 2013 EXISTING TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
 14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH 2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	495	745	0	0	670
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	527	793	0	0	713
Lane Group Flow (vph)	0	527	793	0	0	713
Sign Control		Free	Free		Yield	

#### Intersection Summary







Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 68.7% ICU Level of Service C  
 Analysis Period (min) 15

# YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

## 14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013










						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	495	745	0	0	670
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	527	793	0	0	713
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			398			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	793				1056	396
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	665				956	227
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	814				227	693
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	263	263	396	396	713	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	713	
cSH	1700	1700	1700	1700	693	
Volume to Capacity	0.15	0.15	0.23	0.23	1.03	
Queue Length 95th (ft)	0	0	0	0	440	
Control Delay (s)	0.0	0.0	0.0	0.0	65.9	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		65.9	
Approach LOS					F	
Intersection Summary						
Average Delay			23.1			
Intersection Capacity Utilization			68.7%		ICU Level of Service	C
Analysis Period (min)			15			

**WEEKDAY PEAK PM HIGHWAY HOUR**

**(5:00 PM – 6:00 PM)**

YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013










						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.955	
Flt Protected		0.995			0.968	
Satd. Flow (prot)	0	1719	1719	0	1597	0
Flt Permitted		0.995			0.968	
Satd. Flow (perm)	0	1719	1719	0	1597	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	20	205	125	5	10	5
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	24	241	147	6	12	6
Lane Group Flow (vph)	0	265	153	0	18	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 36.8% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2013 EXISTING TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	205	125	5	10	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	24	241	147	6	12	6
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	163				458	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163				458	170
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	98				98	99
cM capacity (veh/h)	1357				528	839
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	265	153	18			
Volume Left	24	0	12			
Volume Right	0	6	6			
cSH	1357	1700	602			
Volume to Capacity	0.02	0.09	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.8	0.0	11.2			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	11.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization		36.8%		ICU Level of Service	A	
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.989		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1724	1708	0	1571	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1724	1708	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	215	120	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	231	129	11	11	11
Lane Group Flow (vph)	0	242	140	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 32.3%

ICU Level of Service A

Analysis Period (min) 15










YEAR 2013 EXISTING TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	215	120	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	231	129	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	150				407	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	150				407	154
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1372				571	856
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	242	140	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1372	1700	685			
Volume to Capacity	0.01	0.08	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.4	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			32.3%	ICU Level of Service		A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	240	145	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	267	161	0
Lane Group Flow (vph)	0	0	0	267	161	0
Sign Control	Stop			Free	Free	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 25.5% ICU Level of Service A  
Analysis Period (min) 15



















YEAR 2013 EXISTING TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	240	145	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	267	161	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	448	181	171			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	448	181	171			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	545	827	1348			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	267	161			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1348	1700			
Volume to Capacity	0.00	0.00	0.09			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization		25.5%		ICU Level of Service	A	
Analysis Period (min)		15				

YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.963			0.976			0.995	
Flt Protected		0.993			0.965			0.998			0.995	
Satd. Flow (prot)	0	1516	0	0	1605	0	0	1682	0	0	1710	0
Flt Permitted		0.993			0.965			0.998			0.995	
Satd. Flow (perm)	0	1516	0	0	1605	0	0	1682	0	0	1710	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	30	40	0	15	10	220	50	15	125	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	0	36	48	0	18	12	262	60	18	149	6
Lane Group Flow (vph)	0	42	0	0	66	0	0	334	0	0	173	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

















Intersection Capacity Utilization 34.6%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22










WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	30	40	0	15	10	220	50	15	125	5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	6	0	36	48	0	18	12	262	60	18	149	6
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	541	553	172	559	526	312	165			331		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	541	553	172	559	526	312	165			331		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	99	100	96	88	100	97	99			98		
cM capacity (veh/h)	409	413	837	391	428	698	1355			1175		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	42	65	333	173								
Volume Left	6	48	12	18								
Volume Right	36	18	60	6								
cSH	728	444	1355	1175								
Volume to Capacity	0.06	0.15	0.01	0.02								
Queue Length 95th (ft)	5	13	1	1								
Control Delay (s)	10.2	14.5	0.4	1.0								
Lane LOS	B	B	A	A								
Approach Delay (s)	10.2	14.5	0.4	1.0								
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			2.7									
Intersection Capacity Utilization			34.6%			ICU Level of Service				A		
Analysis Period (min)			15									

YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR







2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.888				0.986	
Flt Protected	0.992			0.989		
Satd. Flow (prot)	1527	0	0	1725	1702	0
Flt Permitted	0.992			0.882		
Satd. Flow (perm)	1519	0	0	1533	1702	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	25	125	80	295	215	25
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	27	133	85	314	229	27
Lane Group Flow (vph)	160	0	0	399	256	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	35.0	0.0	21.0	65.0	44.0	0.0
Total Split (%)	35.0%	0.0%	21.0%	65.0%	44.0%	0.0%
Maximum Green (s)	30.0		16.0	60.0	39.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	16.1			69.1	69.1	
Actuated g/C Ratio	0.17			0.74	0.74	
v/c Ratio	0.61			0.35	0.20	
Control Delay	41.6			5.8	4.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	41.6			5.8	4.7	

YEAR 2013 EXISTING TRAFFIC VOLUMES  
 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013





						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	41.6			5.8	4.7	
Approach LOS	D			A	A	
Queue Length 50th (ft)	84			66	37	
Queue Length 95th (ft)	138			138	80	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	440			1137	1262	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.36			0.35	0.20	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 93.2  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 12.5  
 Intersection Capacity Utilization 54.2%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 ø2	 ø4
65 s	35 s
 ø5	 ø6
21 s	44 s

YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22







WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.98			1.00
Frt	0.990		0.956			
Flt Protected	0.956					0.998
Satd. Flow (prot)	1792	0	1624	0	0	1724
Flt Permitted	0.956					0.971
Satd. Flow (perm)	1740	0	1624	0	0	1677
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	135	10	365	175	15	325
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	144	11	388	186	16	346
Lane Group Flow (vph)	155	0	574	0	0	362
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	34.0	0.0	66.0	0.0	66.0	66.0
Total Split (%)	34.0%	0.0%	66.0%	0.0%	66.0%	66.0%
Maximum Green (s)	29.0		61.0		61.0	61.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	14.2		71.2			71.2
Actuated g/C Ratio	0.15		0.76			0.76
v/c Ratio	0.57		0.46			0.28
Control Delay	40.4		6.1			4.5
Queue Delay	0.0		0.0			0.0

YEAR 2013 EXISTING TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

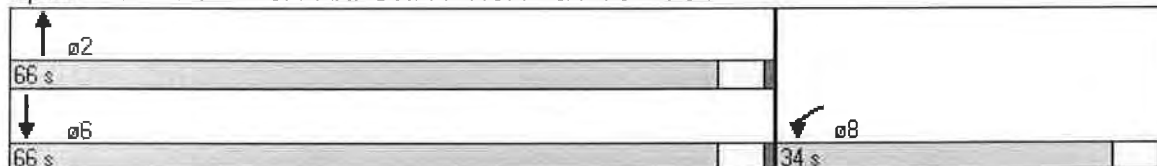
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	40.4		6.1			4.5
LOS	D		A			A
Approach Delay	40.4		6.1			4.5
Approach LOS	D		A			A
Queue Length 50th (ft)	81		98			51
Queue Length 95th (ft)	133		198			104
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	495		1237			1277
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.31		0.46			0.28

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 93.5  
 Natural Cycle: 50  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 46.5%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22



YEAR 2013 EXISTING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.972			0.932	
Flt Protected					0.995			0.962			0.976	
Satd. Flow (prot)	0	1810	1538	0	1799	0	0	1692	0	0	1646	0
Flt Permitted		0.996			0.702			0.962			0.976	
Satd. Flow (perm)	0	1802	1538	0	1269	0	0	1692	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	550	160	45	405	5	365	0	95	5	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	585	170	48	431	5	388	0	101	5	0	5
Lane Group Flow (vph)	0	590	170	0	484	0	0	489	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	50.0	50.0	40.0	50.0	50.0	0.0	40.0	40.0	0.0	10.0	10.0	0.0
Total Split (%)	50.0%	50.0%	40.0%	50.0%	50.0%	0.0%	40.0%	40.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	44.0	44.0	35.0	44.0	44.0		35.0	35.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		32.3	66.6		32.3			25.4			6.7	
Actuated g/C Ratio		0.47	0.97		0.47			0.37			0.09	
v/c Ratio		0.69	0.11		0.81			0.78			0.07	
Control Delay		20.9	0.6		30.0			31.5			44.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		20.9	0.6		30.0			31.5			44.2	
LOS		C	A		C			C			D	
Approach Delay		16.4			30.0			31.5			44.2	
Approach LOS		B			C			C			D	
Queue Length 50th (ft)		180	0		161			175			4	
Queue Length 95th (ft)		426	18		#452			#442			23	



YEAR 2013 EXISTING TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1038	1229		731			804			144	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.57	0.14		0.66			0.61			0.07	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 68.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 24.6

Intersection LOS: C

Intersection Capacity Utilization 96.0%





ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 02	 06	 04
40 s	10 s	50 s
		 08
		50 s

YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP







WEEKDAY PEAK PM HIGHWAY HOUR

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	550	815	470	265	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	591	876	505	285	0	0
Lane Group Flow (vph)	591	876	505	285	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.44	0.25	0.28	0.35		
Control Delay	26.8	0.2	15.7	17.4		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	26.8	0.2	15.7	17.4		

YEAR 2013 EXISTING TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK PM HIGHWAY HOUR  
2/11/2013




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		10.9	16.3			
Approach LOS		B	B			
Queue Length 50th (ft)	164	0	106	119		
Queue Length 95th (ft)	214	0	140	181		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.44	0.25	0.28	0.35		

Intersection Summary

Area Type: Other  
 Cycle Length: 117  
 Actuated Cycle Length: 117  
 Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 12.8  
 Intersection Capacity Utilization 38.8%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP

 ø2	 ø1
66 s	51 s
 ø6	
117 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	1025	0	0	470	0	340
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1102	0	0	505	0	366
Lane Group Flow (vph)	1102	0	0	505	0	366
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.5%

ICU Level of Service A

Analysis Period (min) 15

## YEAR 2013 EXISTING TRAFFIC VOLUMES

## WEEKDAY PEAK PM HIGHWAY HOUR

## 9: NYS ROUTE 22 &amp; I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013







	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1025	0	0	470	0	340
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1102	0	0	505	0	366
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			1102		1355	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1006		1113	234
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	49
cM capacity (veh/h)			634		187	722
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	367	367	367	253	253	366
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	366
cSH	1700	1700	1700	1700	1700	722
Volume to Capacity	0.22	0.22	0.22	0.15	0.15	0.51
Queue Length 95th (ft)	0	0	0	0	0	72
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		15.0
Approach LOS						B
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	1025	470	0	0	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1102	505	0	0	188
Lane Group Flow (vph)	0	1102	505	0	0	188
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.5%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013









Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	1025	470	0	0	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1102	505	0	0	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.92				0.96	0.92
vC, conflicting volume	505				873	253
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	383				528	109
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	78
cM capacity (veh/h)	1064				454	845
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	367	367	367	253	253	188
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	188
cSH	1700	1700	1700	1700	1700	845
Volume to Capacity	0.22	0.22	0.22	0.15	0.15	0.22
Queue Length 95th (ft)	0	0	0	0	0	21
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.5
Approach LOS						B
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	1025	570	75	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1114	620	82	0	0
Lane Group Flow (vph)	0	1114	620	82	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.7%

ICU Level of Service A

Analysis Period (min) 15









YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1025	570	75	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1114	620	82	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.94				0.89	0.94
vC, conflicting volume	701				1177	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				870	204
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	881				252	747
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	557	557	310	310	82	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	82	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.33	0.33	0.18	0.18	0.05	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			36.7%		ICU Level of Service	A
Analysis Period (min)			15			

## YEAR 2013 EXISTING TRAFFIC VOLUMES

## WEEKDAY PEAK PM HIGHWAY HOUR

## 12: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	965	570	0	60	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1049	620	0	65	0
Lane Group Flow (vph)	0	1049	620	0	65	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.45	0.27		0.16	
Control Delay		7.8	6.3		29.0	
Queue Delay		0.0	0.0		0.0	
Total Delay		7.8	6.3		29.0	
LOS		A	A		C	
Approach Delay		7.8	6.3		29.0	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		C	
Queue Length 50th (ft)		132	66		30	
Queue Length 95th (ft)		171	90		64	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.45	0.27		0.16	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 36.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← ø2	→ ø3
66 s	26 s
→ ø6	
66 s	

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	965	195	0	570	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1049	212	0	620	0	0
Lane Group Flow (vph)	1049	212	0	620	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.0%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013







	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	965	195	0	570	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1049	212	0	620	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				245		
pX, platoon unblocked					0.93	
vC, conflicting volume			1261		1359	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1261		1311	524
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			531		136	490
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	524	524	212	310	310	
Volume Left	0	0	0	0	0	
Volume Right	0	0	212	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.31	0.31	0.12	0.18	0.18	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			30.0%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	965	570	0	0	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1049	620	0	0	179
Lane Group Flow (vph)	0	1049	620	0	0	179
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.6%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2013 EXISTING TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	965	570	0	0	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1049	620	0	0	179
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	620				1144	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	521				1083	189
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	76
cM capacity (veh/h)	953				193	758
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	524	524	310	310	179	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	179	
cSH	1700	1700	1700	1700	758	
Volume to Capacity	0.31	0.31	0.18	0.18	0.24	
Queue Length 95th (ft)	0	0	0	0	23	
Control Delay (s)	0.0	0.0	0.0	0.0	11.2	
Lane LOS					B	
Approach Delay (s)	0.0		0.0		11.2	
Approach LOS					B	
<b>Intersection Summary</b>						
Average Delay			1.1			
Intersection Capacity Utilization			32.6%		ICU Level of Service	A
Analysis Period (min)			15			

## **YEAR 2018 NO-BUILD TRAFFIC VOLUMES**












**WEEKDAY PEAK AM HOUR**

**(7:00 AM – 8:00 AM)**

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013










						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.879	
Flt Protected		0.993			0.995	
Satd. Flow (prot)	0	1715	1722	0	1511	0
Flt Permitted		0.993			0.995	
Satd. Flow (perm)	0	1715	1722	0	1511	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	16	93	204	5	5	42
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	19	112	246	6	6	51
Lane Group Flow (vph)	0	131	252	0	57	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 31.7% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	93	204	5	5	42
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	19	112	246	6	6	51
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	262				419	269
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	262				419	269
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	98				99	93
cM capacity (veh/h)	1247				557	738
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	131	252	57			
Volume Left	19	0	6			
Volume Right	0	6	51			
cSH	1247	1700	714			
Volume to Capacity	0.02	0.15	0.08			
Queue Length 95th (ft)	1	0	6			
Control Delay (s)	1.3	0.0	10.5			
Lane LOS	A		B			
Approach Delay (s)	1.3	0.0	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization		31.7%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.924	
Flt Protected		0.998			0.979	
Satd. Flow (prot)	0	1724	1712	0	1562	0
Flt Permitted		0.998			0.979	
Satd. Flow (perm)	0	1724	1712	0	1562	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	5	93	230	16	16	21
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	121	299	21	21	27
Lane Group Flow (vph)	0	127	320	0	48	0
Sign Control		Free	Free		Stop	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 26.0% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD










WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	93	230	16	16	21
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	121	299	21	21	27
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	329				463	329
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	329				463	329
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				96	96
cM capacity (veh/h)	1177				531	683
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	127	319	48			
Volume Left	6	0	21			
Volume Right	0	21	27			
cSH	1177	1700	608			
Volume to Capacity	0.01	0.19	0.08			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.5	0.0	11.4			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	11.4			
Approach LOS			B			
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		26.0%	ICU Level of Service	A		
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frnt						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	98	257	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	131	343	0
Lane Group Flow (vph)	0	0	0	131	343	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 26.4% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

















WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	98	257	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	131	343	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493	363	353			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493	363	353			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	512	654	1153			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	131	343			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1153	1700			
Volume to Capacity	0.00	0.00	0.20			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		26.4%	ICU Level of Service	A		
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.932			0.992			0.972			0.997	
Flt Protected		0.976			0.955			0.996			0.998	
Satd. Flow (prot)	0	1571	0	0	1636	0	0	1672	0	0	1719	0
Flt Permitted		0.976			0.955			0.996			0.998	
Satd. Flow (perm)	0	1571	0	0	1636	0	0	1672	0	0	1719	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	5	79	0	5	10	88	26	10	241	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	7	0	7	108	0	7	14	121	36	14	330	7
Lane Group Flow (vph)	0	14	0	0	115	0	0	171	0	0	351	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.7%

ICU Level of Service A

















Analysis Period (min) 15



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00










2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	5	79	0	5	10	88	26	10	241	5
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	7	0	7	108	0	7	14	121	36	14	330	7
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	554	565	354	554	550	158	347				166	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	554	565	354	554	550	158	347				166	
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2				4.2	
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3				2.3	
p0 queue free %	98	100	99	73	100	99	99				99	
cM capacity (veh/h)	408	407	661	408	415	852	1159				1353	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	115	170	351								
Volume Left	7	108	14	14								
Volume Right	7	7	36	7								
cSH	505	421	1159	1353								
Volume to Capacity	0.03	0.27	0.01	0.01								
Queue Length 95th (ft)	2	27	1	1								
Control Delay (s)	12.3	16.8	0.8	0.4								
Lane LOS	B	C	A	A								
Approach Delay (s)	12.3	16.8	0.8	0.4								
Approach LOS	B	C										
Intersection Summary												
Average Delay				3.6								
Intersection Capacity Utilization				31.7%	ICU Level of Service				A			
Analysis Period (min)				15								

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00







2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				0.98	
Frt	0.889				0.951	
Flt Protected	0.991			0.963		
Satd. Flow (prot)	1471	0	0	1724	1640	0
Flt Permitted	0.991			0.319		
Satd. Flow (perm)	1462	0	0	571	1640	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	52	236	357	104	267	152
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	5%	10%	5%	10%	10%	5%
Adj. Flow (vph)	72	328	496	144	371	211
Lane Group Flow (vph)	400	0	0	640	582	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	27.0	0.0	10.0	73.0	63.0	0.0
Total Split (%)	27.0%	0.0%	10.0%	73.0%	63.0%	0.0%
Maximum Green (s)	22.0		5.0	68.0	58.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	23.0			69.0	69.0	
Actuated g/C Ratio	0.23			0.69	0.69	
v/c Ratio	1.18			1.62	0.51	
Control Delay	144.5			312.5	9.4	
Queue Delay	0.0			0.0	0.0	
Total Delay	144.5			312.5	9.4	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	F			F	A	
Approach Delay	144.5			312.5	9.4	
Approach LOS	F			F	A	
Queue Length 50th (ft)	~308			~340	157	
Queue Length 95th (ft)	#348			#341	160	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	338			394	1132	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.18			1.62	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 140

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 162.3

Intersection LOS: F

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15



~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 ø2	 ø4
73 s	27 s
 ø5	 ø6
10 s	63 s







YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			
Frt	0.984		0.984			
Flt Protected	0.958					
Satd. Flow (prot)	1781	0	1690	0	0	1727
Flt Permitted	0.958					0.995
Satd. Flow (perm)	1731	0	1690	0	0	1719
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	199	26	434	58	5	498
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	252	33	549	73	6	630
Lane Group Flow (vph)	285	0	622	0	0	636
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	38.0	0.0	62.0	0.0	62.0	62.0
Total Split (%)	38.0%	0.0%	62.0%	0.0%	62.0%	62.0%
Maximum Green (s)	33.0		57.0		57.0	57.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	19.8		59.4			59.4
Actuated g/C Ratio	0.23		0.68			0.68
v/c Ratio	0.70		0.54			0.54
Control Delay	40.1		10.2			10.2
Queue Delay	0.0		0.0			0.0

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013






						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	40.1		10.2			10.2
LOS	D		B			B
Approach Delay	40.1		10.2			10.2
Approach LOS	D		B			B
Queue Length 50th (ft)	141		148			152
Queue Length 95th (ft)	189		243			248
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	599		1151			1170
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.48		0.54			0.54

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 87.2  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 15.8  
 Intersection Capacity Utilization 49.8%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22

			
62 s			
			
62 s			
			
		38 s	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.971			0.970	
Flt Protected					0.997			0.962			0.963	
Satd. Flow (prot)	0	1810	1538	0	1802	0	0	1690	0	0	1690	0
Flt Permitted		0.993			0.876			0.962			0.963	
Satd. Flow (perm)	0	1797	1538	0	1584	0	0	1690	0	0	1690	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	466	329	47	624	5	215	0	58	16	0	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	6	597	422	60	800	6	276	0	74	21	0	6
Lane Group Flow (vph)	0	603	422	0	866	0	0	350	0	0	27	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	63.0	63.0	27.0	63.0	63.0	0.0	27.0	27.0	0.0	10.0	10.0	0.0
Total Split (%)	63.0%	63.0%	27.0%	63.0%	63.0%	0.0%	27.0%	27.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	57.0	57.0	22.0	57.0	57.0		22.0	22.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		50.3	78.2		50.3			21.3			6.3	
Actuated g/C Ratio		0.59	0.92		0.59			0.25			0.07	
v/c Ratio		0.57	0.30		0.93			0.83			0.23	
Control Delay		14.2	1.6		35.0			52.4			49.6	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		14.2	1.6		35.0			52.4			49.6	
LOS		B	A		C			D			D	
Approach Delay		9.0			35.0			52.4			49.6	
Approach LOS		A			C			D			D	
Queue Length 50th (ft)		221	32		465			218			17	
Queue Length 95th (ft)		253	40		510			#297			39	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1138	1303		1003			466			118	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.53	0.32		0.86			0.75			0.23	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 85.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 ø2	 ø6	 ø4
27 s	10 s	63 s
		 ø8
		63 s

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00







2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	137	785	834	73	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	157	902	959	84	0	0
Lane Group Flow (vph)	157	902	959	84	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.12	0.26	0.53	0.10		
Control Delay	22.3	0.2	19.2	14.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.3	0.2	19.2	14.2		



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/11/2013




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		3.5	18.8			
Approach LOS		A	B			
Queue Length 50th (ft)	37	0	238	30		
Queue Length 95th (ft)	58	0	282	55		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.12	0.26	0.53	0.10		

Intersection Summary







Area Type: Other  
 Cycle Length: 117  
 Actuated Cycle Length: 117  
 Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.53  
 Intersection Signal Delay: 11.1  
 Intersection Capacity Utilization 33.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP

 2	 1
66 s	51 s
 6	
117 s	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
 9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH 2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	806	0	0	814	0	115
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	926	0	0	936	0	132
Lane Group Flow (vph)	926	0	0	936	0	132
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 44.0% ICU Level of Service A  
 Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES







WEEKDAY PEAK AM HOUR - 7:00 - 8:00

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	806	0	0	814	0	115
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	926	0	0	936	0	132
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.82	
vC, conflicting volume			926		1394	309
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			926		1261	309
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	81
cM capacity (veh/h)			715		130	678
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	309	309	309	468	468	132
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	132
cSH	1700	1700	1700	1700	1700	678
Volume to Capacity	0.18	0.18	0.18	0.28	0.28	0.19
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.6
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.6
Approach LOS						B
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			44.0%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
 10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH 2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	806	814	0	0	239
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	926	936	0	0	275
Lane Group Flow (vph)	0	926	936	0	0	275
Sign Control		Free	Free		Yield	

Intersection Summary







Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 44.0% ICU Level of Service A  
 Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	806	814	0	0	239
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	926	936	0	0	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	936				1244	468
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702				1079	132
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	62
cM capacity (veh/h)	715				171	725
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	309	309	309	468	468	275
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	275
cSH	1700	1700	1700	1700	1700	725
Volume to Capacity	0.18	0.18	0.18	0.28	0.28	0.38
Queue Length 95th (ft)	0	0	0	0	0	44
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.0
Approach LOS						B
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			44.0%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	806	894	178	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	916	1016	202	0	0
Lane Group Flow (vph)	0	916	1016	202	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.6%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	806	894	178	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	916	1016	202	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.84				0.88	0.84
vC, conflicting volume	1218				1474	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1073				1168	230
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	530				160	643
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	458	458	508	508	202	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	202	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.27	0.27	0.30	0.30	0.12	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			45.6%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	549	894	0	257	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	624	1016	0	292	0
Lane Group Flow (vph)	0	624	1016	0	292	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.27	0.44		0.71	
Control Delay		6.3	7.7		43.0	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.3	7.7		43.0	
LOS		A	A		D	
Approach Delay		6.3	7.7		43.0	





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		66	126		156	
Queue Length 95th (ft)		87	158		#242	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.27	0.44		0.71	

#### Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 12.6

Intersection LOS: B

Intersection Capacity Utilization 45.6%

ICU Level of Service A

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← 02	↘ 03
66 s	26 s
→ 06	
66 s	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	549	197	0	894	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	624	224	0	1016	0	0
Lane Group Flow (vph)	624	224	0	1016	0	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.0%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	549	197	0	894	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	624	224	0	1016	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				245		
pX, platoon unblocked					0.86	
vC, conflicting volume			848		1132	312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			848		994	312
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			767		204	675
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	312	312	224	508	508	
Volume Left	0	0	0	0	0	
Volume Right	0	0	224	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.18	0.18	0.13	0.30	0.30	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			28.0%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	549	894	0	0	697
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	624	1016	0	0	792
Lane Group Flow (vph)	0	624	1016	0	0	792
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other







Control Type: Unsignalized


Intersection Capacity Utilization 74.5%

ICU Level of Service D

Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
 14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH 2/11/2013

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	549	894	0	0	697
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	624	1016	0	0	792
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	1016				1328	508
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859				1221	270
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	655				145	620
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	312	312	508	508	792	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	792	
cSH	1700	1700	1700	1700	620	
Volume to Capacity	0.18	0.18	0.30	0.30	1.28	
Queue Length 95th (ft)	0	0	0	0	777	
Control Delay (s)	0.0	0.0	0.0	0.0	158.5	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		158.5	
Approach LOS					F	
Intersection Summary						
Average Delay			51.6			
Intersection Capacity Utilization			74.5%		ICU Level of Service	D
Analysis Period (min)			15			












**WEEKDAY PEAK AM HOUR**  
**(8:15 AM – 9:15 AM)**

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.885	
Flt Protected		0.994			0.992	
Satd. Flow (prot)	0	1717	1722	0	1516	0
Flt Permitted		0.994			0.992	
Satd. Flow (perm)	0	1717	1722	0	1516	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	16	114	215	5	5	26
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	17	123	231	5	5	28
Lane Group Flow (vph)	0	140	236	0	33	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 32.3%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	114	215	5	5	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	17	123	231	5	5	28
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	247				411	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	247				411	254
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				99	96
cM capacity (veh/h)	1263				565	753
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	140	237	33			
Volume Left	17	0	5			
Volume Right	0	5	28			
cSH	1263	1700	715			
Volume to Capacity	0.01	0.14	0.05			
Queue Length 95th (ft)	1	0	4			
Control Delay (s)	1.1	0.0	10.3			
Lane LOS	A		B			
Approach Delay (s)	1.1	0.0	10.3			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			32.3%	ICU Level of Service		A
Analysis Period (min)			15			



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.932	
Flt Protected		0.996			0.976	
Satd. Flow (prot)	0	1720	1717	0	1571	0
Flt Permitted		0.996			0.976	
Satd. Flow (perm)	0	1720	1717	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	119	230	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	128	247	11	11	11
Lane Group Flow (vph)	0	139	258	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 27.4%

ICU Level of Service A

Analysis Period (min) 15










YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	119	230	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	128	247	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	268				422	273
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268				422	273
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1240				559	735
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	139	258	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1240	1700	635			
Volume to Capacity	0.01	0.15	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.7	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	10.9			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization		27.4%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	130	241	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	144	268	0
Lane Group Flow (vph)	0	0	0	144	268	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 25.7% ICU Level of Service A  
Analysis Period (min) 15

















YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	130	241	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	144	268	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	432	288	278			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	432	288	278			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	556	721	1230			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	144	268			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1230	1700			
Volume to Capacity	0.00	0.00	0.16			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			25.7%	ICU Level of Service		A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.991			0.990			0.979	
Flt Protected		0.996			0.965			0.974			0.999	
Satd. Flow (prot)	0	1521	0	0	1652	0	0	1666	0	0	1689	0
Flt Permitted		0.996			0.965			0.974			0.999	
Satd. Flow (perm)	0	1521	0	0	1652	0	0	1666	0	0	1689	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	10	5	94	58	16	5	152	114	21	5	199	37
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	13	7	125	77	21	7	203	152	28	7	265	49
Lane Group Flow (vph)	0	145	0	0	105	0	0	383	0	0	321	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.7%

















ICU Level of Service A

Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15










2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	5	94	58	16	5	152	114	21	5	199	37
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	13	7	125	77	21	7	203	152	28	7	265	49
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	912	909	310	1023	919	186	325			190		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	912	909	310	1023	919	186	325			190		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	93	97	82	44	90	99	83			99		
cM capacity (veh/h)	190	216	700	139	213	822	1181			1326		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	145	105	383	321								
Volume Left	13	77	203	7								
Volume Right	125	7	28	49								
cSH	519	159	1181	1326								
Volume to Capacity	0.28	0.66	0.17	0.01								
Queue Length 95th (ft)	28	94	15	0								
Control Delay (s)	14.6	63.8	5.4	0.2								
Lane LOS	B	F	A	A								
Approach Delay (s)	14.6	63.8	5.4	0.2								
Approach LOS	B	F										
<b>Intersection Summary</b>												
Average Delay			11.5									
Intersection Capacity Utilization			50.7%		ICU Level of Service					A		
Analysis Period (min)			15									

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013







						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				1.00	
Frt	0.893				0.993	
Flt Protected	0.990			0.994		
Satd. Flow (prot)	1536	0	0	1727	1715	0
Flt Permitted	0.990			0.853		
Satd. Flow (perm)	1526	0	0	1482	1715	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	10	37	42	282	367	21
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	13	49	56	376	489	28
Lane Group Flow (vph)	62	0	0	432	517	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	29.0	0.0	17.0	71.0	54.0	0.0
Total Split (%)	29.0%	0.0%	17.0%	71.0%	54.0%	0.0%
Maximum Green (s)	24.0		12.0	66.0	49.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	11.1			95.4	95.4	
Actuated g/C Ratio	0.10			0.85	0.85	
v/c Ratio	0.42			0.34	0.35	
Control Delay	42.5			3.2	3.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.5			3.2	3.2	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.5			3.2	3.2	
Approach LOS	D			A	A	
Queue Length 50th (ft)	44			55	67	
Queue Length 95th (ft)	61			79	93	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	303			1266	1465	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.20			0.34	0.35	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 111.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 5.6





Intersection LOS: A

Intersection Capacity Utilization 54.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22










 ø2	 ø4
71 s	29 s
 ø5	 ø6
17 s	54 s



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22







WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			1.00
Frt	0.993		0.973			
Flt Protected	0.955					0.999
Satd. Flow (prot)	1797	0	1664	0	0	1726
Flt Permitted	0.955					0.995
Satd. Flow (perm)	1744	0	1664	0	0	1718
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	184	10	314	79	5	398
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	224	12	383	96	6	485
Lane Group Flow (vph)	236	0	479	0	0	491
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	41.0	0.0	59.0	0.0	59.0	59.0
Total Split (%)	41.0%	0.0%	59.0%	0.0%	59.0%	59.0%
Maximum Green (s)	36.0		54.0		54.0	54.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	16.9		57.9			57.9
Actuated g/C Ratio	0.20		0.70			0.70
v/c Ratio	0.64		0.41			0.41
Control Delay	37.1		7.3			7.2
Queue Delay	0.0		0.0			0.0

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

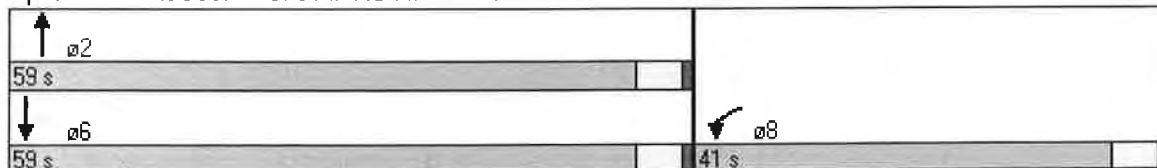
WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	37.1		7.3			7.2
LOS	D		A			A
Approach Delay	37.1		7.3			7.2
Approach LOS	D		A			A
Queue Length 50th (ft)	108		87			89
Queue Length 95th (ft)	158		158			160
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	647		1163			1201
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.36		0.41			0.41

Intersection Summary

Area Type: Other  
Cycle Length: 100  
Actuated Cycle Length: 82.8  
Natural Cycle: 45  
Control Type: Semi Act-Uncoord  
Maximum v/c Ratio: 0.64  
Intersection Signal Delay: 13.1  
Intersection Capacity Utilization 43.2%  
Analysis Period (min) 15  
Intersection LOS: B  
ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433













WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.971			0.932	
Flt Protected		0.999			0.996			0.962			0.976	
Satd. Flow (prot)	0	1808	1538	0	1800	0	0	1690	0	0	1646	0
Flt Permitted		0.994			0.936			0.962			0.976	
Satd. Flow (perm)	0	1799	1538	0	1692	0	0	1690	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	429	314	42	545	5	283	0	79	5	0	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	461	338	45	586	5	304	0	85	5	0	5
Lane Group Flow (vph)	0	466	338	0	636	0	0	389	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	53.0	53.0	37.0	53.0	53.0	0.0	37.0	37.0	0.0	10.0	10.0	0.0
Total Split (%)	53.0%	53.0%	37.0%	53.0%	53.0%	0.0%	37.0%	37.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	47.0	47.0	32.0	47.0	47.0		32.0	32.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		28.7	57.8		28.7			20.0			6.7	
Actuated g/C Ratio		0.48	0.97		0.48			0.34			0.10	
v/c Ratio		0.54	0.23		0.78			0.69			0.06	
Control Delay		14.7	0.8		22.0			27.0			40.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		14.7	0.8		22.0			27.0			40.3	
LOS		B	A		C			C			D	
Approach Delay		8.8			22.0			27.0			40.3	
Approach LOS		A			C			C			D	
Queue Length 50th (ft)		92	0		150			101			3	
Queue Length 95th (ft)		289	37		471			324			23	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1137	1134		1069			811			164	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.41	0.30		0.59			0.48			0.06	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 59.5  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 17.4  
 Intersection Capacity Utilization 91.3%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service F











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 02	 06	 04
37 s	10 s	53 s
		 08
		53 s

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 8:15 - 9:15







2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	126	822	818	79	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	131	856	852	82	0	0
Lane Group Flow (vph)	131	856	852	82	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.10	0.25	0.47	0.10		
Control Delay	22.1	0.2	18.3	14.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.1	0.2	18.3	14.1		

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/11/2013




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		3.1	17.9			
Approach LOS		A	B			
Queue Length 50th (ft)	31	0	203	29		
Queue Length 95th (ft)	52	0	254	56		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.10	0.25	0.47	0.10		

Intersection Summary

Area Type: Other  
 Cycle Length: 117  
 Actuated Cycle Length: 117  
 Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 10.3  
 Intersection Capacity Utilization 32.9%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP







	
ø2	ø1
66 s	51 s
	
ø6	
117 s	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	801	0	0	798	0	147
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	834	0	0	831	0	153
Lane Group Flow (vph)	834	0	0	831	0	153
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.2%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	801	0	0	798	0	147
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	834	0	0	831	0	153
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.85	
vC, conflicting volume			834		1250	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			834		1115	278
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	78
cM capacity (veh/h)			776		167	710
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	278	278	278	416	416	153
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	153
cSH	1700	1700	1700	1700	1700	710
Volume to Capacity	0.16	0.16	0.16	0.24	0.24	0.22
Queue Length 95th (ft)	0	0	0	0	0	20
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.5
Approach LOS						B
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			40.2%		ICU Level of Service	A
Analysis Period (min)			15			









YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	801	798	0	0	186
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	834	831	0	0	194
Lane Group Flow (vph)	0	834	831	0	0	194
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.2%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	801	798	0	0	186
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	834	831	0	0	194
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.85				0.85	0.85
vC, conflicting volume	831				1109	416
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622				950	132
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	74
cM capacity (veh/h)	793				215	749
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	278	278	278	416	416	194
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	194
cSH	1700	1700	1700	1700	1700	749
Volume to Capacity	0.16	0.16	0.16	0.24	0.24	0.26
Queue Length 95th (ft)	0	0	0	0	0	26
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.5
Approach LOS						B
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			40.2%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	801	852	152	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	852	906	162	0	0
Lane Group Flow (vph)	0	852	906	162	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.7%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	801	852	152	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	852	906	162	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.87				0.90	0.87
vC, conflicting volume	1068				1332	453
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	928				1058	220
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	621				193	673
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	426	426	453	453	162	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	162	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.25	0.25	0.27	0.27	0.10	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		44.7%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	539	852	0	262	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	573	906	0	279	0
Lane Group Flow (vph)	0	573	906	0	279	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.25	0.39		0.68	
Control Delay		6.2	7.2		41.3	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.2	7.2		41.3	
LOS		A	A		D	
Approach Delay		6.2	7.2		41.3	

# YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		60	107		148	
Queue Length 95th (ft)		82	141		236	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.25	0.39		0.68	

## Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 44.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← ρ2	↘ ρ3
66 s	26 s
→ ρ6	
66 s	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	539	224	0	852	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	573	238	0	906	0	0
Lane Group Flow (vph)	573	238	0	906	0	0
Sign Control	Free			Free	Stop	

Intersection Summary







Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.9%

ICU Level of Service A

Analysis Period (min) 15

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	539	224	0	852	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	573	238	0	906	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				245		
pX, platoon unblocked					0.88	
vC, conflicting volume			812		1027	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			812		899	287
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			791		241	701
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	287	287	238	453	453	
Volume Left	0	0	0	0	0	
Volume Right	0	0	238	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.17	0.17	0.14	0.27	0.27	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			26.9%		ICU Level of Service	A
Analysis Period (min)			15			









YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	539	852	0	0	733
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	573	906	0	0	780
Lane Group Flow (vph)	0	573	906	0	0	780
Sign Control		Free	Free		Yield	

Intersection Summary







Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 75.6% ICU Level of Service D  
 Analysis Period (min) 15

## YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

14: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013










						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	539	852	0	0	733
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	573	906	0	0	780
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	906				1193	453
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	763				1087	251
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	730				182	654
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	287	287	453	453	780	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	780	
cSH	1700	1700	1700	1700	654	
Volume to Capacity	0.17	0.17	0.27	0.27	1.19	
Queue Length 95th (ft)	0	0	0	0	666	
Control Delay (s)	0.0	0.0	0.0	0.0	123.0	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		123.0	
Approach LOS					F	
Intersection Summary						
Average Delay			42.4			
Intersection Capacity Utilization			75.6%		ICU Level of Service	D
Analysis Period (min)			15			

**WEEKDAY PEAK PM HIGHWAY HOUR**

**(5:00 PM – 6:00 PM)**

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.955	
Flt Protected		0.996			0.968	
Satd. Flow (prot)	0	1720	1719	0	1597	0
Flt Permitted		0.996			0.968	
Satd. Flow (perm)	0	1720	1719	0	1597	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	21	233	143	5	10	5
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	25	274	168	6	12	6
Lane Group Flow (vph)	0	299	174	0	18	0
Sign Control		Free	Free		Stop	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 39.0% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD










WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	21	233	143	5	10	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	25	274	168	6	12	6
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	184				515	191
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	184				515	191
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	98				98	99
cM capacity (veh/h)	1333				489	817
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	299	174	18			
Volume Left	25	0	12			
Volume Right	0	6	6			
cSH	1333	1700	564			
Volume to Capacity	0.02	0.10	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.8	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		39.0%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013










						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1724	1712	0	1571	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1724	1712	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	244	138	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	262	148	11	11	11
Lane Group Flow (vph)	0	273	159	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 33.8% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	244	138	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	262	148	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	169				458	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169				458	174
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1350				533	835
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	273	159	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1350	1700	651			
Volume to Capacity	0.01	0.09	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.4	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.7			
Intersection Capacity Utilization		33.8%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1727	0	0	1727	1727	0
Flt Permitted						
Satd. Flow (perm)	1727	0	0	1727	1727	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	0	0	0	270	164	0
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	0	300	182	0
Lane Group Flow (vph)	0	0	0	300	182	0
Sign Control	Stop			Free	Free	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 27.0% ICU Level of Service A  
Analysis Period (min) 15



















YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	270	164	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	300	182	0
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	502	202	192			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	502	202	192			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	100	100	100			
cM capacity (veh/h)	506	805	1323			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	300	182			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1323	1700			
Volume to Capacity	0.00	0.00	0.11			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		27.0%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.963			0.977			0.996	
Flt Protected		0.993			0.965			0.998			0.995	
Satd. Flow (prot)	0	1516	0	0	1605	0	0	1684	0	0	1712	0
Flt Permitted		0.993			0.965			0.998			0.995	
Satd. Flow (perm)	0	1516	0	0	1605	0	0	1684	0	0	1712	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	31	42	0	16	10	249	52	16	143	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	0	37	50	0	19	12	296	62	19	170	6
Lane Group Flow (vph)	0	43	0	0	69	0	0	370	0	0	195	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.4%

















ICU Level of Service A

Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR










2/5/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	31	42	0	16	10	249	52	16	143	5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	6	0	37	50	0	19	12	296	62	19	170	6
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	602	613	193	619	585	347	186			368		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602	613	193	619	585	347	186			368		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	98	100	95	86	100	97	99			98		
cM capacity (veh/h)	370	380	815	354	395	667	1330			1138		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	69	370	195								
Volume Left	6	50	12	19								
Volume Right	37	19	62	6								
cSH	698	407	1330	1138								
Volume to Capacity	0.06	0.17	0.01	0.02								
Queue Length 95th (ft)	5	15	1	1								
Control Delay (s)	10.5	15.7	0.3	0.9								
Lane LOS	B	C	A	A								
Approach Delay (s)	10.5	15.7	0.3	0.9								
Approach LOS	B	C										
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			36.4%	ICU Level of Service					A			
Analysis Period (min)			15									

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR







2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.888				0.987	
Flt Protected	0.992			0.990		
Satd. Flow (prot)	1527	0	0	1726	1704	0
Flt Permitted	0.992			0.861		
Satd. Flow (perm)	1519	0	0	1497	1704	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	131	84	328	238	26
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	139	89	349	253	28
Lane Group Flow (vph)	167	0	0	438	281	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	34.0	0.0	19.0	66.0	47.0	0.0
Total Split (%)	34.0%	0.0%	19.0%	66.0%	47.0%	0.0%
Maximum Green (s)	29.0		14.0	61.0	42.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	16.5			69.3	69.3	
Actuated g/C Ratio	0.18			0.74	0.74	
v/c Ratio	0.62			0.40	0.22	
Control Delay	42.5			6.5	4.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.5			6.5	4.9	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.5			6.5	4.9	
Approach LOS	D			A	A	
Queue Length 50th (ft)	88			77	42	
Queue Length 95th (ft)	146			164	91	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	429			1106	1259	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.39			0.40	0.22	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 93.8

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.8





Intersection LOS: B

Intersection Capacity Utilization 57.3%

ICU Level of Service B










Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

	
ø2	ø4
66 s	34 s
	
ø5	ø6
19 s	47 s

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22







WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.98			1.00
Frt	0.991		0.958			
Flt Protected	0.955					0.998
Satd. Flow (prot)	1792	0	1628	0	0	1724
Flt Permitted	0.955					0.969
Satd. Flow (perm)	1740	0	1628	0	0	1673
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	142	10	401	184	16	353
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	151	11	427	196	17	376
Lane Group Flow (vph)	162	0	623	0	0	393
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	33.0	0.0	67.0	0.0	67.0	67.0
Total Split (%)	33.0%	0.0%	67.0%	0.0%	67.0%	67.0%
Maximum Green (s)	28.0		62.0		62.0	62.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	14.6		71.2			71.2
Actuated g/C Ratio	0.16		0.76			0.76
v/c Ratio	0.58		0.50			0.31
Control Delay	41.1		6.7			4.8
Queue Delay	0.0		0.0			0.0

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR

2/5/2013

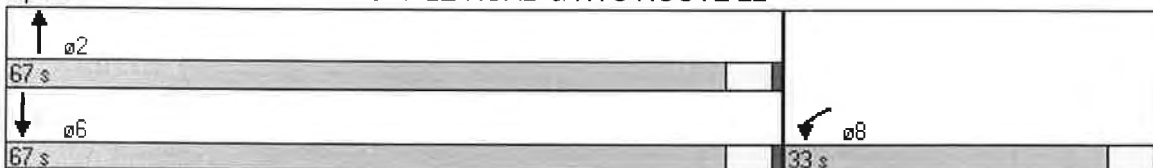
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	41.1		6.7			4.8
LOS	D		A			A
Approach Delay	41.1		6.7			4.8
Approach LOS	D		A			A
Queue Length 50th (ft)	86		114			58
Queue Length 95th (ft)	141		231			119
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	483		1235			1269
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.34		0.50			0.31

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 93.8  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 10.8  
 Intersection Capacity Utilization 49.2%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK PM HIGHWAY HOUR













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.973			0.932	
Flt Protected					0.995			0.962			0.976	
Satd. Flow (prot)	0	1810	1538	0	1799	0	0	1694	0	0	1646	0
Flt Permitted		0.996			0.650			0.962			0.976	
Satd. Flow (perm)	0	1802	1538	0	1175	0	0	1694	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	595	185	47	437	5	395	0	100	5	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	633	197	50	465	5	420	0	106	5	0	5
Lane Group Flow (vph)	0	638	197	0	520	0	0	526	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	51.0	51.0	39.0	51.0	51.0	0.0	39.0	39.0	0.0	10.0	10.0	0.0
Total Split (%)	51.0%	51.0%	39.0%	51.0%	51.0%	0.0%	39.0%	39.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	45.0	45.0	34.0	45.0	45.0		34.0	34.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		41.7	79.5		41.7			29.9			6.3	
Actuated g/C Ratio		0.51	0.97		0.51			0.37			0.07	
v/c Ratio		0.69	0.13		0.87			0.85			0.09	
Control Delay		21.6	0.6		36.7			40.2			46.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		21.6	0.6		36.7			40.2			46.3	
LOS		C	A		D			D			D	
Approach Delay		16.7			36.7			40.2			46.3	
Approach LOS		B			D			D			D	
Queue Length 50th (ft)		254	0		240			260			6	
Queue Length 95th (ft)		468	21		#527			#508			23	



YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433





WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		984	1357		642			696			115	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.65	0.15		0.81			0.76			0.09	

Intersection Summary

Area Type: Other  
Cycle Length: 100  
Actuated Cycle Length: 81.8  
Natural Cycle: 90  
Control Type: Actuated-Uncoordinated  
Maximum v/c Ratio: 0.87  
Intersection Signal Delay: 28.9  
Intersection LOS: C  
Intersection Capacity Utilization 102.1%  
ICU Level of Service G  
Analysis Period (min) 15  
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 Ø2	 Ø6	 Ø4
39 s	10 s	51 s
		 Ø8
		51 s

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK PM HIGHWAY HOUR

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	629	891	517	278	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	676	958	556	299	0	0
Lane Group Flow (vph)	676	958	556	299	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.50	0.28	0.31	0.37		
Control Delay	27.9	0.2	16.0	17.7		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	27.9	0.2	16.0	17.7		

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK PM HIGHWAY HOUR  
2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		11.7	16.6			
Approach LOS		B	B			
Queue Length 50th (ft)	194	0	118	126		
Queue Length 95th (ft)	250	0	155	191		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.50	0.28	0.31	0.37		

Intersection Summary

Area Type: Other  
Cycle Length: 117  
Actuated Cycle Length: 117  
Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
Natural Cycle: 40  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.50  
Intersection Signal Delay: 13.4  
Intersection Capacity Utilization 41.8%  
Analysis Period (min) 15

Intersection LOS: B  
ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP







← Ø2	→ Ø1
66 s	51 s
→ Ø6	
117 s	

## YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

9: NYS ROUTE 22 &amp; I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	1163	0	0	493	0	357
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1251	0	0	530	0	384
Lane Group Flow (vph)	1251	0	0	530	0	384
Sign Control	Free			Free	Stop	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.2%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013







						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1163	0	0	493	0	357
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1251	0	0	530	0	384
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked			0.92		0.95	0.92
vC, conflicting volume			1251		1516	417
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1095		1151	188
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	49
cM capacity (veh/h)			565		178	747
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	417	417	417	265	265	384
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	384
cSH	1700	1700	1700	1700	1700	747
Volume to Capacity	0.25	0.25	0.25	0.16	0.16	0.51
Queue Length 95th (ft)	0	0	0	0	0	74
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		14.8
Approach LOS						B
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	1163	493	0	0	243
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1251	530	0	0	261
Lane Group Flow (vph)	0	1251	530	0	0	261
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.2%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	1163	493	0	0	243
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1251	530	0	0	261
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.92				0.94	0.92
vC, conflicting volume	530				947	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397				502	107
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	69
cM capacity (veh/h)	1043				461	840
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	417	417	417	265	265	261
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	261
cSH	1700	1700	1700	1700	1700	840
Volume to Capacity	0.25	0.25	0.25	0.16	0.16	0.31
Queue Length 95th (ft)	0	0	0	0	0	33
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.2
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.2
Approach LOS						B
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	1163	681	79	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1264	740	86	0	0
Lane Group Flow (vph)	0	1264	740	86	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 40.6% ICU Level of Service A  
 Analysis Period (min) 15









## YEAR 2018 NO-BUILD TRAFFIC VOLUMES

## WEEKDAY PEAK PM HIGHWAY HOUR

## 11: NYS ROUTE 22 &amp; NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1163	681	79	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1264	740	86	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.93				0.86	0.93
vC, conflicting volume	826				1372	370
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	743				1034	254
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	785				191	687
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	632	632	370	370	86	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	86	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.37	0.37	0.22	0.22	0.05	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			40.6%		ICU Level of Service	A
Analysis Period (min)			15			

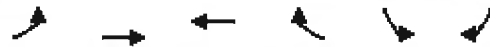
YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	1100	681	0	63	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1196	740	0	68	0
Lane Group Flow (vph)	0	1196	740	0	68	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.52	0.32		0.17	
Control Delay		8.5	6.7		29.1	
Queue Delay		0.0	0.0		0.0	
Total Delay		8.5	6.7		29.1	
LOS		A	A		C	
Approach Delay		8.5	6.7		29.1	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		C	
Queue Length 50th (ft)		161	83		32	
Queue Length 95th (ft)		206	110		67	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.52	0.32		0.17	

**Intersection Summary**

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 8.5

Intersection LOS: A

Intersection Capacity Utilization 40.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← Ø2	↘ Ø3
66 s	26 s
→ Ø6	
66 s	

## YEAR 2018 NO-BUILD TRAFFIC VOLUMES

## WEEKDAY PEAK PM HIGHWAY HOUR

13: NYS ROUTE 22 &amp; NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	1100	292	0	681	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1196	317	0	740	0	0
Lane Group Flow (vph)	1196	317	0	740	0	0
Sign Control	Free			Free	Stop	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.7%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1100	292	0	681	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1196	317	0	740	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				245		
pX, platoon unblocked					0.91	
vC, conflicting volume			1513		1566	598
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1513		1524	598
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			423		96	438
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	598	598	317	370	370	
Volume Left	0	0	0	0	0	
Volume Right	0	0	317	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.35	0.35	0.19	0.22	0.22	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			33.7%		ICU Level of Service	A
Analysis Period (min)			15			

## YEAR 2018 NO-BUILD TRAFFIC VOLUMES

## WEEKDAY PEAK PM HIGHWAY HOUR

## 14: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	1100	681	0	0	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1196	740	0	0	226
Lane Group Flow (vph)	0	1196	740	0	0	226
Sign Control		Free	Free		Yield	

## Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.4%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 NO-BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	1100	681	0	0	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1196	740	0	0	226
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	740				1338	370
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1275	216
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	68
cM capacity (veh/h)	855				141	712
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	598	598	370	370	226	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	226	
cSH	1700	1700	1700	1700	712	
Volume to Capacity	0.35	0.35	0.22	0.22	0.32	
Queue Length 95th (ft)	0	0	0	0	34	
Control Delay (s)	0.0	0.0	0.0	0.0	12.4	
Lane LOS					B	
Approach Delay (s)	0.0		0.0		12.4	
Approach LOS					B	
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			38.4%		ICU Level of Service	A
Analysis Period (min)			15			

## **YEAR 2018 BUILD TRAFFIC VOLUMES**












**WEEKDAY PEAK AM HOUR**

**(7:00 AM – 8:00 AM)**

YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.879	
Flt Protected		0.993			0.995	
Satd. Flow (prot)	0	1715	1722	0	1511	0
Flt Permitted		0.993			0.995	
Satd. Flow (perm)	0	1715	1722	0	1511	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	16	101	206	5	5	42
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	19	122	248	6	6	51
Lane Group Flow (vph)	0	141	254	0	57	0
Sign Control		Free	Free		Stop	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 32.0% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD










WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	101	206	5	5	42
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	19	122	248	6	6	51
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	264				431	271
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264				431	271
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	98				99	93
cM capacity (veh/h)	1244				548	736
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	141	254	57			
Volume Left	19	0	6			
Volume Right	0	6	51			
cSH	1244	1700	710			
Volume to Capacity	0.02	0.15	0.08			
Queue Length 95th (ft)	1	0	6			
Control Delay (s)	1.2	0.0	10.5			
Lane LOS	A		B			
Approach Delay (s)	1.2	0.0	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay		1.7				
Intersection Capacity Utilization		32.0%	ICU Level of Service	A		
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.924	
Flt Protected		0.998			0.979	
Satd. Flow (prot)	0	1724	1712	0	1562	0
Flt Permitted		0.998			0.979	
Satd. Flow (perm)	0	1724	1712	0	1562	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	5	101	232	16	16	21
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	131	301	21	21	27
Lane Group Flow (vph)	0	137	322	0	48	0
Sign Control		Free	Free		Stop	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 26.1% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD










WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	101	232	16	16	21
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	131	301	21	21	27
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	332				476	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	332				476	332
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				96	96
cM capacity (veh/h)	1174				522	680
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	138	322	48			
Volume Left	6	0	21			
Volume Right	0	21	27			
cSH	1174	1700	601			
Volume to Capacity	0.01	0.19	0.08			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.4	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		26.1%		ICU Level of Service	A	
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.894				0.999	
Flt Protected	0.990			0.997		
Satd. Flow (prot)	1529	0	0	1722	1726	0
Flt Permitted	0.990			0.997		
Satd. Flow (perm)	1529	0	0	1722	1726	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	8	31	6	98	257	2
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	41	8	131	343	3
Lane Group Flow (vph)	52	0	0	139	346	0
Sign Control	Stop			Free	Free	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 26.5% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

















WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	8	31	6	98	257	2
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	11	41	8	131	343	3
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	511	364	355			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511	364	355			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	98	94	99			
cM capacity (veh/h)	497	652	1151			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	52	139	345			
Volume Left	11	8	0			
Volume Right	41	0	3			
cSH	613	1151	1700			
Volume to Capacity	0.08	0.01	0.20			
Queue Length 95th (ft)	7	1	0			
Control Delay (s)	11.4	0.5	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.4	0.5	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization		26.5%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.932			0.992			0.973			0.998	
Flt Protected		0.976			0.955			0.996			0.998	
Satd. Flow (prot)	0	1571	0	0	1636	0	0	1674	0	0	1720	0
Flt Permitted		0.976			0.955			0.996			0.998	
Satd. Flow (perm)	0	1571	0	0	1636	0	0	1674	0	0	1720	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	5	79	0	5	10	94	26	10	272	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	7	0	7	108	0	7	14	129	36	14	373	7
Lane Group Flow (vph)	0	14	0	0	115	0	0	179	0	0	394	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.4%

















ICU Level of Service A

Analysis Period (min) 15



YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00  
2/5/2013










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	5	79	0	5	10	94	26	10	272	5
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	7	0	7	108	0	7	14	129	36	14	373	7
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	604	615	396	604	601	167	389			174		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	604	615	396	604	601	167	389			174		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	98	100	99	71	100	99	99			99		
cM capacity (veh/h)	377	381	626	376	388	843	1117			1344		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	115	178	393								
Volume Left	7	108	14	14								
Volume Right	7	7	36	7								
cSH	471	389	1117	1344								
Volume to Capacity	0.03	0.30	0.01	0.01								
Queue Length 95th (ft)	2	30	1	1								
Control Delay (s)	12.9	18.1	0.7	0.4								
Lane LOS	B	C	A	A								
Approach Delay (s)	12.9	18.1	0.7	0.4								
Approach LOS	B	C										
<b>Intersection Summary</b>												
Average Delay			3.6									
Intersection Capacity Utilization			33.4%			ICU Level of Service			A			
Analysis Period (min)			15									

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013







						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				0.98	
Frt	0.889				0.954	
Flt Protected	0.991			0.963		
Satd. Flow (prot)	1471	0	0	1723	1645	0
Flt Permitted	0.991			0.294		
Satd. Flow (perm)	1462	0	0	526	1645	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	52	236	357	110	298	152
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	5%	10%	5%	10%	10%	5%
Adj. Flow (vph)	72	328	496	153	414	211
Lane Group Flow (vph)	400	0	0	649	625	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	27.0	0.0	10.0	73.0	63.0	0.0
Total Split (%)	27.0%	0.0%	10.0%	73.0%	63.0%	0.0%
Maximum Green (s)	22.0		5.0	68.0	58.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	23.0			69.0	69.0	
Actuated g/C Ratio	0.23			0.69	0.69	
v/c Ratio	1.18			1.79	0.55	
Control Delay	144.5			385.1	10.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	144.5			385.1	10.0	

# YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	F			F	B	
Approach Delay	144.5			385.1	10.0	
Approach LOS	F			F	B	
Queue Length 50th (ft)	~308			~394	175	
Queue Length 95th (ft)	#348			#393	177	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	338			363	1135	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.18			1.79	0.55	

## Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 150

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.79

Intersection Signal Delay: 187.6

Intersection LOS: F

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15





~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

	
ø2	ø4
73 s	27 s
	
ø5	ø6
10 s	63 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00







2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			
Frt	0.984		0.984			
Flt Protected	0.958					0.999
Satd. Flow (prot)	1781	0	1690	0	0	1726
Flt Permitted	0.958					0.992
Satd. Flow (perm)	1731	0	1690	0	0	1713
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	199	26	440	58	7	527
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	252	33	557	73	9	667
Lane Group Flow (vph)	285	0	630	0	0	676
Turn Type				Perm		
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	36.0	0.0	64.0	0.0	64.0	64.0
Total Split (%)	36.0%	0.0%	64.0%	0.0%	64.0%	64.0%
Maximum Green (s)	31.0		59.0		59.0	59.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.2		61.4			61.4
Actuated g/C Ratio	0.23		0.69			0.69
v/c Ratio	0.71		0.54			0.58
Control Delay	41.4		10.3			10.9
Queue Delay	0.0		0.0			0.0

YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

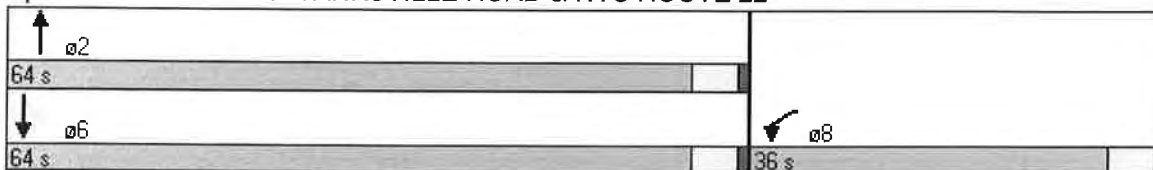
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	41.4		10.3			10.9
LOS	D		B			B
Approach Delay	41.4		10.3			10.9
Approach LOS	D		B			B
Queue Length 50th (ft)	146		154			172
Queue Length 95th (ft)	194		250			275
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	564		1157			1173
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.51		0.54			0.58

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 89.6  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 16.1  
 Intersection Capacity Utilization 52.9%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22



YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.971			0.970	
Flt Protected					0.996			0.962			0.963	
Satd. Flow (prot)	0	1810	1538	0	1800	0	0	1690	0	0	1690	0
Flt Permitted		0.992			0.850			0.962			0.963	
Satd. Flow (perm)	0	1795	1538	0	1537	0	0	1690	0	0	1690	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	471	329	53	647	5	215	0	59	16	0	5
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	6	604	422	68	829	6	276	0	76	21	0	6
Lane Group Flow (vph)	0	610	422	0	903	0	0	352	0	0	27	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	64.0	64.0	26.0	64.0	64.0	0.0	26.0	26.0	0.0	10.0	10.0	0.0
Total Split (%)	64.0%	64.0%	26.0%	64.0%	64.0%	0.0%	26.0%	26.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	58.0	58.0	21.0	58.0	58.0		21.0	21.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		57.5	84.8		57.5			21.4			6.0	
Actuated g/C Ratio		0.62	0.92		0.62			0.23			0.06	
v/c Ratio		0.55	0.30		0.95			0.90			0.26	
Control Delay		13.2	1.6		37.8			64.0			51.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		13.2	1.6		37.8			64.0			51.3	
LOS		B	A		D			E			D	
Approach Delay		8.4			37.8			64.0			51.3	
Approach LOS		A			D			E			D	
Queue Length 50th (ft)		218	32		517			222			17	
Queue Length 95th (ft)		250	40		#587			#311			39	

YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1135	1377		972			403			105	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.54	0.31		0.93			0.87			0.26	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 92.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 89.7%





ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 ø2	 ø6	 ø4
26 s	10 s	64 s
		 ø8
		64 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/11/2013







						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	137	790	853	77	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	157	908	980	89	0	0
Lane Group Flow (vph)	157	908	980	89	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.12	0.26	0.54	0.11		
Control Delay	22.3	0.2	19.5	14.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.3	0.2	19.5	14.2		



YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

2/11/2013




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		3.4	19.0			
Approach LOS		A	B			
Queue Length 50th (ft)	37	0	245	32		
Queue Length 95th (ft)	58	0	290	58		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.12	0.26	0.54	0.11		

Intersection Summary

Area Type: Other  
 Cycle Length: 117  
 Actuated Cycle Length: 117  
 Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.54  
 Intersection Signal Delay: 11.2  
 Intersection Capacity Utilization 34.2%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP

	
ø2	ø1
66 s	51 s
	
ø6	
117 s	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	809	0	0	833	0	117
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	930	0	0	957	0	134
Lane Group Flow (vph)	930	0	0	957	0	134
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.5%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013







						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	809	0	0	833	0	117
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	930	0	0	957	0	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.81	
vC, conflicting volume			930		1409	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			930		1273	310
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	80
cM capacity (veh/h)			713		126	677
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	310	310	310	479	479	134
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	134
cSH	1700	1700	1700	1700	1700	677
Volume to Capacity	0.18	0.18	0.18	0.28	0.28	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.6
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.6
Approach LOS						B
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			44.5%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	809	833	0	0	239
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	930	957	0	0	275
Lane Group Flow (vph)	0	930	957	0	0	275
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.5%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	809	833	0	0	239
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	930	957	0	0	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	957				1267	479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	720				1100	132
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	62
cM capacity (veh/h)	699				164	720
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	310	310	310	479	479	275
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	275
cSH	1700	1700	1700	1700	1700	720
Volume to Capacity	0.18	0.18	0.18	0.28	0.28	0.38
Queue Length 95th (ft)	0	0	0	0	0	45
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.1
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.1
Approach LOS						B
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			44.5%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	809	902	189	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	919	1025	215	0	0
Lane Group Flow (vph)	0	919	1025	215	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.9%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	809	902	189	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	919	1025	215	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.84				0.87	0.84
vC, conflicting volume	1240				1485	512
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1093				1175	226
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	517				157	644
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	460	460	512	512	215	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	215	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.27	0.27	0.30	0.30	0.13	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			45.9%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	551	902	0	258	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	626	1025	0	293	0
Lane Group Flow (vph)	0	626	1025	0	293	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.27	0.44		0.71	
Control Delay		6.3	7.7		43.2	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.3	7.7		43.2	
LOS		A	A		D	
Approach Delay		6.3	7.7		43.2	



YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		67	128		157	
Queue Length 95th (ft)		88	160		#243	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.27	0.44		0.71	

Intersection Summary

Area Type: Other  
 Cycle Length: 92  
 Actuated Cycle Length: 92  
 Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 12.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 45.9%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH







← ø2	↘ ø3
66 s	26 s
→ ø6	
66 s	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	551	197	0	902	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	626	224	0	1025	0	0
Lane Group Flow (vph)	626	224	0	1025	0	0
Sign Control	Free			Free	Stop	

Intersection Summary







Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.3%

ICU Level of Service A

Analysis Period (min) 15







						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	551	197	0	902	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	626	224	0	1025	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				245		
pX, platoon unblocked					0.86	
vC, conflicting volume			850		1139	313
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			850		1000	313
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			765		202	674
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	313	313	224	512	512	
Volume Left	0	0	0	0	0	
Volume Right	0	0	224	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.18	0.18	0.13	0.30	0.30	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			28.3%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	551	902	0	0	697
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	626	1025	0	0	792
Lane Group Flow (vph)	0	626	1025	0	0	792
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 74.8%

ICU Level of Service D







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH










2/11/2013

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	551	902	0	0	697
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	626	1025	0	0	792
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	1025				1338	512
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867				1231	272
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	649				142	617
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	313	313	512	512	792	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	792	
cSH	1700	1700	1700	1700	617	
Volume to Capacity	0.18	0.18	0.30	0.30	1.28	
Queue Length 95th (ft)	0	0	0	0	784	
Control Delay (s)	0.0	0.0	0.0	0.0	160.9	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		160.9	
Approach LOS					F	
Intersection Summary						
Average Delay			52.2			
Intersection Capacity Utilization			74.8%		ICU Level of Service	D
Analysis Period (min)			15			

**WEEKDAY PEAK AM HOUR**  
**(8:15 AM – 9:15 AM)**

YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.885	
Flt Protected		0.994			0.992	
Satd. Flow (prot)	0	1717	1722	0	1516	0
Flt Permitted		0.994			0.992	
Satd. Flow (perm)	0	1717	1722	0	1516	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	16	122	217	5	5	26
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	17	131	233	5	5	28
Lane Group Flow (vph)	0	148	238	0	33	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 32.7% ICU Level of Service A  
Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD










WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	122	217	5	5	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	17	131	233	5	5	28
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	249				422	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	249				422	256
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				99	96
cM capacity (veh/h)	1261				557	751
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	148	239	33			
Volume Left	17	0	5			
Volume Right	0	5	28			
cSH	1261	1700	711			
Volume to Capacity	0.01	0.14	0.05			
Queue Length 95th (ft)	1	0	4			
Control Delay (s)	1.0	0.0	10.3			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	10.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		32.7%		ICU Level of Service		A
Analysis Period (min)		15				



YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.932	
Flt Protected		0.996			0.976	
Satd. Flow (prot)	0	1720	1717	0	1571	0
Flt Permitted		0.996			0.976	
Satd. Flow (perm)	0	1720	1717	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	127	232	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	137	249	11	11	11
Lane Group Flow (vph)	0	148	260	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 27.8% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	127	232	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	137	249	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	270				433	275
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	270				433	275
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1238				551	733
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	147	260	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1238	1700	629			
Volume to Capacity	0.01	0.15	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.6	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	0.6	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization		27.8%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.893				0.999	
Flt Protected	0.990			0.998		
Satd. Flow (prot)	1527	0	0	1724	1726	0
Flt Permitted	0.990			0.998		
Satd. Flow (perm)	1527	0	0	1724	1726	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	8	31	6	130	241	2
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	9	34	7	144	268	2
Lane Group Flow (vph)	43	0	0	151	270	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 25.8% ICU Level of Service A  
Analysis Period (min) 15

















YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	8	31	6	130	241	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	34	7	144	268	2
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	447	289	280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	447	289	280			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	98	95	99			
cM capacity (veh/h)	543	719	1228			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	43	151	270			
Volume Left	9	7	0			
Volume Right	34	0	2			
cSH	674	1228	1700			
Volume to Capacity	0.06	0.01	0.16			
Queue Length 95th (ft)	5	0	0			
Control Delay (s)	10.7	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.7	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		25.8%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.991			0.990			0.982	
Flt Protected		0.996			0.965			0.975			0.999	
Satd. Flow (prot)	0	1521	0	0	1652	0	0	1667	0	0	1694	0
Flt Permitted		0.996			0.965			0.975			0.999	
Satd. Flow (perm)	0	1521	0	0	1652	0	0	1667	0	0	1694	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	10	5	94	58	16	5	152	120	21	5	230	37
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	13	7	125	77	21	7	203	160	28	7	307	49
Lane Group Flow (vph)	0	145	0	0	105	0	0	391	0	0	363	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

















Intersection Capacity Utilization 52.6%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	5	94	58	16	5	152	120	21	5	230	37
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	13	7	125	77	21	7	203	160	28	7	307	49
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	961	958	351	1073	969	194	366			198		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	961	958	351	1073	969	194	366			198		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	92	97	81	39	89	99	82			99		
cM capacity (veh/h)	174	201	663	126	198	814	1140			1317		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	145	105	391	363								
Volume Left	13	77	203	7								
Volume Right	125	7	28	49								
cSH	486	145	1140	1317								
Volume to Capacity	0.30	0.73	0.18	0.01								
Queue Length 95th (ft)	31	107	16	0								
Control Delay (s)	15.5	77.8	5.4	0.2								
Lane LOS	C	F	A	A								
Approach Delay (s)	15.5	77.8	5.4	0.2								
Approach LOS	C	F										
<b>Intersection Summary</b>												
Average Delay			12.6									
Intersection Capacity Utilization			52.6%		ICU Level of Service					A		
Analysis Period (min)			15									

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013







						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				1.00	
Frt	0.893				0.993	
Flt Protected	0.990			0.994		
Satd. Flow (prot)	1536	0	0	1727	1715	0
Flt Permitted	0.990			0.832		
Satd. Flow (perm)	1526	0	0	1445	1715	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	10	37	42	288	398	21
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	13	49	56	384	531	28
Lane Group Flow (vph)	62	0	0	440	559	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	28.0	0.0	16.0	72.0	56.0	0.0
Total Split (%)	28.0%	0.0%	16.0%	72.0%	56.0%	0.0%
Maximum Green (s)	23.0		11.0	67.0	51.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	11.1			96.0	96.0	
Actuated g/C Ratio	0.10			0.86	0.86	
v/c Ratio	0.42			0.36	0.38	
Control Delay	43.0			3.4	3.4	
Queue Delay	0.0			0.0	0.0	
Total Delay	43.0			3.4	3.4	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	43.0			3.4	3.4	
Approach LOS	D			A	A	
Queue Length 50th (ft)	44			57	75	
Queue Length 95th (ft)	62			83	103	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	292			1236	1467	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.21			0.36	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 112.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 5.7


Intersection LOS: A

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 Ø2	 Ø4
72 s	28 s
 Ø5	 Ø6
16 s	56 s









YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.99			1.00
Frt	0.993		0.973			
Flt Protected	0.955					0.999
Satd. Flow (prot)	1797	0	1664	0	0	1726
Flt Permitted	0.955					0.992
Satd. Flow (perm)	1744	0	1664	0	0	1713
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	184	10	320	79	7	427
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	224	12	390	96	9	521
Lane Group Flow (vph)	236	0	486	0	0	530
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	39.0	0.0	61.0	0.0	61.0	61.0
Total Split (%)	39.0%	0.0%	61.0%	0.0%	61.0%	61.0%
Maximum Green (s)	34.0		56.0		56.0	56.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	17.2		59.8			59.8
Actuated g/C Ratio	0.20		0.70			0.70
v/c Ratio	0.65		0.42			0.44
Control Delay	38.4		7.3			7.6
Queue Delay	0.0		0.0			0.0

YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/5/2013




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	38.4		7.3			7.6
LOS	D		A			A
Approach Delay	38.4		7.3			7.6
Approach LOS	D		A			A
Queue Length 50th (ft)	111		90			100
Queue Length 95th (ft)	163		163			179
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	613		1171			1205
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.38		0.42			0.44

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 85  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.65  
 Intersection Signal Delay: 13.3  
 Intersection Capacity Utilization 46.3%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22

	ø2		
61 s			
	ø6		
61 s			
			ø8
		39 s	

YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 8:15 - 9:15













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.970			0.932	
Flt Protected		0.999			0.996			0.962			0.976	
Satd. Flow (prot)	0	1808	1538	0	1800	0	0	1689	0	0	1646	0
Flt Permitted		0.994			0.919			0.962			0.976	
Satd. Flow (perm)	0	1799	1538	0	1661	0	0	1689	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	434	314	48	568	5	283	0	80	5	0	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	467	338	52	611	5	304	0	86	5	0	5
Lane Group Flow (vph)	0	472	338	0	668	0	0	390	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	55.0	55.0	35.0	55.0	55.0	0.0	35.0	35.0	0.0	10.0	10.0	0.0
Total Split (%)	55.0%	55.0%	35.0%	55.0%	55.0%	0.0%	35.0%	35.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	49.0	49.0	30.0	49.0	49.0		30.0	30.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		32.0	61.8		32.0			20.8			6.7	
Actuated g/C Ratio		0.50	0.97		0.50			0.33			0.09	
v/c Ratio		0.52	0.23		0.80			0.71			0.06	
Control Delay		14.1	0.8		23.1			29.9			42.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		14.1	0.8		23.1			29.9			42.3	
LOS		B	A		C			C			D	
Approach Delay		8.6			23.1			29.9			42.3	
Approach LOS		A			C			C			D	
Queue Length 50th (ft)		102	0		179			119			3	
Queue Length 95th (ft)		280	37		497			#339			23	

YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1340			1356			1217			436	
Turn Bay Length (ft)												
Base Capacity (vph)		1140	1169		1053			750			154	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.41	0.29		0.63			0.52			0.06	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 63.6

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 18.3

Intersection LOS: B

Intersection Capacity Utilization 93.2%





ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 ø2	 ø6	 ø4
35 s	10 s	55 s
		 ø8
		55 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

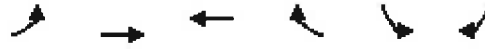
WEEKDAY PEAK AM HOUR - 8:15 - 9:15

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	126	827	837	83	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	131	861	872	86	0	0
Lane Group Flow (vph)	131	861	872	86	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.10	0.25	0.48	0.11		
Control Delay	22.1	0.2	18.4	14.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	22.1	0.2	18.4	14.2		

YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK AM HOUR - 8:15 - 9:15  
2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		3.1	18.0			
Approach LOS		A	B			
Queue Length 50th (ft)	31	0	209	31		
Queue Length 95th (ft)	52	0	262	58		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.10	0.25	0.48	0.11		

Intersection Summary

Area Type: Other  
Cycle Length: 117  
Actuated Cycle Length: 117  
Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
Natural Cycle: 40  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.48  
Intersection Signal Delay: 10.4  
Intersection Capacity Utilization 33.4%  
Analysis Period (min) 15

Intersection LOS: B  
ICU Level of Service A

Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP







← ø2	→ ø1
66 s	51 s
→ ø6	
117 s	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	804	0	0	817	0	149
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	838	0	0	851	0	155
Lane Group Flow (vph)	838	0	0	851	0	155
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.8%

ICU Level of Service A







Analysis Period (min) 15

# YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	804	0	0	817	0	149
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	838	0	0	851	0	155
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)	927			277		
pX, platoon unblocked					0.84	
vC, conflicting volume			838		1263	279
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			838		1125	279
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	78
cM capacity (veh/h)			774		164	709
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	279	279	279	426	426	155
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	155
cSH	1700	1700	1700	1700	1700	709
Volume to Capacity	0.16	0.16	0.16	0.25	0.25	0.22
Queue Length 95th (ft)	0	0	0	0	0	21
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.5
Approach LOS						B
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			









YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	804	817	0	0	186
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	838	851	0	0	194
Lane Group Flow (vph)	0	838	851	0	0	194
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.8%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	804	817	0	0	186
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	838	851	0	0	194
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	851				1130	426
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	637				968	132
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	74
cM capacity (veh/h)	778				207	744
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	279	279	279	426	426	194
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	194
cSH	1700	1700	1700	1700	1700	744
Volume to Capacity	0.16	0.16	0.16	0.25	0.25	0.26
Queue Length 95th (ft)	0	0	0	0	0	26
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.5
Approach LOS						B
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	804	860	163	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	855	915	173	0	0
Lane Group Flow (vph)	0	855	915	173	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.0%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	804	860	163	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	855	915	173	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.86				0.89	0.86
vC, conflicting volume	1088				1343	457
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				1064	216
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	608				191	674
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	428	428	457	457	173	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	173	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.25	0.25	0.27	0.27	0.10	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			45.0%		ICU Level of Service	A
Analysis Period (min)			15			

## YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

## 12: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↵	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frnt						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	541	860	0	263	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	576	915	0	280	0
Lane Group Flow (vph)	0	576	915	0	280	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.25	0.39		0.68	
Control Delay		6.2	7.3		41.4	
Queue Delay		0.0	0.0		0.0	
Total Delay		6.2	7.3		41.4	
LOS		A	A		D	
Approach Delay		6.2	7.3		41.4	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		D	
Queue Length 50th (ft)		60	109		149	
Queue Length 95th (ft)		83	142		237	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.25	0.39		0.68	

## Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.3




Intersection LOS: B







Intersection Capacity Utilization 45.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

 02	 03
66 s	26 s
 06	
66 s	

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	541	224	0	860	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	576	238	0	915	0	0
Lane Group Flow (vph)	576	238	0	915	0	0
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.1%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

						
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	541	224	0	860	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	576	238	0	915	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				245		
pX, platoon unblocked					0.88	
vC, conflicting volume			814		1033	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			814		904	288
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			790		239	700
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	288	288	238	457	457	
Volume Left	0	0	0	0	0	
Volume Right	0	0	238	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.17	0.17	0.14	0.27	0.27	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			27.1%		ICU Level of Service	A
Analysis Period (min)			15			









YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	541	860	0	0	733
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	576	915	0	0	780
Lane Group Flow (vph)	0	576	915	0	0	780
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 75.8%

ICU Level of Service D







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013










						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	541	860	0	0	733
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	576	915	0	0	780
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	915				1203	457
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	770				1097	252
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	0
cM capacity (veh/h)	724				179	652
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	288	288	457	457	780	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	780	
cSH	1700	1700	1700	1700	652	
Volume to Capacity	0.17	0.17	0.27	0.27	1.20	
Queue Length 95th (ft)	0	0	0	0	672	
Control Delay (s)	0.0	0.0	0.0	0.0	125.0	
Lane LOS					F	
Approach Delay (s)	0.0		0.0		125.0	
Approach LOS					F	
Intersection Summary						
Average Delay			42.9			
Intersection Capacity Utilization			75.8%		ICU Level of Service	D
Analysis Period (min)			15			

**WEEKDAY PEAK PM HIGHWAY HOUR**

**(5:00 PM – 6:00 PM)**

YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013










						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.955	
Flt Protected		0.996			0.968	
Satd. Flow (prot)	0	1720	1720	0	1597	0
Flt Permitted		0.996			0.968	
Satd. Flow (perm)	0	1720	1720	0	1597	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		624	1499		1868	
Travel Time (s)		10.6	25.6		42.5	
Volume (vph)	21	237	150	5	10	5
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	25	279	176	6	12	6
Lane Group Flow (vph)	0	304	182	0	18	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 39.5% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2018 BUILD TRAFFIC VOLUMES  
1: NYS ROUTE 22 & CHESTNUT RIDGE ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	21	237	150	5	10	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	25	279	176	6	12	6
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	192				528	199
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192				528	199
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	98				98	99
cM capacity (veh/h)	1323				480	808
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	304	182	18			
Volume Left	25	0	12			
Volume Right	0	6	6			
cSH	1323	1700	555			
Volume to Capacity	0.02	0.11	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.8	0.0	11.7			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		39.5%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013










						
Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1724	1712	0	1571	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1724	1712	0	1571	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		40	40		30	
Link Distance (ft)		3733	624		1408	
Travel Time (s)		63.6	10.6		32.0	
Volume (vph)	10	248	145	10	10	10
Confl. Peds. (#/hr)	10			10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	11	267	156	11	11	11
Lane Group Flow (vph)	0	278	167	0	22	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 34.0% ICU Level of Service A  
Analysis Period (min) 15










YEAR 2018 BUILD TRAFFIC VOLUMES  
2: NYS ROUTE 22 & BALDWIN ROAD

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	248	145	10	10	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	267	156	11	11	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	177				469	181
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177				469	181
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				98	99
cM capacity (veh/h)	1341				525	827
Direction, Lane #	NB 1	SB 1	SE 1			
Volume Total	277	167	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1341	1700	642			
Volume to Capacity	0.01	0.10	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.4	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.8			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		34.0%		ICU Level of Service		A
Analysis Period (min)		15				

YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892				0.994	
Flt Protected	0.990			0.995		
Satd. Flow (prot)	1525	0	0	1719	1717	0
Flt Permitted	0.990			0.995		
Satd. Flow (perm)	1525	0	0	1719	1717	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	731			700	3733	
Travel Time (s)	16.6			11.9	63.6	
Volume (vph)	4	14	30	270	164	7
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	4	16	33	300	182	8
Lane Group Flow (vph)	20	0	0	333	190	0
Sign Control	Stop			Free	Free	










Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 42.3% ICU Level of Service A  
Analysis Period (min) 15



















YEAR 2018 BUILD TRAFFIC VOLUMES  
3: SITE ACCESS & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	4	14	30	270	164	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	16	33	300	182	8
Pedestrians	10			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	573	206	200			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	573	206	200			
tC, single (s)	6.5	6.3	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.3			
p0 queue free %	99	98	97			
cM capacity (veh/h)	449	801	1315			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	20	333	190			
Volume Left	4	33	0			
Volume Right	16	0	8			
cSH	682	1315	1700			
Volume to Capacity	0.03	0.03	0.11			
Queue Length 95th (ft)	2	2	0			
Control Delay (s)	10.4	1.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.4	1.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			42.3%	ICU Level of Service		A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.884			0.963			0.979			0.996	
Flt Protected		0.993			0.965			0.999			0.996	
Satd. Flow (prot)	0	1516	0	0	1605	0	0	1689	0	0	1713	0
Flt Permitted		0.993			0.965			0.999			0.996	
Satd. Flow (perm)	0	1516	0	0	1605	0	0	1689	0	0	1713	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		939			1692			2330			700	
Travel Time (s)		21.3			38.5			39.7			11.9	
Volume (vph)	5	0	31	42	0	16	10	279	52	16	157	5
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	0	37	50	0	19	12	332	62	19	187	6
Lane Group Flow (vph)	0	43	0	0	69	0	0	406	0	0	212	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

















Intersection Capacity Utilization 38.1%

ICU Level of Service A

Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES  
4: UPLAND LANE & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	0	31	42	0	16	10	279	52	16	157	5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	6	0	37	50	0	19	12	332	62	19	187	6
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	654	666	210	672	638	383	203			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	654	666	210	672	638	383	203			404		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	98	100	95	85	100	97	99			98		
cM capacity (veh/h)	341	354	797	326	368	636	1312			1103		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	43	69	406	212								
Volume Left	6	50	12	19								
Volume Right	37	19	62	6								
cSH	672	376	1312	1103								
Volume to Capacity	0.06	0.18	0.01	0.02								
Queue Length 95th (ft)	5	17	1	1								
Control Delay (s)	10.7	16.7	0.3	0.9								
Lane LOS	B	C	A	A								
Approach Delay (s)	10.7	16.7	0.3	0.9								
Approach LOS	B	C										
<b>Intersection Summary</b>												
Average Delay			2.6									
Intersection Capacity Utilization			38.1%		ICU Level of Service					A		
Analysis Period (min)			15									

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013







						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	1.00	
Frt	0.888				0.987	
Flt Protected	0.992			0.991		
Satd. Flow (prot)	1527	0	0	1727	1704	0
Flt Permitted	0.992			0.864		
Satd. Flow (perm)	1519	0	0	1501	1704	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	131	84	358	252	26
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	139	89	381	268	28
Lane Group Flow (vph)	167	0	0	470	296	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	33.0	0.0	18.0	67.0	49.0	0.0
Total Split (%)	33.0%	0.0%	18.0%	67.0%	49.0%	0.0%
Maximum Green (s)	28.0		13.0	62.0	44.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	16.6			70.1	70.1	
Actuated g/C Ratio	0.18			0.74	0.74	
v/c Ratio	0.62			0.42	0.23	
Control Delay	43.0			6.7	5.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	43.0			6.7	5.0	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

2/5/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	43.0			6.7	5.0	
Approach LOS	D			A	A	
Queue Length 50th (ft)	89			86	45	
Queue Length 95th (ft)	147			181	96	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	415			1110	1260	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.40			0.42	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 94.8

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.7




Intersection LOS: B

Intersection Capacity Utilization 59.6%

ICU Level of Service B










Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 Ø2	 Ø4
67 s	33 s
 Ø5	 Ø6
18 s	49 s







YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	12	12
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50		50	50
Trailing Detector (ft)	0		0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.98			
Frt	0.989		0.959			
Flt Protected	0.956					0.998
Satd. Flow (prot)	1789	0	1631	0	0	1724
Flt Permitted	0.956					0.966
Satd. Flow (perm)	1738	0	1631	0	0	1669
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Headway Factor	0.88	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		40			40
Link Distance (ft)	984		1637			1109
Travel Time (s)	22.4		27.9			18.9
Volume (vph)	142	13	429	184	17	366
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	151	14	456	196	18	389
Lane Group Flow (vph)	165	0	652	0	0	407
Turn Type					Perm	
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phases	8		2		6	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	21.0		21.0		21.0	21.0
Total Split (s)	32.0	0.0	68.0	0.0	68.0	68.0
Total Split (%)	32.0%	0.0%	68.0%	0.0%	68.0%	68.0%
Maximum Green (s)	27.0		63.0		63.0	63.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	14.8		71.8			71.8
Actuated g/C Ratio	0.16		0.76			0.76
v/c Ratio	0.59		0.53			0.32
Control Delay	41.9		7.1			4.9
Queue Delay	0.0		0.0			0.0

YEAR 2018 BUILD TRAFFIC VOLUMES  
6: BANKSVILLE ROAD & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	41.9		7.1			4.9
LOS	D		A			A
Approach Delay	41.9		7.1			4.9
Approach LOS	D		A			A
Queue Length 50th (ft)	88		125			62
Queue Length 95th (ft)	144		253			126
Internal Link Dist (ft)	904		1557			1029
Turn Bay Length (ft)						
Base Capacity (vph)	467		1237			1266
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.35		0.53			0.32

Intersection Summary

Area Type: Other  
Cycle Length: 100  
Actuated Cycle Length: 94.6  
Natural Cycle: 60  
Control Type: Semi Act-Uncoord  
Maximum v/c Ratio: 0.59  
Intersection Signal Delay: 11.1  
Intersection Capacity Utilization 50.8%  
Analysis Period (min) 15

Intersection LOS: B  
ICU Level of Service A


















Splits and Phases: 6: BANKSVILLE ROAD & NYS ROUTE 22

	ø2		
68 s			
	ø6		
68 s			
			ø8
		32 s	

YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK PM HIGHWAY HOUR













2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.971			0.932	
Flt Protected					0.995			0.962			0.976	
Satd. Flow (prot)	0	1810	1538	0	1799	0	0	1690	0	0	1646	0
Flt Permitted		0.997			0.626			0.962			0.976	
Satd. Flow (perm)	0	1804	1538	0	1132	0	0	1690	0	0	1646	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			45			30			30	
Link Distance (ft)		1420			1436			1297			516	
Travel Time (s)		32.3			21.8			29.5			11.7	
Volume (vph)	5	617	185	50	448	5	395	0	106	5	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	5	656	197	53	477	5	420	0	113	5	0	5
Lane Group Flow (vph)	0	661	197	0	535	0	0	533	0	0	10	0
Turn Type	Perm		pm+ov	Perm			Split			Split		
Protected Phases		4	2		8		2	2		6	6	
Permitted Phases	4		4	8								
Detector Phases	4	4	2	8	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0	21.0	22.0	22.0		21.0	21.0		10.0	10.0	
Total Split (s)	52.0	52.0	38.0	52.0	52.0	0.0	38.0	38.0	0.0	10.0	10.0	0.0
Total Split (%)	52.0%	52.0%	38.0%	52.0%	52.0%	0.0%	38.0%	38.0%	0.0%	10.0%	10.0%	0.0%
Maximum Green (s)	46.0	46.0	33.0	46.0	46.0		33.0	33.0		5.0	5.0	
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min		Min	Min		None	None	
Act Effct Green (s)		46.6	85.8		46.6			31.8			6.0	
Actuated g/C Ratio		0.53	0.97		0.53			0.36			0.06	
v/c Ratio		0.69	0.13		0.89			0.88			0.10	
Control Delay		21.6	0.6		40.4			44.5			46.7	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		21.6	0.6		40.4			44.5			46.7	
LOS		C	A		D			D			D	
Approach Delay		16.8			40.4			44.5			46.7	
Approach LOS		B			D			D			D	
Queue Length 50th (ft)		261	0		254			270			6	
Queue Length 95th (ft)		485	21		#554			#531			23	



YEAR 2018 BUILD TRAFFIC VOLUMES  
7: NYS ROUTE 22 & NYS ROUTE 433

WEEKDAY PEAK PM HIGHWAY HOUR  
2/5/2013

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1340			1356			1217			436		
Turn Bay Length (ft)												
Base Capacity (vph)	968			1441			608			638		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.68			0.14			0.88			0.84		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 88.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 31.1

Intersection LOS: C

Intersection Capacity Utilization 104.4%





ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











Splits and Phases: 7: NYS ROUTE 22 & NYS ROUTE 433

 ø2	 ø6	 ø4
38 s	10 s	52 s
		 ø8
		52 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK PM HIGHWAY HOUR

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400			200	0	0
Storage Lanes	1			1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		
Trailing Detector (ft)	0	0	0	0		
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3335	3438	3438	1538	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3335	3438	3438	1538	0	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	45		30	
Link Distance (ft)		277	1095		601	
Travel Time (s)		3.4	16.6		13.7	
Volume (vph)	629	913	526	280	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	676	982	566	301	0	0
Lane Group Flow (vph)	676	982	566	301	0	0
Turn Type	Prot			Perm		
Protected Phases	1	6	2			
Permitted Phases				2		
Detector Phases	1	6	2	2		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	10.0	22.0	22.0	22.0		
Total Split (s)	51.0	117.0	66.0	66.0	0.0	0.0
Total Split (%)	43.6%	100.0%	56.4%	56.4%	0.0%	0.0%
Maximum Green (s)	45.0	111.0	60.0	60.0		
Yellow Time (s)	5.0	5.0	5.0	5.0		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	None	C-Max	C-Max	C-Max		
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)	47.0	117.0	62.0	62.0		
Actuated g/C Ratio	0.40	1.00	0.53	0.53		
v/c Ratio	0.50	0.29	0.31	0.37		
Control Delay	27.9	0.2	16.1	17.7		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	27.9	0.2	16.1	17.7		

YEAR 2018 BUILD TRAFFIC VOLUMES  
8: NYS ROUTE 22 & I-684 NB ON RAMP

WEEKDAY PEAK PM HIGHWAY HOUR  
2/11/2013



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	C	A	B	B		
Approach Delay		11.5	16.6			
Approach LOS		B	B			
Queue Length 50th (ft)	194	0	121	127		
Queue Length 95th (ft)	250	0	158	192		
Internal Link Dist (ft)		197	1015		521	
Turn Bay Length (ft)	400			200		
Base Capacity (vph)	1340	3438	1822	815		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.50	0.29	0.31	0.37		

**Intersection Summary**

Area Type: Other  
Cycle Length: 117  
Actuated Cycle Length: 117  
Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
Natural Cycle: 40  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.50  
Intersection Signal Delay: 13.3  
Intersection Capacity Utilization 41.9%  
Analysis Period (min) 15

Intersection LOS: B  
ICU Level of Service A

**Splits and Phases: 8: NYS ROUTE 22 & I-684 NB ON RAMP**







← ø2	↗ ø1
66 s	51 s
→ ø6	
117 s	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

9: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.91	1.00	1.00	0.95	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	4940	0	0	3438	0	1565
Flt Permitted						
Satd. Flow (perm)	4940	0	0	3438	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	233			277	1046	
Travel Time (s)	2.9			3.4	23.8	
Volume (vph)	1174	0	0	502	0	368
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1262	0	0	540	0	396
Lane Group Flow (vph)	1262	0	0	540	0	396
Sign Control	Free			Free	Stop	

Intersection Summary







Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 52.1%

ICU Level of Service A

Analysis Period (min) 15







						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑		↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1174	0	0	502	0	368
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1262	0	0	540	0	396
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	927			277		
pX, platoon unblocked			0.92		0.95	0.92
vC, conflicting volume			1262		1532	421
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1105		1162	188
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	47
cM capacity (veh/h)			560		175	746
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	421	421	421	270	270	396
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	396
cSH	1700	1700	1700	1700	1700	746
Volume to Capacity	0.25	0.25	0.25	0.16	0.16	0.53
Queue Length 95th (ft)	0	0	0	0	0	79
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.2
Lane LOS						C
Approach Delay (s)	0.0			0.0		15.2
Approach LOS						C
<b>Intersection Summary</b>						
Average Delay			2.7			
Intersection Capacity Utilization			52.1%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	4940	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		306	233		674	
Travel Time (s)		3.8	2.9		15.3	
Volume (vph)	0	1174	502	0	0	243
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1262	540	0	0	261
Lane Group Flow (vph)	0	1262	540	0	0	261
Sign Control		Free	Free		Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 52.1%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

10: NYS ROUTE 22 & I-684 NB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	1174	502	0	0	243
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1262	540	0	0	261
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		694	510			
pX, platoon unblocked	0.91				0.94	0.91
vC, conflicting volume	540				961	270
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	403				507	108
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	69
cM capacity (veh/h)	1034				457	837
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SW 1
Volume Total	421	421	421	270	270	261
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	261
cSH	1700	1700	1700	1700	1700	837
Volume to Capacity	0.25	0.25	0.25	0.16	0.16	0.31
Queue Length 95th (ft)	0	0	0	0	0	33
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.2
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.2
Approach LOS						B
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			52.1%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	3438	3438	1538	0	0
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	1538	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		388	306		630	
Travel Time (s)		4.8	3.8		14.3	
Volume (vph)	0	1174	685	84	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1276	745	91	0	0
Lane Group Flow (vph)	0	1276	745	91	0	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.0%

ICU Level of Service A

Analysis Period (min) 15









YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

11: NYS ROUTE 22 & NYS ROUTE 22 SOUTH ON RAMP TO I-684 SB

2/11/2013







						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑	↑		
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1174	685	84	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1276	745	91	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		388	816			
pX, platoon unblocked	0.93				0.85	0.93
vC, conflicting volume	836				1383	372
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751				1039	254
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	778				189	687
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	638	638	372	372	91	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	91	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.38	0.38	0.22	0.22	0.05	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			41.0%		ICU Level of Service	A
Analysis Period (min)			15			

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

12: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

2/11/2013

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50		50	
Trailing Detector (ft)		0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frnt						
Flt Protected					0.950	
Satd. Flow (prot)	0	3438	3438	0	1719	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3438	3438	0	1719	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		245	388		433	
Travel Time (s)		3.0	4.8		9.8	
Volume (vph)	0	1107	685	0	67	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1203	745	0	73	0
Lane Group Flow (vph)	0	1203	745	0	73	0
Turn Type						
Protected Phases		6	2		3	
Permitted Phases						
Detector Phases		6	2		3	
Minimum Initial (s)		4.0	4.0		4.0	
Minimum Split (s)		22.0	22.0		22.0	
Total Split (s)	0.0	66.0	66.0	0.0	26.0	0.0
Total Split (%)	0.0%	71.7%	71.7%	0.0%	28.3%	0.0%
Maximum Green (s)		60.0	60.0		20.0	
Yellow Time (s)		5.0	5.0		5.0	
All-Red Time (s)		1.0	1.0		1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	
Recall Mode		C-Max	C-Max		Max	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)		62.0	62.0		22.0	
Actuated g/C Ratio		0.67	0.67		0.24	
v/c Ratio		0.52	0.32		0.18	
Control Delay		8.5	6.7		29.3	
Queue Delay		0.0	0.0		0.0	
Total Delay		8.5	6.7		29.3	
LOS		A	A		C	
Approach Delay		8.5	6.7		29.3	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach LOS		A	A		C	
Queue Length 50th (ft)		162	83		34	
Queue Length 95th (ft)		208	111		70	
Internal Link Dist (ft)		165	308		353	
Turn Bay Length (ft)						
Base Capacity (vph)		2317	2317		411	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.52	0.32		0.18	

#### Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 22 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 8.6

Intersection LOS: A







Intersection Capacity Utilization 41.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: NYS ROUTE 22 &amp; I-684 SB OFF RAMP TO NYS ROUTE 22 NORTH

← ρ2	↘ ρ3
66 s	26 s
→ ρ6	
66 s	

						
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	3438	1538	0	3438	0	0
Flt Permitted						
Satd. Flow (perm)	3438	1538	0	3438	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	55			55	30	
Link Distance (ft)	153			245	1416	
Travel Time (s)	1.9			3.0	32.2	
Volume (vph)	1107	292	0	685	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1203	317	0	745	0	0
Lane Group Flow (vph)	1203	317	0	745	0	0
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.9%

ICU Level of Service A

Analysis Period (min) 15







YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

13: NYS ROUTE 22 & NYS ROUTE 22 NORTH ON RAMP TO I-684 SB

2/11/2013

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑	↑		↑↑		
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1107	292	0	685	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1203	317	0	745	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				245		
pX, platoon unblocked					0.91	
vC, conflicting volume			1521		1576	602
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1521		1534	602
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		100	100
cM capacity (veh/h)			421		95	436
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	
Volume Total	602	602	317	372	372	
Volume Left	0	0	0	0	0	
Volume Right	0	0	317	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.35	0.35	0.19	0.22	0.22	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			33.9%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3438	0	0	1565
Flt Permitted						
Satd. Flow (perm)	0	3438	3438	0	0	1565
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55	55		30	
Link Distance (ft)		983	153		561	
Travel Time (s)		12.2	1.9		12.8	
Volume (vph)	0	1107	685	0	0	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	1203	745	0	0	226
Lane Group Flow (vph)	0	1203	745	0	0	226
Sign Control		Free	Free		Yield	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.5%

ICU Level of Service A







Analysis Period (min) 15

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK PM HIGHWAY HOUR

14: NYS ROUTE 22 & I-684 SB OFF RAMP TO NYS ROUTE 22 SOUTH

2/11/2013

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑			↑
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Volume (veh/h)	0	1107	685	0	0	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1203	745	0	0	226
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			398			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	745				1346	372
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	625				1284	217
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	100				100	68
cM capacity (veh/h)	851				139	711
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 1	
Volume Total	602	602	372	372	226	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	226	
cSH	1700	1700	1700	1700	711	
Volume to Capacity	0.35	0.35	0.22	0.22	0.32	
Queue Length 95th (ft)	0	0	0	0	34	
Control Delay (s)	0.0	0.0	0.0	0.0	12.4	
Lane LOS					B	
Approach Delay (s)	0.0		0.0		12.4	
Approach LOS					B	
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			38.5%		ICU Level of Service	A
Analysis Period (min)			15			



# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX E**

### **TRAFFIC COUNT DATA**



# **MANUAL TRAFFIC COUNTS**

**WEEKDAY PEAK AM HOUR**

**(7:00 AM – 8:00 AM)**

LOCATION: NYS ROUTE 22 & CHESTNUT RIDGE ROAD PROJECT: BRYNWOOD  
 DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	1	0	7	0	0	0	3	8	0	0	30	0	49
07:15 AM	0	0	13	0	0	0	0	12	0	0	48	2	75
07:30 AM	0	0	12	0	0	0	6	17	0	0	57	0	92
07:45 AM	0	0	6	0	0	0	3	30	0	0	50	1	90
08:00 AM	3	0	3	0	0	0	2	17	0	0	42	0	67
08:15 AM	0	0	8	0	0	0	1	22	0	0	36	1	68
08:30 AM	1	0	8	0	0	0	4	25	0	0	39	0	77
08:45 AM	1	0	6	0	0	0	6	12	0	0	44	2	71
09:00 AM	1	0	4	0	0	0	5	23	0	0	38	0	71
09:15 AM	1	0	3	0	0	0	2	21	0	0	29	1	57
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	1	0	7	0	0	0	3	8	0	0	30	0	49
07:15 AM	0	0	13	0	0	0	0	12	0	0	48	2	75
07:30 AM	0	0	12	0	0	0	6	17	0	0	57	0	92
07:45 AM	0	0	6	0	0	0	3	30	0	0	50	1	90
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
07:00 AM - 08:00 AM	1	0	38	0	0	0	12	67	0	0	185	3	306	0.83

LOCATION: NYS ROUTE 22 & BALDWIN ROAD PROJECT: BRYNWOOD  
 DATE OF COUNT: 04/07/11 DAY: THURSDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			Total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM 07:15 AM	0		0	0	0	0	1	10	0	0	53	2	66
07:15 AM 07:30 AM	4		7	0	0	0	3	11	0	0	47	1	73
07:30 AM 07:45 AM	6		12	0	0	0	1	19	0	0	55	6	99
07:45 AM 08:00 AM	3		3	0	0	0	0	26	0	0	29	4	65
08:00 AM 08:15 AM	4		0	0	0	0	1	28	0	0	33	4	70
08:15 AM 08:30 AM	4		2	0	0	0	0	29	0	0	49	2	86
08:30 AM 08:45 AM	2		2	0	0	0	4	17	0	0	49	3	77
08:45 AM 09:00 AM	2		1	0	0	0	0	26	0	0	59	4	92
09:00 AM 09:15 AM	1		3	0	0	0	2	25	0	0	55	1	87
09:15 AM 09:30 AM	3		0	0	0	0	0	23	0	0	48	1	75
09:30 AM 09:45 AM													0
09:45 AM 10:00 AM													0
10:00 AM 10:15 AM													0
10:15 AM 10:30 AM													0
10:30 AM 10:45 AM													0
10:45 AM 11:00 AM													0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	1	10	0	0	53	2	66
07:15 AM	4	0	7	0	0	0	3	11	0	0	47	1	73
07:30 AM	6	0	12	0	0	0	1	19	0	0	55	6	99
07:45 AM	3	0	3	0	0	0	0	26	0	0	29	4	65
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	Total	PHF
07:00 AM 08:30 AM	13	0	22	0	0	0	5	66	0	0	184	13	303	0.77

LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD  
 DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	0	0	1	20	0	0	1	6	1	2	36	0	67
07:15 AM	0	0	2	22	0	1	0	8	6	1	64	1	105
07:30 AM	0	0	0	19	0	2	3	22	8	3	68	1	126
07:45 AM	0	0	3	29	2	0	7	45	12	3	52	1	154
08:00 AM	1	0	2	20	2	0	9	13	5	2	46	8	108
08:15 AM	0	0	3	10	0	1	19	22	6	3	41	9	114
08:30 AM	0	0	0	11	1	3	18	23	6	1	43	3	109
08:45 AM	2	4	30	25	6	0	55	30	3	1	43	14	213
09:00 AM	6	3	58	9	6	1	54	26	5	1	38	9	216
09:15 AM	1	0	13	14	0	1	5	24	10	2	32	1	103
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	1	20	0	0	1	6	1	2	36	0	67
07:15 AM	0	0	2	22	0	1	0	8	6	1	64	1	105
07:30 AM	0	0	0	19	0	2	3	22	8	3	68	1	126
07:45 AM	0	0	3	29	2	0	7	45	12	3	52	1	154
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
07:00 AM	0	0	6	90	2	3	11	61	27	9	220	3	452	0.73

3	220	9	^	6	3
12	11	10	<	5	2
<	v	>	v	4	90
0	1	^	<	^	>
0	2	>	7	8	9
6	3	v	11	81	27

LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD														
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM														
ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT														
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND				
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	
07:00 AM 07:15 AM	0	0	0	1	0	0	0	0	0	0	2	0	3	
07:15 AM 07:30 AM	0	0	0	0	0	0	0	2	3	0	4	0	9	
07:30 AM 07:45 AM	0	0	0	1	0	0	0	4	0	1	2	0	8	
07:45 AM 08:00 AM	0	0	0	0	0	0	0	2	0	0	6	0	8	
08:00 AM 08:15 AM	0	0	1	1	0	0	0	3	1	0	4	1	11	
08:15 AM 08:30 AM	0	0	0	0	0	0	0	1	0	0	5	0	6	
08:30 AM 08:45 AM	0	0	0	0	0	0	5	2	0	0	2	0	9	
08:45 AM 09:00 AM	1	1	6	0	0	0	7	1	0	0	6	2	24	
09:00 AM 09:15 AM	0	0	12	0	0	0	8	1	0	0	5	2	28	
09:15 AM 09:30 AM	0	0	1	0	0	0	0	1	0	0	3	0	5	
09:30 AM 09:45 AM													0	
09:45 AM 10:00 AM													0	
10:00 AM 10:15 AM													0	
10:15 AM 10:30 AM													0	
10:30 AM 10:45 AM													0	
10:45 AM 11:00 AM													0	
CALCULATED PEAK 15-MINUTE VOLUMES														
07:00 AM 07:15 AM	0	0	0	1	0	0	0	0	0	0	2	0	3	
07:15 AM 07:30 AM	0	0	0	0	0	0	0	2	3	0	4	0	9	
07:30 AM 07:45 AM	0	0	0	1	0	0	0	4	0	1	2	0	8	
07:45 AM 08:00 AM	0	0	0	0	0	0	0	2	0	0	6	0	8	
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:15 AM 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:30 AM 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:45 AM 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:00 AM 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:15 AM 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
CALCULATED PEAK HOUR VOLUMES														
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	HV %
07:00 AM 08:00 AM	0	0	0	2	0	0	0	8	3	1	14	0	28	6.2%

0	14	1	^	6	0
12	11	10	<	5	0
<	v	>	v	4	2
0	1	^	<	^	>
0	2	>	7	8	9
0	3	v	0	8	3

LOCATION:

NYS ROUTE 22 &amp; TRIPP LN / BRYAM HILLS H.S. PROJECT: BRYNWOOD

DATE OF COUNT:

12/08/10

DAY: WEDNESDAY JCE JOB #:

1721

START TIME: 07:00

AM

## ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM 07:15 AM	6	0	28	0	0	0	54	13	0	0	50	12	163
07:15 AM 07:30 AM	12	0	78	0	0	0	139	9	0	0	46	62	346
07:30 AM 07:45 AM	21	0	91	0	0	0	124	24	0	0	59	60	379
07:45 AM 08:00 AM	9	0	30	0	0	0	24	49	0	0	88	9	209
08:00 AM 08:15 AM	2	0	6	0	0	0	15	26	0	0	85	1	1097
08:15 AM 08:30 AM	1	0	8	0	0	0	7	51	0	0	61	7	135
08:30 AM 08:45 AM	3	0	9	0	0	0	15	57	0	0	65	4	153
08:45 AM 09:00 AM	3	0	8	0	0	0	8	69	0	0	90	2	180
09:00 AM 09:15 AM	2	0	7	0	0	0	9	82	0	0	128	4	232
09:15 AM 09:30 AM	0	0	10	0	0	0	2	40	0	0	67	2	121
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	6	0	28	0	0	0	54	13	0	0	50	12	163
07:15 AM	12	0	78	0	0	0	139	9	0	0	46	62	346
07:30 AM	21	0	91	0	0	0	124	24	0	0	59	60	379
07:45 AM	9	0	30	0	0	0	24	49	0	0	88	9	209
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHE
07:00 AM 08:30 AM	49	0	227	0	0	0	341	95	0	0	243	143	1097	0.72



LOCATION: NYS ROUTE 22 & TRIPP LN / BRYAM HILLS H.S. PROJECT: BRYNWOOD														
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00														
AM														
ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT														
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND				
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	
07:00 AM 07:15 AM	0		1				3	1			0	1	6	
07:15 AM 07:30 AM	1		19				12	3			0	6	41	
07:30 AM 07:45 AM	0		1				0	6			2	0	9	
07:45 AM 08:00 AM	0		0				0	6			5	0	11	
08:00 AM 08:15 AM	0		0				0	1			7	0	8	
08:15 AM 08:30 AM	0		0				0	2			6	0	8	
08:30 AM 08:45 AM	0		0				0	6			2	0	8	
08:45 AM 09:00 AM	1		0				0	11			7	0	19	
09:00 AM 09:15 AM	0		0				0	9			27	0	36	
09:15 AM 09:30 AM	0		0				0	1			3	0	4	
09:30 AM 09:45 AM													0	
09:45 AM 10:00 AM													0	
10:00 AM 10:15 AM													0	
10:15 AM 10:30 AM													0	
10:30 AM 10:45 AM													0	
10:45 AM 11:00 AM													0	
CALCULATED PEAK 15-MINUTE VOLUMES														
07:00 AM 07:15 AM	0	0	1	0	0	0	3	1	0	0	0	1	6	
07:15 AM 07:30 AM	1	0	19	0	0	0	12	3	0	0	0	6	41	
07:30 AM 07:45 AM	0	0	1	0	0	0	0	6	0	0	2	0	9	
07:45 AM 08:00 AM	0	0	0	0	0	0	0	6	0	0	5	0	11	
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:15 AM 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:30 AM 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:45 AM 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:00 AM 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:15 AM 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
CALCULATED PEAK HOUR VOLUMES														
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	HV %
07:00 AM 08:00 AM	1	0	21	0	0	0	15	16	0	0	7	7	67	6.1%

7	7	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
1	1	^	<	^	>
0	2	>	7	8	9
21	3	v	15	16	0





LOCATION: NYS ROUTE 22 & BANKSVILLE ROAD PROJECT: BRYNWOOD  
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT													
AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	0	0	0	40	0	4	0	82	9	0	85	0	220
07:15 AM	0	0	0	58	0	10	0	143	5	1	108	0	325
07:30 AM	0	0	0	57	0	6	0	126	22	2	147	0	360
07:45 AM	0	0	0	37	0	3	0	57	18	1	112	0	228
08:00 AM	0	0	0	47	0	0	0	44	11	0	90	0	192
08:15 AM	0	0	0	53	0	0	0	63	13	0	69	0	198
08:30 AM	0	0	0	38	0	2	0	67	14	1	69	0	191
08:45 AM	0	0	0	40	0	3	0	79	22	2	104	0	250
09:00 AM	0	0	0	43	0	2	0	85	23	0	128	0	281
09:15 AM	0	0	0	37	0	0	0	41	12	1	74	0	165
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	40	0	4	0	82	9	0	85	0	220
07:15 AM	0	0	0	58	0	10	0	143	5	1	108	0	325
07:30 AM	0	0	0	57	0	6	0	126	22	2	147	0	360
07:45 AM	0	0	0	37	0	3	0	57	18	1	112	0	228
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	CALCULATED PEAK HOUR VOLUMES												total	PHE
	1	2	3	4	5	6	7	8	9	10	11	12		
07:00 AM	0	0	0	192	0	23	0	408	54	4	452	0	1133	0.79
08:00 AM														

0	452	4	^	6	23
12	11	10	<	5	0
<	v	>	v	4	192
0	1	^	<	^	>
0	2	>	7	8	9
0	3	v	0	408	54

LOCATION:

NYS ROUTE 22 &amp; NYS ROUTE 433/NILES AVENUE PROJECT: BRYNWOOD

DATE OF COUNT:

12/08/10

DAY: WEDNESDAY JCE JOB #:

1721

START TIME:

07:00

AM

## ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			Total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM 07:15 AM	0	0	0	20	0	9	0	70	53	11	83	0	246
07:15 AM 07:30 AM	3	0	1	50	0	10	0	146	74	6	153	0	443
07:30 AM 07:45 AM	8	1	3	77	0	17	2	127	93	12	195	0	535
07:45 AM 08:00 AM	1	0	1	47	0	16	1	97	90	16	153	1	423
08:00 AM 08:15 AM	1	0	0	56	1	14	2	84	91	20	126	0	395
08:15 AM 08:30 AM	0	0	0	59	0	16	0	96	92	9	129	0	401
08:30 AM 08:45 AM	0	1	0	61	0	12	0	93	76	5	114	0	362
08:45 AM 09:00 AM	2	0	1	83	1	19	0	102	76	13	132	0	429
09:00 AM 09:15 AM	4	0	0	57	0	26	2	115	50	15	131	0	400
09:15 AM 09:30 AM	0	0	1	52	0	27	0	74	41	13	159	0	367
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	20	0	9	0	70	53	11	83	0	246
07:15 AM	3	0	1	50	0	10	0	146	74	6	153	0	443
07:30 AM	8	1	3	77	0	17	2	127	93	12	195	0	535
07:45 AM	1	0	1	47	0	16	1	97	90	16	153	1	423
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	Total	PHE
07:00 AM 08:00 AM	12	1	5	194	0	52	3	440	310	45	584	1	1647	0.77



LOCATION: NYS ROUTE 22 & I-684 SB ON/OFF RAMPs PROJECT: BRYNWOOD  
DATE OF COUNT: 02/07/13 DAY: THURSDAY JCE JOB #: 12100120A START TIME: 06:30 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
	1	2	3	4	5	6	7	8	9	10	11	12
06:30 AM	06:45 AM	28	24		83	23				27	69	254 A
06:45 AM	07:00 AM	39	22		117	28				38	98	342 A
07:00 AM	07:15 AM	81	38		141	40				52	134	486 X
07:15 AM	07:30 AM	157	37		193	50				70	181	688 X
07:30 AM	07:45 AM	131	55		207	41				61	158	653 X
07:45 AM	08:00 AM	121	37		184	36				61	159	598 X
08:00 AM	08:15 AM	141	57		174	34				75	155	636 A
08:15 AM	08:30 AM	132	46		179	35				65	177	634 A
08:30 AM	08:45 AM	100	58		205	40				67	189	659 A
08:45 AM	09:00 AM	126	36		173	34				41	150	560 A
09:00 AM	09:15 AM											0 A
09:15 AM	09:30 AM											0 A
09:30 AM	09:45 AM											0 A
09:45 AM	10:00 AM											0 A
10:00 AM	10:15 AM											0 A
10:15 AM	10:30 AM											0 A

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM	06:45 AM	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	07:00 AM	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	07:15 AM	0	81	38	0	141	40	0	0	52	134	486
07:15 AM	07:30 AM	0	157	37	0	193	50	0	0	70	181	688
07:30 AM	07:45 AM	0	131	55	0	207	41	0	0	61	158	653
07:45 AM	08:00 AM	0	121	37	0	184	36	0	0	61	159	598
08:00 AM	08:15 AM	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	08:30 AM	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	08:45 AM	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	09:00 AM	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	09:15 AM	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	09:30 AM	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	09:45 AM	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	10:30 AM	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHE
07:00 AM	0	490	167	0	725	167	0	0	0	244	0	632	2425	0.881177

632	0	244	^	6	167
12	11	10	<	5	725
<	v	>	v	4	0
0	1	^	<	^	>
490	2	>	7	8	9
167	3	v	0	0	0

**WEEKDAY PEAK AM HOUR**  
**(8:15 AM – 9:15 AM)**

LOCATION: NYS ROUTE 22 & CHESTNUT RIDGE ROAD PROJECT: BRYNWOOD  
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM 07:15 AM	1	0	7	0	0	0	3	8	0	0	30	0	49 A
07:15 AM 07:30 AM	0	0	13	0	0	0	0	12	0	0	48	2	75 A
07:30 AM 07:45 AM	0	0	12	0	0	0	6	17	0	0	57	0	92 A
07:45 AM 08:00 AM	0	0	6	0	0	0	3	30	0	0	50	1	90 A 306
08:00 AM 08:15 AM	3	0	3	0	0	0	2	17	0	0	42	0	67 A 324
08:15 AM 08:30 AM	0	0	8	0	0	0	1	22	0	0	36	1	68 X 317
08:30 AM 08:45 AM	1	0	8	0	0	0	4	25	0	0	39	0	77 X 302
08:45 AM 09:00 AM	1	0	6	0	0	0	6	12	0	0	44	2	71 X 283
09:00 AM 09:15 AM	1	0	4	0	0	0	5	23	0	0	38	0	71 X 287
09:15 AM 09:30 AM	1	0	3	0	0	0	2	21	0	0	29	1	57 A 276
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 199
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 128
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 57
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 0
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 0
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0 A 0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	8	0	0	0	1	22	0	0	36	1	68
08:30 AM	1	0	8	0	0	0	4	25	0	0	39	0	77
08:45 AM	1	0	6	0	0	0	6	12	0	0	44	2	71
09:00 AM	1	0	4	0	0	0	5	23	0	0	38	0	71
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	CALCULATED PEAK HOUR VOLUMES												total	PHF
	1	2	3	4	5	6	7	8	9	10	11	12		
08:15 AM 09:15 AM	3	0	26	0	0	0	16	82	0	0	157	3	287	0.93



LOCATION: NYS ROUTE 22 & BALDWIN ROAD  
DATE OF COUNT: 04/07/11  
DAY: THURSDAY  
JCE JOB #: 1721  
START TIME: 07:00  
AM

PROJECT: BRYNWOOD

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT														
AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total	
	1	2	3	4	5	6	7	8	9	10	11	12		
07:00 AM	0	0	0	0	0	0	1	10	0	0	53	2	66	A
07:15 AM	4	0	7	0	0	0	3	11	0	0	47	1	73	A
07:30 AM	6	12	0	0	0	0	1	19	0	0	55	6	99	A
07:45 AM	3	3	0	0	0	0	0	26	0	0	29	4	65	A
08:00 AM	4	0	0	0	0	0	1	28	0	0	33	4	70	A
08:15 AM	4	2	0	0	0	0	0	29	0	0	49	2	86	X
08:30 AM	2	2	0	0	0	0	4	17	0	0	49	3	77	X
08:45 AM	2	1	0	0	0	0	0	26	0	0	59	4	92	X
09:00 AM	1	3	0	0	0	0	2	25	0	0	55	1	87	X
09:15 AM	3	0	0	0	0	0	0	23	0	0	48	1	75	A
09:30 AM													0	A
09:45 AM													0	A
10:00 AM													0	A
10:15 AM													0	A
10:30 AM													0	A
10:45 AM													0	A
11:00 AM													0	A

CALCULATED PEAK 15-MINUTE VOLUMES														
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	4	0	2	0	0	0	0	29	0	0	49	2	86	
08:30 AM	2	0	2	0	0	0	4	17	0	0	49	3	77	
08:45 AM	2	0	1	0	0	0	0	26	0	0	59	4	92	
09:00 AM	1	0	3	0	0	0	2	25	0	0	55	1	87	
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	

CALCULATED PEAK HOUR VOLUMES														
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:15 AM - 09:15 AM	9	0	8	0	0	0	6	97	0	0	212	10	342	0.93

10	212	0	^	6	0
12	11	10	<	5	0
<	V	>	V	4	0
9	1	^	<	^	>
0	2	>	7	8	9
5	3	V	6	97	0



LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD  
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	0	0	1	20	0	0	1	6	1	2	36	0	67
07:15 AM	0	0	2	22	0	1	0	8	6	1	64	1	105
07:30 AM	0	0	0	19	0	2	3	22	8	3	68	1	126
07:45 AM	0	0	3	29	2	0	7	45	12	3	52	1	154
08:00 AM	1	0	2	20	2	0	9	13	5	2	46	8	108
08:15 AM	0	0	3	10	0	1	19	22	6	3	41	9	114
08:30 AM	0	0	0	11	1	3	18	23	6	1	43	3	109
08:45 AM	2	4	30	25	6	0	55	30	3	1	43	14	213
09:00 AM	6	3	58	9	6	1	54	26	5	1	38	9	216
09:15 AM	1	0	13	14	0	1	5	24	10	2	32	1	103
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	3	10	0	1	19	22	6	3	41	9	114
08:30 AM	0	0	0	11	1	3	18	23	6	1	43	3	109
08:45 AM	2	4	30	25	6	0	55	30	3	1	43	14	213
09:00 AM	6	3	58	9	6	1	54	26	5	1	38	9	216
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:15 AM	8	7	91	55	13	5	146	101	20	6	165	35	652	0.75

LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD												
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM												
ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT												
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12
07:00 AM	0	0	0	1	0	0	0	0	0	0	2	0
07:15 AM	0	0	0	0	0	0	0	2	3	0	4	0
07:30 AM	0	0	0	1	0	0	0	4	0	1	2	0
07:45 AM	0	0	0	0	0	0	0	2	0	0	6	0
08:00 AM	0	0	1	1	0	0	0	3	1	0	4	1
08:15 AM	0	0	0	0	0	0	0	1	0	0	5	0
08:30 AM	0	0	0	0	0	0	5	2	0	0	2	0
08:45 AM	1	1	6	0	0	0	7	1	0	0	6	2
09:00 AM	0	0	12	0	0	0	8	1	0	0	5	2
09:15 AM	0	0	1	0	0	0	0	1	0	0	3	0
09:30 AM												
09:45 AM												
10:00 AM												
10:15 AM												
10:30 AM												
10:45 AM												
11:00 AM												
CALCULATED PEAK 15-MINUTE VOLUMES												
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	1	0	0	5	0
08:30 AM	0	0	0	0	0	0	5	2	0	0	2	0
08:45 AM	1	1	6	0	0	0	7	1	0	0	6	2
09:00 AM	0	0	12	0	0	0	8	1	0	0	5	2
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
CALCULATED PEAK HOUR VOLUMES												
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12
08:15 AM	1	1	18	0	0	0	20	5	0	0	18	4
total												
HV %												
10.3%												

4	18	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
1	1	^	<	^	>
1	2	>	7	8	9
18	3	v	20	5	0

LOCATION: NYS ROUTE 22 & TRIPP LN / BRYAM HILLS H.S. PROJECT: BRYNWOOD  
 DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	6	0	28	0	0	0	54	13	0	0	50	12	163
07:15 AM	12	0	78	0	0	0	139	9	0	0	46	62	346
07:30 AM	21	0	91	0	0	0	124	24	0	0	59	60	379
07:45 AM	9	0	30	0	0	0	24	49	0	0	88	9	209
08:00 AM	2	0	6	0	0	0	15	26	0	0	85	1	135
08:15 AM	1	0	8	0	0	0	7	51	0	0	61	7	135
08:30 AM	3	0	9	0	0	0	15	57	0	0	65	4	153
08:45 AM	3	0	8	0	0	0	8	69	0	0	90	2	180
09:00 AM	2	0	7	0	0	0	9	82	0	0	128	4	232
09:15 AM	0	0	10	0	0	0	2	40	0	0	67	2	121
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	8	0	0	0	7	51	0	0	61	7	135
08:30 AM	3	0	9	0	0	0	15	57	0	0	65	4	153
08:45 AM	3	0	8	0	0	0	8	69	0	0	90	2	180
09:00 AM	2	0	7	0	0	0	9	82	0	0	128	4	232
09:15 AM	0	0	10	0	0	0	2	40	0	0	67	2	121
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHE
08:15 AM - 09:15 AM	9	0	32	0	0	0	39	259	0	0	344	17	700	0.75

17	344	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
9	1	^	<	^	>
0	2	>	7	8	9
32	3	v	39	259	0



LOCATION: ROUTE 22 & TRIPP LANE PROJECT: BRYNWOOD AM  
DATE OF COUNT: 01/25/13 DAY: FRIDAY JCE JOB #: 12100120A START TIME: 06:30

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
06:30 AM 06:45 AM	0		0				5	13			26	0	44 A
06:45 AM 07:00 AM	1		11				28	11			39	9	99 A
07:00 AM 07:15 AM	8		26				69	12			43	17	175 A
07:15 AM 07:30 AM	11		74				110	14			44	65	318 A 636
07:30 AM 07:45 AM	10		87				85	26			33	31	272 A 864
07:45 AM 08:00 AM	3		28				25	36			65	7	164 A 929
08:00 AM 08:15 AM	2		7				13	36			68	2	128 A 882
08:15 AM 08:30 AM	0		10				16	57			60	4	147 X 711
08:30 AM 08:45 AM	5		9				12	51			60	2	139 X 578
08:45 AM 09:00 AM	2		9				7	72			94	3	187 X 601
09:00 AM 09:15 AM	1		6				10	62			116	1	196 X 669
09:15 AM 09:30 AM	0		11				11	29			50	3	104 A 626
09:30 AM 09:45 AM													0 A 487
09:45 AM 10:00 AM													0 A 300
10:00 AM 10:15 AM													0 A 104
10:15 AM 10:30 AM													0 A 0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	10	0	0	0	16	57	0	0	60	4	147
08:30 AM	5	0	9	0	0	0	12	51	0	0	60	2	139
08:45 AM	2	0	9	0	0	0	7	72	0	0	94	3	187
09:00 AM	1	0	6	0	0	0	10	62	0	0	116	1	196
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:15 AM 09:15 AM	8	0	34	0	0	0	45	242	0	0	330	10	669	0.853316

10	330	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
8	1	^	<	^	>
0	2	>	7	8	9
34	3	v	45	242	0

LOCATION: NYS ROUTE 22 & BANKSVILLE ROAD PROJECT: BRYNWOOD

DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM	0	0	0	40	0	4	0	82	9	0	85	0	220
07:15 AM	0	0	0	58	0	10	0	143	5	1	108	0	325
07:30 AM	0	0	0	57	0	6	0	126	22	2	147	0	360
07:45 AM	0	0	0	37	0	3	0	57	18	1	112	0	228
08:00 AM	0	0	0	47	0	0	0	44	11	0	90	0	192
08:15 AM	0	0	0	53	0	0	0	63	13	0	69	0	198
08:30 AM	0	0	0	38	0	2	0	67	14	1	69	0	191
08:45 AM	0	0	0	40	0	3	0	79	22	2	104	0	250
09:00 AM	0	0	0	43	0	2	0	85	23	0	128	0	281
09:15 AM	0	0	0	37	0	0	0	41	12	1	74	0	165
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	53	0	0	0	63	13	0	69	0	198
08:30 AM	0	0	0	38	0	2	0	67	14	1	69	0	191
08:45 AM	0	0	0	40	0	3	0	79	22	2	104	0	250
09:00 AM	0	0	0	43	0	2	0	85	23	0	128	0	281
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	CALCULATED PEAK HOUR VOLUMES												PHE
	1	2	3	4	5	6	7	8	9	10	11	12	
08:15 AM	0	0	0	174	0	7	0	294	72	3	370	0	0.82
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0.82

0	370	3	^	6	7
12	11	10	<	5	0
<	v	>	v	4	174
0	1	^	<	^	>
0	2	>	7	8	9
0	3	v	0	294	72



LOCATION: NYS ROUTE 22 & NYS ROUTE 433/NILES AVENUE PROJECT: BRYNWOOD  
DATE OF COUNT: 12/08/10 DAY: WEDNESDAY JCE JOB #: 1721 START TIME: 07:00 AM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
07:00 AM 07:15 AM	0	0	0	20	0	9	0	70	53	11	83	0	246
07:15 AM 07:30 AM	3	0	1	50	0	10	0	146	74	6	153	0	443
07:30 AM 07:45 AM	8	1	3	77	0	17	2	127	93	12	195	0	535
07:45 AM 08:00 AM	1	0	1	47	0	16	1	97	90	16	153	1	423
08:00 AM 08:15 AM	1	0	0	56	1	14	2	84	91	20	126	0	395
08:15 AM 08:30 AM	0	0	0	59	0	16	0	96	92	9	129	0	401
08:30 AM 08:45 AM	0	1	0	61	0	12	0	93	76	5	114	0	362
08:45 AM 09:00 AM	2	0	1	83	1	19	0	102	76	13	132	0	429
09:00 AM 09:15 AM	4	0	0	57	0	26	2	115	50	15	131	0	400
09:15 AM 09:30 AM	0	0	1	52	0	27	0	74	41	13	159	0	367
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	59	0	16	0	96	92	9	129	0	401
08:30 AM	0	1	0	61	0	12	0	93	76	5	114	0	362
08:45 AM	2	0	1	83	1	19	0	102	76	13	132	0	429
09:00 AM	4	0	0	57	0	26	2	115	50	15	131	0	400
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:15 AM 09:15 AM	6	1	1	260	1	73	2	406	294	42	506	0	1592	0.93

LOCATION: NYS ROUTE 22 & I-684 NB ON/OFF RAMPs PROJECT: BRYNWOOD  
DATE OF COUNT: 02/06/13 DAY: WEDNESDAY JCE JOB #: 12100120A START TIME: 06:30 AM

ENTER 15 - MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
06:30 AM	12	55			74	7			10			32	190 A
06:45 AM	17	77			80	9			12			45	240 A
07:00 AM	22	123			155	18			30			33	381 A
07:15 AM	35	226			223	22			24			40	570 A
07:30 AM	28	194			224	18			22			61	547 A
07:45 AM	32	182			176	13			30			44	477 A
08:00 AM	31	216			181	16			37			27	508 X
08:15 AM	21	197			182	19			35			32	486 X
08:30 AM	37	167			183	17			40			42	486 X
08:45 AM	21	167			214	20			26			22	470 X
09:00 AM													0 A
09:15 AM													0 A
09:30 AM													0 A
09:45 AM													0 A
10:00 AM													0 A
10:15 AM													0 A
10:30 AM													0 A

CALCULATED PEAK 15 - MINUTE VOLUMES

06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	31	216	0	0	181	16	0	0	37	0	0	27	508
08:15 AM	21	197	0	0	182	19	0	0	35	0	0	32	486
08:30 AM	37	167	0	0	183	17	0	0	40	0	0	42	486
08:45 AM	21	167	0	0	214	20	0	0	26	0	0	22	470
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHE
08:00 AM	110	747	0	0	760	72	0	0	138	0	0	123	1950	0.959646

123	0	0	0	0	6	72
12	11	10	>	<	5	760
<	>	>	>	>	4	0
110	1	1	<	<	1	>
747	2	>	7	8	9	9
0	3	>	0	0	0	138



LOCATION:		NYS ROUTE 22 & I-684 SB ON/OFF RAMPS				PROJECT:		BRYNWOOD				START TIME:		06:30		AM	
DATE OF COUNT:		02/07/13		DAY: THURSDAY		JCE JOB #:		12100120A									
ENTER 15 - MINUTE COUNT VOLUMES BY MOVEMENT																	
		EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND						
AM PEAK HOUR		1	2	3	4	5	6	7	8	9	10	11	12	total			
06:30 AM		06:45 AM	28	24		83	23				27	69	254	A			
06:45 AM		07:00 AM	39	22		117	28				38	98	342	A			
07:00 AM		07:15 AM	81	38		141	40				52	134	486	A			
07:15 AM		07:30 AM	157	37		193	50				70	181	688	A 1770			
07:30 AM		07:45 AM	131	55		207	41				61	158	653	A 2169			
07:45 AM		08:00 AM	121	37		184	36				61	159	598	A 2425			
08:00 AM		08:15 AM	141	57		174	34				75	155	636	X 2575			
08:15 AM		08:30 AM	132	46		179	35				65	177	634	X 2521			
08:30 AM		08:45 AM	100	58		205	40				67	189	659	X 2527			
08:45 AM		09:00 AM	126	36		173	34				41	150	560	X 2489			
09:00 AM		09:15 AM											0	A 1853			
09:15 AM		09:30 AM											0	A 1219			
09:30 AM		09:45 AM											0	A 560			
09:45 AM		10:00 AM											0	A 0			
10:00 AM		10:15 AM											0	A 0			
10:15 AM		10:30 AM											0	A 0			
CALCULATED PEAK 15 - MINUTE VOLUMES																	
06:30 AM		06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0			
06:45 AM		07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0			
07:00 AM		07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0			
07:15 AM		07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0			
07:30 AM		07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0			
07:45 AM		08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0			
08:00 AM		08:15 AM	0	141	57	0	174	34	0	0	75	0	155	636			
08:15 AM		08:30 AM	0	132	46	0	179	35	0	0	65	0	177	634			
08:30 AM		08:45 AM	0	100	58	0	205	40	0	0	67	0	189	659			
08:45 AM		09:00 AM	0	126	36	0	173	34	0	0	41	0	150	560			
09:00 AM		09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0			
09:15 AM		09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0			
09:30 AM		09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0			
09:45 AM		10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0			
10:00 AM		10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0			
10:15 AM		10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0			
CALCULATED PEAK HOUR VOLUMES																	
AM PEAK HOUR		1	2	3	4	5	6	7	8	9	10	11	12	total		PHF	
08:00 AM		09:00 AM	0	499	197	0	731	143	0	0	248	0	671	2489		0.944234	

671	0	248	^	6	143
12	11	10	<	5	731
<	v	>	v	4	0
0	1	^	<	^	>
499	2	>	7	8	9
197	3	v	0	0	0

**WEEKDAY PEAK PM HIGHWAY HOUR**  
**(5:00 PM – 6:00 PM)**

LOCATION: NYS ROUTE 22 & CHESTNUT RIDGE ROAD PROJECT: BRYNWOOD

DATE OF COUNT: 12/07/10 DAY: TUESDAY JCE JOB #: 1721 START TIME: 16:00 PM

# ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
04:00 PM	0	0	6	0	0	0	6	39	0	0	20	0	71
04:15 PM	2	0	5	0	0	0	6	48	0	0	43	0	104
04:30 PM	1	0	3	0	0	0	7	48	0	0	28	2	89
04:45 PM	1	0	3	0	0	0	4	60	0	0	21	1	90
05:00 PM	3	0	2	0	0	0	4	40	0	0	21	1	71
05:15 PM	3	0	6	0	0	0	8	23	0	0	16	3	59
05:30 PM	1	0	6	0	0	0	12	40	0	0	15	1	75
05:45 PM	2	0	5	0	0	0	6	41	0	0	20	1	75
06:00 PM	1	0	4	0	0	0	6	38	0	0	12	1	62
06:15 PM	1	0	6	0	0	0	5	40	0	0	19	1	72
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK 15-MINUTE VOLUMES

04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	2	0	5	0	0	0	6	48	0	0	43	0	104
04:30 PM	1	0	3	0	0	0	7	48	0	0	28	2	89
04:45 PM	1	0	3	0	0	0	4	60	0	0	21	1	90
05:00 PM	3	0	2	0	0	0	4	40	0	0	21	1	71
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

## CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:15 PM	7	0	13	0	0	0	21	196	0	0	113	4	354	0.85

4	113	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
7	1	^	<	^	>
0	2	>	7	8	9
13	3	v	21	196	0

LOCATION: NYS ROUTE 22 & BALDWIN ROAD

PROJECT: BRYNWOOD

DATE OF COUNT: 04/06/11

DAY: WEDNESDAY

JCE JOB #: 1721

START TIME: 16:00

PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
04:00 PM 04:15 PM	5	0	0	0	0	0	0	38	0	0	34	1	78
04:15 PM 04:30 PM	3	0	1	0	0	0	2	43	0	0	28	3	80
04:30 PM 04:45 PM	2	0	4	0	0	0	0	60	0	0	31	1	98
04:45 PM 05:00 PM	5	0	1	0	0	0	0	45	0	0	27	3	81
05:00 PM 05:15 PM	5	0	1	0	0	0	0	39	0	0	27	2	74
05:15 PM 05:30 PM	5	0	4	0	0	0	2	45	0	0	28	3	87
05:30 PM 05:45 PM	1	0	3	0	0	0	1	57	0	0	32	3	97
05:45 PM 06:00 PM	3	0	1	0	0	0	1	62	0	0	31	1	99
06:00 PM 06:15 PM	1	0	1	0	0	0	3	55	0	0	29	3	92
06:15 PM 06:30 PM	5	0	1	0	0	0	0	43	0	0	19	1	69
06:30 PM 06:45 PM													0
06:45 PM 07:00 PM													0
07:00 PM 07:15 PM													0
07:15 PM 07:30 PM													0
07:30 PM 07:45 PM													0
07:45 PM 08:00 PM													0

CALCULATED PEAK 15-MINUTE VOLUMES

04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	5	0	4	0	0	0	2	45	0	0	28	3	87
05:30 PM	1	0	3	0	0	0	1	57	0	0	32	3	97
05:45 PM	3	0	1	0	0	0	1	62	0	0	31	1	99
06:00 PM	1	0	1	0	0	0	3	55	0	0	29	3	92
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR	CALCULATED PEAK HOUR VOLUMES												total	PHF
	1	2	3	4	5	6	7	8	9	10	11	12		
05:15 PM 06:15 PM	10	0	9	0	0	0	7	219	0	0	120	10	375	0.95

LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD

DATE OF COUNT: 12/07/10 DAY: TUESDAY JCE JOB #: 1721 START TIME: 16:00 PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
04:00 PM	1	0	6	0	0	2	8	29	12	0	21	1	80
04:15 PM	0	0	2	3	1	1	4	29	3	1	26	1	71
04:30 PM	1	1	8	7	0	1	8	48	8	1	36	1	120
04:45 PM	1	1	8	6	0	4	1	44	11	4	24	0	104
05:00 PM	0	0	4	11	0	1	1	48	19	4	15	1	104
05:15 PM	2	0	1	8	0	4	2	44	10	1	18	0	90
05:30 PM	0	0	5	7	0	3	5	67	8	3	27	1	126
05:45 PM	0	0	6	8	0	0	3	42	13	3	19	1	95
06:00 PM	2	0	5	7	0	2	5	46	15	2	16	0	100
06:15 PM	3	1	2	2	0	4	6	38	10	0	18	0	84
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	1	8	6	0	4	1	44	11	4	24	0	104
05:00 PM	0	0	4	11	0	1	1	48	19	4	15	1	104
05:15 PM	2	0	1	8	0	4	2	44	10	1	18	0	90
05:30 PM	0	0	5	7	0	3	5	67	8	3	27	1	126
05:45 PM	0	0	6	8	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:45 PM - 05:45 PM	3	1	18	32	0	12	9	203	48	12	84	2	424	0.84

LOCATION: NYS ROUTE 22 & UPLAND LN/COMAN HILL E.S. PROJECT: BRYNWOOD												
DATE OF COUNT: 12/07/10 DAY: TUESDAY JCE JOB #: 1721 START TIME: 16:00 PM												
ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT												
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND		
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12
04:00 PM	0	0	0	0	0	0	0	3	0	0	1	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	2	0
04:30 PM	0	0	0	0	0	0	0	2	0	0	2	0
04:45 PM	0	0	0	0	0	0	0	1	0	0	2	0
05:00 PM	0	0	0	1	0	0	0	1	0	0	1	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0
05:45 PM	0	0	0	0	0	0	0	0	1	0	0	0
06:00 PM	0	0	0	1	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM												
07:00 PM												
07:15 PM												
07:30 PM												
07:45 PM												
08:00 PM												
CALCULATED PEAK 15-MINUTE VOLUMES												
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	1	0	0	2	0
05:00 PM	0	0	0	1	0	0	0	1	0	0	1	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM												
07:00 PM												
07:15 PM												
07:30 PM												
07:45 PM												
08:00 PM												
CALCULATED PEAK HOUR VOLUMES												
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12
04:45 PM	0	0	0	1	0	0	0	2	0	0	5	0
05:45 PM												
HV %												
total												1.9%

0	5	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	1
0	1	^	<	^	>
0	2	>	7	8	9
0	3	v	0	2	0

HV %  
1.9%

LOCATION: NYS ROUTE 22 & TRIPP LN / BRYAM HILLS H.S. PROJECT: BRYNWOOD  
DATE OF COUNT: 12/07/10 DAY: TUESDAY JCE JOB #: 1721 START TIME: 16:00 PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
04:00 PM	12	0	35	0	0	0	18	24	0	0	22	7	118
04:15 PM	6	0	38	0	0	0	21	70	0	0	49	6	190
04:30 PM	5	0	17	0	0	0	12	73	0	0	63	4	174
04:45 PM	7	0	34	0	0	0	23	65	0	0	51	6	186
05:00 PM	4	0	37	0	0	0	25	66	0	0	32	4	168
05:15 PM	2	0	11	0	0	0	23	80	0	0	32	5	153
05:30 PM	8	0	27	0	0	0	18	83	0	0	55	6	197
05:45 PM	3	0	9	0	0	0	16	68	0	0	37	6	139
06:00 PM	2	0	19	0	0	0	8	73	0	0	38	2	142
06:15 PM	0	0	2	0	0	0	3	68	0	0	28	1	102
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	6	0	38	0	0	0	21	70	0	0	49	6	190
04:30 PM	5	0	17	0	0	0	12	73	0	0	63	4	174
04:45 PM	7	0	34	0	0	0	23	65	0	0	51	6	186
05:00 PM	4	0	37	0	0	0	25	66	0	0	32	4	168
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:15 PM	22	0	126	0	0	0	81	274	0	0	195	20	718	0.94







LOCATION: ROUTE 22 & TRIPPLANE

DATE OF COUNT: 01/24/13

PROJECT: BRYNWOOD

JCE JOB #: 12100120A

DAY: THURSDAY

START TIME: 15:00

PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
03:00 PM	6		52				25	53			54	10	200 A
03:15 PM	10		51				26	49			59	7	202 A
03:30 PM	4		46				28	48			75	4	205 A
03:45 PM	5		35				23	56			42	8	169 A 776
04:00 PM	8		32				36	53			36	5	170 A 746
04:15 PM	9		35				35	60			52	9	200 A 744
04:30 PM	4		27				14	57			56	7	165 A 704
04:45 PM	2		9				18	57			56	0	142 A 677
05:00 PM	2		11				14	68			47	2	144 X 651
05:15 PM	7		24				30	83			43	10	197 X 648
05:30 PM	8		30				31	81			37	4	191 X 674
05:45 PM	2		26				23	68			49	3	171 X 703
06:00 PM													0 A 559
06:15 PM													0 A 362
06:30 PM													0 A 171
06:45 PM													0 A 0

CALCULATED PEAK 15-MINUTE VOLUMES

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	2	0	11	0	0	0	14	68	0	0	47	2	144
05:30 PM	7	0	24	0	0	0	30	83	0	0	43	10	197
05:45 PM	8	0	30	0	0	0	31	81	0	0	37	4	191
06:00 PM	2	0	26	0	0	0	23	68	0	0	49	3	171
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
05:00 PM	19	0	91	0	0	0	98	300	0	0	176	19	703	0.892132

LOCATION:		NYS ROUTE 22 & BANKSVILLE ROAD				PROJECT:		BRYNWOOD						
DATE OF COUNT:		12/07/10		DAY: TUESDAY		JCE JOB #:		1721		START TIME: 16:00		PM		
ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT														
PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total	
	1	2	3	4	5	6	7	8	9	10	11	12		
04:00 PM	0	0	0	19	0	2	0	54	24	3	72	0	174	A
04:15 PM	0	0	0	32	0	1	0	95	44	4	82	0	258	X
04:30 PM	0	0	0	42	0	0	0	77	37	0	78	0	234	X
04:45 PM	0	0	0	31	0	4	0	82	40	5	75	0	237	X
05:00 PM	0	0	0	28	0	3	0	85	53	6	65	0	240	X
05:15 PM	0	0	0	27	0	3	0	94	43	7	35	0	209	A
05:30 PM	0	0	0	34	0	4	0	97	36	3	79	0	253	A
05:45 PM	0	0	0	20	0	1	0	81	39	3	42	0	186	A
06:00 PM	0	0	0	28	0	2	0	82	48	4	50	0	214	A
06:15 PM	0	0	0	25	0	0	0	72	49	0	31	0	177	A
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	A
CALCULATED PEAK 15-MINUTE VOLUMES														
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	32	0	1	0	95	44	4	82	0	258	0
04:30 PM	0	0	0	42	0	0	0	77	37	0	78	0	234	0
04:45 PM	0	0	0	31	0	4	0	82	40	5	75	0	237	0
05:00 PM	0	0	0	28	0	3	0	85	53	6	65	0	240	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALCULATED PEAK HOUR VOLUMES														
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHE
04:15 PM	0	0	0	123	0	8	0	339	174	15	300	0	969	0.94

0	300	15	^	6	8
12	11	10	<	5	0
<	v	>	v	4	133
0	1	^	<	^	>
0	2	>	7	8	9
0	3	v	0	339	174

LOCATION: NYS ROUTE 22 & NYS ROUTE 433/NILES AVENUE PROJECT: BRYNWOOD  
 DATE OF COUNT: 12/07/10 DAY: TUESDAY JCE JOB #: 1721 START TIME: 16:00 PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			Total
	1	2	3	4	5	6	7	8	9	10	11	12	
04:00 PM 04:15 PM	1	0	1	62	0	12	2	135	46	8	117	0	384
04:15 PM 04:30 PM	1	2	0	70	1	21	1	128	23	7	122	0	376
04:30 PM 04:45 PM	0	0	1	70	0	28	0	119	41	19	120	0	398
04:45 PM 05:00 PM	0	0	2	77	0	20	1	126	32	9	98	0	365
05:00 PM 05:15 PM	1	0	2	107	0	21	0	144	37	8	105	1	426
05:15 PM 05:30 PM	0	0	1	113	1	23	2	162	47	9	82	0	440
05:30 PM 05:45 PM	1	0	0	72	1	25	0	138	40	8	86	0	371
05:45 PM 06:00 PM	1	0	3	85	1	16	3	136	38	2	81	0	366
06:00 PM 06:15 PM	1	0	4	63	0	24	3	155	39	5	84	1	379
06:15 PM 06:30 PM	1	0	1	75	0	23	2	159	33	5	63	0	362
06:30 PM 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK 15-MINUTE VOLUMES

04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	1	70	0	28	0	119	41	19	120	0	398
04:45 PM	0	0	2	77	0	20	1	126	32	9	98	0	365
05:00 PM	1	0	2	107	0	21	0	144	37	8	105	1	426
05:15 PM	0	0	1	113	1	23	2	162	47	9	82	0	440
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	Total	PHF
04:30 PM 05:30 PM	1	0	6	367	1	92	3	551	157	45	405	1	1629	0.93

1	405	45	^	6	92
12	11	10	<	5	1
<	V	>	V	4	367
1	1	^	<	^	>
0	2	>	7	8	9
6	3	V	3	551	157





## **MACHINE COUNTS**

# JOHN COLLINS ENGINEERS

Default Comments  
PROJECT: BRYNWOOD  
LOCATION: NORTH CASTLE, NY  
JCE JOB# 1946

11 BRADHURST AVENUE  
HAWTHORNE, NY 10532  
516.247.1500

Site Code: 194600000555

Station ID:

NYS ROUTE 22 (NORTH OF BANKSVILLE ROAD  
AND SOUTH OF TRIP LANE)

Latitude: 0' 0.000 Undefined

Start Time	17-Sep-12		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	18	3	14	3	24	12	45	42	25	15
01:00	*	*	*	*	*	*	8	4	7	3	13	5	22	7	12	5
02:00	*	*	*	*	*	*	4	2	4	3	10	6	5	5	6	4
03:00	*	*	*	*	*	*	1	0	3	0	4	1	7	3	4	1
04:00	*	*	*	*	*	*	1	3	0	4	3	2	7	3	3	3
05:00	*	*	*	*	*	*	27	40	23	28	16	5	11	2	19	19
06:00	*	*	*	*	*	*	90	140	71	108	17	23	18	18	49	72
07:00	*	*	*	*	*	*	399	388	374	373	132	141	70	60	244	240
08:00	*	*	*	*	*	*	243	327	261	317	173	192	74	105	188	235
09:00	*	*	*	*	*	*	199	289	211	310	230	186	112	155	188	235
10:00	*	*	*	*	*	*	151	198	185	202	238	278	142	174	179	213
11:00	*	*	*	*	*	*	163	198	189	226	206	196	220	187	194	202
12:00 PM	*	*	*	*	*	*	189	212	236	212	333	365	226	210	246	250
01:00	*	*	*	*	*	*	192	170	231	233	421	221	209	183	263	202
02:00	*	*	*	*	*	*	300	300	331	346	277	264	208	175	279	271
03:00	*	*	*	*	*	*	323	426	331	386	219	457	194	173	267	360
04:00	*	*	*	*	*	*	402	339	457	302	215	255	153	164	315	282
05:00	*	*	*	*	*	*	505	322	458	311	178	179	175	145	349	252
06:00	*	*	*	*	*	*	635	280	321	324	170	166	142	116	332	237
07:00	*	*	*	*	*	*	298	275	180	206	137	130	102	78	214	174
08:00	*	*	*	*	*	*	124	145	125	64	104	78	76	78	115	105
09:00	*	*	*	*	*	*	94	369	93	62	102	65	45	29	86	112
10:00	*	*	*	*	*	*	71	23	90	54	105	104	30	15	68	43
11:00	*	*	*	*	*	*	23	17	54	38	103	135	17	14	47	44
Lane	0	0	0	0	1847	1364	4460	4470	4249	4115	3430	3466	2310	2141	3692	3576
Day	0	0	0	0	3211	8930	8364	8364	8364	8364	6896	6896	4451	4451	7268	7268
AM Peak					07:00	07:00	07:00	07:00	07:00	07:00	10:00	10:00	11:00	11:00	07:00	07:00
Vol.					399	388	374	373	373	373	238	278	220	187	244	240
PM Peak					17:00	16:00	18:00	15:00	15:00	15:00	13:00	15:00	12:00	12:00	17:00	15:00
Vol.					431	350	635	426	458	386	421	457	226	210	349	360

# JOHN COLLINS ENGINEERS

Default Comments  
PROJECT: BRYNWOOD  
LOCATION: NORTH CASTLE, NY  
JCE JOB# 1946

11 BRADHURST AVENUE  
HAWTHORNE, NY 10532  
(914) 347-7300

Site Code: 194600000555

Station ID:  
NYS ROUTE 22 (NORTH OF BANKSVILLE ROAD  
AND SOUTH OF TRIP LANE)  
Latitude: 0' 0.000 Undefined

Start Time	24-Sep-12		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	7	4	4	3	16	7	*	*	*	*	*	*	*	*	9	5
01:00	8	2	5	0	6	2	*	*	*	*	*	*	*	*	6	1
02:00	3	1	1	1	6	2	*	*	*	*	*	*	*	*	3	1
03:00	1	0	4	2	4	4	*	*	*	*	*	*	*	*	3	2
04:00	2	8	2	8	2	2	*	*	*	*	*	*	*	*	2	6
05:00	24	31	15	36	6	26	*	*	*	*	*	*	*	*	15	31
06:00	77	129	86	132	27	62	*	*	*	*	*	*	*	*	63	108
07:00	360	381	350	395	71	129	*	*	*	*	*	*	*	*	260	302
08:00	272	343	264	339	145	256	*	*	*	*	*	*	*	*	227	313
09:00	251	280	233	287	252	210	*	*	*	*	*	*	*	*	245	259
10:00	166	183	200	178	137	129	*	*	*	*	*	*	*	*	168	163
11:00	167	233	195	201	*	*	*	*	*	*	*	*	*	*	181	217
12:00 PM	152	209	160	202	*	*	*	*	*	*	*	*	*	*	156	206
01:00	214	179	199	206	*	*	*	*	*	*	*	*	*	*	206	192
02:00	297	334	347	321	*	*	*	*	*	*	*	*	*	*	322	328
03:00	306	372	281	380	*	*	*	*	*	*	*	*	*	*	294	376
04:00	353	257	419	369	*	*	*	*	*	*	*	*	*	*	386	313
05:00	451	336	399	235	*	*	*	*	*	*	*	*	*	*	425	286
06:00	432	357	283	165	*	*	*	*	*	*	*	*	*	*	358	261
07:00	243	172	280	136	*	*	*	*	*	*	*	*	*	*	262	154
08:00	152	164	117	56	*	*	*	*	*	*	*	*	*	*	134	110
09:00	78	38	91	80	*	*	*	*	*	*	*	*	*	*	84	59
10:00	41	19	81	162	*	*	*	*	*	*	*	*	*	*	61	90
11:00	28	10	27	21	*	*	*	*	*	*	*	*	*	*	28	16
Lane	4085	4042	4043	3915	672	829	0	0	0	0	0	0	0	0	3898	3799
Day	8127		7958		1501		0	0	0	0	0	0	0	0	7697	
AM Peak	07:00	07:00	07:00	07:00	09:00	08:00									07:00	08:00
Vol.	360	381	350	395	252	256									260	313
PM Peak	17:00	15:00	16:00	15:00											17:00	15:00
Vol.	451	372	419	380											425	376

Comb. Total	8127	7958	4712	8930	8364	6896	4451	14965
ADT	ADT 7,454		AADT 7,454					



# JOHN COLLINS ENGINEERS

Default Comments  
PROJECT: BRYNWOOD  
LOCATION: NORTH CASTLE, NY  
JCE JOB# 1946

11 BRADHURST AVENUE  
HAWTHORNE, NY 10532  
(914) 347-1590

Site Code: 194600000999

Station ID:

NYS ROUTE 22 (NORTH OF COLONIAL COURT  
AND SOUTH OF WINDMILL ROAD)  
Latitude: 0' 0.000 Undefined

Start Time	17-Sep-12		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	17	3	13	2	26	10	42	35	24	12
01:00	*	*	*	*	*	*	8	3	8	2	12	4	19	9	12	4
02:00	*	*	*	*	*	*	3	2	3	3	6	5	4	4	4	4
03:00	*	*	*	*	*	*	1	1	3	0	6	1	3	2	3	1
04:00	*	*	*	*	*	*	1	4	0	5	3	1	7	2	3	3
05:00	*	*	*	*	*	*	12	38	13	24	13	5	8	2	12	17
06:00	*	*	*	*	*	*	40	117	31	89	10	20	15	15	24	60
07:00	*	*	*	*	*	*	121	315	122	312	60	86	39	57	86	192
08:00	*	*	*	*	*	*	201	300	222	303	108	142	69	93	150	210
09:00	*	*	*	*	*	*	177	261	191	282	154	165	91	125	208	208
10:00	*	*	*	*	*	*	139	178	143	176	176	194	146	170	151	180
11:00	*	*	*	*	*	*	151	171	163	187	181	179	173	153	167	172
12:00 PM	*	*	*	*	*	*	161	181	205	187	208	223	191	192	191	196
01:00	*	*	*	*	*	*	151	136	191	187	210	221	177	147	182	173
02:00	*	*	*	*	*	*	220	170	269	183	195	170	170	157	214	176
03:00	*	*	*	*	*	*	243	281	270	283	197	182	169	153	220	225
04:00	*	*	*	*	*	*	286	247	344	237	220	193	130	138	253	206
05:00	*	*	*	*	*	*	350	214	398	240	178	168	170	123	303	194
06:00	*	*	*	*	*	*	299	233	298	201	150	162	134	111	258	177
07:00	*	*	*	*	*	*	234	245	175	140	132	120	93	77	168	139
08:00	*	*	*	*	*	*	145	87	118	59	92	64	70	72	109	68
09:00	*	*	*	*	*	*	91	35	89	59	76	55	49	28	92	41
10:00	*	*	*	*	*	*	39	16	90	51	93	71	25	15	64	32
11:00	*	*	*	*	*	*	33	14	49	38	85	125	18	12	41	41
Lane	0	0	0	0	0	0	3332	3255	3408	3250	2591	2590	2012	1892	2884	2731
Day	0	0	0	0	0	0	6587	6587	6658	6587	5181	5181	3904	3904	5615	5615
AM Peak							08:00	07:00	08:00	07:00	11:00	10:00	11:00	10:00	11:00	08:00
Vol.							201	315	222	312	181	194	173	170	167	210
PM Peak							17:00	17:00	17:00	15:00	16:00	12:00	12:00	12:00	17:00	15:00
Vol.							350	227	417	281	220	223	191	192	303	225

# JOHN COLLINS ENGINEERS

Default Comments  
PROJECT: BRYNWOOD  
LOCATION: NORTH CASTLE, NY  
JCE JOB# 1946

11 BRADHURST AVENUE  
HAWTHORNE, NY 10532  
(914) 343-5500

Site Code: 194600000999

Station ID:  
NYS ROUTE 22 (NORTH OF COLONIAL COURT  
AND SOUTH OF WINDMILL ROAD)  
Latitude: 0' 0.000 Undefined

Start Time	24-Sep-12		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	6	4	8	2	16	7	*	*	*	*	*	*	*	*	10	4
01:00	7	1	3	0	4	1	*	*	*	*	*	*	*	*	5	1
02:00	2	2	2	1	6	2	*	*	*	*	*	*	*	*	3	2
03:00	1	0	3	2	5	4	*	*	*	*	*	*	*	*	3	2
04:00	1	2	3	4	3	0	*	*	*	*	*	*	*	*	2	2
05:00	10	26	4	32	4	21	*	*	*	*	*	*	*	*	6	26
06:00	36	101	33	88	16	52	*	*	*	*	*	*	*	*	28	80
07:00	115	317	108	350	49	105	*	*	*	*	*	*	*	*	91	257
08:00	206	311	194	305	119	219	*	*	*	*	*	*	*	*	173	278
09:00	245	274	234	286	123	213	*	*	*	*	*	*	*	*	201	258
10:00	126	142	180	157	120	176	*	*	*	*	*	*	*	*	142	158
11:00	144	194	147	166	20	14	*	*	*	*	*	*	*	*	104	125
12:00 PM	143	181	162	176	*	*	*	*	*	*	*	*	*	*	152	178
01:00	164	142	169	167	*	*	*	*	*	*	*	*	*	*	166	154
02:00	191	177	212	158	*	*	*	*	*	*	*	*	*	*	202	168
03:00	258	257	250	276	*	*	*	*	*	*	*	*	*	*	254	266
04:00	215	205	356	227	*	*	*	*	*	*	*	*	*	*	286	216
05:00	340	194	358	173	*	*	*	*	*	*	*	*	*	*	349	184
06:00	328	192	288	140	*	*	*	*	*	*	*	*	*	*	308	166
07:00	218	117	158	145	*	*	*	*	*	*	*	*	*	*	188	131
08:00	158	71	107	60	*	*	*	*	*	*	*	*	*	*	132	66
09:00	78	33	86	53	*	*	*	*	*	*	*	*	*	*	82	43
10:00	41	8	93	38	*	*	*	*	*	*	*	*	*	*	67	23
11:00	27	14	26	24	*	*	*	*	*	*	*	*	*	*	26	19
Lane	3060	2965	3184	3030	485	814	0	0	0	0	0	0	0	0	2980	2807
Day	6025		6214		1299		0	0	0	0	0	0	0	0	5787	
AM Peak	09:00	07:00	09:00	07:00	09:00	08:00									09:00	08:00
Vol.	245	317	234	350	123	219									201	278
PM Peak	17:00	15:00	17:00	15:00											17:00	15:00
Vol.	340	257	358	276											349	266

Comb. Total	6025	6214	3617	6587	6658	5181	3904	11402
ADT			AADT 5,762					

# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX F**

### **ACCIDENT DATA**

# Accident Location Information System (ALIS)

## County Interim Accident Summary

8911 ASR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:20

Page: 1

COUNTY	Number Of Accidents											LIGHT CONDITION		
	TOTAL	AT INT.	FTL	INJ	PDO	N/R	WET ROAD	FIXED OBJ	PED & BIKE	TRUCK	DWN/DSK	DAY	NIGHT	
WESTCHESTER	57	42	0	13	41	3	13	11	0	3	4	37	12	
Total	57	42	0	13	41	3	13	11	0	3	4	37	12	

# Accident Location Information System (ALIS)

## County Interim Accident Summary

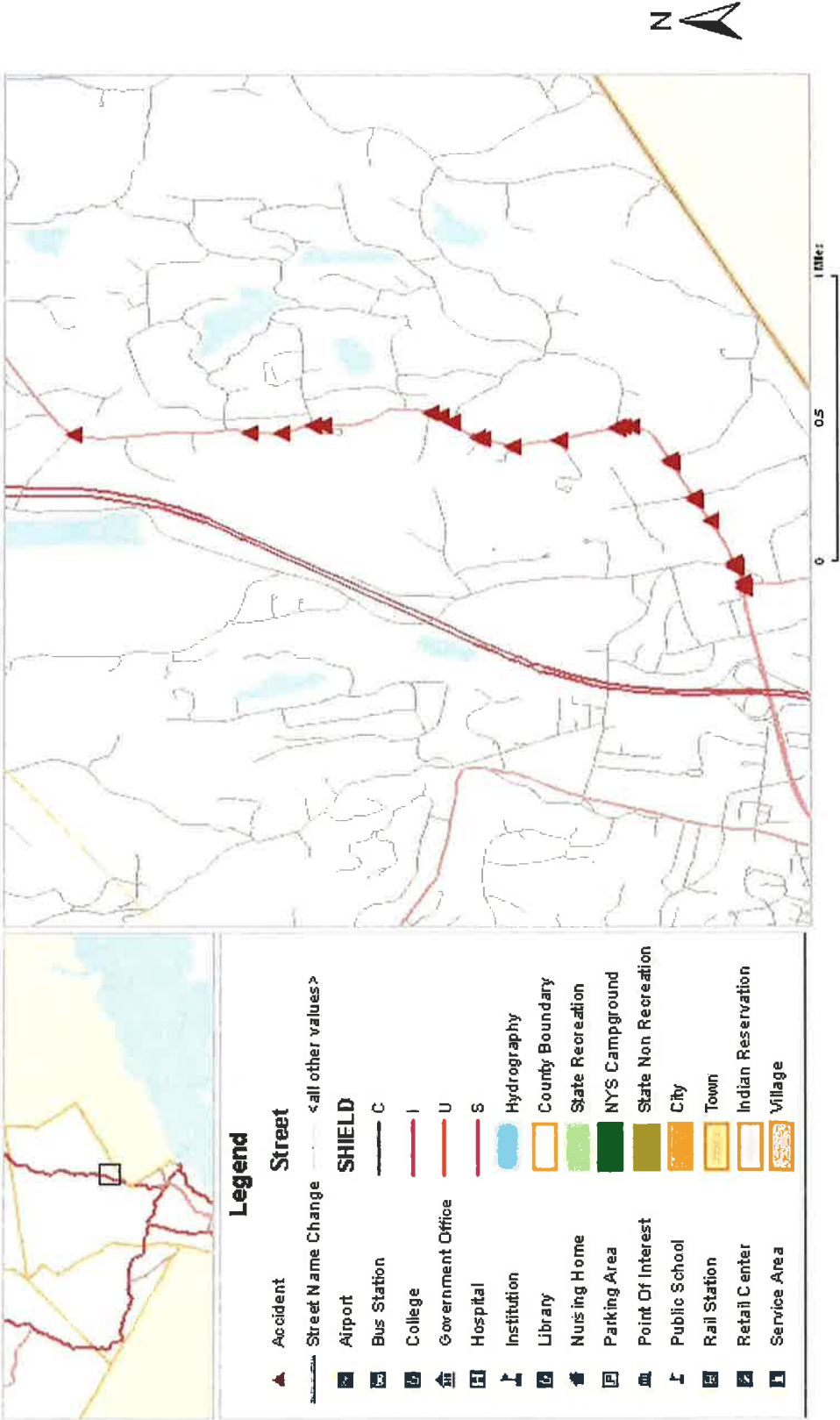
8912 ASR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

COUNTY	Number Of Accidents											
	TOTAL	AT INT.	FTL	INJ	PDO	N/R	ROAD	WET	FIXED OBJ	PED & BIKE	TRUCK	LIGHT CONDITION DWN/DSK DAY NIGHT
WESTCHESTER	16	0	0	5	8	3	3	3	1	0	0	0 13 2
Total	16	0	0	5	8	3	3	3	1	0	0	0 13 2

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester





## AT INTERSECTION WITH SNIFFEN RD

**2/7/2009** Sat 07:16 AM      Persons Killed: 0      Persons Injured: 0      Extent of Injuries:  
Accident Class: PROPERTY DAMAGE      Police Agency:  
Type Of Accident: COLL. W/EARTH ELE./ROCK CUT/DITCH      Weather: CLEAR      Light Condition: DAYLIGHT  
Manner of Collision: OTHER      Road Char.: CURVE AND GRADE      Action of Ped/Bicycle: NOT APPLICABLE  
Road Surface Condition: SNOW/ICE  
Loc. of Ped/Bicycle: NOT APPLICABLE

**Case: 2009-32946334**

Num of Veh: 1

Traffic Control: NONE





Veh :1	CARVAN/PICKUP Num of Occupants: 1 Direction of Travel: SOUTH Pre-Accd Action: STOPPED IN TRAFFIC Apparent Factors: UNKNOWN, UNKNOWN	Registered Weight: 2708 Driver's Age: 24 Public Property Damage: N	Sex: F State of Registration: NY Citation Issued: N School Bus Involved: N
Veh :2	CARVAN/PICKUP Num of Occupants: 1 Direction of Travel: NORTH-EAST Pre-Accd Action: MAKING LEFT TURN Apparent Factors: FAILURE TO KEEP RIGHT, DRIVER INATTENTION	Registered Weight: 9400 Driver's Age: 52 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024077 Street: [Route] 22

2/27/2009

Fri 17:41 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:  
Police Agency:

Case: 2009-33000056

Num of Veh: 2

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: REAR END

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: RAIN

Traffic Control: NONE

Light Condition: DARK-ROAD UNLIGHTED

Action of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3074

State of Registration: NY

Num of Occupants: 1

Driver's Age: 17

Sex: M

Citation Issued: N

Direction of Travel: SOUTH

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: UNKNOWN, UNKNOWN

Veh :2

CAR/VAN/PICKUP

Registered Weight: 4358

State of Registration: NY

Num of Occupants: 1

Driver's Age: 17

Sex: F

Citation Issued: N

Direction of Travel: SOUTH

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: PAVEMENT SLIPPERY, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024071 Street: STATE HWY 22

4/2/2009

Thu 11:04 AM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:  
Police Agency:

Case: 2009-32995227

Num of Veh: 2

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: LEFT TURN (AGAINST OTHER CAR)

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: CLEAR

Traffic Control: NONE

Light Condition: DAYLIGHT

Action of Ped/Bicycle: NOT APPLICABLE

Veh :2

CAR/VAN/PICKUP

Registered Weight: 4957

State of Registration: NY

Num of Occupants: 2

Driver's Age: 45

Sex: F

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: NOT APPLICABLE, UNKNOWN

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3413

State of Registration: NY

Num of Occupants: 1	Driver's Age: 54	Sex: F	Citation Issued: N
Direction of Travel: SOUTH-EAST	Public Property Damage: N		School Bus Involved: N
Pre-Accident Action: MAKING LEFT TURN			
Apparent Factors: UNKNOWN, DRIVER INATTENTION			

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD  
AT INTERSECTION WITH COX AVE  
**4/2/2009** Thu 08:21 AM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: REAR END  
Road Surface Condition: DRY  
Loc. of Ped/Bicycle: NOT APPLICABLE  
Road Char.: STRAIGHT/ GRADE  
Action of Ped/Bicycle: NOT APPLICABLE

Extent of Injuries:  
Police Agency:  
Weather: CLEAR  
Light Condition: DAYLIGHT  
Traffic Control: NONE  
Case: 2009-33008717  
Num of Veh: 2

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 4

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD  
\*\*\*\*\* CONTINUED  
Veh :1 CARVAN/PICKUP Registered Weight: 2982 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 18 Sex: F Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, DRIVER INATTENTION

Veh :2 CARVAN/PICKUP Registered Weight: 4374 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 57 Sex: F Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: STARTING FROM PARKING  
Apparent Factors: NOT APPLICABLE, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE  
4/16/2009 Thu 18:26 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: REAR END  
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE  
Extent of Injuries: Case: 2009-33008987  
Police Agency: Num of Veh: 2  
Traffic Control: FLASHING LIGHT  
Weather: CLEAR Light Condition: DAYLIGHT

Veh :2 CARVAN/PICKUP Registered Weight: 4447 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 39 Sex: F Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: SLOWED OR STOPPING  
Apparent Factors: UNKNOWN, UNKNOWN

Veh :1 CARVAN/PICKUP Registered Weight: 3390 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 39 Sex: M Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: FOLLOWING TOO CLOSELY, DRIVER INATTENTION

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE

**6/9/2009**

Tue 18:35 PM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: BC Case: 2009-33065839  
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN  
Manner of Collision: RIGHT ANGLE Weather: CLOUDY  
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP Registered Weight: 4322 State of Registration: NY  
Num of Occupants: 3 Driver's Age: 18 Sex: M Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, DRIVER INEXPERIENCE



Veh :1	CAR/VAN/PICKUP Num of Occupants: 1 Direction of Travel: SOUTH Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: FELL ASLEEP, UNKNOWN	Registered Weight: 3750 Driver's Age: 17 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N
Veh :2	CAR/VAN/PICKUP Num of Occupants: 1 Direction of Travel: NORTH Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: UNKNOWN, UNKNOWN	Registered Weight: 4178 Driver's Age: 68 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N



## Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 6

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester	Muni: North Castle(T)	Ref. Marker: 22 87024072	Street: STATE HWY 22	
<b>6/12/2009</b>	Fri 11:39 AM	Persons Killed: 0	Persons Injured: 0	Extent of Injuries:
	Accident Class: PROPERTY DAMAGE			Police Agency:
	Type Of Accident: COLLISION WITH MOTOR VEHICLE			Traffic Control: FLASHING LIGHT
	Manner of Collision: REAR END			Weather: CLOUDY
	Road Surface Condition: DRY			Light Condition: DAYLIGHT
	Loc. of Ped/Bicycle: NOT APPLICABLE			Action of Ped/Bicycle: NOT APPLICABLE
		Road Char.: STRAIGHT/ GRADE		
Veh :2	CARVAN/PICKUP	Registered Weight: 2870	State of Registration: NY	
	Num of Occupants: 1	Driver's Age: 66	Sex: F	Citation Issued: N
	Direction of Travel: NORTH	Public Property Damage: N		School Bus Involved: N
	Pre-Accd Action: SLOWED OR STOPPING			
	Apparent Factors: UNKNOWN, UNKNOWN			
Veh :1	CARVAN/PICKUP	Registered Weight: 4627	State of Registration: NY	
	Num of Occupants: 1	Driver's Age: 20	Sex: F	Citation Issued: N
	Direction of Travel: NORTH	Public Property Damage: N		School Bus Involved: N
	Pre-Accd Action: GOING STRAIGHT AHEAD			
	Apparent Factors: DRIVER INATTENTION, FOLLOWING TOO CLOSELY			
County: Westchester	Muni: North Castle(T)	Ref. Marker: 22 87024086	Street: [Route] 22	
<b>7/19/2009</b>	Sun	Persons Killed: 0	Persons Injured: 0	Extent of Injuries:
	Accident Class: PROPERTY DAMAGE			Police Agency:
	Type Of Accident: COLLISION WITH MOTOR VEHICLE			Traffic Control: UNKNOWN
	Manner of Collision: UNKNOWN			Weather: UNKNOWN
	Road Surface Condition: UNKNOWN			Light Condition: UNKNOWN
	Loc. of Ped/Bicycle: NOT APPLICABLE			Action of Ped/Bicycle: NOT APPLICABLE
		Road Char.: UNKNOWN		
Veh :1	CARVAN/PICKUP	Registered Weight: 4169	State of Registration: NY	
	Num of Occupants: 3	Driver's Age: 47	Sex: M	Citation Issued: N
	Direction of Travel: UNKNOWN	Public Property Damage: N		School Bus Involved: N
	Pre-Accd Action: OVERTAKING			
	Apparent Factors: UNKNOWN, UNKNOWN			
Veh :2	CARVAN/PICKUP	Registered Weight: 4521	State of Registration: NY	

Num of Occupants: 1  
Direction of Travel: UNKNOWN  
Pre-Accd Action: MAKING U TURN  
Apparent Factors: UNKNOWN, UNKNOWN

Driver's Age: 40  
Public Property Damage: Y  
Sex: F  
Citation Issued: N  
School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD  
AT INTERSECTION WITH COX AVE  
**7/14/2009** Tue 12:10 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: REAR END  
Road Surface Condition: DRY  
Loc. of Ped/Bicycle: NOT APPLICABLE

Extent of Injuries:  
Police Agency:  
Weather: CLEAR  
Traffic Control: NONE  
Case: **2009-33180527**  
Num of Veh: 2  
Light Condition: DAYLIGHT  
Action of Ped/Bicycle: NOT APPLICABLE

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD

\*\*\*\*\* CONTINUED

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 2

Direction of Travel: SOUTH

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3779

Driver's Age: 46

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3433

Driver's Age: 17

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 433 87011007 Street: BEDFORD RD

AT INTERSECTION WITH (Route) 433

7/31/2009

Fri Persons Killed: 0

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: UNKNOWN

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Persons Injured: 0

Extent of Injuries:

Police Agency:

Traffic Control: TRAFFIC SIGNAL

Weather: RAIN

Action of Ped/Bicycle: NOT APPLICABLE

Case: 2009-33163353

Num of Veh: 2

Light Condition: DAYLIGHT

Veh :2

OTHER

Registered Weight:

Num of Occupants: 0

Direction of Travel: SOUTH-WEST

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

State of Registration:

Driver's Age:

Public Property Damage: N

Citation Issued:

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH-WEST

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3208

Driver's Age: 28

Public Property Damage: N

State of Registration: NY

Sex: F Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE  
**8/21/2009** Fri 17:20 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33157256**  
Accident Class: PROPERTY DAMAGE Traffic Agency: Police Agency: Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Weather: RAIN  
Manner of Collision: REAR END Light Condition: DAYLIGHT  
Road Surface Condition: WET Road Char.: CURVE AND GRADE  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2  
CAR/VAN/PICKUP Registered Weight: 2272 State of Registration: NY  
Num of Occupants: 2 Driver's Age: 21 Sex: F Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Acc Action: GOING STRAIGHT AHEAD  
Apparent Factors: DRIVER INATTENTION, UNKNOWN



Veh :2	CARVAN/PICKUP Num of Occupants: 3 Direction of Travel: SOUTH Pre-Accd Action: SLOWED OR STOPPING Apparent Factors: UNKNOWN, UNKNOWN	Registered Weight: 4068 Driver's Age: 52 Public Property Damage: N	Sex: F State of Registration: NY Citation Issued: N School Bus Involved: N
Veh :1	CARVAN/PICKUP Num of Occupants: 1 Direction of Travel: SOUTH Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: DRIVER INATTENTION, FOLLOWING TOO CLOSELY	Registered Weight: 3442 Driver's Age: 17 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 5

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024083 Street: BEDFORD RD  
AT INTERSECTION WITH REDBROOKE PL

3/23/2010

Tue 14:34 PM

Persons Killed: 0

Persons Injured: 1

Police Agency:

Extent of Injuries: B

Case: 2010-33397272

Accident Class: INJURY

Type Of Accident: COLLISION WITH SIGN POST

Manner of Collision: OTHER

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: CLOUDY

Traffic Control: UNKNOWN

Light Condition: DAYLIGHT

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3627

State of Registration: NY

Num of Occupants: 1

Driver's Age: 17

Sex: F

Citation Issued: N

Direction of Travel: SOUTH-WEST

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: FELL ASLEEP, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024084 Street: [Route] 22  
30 Meters North of NASH PL

1/21/2010

Thu 23:24 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2010-33325850

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE

Manner of Collision: OTHER

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: CLEAR

Light Condition: DARK-ROAD UNLIGHTED

Traffic Control: NONE

Veh :1

CAR/VAN/PICKUP

Registered Weight: 2844

State of Registration: NY

Num of Occupants: 1

Driver's Age: 41

Sex: F

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: Y

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: FELL ASLEEP, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024092 Street: [Route] 22  
362 Meters North of Upland Ln

1/2/2010

Sat 22:36 PM

Persons Killed: 0

Persons Injured: 2

Extent of Injuries: CC

Case: 2010-33313562

Accident Class: PROPERTY DAMAGE AND INJURY

Type Of Accident: COLL. W/EARTH ELE./ROCK CUT/DITCH

Manner of Collision: OTHER

Road Surface Condition: SNOW/ICE

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: CURVE AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: CLEAR

Light Condition: DARK-ROAD LIGHTED

Police Agency:

Traffic Control: NONE

Veh : 1	CAR/VAN/PICKUP	Registered Weight: 3068	State of Registration: NY
	Num of Occupants: 2	Driver's Age: 17	Sex: M
	Direction of Travel: NORTH	Public Property Damage: N	Citation Issued: N
	Pre-Accd Action: GOING STRAIGHT AHEAD		School Bus Involved: N
	Apparent Factors: PAVEMENT SLIPPERY, UNSAFE SPEED		



# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024071 Street: BEDFORD RD  
30 Meters East of N GREENWICH RD  
**1/20/2010** Wed 14:35 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH SIGN POST  
Manner of Collision: UNKNOWN  
Road Surface Condition: DRY  
Loc. of Ped/Bicycle: NOT APPLICABLE  
Road Char.: STRAIGHT AND LEVEL  
Action of Ped/Bicycle: NOT APPLICABLE  
Weather: CLOUDY  
Light Condition: DAYLIGHT  
Traffic Control: NONE  
Case: 2010-33324460  
Num of Veh: 2

Veh :1 CAR/VAN/PICKUP Registered Weight: 3825 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

Veh :2 CAR/VAN/PICKUP Registered Weight: 3063 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 17 Sex: M Citation Issued: N  
Direction of Travel: SOUTH-EAST Public Property Damage: N  
Pre-Accd Action: MAKING LEFT TURN  
Apparent Factors: UNKNOWN, FAILURE TO YIELD RIGHT OF WAY

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024079 Street: BANKSVILLE RD  
AT INTERSECTION WITH [Route] 22  
**2/16/2010** Tue 21:00 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH OTHER  
Manner of Collision: OTHER  
Road Surface Condition: UNKNOWN  
Loc. of Ped/Bicycle: NOT APPLICABLE  
Road Char.: STRAIGHT AND LEVEL  
Action of Ped/Bicycle: NOT APPLICABLE  
Weather: UNKNOWN  
Light Condition: DARK-ROAD UNLIGHTED  
Traffic Control: NONE  
Case: 2010-33373105  
Num of Veh: 1

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY  
Num of Occupants: 1 Driver's Age: 77 Sex: M Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024071 Street: BEDFORD RD

10 Meters West of N Greenwich Rd  
**4/7/2010** Wed 23:35 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH CURBING  
Manner of Collision: OTHER  
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE  
Case: 2010-33419931  
Num of Veh: 1  
Police Agency:  
Traffic Control: TRAFFIC SIGNAL  
Weather: CLEAR  
Light Condition: DARK-ROAD LIGHTED

## Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 11

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22.87024071 Street: BEDFORD RD  
\*\*\*\*\* CONTINUED

Veh :1 TRUCK Registered Weight: State of Registration: NY Citation Issued: Y  
Num of Occupants: 1 Driver's Age: 36 Sex: M School Bus Involved: N  
Direction of Travel: EAST Public Property Damage: Y

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: ALCOHOL INVOLVEMENT, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22.87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE  
4/30/2010 Fri 14:25 PM Persons Killed: 0 Persons Injured: 0 Case: 2010-33437508  
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: FLASHING LIGHT  
Manner of Collision: RIGHT ANGLE Weather: CLEAR  
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3063 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 18 Sex: M Citation Issued: N  
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: DRIVER INATTENTION, FAILURE TO YIELD RIGHT OF WAY

Veh :2 CAR/VAN/PICKUP Registered Weight: 3072 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 82 Sex: F Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22.87024090 Street: BEDFORD RD  
AT INTERSECTION WITH UPLAND LN  
5/24/2010 Mon 18:43 PM Persons Killed: 0 Persons Injured: 0 Case: 2010-33471495  
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN  
Manner of Collision: UNKNOWN Weather: CLEAR  
Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2	CARVAN/PICKUP Num of Occupants: 1 Direction of Travel: WEST Pre-Accd Action: MAKING LEFT TURN Apparent Factors: UNKNOWN, FAILURE TO YIELD RIGHT OF WAY	Registered Weight: 3309 Driver's Age: 18 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N
Veh :1	CARVAN/PICKUP Num of Occupants: 1 Direction of Travel: NORTH Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: UNKNOWN, UNKNOWN	Registered Weight: 2489 Driver's Age: 51 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N

# Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 12

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD

7/6/2010

Tue 18:36 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Police Agency:

Case: 2010-33521822

Num of Veh: 2

Manner of Collision: REAR END

Road Surface Condition: DRY

Road Char.: STRAIGHT/ GRADE

Weather: CLEAR

Traffic Control: NONE

Loc. of Ped/Bicycle: NOT APPLICABLE

Action of Ped/Bicycle: NOT APPLICABLE

Light Condition: DAYLIGHT

Public Property Damage: N

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3929

State of Registration: NY

Num of Occupants: 1

Driver's Age: 21

Sex: F

Citation Issued: N

School Bus Involved: N

Direction of Travel: NORTH

Public Property Damage: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, FOLLOWING TOO CLOSELY

Veh :2

CAR/VAN/PICKUP

Registered Weight: 4978

State of Registration: NY

Num of Occupants: 3

Driver's Age: 39

Sex: M

Citation Issued: N

School Bus Involved: N

Direction of Travel: NORTH

Public Property Damage: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024077 Street: [Route] 22

AT INTERSECTION WITH CREAMER RD

6/19/2010

Sat 21:34 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2010-33542770

Num of Veh: 0

Accident Class: NON-REPORTABLE

Type Of Accident: NOT ENTERED

Traffic Control: NOT ENTERED

Weather: NOT ENTERED

Light Condition: NOT ENTERED

Manner of Collision: NOT ENTERED

Road Surface Condition: NOT ENTERED

Road Char.: NOT ENTERED

Action of Ped/Bicycle: NOT ENTERED

Light Condition: NOT ENTERED

Loc. of Ped/Bicycle: NOT ENTERED

Action of Ped/Bicycle: NOT ENTERED

Light Condition: NOT ENTERED

Light Condition: NOT ENTERED

Veh :

Registered Weight:

Driver's Age:

State of Registration:

Citation Issued:

Num of Occupants:

Public Property Damage:

Sex:

School Bus Involved:

Direction of Travel:

Public Property Damage:

Sex:

School Bus Involved:

Pre-Accd Action:

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22

AT INTERSECTION WITH COX AVE

**7/12/2010**      Mon      Persons Killed: 0      Persons Injured: 0      Extent of Injuries:      **Case: 2010-33540224**  
Accident Class: PROPERTY DAMAGE      Police Agency:      Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE      Traffic Control: NONE  
Manner of Collision: UNKNOWN      Weather: CLEAR      Light Condition: DUSK  
Road Surface Condition: DRY      Road Char.: STRAIGHT AND LEVEL      Action of Ped/Bicycle: NOT APPLICABLE  
Loc. of Ped/Bicycle: NOT APPLICABLE

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22

\*\*\*\*\* CONTINUED

Veh :1

OTHER

Num of Occupants: 0

Registered Weight:

Driver's Age:

Direction of Travel: NORTH

Public Property Damage: N

State of Registration:

Sex:

Citation Issued:

School Bus Involved: N

Pre-Acc Action: MAKING RIGHT TURN

Apparent Factors: UNKNOWN, UNKNOWN

Veh :2

CAR/VAN/PICKUP

Registered Weight: 3030

Num of Occupants: 1

Driver's Age: 69

State of Registration: NY

Sex: F

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

School Bus Involved: N

Pre-Acc Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester

Muni: North Castle(T)

Ref. Marker: 22 87024086

Street: BEDFORD RD

57 Meters South of Colonial Ct

8/9/2010

Mon 16:50 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Police Agency:

Case: 2010-33551866

Num of Veh: 2

Traffic Control: NONE

Weather: CLEAR

Light Condition: DAYLIGHT

Action of Ped/Bicycle: NOT APPLICABLE

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: OVERTAKING

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Veh :2

TRUCK

Registered Weight:

Num of Occupants: 1

Driver's Age: 36

State of Registration: NY

Sex: M

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

School Bus Involved: N

Pre-Acc Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Veh :1

CAR/VAN/PICKUP

Registered Weight: 5565

Num of Occupants: 2

Driver's Age: 16

State of Registration: NY

Sex: M

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

School Bus Involved: N

Pre-Acc Action: MAKING RIGHT TURN

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester    Muni: North Castle(T)    Ref. Marker:  
**8/18/2010**    Wed 16:55 PM    Persons Killed: 0    Street: BANKSVILLE RD  
Persons Injured: 0    Case: 2010-33569918  
Extent of Injuries:  
Police Agency:    Num of Veh: 2  
Traffic Control: NO PASSING ZONE  
Weather: CLOUDY  
Light Condition: DAYLIGHT  
Action of Ped/Bicycle: NOT APPLICABLE  
Road Char.: STRAIGHT AND LEVEL  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: REAR END  
Road Surface Condition: DRY  
Loc. of Ped/Bicycle: NOT APPLICABLE  
Registered Weight: 3354  
Driver's Age: 19  
Public Property Damage: N  
Sex: F  
Citation Issued: N  
School Bus Involved: N



# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 14

County: Westchester Muni: North Castle(T) Ref. Marker: Street: BANKSVILLE RD  
\*\*\*\*\* CONTINUED

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: EAST

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: FOLLOWING TOO CLOSELY, UNKNOWN

Registered Weight: 3415

Driver's Age: 19

Public Property Damage: N

State of Registration: NY

Sex: F Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024077 Street: BEDFORD RD  
AT INTERSECTION WITH GREEMER RD

8/29/2010

Sun 12:02 PM

Persons Killed: 0

Persons Injured: 1

Police Agency: B

Extent of Injuries: B

Case: 2010-33589582

Accident Class: PROPERTY DAMAGE AND INJURY

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: RIGHT ANGLE

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT/ GRADE

Action of Ped/Bicycle: NOT APPLICABLE

Weather: CLEAR

Light Condition: DAYLIGHT

Traffic Control: STOP SIGN

Num of Veh: 2

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 2

Direction of Travel: NORTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 2958

Driver's Age: 70

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH-WEST

Pre-Accd Action: MAKING LEFT TURN

Registered Weight:

Driver's Age: 17

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024076 Street: [Route] 22  
19 Meters West of Greener Rd

9/16/2010

Thu 18:31 PM

Persons Killed: 0

Persons Injured: 0

Police Agency: B

Extent of Injuries: B

Case: 2010-33608458

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: OTHER

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT/ GRADE

Action of Ped/Bicycle: NOT APPLICABLE

Weather: RAIN

Light Condition: DUSK

Traffic Control: NONE

Num of Veh: 3

Veh :3	CAR/VAN/PICKUP Num of Occupants: 1 Direction of Travel: SOUTH Pre-Accd Action: SLOWED OR STOPPING Apparent Factors: DRIVER INATTENTION, PAVEMENT SLIPPERY	Registered Weight: 3827 Driver's Age: 30 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N
Veh :1	CAR/VAN/PICKUP Num of Occupants: 2 Direction of Travel: SOUTH Pre-Accd Action: STOPPED IN TRAFFIC Apparent Factors: UNKNOWN, UNKNOWN	Registered Weight: 3549 Driver's Age: 53 Public Property Damage: N	Sex: M State of Registration: NY Citation Issued: N School Bus Involved: N

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 15

County: Westchester 15 Meters North of BANKSVILLE RD <b>10/5/2010</b>	Muni: North Castle(T) Ref. Marker: 22 87024076 Street: [Route] 22	Registered Weight: 4035 Driver's Age: 16	State of Registration: NY	Sex: F	Citation Issued: N	School Bus Involved: N
Veh :2 ***** CONTINUED CARVAN/PICKUP						
Num of Occupants: 1						
Direction of Travel: SOUTH						
Pre-Accd Action: STOPPED IN TRAFFIC						
Apparent Factors: UNKNOWN, UNKNOWN						
County: Westchester 15 Meters North of BANKSVILLE RD <b>10/5/2010</b>	Muni: North Castle(T) Ref. Marker: 22 87024079 Street: STATE HWY 22	Persons Killed: 0 Persons Injured: 0	Extent of Injuries:	Police Agency:	Case: 2010-33627773	Num of Veh: 2
Tue 18:00 PM						
Accident Class: PROPERTY DAMAGE						
Type Of Accident: COLLISION WITH MOTOR VEHICLE						
Manner of Collision: REAR END						
Road Surface Condition: WET						
Loc. of Ped/Bicycle: NOT APPLICABLE						
		Road Char.: STRAIGHT AND LEVEL				Light Condition: DUSK
		Action of Ped/Bicycle: NOT APPLICABLE				
Veh :2						
CARVAN/PICKUP						
Num of Occupants: 1						
Direction of Travel: SOUTH						
Pre-Accd Action: SLOWED OR STOPPING						
Apparent Factors: UNKNOWN, UNKNOWN						
		Registered Weight: 3715	State of Registration: NY	Sex: F	Citation Issued: N	School Bus Involved: N
		Driver's Age: 17				
		Public Property Damage: N				
Veh :1						
CARVAN/PICKUP						
Num of Occupants: 2						
Direction of Travel: SOUTH						
Pre-Accd Action: SLOWED OR STOPPING						
Apparent Factors: UNKNOWN, UNKNOWN						
		Registered Weight: 3102	State of Registration: NY	Sex: M	Citation Issued: N	School Bus Involved: N
		Driver's Age: 16				
		Public Property Damage: N				
County: Westchester AT INTERSECTION WITH STERLING RD S <b>10/15/2010</b>	Muni: North Castle(T) Ref. Marker: 22 87024075 Street: BEDFORD RD	Persons Killed: 0 Persons Injured: 0	Extent of Injuries:	Police Agency:	Case: 2010-33638909	Num of Veh: 2
Fri 09:27 AM						
Accident Class: PROPERTY DAMAGE						
Type Of Accident: COLLISION WITH MOTOR VEHICLE						
Manner of Collision: RIGHT ANGLE						
Road Surface Condition: DRY						
Loc. of Ped/Bicycle: NOT APPLICABLE						
		Road Char.: STRAIGHT/ GRADE				Light Condition: DAYLIGHT
		Action of Ped/Bicycle: NOT APPLICABLE				

Veh :2	CARVAN/PICKUP	Registered Weight:	State of Registration: NY
	Num of Occupants: 1	Driver's Age: 50	Sex: F
	Direction of Travel: NORTH	Public Property Damage: N	Citation Issued: N
	Pre-Accd Action: STARTING IN TRAFFIC		School Bus Involved: N
	Apparent Factors: UNKNOWN, UNKNOWN		
Veh :1	CARVAN/PICKUP	Registered Weight: 5808	State of Registration: NY
	Num of Occupants: 1	Driver's Age: 50	Sex: F
	Direction of Travel: SOUTH-WEST	Public Property Damage: N	Citation Issued: N
	Pre-Accd Action: MAKING LEFT TURN		School Bus Involved: N
	Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, UNKNOWN		

# Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 16

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024085 Street: BEDFORD RD  
AT INTERSECTION WITH SNIFFEN RD

11/30/2010

Tue 18:02 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2010-33688768

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: HEAD ON

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: CURVE AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: RAIN

Light Condition: DARK-ROAD UNLIGHTED

Traffic Control: NO PASSING ZONE

Num of Veh: 2

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight:

Driver's Age: 39

Public Property Damage: N

State of Registration: CT

Sex: M

Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 2

Direction of Travel: SOUTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNSAFE SPEED, PAVEMENT SLIPPERY

Registered Weight:

Driver's Age: 41

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 433 87011007 Street: [Route] 22  
AT INTERSECTION WITH [Route] 433

12/13/2010

Mon 23:22 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2010-33718452

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH TREE

Manner of Collision: OTHER

Road Surface Condition: SNOW/ICE

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Weather: SNOW

Light Condition: DARK-ROAD LIGHTED

Traffic Control: TRAFFIC SIGNAL

Num of Veh: 1

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH

Pre-Accd Action: MAKING RIGHT TURN

Apparent Factors: PAVEMENT SLIPPERY, UNKNOWN

Registered Weight: 3704

Driver's Age: 36

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024079 Street: [Route] 22

## AT INTERSECTION WITH BANKSVILLE RD

<b>11/15/2010</b>	Mon 19:15 PM	Persons Killed: 0	Persons Injured: 0	Extent of Injuries:	<b>Case: 2010-33687534</b>
Accident Class: PROPERTY DAMAGE				Police Agency:	Num of Veh: 1
Type Of Accident: COLLISION WITH DEER				Traffic Control: UNKNOWN	
Manner of Collision: OTHER				Weather: UNKNOWN	
Road Surface Condition: UNKNOWN		Road Char.: UNKNOWN		Light Condition: UNKNOWN	
Loc. of Ped/Bicycle: NOT APPLICABLE		Action of Ped/Bicycle: NOT APPLICABLE			

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 17

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024079 Street: [Route] 22  
\*\*\*\*\* CONTINUED  
Veh :1 CARVAN/PICKUP Registered Weight: 3781 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 38 Sex: M Citation Issued: N  
Direction of Travel: UNKNOWN Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: UNKNOWN  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE  
1/21/2009 Wed 07:39 AM Persons Killed: 0 Persons Injured: 0 Case: 2009-NR2661187  
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2  
Type Of Accident: COLLISION WITH GUIDERAIL - END Weather: CLEAR Traffic Control: STOP SIGN  
Manner of Collision: OTHER Light Condition: DAYLIGHT  
Road Surface Condition: DRY Road Char.: Action of Ped/Bicycle:  
Loc. of Ped/Bicycle: INVALID CODE

Veh :1 OTHER Registered Weight: State of Registration: Citation Issued:  
Num of Occupants: Driver's Age: Sex: School Bus Involved: X  
Direction of Travel: EAST Public Property Damage: N  
Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED, FAILURE TO YIELD RIGHT OF WAY

Veh :2 OTHER Registered Weight: State of Registration: Citation Issued:  
Num of Occupants: Driver's Age: Sex: School Bus Involved: X  
Direction of Travel: NORTH Public Property Damage: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024090 Street: BEDFORD RD  
61 Meters South of UPLAND LN  
1/3/2011 Mon 16:09 PM Persons Killed: 0 Persons Injured: 0 Case: 2011-33769572  
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1  
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE  
Manner of Collision: OTHER Weather: CLEAR  
Road Surface Condition: DRY Light Condition: DARK-ROAD LIGHTED  
Loc. of Ped/Bicycle: NOT APPLICABLE Road Char.: STRAIGHT/ GRADE Action of Ped/Bicycle: NOT APPLICABLE

Veh : 1      CARVAN/PICKUP      Registered Weight: 3640      State of Registration: NY  
Num of Occupants: 1      Driver's Age: 49      Sex: F      Citation Issued: N  
Direction of Travel: SOUTH      Public Property Damage: N      School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: ANIMAL'S ACTION, ANIMAL'S ACTION

County: Westchester      Muni: North Castle(T)      Ref. Marker: 22 87024078      Street: STATE HWY 22  
76 Meters South of BANKSVILLE RD  
**3/19/2011**      Sat 05:24 AM      Persons Killed: 0      Persons Injured: 0      Case: 2011-33831606  
Accident Class: PROPERTY DAMAGE      Num of Veh: 1  
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE      Police Agency:      Traffic Control: NONE  
Manner of Collision: OTHER      Weather: CLOUDY  
Road Surface Condition: DRY      Light Condition: DARK-ROAD LIGHTED  
Loc. of Ped/Bicycle: NOT APPLICABLE      Action of Ped/Bicycle: NOT APPLICABLE  
Road Char.: CURVE AND GRADE



## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 18

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024078 Street: STATE HWY 22  
Veh :1 CARVAN/PICKUP Registered Weight: 3142 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 27 Sex: M Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: FELL ASLEEP, FAILURE TO KEEP RIGHT

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024090 Street: BEDFORD RD  
1/2/2011 Sun Persons Killed: 0 Persons Injured: 0 Case: 2011-33815042  
Accident Class: Police Agency: Extent of Injuries: Num of Veh:  
Type Of Accident: Traffic Control: Weather:  
Manner of Collision: Road Char.: Action of Ped/Bicycle: Light Condition:  
Road Surface Condition: Loc. of Ped/Bicycle: State of Registration: Citation Issued:  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: Driver's Age: Sex: Citation Issued:  
Num of Occupants: Public Property Damage: School Bus Involved:  
Direction of Travel: Pre-Accd Action:

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
1 Meters West of Ramp  
4/7/2011 Thu 09:20 AM Persons Killed: 0 Persons Injured: 0 Case: 2011-33863820  
Accident Class: PROPERTY DAMAGE Police Agency: Extent of Injuries: Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: FLASHING LIGHT  
Manner of Collision: REAR END Weather: RAIN  
Road Surface Condition: WET Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CARVAN/PICKUP Registered Weight: 3843 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 40 Sex: M Citation Issued: N  
Direction of Travel: WEST Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: STOPPED IN TRAFFIC

Veh :2 CARVAN/PICKUP Registered Weight: 3472 State of Registration: NY

Num of Occupants: 1      Driver's Age: 58      Sex: M      Citation Issued: N  
Direction of Travel: WEST      Public Property Damage: N      School Bus Involved: N  
Pre-Accd Action: SLOWED OR STOPPING  
Apparent Factors: UNKNOWN, DRIVER INATTENTION

County: Westchester      Muni: North Castle(T)      Ref. Marker: 22 87024079      Street: [Route] 22  
AT INTERSECTION WITH BANKSVILLE RD

5/5/2011

Thu 15:20 PM

Persons Killed: 0

Persons Injured: 0

Case: 2011-33920409

Num of Veh: 3

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: OTHER

Traffic Control: TRAFFIC SIGNAL

Weather: CLEAR

Light Condition: DAYLIGHT

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

## Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 15

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024079 Street: [Route] 22

\*\*\*\*\* CONTINUED

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3583

Driver's Age: 17

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: STARTING IN TRAFFIC

Apparent Factors: DRIVER INATTENTION, DRIVER INEXPERIENCE

Registered Weight: 3619

Driver's Age: 16

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :3

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 4295

Driver's Age: 17

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22

AT INTERSECTION WITH COX AVE

5/24/2011

Tue 08:59 AM

Persons Killed: 0

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: LEFT TURN (WITH OTHER CAR)

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Persons Injured: 0

Extent of Injuries:

Police Agency:

Traffic Control: STOP SIGN

Weather: CLEAR

Light Condition: DAYLIGHT

Case: 2011-33925128

Num of Veh: 2

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 2

Direction of Travel: NORTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3429

Driver's Age: 42

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

Veh : 1      CAR/VAN/PICKUP      Registered Weight: 3823      State of Registration: NY  
 Num of Occupants: 1      Driver's Age: 49      Sex: F      Citation Issued: Y  
 Direction of Travel: NORTH-EAST      Public Property Damage: N      School Bus Involved: N  
 Pre-Acc Action: MAKING LEFT TURN  
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, UNKNOWN  
 County: Westchester      Muni: North Castle(T)      Ref. Marker: 22 87024072      Street: [Route] 22  
 AT INTERSECTION WITH COX AVE  
**6/14/2011**      Tue 18:33 PM      Persons Killed: 0      Persons Injured: 1      Extent of Injuries: A      Case: 2011-33946977  
 Accident Class: PROPERTY DAMAGE AND INJURY      Police Agency:      Num of Veh: 2  
 Type Of Accident: COLLISION WITH MOTOR VEHICLE      Traffic Control: STOP SIGN  
 Manner of Collision: LEFT TURN (AGAINST OTHER CAR)      Weather: RAIN  
 Road Surface Condition: WET      Road Char.: STRAIGHT AND LEVEL      Light Condition: DAYLIGHT  
 Loc. of Ped/Bicycle: NOT APPLICABLE      Action of Ped/Bicycle: NOT APPLICABLE

## Accident Location Information System (ALIS)

Date: 02/04/13  
02:16

Page: 20

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22

\*\*\*\*\* CONTINUED

Veh :2 CAR/VAN/PICKUP

Num of Occupants: 3

Direction of Travel: EAST

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED, FAILURE TO YIELD RIGHT OF WAY

Registered Weight: 2528

Driver's Age: 18

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, NOT APPLICABLE

Registered Weight: 3605

Driver's Age: 30

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024081 Street: [Route] 22

AT INTERSECTION WITH TRIPP LN

6/13/2011

Mon 18:31 PM

Persons Killed: 0

Persons Injured: 1

Extent of Injuries: B

Case: 2011-33956492

Accident Class: PROPERTY DAMAGE AND INJURY

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: UNKNOWN

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Light Condition: DAYLIGHT

Traffic Control: TRAFFIC SIGNAL

Weather: CLOUDY

Police Agency:

Num of Veh: 2

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: EAST

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Registered Weight: 3389

Driver's Age: 17

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :1

OTHER

Registered Weight:

Num of Occupants: 2

Direction of Travel: SOUTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: DRIVER INATTENTION, FOLLOWING TOO CLOSELY

State of Registration:

Sex: M

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD  
AT INTERSECTION WITH COX AVE  
**6/26/2011** Sun 02:24 AM Persons Killed: 0 Persons Injured: 0 **Case: 2011-33958740**  
Accident Class: PROPERTY DAMAGE Num of Veh: 1  
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE  
Manner of Collision: OTHER Traffic Control: FLASHING LIGHT  
Road Surface Condition: DRY Weather: CLEAR  
Loc. of Ped/Bicycle: NOT APPLICABLE Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED  
Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4210 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 22 Sex: M Citation Issued: Y  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNSAFE SPEED, ALCOHOL INVOLVEMENT

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 21

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024085 Street: [Route] 22  
AT INTERSECTION WITH SNIFFEN RD

6/23/2011

Thu 07:13 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C  
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Case: 2011-33958863  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE Num of Veh: 2  
Manner of Collision: SIDESWIPE Weather: CLOUDY  
Road Surface Condition: WET Road Char.: CURVE AND LEVEL Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2

CAR/VAN/PICKUP Registered Weight: 6926 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 41 Sex: M Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

Veh :1

OTHER Registered Weight: State of Registration: CA  
Num of Occupants: 2 Driver's Age: 34 Sex: F Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: [Route] 22  
AT INTERSECTION WITH COX AVE

6/14/2011

Tue 01:33 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2011-33954898  
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 0  
Type Of Accident: NOT ENTERED Traffic Control: NOT ENTERED  
Manner of Collision: NOT ENTERED Weather: NOT ENTERED  
Road Surface Condition: NOT ENTERED Road Char.: NOT ENTERED Light Condition: NOT ENTERED  
Loc. of Ped/Bicycle: NOT ENTERED Action of Ped/Bicycle: NOT ENTERED

Veh :

Registered Weight: State of Registration: Sex: Citation Issued:  
Num of Occupants: Driver's Age: Sex: Citation Issued:  
Direction of Travel: Public Property Damage: Sex: Citation Issued:  
Pre-Accd Action: Public Property Damage: Sex: Citation Issued:

County: Westchester Muni: North Castle(T) Ref. Marker: 433 87011007 Street: [Route] 22  
AT INTERSECTION WITH N GREENWICH RD

7/13/2011 Wed 11:38 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B Case: 2011-33976509  
Accident Class: PROPERTY DAMAGE AND INJURY  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: RIGHT ANGLE  
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE  
Police Agency:  
Traffic Control: TRAFFIC SIGNAL  
Weather: CLEAR  
Light Condition: DAYLIGHT



## Accident Location Information System (ALIS)

Date: 02/04/13

02:16

Page: 22

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 433 87011007 Street: [Route] 22

\*\*\*\*\* CONTINUED

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: WEST

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 4009

Driver's Age: 81

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED, UNKNOWN

Registered Weight:

Driver's Age: 25

Public Property Damage: N

State of Registration: CT

Sex: M

Citation Issued: Y

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024099 Street: [Route] 22

AT INTERSECTION WITH BALDWIN RD

8/29/2011

Mon 07:31 AM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: RIGHT ANGLE

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Case: 2011-34029112

Num of Veh: 2

Police Agency: STOP SIGN

Weather: CLOUDY

Light Condition: DAYLIGHT

Veh :1

CAR/VAN/PICKUP

Num of Occupants: 3

Direction of Travel: NORTH

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 3065

Driver's Age: 19

Public Property Damage: N

State of Registration: NY

Sex: F

Citation Issued: N

School Bus Involved: N

Veh :2

CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: EAST

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: VIEW OBSTRUCTED/LIMITED, UNKNOWN

Registered Weight: 3462

Driver's Age: 22

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024074 Street: [Route] 22  
152 Meters West of STERLING RD

**10/4/2011**

Tue 16:31 PM Persons Killed: 0

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH DEER

Manner of Collision: OTHER

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Persons Injured: 0

Extent of Injuries:

Police Agency: Num of Veh: 1

Traffic Control: NONE

Weather: RAIN

Light Condition: DUSK

Road Char.: STRAIGHT AT HILLCREST

Action of Ped/Bicycle: NOT APPLICABLE

Veh : 1

CAR/VAN/PICKUP

Registered Weight: 3241

Num of Occupants: 2

Driver's Age: 75

Direction of Travel: NORTH

Public Property Damage: N

State of Registration: NY

Sex: F Citation Issued: N

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: ANIMAL'S ACTION, UNKNOWN

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 23

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024072 Street: BEDFORD RD  
AT INTERSECTION WITH COX AVE

9/26/2011

Mon 15:03 PM

Accident Class: INJURY

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: RIGHT ANGLE

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Persons Killed: 0

Persons Injured: 1

Police Agency:

Extent of Injuries: C

Case: 2011-34069938

Num of Veh: 2

Traffic Control: STOP SIGN

Weather: CLEAR

Light Condition: DAYLIGHT

Action of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP

Registered Weight: 4177

State of Registration: NY

Num of Occupants: 1

Driver's Age: 16

Sex: F

Citation Issued: N

Direction of Travel: NORTH-EAST

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, UNKNOWN

Veh :2

CAR/VAN/PICKUP

Registered Weight: 2985

State of Registration: NY

Num of Occupants: 1

Driver's Age: 30

Sex: F

Citation Issued: N

Direction of Travel: SOUTH

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024090 Street: [Route] 22  
AT INTERSECTION WITH UPLAND LN

12/6/2011

Tue 18:54 PM

Persons Killed: 0

Persons Injured: 1

Extent of Injuries: C

Case: 2011-34161391

Num of Veh: 2

Police Agency:

Traffic Control: NONE

Weather: RAIN

Light Condition: DARK-ROAD LIGHTED

Action of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3515

State of Registration: NY

Num of Occupants: 1

Driver's Age: 33

Sex: M

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: DRIVER INATTENTION, PAVEMENT SLIPPERY

Veh :2

CAR/VAN/PICKUP

Registered Weight: 4738

State of Registration: NY

Num of Occupants: 4  
Direction of Travel: NORTH  
Pre-Accd Action: STOPPED IN TRAFFIC  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024084 Street: [Route] 22  
AT INTERSECTION WITH NASH PL  
**12/1/2011** Thu 13:31 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE  
Type Of Accident: COLLISION WITH MOTOR VEHICLE  
Manner of Collision: OTHER  
Road Surface Condition: DRY  
Loc. of Ped/Bicycle: NOT APPLICABLE

Driver's Age: 48  
Public Property Damage: N

Sex: F  
Citation Issued: N  
School Bus Involved: N

Extent of Injuries:  
Police Agency:  
Traffic Control: NO PASSING ZONE  
Weather: CLEAR  
Light Condition: DAYLIGHT  
Action of Ped/Bicycle: NOT APPLICABLE

Case: 2011-34162296  
Num of Veh: 3

## Accident Location Information System (ALIS)

### Accident Verbal Description Report

8911 VDR RT 22 from Chestnut Ridge Rd to RT 433, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/04/13  
02:16  
Page: 24

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024084 Street: [Route] 22  
\*\*\*\*\* CONTINUED

Veh :2 TRUCK Registered Weight: 33000 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 54 Sex: M Citation Issued: Y  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: FAILURE TO KEEP RIGHT, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 4472 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 42 Sex: F Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

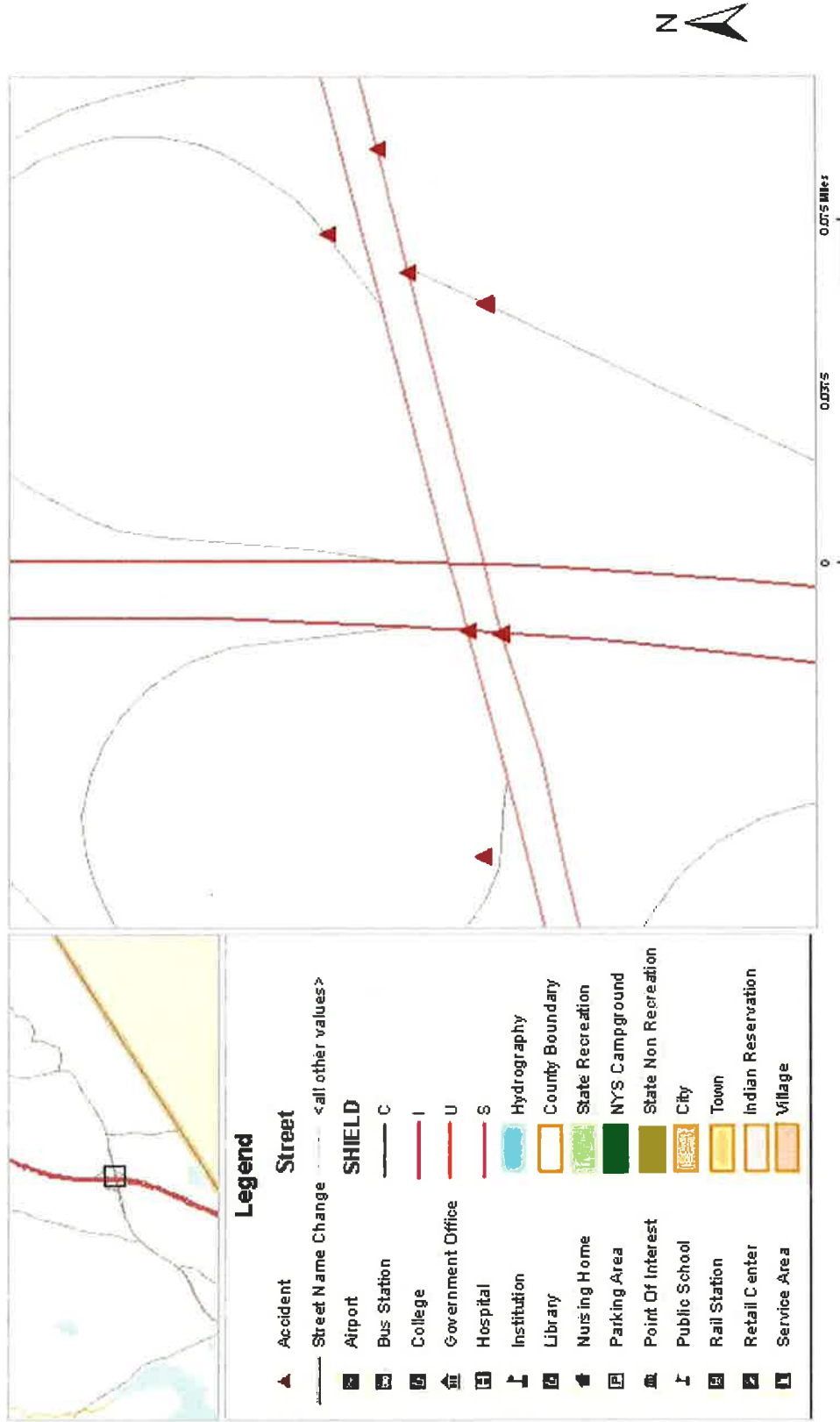
Veh :3 TRUCK Registered Weight: 51000 State of Registration: NY  
Num of Occupants: 1 Driver's Age: Sex: Citation Issued:  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: PARKED  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024075 Street: BEDFORD RD  
AT INTERSECTION WITH STERLING RD N  
11/24/2011 Thu 12:07 PM Persons Killed: 0 Persons Injured: 0  
Accident Class: PROPERTY DAMAGE Extent of Injuries: Case: 2011-34141655  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Police Agency: Traffic Control: UNKNOWN  
Manner of Collision: REAR END Weather: CLEAR Num of Veh: 2  
Road Surface Condition: DRY Road Char.: STRAIGHT AT HILLCREST Light Condition: DAYLIGHT  
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3627 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 25 Sex: M Citation Issued: N  
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: FOLLOWING TOO CLOSELY, UNKNOWN

Veh :2	OTHER	Registered Weight:	State of Registration: NJ	Citation Issued: N
	Num of Occupants: 2		Sex: M	
	Direction of Travel: NORTH	Driver's Age: 84		School Bus Involved: N
	Pre-Accd Action: STOPPED IN TRAFFIC	Public Property Damage: N		
	Apparent Factors: UNKNOWN, NOT APPLICABLE			

## 8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester



## Accident Location Information System (ALIS)

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

**Data in this report covers the period Jan 01, 2009 - Dec 31, 2011**

**Complete Accident data from NYSDMV is only available thru 1/31/2012**

County: Westchester Muni: North Castle(T) Ref. Marker: Street:  
**6/5/2009** **Fri 23:55 PM** **Persons Killed: 0**

Accident Class: NON-REPORTABLE

Type Of Accident: COLLISION WITH

Manner of Collision: OTHER

Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Veh:1 CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: WEST

## Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNSAFE SPEED, DRUGS (ILLEGAL)

County: Westchester Muni: North Castle(T) Ref. Marker: Street: RAMP  
30 Meters South of Bedford Rd

8/19/2009 Wed 17:07 PM

Accident Class: PROPERTY DAMAGE

Type Of Accident: COLLISION WITH M

Manner of Collision: REAR END

Manner of Collision: REAR END  
Road Surface Condition: DRY

Loc. of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH

### Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: NOT APPLICABLE. NOT APPLICABLE.

Veh : 1 CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH

## Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024067

Mon 10:00 AM

[illegible]

Street: STATE HWY 22

Persons Injured: 0

### Extent of Injuries:

**Case: 2009-33138018**

Date: 02/01/13  
03:35

Page: 1



Veh 1	Accident Class: PROPERTY DAMAGE	Police Agency:	Num of Veh: 1
	Type Of Accident: COLLISION WITH OTHER	Traffic Control: UNKNOWN	
	Manner of Collision: OTHER	Weather: CLEAR	
	Road Surface Condition: DRY	Road Char.: STRAIGHT AND LEVEL	Light Condition: DAYLIGHT
	Loc. of Ped/Bicycle: NOT APPLICABLE	Action of Ped/Bicycle: NOT APPLICABLE	
	CARVAN/PICKUP	Registered Weight: 3805	State of Registration: NY
	Num of Occupants: 1	Driver's Age: 70	Sex: M
	Direction of Travel: SOUTH	Public Property Damage: N	Citation Issued: N
	Pre-Accod Action: GOING STRAIGHT AHEAD		School Bus Involved: N
	Apparent Factors: UNKNOWN, UNKNOWN		

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/01/13  
03:35  
Page: 2

County: Westchester Muni: North Castle(T) Ref. Marker: 35 Meters East of Bedford Rd

9/16/2009

Wed 08:57 AM

Persons Killed: 0

Persons Injured: 1

Extent of Injuries: C

Case: 2009-33136460

Accident Class: PROPERTY DAMAGE AND INJURY

Police Agency: STOP SIGN

Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Traffic Control: STOP SIGN

Weather: CLOUDY

Manner of Collision: REAR END

Road Surface Condition: DRY

Road Char.: STRAIGHT AND LEVEL

Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE

Action of Ped/Bicycle: NOT APPLICABLE

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3140

State of Registration: NY

Num of Occupants: 1

Driver's Age: 25

Sex: F

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2

CAR/VAN/PICKUP

Registered Weight:

State of Registration: CT

Num of Occupants: 1

Driver's Age: 58

Sex: M

Citation Issued: N

Direction of Travel: NORTH

Public Property Damage: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY

School Bus Involved: N

County: Westchester  
8/27/2009

Thu 13:30 PM

Ref. Marker: 22

Persons Injured: 0

Extent of Injuries:

Case: 2009-33176142

Accident Class: PROPERTY DAMAGE

Police Agency: NONE

Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Weather: CLEAR

Traffic Control: NONE

Manner of Collision: OVERTAKING

Road Surface Condition: DRY

Road Char.: STRAIGHT AND LEVEL

Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE

Action of Ped/Bicycle: NOT APPLICABLE

School Bus Involved: N

Veh :2

OTHER

Registered Weight:

State of Registration:

Num of Occupants: 0

Driver's Age:

Sex:

Citation Issued:

Direction of Travel: NORTH

Public Property Damage: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Registered Weight: 3616

State of Registration: NY

Num of Occupants: 1      Driver's Age: 81      Sex: M      Citation Issued: N  
Direction of Travel: NORTH      Public Property Damage: N      School Bus Involved: N  
Pre-Accd Action: GOING STRAIGHT AHEAD  
Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester    Muni: North Castle(T)    Ref. Marker: 22 87024067    Street: STATE HWY 22    Case: 2009-33178437  
9/22/2009    Tue 22:20 PM    Persons Killed: 0    Persons Injured: 1    Extent of Injuries: C    Num of Veh: 2  
Accident Class: INJURY    Police Agency:    Traffic Control: TRAFFIC SIGNAL  
Type Of Accident: COLLISION WITH MOTOR VEHICLE    Weather: CLEAR  
Manner of Collision: REAR END    Light Condition: DARK-ROAD LIGHTED  
Road Surface Condition: DRY    Road Char.: STRAIGHT AND LEVEL    Action of Ped/Bicycle: NOT APPLICABLE  
Loc. of Ped/Bicycle: NOT APPLICABLE

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024067 Street: STATE HWY 22

\*\*\*\*\* CONTINUED

Veh :2 CAR/VAN/PICKUP

Num of Occupants: 1

Direction of Travel: NORTH

Pre-Accd Action: STARTING IN TRAFFIC

Apparent Factors: DRIVER INATTENTION, UNKNOWN

Registered Weight: 2844

Driver's Age: 47

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

Veh :1

CAR/VAN/PICKUP

Registered Weight: 2905

Driver's Age: 52

Public Property Damage: N

State of Registration: NY

Sex: M Citation Issued: N

School Bus Involved: N

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 684187011075 Street: I 684

10/10/2009

Sat Persons Killed: 0

Persons Injured: 0

Accident Class: PROPERTY DAMAGE

Type Of Accident: OTHER NON-COLLISION

Manner of Collision: OTHER

Road Surface Condition: UNKNOWN

Loc. of Ped/Bicycle: NOT APPLICABLE

Extent of Injuries:

Police Agency:

Traffic Control: UNKNOWN

Weather: UNKNOWN

Road Char.: UNKNOWN

Action of Ped/Bicycle: NOT APPLICABLE

Case: 2009-33229048

Num of Veh: 1

Light Condition: UNKNOWN

Veh :1

OTHER Registered Weight:

Num of Occupants: 2

Direction of Travel: UNKNOWN

Pre-Accd Action: UNKNOWN

Apparent Factors: UNKNOWN, UNKNOWN

State of Registration: CT

Sex: M

Driver's Age: 25

Public Property Damage: N

Citation Issued: N

School Bus Involved: N

County: Westchester Muni: North Castle(T) Ref. Marker: Street: RAMP

31 Meters South of Bedford Rd

10/5/2010

Tue 14:00 PM

Persons Killed: 0

Accident Class: NON-REPORTABLE

Type Of Accident: COLLISION WITH MOTOR VEHICLE

Manner of Collision: REAR END

Road Surface Condition: WET

Loc. of Ped/Bicycle: NOT APPLICABLE

Persons Injured: 0

Extent of Injuries:

Police Agency:

Traffic Control: STOP SIGN

Weather: CLOUDY

Road Char.: STRAIGHT AND LEVEL

Action of Ped/Bicycle: NOT APPLICABLE

Case: 2010-33596632

Num of Veh: 2

Light Condition: DAYLIGHT

Veh :2	CAR/VAN/PICKUP Num of Occupants: 1 Direction of Travel: EAST Pre-Accod Action: SLOWED OR STOPPING Apparent Factors: NOT APPLICABLE, NOT APPLICABLE	Registered Weight: Driver's Age: 58 Public Property Damage: N	State of Registration: NY Sex: M Citation Issued: N School Bus Involved: N
Veh :1	CAR/VAN/PICKUP Num of Occupants: 1 Direction of Travel: EAST Pre-Accod Action: GOING STRAIGHT AHEAD Apparent Factors: NOT APPLICABLE, DRIVER INATTENTION	Registered Weight: Driver's Age: 56 Public Property Damage: N	State of Registration: NY Sex: M Citation Issued: N School Bus Involved: N

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

Date: 02/01/13  
03:35  
Page: 4

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024068 Street: BEDFORD RD  
47 Meters East of Ramp

9/9/2010

Thu 17:31 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2010-33585863  
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Traffic Control: TRAFFIC SIGNAL Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Weather: CLEAR  
Manner of Collision: REAR END Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT  
Road Surface Condition: DRY Action of Ped/Bicycle: NOT APPLICABLE  
Loc. of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP Registered Weight: 3674 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 18 Sex: M Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: GLARE, UNKNOWN

Veh :2

CAR/VAN/PICKUP Registered Weight: 3969 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 62 Sex: F Citation Issued: N  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: SLOWED OR STOPPING

Apparent Factors: UNKNOWN, UNKNOWN

County: Westchester Muni: North Castle(T) Ref. Marker: 22 87024067 Street: STATE HWY 22  
9/22/2010 Wed 14:46 PM Persons Killed: 0 Persons Injured: 0

Accident Class: PROPERTY DAMAGE Case: 2010-33614667  
Type Of Accident: COLLISION WITH MOTOR VEHICLE Num of Veh: 2  
Manner of Collision: RIGHT ANGLE Traffic Control: TRAFFIC SIGNAL  
Road Surface Condition: DRY Weather: CLEAR  
Loc. of Ped/Bicycle: NOT APPLICABLE Light Condition: DAYLIGHT  
Action of Ped/Bicycle: NOT APPLICABLE

Veh :1

CAR/VAN/PICKUP Registered Weight: 3911 State of Registration: NY  
Num of Occupants: 1 Driver's Age: 28 Sex: F Citation Issued: Y  
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, TRAFFIC CONTROL DEVICES DISREGARDED

Veh :2

CAR/VAN/PICKUP Registered Weight: 5463 State of Registration: NY

Num of Occupants: 1  
 Direction of Travel: EAST  
 Pre-Accident Action: MAKING LEFT TURN  
 Apparent Factors: UNKNOWN, UNKNOWN

Driver's Age: 63  
 Sex: M  
 Citation Issued: N  
 School Bus Involved: N

County: Westchester  
 Muni: North Castle(T)  
 Ref. Marker: 22 87024067  
 Street: [Route] 22  
 Date: 1/26/2011  
 Time: Wed 13:34 PM  
 Persons Killed: 0  
 Persons Injured: 1  
 Accident Class: PROPERTY DAMAGE AND INJURY  
 Type Of Accident: OTHER NON-COLLISION  
 Manner of Collision: OTHER  
 Road Surface Condition: WET  
 Loc. of Ped/Bicycle: NOT APPLICABLE

Extent of Injuries: B  
 Police Agency:  
 Traffic Control: NONE  
 Weather: SNOW  
 Light Condition: DAYLIGHT  
 Action of Ped/Bicycle: NOT APPLICABLE

Case: 2011-33769346  
 Num of Veh: 1

Road Char.: STRAIGHT AND LEVEL  
 Action of Ped/Bicycle: NOT APPLICABLE

Date: 02/01/13

03:35

Page: 5

# Accident Location Information System (ALIS)

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester	Muni: North Castle(T)	Ref. Marker: 22 87024067	Street: [Route] 22	Registered Weight: 3786	State of Registration: NY
Veh :1	CARVAN/PICKUP	Num of Occupants: 3	Direction of Travel: NORTH	Driver's Age: 26	Sex: F
			Pre-Accd Action: GOING STRAIGHT AHEAD		Citation Issued: N
			Apparent Factors: UNKNOWN, OBSTRUCTION/DEBRIS		School Bus Involved: N
County: Westchester	Muni: North Castle(T)	Ref. Marker: 22 87024067	Street: STATE HWY 22	Extent of Injuries:	Case: 2011-33850858
3/25/2011	Fri 12:04 PM	Persons Killed: 0	Persons Injured: 0	Police Agency:	Num of Veh: 2
	Accident Class: PROPERTY DAMAGE			Traffic Control: TRAFFIC SIGNAL	
	Type Of Accident: COLLISION WITH MOTOR VEHICLE			Weather: CLEAR	
	Manner of Collision: REAR END			Light Condition: DAYLIGHT	
	Road Surface Condition: DRY			Action of Ped/Bicycle: NOT APPLICABLE	
	Loc. of Ped/Bicycle: NOT APPLICABLE				
Veh :2	CARVAN/PICKUP	Registered Weight:		State of Registration: NY	
	Num of Occupants: 1	Driver's Age: 66		Sex: F	Citation Issued: N
	Direction of Travel: SOUTH	Public Property Damage: N			School Bus Involved: N
	Pre-Accd Action: STOPPED IN TRAFFIC				
	Apparent Factors: NOT APPLICABLE, NOT APPLICABLE				
Veh :1	CARVAN/PICKUP	Registered Weight: 3875		State of Registration: NY	
	Num of Occupants: 1	Driver's Age: 65		Sex: M	Citation Issued: N
	Direction of Travel: SOUTH	Public Property Damage: N			School Bus Involved: N
	Pre-Accd Action: STARTING IN TRAFFIC				
	Apparent Factors: NOT APPLICABLE, DRIVER INATTENTION				
County: Westchester	Muni: North Castle(T)	Ref. Marker: 22 87024067	Street: [Route] 22	Extent of Injuries:	Case: 2011-33828191
3/3/2011	Thu 17:15 PM	Persons Killed: 0	Persons Injured: 0	Police Agency:	Num of Veh: 2
	Accident Class: PROPERTY DAMAGE			Traffic Control: TRAFFIC SIGNAL	
	Type Of Accident: COLLISION WITH MOTOR VEHICLE			Weather: CLEAR	
	Manner of Collision: REAR END			Light Condition: DAYLIGHT	
	Road Surface Condition: DRY			Action of Ped/Bicycle: NOT APPLICABLE	
	Loc. of Ped/Bicycle: NOT APPLICABLE				
Veh :1	CARVAN/PICKUP	Registered Weight:		State of Registration: NY	



Num of Occupants: 1	Driver's Age: 55	Sex: M	Citation Issued: N
Direction of Travel: NORTH	Public Property Damage: N		School Bus Involved: N
Pre-Accd Action: STOPPED IN TRAFFIC			
Apparent Factors: UNKNOWN, UNKNOWN			
Veh #2			
CAR/VAN/PICKUP	Registered Weight:	State of Registration: NY	
Num of Occupants: 1	Driver's Age: 47	Sex: M	Citation Issued: N
Direction of Travel: NORTH	Public Property Damage: N		School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD			
Apparent Factors: UNKNOWN, DRIVER INATTENTION			

# Accident Location Information System (ALIS)

Date: 02/01/13

03:35

Page: 6

## Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester		Muni: North Castle(T)		Ref. Marker: 684187011076		Street: I 684	
<b>8/9/2011</b>		Tue 08:13 AM		Persons Killed: 0		Persons Injured: 0	
Accident Class: PROPERTY DAMAGE		Type Of Accident: COLLISION WITH MOTOR VEHICLE		Extent of Injuries: Police Agency:		Case: 2011-33994732 Num of Veh: 2	
Manner of Collision: REAR END		Road Surface Condition: DRY		Weather: CLOUDY		Traffic Control: NONE	
Loc. of Ped/Bicycle: NOT APPLICABLE		Road Char.: STRAIGHT AND LEVEL		Action of Ped/Bicycle: NOT APPLICABLE		Light Condition: DAYLIGHT	
Veh :2		CARVAN/PICKUP		Registered Weight: 4270		State of Registration: NY	
Num of Occupants: 1		Direction of Travel: NORTH-EAST		Driver's Age: 32		Sex: F	
Pre-Accd Action: SLOWED OR STOPPING		Public Property Damage: N		Citation Issued: N		School Bus Involved: N	
Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE							
Veh :1		CARVAN/PICKUP		Registered Weight:		State of Registration: MA	
Num of Occupants: 1		Direction of Travel: NORTH-EAST		Driver's Age: 24		Sex: F	
Pre-Accd Action: GOING STRAIGHT AHEAD		Public Property Damage: N		Citation Issued: N		School Bus Involved: N	
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE							
County: Westchester		Muni: North Castle(T)		Ref. Marker: 22 87024068		Street: BEDFORD RD	
<b>10/3/2011</b>		Mon 17:30 PM		Persons Killed: 0		Persons Injured: 0	
Accident Class: NON-REPORTABLE		Type Of Accident: COLLISION WITH MOTOR VEHICLE		Extent of Injuries: Police Agency:		Case: 2011-34036853 Num of Veh: 2	
Manner of Collision: REAR END		Road Surface Condition: DRY		Weather: CLEAR		Traffic Control: STOP SIGN	
Loc. of Ped/Bicycle: NOT APPLICABLE		Road Char.: STRAIGHT AND LEVEL		Action of Ped/Bicycle: NOT APPLICABLE		Light Condition: DAYLIGHT	
Veh :1		CARVAN/PICKUP		Registered Weight:		State of Registration: NY	
Num of Occupants: 2		Direction of Travel: NORTH		Driver's Age: 40		Sex: F	
Pre-Accd Action: GOING STRAIGHT AHEAD		Public Property Damage: N		Citation Issued: N		School Bus Involved: N	
Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY							
Veh :2		CARVAN/PICKUP		Registered Weight:		State of Registration: NY	

Num of Occupants: 1      Driver's Age: 22      Sex: F      Citation Issued: N  
Direction of Travel: NORTH      Public Property Damage: N      School Bus Involved: N  
Pre-Accd Action: STOPPED IN TRAFFIC  
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Westchester    Muni: North Castle(T)    Ref. Marker: 684187011076    Street: I 684  
**10/30/2011**    Sun 16:00 PM    Persons Killed: 0    Persons Injured: 1    Extent of Injuries: C    Case: **2011-34113931**  
Accident Class: PROPERTY DAMAGE AND INJURY    Police Agency:    Num of Veh: 2  
Type Of Accident: COLLISION WITH MOTOR VEHICLE    Traffic Control: TRAFFIC SIGNAL  
Manner of Collision: REAR END    Weather: CLOUDY    Light Condition: DAYLIGHT  
Road Surface Condition: WET    Road Char.: STRAIGHT AND LEVEL    Action of Ped/Bicycle: NOT APPLICABLE  
Loc. of Ped/Bicycle: NOT APPLICABLE

## Accident Location Information System (ALIS)

Date: 02/01/13  
03:35

Page: 7

### Accident Verbal Description Report

8912 VDR Intersection RT 22 and RT 684 Ramps, Westchester

Data in this report covers the period Jan 01, 2009 - Dec 31, 2011

Complete Accident data from NYSDMV is only available thru 1/31/2012

County: Westchester Muni: North Castle(T) Ref. Marker: 684187011076 Street: I 684

\*\*\*\*\* CONTINUED

Veh :1 CARVAN/PICKUP

Num of Occupants: 1

Direction of Travel: SOUTH

Pre-Accd Action: UNKNOWN

Apparent Factors: UNKNOWN, UNKNOWN

Registered Weight: 4450

Driver's Age: 64

Public Property Damage: N

State of Registration: NY

Sex: M

Citation Issued: N

School Bus Involved: N

Veh :2

OTHER Registered Weight:

Num of Occupants: 0

Direction of Travel: NOT ENTERED

Pre-Accd Action: NOT ENTERED

Apparent Factors: UNKNOWN, UNKNOWN

Driver's Age:

Public Property Damage: N

State of Registration:

Sex:

Citation Issued:

School Bus Involved: N



# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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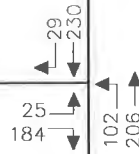
## **APPENDIX G**

### **EVALUATION OF PEAK SCHOOL HOUR NYS ROUTE 22/TRIPP LANE**

NYS ROUTE 22 (BEDFORD ROAD)

BYRAM HILLS  
HIGH SCHOOL

TRIPP LANE

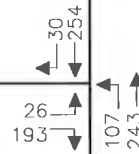


YEAR 2013 EXISTING TRAFFIC VOLUMES

NYS ROUTE 22 (BEDFORD ROAD)

BYRAM HILLS  
HIGH SCHOOL

TRIPP LANE



YEAR 2018 NO-BUILD TRAFFIC VOLUMES

NYS ROUTE 22 (BEDFORD ROAD)

BYRAM HILLS  
HIGH SCHOOL

TRIPP LANE



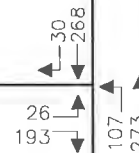
\*NOTE - SITE GENERATED TRAFFIC  
VOLUMES ASSUMES THE CONSERVATIVE  
PEAK PM TRIP GENERATION RATES

SITE GENERATED TRAFFIC VOLUMES\*

NYS ROUTE 22 (BEDFORD ROAD)

BYRAM HILLS  
HIGH SCHOOL

TRIPP LANE



YEAR 2018 BUILD TRAFFIC VOLUMES

NOTE: LINE DIAGRAM NOT TO SCALE



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email: solutions @ maserconsulting.com

BRYNWOOD GOLF AND COUNTRY CLUB  
TOWN OF NORTH CASTLE, NEW YORK

SCHOOL PM PEAK HOUR  
(3:00 PM - 4:00 PM)



JOB NUMBER: 12100120A DATE: 05/08/2013

FIGURE NUMBER: A

**TABLE NO. A**

LEVEL OF SERVICE SUMMARY TABLE

PEAK SCHOOL HOUR 3:00 PM - 4:00 PM










	LOCATION	YEAR 2013 EXISTING CONDITIONS	YEAR 2018 NO-BUILD CONDITIONS	YEAR 2018 BUILD CONDITIONS
5	NYS ROUTE 22 & TRIPP LANE (BYRAM HILLS HIGH SCHOOL)			
	SIGNALIZED			
	EASTBOUND LEFT / RIGHT	D [40.7]	D [42.3]	D [42.3]
	EASTBOUND APPROACH	D [40.7]	D [42.3]	D [42.3]
	NORTHBOUND LEFT / THROUGH	A [8.2]	A [9.1]	A [9.8]
	NORTHBOUND APPROACH	A [8.2]	A [9.1]	A [9.8]
	SOUTHBOUND THROUGH / RIGHT	A [6.4]	A [6.8]	A [6.9]
	SOUTHBOUND APPROACH	A [6.4]	A [6.8]	A [6.9]
	OVERALL INTERSECTION	B [16.3]	B [16.8]	B [16.8]

THE ABOVE REPRESENTS THE LEVELS OF SERVICE AND VEHICLE DELAY IN SECONDS, B [10.9], FOR THE SIGNALIZED INTERSECTION

YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR







5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.881				0.985	
Flt Protected	0.994			0.984		
Satd. Flow (prot)	1514	0	0	1726	1700	0
Flt Permitted	0.994			0.710		
Satd. Flow (perm)	1508	0	0	1240	1700	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	25	184	102	206	230	29
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	27	196	109	219	245	31
Lane Group Flow (vph)	223	0	0	328	276	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	39.0	0.0	20.0	61.0	41.0	0.0
Total Split (%)	39.0%	0.0%	20.0%	61.0%	41.0%	0.0%
Maximum Green (s)	34.0		15.0	56.0	36.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	18.8			60.4	60.4	
Actuated g/C Ratio	0.22			0.69	0.69	
v/c Ratio	0.68			0.38	0.23	
Control Delay	40.7			8.2	6.4	
Queue Delay	0.0			0.0	0.0	
Total Delay	40.7			8.2	6.4	



YEAR 2013 EXISTING TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR  
5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	40.7			8.2	6.4	
Approach LOS	D			A	A	
Queue Length 50th (ft)	107			63	47	
Queue Length 95th (ft)	179			147	104	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	514			858	1177	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.43			0.38	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 87.2

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.3





Intersection LOS: B

Intersection Capacity Utilization 54.1%

ICU Level of Service A

Analysis Period (min) 15










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

	
ø2	ø4
61 s	39 s
	
ø5	ø6
20 s	41 s

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22







WEEKDAY PEAK SCHOOL HOUR

5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.881				0.986	
Flt Protected	0.994			0.985		
Satd. Flow (prot)	1514	0	0	1725	1702	0
Flt Permitted	0.994			0.714		
Satd. Flow (perm)	1508	0	0	1246	1702	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	193	107	243	254	30
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	205	114	259	270	32
Lane Group Flow (vph)	233	0	0	373	302	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	37.0	0.0	17.0	63.0	46.0	0.0
Total Split (%)	37.0%	0.0%	17.0%	63.0%	46.0%	0.0%
Maximum Green (s)	32.0		12.0	58.0	41.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	19.7			61.9	61.9	
Actuated g/C Ratio	0.22			0.69	0.69	
v/c Ratio	0.70			0.43	0.26	
Control Delay	42.3			9.1	6.8	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.3			9.1	6.8	

YEAR 2018 NO-BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR  
5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.3			9.1	6.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)	117			79	54	
Queue Length 95th (ft)	192			182	120	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	487			861	1175	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.48			0.43	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 89.6

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 16.8





Intersection LOS: B

Intersection Capacity Utilization 58.3%

ICU Level of Service B

Analysis Period (min) 15










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 ø2	 ø4
63 s	37 s
 ø5	 ø6
17 s	46 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR

5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.881				0.986	
Flt Protected	0.994			0.986		
Satd. Flow (prot)	1514	0	0	1725	1702	0
Flt Permitted	0.994			0.707		
Satd. Flow (perm)	1508	0	0	1233	1702	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	193	107	273	268	30
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	205	114	290	285	32
Lane Group Flow (vph)	233	0	0	404	317	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	37.0	0.0	17.0	63.0	46.0	0.0
Total Split (%)	37.0%	0.0%	17.0%	63.0%	46.0%	0.0%
Maximum Green (s)	32.0		12.0	58.0	41.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	19.7			61.9	61.9	
Actuated g/C Ratio	0.22			0.69	0.69	
v/c Ratio	0.70			0.47	0.27	
Control Delay	42.3			9.8	6.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.3			9.8	6.9	

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR  
5/7/2013



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.3			9.8	6.9	
Approach LOS	D			A	A	
Queue Length 50th (ft)	117			89	58	
Queue Length 95th (ft)	192			205	127	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	487			851	1175	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.48			0.47	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 89.6

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

↑ ø2 63 s	↗ ø4 37 s
↖ ø5 17 s	↓ ø6 46 s

LOCATION: ROUTE 22 & TRIPP LANE PROJECT: BRYNWOOD  
DATE OF COUNT: 01/24/13 DAY: THURSDAY JCE JOB #: 12100120A START TIME: 15:00 PM

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total
	1	2	3	4	5	6	7	8	9	10	11	12	
03:00 PM	6		52				25	53			54	10	200
03:15 PM	10		51				26	49			59	7	202
03:30 PM	4		46				28	48			75	4	205
03:45 PM	5		35				23	56			42	8	169
04:00 PM	8		32				36	53			36	5	170
04:15 PM	9		35				35	60			52	9	200
04:30 PM	4		27				14	57			56	7	165
04:45 PM	2		9				18	57			56	0	142
05:00 PM	2		11				14	68			47	2	144
05:15 PM	7		24				30	83			43	10	197
05:30 PM	8		30				31	81			37	4	191
05:45 PM	2		26				23	68			49	3	171
06:00 PM													0
06:15 PM													0
06:30 PM													0
06:45 PM													0
07:00 PM													0

CALCULATED PEAK 15-MINUTE VOLUMES

03:00 PM	6	0	52	0	0	0	25	53	0	0	54	10	200
03:15 PM	10	0	51	0	0	0	26	49	0	0	59	7	202
03:30 PM	4	0	46	0	0	0	28	48	0	0	75	4	205
03:45 PM	5	0	35	0	0	0	23	56	0	0	42	8	169
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
03:00 PM	25	0	184	0	0	0	102	206	0	0	230	29	776	0.946341

29	230	0	^	6	0
12	11	10	<	5	0
<	v	>	v	4	0
25	1	^	<	^	>
0	2	>	7	8	9
184	3	v	102	206	0



# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX H**

### **ALTERNATIVE ACCESS BYRAM HILLS HIGH SCHOOL**



TABLE NO. B  
LEVEL OF SERVICE SUMMARY TABLE  
ALTERNATIVE ACCESS

	LOCATION	YEAR 2018 BUILD CONDITIONS			
		AM 7:00 - 8:00	AM 8:15 - 9:15	PM 3:00 - 4:00	PM 5:00 - 6:00
5	NYS ROUTE 22 & TRIPP LANE (BYRAM HILLS HIGH SCHOOL)				
	SIGNALIZED				
	EASTBOUND LEFT / RIGHT	F [144.5]	D [43.0]	D [42.3]	D [43.0]
	EASTBOUND APPROACH	F [144.5]	D [43.0]	D [42.3]	D [43.0]
	NORTHBOUND LEFT / THROUGH	F [385.1]	A [3.4]	A [9.8]	A [6.7]
	NORTHBOUND APPROACH	F [385.1]	A [3.4]	A [9.8]	A [6.7]
	SOUTHBOUND THROUGH / RIGHT	B [10.0]	A [3.4]	A [6.9]	A [5.0]
	SOUTHBOUND APPROACH	B [10.0]	A [3.4]	A [6.9]	A [5.0]
	OVERALL INTERSECTION	F [187.6]	A [5.7]	B [16.8]	B [12.7]
	W/ ALTERNATIVE ACCESS				
	SIGNALIZED				
	EASTBOUND LEFT / RIGHT	F [113.6]	D [42.2]	D [42.9]	D [42.7]
	EASTBOUND APPROACH	F [113.6]	D [42.2]	D [42.9]	D [42.7]
	NORTHBOUND LEFT / THROUGH	F [306.3]	A [3.0]	A [7.6]	A [5.6]
	NORTHBOUND APPROACH	F [306.3]	A [3.0]	A [7.6]	A [5.6]
	SOUTHBOUND THROUGH / RIGHT	A [8.3]	A [3.0]	A [5.5]	A [4.2]
	SOUTHBOUND APPROACH	A [8.3]	A [3.0]	A [5.5]	A [4.2]
	OVERALL INTERSECTION	F [150.8]	A [4.9]	B [14.0]	B [10.6]

THE ABOVE REPRESENTS THE LEVELS OF SERVICE AND VEHICLE DELAY IN SECONDS, B [10.9], FOR THE SIGNALIZED INTERSECTION












YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

5/7/2013







						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				0.98	
Frt	0.896				0.954	
Flt Protected	0.989			0.963		
Satd. Flow (prot)	1486	0	0	1723	1645	0
Flt Permitted	0.989			0.312		
Satd. Flow (perm)	1475	0	0	558	1645	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	52	177	357	110	298	152
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	5%	10%	5%	10%	10%	5%
Adj. Flow (vph)	72	246	496	153	414	211
Lane Group Flow (vph)	318	0	0	649	625	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	24.0	0.0	10.0	76.0	66.0	0.0
Total Split (%)	24.0%	0.0%	10.0%	76.0%	66.0%	0.0%
Maximum Green (s)	19.0		5.0	71.0	61.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	20.0			72.5	72.5	
Actuated g/C Ratio	0.20			0.72	0.72	
v/c Ratio	1.07			1.61	0.53	
Control Delay	113.6			306.3	8.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	113.6			306.3	8.3	

YEAR 2018 BUILD TRAFFIC VOLUMES

WEEKDAY PEAK AM HOUR - 7:00 - 8:00

5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	F			F	A	
Approach Delay	113.6			306.3	8.3	
Approach LOS	F			F	A	
Queue Length 50th (ft)	~226			~341	154	
Queue Length 95th (ft)	#277			#340	156	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	296			403	1186	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.07			1.61	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100.5

Natural Cycle: 150

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.61

Intersection Signal Delay: 150.8

Intersection LOS: F

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15





~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 Ø2	 Ø4
76 s	24 s
 Ø5	 Ø6
10 s	66 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15







5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95				1.00	
Frt	0.900				0.993	
Flt Protected	0.987			0.994		
Satd. Flow (prot)	1547	0	0	1727	1715	0
Flt Permitted	0.987			0.832		
Satd. Flow (perm)	1535	0	0	1445	1715	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	10	28	42	288	398	21
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	13	37	56	384	531	28
Lane Group Flow (vph)	50	0	0	440	559	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	28.0	0.0	16.0	72.0	56.0	0.0
Total Split (%)	28.0%	0.0%	16.0%	72.0%	56.0%	0.0%
Maximum Green (s)	23.0		11.0	67.0	51.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	10.3			99.2	99.2	
Actuated g/C Ratio	0.09			0.87	0.87	
v/c Ratio	0.37			0.35	0.38	
Control Delay	42.2			3.0	3.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.2			3.0	3.0	

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK AM HOUR - 8:15 - 9:15

5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.2			3.0	3.0	
Approach LOS	D			A	A	
Queue Length 50th (ft)	37			54	71	
Queue Length 95th (ft)	54			76	95	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	286			1250	1484	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.17			0.35	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 114.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 4.9





Intersection LOS: A

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 Ø2	 Ø4
72 s	28 s
 Ø5	 Ø6
16 s	56 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR







5/7/2013

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	0.99	
Frt	0.886				0.986	
Flt Protected	0.992			0.986		
Satd. Flow (prot)	1522	0	0	1725	1702	0
Flt Permitted	0.992			0.729		
Satd. Flow (perm)	1515	0	0	1271	1702	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	145	107	273	268	30
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	154	114	290	285	32
Lane Group Flow (vph)	182	0	0	404	317	0
Turn Type		pm+pt				
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	34.0	0.0	18.0	66.0	48.0	0.0
Total Split (%)	34.0%	0.0%	18.0%	66.0%	48.0%	0.0%
Maximum Green (s)	29.0		13.0	61.0	43.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	17.3			67.8	67.8	
Actuated g/C Ratio	0.19			0.73	0.73	
v/c Ratio	0.64			0.44	0.26	
Control Delay	42.9			7.6	5.5	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.9			7.6	5.5	



YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK SCHOOL HOUR  
5/7/2013





						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.9			7.6	5.5	
Approach LOS	D			A	A	
Queue Length 50th (ft)	96			78	51	
Queue Length 95th (ft)	158			172	109	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	433			926	1239	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.42			0.44	0.26	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 93.1  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 14.0  
 Intersection Capacity Utilization 58.2%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B










Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

 ø2	 ø4
66 s	34 s
 ø5	 ø6
18 s	48 s

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22

WEEKDAY PEAK PM HIGHWAY HOUR

5/7/2013

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			1.00	1.00	
Frt	0.894				0.987	
Flt Protected	0.990			0.991		
Satd. Flow (prot)	1538	0	0	1727	1704	0
Flt Permitted	0.990			0.865		
Satd. Flow (perm)	1527	0	0	1503	1704	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			40	40	
Link Distance (ft)	907			1109	878	
Travel Time (s)	20.6			18.9	15.0	
Volume (vph)	26	98	84	358	252	26
Confl. Peds. (#/hr)	10	10	10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	10%	10%	5%
Adj. Flow (vph)	28	104	89	381	268	28
Lane Group Flow (vph)	132	0	0	470	296	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Detector Phases	4		5	2	6	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	21.0		9.0	21.0	21.0	
Total Split (s)	32.0	0.0	20.0	68.0	48.0	0.0
Total Split (%)	32.0%	0.0%	20.0%	68.0%	48.0%	0.0%
Maximum Green (s)	27.0		15.0	63.0	43.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	15.0			76.3	76.3	
Actuated g/C Ratio	0.15			0.77	0.77	
v/c Ratio	0.57			0.41	0.23	
Control Delay	42.7			5.6	4.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	42.7			5.6	4.2	

YEAR 2018 BUILD TRAFFIC VOLUMES  
5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22.

WEEKDAY PEAK PM HIGHWAY HOUR

5/7/2013



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D			A	A	
Approach Delay	42.7			5.6	4.2	
Approach LOS	D			A	A	
Queue Length 50th (ft)	74			78	41	
Queue Length 95th (ft)	122			159	85	
Internal Link Dist (ft)	827			1029	798	
Turn Bay Length (ft)						
Base Capacity (vph)	387			1154	1309	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.34			0.41	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99.3

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 10.6

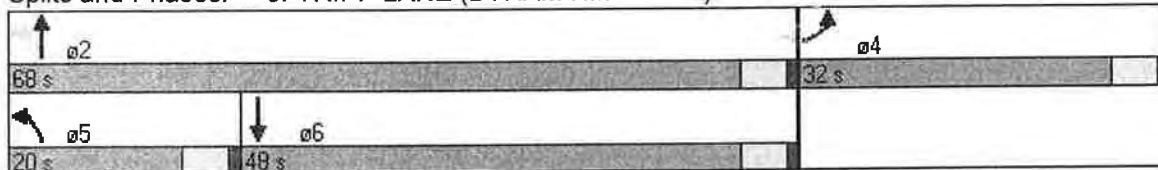
Intersection LOS: B

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: TRIPP LANE (BYRAM HILLS H.S.) & NYS ROUTE 22





# ***BRYNWOOD GOLF AND COUNTRY CLUB***

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## **APPENDIX I**

### **GATEHOUSE SINGLE LANE CHANNEL QUEUING ANALYSIS**

**TABLE C**  
**BRYNWOOD GOLF AND COUNTRY CLUB CHANNEL QUEUING ANALYSIS**

**WEEKDAY PEAK AM HOUR (7:00 AM TO 8:00 AM)**

$\lambda =$	8	Mean Number of Arrival per Time Period
$\mu =$	120	Mean Number of Units Served per Time Period
$k =$	1	
$L_s =$	0.07	Average Number of Units (Customers) in the System (Waiting and Being Served)
$W_s =$	0.01	Average Time a Unit Spends in the System (Waiting Time Plus Service Time)
$L_q =$	0.00	Average Number of Units Waiting in the Queue
$W_q =$	0.04 mins	Average Time a Unit Spends Waiting in the Queue
$p =$	6.67%	Utilization Factor for the System
$P_0 =$	0.93	Probability of 0 Units in the System (The Service Unit is Idle)
$P_n > k =$	0.00	Probability of More Than k Units in the System, Where n is the Number of Units in the System

**WEEKDAY PEAK AM HOUR (8:00 AM TO 9:00 AM)**

$\lambda =$	8	Mean Number of Arrival per Time Period
$\mu =$	120	Mean Number of Units Served per Time Period
$k =$	1	
$L_s =$	0.07	Average Number of Units (Customers) in the System (Waiting and Being Served)
$W_s =$	0.01	Average Time a Unit Spends in the System (Waiting Time Plus Service Time)
$L_q =$	0.00	Average Number of Units Waiting in the Queue
$W_q =$	0.04 mins	Average Time a Unit Spends Waiting in the Queue
$p =$	6.67%	Utilization Factor for the System
$P_0 =$	0.93	Probability of 0 Units in the System (The Service Unit is Idle)
$P_n > k =$	0.00	Probability of More Than k Units in the System, Where n is the Number of Units in the System

**WEEKDAY PEAK AM HOUR (7:00 AM TO 8:00 AM)**

$\lambda =$	37	Mean Number of Arrival per Time Period
$\mu =$	120	Mean Number of Units Served per Time Period
$k =$	1	
$L_s =$	0.45	Average Number of Units (Customers) in the System (Waiting and Being Served)
$W_s =$	0.01	Average Time a Unit Spends in the System (Waiting Time Plus Service Time)
$L_q =$	0.14	Average Number of Units Waiting in the Queue
$W_q =$	0.22 mins	Average Time a Unit Spends Waiting in the Queue
$p =$	30.83%	Utilization Factor for the System
$P_0 =$	0.69	Probability of 0 Units in the System (The Service Unit is Idle)
$P_n > k =$	0.10	Probability of More Than k Units in the System, Where n is the Number of Units in the System

## **APPENDIX N**

# Air Quality Appendix

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# Appendix - Air Quality

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## **Air Quality**

1. Background Concentrations
2. Air Quality Determination Process
3. Greenhouse Gas Mobile Emissions
4. Greenhouse Gas Stationary Emissions

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# **1. Background Concentrations**

# OZONE - Continuous UV Light Absorption

Annual Averages 2001 through 2011  
Annual Arithmetic Mean (ppm)

Station	Site No.	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Millbrook	1328-01	.030	.029	.028	.025	.025	.024	.027	.027	.027	.029	.027
Mt. Ninham	3951-01	.033	0.35	.031	.028	.029	.028	.029	.027	.027	.031	.027
Belleayre Mtn.	5565-03	.035	.036	.036	.034	.035	.034	.034	.030	.032	.035	.033

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2011

Station	Site No.	Total Obs.	% Avail	>.12 PPM	One Hour Averages				4th Highest Daily Maximum 8-Hour Average- Not to exceed an avg of 0.075 ppm during the last 3 years, changed from 0.08 ppm on 5/27/08*			
					Observations		Highest Values, PPM		2009		2010	
Millbrook	1328-01	7,933	91	0	.123 [07/20, 15]	.087 [07/21, 17]	.083 [06/28, 18]	.081 [06/07, 17]	.068 [05/20]	.076 [08/04]	.072 [06/07]	.072
Mt. Ninham	3951-01	8,319	95	0	.090 [06/09, 14]	.087 [04/29, 14]	.087 [07/20, 13]	.079 [07/21, 12]	.070 [05/21]	.077 [06/19]	.068 [06/28]	.071
Belleayre Mtn.	5565-03	8,552	98	0	.091 [05/26, 16]	.084 [07/20, 21]	.081 [07/21, 19]	.079 [06/07, 13]	.067 [05/20]	.070 [04/02]	.071 [06/07]	.069

(Annual Means in parentheses are based on less than 75% available data)  
\*Federal Ambient Air Quality Standard

[Date of Occurrence, Hour]  
+ Denotes a contravention of Federal AAQS

# INHALABLE PARTICULATES (<2.5 Microns) - Rupprecht & Patashnick Sampler

NYSDEC Region 3

## Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2011

(Average of last 3 years' annual means not to exceed 15  $\mu\text{g}/\text{m}^3$  \*;  
and average of 98<sup>th</sup> percentile for last 3 years not to exceed 35  $\mu\text{g}/\text{m}^3$  \*, *changed* from 65  $\mu\text{g}/\text{m}^3$  on 12/17/06)

Station	Site No.	Total Obs.	Maximum Values, $\mu\text{g}/\text{m}^3$			98th Percentile, $\mu\text{g}/\text{m}^3$				Quarterly Averages, 2011				Annual Mean, $\mu\text{g}/\text{m}^3$			
			1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	2011	2010	2009	3-yr avg	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	2011	2010	2009	3-yr avg
Newburgh (F)	3502-04	116	28.7 [08/19]	24.6 [01/15]	20.8 [02/17]	20.8	26.5	20.6	23	8.8	7.2	10.7	7.7	8.6	8.1	7.9	8.2
Newburgh (T)	3502-04	362	34.1 [01/01]	32.1 [07/21]	25.4 [09/04]	20.9	22.1	21.7	22	10.0	6.7	8.6	8.2	8.4	7.9	7.9	8.1
Rockland Co. (T)	4352-02	334	34.6 [01/01]	30.4 [07/21]	25.2 [06/09]	22.3	24.6	20.1	22	8.6	7.5	8.7	7.7	8.1	7.1	(5.8)	7.0
Mamaroneck (F)	5956-01	121	26.8 [02/17]	24.3 [06/08]	22.7 [07/20]	22.7	26.7	27.0	26	9.4	8.4	10.6	9.0	9.3	8.9	9.1	9.1
White Plains (T)	5902-04	336	31.6 [06/09]	30.6 [07/21]	29.3 [01/01]	24.5	22.4	21.6	23	9.3	8.0	9.3	9.2	9.0	7.4	7.2	7.9

(Annual Means in parentheses are based on less than 75% available data)

F = Federal Reference Method

T = TEOM (Tapered Element Oscillating Microbalance) not for Standards determination

\* Federal Ambient Air Quality Standard  
+ Denotes a contravention of Federal AAQS



# **NITROGEN DIOXIDE - Continuous Chemiluminescence**

## **Annual Averages 2001 through 2011**

Annual Arithmetic Mean (PPB) - Primary Standard  
(12 month average not to exceed 53 PPB \*)

Station	Site No.	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PS 59	7093-10	37.68	38.03	(38.41)	(34.70)	36.49	34.22	34.20	(36.08)	xxx	xxx	xxx
Botanical Garden (Harding Lab/Pfizer Lab)	7094-06/ 7094-10	31.21	27.64	26.68	24.37	26.59	24.82	24.55	22.91	21.85	20.10	20.86
IS 52	7094-07	(31.51)	30.39	30.19	29.67	28.79	26.46	25.65	25.18	24.57	(24.94)	xxx
College Point P.O.	7096-09	30.06	27.67	29.75	28.22	27.30	xxx	xxx	xxx	xxx	xxx	xxx
Queens College 2	7096-15	(28.19)	27.83	26.72	24.74	24.52	23.46	22.94	22.51	20.91	19.28	(21.62)

Sampling was terminated at 7096-09 on 01/05/06 and at 7093-10 on 06/30/08. Sampling was suspended at 7094-07 on 06/24/10 due to building construction

## **Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2011**

		One-Hour Averages - average of 98 <sup>th</sup> percentile for last 3 years not to exceed 75 PPB *						
		Observations			98 <sup>th</sup> Percentile, PPB			
Station	Site No.	Total	% Avail	2009	2010	2011	3-yr avg	Highest Values, PPB
Botanical Gardens - Pfizer Lab	7094-10	8,708	99	66.0	70.0	60.7	65	1st 69.3 [10/10, 18] 2nd 68.9 [02/17, 21] 3rd 68.3 [10/10, 19]
Queens College 2	7096-15	5,910	67	67.0	69.0	66.3	67	1st 79.3 [02/24, 07] 2nd 77.5 [02/24, 06] 3rd 74.1 [02/24, 05]

(Annual Means in parentheses are based on less than 75% available data)

\*New York and Federal Ambient Air Quality Standard

+ Denotes a contravention of NYS/Federal AAQS  
[Date of Occurrence, Hour]

# CARBON MONOXIDE - Continuous Non-Dispersive Infrared

Annual Averages 2001 through 2011  
Annual Arithmetic Mean (ppm)

Station	Site No.	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PS 59	7093-10	0.8	0.7	(0.8)	0.7	0.6	0.6	0.6	(0.5)	xx	xx	xx
CCNY	7093-25	---	---	---	---	---	---	---	0.4	0.6	0.5	0.4
Botanical Garden (Harding Lab/Pfizer Lab)	7094-06/7094-10	0.7	0.7	0.8	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.4
Queensboro Comm Coll	7096-08	0.5	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Queens College 2	7096-15	---	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.3

Sampling was terminated at 7096-08 on 12/30/2001 at 7093-10 on 07/01/08; sampling commenced at 7093-25 on 07/09/08.

## Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2011

Station		One-Hour Average					Running 8-Hour Average (Non-Overlapping)						
		Maximum not to exceed 35 PPM more than once per calendar year *					Maximum not to exceed 9 PPM more than once per calendar year *						
		Observations			Highest Values, PPM		Observations			Highest Values, PPM			
	Site No.	Total Obs.	% Avail	>35 PPM	1st	2nd	3rd	Total	>9 PPM	1st	2nd	3rd	Days> 9PPM
CCNY	7093-25	8,751	100	0	3.1 [11/09, 10]	2.7 [11/04, 11]	2.7 [11/09, 11]	8,749	0	2.0 [11/09, 11]	1.7 [11/27, 07]	1.6 [02/18, 00]	0
Botanical Gardens (Pfizer Lab)	7094-10	8,750	100	0	3.2 [11/27, 00]	3.0 [11/27, 01]	2.9 [11/26, 23]	8,746	0	2.8 [11/27, 05]	1.7 [11/09, 04]	1.6 [12/04, 07]	0
Queens College 2	7096-15	8,381	96	0	2.1 [11/08, 07]	1.9 [07/20, 09]	1.9 [11/05, 23]	8,231	0	1.8 [11/06, 06]	1.4 [01/26, 01]	1.3 [11/27, 00]	0

(Annual Means in parentheses are based on less than 75% available data)

\*New York and Federal Ambient Air Quality Standard

[Date of Occurrence, Hour]

+ Denotes a contravention of NYS/Federal AAQS (Note: 9PPM standard is not exceeded unless 8-hour avg > 9.4 PPM)

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## **2. Air Quality Determination Process**

**Attachment A : Air Quality Determination Process <sup>1</sup>**  
**Brynwood Golf Course Expansion, New Castle NY**

Intersection Number	Unsig/Sig	Intersection	LOS D or Worse (Uses Build with Mitigation)						10% Increase in Traffic (Highest Approach) (based on "Traffic Volume Worksheet)			10% Increase in Traffic (Highest Approach) (based on "Traffic Volume Worksheet)			Meets LOS & Lanes Added				Meets LOS & 10%		
			AM	AM	PM	AM	AM	PM	AM	AM	PM	AM	AM	PM	Lanes	AM	AM	PM	AM	AM	PM
			2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	Added	2018	2018	2018	2018	2018	2018
1	Unsig	Route 22 at Chestnut Ridge Road	B	B	B	NO	NO	NO	7.3%	6.2%	4.7%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2	Unsig	Route 22 at Baldwin Road	B	B	B	NO	NO	NO	8.2%	6.2%	4.7%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3	Unsig	Route 22 at Site Drive	B	B	B	NO	NO	NO	6.1%	4.6%	11.1%	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
4	Unsig	Route 22 at Coman Hill Elementary School/Upland Lane	C	F	C	NO	YES	NO	12.1%	12.9%	9.6%	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO
5	Sig	Route 22 at Tripp Lane	F	A	B	YES	NO	NO	7.4%	8.0%	7.3%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6	Sig	Route 22 at Banksville Road	B	B	B	NO	NO	NO	6.2%	7.7%	4.8%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
7	Sig	Route 22 at Niles Avenue/NYS Route 433	C	B	C	NO	NO	NO	4.3%	4.9%	2.9%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
8	sIG	Route 22 SB at I-684 WB On-Ramp	B	B	B	NO	NO	NO	2.5%	2.4%	1.4%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
9	Unsig	Route 22 at I-684 WB Off-Ramp	B	B	C	NO	NO	NO	2.3%	2.4%	3.1%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
10	Unsig	Route 22 at I-684 WB On/Off Ramp	B	B	B	NO	NO	NO	0.5%	0.4%	0.9%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
11	Unsig	Route 22 SB at I-684 EB On-Ramp	A	A	A	NO	NO	NO	1.8%	1.9%	1.2%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
12	Sig	Route 22 NB at I-684 EB Off-Ramp	B	B	A	NO	NO	NO	0.4%	0.4%	6.3%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
13	Unsig	Route 22 NB at I-684 EB On Ramp	A	A	A	NO	NO	NO	0.0%	0.0%	0.5%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
14	Unsig	Route 22SB at I-684 EB Off-Ramp	F	F	B	YES	YES	NO	0.0%	0.0%	0.0%	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

\*The screening analysis assessed two morning peak hour and one evening peak hour. The LOS and volume increase screening found that the intersection of Route 22 at Coman Hill barely meets the criteria. However the intersection is an unsignalized and because the volumes are so low at the intersection and the site volumes are proportionally slightly larger than the roadway volumes, these types of volumes do not exceed the NAAQS standards.

**Attachment A : Air Quality Determination Process <sup>1</sup>**  
**Brynwood Golf Course Expansion, New Castle NY**

Intersection Number	Unsig/Sig	Intersection	Signalized Intersections										Unsignalized Intersections
			Total Peak Hour Volume			Posted Speed on Major Roadway	Corresponding Free Flow CO Emission Factor (2013)	Idle/Queue Emission Factor (2013)	Volume Threshold (By Approach)	Does Any Approach PM Peak Exceed Max Vol	Does Any Approach PM Peak Exceed Max Vol	Does Any Approach PM Peak Exceed Max Vol	Volume >8,000vph
			AM	AM	PM								
			2018	2018	2018								
								33.97					
1	Unsig	Route 22 at Chestnut Ridge Road	375	391	428	40	3.32	84.925	4,000	NO	NO	NO	--
2	Unsig	Route 22 at Baldwin Road	391	399	433	40	3.32	84.925	4,000	NO	NO	NO	--
3	Unsig	Route 22 at Site Drive	402	418	489	40	3.32	84.925	4,000	NO	NO	NO	--
4	Unsig	Route 22 at Coman Hill Elementary School/Upland Lane	511	753	613	40	3.32	84.925	4,000	NO	NO	NO	--
5	Sig	Route 22 at Tripp Lane	1,205	796	877	40	3.32	84.925	4,000	NO	NO	NO	--
6	Sig	Route 22 at Banksville Road	1,257	1,027	1,151	40	3.32	84.925	4,000	NO	NO	NO	--
7	Sig	Route 22 at Niles Avenue/NYS Route 433	1,805	1,747	1,821	40	3.32	84.925	4,000	NO	NO	NO	--
8	sIG	Route 22 SB at I-684 WB On-Ramp	1,857	1,873	2,348	40	3.32	84.925	4,000	NO	NO	NO	--
9	Unsig	Route 22 at I-684 WB Off-Ramp	950	966	870	40	3.32	84.925	4,000	NO	NO	NO	--
10	Unsig	Route 22 at I-684 WB On/Off Ramp	1,048	990	1,417	40	3.32	84.925	4,000	NO	NO	NO	--
11	Unsig	Route 22 SB at I-684 EB On-Ramp	1,091	1,023	769	40	3.32	84.925	4,000	NO	NO	NO	--
12	Sig	Route 22 NB at I-684 EB Off-Ramp	258	263	67	40	3.32	84.925	4,000	NO	NO	NO	--
13	Unsig	Route 22 NB at I-684 EB On Ramp	748	765	1,399	40	3.32	84.925	4,000	NO	NO	NO	--
14	Unsig	Route 22SB at I-684 EB Off-Ramp	697	733	208	40	3.32	84.925	4,000	NO	NO	NO	--

\*The screening analysis assessed two morning peak hour and one evening peak hour. The LOS

Attachment A : Air Quality Determination Process: Traffic Volumes <sup>1</sup>  
Brynwood Golf Course Expansion, New Castle NY

Intersections	2013 Existing AM (7:00-8:00AM)												Total	Rte 22		2018 No-Build AM (7:00-8:00AM)												Total	Rte 22		2018 Build AM (7:00-8:00AM)												Total	Rte 22
	NT R	NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R		NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R	NB T		NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)			
Route 22 at Chestnut Ridge Road		85	15	40		5	5	185					335	330		93	16	42		5	5	204				365	360		101	16	42		5	5	206					375	370			
Route 22 at Baldwin Road		85	5	20		15	15	210					350	335		93	5	21		16	16	230				381	365		101	5	21		16	16	232					391	375			
Route 22 at Site Drive		90						235					325	325		98						257				355	355		98	6	31		8	2	257					402	394			
Route 22 at Coman Hill Elementary School/Upland Lane	25	80	10	5	0	5	5	220	10	5	0	75	365	355	26	88	10	5	0	5	5	241	10	79	0	5	469	385	26	94	10	5	0	5	5	272	10	5	0	79	432	422		
Route 22 at Tripp Lane		95	340	225	50	145	245						1100	905		104	357	236		52	152	267				1168	1116		110	357	236		52	152	298					1205	1153			
Route 22 at Banksville Road	55	410						465	5	25		190	960	935	58	434					498	5	26		199	1021	995	58	440						527	7	26		199	1058	1032			
Route 22 at Niles Avenue/NYS Route 433	310	440	5	5	0	15	5	585	45	195	0	55	1605	1395	329	466	5	5		16	5	624	47	58	0	215	1555	1481	329	471	5	5	0	16	5	647	53	59	0	215	1590	1515		
Route 22 SB at I-684 WB On-Ramp		740	120				70	775					1705	1705		785	137				73	834				1829	1829		790	137			77	853						1857	1857			
Route 22 at I-684 WB Off-Ramp								775		110			885	775								814		115		929	814							833		117				950	833			
Route 22 at I-684 WB On/Off Ramp		750		180									930	930		805		239								1044	1044		809		239									1048	1048			
Route 22 SB at I-684 EB On-Ramp							170	785					955	955						178	894					1072	1072						189	902						1091	1091			
Route 22 NB at I-684 EB Off-Ramp						245							245	0					257							257	0					258								258	0			
Route 22 NB at I-684 EB On Ramp	170	505											675	675	197	549										746	746		197	551										748	748			
Route 22SB at I-684 EB Off-Ramp				635									635	635				697								697	697				697									697	697			
													11070	10255												11888	11259														12102	11535		

Intersections	2013 Existing AM (8:15-9:15AM)												Total	Rte 22		2018 No-Build AM (8:15-9:15AM)												Total	Rte 22		2018 Build AM (8:15-9:15AM)												Total	Rte 22
	NT R	NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R		NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R	NB T		NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)			
Route 22 at Chestnut Ridge Road		105	15	25		5	5	195					350	345		114	16	26		5	5	215				381	376		122	16	26		5	5	217					391	386			
Route 22 at Baldwin Road		110	10	10		10	10	210					360	350		119	10	10		10	10	230				389	379		127	10	10		10	10	232					399	389			
Route 22 at Site Drive		120						220					340	340		130						241				371	371		130	6	31		8	2	241					418	410			
Route 22 at Coman Hill Elementary School/Upland Lane	20	105	45	90	5	10	35	180	5	55	15	5	565	480	21	114	152	94	5	10	37	199	5	5	16	58	658	622	21	120	152	94	5	10	37	230	5	5	16	58	695	659		
Route 22 at Tripp Lane		265	40	35		10	20	340					710	700		282	42	37		10	21	367				759	749		288	42	37		10	21	398					796	786			
Route 22 at Banksville Road	75	295						370	5	10		175	755	745	79	314						398	5	10		184	806	796	79	320					427	7	10		184	843	833			
Route 22 at Niles Avenue/NYS Route 433	295	405	5	5	0	5	5	510	40	260	0	75	1530	1265	314	429	5	5	0	5	5	545	42	79	0	283	1429	1345	314	434	5	5	0	5	5	568	48	80	0	283	1464	1379		
Route 22 SB at I-684 WB On-Ramp		775	110				75	760					1720	1720		822	126				79	819				1846	1846		827	126				83	837					1873	1873			
Route 22 at I-684 WB Off-Ramp								745		140			885	745								798		147		945	798							817		149			966	817				
Route 22 at I-684 WB On/Off Ramp		745		130									875	875		801		186								987	987		804		186									990	990			
Route 22 SB at I-684 EB On-Ramp							145	745					890	890						152	852					1004	1004						163	860						1023	1023			
Route 22 NB at I-684 EB Off-Ramp						250							250	0					262							262	0					263								263	0			
Route 22 NB at I-684 EB On Ramp	195	495											690	690	224	539										763	763		224	541										765	765			
Route 22SB at I-684 EB Off-Ramp				670									670	670				733								733	733				733									733	733			
													10590	9815												11333	10769														11619	11043		

Intersections	2013 Existing PM												Total	Rte 22		2018 No-Build PM												Total	Rte 22		2018 Build PM												Total	Rte 22
	NT R	NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R		NB T	NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)	NT R	NB T		NB L	EB R	EB T	EB L	SB R	SB T	SB L	WB R	WB T	WB L	(NB+SB)			
Route 22 at Chestnut Ridge Road		205	20	5		10	5	125					370	360		233	21	5		10	5	143				417	407		237	21	5		10	5	150					428	418			
Route 22 at Baldwin Road		215	10	10		10	10	120					375	365		244	10	10		10	10	138				422	412		248	10	10		10	10	145					433	423			
Route 22 at Site Drive		240						145					385	385		270						164				434	434		270	30	14		4	7	164					489	485			
Route 22 at Coman Hill Elementary School/Upland Lane	50	220	10	30	0	5	5	125	15	40	0	15	500	455	52	249	10	31	0	5	5	143	16	16	0	42	527	506	52	279	10	31	0	5	5	157	16	16	0	42	571	550		
Route 22 at Tripp Lane		295	80	125	25	25	25	215					790	740		328	84	131		26	26	238				833	807		35															

Intersections	2013 Existing AM by Approach				Total	2018 No-Build AM by Approach				Total	2018 Build AM by Approach				Total	2018 No-Build vs. Build					
	NB	EB	SB	WB		NB	EB	SB	WB		NB	EB	SB	WB		NB	EB	SB	WB	Total	
Route 22 at Chestnut Ridge Road	100	45	190	0	335	109	47	209	0	365	117	47		211	0	375	7.3%	0.0%	1.0%	-	2.7%
Route 22 at Baldwin Road	90	35	225	0	350	98	37	246	0	381	106	37		248	0	391	8.2%	0.0%	0.8%	-	2.6%
Route 22 at Site Drive	90	0	235	0	325	98	0	257	0	355	104	39		259	0	402	6.1%	-	0.8%	-	13.2%
Route 22 at Coman Hill Elementary School/Upland Lane	115	10	235	80	440	124	10	256	84	474	130	10		287	84	511	4.8%	0.0%	12.1%	0.0%	7.8%
Route 22 at Tripp Lane	435	420	245	0	1100	461	288	419	0	1168	467	288		450	0	1205	1.3%	0.0%	7.4%	-	3.2%
Route 22 at Banksville Road	465	0	470	215	1150	492	0	503	225	1220	498	0		534	225	1257	1.2%	-	6.2%	0.0%	3.0%
Route 22 at Niles Avenue/NYS Route 433	755	20	635	250	1660	800	21	676	273	1770	805	21		705	274	1805	0.6%	0.0%	4.3%	0.4%	2.0%
Route 22 SB at I-684 WB On-Ramp	860	0	845	0	1705	922	0	907	0	1829	927	0		930	0	1857	0.5%		2.5%		1.5%
Route 22 at I-684 WB Off-Ramp	0	0	775	110	885	0	0	814	115	929	0	0		833	117	950			2.3%	1.7%	2.3%
Route 22 at I-684 WB On/Off Ramp	750	180	0	0	930	805	239	0	0	1044	809	239		0	0	1048	0.5%	0.0%			0.4%
Route 22 SB at I-684 EB On-Ramp	0	0	955	0	955	0	0	1072	0	1072	0	0		1091	0	1091			1.8%		1.8%
Route 22 NB at I-684 EB Off-Ramp	0	245	0	0	245	0	257	0	0	257	0	258		0	0	258		0.4%			0.4%
Route 22 NB at I-684 EB On Ramp	675	0	0	0	675	746	0	0	0	746	748	0		0	0	748	0.3%				0.3%
Route 22SB at I-684 EB Off-Ramp	0	635	0	0	635	0	697	0	0	697	0	697		0	0	697		0.0%			0.0%

2.3% 2.6%

Intersections	2013 Existing AM by Approach				Total	2018 No-Build AM by Approach				2018 Build AM by Approach					2018 No-Build vs. Build						
	NB	EB	SB	WB		NB	EB	SB	WB	NB	EB	SB	WB	Total	NB	EB	SB	WB	Total		
Route 22 at Chestnut Ridge Road	120	30	200	0	350	130	31	220	0	381	138	31		222	0	391	6.2%	0.0%	0.9%	-	2.6%
Route 22 at Baldwin Road	120	20	220	0	360	129	20	240	0	389	137	20		242	0	399	6.2%	0.0%	0.8%	-	2.6%
Route 22 at Site Drive	120	0	220	0	340	130	0	241	0	371	136	39		243	0	418	4.6%	-	0.8%	-	12.7%
Route 22 at Coman Hill Elementary School/Upland Lane	170	105	220	75	570	287	109	241	79	716	293	109		272	79	753	2.1%	0.0%	12.9%	0.0%	5.2%
Route 22 at Tripp Lane	305	45	360	0	710	324	47	388	0	759	330	47		419	0	796	1.9%	0.0%	8.0%	-	4.9%
Route 22 at Banksville Road	370	0	375	185	930	393	0	403	194	990	399	0		434	194	1027	1.5%	-	7.7%	0.0%	3.7%
Route 22 at Niles Avenue/NYS Route 433	705	10	555	335	1605	748	10	592	362	1712	753	10		621	363	1747	0.7%	0.0%	4.9%	0.3%	2.0%
Route 22 SB at I-684 WB On-Ramp	885	0	835	0	1720	948	0	898	0	1846	953	0		920	0	1873	0.5%	-	2.4%	-	1.5%
Route 22 at I-684 WB Off-Ramp	0	0	745	140	885	0	0	798	147	945	0	0		817	149	966	-	-	2.4%	1.4%	2.2%
Route 22 at I-684 WB On/Off Ramp	745	130	0	0	875	801	186	0	0	987	804	186		0	0	990	0.4%	0.0%	-	-	0.3%
Route 22 SB at I-684 EB On-Ramp	0	0	890	0	890	0	0	1004	0	1004	0	0		1023	0	1023	-	-	1.9%	-	1.9%
Route 22 NB at I-684 EB Off-Ramp	0	250	0	0	250	0	262	0	0	262	0	263		0	0	263	-	0.4%	-	-	0.4%
Route 22 NB at I-684 EB On Ramp	690	0	0	0	690	763	0	0	0	763	765	0		0	0	765	0.3%	-	-	-	0.3%
Route 22SB at I-684 EB Off-Ramp	0	670	0	0	670	0	733	0	0	733	0	733		0	0	733	-	0.0%	-	-	0.0%

Intersections	2013 Existing PM by Approach				Total	2018 No-Build PM by Approach				Total	2018 Build PM by Approach				Total	2018 No-Build vs. Build					
	NB	EB	SB	WB		NB	EB	SB	WB		NB	EB	SB	WB		NB	EB	SB	WB	Total	
Route 22 at Chestnut Ridge Road	225	15	130	0	370	254	15	148	0	417	258	15		155	0	428	1.6%	0.0%	4.7%	-	2.6%
Route 22 at Baldwin Road	225	20	130	0	375	254	20	148	0	422	258	20		155	0	433	1.6%	0.0%	4.7%	-	2.6%
Route 22 at Site Drive	240	0	145	0	385	270	0	164	0	434	300	18		171	0	489	11.1%	-	4.3%	-	12.7%
Route 22 at Coman Hill Elementary School/Upland Lane	280	35	145	55	515	311	36	164	58	569	341	36		178	58	613	9.6%	0.0%	8.5%	0.0%	7.7%
Route 22 at Tripp Lane	375	175	240	0	790	412	157	264	0	833	442	157		278	0	877	7.3%	0.0%	5.3%	-	5.3%
Route 22 at Banksville Road	540	0	340	145	1025	585	0	369	152	1106	613	0		383	155	1151	4.8%	-	3.8%	2.0%	4.1%
Route 22 at Niles Avenue/NYS Route 433	715	10	455	460	1640	785	10	489	495	1779	807	10		503	501	1821	2.8%	0.0%	2.9%	1.2%	2.4%
Route 22 SB at I-684 WB On-Ramp	1365	0	735	0	2100	1520	0	795	0	2315	1542	0		806	0	2348	1.4%	-	1.4%	-	1.4%
Route 22 at I-684 WB Off-Ramp	0	0	470	340	810	0	0	493	357	850	0	0		502	368	870	-	-	1.8%	3.1%	2.4%
Route 22 at I-684 WB On/Off Ramp	1025	172	0	0	1197	1163	243	0	0	1406	1174	243		0	0	1417	0.9%	0.0%	-	-	0.8%
Route 22 SB at I-684 EB On-Ramp	0	0	645	0	645	0	0	760	0	760	0	0		769	0	769	-	-	1.2%	-	1.2%
Route 22 NB at I-684 EB Off-Ramp	0	60	0	0	60	0	63	0	0	63	0	67		0	0	67	-	6.3%	-	-	6.3%
Route 22 NB at I-684 EB On Ramp	1160	0	0	0	1160	1392	0	0	0	1392	1399	0		0	0	1399	0.5%	-	-	-	0.5%
Route 22SB at I-684 EB Off-Ramp	0	165	0	0	165	0	208	0	0	208	0	208		0	0	208	-	0.0%	-	-	0.0%

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### **3. Greenhouse Gas Mobile Source Emissions**



## Brynwood Golf and Country Club

<u>Annual Total CO<sub>2</sub> Emissions Inventory in Tons per Year</u>			
<u>Pollutant</u>	<u>2013 Existing Condition</u>	<u>2018 No-Build Alternative</u>	<u>2018 Build Alternative</u>
Carbon Dioxide	19,867.7	22,162.3	22,676.7
Difference - Existing		2,294.6	2,809.0
Difference - No-Build			514.4

## Brynwood Golf and Country Club

<u>Annual Weekend CO<sub>2</sub> Emissions Inventory in Tons per Year</u>			
<u>Pollutant</u>	<u>2013 Existing Condition</u>	<u>2018 No-Build Alternative</u>	<u>2018 Build Alternative</u>
Carbon Dioxide	5,715.4	6,375.5	6,523.4
Difference - Existing		660.1	808.0
Difference - No-Build			147.9

## Brynwood Golf and Country Club

<u>Annual Weekday CO<sub>2</sub> Emissions Inventory in Tons per Year</u>			
<u>Pollutant</u>	<u>2013 Existing Condition</u>	<u>2018 No-Build Alternative</u>	<u>2018 Build Alternative</u>
Carbon Dioxide	14,152.3	15,786.8	16,153.2
Difference - Existing		1,634.5	2,000.9
Difference - No-Build			366.4

Brynwood Golf and Country Club  
2018 Build Condition

Link No.	Description	Roadway		Weekday Peak Traffic Data				Weekday Off-Peak Traffic Data				Weekend Peak Traffic Data				Weekend Off-Peak Traffic Data			
		Link Length type (miles)	Annual Weekday Peak VMT (veh-miles)	Wkdy Speed Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)	Annual Weekday Off-Peak VMT (veh-miles)	Speed Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)	Annual Weekend Peak (veh-miles)	Wkend Speed Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)	Annual Weekend Off- (veh-miles)	Wkend Speed Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)	
1	Route 22, north of Chestnut Ridge Road to Rt 172	2	2.94	1,411,020	30	559.63	789649.12	1,724,580	40	559.63	965126.71	569,835	30	559.63	318896.76	696,465	40	559.63	389762.71
2	Chestnut Ridge Road	2	2.79	136,568	20	559.63	76427.36	166,916	30	559.63	93411.21	55,152	20	559.63	30864.89	67,408	30	559.63	37723.76
3	Route 22, between Chestnut Ridge Road and Bladwin Road	2	0.11	54,238	30	559.63	30353.13	66,291	40	559.63	37098.27	21,904	30	559.63	12258.00	26,771	40	559.63	14981.99
4	Baldwin Road	2	0.36	17,192	20	559.63	9621.07	21,012	30	559.63	11759.08	6,943	20	559.63	3885.43	8,486	30	559.63	4748.86
5	Route 22, between Baldwin Road and Site Drive	2	0.70	358,521	30	559.63	200639.35	438,193	40	559.63	245225.87	144,788	30	559.63	81027.43	176,963	40	559.63	99033.52
6	Site Drive	2	0.10	6,566	10	559.63	3674.71	8,026	20	559.63	4491.32	2,652	10	559.63	1484.02	3,241	20	559.63	1813.80
7	Route22, between Site Drive and Coman Hill/Upland Lane	2	0.14	79,894	30	559.63	44711.24	97,649	40	559.63	54647.07	32,265	30	559.63	18056.46	39,435	40	559.63	22069.01
8	Coman Hill	2	0.12	7,307	15	559.63	4088.95	8,930	25	559.63	4997.61	2,951	15	559.63	1651.31	3,606	25	559.63	2018.27
9	Upland Lane	2	0.48	72,206	20	559.63	40408.48	88,251	30	559.63	49388.15	29,160	20	559.63	16318.81	35,640	30	559.63	19945.21
10	Route 22, between Upland Lane and Tripp Lane	2	0.91	672,499	30	559.63	376350.78	821,944	40	559.63	459984.28	271,586	30	559.63	151987.81	331,939	40	559.63	185762.88
11	Tripp Lane	2	0.40	127,506	20	559.63	71356.25	155,841	30	559.63	87213.20	51,493	20	559.63	28816.95	62,936	30	559.63	35220.71
12	Route 22, between Tripp Lane and Banksville Road	2	0.21	206,589	30	559.63	115613.16	252,497	40	559.63	141304.98	83,430	30	559.63	46689.93	101,970	40	559.63	57065.47
13	Banksville Road	2	1.46	620,530	20	559.63	347267.09	758,425	30	559.63	424437.55	250,599	20	559.63	140242.48	306,287	30	559.63	171407.47
14	Route 22, between Banksville Road and Niles/NYS Rt 433	2	0.79	1,052,570	30	559.63	589049.86	1,286,475	40	559.63	719949.83	425,076	30	559.63	237885.52	519,538	40	559.63	290748.97
15	Niles Avenue	2	0.14	3,343	20	559.63	1870.76	4,086	30	559.63	2286.49	1,350	20	559.63	755.50	1,650	30	559.63	923.39
16	NYS Route 433	2	6.56	5,764,232	35	559.63	3225837.06	7,045,172	45	559.63	3942689.74	2,327,863	35	559.63	1302741.89	2,845,166	45	559.63	1592240.09
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	0.28	539,203	30	559.63	301754.09	659,026	40	559.63	368810.56	217,755	30	559.63	121862.23	266,145	40	559.63	148942.73
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	0.05	122,014	30	559.63	68282.85	149,129	40	559.63	83456.82	49,275	30	559.63	27575.77	60,225	40	559.63	33703.72
19	I-684 NB On-ramp (Rt 22 SB)	2	0.24	260,456	20	559.63	145759.17	318,336	30	559.63	178150.10	105,184	20	559.63	58864.28	128,559	30	559.63	71945.23
20	I-684 NB Off-ramp to Rt 22 N	2	0.20	87,869	20	559.63	49174.35	107,396	30	559.63	60101.98	35,486	20	559.63	19858.87	43,371	30	559.63	24271.95
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	0.01	20,009	30	559.63	11197.85	24,456	40	559.63	13686.27	8,081	30	559.63	4522.21	9,876	40	559.63	5527.15
22	I-684 NB Off-ramp to Rt 22 S	2	0.22	63,825	20	559.63	35718.21	78,008	30	559.63	43655.59	25,775	20	559.63	14424.66	31,503	30	559.63	17630.14
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	0.12	0	30	559.63	0.00	0	40	559.63	0.00	0	30						
24	I-684 SB On-ramp	2	0.22	0	20	559.63	0.00	0	30	559.63	0.00	0	20						
25	Rt 22 NB to I-684 SB On-ramp	2	0.30	0	30	559.63	0.00	0	40	559.63	0.00	0	30						
26	Rt 22, between I-684 SB On-ramp	2	0.05	0	30	559.63	0.00	0	40	559.63	0.00	0	30						
27	I-684 SB Off-ramp to Rt 22N	2	0.24	0	20	559.63	0.00	0	30	559.63	0.00	0	20						
28	I-684 SB Off-ramp to Rt 22 SB	2	0.27	0	20	559.63	0.00	0	30	559.63	0.00	0	20						
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	2	0.06	0	30	559.63	0.00	0	40	559.63	0.00	0	30						
30	Rt 22, south of I684 SB Off-ramp to Rt 120	2	1.63	0	30	559.63	0.00	0	40	559.63	0.00	0	30						

Mesoscale CO2 Emissions  
(tons/year)

22676.7

Weekday CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 25,964,794	7207.8	8809.5
Idle Emissions (tons/year)	Peak	Off-Peak
	64.72	71.2
	TOTAL	16153.2

Weekend CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 10,485,782	2910.8	3557.7
Idle Emissions (tons/year)	Peak	Off-Peak
	26.14	28.8
	TOTAL	6523.4

Brynwood Golf and Country Club																			
2018 Build Condition																			
Link No.	Description	Seasonally Adjusted	Seasonally Adjusted	Annual	Annual	Wkdy Peak	Wknd Peak	Weekday Peak Traffic Data			Weekday Off-Peak Traffic Data			Weekend Peak Traffic Data			WeekendOff-Peak Traffic Data		
		Wkdy ADT	Wknd ADT	Weekday Trips	Weekend Trips	Period	Period	Period	Wkday	Adjusted	Period	Wkday	Adjusted	Period	Wkend	Adjusted	Period	Wkend	Adjusted
		(veh/day)	(veh/day)	(veh/day)	(veh/day)	Factor	Factor	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay
1	Route 22, north of Chestnut Ridge Road to Rt 172	4,102	4,102	1,066,531	430,714	0.45	0.45	479,939	0.0	0	586,592	0.00	0	193,821	0.0	0	236,893	0.00	0
2	Chestnut Ridge Road	418	418	108,776	43,929	0.45	0.45	48,949	5.9	286,352	59,827	5.27	314,987	19,768	5.9	115,642	24,161	5.27	127,206
3	Route 22, between Chestnut Ridge Road and Bladwin Road	4,214	4,214	1,095,714	442,500	0.45	0.45	493,071	0.4	197,229	602,643	0.36	216,951	199,125	0.4	79,650	243,375	0.36	87,615
4	Baldwin Road	408	408	106,122	42,857	0.45	0.45	47,755	5.4	257,878	58,367	4.86	283,665	19,286	5.4	104,143	23,571	4.86	114,557
5	Route 22, between Baldwin Road and Site Drive	4,378	4,378	1,138,163	459,643	0.45	0.45	512,173	0.2	102,435	625,990	0.18	112,678	206,839	0.2	41,368	252,804	0.18	45,505
6	Site Drive	561	561	145,918	58,929	0.45	0.45	65,663	5.2	341,449	80,255	4.68	375,594	26,518	5.2	137,893	32,411	4.68	151,682
7	Route22, between Site Drive and Coman Hill/Upland Lane	4,878	4,878	1,268,163	512,143	0.45	0.45	570,673	1.0	542,140	697,490	0.86	596,354	230,464	1.0	218,941	281,679	0.86	240,835
8	Coman Hill	520	520	135,306	54,643	0.45	0.45	60,888	5.4	325,749	74,418	4.82	358,324	24,589	5.4	131,553	30,054	4.82	144,708
9	Upland Lane	1,286	1,286	334,286	135,000	0.45	0.45	150,429	8.4	1,256,079	183,857	7.52	1,381,686	60,750	8.4	507,263	74,250	7.52	557,989
10	Route 22, between Upland Lane and Tripp Lane	6,316	6,316	1,642,245	663,214	0.45	0.45	739,010	2.7	1,958,377	903,235	2.39	2,154,215	298,446	2.7	790,883	364,768	2.39	869,971
11	Tripp Lane	2,724	2,724	708,367	286,071	0.45	0.45	318,765	21.5	6,853,454	389,602	19.35	7,538,799	128,732	21.5	2,767,741	157,339	19.35	3,044,515
12	Route 22, between Tripp Lane and Banksville Road	8,408	8,408	2,186,122	882,857	0.45	0.45	983,755	5.8	5,705,780	1,202,367	5.22	6,276,358	397,286	5.8	2,304,257	485,571	5.22	2,534,683
13	Banksville Road	3,633	3,633	944,490	381,429	0.45	0.45	425,020	21.0	8,904,178	519,469	18.86	9,794,595	171,643	21.0	3,595,918	209,786	18.86	3,955,510
14	Route 22, between Banksville Road and Niles/NYS Rt 433	11,388	11,388	2,960,816	1,195,714	0.45	0.45	1,332,367	23.8	31,643,724	1,628,449	21.38	34,808,097	538,071	23.8	12,779,196	657,643	21.38	14,057,116
15	Niles Avenue	204	204	53,061	21,429	0.45	0.45	23,878	23.4	557,541	29,184	21.02	613,295	9,643	23.4	225,161	11,786	21.02	247,677
16	NYS Route 433	7,510	7,510	1,952,653	788,571	0.45	0.45	878,694	22.3	19,550,939	1,073,959	20.03	21,506,033	354,857	22.3	7,895,571	433,714	20.03	8,685,129
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	16,459	16,459	4,279,388	1,728,214	0.45	0.45	1,925,724	16.7	32,159,599	2,353,663	15.03	35,375,559	777,696	16.7	12,987,530	950,518	15.03	14,286,283
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	20,857	20,857	5,422,857	2,190,000	0.45	0.45	2,440,286	5.8	14,031,643	2,982,571	5.18	15,434,807	985,500	5.8	5,666,625	1,204,500	5.18	6,233,288
19	I-684 NB On-ramp (Rt 22 SB)	9,276	9,276	2,411,633	973,929	0.45	0.45	1,085,235	0.0	0	1,326,398	0.00	0	438,268	0.0	0	535,661	0.00	0
20	I-684 NB Off-ramp to Rt 22 N	3,755	3,755	976,327	394,286	0.45	0.45	439,347	0.0	0	536,980	0.00	0	177,429	0.0	0	216,857	0.00	0
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	17,102	17,102	4,446,531	1,795,714	0.45	0.45	2,000,939	13.2	26,412,392	2,445,592	11.88	29,053,631	808,071	13.2	10,666,543	987,643	11.88	11,733,197
22	I-684 NB Off-ramp to Rt 22 S	2,480	2,480	644,694	260,357	0.45	0.45	290,112	0.0	0	354,582	0.00	0	117,161	0.0	0	143,196	0.00	0

	Freeway	0			0			Freeway	0			0		
	Arterial	151,086,935			166,195,629			Arterial	61,015,878			67,117,465		
Weekday Idle Emission Parameters							Weekend Idle Emission Parameters							
Pollutant	Peak Period Emissions			Off-Peak Period Emissions			Peak Period Emissions			Off-Peak Period Emissions				
	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)		
	CO2	0.3886	0	0.00	0.3886	0	0.00	0.3886	0	0.00	0.3886	0	0.00	
CO	0.3886	58,717,209	64.72	0.3886	64,588,930	71.20	0.3886	23,712,719	26.14	0.3886	26,083,991	28.75		
			64.72			71.20			26.14			28.75		

Brynwood Golf and Country Club

2018 No Build Condition

Link No.	Description	Roadway		Annual Weekday Peak VMT (veh-miles)	Weekday Peak Traffic Data			Emissions CO2 (Kg/year)	Weekday Off-Peak Traffic Data			Emissions CO2 (Kg/year)	Annual Weekend Peak VMT (veh-miles)	Weekend Peak Traffic Data			Emissions CO2 (Kg/year)	Annual Weekend Off-Peak VMT (veh-miles)	Weekend Off-Peak Traffic Data			Emissions CO2 (Kg/year)
		type	Link Length (miles)		Wkdy Speed Peak (mph)	E.M.F. CO2 (g/veh-mi)	Annual Weekday Off Peak VMT (veh-miles)		Speed Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)	Wkend Speed Peak (mph)			E.M.F. CO2 (g/veh-mi)	Wkend Off-Peak Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)						
1	Route 22, north of Chestnut Ridge Road to Rt 172	2	2.94	1,372,410	30	559.63	768041.81	1,677,390	40	559.63	938717.77	554,243	30	559.63	310170.73	677,408	40	559.63	379097.56			
2	Chestnut Ridge Road	2	2.79	136,568	20	559.63	76427.36	166,916	30	559.63	93411.21	55,152	20	559.63	30864.89	67,408	30	559.63	37723.76			
3	Route 22, between Chestnut Ridge Road and Bladwin Road	2	0.11	52,793	30	559.63	29544.70	64,525	40	559.63	36110.18	21,320	30	559.63	11931.51	26,058	40	559.63	14582.96			
4	Baldwin Road	2	0.36	17,192	20	559.63	9621.07	21,012	30	559.63	11759.08	6,943	20	559.63	3885.43	8,486	30	559.63	4748.86			
5	Route 22, between Baldwin Road and Site Drive	2	0.70	349,329	30	559.63	195494.75	426,957	40	559.63	238938.03	141,075	30	559.63	78949.80	172,425	40	559.63	96494.20			
6	Site Drive	2	0.10	0	10	559.63	0.00	0	20	559.63	0.00	0	10	559.63	0.00	0	20	559.63	0.00			
7	Route22, between Site Drive and Coman Hill/Upland Lane	2	0.14	72,540	30	559.63	40595.56	88,660	40	559.63	49616.80	29,295	30	559.63	16394.36	35,805	40	559.63	20037.55			
8	Coman Hill	2	0.12	7,307	15	559.63	4088.95	8,930	25	559.63	4997.61	2,951	15	559.63	1651.31	3,606	25	559.63	2018.27			
9	Upland Lane	2	0.48	72,206	20	559.63	40408.48	88,251	30	559.63	49388.15	29,160	20	559.63	16318.81	35,640	30	559.63	19945.21			
10	Route 22, between Upland Lane and Tripp Lane	2	0.91	624,696	30	559.63	349598.86	763,518	40	559.63	427287.50	252,281	30	559.63	141184.16	308,344	40	559.63	172558.41			
11	Tripp Lane	2	0.40	127,506	20	559.63	71356.25	155,841	30	559.63	87213.20	51,493	20	559.63	28816.95	62,936	30	559.63	35220.71			
12	Route 22, between Tripp Lane and Banksville Road	2	0.21	195,808	30	559.63	109579.95	239,321	40	559.63	133931.05	79,076	30	559.63	44253.44	96,649	40	559.63	54087.54			
13	Banksville Road	2	1.46	613,558	20	559.63	343365.21	749,904	30	559.63	419668.59	247,783	20	559.63	138666.72	302,846	30	559.63	169481.55			
14	Route 22, between Banksville Road and Niles/NYS Rt 433	2	0.79	1,012,957	30	559.63	566881.32	1,238,059	40	559.63	692854.95	409,079	30	559.63	228932.84	499,985	40	559.63	279806.81			
15	Niles Avenue	2	0.14	3,343	20	559.63	1870.76	4,086	30	559.63	2286.49	1,350	20	559.63	755.50	1,650	30	559.63	923.39			
16	NYS Route 433	2	6.56	5,693,745	35	559.63	3186390.69	6,959,022	45	559.63	3894477.50	2,299,397	35	559.63	1286811.62	2,810,374	45	559.63	1572769.76			
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	0.28	528,171	30	559.63	295580.58	645,543	40	559.63	361265.15	213,300	30	559.63	119369.08	260,700	40	559.63	145895.54			
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	0.05	120,164	30	559.63	67247.25	146,867	40	559.63	82191.09	48,528	30	559.63	27157.54	59,312	40	559.63	33192.55			
19	I-684 NB On-ramp (Rt 22 SB)	2	0.24	259,883	20	559.63	145438.47	317,635	30	559.63	177758.13	104,953	20	559.63	58734.77	128,276	30	559.63	71786.94			
20	I-684 NB Off-ramp to Rt 22 N	2	0.20	85,243	20	559.63	47704.46	104,186	30	559.63	58305.45	34,425	20	559.63	19265.26	42,075	30	559.63	23546.43			
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	0.01	19,771	30	559.63	11064.23	24,164	40	559.63	13522.95	7,984	30	559.63	4468.25	9,759	40	559.63	5461.19			
22	I-684 NB Off-ramp to Rt 22 S	2	0.22	63,825	20	559.63	35718.21	78,008	30	559.63	43655.59	25,775	20	559.63	14424.66	31,503	30	559.63	17630.14			
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	0.12	0	30	559.63	0.00	0	40	559.63	0.00	0	30									
24	I-684 SB On-ramp	2	0.22	0	20	559.63	0.00	0	30	559.63	0.00	0	20									
25	Rt 22 NB to I-684 SB On-ramp	2	0.30	0	30	559.63	0.00	0	40	559.63	0.00	0	30									
26	Rt 22, between I-684 SB On-ramp	2	0.05	0	30	559.63	0.00	0	40	559.63	0.00	0	30									
27	I-684 SB Off-ramp to Rt 22N	2	0.24	0	20	559.63	0.00	0	30	559.63	0.00	0	20									
28	I-684 SB Off-ramp to Rt 22 SB	2	0.27	0	20	559.63	0.00	0	30	559.63	0.00	0	20									
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	2	0.06	0	30	559.63	0.00	0	40	559.63	0.00	0	30									
30	Rt 22, south of I684 SB Off-ramp to Rt 120	2	1.63	0	30	559.63	0.00	0	40	559.63	0.00	0	30									

Mesoscale CO2 Emissions  
(tons/year)

22162.3

Weekday CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 25,397,808	7050.4	8617.2
Idle Emissions (tons/year)	Peak	Off-Peak
	56.80	62.5
	TOTAL	15786.8

Weekend CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 10,256,807	2847.3	3480.0
Idle Emissions (tons/year)	Peak	Off-Peak
	22.94	25.2
	TOTAL	6375.5

Brynwood Golf and Country Club

2018 No Build Condition

Link No.	Description	Seasonally	Seasonally	Annual	Annual	Wkdy Peak	Wknd Peak	Weekday Peak Traffic Data			Weekday Off-Peak Traffic Data			Weekend Peak Traffic Data			Weekend Off-Peak Traffic Data		
		Adjusted	Adjusted	Weekday	Weekend	Period	Period	Period	Wkday	Adjusted	Period	Wkday	Adjusted	Period	Wkend	Adjusted	Period	Wkend	Adjusted
		Wkdy ADT	Wknd ADT	Trips	Trips	Factor	Factor	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay
		(veh/day)	(veh/day)	(veh/day)	(veh/day)			(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)
1	Route 22, north of Chestnut Ridge Road to Rt 172	3,990	3,990	1,037,347	418,929	0.45	0.45	466,806	0.0	0	570,541	0.00	0	188,518	0.0	0	230,411	0.00	0
2	Chestnut Ridge Road	418	418	108,776	43,929	0.45	0.45	48,949	5.8	283,904	59,827	5.22	312,294	19,768	5.8	114,654	24,161	5.22	126,119
3	Route 22, between Chestnut Ridge Road and Bladwin Road	4,102	4,102	1,066,531	430,714	0.45	0.45	479,939	0.4	191,976	586,592	0.36	211,173	193,821	0.4	77,529	236,893	0.36	85,281
4	Baldwin Road	408	408	106,122	42,857	0.45	0.45	47,755	5.4	255,490	58,367	4.82	281,039	19,286	5.4	103,179	23,571	4.82	113,496
5	Route 22, between Baldwin Road and Site Drive	4,265	4,265	1,108,980	447,857	0.45	0.45	499,041	0.2	99,808	609,939	0.18	109,789	201,536	0.2	40,307	246,321	0.18	44,338
6	Site Drive	0	0	0	0	0.45	0.45	0	0.0	0	0	0.00	0	0	0.0	0	0	0.00	0
7	Route22, between Site Drive and Coman Hill/Upland Lane	4,429	4,429	1,151,429	465,000	0.45	0.45	518,143	0.5	233,164	633,286	0.41	256,481	209,250	0.5	94,163	255,750	0.41	103,579
8	Coman Hill	520	520	135,306	54,643	0.45	0.45	60,888	5.3	319,661	74,418	4.73	351,627	24,589	5.3	129,094	30,054	4.73	142,003
9	Upland Lane	1,286	1,286	334,286	135,000	0.45	0.45	150,429	7.9	1,180,864	183,857	7.07	1,298,951	60,750	7.9	476,888	74,250	7.07	524,576
10	Route 22, between Upland Lane and Tripp Lane	5,867	5,867	1,525,510	616,071	0.45	0.45	686,480	2.6	1,784,847	839,031	2.34	1,963,332	277,232	2.6	720,804	338,839	2.34	792,884
11	Tripp Lane	2,724	2,724	708,367	286,071	0.45	0.45	318,765	21.3	6,773,763	389,602	19.13	7,451,139	128,732	21.3	2,735,558	157,339	19.13	3,009,114
12	Route 22, between Tripp Lane and Banksville Road	7,969	7,969	2,072,041	836,786	0.45	0.45	932,418	5.7	5,268,164	1,139,622	5.09	5,794,980	376,554	5.7	2,127,528	460,232	5.09	2,340,280
13	Banksville Road	3,592	3,592	933,878	377,143	0.45	0.45	420,245	20.6	8,636,033	513,633	18.50	9,499,636	169,714	20.6	3,487,629	207,429	18.50	3,836,391
14	Route 22, between Banksville Road and Niles/NYS Rt 433	10,959	10,959	2,849,388	1,150,714	0.45	0.45	1,282,224	14.4	18,399,921	1,567,163	12.92	20,239,914	517,821	14.4	7,430,738	632,893	12.92	8,173,811
15	Niles Avenue	204	204	53,061	21,429	0.45	0.45	23,878	23.2	552,765	29,184	20.84	608,042	9,643	23.2	223,232	11,786	20.84	245,555
16	NYS Route 433	7,418	7,418	1,928,776	778,929	0.45	0.45	867,949	20.1	17,445,774	1,060,827	18.09	19,190,352	350,518	20.1	7,045,409	428,411	18.09	7,749,950
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	16,122	16,122	4,191,837	1,692,857	0.45	0.45	1,886,327	16.7	31,407,337	2,305,510	14.99	34,548,070	761,786	16.7	12,683,732	931,071	14.99	13,952,105
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	20,541	20,541	5,340,612	2,156,786	0.45	0.45	2,403,276	5.9	14,059,162	2,937,337	5.27	15,465,078	970,554	5.9	5,677,738	1,186,232	5.27	6,245,512
19	I-684 NB On-ramp (Rt 22 SB)	9,255	9,255	2,406,327	971,786	0.45	0.45	1,082,847	0.0	0	1,323,480	0.00	0	437,304	0.0	0	534,482	0.00	0
20	I-684 NB Off-ramp to Rt 22 N	3,643	3,643	947,143	382,500	0.45	0.45	426,214	0.0	0	520,929	0.00	0	172,125	0.0	0	210,375	0.00	0
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22	16,898	16,898	4,393,469	1,774,286	0.45	0.45	1,977,061	13.0	25,701,796	2,416,408	11.70	28,271,976	798,429	13.0	10,379,571	975,857	11.70	11,417,529
22	I-684 NB Off-ramp to Rt 22 S	2,480	2,480	644,694	260,357	0.45	0.45	290,112	0.0	0	354,582	0.00	0	117,161	0.0	0	143,196	0.00	0

Freeway	Freeway	0			0			Freeway	0			0		
	Arterial	132,594,429			145,853,871			Arterial	53,547,750			58,902,525		
	Weekday Idle Emission Parameters												Weekend Idle Emission Parameters	
Freeway	Pollutant	Peak Period Emissions			Off-Peak Period Emissions			Peak Period Emissions			Off-Peak Period Emissions			
		(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	
	CO2	0.3886	0	0.00	0.3886	0	0.00	0.3886	0	0.00	0.3886	0	0.00	
	CO2	0.3886	51,530,431	56.80	0.3886	56,683,474	62.48	0.3886	20,810,366	22.94	0.3886	22,891,403	25.23	
Total		56.80			62.48			22.94			25.23			

Brynwood Golf and Country Club

2013 Existing Condition

Link No.	Description	Roadway		Annual Weekday Peak VMT (veh-miles)	Weekday Peak Traffic Data			Annual Weekday Off-Peak VMT (veh-miles)	Weekday Off-Peak Traffic Data			Annual Weekend Peak VMT (veh-miles)	Weekend Peak Traffic Data			Annual Weekend Off-Peak VMT (veh-miles)	Weekend Off-Peak Traffic Data			Emissions CO2 (Kg/year)
		Type	Link Length (miles)		Wkdy Speed Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)		Wkdy Speed Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)		Wknd Speed Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)		Wknd Speed Off-Peak (mph)	E.M.F. CO2 (g/veh-mi)	Emissions CO2 (Kg/year)	
1	Route 22, north of Chestnut Ridge Road to Rt 172	2	2.94	1,210,950	30	553.48	670236.61	1,480,050	40	553.48	819178.07	489,038	30	553.48	270672.48	597,713	40	553.48	330821.91	
2	Chestnut Ridge Road	2	2.79	133,237	20	553.48	73743.87	162,845	30	553.48	90131.39	53,807	20	553.48	29781.18	65,764	30	553.48	36399.22	
3	Route 22, between Chestnut Ridge Road and Bladwin Road	2	0.11	46,621	30	553.48	25803.75	56,981	40	553.48	31537.91	18,828	30	553.48	10420.74	23,012	40	553.48	12736.46	
4	Baldwin Road	2	0.36	17,192	20	553.48	9515.34	21,012	30	553.48	11629.86	6,943	20	553.48	3842.73	8,486	30	553.48	4696.67	
5	Route 22, between Baldwin Road and Site Drive	2	0.70	309,214	30	553.48	171143.92	377,929	40	553.48	209175.91	124,875	30	553.48	69115.82	152,625	40	553.48	84474.89	
6	Site Drive	2	0.10	0	10	553.48	0.00	0	20	553.48	0.00	0	10	553.48	0.00	0	20	553.48	0.00	
7	Route22, between Site Drive and Coman Hill/Upland Lane	2	0.14	64,350	30	553.48	35616.44	78,650	40	553.48	43531.20	25,988	30	553.48	14383.56	31,763	40	553.48	17579.91	
8	Coman Hill	2	0.12	7,163	15	553.48	3964.72	8,755	25	553.48	4845.77	2,893	15	553.48	1601.14	3,536	25	553.48	1956.95	
9	Upland Lane	2	0.48	68,767	20	553.48	38061.35	84,049	30	553.48	46519.43	27,771	20	553.48	15370.93	33,943	30	553.48	18786.69	
10	Route 22, between Upland Lane and Tripp Lane	2	0.91	564,943	30	553.48	312684.57	690,486	40	553.48	382170.03	228,150	30	553.48	126276.46	278,850	40	553.48	154337.90	
11	Tripp Lane	2	0.40	121,776	20	553.48	67400.31	148,837	30	553.48	82378.16	49,179	20	553.48	27219.36	60,107	30	553.48	33268.10	
12	Route 22, between Tripp Lane and Banksville Road	2	0.21	179,261	30	553.48	99217.22	219,096	40	553.48	121265.49	72,394	30	553.48	40068.49	88,481	40	553.48	48972.60	
13	Banksville Road	2	1.46	583,926	20	553.48	323191.09	713,687	30	553.48	395011.33	235,816	20	553.48	130519.48	288,220	30	553.48	159523.81	
14	Route 22, between Banksville Road and Niles/NYS Rt 433	2	0.79	938,447	30	553.48	519411.89	1,146,991	40	553.48	634836.76	378,988	30	553.48	209762.50	463,208	40	553.48	256376.38	
15	Niles Avenue	2	0.14	3,343	20	553.48	1850.20	4,086	30	553.48	2261.36	1,350	20	553.48	747.20	1,650	30	553.48	913.24	
16	NYS Route 433	2	6.56	5,137,685	35	553.48	2843605.84	6,279,393	45	553.48	3475518.25	2,074,834	35	553.48	1148379.28	2,535,909	45	553.48	1403574.68	
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	0.28	484,714	30	553.48	268279.66	592,429	40	553.48	327897.37	195,750	30	553.48	108343.71	239,250	40	553.48	132420.09	
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	0.05	109,538	30	553.48	60627.24	133,880	40	553.48	74099.96	44,237	30	553.48	24484.08	54,067	40	553.48	29924.98	
19	I-684 NB On-ramp (Rt 22 SB)	2	0.24	233,522	20	553.48	129250.01	285,416	30	553.48	157972.23	94,307	20	553.48	52197.12	115,264	30	553.48	63796.48	
20	I-684 NB Off-ramp to Rt 22 N	2	0.20	81,184	20	553.48	44933.54	99,224	30	553.48	54918.77	32,786	20	553.48	18146.24	40,071	30	553.48	22178.73	
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	0.01	17,848	30	553.48	9878.77	21,815	40	553.48	12074.05	7,208	30	553.48	3989.50	8,810	40	553.48	4876.06	
22	I-684 NB Off-ramp to Rt 22 S	2	0.22	45,964	20	553.48	25440.31	56,179	30	553.48	31093.72	18,563	20	553.48	10273.97	22,688	30	553.48	12557.08	
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	0.12	0	30	553.48	0.00	0	40	553.48	0.00	0	30	553.48	0.00	0	40	553.48	0.00	
24	I-684 SB On-ramp	2	0.22	0	20	553.48	0.00	0	30	553.48	0.00	0	20	553.48	0.00	0	30	553.48	0.00	
25	Rt 22 NB to I-684 SB On-ramp	2	0.30	0	30	553.48	0.00	0	40	553.48	0.00	0	30	553.48	0.00	0	40	553.48	0.00	
26	Rt 22, between I-684 SB On-ramp	2	0.05	0	30	553.48	0.00	0	40	553.48	0.00	0	30	553.48	0.00	0	40	553.48	0.00	
27	I-684 SB Off-ramp to Rt 22N	2	0.24	0	20	553.48	0.00	0	30	553.48	0.00	0	20	553.48	0.00	0	30	553.48	0.00	
28	I-684 SB Off-ramp to Rt 22 SB	2	0.27	0	20	553.48	0.00	0	30	553.48	0.00	0	20	553.48	0.00	0	30	553.48	0.00	
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	2	0.06	0	30	553.48	0.00	0	40	553.48	0.00	0	30	553.48	0.00	0	40	553.48	0.00	
30	Rt 22, south of I684 SB Off-ramp to Rt 120	2	1.63	0	30	553.48	0.00	0	40	553.48	0.00	0	30	553.48	0.00	0	40	553.48	0.00	

Mesoscale CO2 Emissions  
(tons/year)

19867.7

Weekday CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 23,021,435	6320.5	7725.0
Idle Emissions (tons/year)	Peak	Off-Peak
	50.86	55.9
	TOTAL	14152.3

Weekend CO2 Emission Inventory

VMT Emissions (tons/year)	Peak	Off-Peak
VMT = 9,297,118	2552.5	3119.7
Idle Emissions (tons/year)	Peak	Off-Peak
	20.54	22.6
	TOTAL	5715.4



Brynwood Golf and Country Club

2013 Existing Condition

Link No.	Description	Seasonally	Seasonally	Annual	Annual	Wkdy	Wknd	Weekday Peak Traffic Data			Weekday Off-Peak Traffic Data			Weekend Peak Traffic Data			Weekend Off-Peak Traffic Data		
		Adjusted	Adjusted	Weekday	Weekend	Peak	Peak	Period	Average	Adjusted	Period	Average	Adjusted	Period	Average	Adjusted	Period	Average	Adjusted
		Wkdy ADT	Wknd ADT	Trips	Trips	Period	Period	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay	Volume	Delay	Delay
		(veh/day)	(veh/day)	(veh/day)	(veh/day)	Factor	Factor	(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)	(vehicles)	(sec)	(veh-sec)
1	Route 22, north of Chestnut Ridge Road to Rt 172	3,520	3,520	915,306	369,643	0.45	0.45	411,888	0.0	0	503,418	0.00	0	166,339	0.0	0	203,304	0.00	0
2	Chestnut Ridge Road	408	408	106,122	42,857	0.45	0.45	47,755	5.6	267,429	58,367	5.04	294,171	19,286	5.6	108,000	23,571	5.04	118,800
3	Route 22, between Chestnut Ridge Road and Bladwin Road	3,622	3,622	941,837	380,357	0.45	0.45	423,827	0.4	169,531	518,010	0.36	186,484	171,161	0.4	68,464	209,196	0.36	75,311
4	Baldwin Road	408	408	106,122	42,857	0.45	0.45	47,755	5.2	248,327	58,367	4.68	273,159	19,286	5.2	100,286	23,571	4.68	110,314
5	Route 22, between Baldwin Road and Site Drive	3,776	3,776	981,633	396,429	0.45	0.45	441,735	0.2	88,347	539,898	0.18	97,182	178,393	0.2	35,679	218,036	0.18	39,246
6	Site Drive	0	0	0	0	0.45	0.45	0	0.0	0	0	0.00	0	0	0.0	0	0	0.00	0
7	Route22, between Site Drive and Coman Hill/Upland Lane	3,929	3,929	1,021,429	412,500	0.45	0.45	459,643	0.5	229,821	561,786	0.45	252,804	185,625	0.5	92,813	226,875	0.45	102,094
8	Coman Hill	510	510	132,653	53,571	0.45	0.45	59,694	5.1	304,439	72,959	4.59	334,883	24,107	5.1	122,946	29,464	4.59	135,241
9	Upland Lane	1,224	1,224	318,367	128,571	0.45	0.45	143,265	7.3	1,038,673	175,102	6.53	1,142,541	57,857	7.3	419,464	70,714	6.53	461,411
10	Route 22, between Upland Lane and Tripp Lane	5,306	5,306	1,379,592	557,143	0.45	0.45	620,816	2.6	1,583,082	758,776	2.30	1,741,390	250,714	2.6	639,321	306,429	2.30	703,254
11	Tripp Lane	2,602	2,602	676,531	273,214	0.45	0.45	304,439	20.8	6,332,327	372,092	18.72	6,965,559	122,946	20.8	2,557,286	150,268	18.72	2,813,014
12	Route 22, between Tripp Lane and Banksville Road	7,296	7,296	1,896,939	766,071	0.45	0.45	853,622	5.2	4,396,156	1,043,316	4.64	4,835,771	344,732	5.2	1,775,371	421,339	4.64	1,952,908
13	Banksville Road	3,418	3,418	888,776	358,929	0.45	0.45	399,949	20.2	8,078,969	488,827	18.18	8,886,866	161,518	20.2	3,262,661	197,411	18.18	3,588,927
14	Route 22, between Banksville Road and Niles/NYS Rt 433	10,153	10,153	2,639,796	1,066,071	0.45	0.45	1,187,908	18.1	21,441,742	1,451,888	16.25	23,585,917	479,732	18.1	8,659,165	586,339	16.25	9,525,082
15	Niles Avenue	204	204	53,061	21,429	0.45	0.45	23,878	22.1	527,694	29,184	19.89	580,463	9,643	22.1	213,107	11,786	19.89	234,418
16	NYS Route 433	6,694	6,694	1,740,408	702,857	0.45	0.45	783,184	15.8	12,335,143	957,224	14.18	13,568,657	316,286	15.8	4,981,500	386,571	14.18	5,479,650
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	14,796	14,796	3,846,939	1,553,571	0.45	0.45	1,731,122	16.4	28,303,852	2,115,816	14.72	31,134,237	699,107	16.4	11,430,402	854,464	14.72	12,573,442
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	18,724	18,724	4,868,367	1,966,071	0.45	0.45	2,190,765	5.5	11,939,671	2,677,602	4.91	13,133,638	884,732	5.5	4,821,790	1,081,339	4.91	5,303,969
19	I-684 NB On-ramp (Rt 22 SB)	8,316	8,316	2,162,245	873,214	0.45	0.45	973,010	0.0	0	1,189,235	0.00	0	392,946	0.0	0	480,268	0.00	0
20	I-684 NB Off-ramp to Rt 22 N	3,469	3,469	902,041	364,286	0.45	0.45	405,918	0.0	0	496,122	0.00	0	163,929	0.0	0	200,357	0.00	0
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	15,255	15,255	3,966,327	1,601,786	0.45	0.45	1,784,847	12.8	22,756,798	2,181,480	11.48	25,032,478	720,804	12.8	9,190,246	880,982	11.48	10,109,270
22	I-684 NB Off-ramp to Rt 22 S	1,786	1,786	464,286	187,500	0.45	0.45	208,929	0.0	0	255,357	0.00	0	84,375	0.0	0	103,125	0.00	0

Freeway

0

0

Freeway

0

0

Arterial

120,042,000

132,046,200

Arterial

48,478,500

53,326,350

Weekday Idle Emission Parameters

Weekend Idle Emission Parameters

Freeway

Arterial

Total

Pollutant	Peak Period Emissions			Off-Peak Period Emissions			Peak Period Emissions			Off-Peak Period Emissions		
	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)	(g/sec)	(g/year)	(tons/year)
CO2	0.3844	0	0.00	0.3844	0	0.00	0.3844	0	0.00	0.3844	0	0.00
CO2	0.3844	46,139,477	50.86	0.3844	50,753,424	55.95	0.3844	18,633,250	20.54	0.3844	20,496,575	22.59
			50.86			55.95			20.54			22.59

## Brynwood Golf and Country Club

Weekend		2013 Existing Condition				2018 No Build Condition				2018 Build Condition			
Link Roadway No. Description	Roadway Type	Peak		Off Peak		Peak		Off Peak		Peak		Off Peak	
		Average	CO2	Average	CO2	Average	CO2	Average	CO2	Average	CO2	Average	CO2
		Speed (mph)	EMF (g-veh/mi)	Speed (mph)	EMF (g-veh/mi)	Speed (mph)	EMF (g-veh/mi)	Speed (mph)	EMF (g-veh/mi)	Speed (mph)	EMF (g-veh/mi)	Speed (mph)	EMF (g-veh/mi)
1 Route 22, north of Chestnut Ridge Road to Rt 172	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
2 Chestnut Ridge Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
3 Route 22, between Chestnut Ridge Road and Bladwin Road	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
4 Baldwin Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
5 Route 22, between Baldwin Road and Site Drive	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
6 Site Drive	2	10	553.48	20	553.48	10	559.63	20	559.63	10	559.63	20	559.63
7 Route22, between Site Drive and Coman Hill/Upland Lane	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
8 Coman Hill	2	15	553.48	25	553.48	15	559.63	25	559.63	15	559.63	25	559.63
9 Upland Lane	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
10 Route 22, between Upland Lane and Tripp Lane	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
11 Tripp Lane	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
12 Route 22, between Tripp Lane and Banksville Road	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
13 Banksville Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
14 Route 22, between Banksville Road and Niles/NYS Rt 433	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
15 Niles Avenue	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
16 NYS Route 433	2	35	553.48	45	553.48	35	559.63	45	559.63	35	559.63	45	559.63
17 Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
18 Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
19 I-684 NB On-ramp (Rt 22 SB)	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
20 I-684 NB Off-ramp to Rt 22 N	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
21 Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
22 I-684 NB Off-ramp to Rt 22 S	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
23 Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
24 I-684 SB On-ramp	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
25 Rt 22 NB to I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
26 Rt 22, between I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
27 I-684 SB Off-ramp to Rt 22N	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
28 I-684 SB Off-ramp to Rt 22 SB	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
29 Rt 22 , between I-684 SB On-ramp and SB Off-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
30 Rt 22, south of I684 SB Off-ramp to Rt 120	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63

## Brynwood Golf and Country Club

Weekday		2013 Existing Condition				2018 No Build Condition				2018 Build Condition				
		Roadway Type	Peak		Off Peak		Peak		Off Peak		Peak		Off Peak	
Link Roadway	Average		CO2	Average	CO2	Average	CO2	Average	CO2	Average	CO2	Average	CO2	
No. Description	Speed		EMF	Speed	EMF	Speed	EMF	Speed	EMF	Speed	EMF	Speed	EMF	
		(mph)	(g-veh/mi)	(mph)	(g-veh/mi)	(mph)	(g-veh/mi)	(mph)	(g-veh/mi)	(mph)	(g-veh/mi)	(mph)	(g-veh/mi)	
1	Route 22, north of Chestnut Ridge Road to Rt 172	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
2	Chestnut Ridge Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
3	Route 22, between Chestnut Ridge Road and Bladwin Road	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
4	Baldwin Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
5	Route 22, between Baldwin Road and Site Drive	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
6	Site Drive	2	10	553.48	20	553.48	10	559.63	20	559.63	10	559.63	20	559.63
7	Route22, between Site Drive and Coman Hill/Upland Lane	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
8	Coman Hill	2	15	553.48	25	553.48	15	559.63	25	559.63	15	559.63	25	559.63
9	Upland Lane	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
10	Route 22, between Upland Lane and Tripp Lane	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
11	Tripp Lane	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
12	Route 22, between Tripp Lane and Banksville Road	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
13	Banksville Road	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
14	Route 22, between Banksville Road and Niles/NYS Rt 433	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
15	Niles Avenue	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
16	NYS Route 433	2	35	553.48	45	553.48	35	559.63	45	559.63	35	559.63	45	559.63
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
19	I-684 NB On-ramp (Rt 22 SB)	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
20	I-684 NB Off-ramp to Rt 22 N	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
22	I-684 NB Off-ramp to Rt 22 S	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
24	I-684 SB On-ramp	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
25	Rt 22 NB to I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
26	Rt 22, between I-684 SB On-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
27	I-684 SB Off-ramp to Rt 22N	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
28	I-684 SB Off-ramp to Rt 22 SB	2	20	553.48	30	553.48	20	559.63	30	559.63	20	559.63	30	559.63
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63
30	Rt 22, south of I684 SB Off-ramp to Rt 120	2	30	553.48	40	553.48	30	559.63	40	559.63	30	559.63	40	559.63

## Brynwood Golf and Country Club

Weekend		2013 Existing Condition			2018 No Build Condition			2018 Build Condition			
Link	Roadway	Roadway	Roadway	Seasonal	Roadway	Seasonal	Traffic	Roadway	Seasonal	Traffic	Traffic
No.	Description	S.A.F.	ADT	ADT	ADT	ADT	Increase	ADT	ADT	Increase	Increase
			(veh/day)	(veh/day)	(veh/day)	(veh/day)	(existing)	(veh/day)	(veh/day)	(existing)	(no-build)
1	Route 22, north of Chestnut Ridge Road to Rt 172	100%	3,520	3,520	3,990	3,990	13.3%	4,102	4,102	16.5%	2.8%
2	Chestnut Ridge Road	100%	408	408	418	418	2.5%	418	418	2.5%	0.0%
3	Route 22, between Chestnut Ridge Road and Bladwin Road	100%	3,622	3,622	4,102	4,102	13.2%	4,214	4,214	16.3%	2.7%
4	Baldwin Road	100%	408	408	408	408	0.0%	408	408	0.0%	0.0%
5	Route 22, between Baldwin Road and Site Drive	100%	3,776	3,776	4,265	4,265	13.0%	4,378	4,378	15.9%	2.6%
6	Site Drive	100%	0	0	0	0	#DIV/0!	561	561	#DIV/0!	#DIV/0!
7	Route22, between Site Drive and Coman Hill/Upland Lane	100%	3,929	3,929	4,429	4,429	12.7%	4,878	4,878	24.2%	10.1%
8	Coman Hill	100%	510	510	520	520	2.0%	520	520	2.0%	0.0%
9	Upland Lane	100%	1,224	1,224	1,286	1,286	5.0%	1,286	1,286	5.0%	0.0%
10	Route 22, between Upland Lane and Tripp Lane	100%	5,306	5,306	5,867	5,867	10.6%	6,316	6,316	19.0%	7.7%
11	Tripp Lane	100%	2,602	2,602	2,724	2,724	4.7%	2,724	2,724	4.7%	0.0%
12	Route 22, between Tripp Lane and Banksville Road	100%	7,296	7,296	7,969	7,969	9.2%	8,408	8,408	15.2%	5.5%
13	Banksville Road	100%	3,418	3,418	3,592	3,592	5.1%	3,633	3,633	6.3%	1.1%
14	Route 22, between Banksville Road and Niles/NYS Rt 433	100%	10,153	10,153	10,959	10,959	7.9%	11,388	11,388	12.2%	3.9%
15	Niles Avenue	100%	204	204	204	204	0.0%	204	204	0.0%	0.0%
16	NYS Route 433	100%	6,694	6,694	7,418	7,418	10.8%	7,510	7,510	12.2%	1.2%
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	100%	14,796	14,796	16,122	16,122	9.0%	16,459	16,459	11.2%	2.1%
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	100%	18,724	18,724	20,541	20,541	9.7%	20,857	20,857	11.4%	1.5%
19	I-684 NB On-ramp (Rt 22 SB)	100%	8,316	8,316	9,255	9,255	11.3%	9,276	9,276	11.5%	0.2%
20	I-684 NB Off-ramp to Rt 22 N	100%	3,469	3,469	3,643	3,643	5.0%	3,755	3,755	8.2%	3.1%
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to	100%	15,255	15,255	16,898	16,898	10.8%	17,102	17,102	12.1%	1.2%
22	I-684 NB Off-ramp to Rt 22 S	100%	1,786	1,786	2,480	2,480	38.9%	2,480	2,480	38.9%	0.0%
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	100%	17,041	17,041	19,622	19,622	15.1%	19,827	19,827	16.3%	1.0%
24	I-684 SB On-ramp	100%	765	765	806	806	5.3%	857	857	12.0%	6.3%
25	Rt 22 NB to I-684 SB On-ramp	100%	1,990	1,990	2,980	2,980	49.7%	2,980	2,980	49.7%	0.0%
26	Rt 22, between I-684 SB On-ramp	100%	15,663	15,663	18,173	18,173	16.0%	18,286	18,286	16.7%	0.6%
27	I-684 SB Off-ramp to Rt 22N	100%	612	612	643	643	5.0%	684	684	11.7%	6.3%
28	I-684 SB Off-ramp to Rt 22 SB	100%	1,684	1,684	2,122	2,122	26.1%	2,122	2,122	26.1%	0.0%
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	100%	17,653	17,653	21,153	21,153	19.8%	21,265	21,265	20.5%	0.5%
30	Rt 22, south of I684 SB Off-ramp to Rt 120	100%	19,337	19,337	23,276	23,276	20.4%	23,388	23,388	20.9%	0.5%

## and Country Club

Weekday		2013 Existing Condition			2018 No Build Condition			2018 Build Condition			
Link	Roadway	Roadway	Roadway	Seasonal	Roadway	Seasonal	Traffic	Roadway	Seasonal	Traffic	Traffic
No.	Description	S.A.F.	ADT	ADT	ADT	ADT	Increase	ADT	ADT	Increase	Increase
			(veh/day)	(veh/day)	(veh/day)	(veh/day)	(existing)	(veh/day)	(veh/day)	(existing)	(no-build)
1	Route 22, north of Chestnut Ridge Road to Rt 172	100%	3,520	3,520	3,990	3,990	13.3%	4,102	4,102	16.5%	2.8%
2	Chestnut Ridge Road	100%	408	408	418	418	2.5%	418	418	2.5%	0.0%
3	Route 22, between Chestnut Ridge Road and Bladwin Road	100%	3,622	3,622	4,102	4,102	13.2%	4,214	4,214	16.3%	2.7%
4	Baldwin Road	100%	408	408	408	408	0.0%	408	408	0.0%	0.0%
5	Route 22, between Baldwin Road and Site Drive	100%	3,776	3,776	4,265	4,265	13.0%	4,378	4,378	15.9%	2.6%
6	Site Drive	100%	0	0	0	0	#DIV/0!	561	561	#DIV/0!	#DIV/0!
7	Route22, between Site Drive and Coman Hill/Upland Lane	100%	3,929	3,929	4,429	4,429	12.7%	4,878	4,878	24.2%	10.1%
8	Coman Hill	100%	510	510	520	520	2.0%	520	520	2.0%	0.0%
9	Upland Lane	100%	1,224	1,224	1,286	1,286	5.0%	1,286	1,286	5.0%	0.0%
10	Route 22, between Upland Lane and Tripp Lane	100%	5,306	5,306	5,867	5,867	10.6%	6,316	6,316	19.0%	7.7%
11	Tripp Lane	100%	2,602	2,602	2,724	2,724	4.7%	2,724	2,724	4.7%	0.0%
12	Route 22, between Tripp Lane and Banksville Road	100%	7,296	7,296	7,969	7,969	9.2%	8,408	8,408	15.2%	5.5%
13	Banksville Road	100%	3,418	3,418	3,592	3,592	5.1%	3,633	3,633	6.3%	1.1%
14	Route 22, between Banksville Road and Niles/NYS Rt 433	100%	10,153	10,153	10,959	10,959	7.9%	11,388	11,388	12.2%	3.9%
15	Niles Avenue	100%	204	204	204	204	0.0%	204	204	0.0%	0.0%
16	NYS Route 433	100%	6,694	6,694	7,418	7,418	10.8%	7,510	7,510	12.2%	1.2%
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	100%	14,796	14,796	16,122	16,122	9.0%	16,459	16,459	11.2%	2.1%
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	100%	18,724	18,724	20,541	20,541	9.7%	20,857	20,857	11.4%	1.5%
19	I-684 NB On-ramp (Rt 22 SB)	100%	8,316	8,316	9,255	9,255	11.3%	9,276	9,276	11.5%	0.2%
20	I-684 NB Off-ramp to Rt 22 N	100%	3,469	3,469	3,643	3,643	5.0%	3,755	3,755	8.2%	3.1%
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to	100%	15,255	15,255	16,898	16,898	10.8%	17,102	17,102	12.1%	1.2%
22	I-684 NB Off-ramp to Rt 22 S	100%	1,786	1,786	2,480	2,480	38.9%	2,480	2,480	38.9%	0.0%
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	100%	17,041	17,041	19,622	19,622	15.1%	19,827	19,827	16.3%	1.0%
24	I-684 SB On-ramp	100%	765	765	806	806	5.3%	857	857	12.0%	6.3%
25	Rt 22 NB to I-684 SB On-ramp	100%	1,990	1,990	2,980	2,980	49.7%	2,980	2,980	49.7%	0.0%
26	Rt 22, between I-684 SB On-ramp	100%	15,663	15,663	18,173	18,173	16.0%	18,286	18,286	16.7%	0.6%
27	I-684 SB Off-ramp to Rt 22N	100%	612	612	643	643	5.0%	684	684	11.7%	6.3%
28	I-684 SB Off-ramp to Rt 22 SB	100%	1,684	1,684	2,122	2,122	26.1%	2,122	2,122	26.1%	0.0%
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	100%	17,653	17,653	21,153	21,153	19.8%	21,265	21,265	20.5%	0.5%
30	Rt 22, south of I684 SB Off-ramp to Rt 120	100%	19,337	19,337	23,276	23,276	20.4%	23,388	23,388	20.9%	0.5%

# Brynwood Golf and Country Club

## MOBILE 6.2 Emission Factors

2013			2018		
Vehicle Speed (mph)	CO2 (g/veh-mile)		Vehicle Speed (mph)	CO2 (g/veh-mile)	
	Freeway	Arterial		Freeway	Arterial
2.5	553.48	553.48	2.5	559.63	559.63
3	553.48	553.48	3	559.63	559.63
4	553.48	553.48	4	559.63	559.63
5	553.48	553.48	5	559.63	559.63
6	553.48	553.48	6	559.63	559.63
7	553.48	553.48	7	559.63	559.63
8	553.48	553.48	8	559.63	559.63
9	553.48	553.48	9	559.63	559.63
10	553.48	553.48	10	559.63	559.63
11	553.48	553.48	11	559.63	559.63
12	553.48	553.48	12	559.63	559.63
13	553.48	553.48	13	559.63	559.63
14	553.48	553.48	14	559.63	559.63
15	553.48	553.48	15	559.63	559.63
16	553.48	553.48	16	559.63	559.63
17	553.48	553.48	17	559.63	559.63
18	553.48	553.48	18	559.63	559.63
19	553.48	553.48	19	559.63	559.63
20	553.48	553.48	20	559.63	559.63
21	553.48	553.48	21	559.63	559.63
22	553.48	553.48	22	559.63	559.63
23	553.48	553.48	23	559.63	559.63
24	553.48	553.48	24	559.63	559.63
25	553.48	553.48	25	559.63	559.63
26	553.48	553.48	26	559.63	559.63
27	553.48	553.48	27	559.63	559.63
28	553.48	553.48	28	559.63	559.63
29	553.48	553.48	29	559.63	559.63
30	553.48	553.48	30	559.63	559.63
31	553.48	553.48	31	559.63	559.63
32	553.48	553.48	32	559.63	559.63
33	553.48	553.48	33	559.63	559.63
34	553.48	553.48	34	559.63	559.63
35	553.48	553.48	35	559.63	559.63
36	553.48	553.48	36	559.63	559.63
37	553.48	553.48	37	559.63	559.63
38	553.48	553.48	38	559.63	559.63
39	553.48	553.48	39	559.63	559.63
40	553.48	553.48	40	559.63	559.63
41	553.48	553.48	41	559.63	559.63
42	553.48	553.48	42	559.63	559.63
43	553.48	553.48	43	559.63	559.63
44	553.48	553.48	44	559.63	559.63
45	553.48	553.48	45	559.63	559.63
46	553.48	553.48	46	559.63	559.63
47	553.48	553.48	47	559.63	559.63
48	553.48	553.48	48	559.63	559.63
49	553.48	553.48	49	559.63	559.63
50	553.48	553.48	50	559.63	559.63
51	553.48	553.48	51	559.63	559.63
52	553.48	553.48	52	559.63	559.63
53	553.48	553.48	53	559.63	559.63
54	553.48	553.48	54	559.63	559.63
55	553.48	553.48	55	559.63	559.63
56	553.48	553.48	56	559.63	559.63
57	553.48	553.48	57	559.63	559.63
58	553.48	553.48	58	559.63	559.63
59	553.48	553.48	59	559.63	559.63
60	553.48	553.48	60	559.63	559.63
60.7	553.48	553.48	60.7	559.63	559.63

NOTE: Emission factors were calculated by MOBILE 6.2 and represent a composite vehicle type during summer conditions.

Brynwood Golf and Country Club																
Weekend		2013 Existing Condition					2018 No Build Condition					2018 Build Condition				
Link	Description	Delay By Approach		Adjusted Delay *		Combined Delay (sec)	Delay By Approach		Adjusted Delay *		Combined Delay (sec)	Delay By Approach		Adjusted Delay *		Combined Delay (sec)
No.		NB or EB	SB or WB	NB or EB	SB or WB		NB or EB	SB or WB	NB or EB	SB or WB		NB or EB	SB or WB	NB or EB	SB or WB	
		(sec)	(sec)	(sec)	(sec)		(sec)	(sec)	(sec)	(sec)		(sec)	(sec)	(sec)	(sec)	
1	Route 22, north of Chestnut Ridge Road to Rt 172	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	0.0	0.0
2	Chestnut Ridge Road	11.2	0.0	11.2	0.0	5.6	11.6	0.0	11.6	0.0	5.8	11.7	0.0	11.7	0.0	5.9
3	Route 22, between Chestnut Ridge Road and Bladwin Road	0.8	0.0	0.8	0.0	0.4	0.8	0.0	0.8	0.0	0.4	0.8	0.0	0.8	0.0	0.4
4	Baldwin Road	10.4	0.0	10.4	0.0	5.2	10.7	0.0	10.7	0.0	5.4	10.8	0.0	10.8	0.0	5.4
5	Route 22, between Baldwin Road and Site Drive	0.4	0.0	0.4	0.0	0.2	0.4	0.0	0.4	0.0	0.2	0.4	0.0	0.4	0.0	0.2
6	Site Drive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	10.4	0.0	5.2
7	Route22, between Site Drive and Coman Hill/Upland Lane	0.0	1.0	0.0	1.0	0.5	0.0	0.9	0.0	0.9	0.5	1.0	0.9	1.0	0.9	1.0
8	Coman Hill	10.2	0.0	10.2	0.0	5.1	10.5	0.0	10.5	0.0	5.3	10.7	0.0	10.7	0.0	5.4
9	Upland Lane	0.0	14.5	0.0	14.5	7.3	0.0	15.7	0.0	15.7	7.9	0.0	16.7	0.0	16.7	8.4
10	Route 22, between Upland Lane and Tripp Lane	0.4	4.7	0.4	4.7	2.6	0.3	4.9	0.3	4.9	2.6	0.3	5.0	0.3	5.0	2.7
11	Tripp Lane	41.6	0.0	41.6	0.0	20.8	42.5	0.0	42.5	0.0	21.3	43.0	0.0	43.0	0.0	21.5
12	Route 22, between Tripp Lane and Banksville Road	5.8	4.5	5.8	4.5	5.2	6.5	4.8	6.5	4.8	5.7	6.7	4.9	6.7	4.9	5.8
13	Banksville Road	0.0	40.4	0.0	40.4	20.2	0.0	41.1	0.0	41.1	20.6	0.0	41.9	0.0	41.9	21.0
14	Route 22, between Banksville Road and Niles/NYS Rt 433	6.1	30.0	6.1	30.0	18.1	6.7	22.0	6.7	22.0	14.4	7.1	40.4	7.1	40.4	23.8
15	Niles Avenue	44.2	0.0	44.2	0.0	22.1	46.3	0.0	46.3	0.0	23.2	46.7	0.0	46.7	0.0	23.4
16	NYS Route 433	0.0	31.5	0.0	31.5	15.8	0.0	40.2	0.0	40.2	20.1	0.0	44.5	0.0	44.5	22.3
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	16.4	16.3	16.4	16.3	16.4	16.7	16.6	16.7	16.6	16.7	16.8	16.6	16.8	16.6	16.7
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	10.9	0.0	10.9	0.0	5.5	11.7	0.0	11.7	0.0	5.9	11.5	0.0	11.5	0.0	5.8
19	I-684 NB On-ramp (Rt 22 SB)	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	0.0	0.0
20	I-684 NB Off-ramp to Rt 22 N	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	0.0	0.0
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	15.0	10.5	15.0	10.5	12.8	14.8	11.2	14.8	11.2	13.0	15.2	11.2	15.2	11.2	13.2
22	I-684 NB Off-ramp to Rt 22 S	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	0.0	0.0
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	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	0.0	0.0
24	I-684 SB On-ramp	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	0.0	0.0
25	Rt 22 NB to I-684 SB On-ramp	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	0.0	0.0
26	Rt 22, between I-684 SB On-ramp	7.8	29.0	7.8	29.0	18.4	8.5	43.2	8.5	43.2	25.9	8.5	29.3	8.5	29.3	18.9
27	I-684 SB Off-ramp to Rt 22N	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	0.0	0.0
28	I-684 SB Off-ramp to Rt 22 SB	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	0.0	0.0
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	0.0	11.2	0.0	11.2	5.6	0.0	12.4	0.0	12.4	6.2	0.0	12.4	0.0	12.4	6.2
30	Rt 22, south of I684 SB Off-ramp to Rt 120	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	0.0	0.0

Brynwood Golf and Country Club

Saturday Peak Condition

		2013 Existing Condition				2018 No Build Condition				2018 Build Condition			
		Delay by Approach				Delay by Approach				Delay by Approach			
		Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound
		NB.EX	SB.EX	EB.EX	WB.EX	NB.NB	SB.NB	EB.NB	WB.NB	NB.BL	SB.BL	EB.BL	WB.BL
Int1	<a href="#">NYS Route 22 and Chestnut Ridge Road</a>	0.8		11.2		0.8		11.6		0.8		11.7	
Int2	<a href="#">NYS Route 22 and Baldwin Road</a>	0.4		10.4		0.4		10.7		0.4		10.8	
Int3	<a href="#">NYS Route 22 and Site Access</a>									1.0		10.4	
Int4	<a href="#">NYS Route 22 an dUpland Lane/Coman Hill Elementary School</a>	0.4	1.0	10.2	14.5	0.3	0.9	10.5	15.7	0.3	0.9	10.7	16.7
Int5	<a href="#">NYS Route 22 and Tripp Lane</a>	5.8	4.7	41.6		6.5	4.9	42.5		6.7	5.0	43.0	
Int6	<a href="#">NYS Route 22 and Banksville Road</a>	6.1	4.5		40.4	6.7	4.8		41.1	7.1	4.9		41.9
Int7	<a href="#">NYS Route 22 and NYS Route 433/Niles Ave</a>	16.4	30.0	44.2	31.5	16.7	22.0	46.3	40.2	16.8	40.4	46.7	44.5
Int8	<a href="#">NYS Route 22 and I-684 Northbound On ramp</a>	10.9	16.3			11.7	16.6			11.5	16.6		
Int9	<a href="#">I-684 NB Off Ramp to NYS Route 22 North</a>	15.0				14.8				15.2			
Int10	<a href="#">I-684 NB Off Ramp to NYS Route 22 South</a>		10.5				11.2				11.2		
Int11	<a href="#">NYS Route 22 and I-684 SB Off Ramp to NYS Route 22 North</a>	7.8	29.0			8.5	43.2			8.5	29.3		
Int12	<a href="#">I-684 SB Off-ramp to NYS Route 22 South</a>		11.2				12.4				12.4		

Brynwood Golf and Country Club																
Weekday		2013 Existing Condition					2018 No Build Condition					2018 Build Condition				
Link	Description	Delay By Approach		Adjusted Delay *		Combined Delay (sec)	Delay By Approach		Adjusted Delay *		Combined Delay (sec)	Delay By Approach		Adjusted Delay *		Combined Delay (sec)
No.		NB or EB	SB or WB	NB or EB	SB or WB		NB or EB	SB or WB	NB or EB	SB or WB		NB or EB	SB or WB	NB or EB	SB or WB	
		(sec)	(sec)	(sec)	(sec)		(sec)	(sec)	(sec)	(sec)		(sec)	(sec)	(sec)	(sec)	
1	Route 22, north of Chestnut Ridge Road to Rt 172	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	0.0	0.0
2	Chestnut Ridge Road	11.2	0.0	11.2	0.0	5.6	11.6	0.0	11.6	0.0	5.8	11.7	0.0	11.7	0.0	5.9
3	Route 22, between Chestnut Ridge Road and Bladwin Road	0.8	0.0	0.8	0.0	0.4	0.8	0.0	0.8	0.0	0.4	0.8	0.0	0.8	0.0	0.4
4	Baldwin Road	10.4	0.0	10.4	0.0	5.2	10.7	0.0	10.7	0.0	5.4	10.8	0.0	10.8	0.0	5.4
5	Route 22, between Baldwin Road and Site Drive	0.4	0.0	0.4	0.0	0.2	0.4	0.0	0.4	0.0	0.2	0.4	0.0	0.4	0.0	0.2
6	Site Drive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	10.4	0.0	5.2
7	Route22, between Site Drive and Coman Hill/Upland Lane	0.0	1.0	0.0	1.0	0.5	0.0	0.9	0.0	0.9	0.5	1.0	0.9	1.0	0.9	1.0
8	Coman Hill	10.2	0.0	10.2	0.0	5.1	10.5	0.0	10.5	0.0	5.3	10.7	0.0	10.7	0.0	5.4
9	Upland Lane	0.0	14.5	0.0	14.5	7.3	0.0	15.7	0.0	15.7	7.9	0.0	16.7	0.0	16.7	8.4
10	Route 22, between Upland Lane and Tripp Lane	0.4	4.7	0.4	4.7	2.6	0.3	4.9	0.3	4.9	2.6	0.3	5.0	0.3	5.0	2.7
11	Tripp Lane	41.6	0.0	41.6	0.0	20.8	42.5	0.0	42.5	0.0	21.3	43.0	0.0	43.0	0.0	21.5
12	Route 22, between Tripp Lane and Banksville Road	5.8	4.5	5.8	4.5	5.2	6.5	4.8	6.5	4.8	5.7	6.7	4.9	6.7	4.9	5.8
13	Banksville Road	0.0	40.4	0.0	40.4	20.2	0.0	41.1	0.0	41.1	20.6	0.0	41.9	0.0	41.9	21.0
14	Route 22, between Banksville Road and Niles/NYS Rt 433	6.1	30.0	6.1	30.0	18.1	6.7	22.0	6.7	22.0	14.4	7.1	40.4	7.1	40.4	23.8
15	Niles Avenue	44.2	0.0	44.2	0.0	22.1	46.3	0.0	46.3	0.0	23.2	46.7	0.0	46.7	0.0	23.4
16	NYS Route 433	0.0	31.5	0.0	31.5	15.8	0.0	40.2	0.0	40.2	20.1	0.0	44.5	0.0	44.5	22.3
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	16.4	16.3	16.4	16.3	16.4	16.7	16.6	16.7	16.6	16.7	16.8	16.6	16.8	16.6	16.7
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	10.9	0.0	10.9	0.0	5.5	11.7	0.0	11.7	0.0	5.9	11.5	0.0	11.5	0.0	5.8
19	I-684 NB On-ramp (Rt 22 SB)	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	0.0	0.0
20	I-684 NB Off-ramp to Rt 22 N	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	0.0	0.0
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	15.0	10.5	15.0	10.5	12.8	14.8	11.2	14.8	11.2	13.0	15.2	11.2	15.2	11.2	13.2
22	I-684 NB Off-ramp to Rt 22 S	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	0.0	0.0
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	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	0.0	0.0
24	I-684 SB On-ramp	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	0.0	0.0
25	Rt 22 NB to I-684 SB On-ramp	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	0.0	0.0
26	Rt 22, between I-684 SB On-ramp	7.8	29.0	7.8	29.0	18.4	8.5	43.2	8.5	43.2	25.9	8.5	29.3	8.5	29.3	18.9
27	I-684 SB Off-ramp to Rt 22N	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	0.0	0.0
28	I-684 SB Off-ramp to Rt 22 SB	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	0.0	0.0
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	0.0	11.2	0.0	11.2	5.6	0.0	12.4	0.0	12.4	6.2	0.0	12.4	0.0	12.4	6.2
30	Rt 22, south of I684 SB Off-ramp to Rt 120	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	0.0	0.0

Brynwood Golf and Country Club

PM Peak Condition		2013 Existing Condition				2018 No Build Condition				2018 Build Condition			
		Delay by Approach				Delay by Approach				Delay by Approach			
		Northbound NB.EX	Southbound SB.EX	Eastbound EB.EX	Westbound WB.EX	Northbound NB.NB	Southbound SB.NB	Eastbound EB.NB	Westbound WB.NB	Northbound NB.BL	Southbound SB.BL	Eastbound EB.BL	Westbound WB.BL
Int1	<a href="#">NYS Route 22 and Chestnut Ridge Road</a>	0.8	0.0	11.2		0.8		11.6		0.8		11.7	
Int2	<a href="#">NYS Route 22 and Baldwin Road</a>	0.4	0.0	10.4		0.4		10.7		0.4		10.8	
Int3	<a href="#">NYS Route 22 and Site Access</a>									1.0		10.4	
Int4	<a href="#">NYS Route 22 an dUpland Lane/Coman Hill Elementary School</a>	0.4	1.0	10.2	14.5	0.3	0.9	10.5	15.7	0.3	0.9	10.7	16.7
Int5	<a href="#">NYS Route 22 and Tripp Lane</a>	5.8	4.7	41.6		6.5	4.9	42.5		6.7	5.0	43.0	
Int6	<a href="#">NYS Route 22 and Banksville Road</a>	6.1	4.5		40.4	6.7	4.8		41.1	7.1	4.9		41.9
Int7	<a href="#">NYS Route 22 and NYS Route 433/Niles Ave</a>	16.4	30.0	44.2	31.5	16.7	22.0	46.3	40.2	16.8	40.4	46.7	44.5
Int8	<a href="#">NYS Route 22 and I-684 Northbound On ramp</a>	10.9	16.3			11.7	16.6			11.5	16.6		
Int9	<a href="#">I-684 NB Off Ramp to NYS Route 22 North</a>	15.0				14.8				15.2			
Int10	<a href="#">I-684 NB Off Ramp to NYS Route 22 South</a>		10.5				11.2				11.2		
Int11	<a href="#">NYS Route 22 and I-684 SB Off Ramp to NYS Route 22 North</a>	7.8	29.0			8.5	43.2			8.5	29.3		
Int12	<a href="#">I-684 SB Off-ramp to NYS Route 22 South</a>		11.2				12.4				12.4		



# Brynwood Golf and Country Club

## Average Daily Traffic (ADT) for Mesoscale Roadway Network

Weekday

Unadjusted PM Peak Hour

Roadway Segment	2013 Existing Condition	2018 No Build Condition	2018 Build Condition	K Factor	Seasonal Adjustmen t Factor	2013 Existing Condition	2018 No Build Condition	2018 Build Condition
	Volume (ADT)	Volume (ADT)	Volume (ADT)					
				9.8%	100.0%			
1 Route 22, north of Chestnut Ridge Road to Rt 172	3,520	3,990	4,102			345	391	402
2 Chestnut Ridge Road	408	418	418			40	41	41
3 Route 22, between Chestnut Ridge Road and Bladwin Road	3,622	4,102	4,214			355	402	413
4 Baldwin Road	408	408	408			40	40	40
5 Route 22, between Baldwin Road and Site Drive	3,776	4,265	4,378			370	418	429
6 Site Drive	0	0	561			0	0	55
7 Route22, between Site Drive and Coman Hill/Upland Lane	3,929	4,429	4,878			385	434	478
8 Coman Hill	510	520	520			50	51	51
9 Upland Lane	1,224	1,286	1,286			120	126	126
10 Route 22, between Upland Lane and Tripp Lane	5,306	5,867	6,316			520	575	619
11 Tripp Lane	2,602	2,724	2,724			255	267	267
12 Route 22, between Tripp Lane and Banksville Road	7,296	7,969	8,408			715	781	824
13 Banksville Road	3,418	3,592	3,633			335	352	356
14 Route 22, between Banksville Road and Niles/NYS Rt 433	10,153	10,959	11,388			995	1074	1116
15 Niles Avenue	204	204	204			20	20	20
16 NYS Route 433	6,694	7,418	7,510			656	727	736
17 Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	14,796	16,122	16,459			1450	1580	1613
18 Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	18,724	20,541	20,857			1835	2013	2044
19 I-684 NB On-ramp (Rt 22 SB)	8,316	9,255	9,276			815	907	909
20 I-684 NB Off-ramp to Rt 22 N	3,469	3,643	3,755			340	357	368
21 Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	15,255	16,898	17,102			1495	1656	1676
22 I-684 NB Off-ramp to Rt 22 S	1,786	2,480	2,480			175	243	243
23 Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	17,041	19,622	19,827			1670	1923	1943
24 I-684 SB On-ramp	765	806	857			75	79	84
25 Rt 22 NB to I-684 SB On-ramp	1,990	2,980	2,980			195	292	292
26 Rt 22, between I-684 SB On-ramp	15,663	18,173	18,286			1535	1781	1792
27 I-684 SB Off-ramp to Rt 22N	612	643	684			60	63	67
28 I-684 SB Off-ramp to Rt 22 SB	1,684	2,122	2,122			165	208	208
29 Rt 22 , between I-684 SB On-ramp and SB Off-ramp	17,653	21,153	21,265			1730	2073	2084
30 Rt 22, south of I684 SB Off-ramp to Rt 120	19,337	23,276	23,388			1895	2281	2292

# Brynwood Golf and Country Club

## Average Daily Traffic (ADT) for Mesoscale Roadway Network

Weekday

Unadjusted PM Peak Hour

Roadway Segment		2013 Existing Condition	2018 No Build Condition	2018 Build Condition	K Factor	Seasonal Adjustment Factor	2013 Existing Condition	2018 No Build Condition	2018 Build Condition
		Volume (ADT)	Volume (ADT)	Volume (ADT)					
					9.8%	100.0%			
1	Route 22, north of Chestnut Ridge Road to Rt 172	3,520	3,990	4,102			345	391	402
2	Chestnut Ridge Road	408	418	418			40	41	41
3	Route 22, between Chestnut Ridge Road and Bladwin Road	3,622	4,102	4,214			355	402	413
4	Baldwin Road	408	408	408			40	40	40
5	Route 22, between Baldwin Road and Site Drive	3,776	4,265	4,378			370	418	429
6	Site Drive	0	0	561			0	0	55
7	Route22, between Site Drive and Coman Hill/Upland Lane	3,929	4,429	4,878			385	434	478
8	Coman Hill	510	520	520			50	51	51
9	Upland Lane	1,224	1,286	1,286			120	126	126
10	Route 22, between Upland Lane and Tripp Lane	5,306	5,867	6,316			520	575	619
11	Tripp Lane	2,602	2,724	2,724			255	267	267
12	Route 22, between Tripp Lane and Banksville Road	7,296	7,969	8,408			715	781	824
13	Banksville Road	3,418	3,592	3,633			335	352	356
14	Route 22, between Banksville Road and Niles/NYS Rt 433	10,153	10,959	11,388			995	1074	1116
15	Niles Avenue	204	204	204			20	20	20
16	NYS Route 433	6,694	7,418	7,510			656	727	736
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	14,796	16,122	16,459			1450	1580	1613
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	18,724	20,541	20,857			1835	2013	2044
19	I-684 NB On-ramp (Rt 22 SB)	8,316	9,255	9,276			815	907	909
20	I-684 NB Off-ramp to Rt 22 N	3,469	3,643	3,755			340	357	368
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	15,255	16,898	17,102			1495	1656	1676
22	I-684 NB Off-ramp to Rt 22 S	1,786	2,480	2,480			175	243	243
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	17,041	19,622	19,827			1670	1923	1943
24	I-684 SB On-ramp	765	806	857			75	79	84
25	Rt 22 NB to I-684 SB On-ramp	1,990	2,980	2,980			195	292	292
26	Rt 22, between I-684 SB On-ramp	15,663	18,173	18,286			1535	1781	1792
27	I-684 SB Off-ramp to Rt 22N	612	643	684			60	63	67
28	I-684 SB Off-ramp to Rt 22 SB	1,684	2,122	2,122			165	208	208
29	Rt 22 , between I-684 SB On-ramp and SB Off-ramp	17,653	21,153	21,265			1730	2073	2084
30	Rt 22, south of I684 SB Off-ramp to Rt 120	19,337	23,276	23,388			1895	2281	2292

## Brynwood Golf and Country Club

### Mesoscale Roadway Data

Link No.	Description	Roadway Type	Link Length (miles)	Speed Limit (mph)	Existing		No Build		Build	
					Weekday		Weekend		Weekday	
					Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
					Speed (mph)	Speed (mph)	Speed (mph)	Speed (mph)	Speed (mph)	Speed (mph)
1	Route 22, north of Chestnut Ridge Road to Rt 172	2	2.94	40	30	40	30	40	30	40
2	Chestnut Ridge Road	2	2.79	30	20	30	20	30	20	30
3	Route 22, between Chestnut Ridge Road and Bladwin Road	2	0.11	40	30	40	30	40	30	40
4	Baldwin Road	2	0.36	30	20	30	20	30	20	30
5	Route 22, between Baldwin Road and Site Drive	2	0.7	40	30	40	30	40	30	40
6	Site Drive	2	0.1	20	10	20	10	20	10	20
7	Route 22, between Site Drive and Coman Hill/Upland Lane	2	0.14	40	30	40	30	40	30	40
8	Coman Hill	2	0.12	25	15	25	15	25	15	25
9	Upland Lane	2	0.48	30	20	30	20	30	20	30
10	Route 22, between Upland Lane and Tripp Lane	2	0.91	40	30	40	30	40	30	40
11	Tripp Lane	2	0.4	30	20	30	20	30	20	30
12	Route 22, between Tripp Lane and Banksville Road	2	0.21	40	30	40	30	40	30	40
13	Banksville Road	2	1.46	30	20	30	20	30	20	30
14	Route 22, between Banksville Road and Niles/NYS Rt 433	2	0.79	40	30	40	30	40	30	40
15	Niles Avenue	2	0.14	30	20	30	20	30	20	30
16	NYS Route 433	2	6.56	45	35	45	35	45	35	45
17	Route 22, south of Niles Ave/NYS Rt 433 to NB On-ramp 684	2	0.28	40	30	40	30	40	30	40
18	Route 22, between I-684 NB On-ramp and I-684 Off-ramp to Rt 22 N	2	0.05	40	30	40	30	40	30	40
19	I-684 NB On-ramp (Rt 22 SB)	2	0.24	30	20	30	20	30	20	30
20	I-684 NB Off-ramp to Rt 22 N	2	0.2	30	20	30	20	30	20	30
21	Rt 22, between I-684 NB Off-ramp to Rt 22N and I-684 NB Off-ramp to Rt 22S	2	0.01	40	30	40	30	40	30	40
22	I-684 NB Off-ramp to Rt 22 S	2	0.22	30	20	30	20	30	20	30
23	Rt 22, between I-684 NB Off-ramp to Rt 22S and I-684 SB On-ramp	2	0.12	40	30	40	30	40	30	40
24	I-684 SB On-ramp	2	0.22	30	20	30	20	30	20	30
25	Rt 22 NB to I-684 SB On-ramp	2	0.3	40	30	40	30	40	30	40
26	Rt 22, between I-684 SB On-ramp	2	0.05	40	30	40	30	40	30	40
27	I-684 SB Off-ramp to Rt 22N	2	0.24	30	20	30	20	30	20	30
28	I-684 SB Off-ramp to Rt 22 SB	2	0.27	30	20	30	20	30	20	30
29	Rt 22, between I-684 SB On-ramp and SB Off-ramp	2	0.06	40	30	40	30	40	30	40
30	Rt 22, south of I-684 SB Off-ramp to Rt 120	2	1.63	40	30	40	30	40	30	40

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## **4. Greenhouse Gas Stationary Source Emissions**

**12222.00 Brynwood Golf and Country Club, Town of New Castle, NY**

**Air Quality - Greenhouse Gas eQUEST Results**

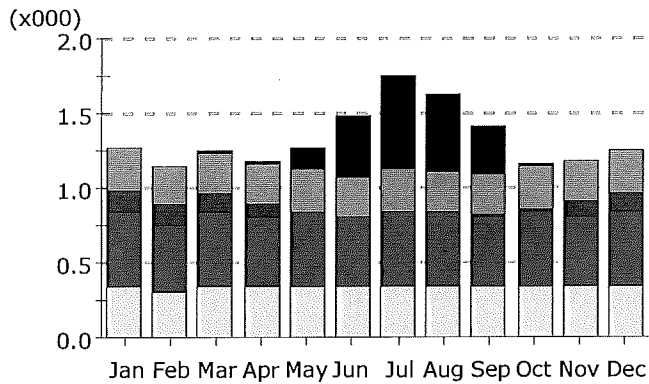
ENERGY CONSUMPTION									
Residential Buildings	Building Number	Number of Beds per unit	eQUEST Sample Building SF	Number of Units per Building	Gross Square Footage	Energy Consumption (per unit)		Energy Consumption (per Building)	
						Electricity (Mwh)	Gas (MBtu)	Electricity (Mwh)	Gas (MBtu)
Golf Cottages	C1	4	3,200	1	3,200	18.75	81.07	18.75	81.07
	C2	4	3,200	1	3,200	18.75	81.07	18.75	81.07
	C3	4	3,200	1	3,200	18.75	81.07	18.75	81.07
	C4	4	3,200	1	3,200	18.75	81.07	18.75	81.07
	C5	4	3,200	1	3,200	18.75	81.07	18.75	81.07
			<b>Total</b>	<b>5</b>	<b>16,000</b>	<b>93.8</b>	<b>405.4</b>	<b>93.8</b>	<b>405.4</b>
Golf Residences	L1	2	2,900	10	29,000	17.24	76.22	172.40	762.20
	L2	2	2,900	10	29,000	17.24	76.22	172.40	762.20
	L3	2	2,900	10	29,000	17.24	76.22	172.40	762.20
	L4	2	2,900	10	29,000	17.24	76.22	172.40	762.20
	L5	3	2,900	2	5,800	17.24	76.22	34.48	152.44
		2	2,900	6	17,400	17.24	76.22	103.44	457.32
	L6	3	2,900	2	5,800	17.24	76.22	34.48	152.44
		2	2,900	6	17,400	17.24	76.22	103.44	457.32
	L7	3	2,900	2	5,800	17.24	76.22	34.48	152.44
		2	2,900	6	17,400	17.24	76.22	103.44	457.32
			<b>Total 2-bed</b>	<b>58</b>	<b>168,200</b>	<b>121</b>	<b>534</b>	<b>999.9</b>	<b>4,420.8</b>
			<b>Total 3-bed</b>	<b>6</b>	<b>17,400</b>	<b>52</b>	<b>229</b>	<b>103.4</b>	<b>457.3</b>
			<b>Total</b>	<b>64.0</b>	<b>185,600.0</b>	<b>172.4</b>	<b>762.2</b>	<b>1,103.4</b>	<b>4,878.1</b>
Club Villas	V1	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V2	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V3	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V4	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V5	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V6	3	2,650	2	5,300	15.95	71.97	31.90	143.94
	V7	3	2,650	2	5,300	15.95	71.97	31.90	143.94
			<b>Total</b>	<b>14</b>	<b>37,100</b>	<b>111.7</b>	<b>503.8</b>	<b>223.3</b>	<b>1,007.6</b>
Fairway Residences	Fairway 1-5	3	3,200	5	16,000	18.8	81.1	93.8	405.4
<b>Total</b>				<b>88</b>	<b>254,700</b>	<b>396.6</b>	<b>1,752.4</b>	<b>1,514.2</b>	<b>6,696.4</b>

**12222.00 Brynwood Golf and Country Club, Town of New Castle, NY**  
**Air Quality - Greenhouse Gas eQUEST Results**

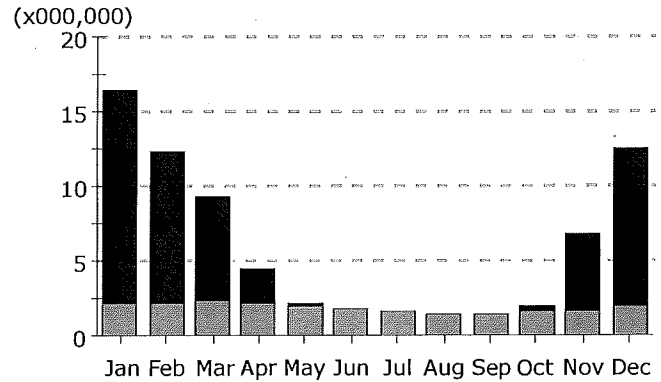
CO2 EMISSIONS										
Residential Buildings	Building Number	Number of Beds per unit	eQUEST Sample Building SF	Number of Units per Building	Gross Square Footage	CO2 Emissions (per unit in tons)		CO2 Emissions (per Building in tons)		Total
						Electricity	Gas	Electricity	Gas	
Golf Cottages	C1	4	3,200	1	3,200	79.69	47.42	79.69	47.42	127.10
	C2	4	3,200	1	3,200	79.69	47.42	79.69	47.42	127.10
	C3	4	3,200	1	3,200	79.69	47.42	79.69	47.42	127.10
	C4	4	3,200	1	3,200	79.69	47.42	79.69	47.42	127.10
	C5	4	3,200	1	3,200	79.69	47.42	79.69	47.42	127.10
			<b>Total</b>	<b>5</b>	<b>16,000</b>	<b>398.4</b>	<b>237.1</b>	<b>398.4</b>	<b>237.1</b>	<b>635.5</b>
Golf Residences	L1	2	1,900	10	19,000	73.27	44.58	732.70	445.80	1,178.50
	L2	2	1,900	10	19,000	73.27	44.58	732.70	445.80	1,178.50
	L3	2	1,900	10	19,000	73.27	44.58	732.70	445.80	1,178.50
	L4	2	1,900	10	19,000	73.27	44.58	732.70	445.80	1,178.50
	L5	3	2,900	2	5,800	73.27	44.58	146.54	89.16	235.70
		2	1,900	6	11,400	73.27	44.58	439.62	267.48	707.10
		3	2,900	2	5,800	73.27	44.58	146.54	89.16	235.70
	L6	2	1,900	6	11,400	73.27	44.58	439.62	267.48	707.10
		3	2,900	2	5,800	73.27	44.58	146.54	89.16	235.70
		2	1,900	6	11,400	73.27	44.58	439.62	267.48	707.10
			<b>Total 2-bed</b>	<b>58</b>	<b>110,200</b>	<b>513</b>	<b>312</b>	<b>4,249.7</b>	<b>2,585.6</b>	<b>6,835.3</b>
			<b>Total 3-bed</b>	<b>6</b>	<b>17,400</b>	<b>220</b>	<b>134</b>	<b>439.6</b>	<b>267.5</b>	<b>707.1</b>
			<b>Total</b>	<b>64</b>	<b>127,600</b>	<b>733</b>	<b>446</b>	<b>4,689</b>	<b>2,853</b>	<b>7,542</b>
Club Villas	V1	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V2	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V3	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V4	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V5	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V6	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
	V7	3	2,650	2	5,300	67.79	42.09	135.58	84.19	219.76
			<b>Total</b>	<b>14</b>	<b>37,100</b>	<b>474.5</b>	<b>294.7</b>	<b>949.0</b>	<b>589.3</b>	<b>1,538.3</b>
Fairway Residences	Fairway 1-5	3	3,200	5	16,000	79.7	47.4	398.4	237.1	635.5
<b>Total</b>				<b>88</b>	<b>196,700</b>	<b>1,685.3</b>	<b>1,025.0</b>	<b>6,435.2</b>	<b>3,916.6</b>	<b>10,351.8</b>

Conversion Table

Multiply	by	To Get
1 Mwh	850 lbs/Mwh	lbs
1 Mbtu	53.06 kg/MMbtu	kg
1 kg	2.20462 lbs/kg	lbs
1 lbs	0.005 tons/lbs	tons

**Electric Consumption (kWh)**

Area Lighting  
Task Lighting  
Misc. Equipment  
Exterior Usage  
Pumps & Aux.  
Ventilation Fans

**Gas Consumption (Btu)**

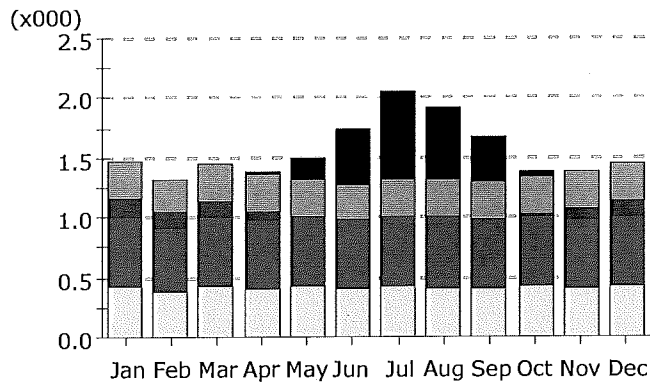
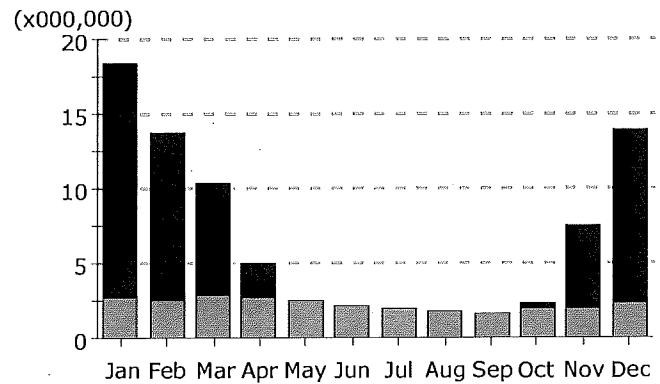
Water Heating  
Ht Pump Supp.  
Space Heating  
Refrigeration  
Heat Rejection  
Space Cooling

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.01	0.02	0.15	0.40	0.63	0.52	0.33	0.03	-	-	2.07
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.28	0.25	0.28	0.27	0.28	0.27	0.28	0.28	0.27	0.28	0.27	0.28	3.31
Pumps & Aux.	0.14	0.13	0.13	0.08	0.01	-	-	-	0.00	0.03	0.10	0.13	0.75
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.49	0.44	0.49	0.48	0.49	0.48	0.49	0.49	0.48	0.49	0.48	0.49	5.79
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.34	0.31	0.34	0.33	0.34	0.33	0.34	0.34	0.34	0.34	0.33	0.35	4.04
<b>Total</b>	<b>1.26</b>	<b>1.14</b>	<b>1.25</b>	<b>1.18</b>	<b>1.27</b>	<b>1.48</b>	<b>1.74</b>	<b>1.62</b>	<b>1.41</b>	<b>1.17</b>	<b>1.18</b>	<b>1.25</b>	<b>15.95</b>

**Gas Consumption (Btu x000,000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	14.28	10.18	7.01	2.30	0.07	-	-	-	-	0.48	5.07	10.53	49.94
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.15	2.05	2.32	2.16	2.00	1.73	1.56	1.47	1.39	1.56	1.68	1.95	22.03
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>16.43</b>	<b>12.24</b>	<b>9.32</b>	<b>4.46</b>	<b>2.07</b>	<b>1.73</b>	<b>1.56</b>	<b>1.47</b>	<b>1.39</b>	<b>2.04</b>	<b>6.75</b>	<b>12.49</b>	<b>71.97</b>

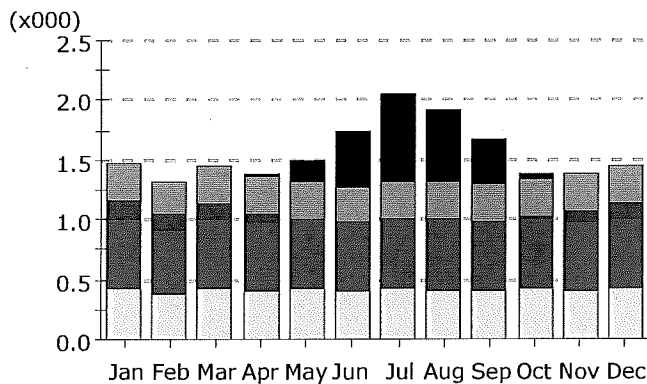
**Electric Consumption (kWh)****Gas Consumption (Btu)****Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.01	0.02	0.18	0.47	0.73	0.60	0.38	0.03	-	-	2.41
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.32	0.29	0.31	0.30	0.31	0.30	0.32	0.31	0.31	0.31	0.31	0.32	3.71
Pumps & Aux.	0.14	0.13	0.13	0.08	0.01	-	-	-	0.00	0.03	0.10	0.13	0.75
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.59	0.54	0.59	0.57	0.59	0.57	0.59	0.59	0.57	0.59	0.57	0.59	6.99
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.42	0.38	0.41	0.40	0.41	0.40	0.42	0.41	0.41	0.41	0.40	0.42	4.88
<b>Total</b>	<b>1.47</b>	<b>1.33</b>	<b>1.45</b>	<b>1.38</b>	<b>1.50</b>	<b>1.74</b>	<b>2.05</b>	<b>1.92</b>	<b>1.67</b>	<b>1.38</b>	<b>1.38</b>	<b>1.46</b>	<b>18.75</b>

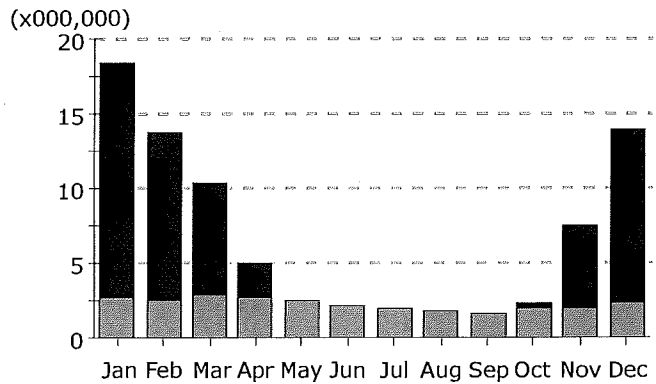
**Gas Consumption (Btu x000,000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	15.83	11.22	7.60	2.33	0.07	-	-	-	-	0.42	5.41	11.58	54.47
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.59	2.48	2.80	2.60	2.41	2.09	1.89	1.78	1.68	1.88	2.03	2.36	26.60
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>18.42</b>	<b>13.70</b>	<b>10.40</b>	<b>4.94</b>	<b>2.49</b>	<b>2.09</b>	<b>1.89</b>	<b>1.78</b>	<b>1.68</b>	<b>2.31</b>	<b>7.43</b>	<b>13.94</b>	<b>81.07</b>



**Electric Consumption (kWh)**

Area Lighting  
Task Lighting  
Misc. Equipment  
Exterior Usage  
Pumps & Aux.  
Ventilation Fans

**Gas Consumption (Btu)**

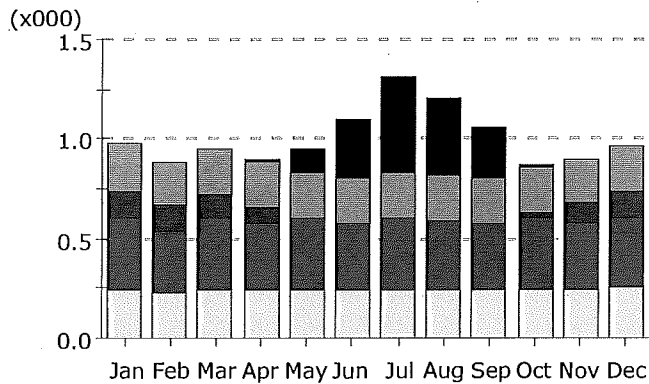
Water Heating  
Ht Pump Supp.  
Space Heating  
Refrigeration  
Heat Rejection  
Space Cooling

**Electric Consumption (kWh x000)**

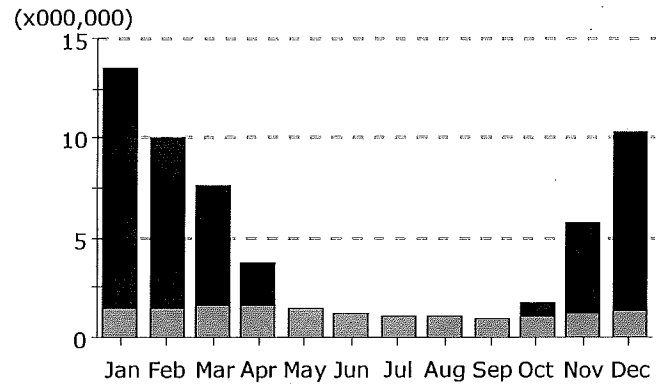
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.01	0.02	0.18	0.47	0.73	0.60	0.38	0.03	-	-	2.41
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.32	0.29	0.31	0.30	0.31	0.30	0.32	0.31	0.31	0.31	0.31	0.32	3.71
Pumps & Aux.	0.14	0.13	0.13	0.08	0.01	-	-	-	0.00	0.03	0.10	0.13	0.75
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.59	0.54	0.59	0.57	0.59	0.57	0.59	0.59	0.57	0.59	0.57	0.59	6.99
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.42	0.38	0.41	0.40	0.41	0.40	0.42	0.41	0.41	0.41	0.40	0.42	4.88
<b>Total</b>	<b>1.47</b>	<b>1.33</b>	<b>1.45</b>	<b>1.38</b>	<b>1.50</b>	<b>1.74</b>	<b>2.05</b>	<b>1.92</b>	<b>1.67</b>	<b>1.38</b>	<b>1.38</b>	<b>1.46</b>	<b>18.75</b>

**Gas Consumption (Btu x000,000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	15.83	11.22	7.60	2.33	0.07	-	-	-	-	0.42	5.41	11.58	54.47
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.59	2.48	2.80	2.60	2.41	2.09	1.89	1.78	1.68	1.88	2.03	2.36	26.60
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>18.42</b>	<b>13.70</b>	<b>10.40</b>	<b>4.94</b>	<b>2.49</b>	<b>2.09</b>	<b>1.89</b>	<b>1.78</b>	<b>1.68</b>	<b>2.31</b>	<b>7.43</b>	<b>13.94</b>	<b>81.07</b>

**Electric Consumption (kWh)**

Area Lighting  
Task Lighting  
Misc. Equipment  
Exterior Usage  
Pumps & Aux.  
Ventilation Fans

**Gas Consumption (Btu)**

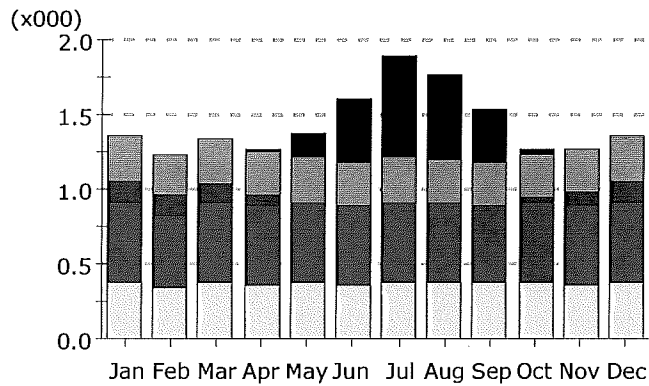
Water Heating  
Ht Pump Supp.  
Space Heating  
Refrigeration  
Heat Rejection  
Space Cooling

**Electric Consumption (kWh x000)**

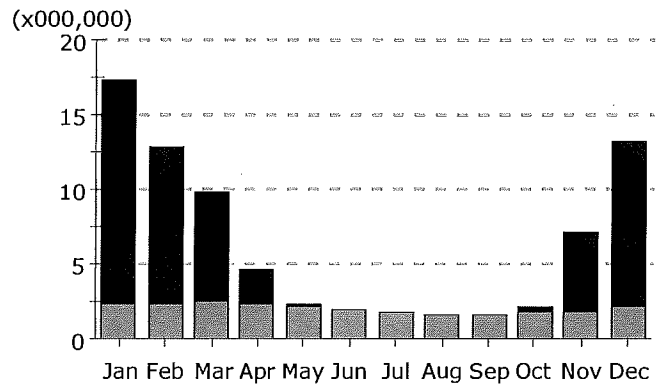
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.01	0.11	0.30	0.48	0.39	0.25	0.02	-	-	1.57
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.23	0.21	0.23	0.22	0.23	0.22	0.23	0.23	0.22	0.23	0.22	0.23	2.70
Pumps & Aux.	0.14	0.13	0.13	0.08	0.01	-	-	-	0.00	0.03	0.10	0.13	0.75
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.35	0.32	0.35	0.34	0.35	0.34	0.35	0.35	0.34	0.35	0.34	0.35	4.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.25	0.22	0.24	0.24	0.24	0.24	0.25	0.24	0.24	0.24	0.24	0.25	2.90
<b>Total</b>	<b>0.97</b>	<b>0.88</b>	<b>0.96</b>	<b>0.90</b>	<b>0.95</b>	<b>1.10</b>	<b>1.31</b>	<b>1.21</b>	<b>1.05</b>	<b>0.87</b>	<b>0.90</b>	<b>0.96</b>	<b>12.05</b>

**Gas Consumption (Btu x000,000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	11.92	8.60	6.04	2.23	0.09	-	-	-	-	0.56	4.51	8.91	42.87
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	1.54	1.47	1.66	1.54	1.43	1.24	1.12	1.06	0.99	1.12	1.20	1.40	15.78
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>13.46</b>	<b>10.07</b>	<b>7.70</b>	<b>3.77</b>	<b>1.53</b>	<b>1.24</b>	<b>1.12</b>	<b>1.06</b>	<b>0.99</b>	<b>1.68</b>	<b>5.71</b>	<b>10.31</b>	<b>58.64</b>

**Electric Consumption (kWh)**

Area Lighting  
 Task Lighting  
 Misc. Equipment  
 Exterior Usage  
 Pumps & Aux.  
 Ventilation Fans

**Gas Consumption (Btu)**

Water Heating  
 Ht Pump Supp.  
 Space Heating  
 Refrigeration  
 Heat Rejection  
 Space Cooling

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.01	0.02	0.16	0.43	0.67	0.56	0.35	0.03	-	-	2.23
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.30	0.27	0.30	0.29	0.30	0.29	0.30	0.29	0.29	0.30	0.29	0.30	3.50
Pumps & Aux.	0.14	0.13	0.13	0.08	0.01	-	-	-	0.00	0.03	0.10	0.13	0.75
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.54	0.49	0.54	0.52	0.54	0.52	0.54	0.54	0.52	0.54	0.52	0.54	6.34
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.38	0.34	0.37	0.36	0.37	0.36	0.38	0.37	0.37	0.37	0.37	0.38	4.43
<b>Total</b>	<b>1.36</b>	<b>1.23</b>	<b>1.34</b>	<b>1.27</b>	<b>1.38</b>	<b>1.60</b>	<b>1.89</b>	<b>1.76</b>	<b>1.53</b>	<b>1.26</b>	<b>1.27</b>	<b>1.35</b>	<b>17.24</b>

**Gas Consumption (Btu x000,000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	15.01	10.68	7.29	2.32	0.07	-	-	-	-	0.45	5.24	11.03	52.08
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.35	2.25	2.54	2.36	2.19	1.90	1.71	1.62	1.52	1.71	1.84	2.14	24.13
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>17.36</b>	<b>12.93</b>	<b>9.83</b>	<b>4.68</b>	<b>2.26</b>	<b>1.90</b>	<b>1.71</b>	<b>1.62</b>	<b>1.52</b>	<b>2.16</b>	<b>7.08</b>	<b>13.17</b>	<b>76.22</b>



## **APPENDIX O**

# NOISE APPENDIX

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- Traffic Noise Model
  - Existing Inputs
  - Existing Sound Levels
  - Build Inputs
  - Build Sound Levels
- Mechanical Equipment Sound Level Calculation
- Construction Sound Level Calculation

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# Traffic Noise Model

- Existing Inputs
- Existing Sound Levels
- Build Inputs
- Build Sound Levels

# Existing Inputs



### INPUT: TRAFFIC FOR LAeq1h Volumes

## BRYNWOOD

VHB			28 February 2013									
MDQT			TNM 2.5									
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	BRYNWOOD											
RUN:	EXISTING											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
TRIPP LANE	point1	1	255	35	5	35	5	35	0	0	0	0
	point2	2										
UPLAND LANE	point3	3	120	35	2	35	2	35	0	0	0	0
	point4	4	120	35	2	35	2	35	0	0	0	0
	point5	5	120	35	2	35	2	35	0	0	0	0
	point6	6	120	35	2	35	2	35	0	0	0	0
	point7	7	120	35	2	35	2	35	0	0	0	0
	point8	8	120	35	2	35	2	35	0	0	0	0
	point9	9	120	35	2	35	2	35	0	0	0	0
	point10	10	120	35	2	35	2	35	0	0	0	0
	point11	11										
COMAN HILL ELEMENTARY SCHOOL	point12	12	50	15	1	15	1	15	0	0	0	0
	point13	13	50	15	1	15	1	15	0	0	0	0
	point14	14	50	15	1	15	1	15	0	0	0	0
	point15	15										
BALDWIN ROAD	point16	16	40	35	1	35	1	35	0	0	0	0
	point17	17										
(1) SB ROUTE 22	point18	18	145	45	3	45	3	45	0	0	0	0
	point19	19	145	45	3	45	3	45	0	0	0	0
	point20	20	145	45	3	45	3	45	0	0	0	0
	point21	21	145	45	3	45	3	45	0	0	0	0
	point22	22	145	45	3	45	3	45	0	0	0	0
	point23	23	145	45	3	45	3	45	0	0	0	0

### INPUT: TRAFFIC FOR LAeq1h Volumes

**BRYNWOOD**

	point24	24	145	45	3	45	3	45	0	0	0	0
	point25	25										
(1) NB ROUTE 22	point26	26	240	45	5	45	5	45	0	0	0	0
	point27	27	240	45	5	45	5	45	0	0	0	0
	point28	28	240	45	5	45	5	45	0	0	0	0
	point29	29	240	45	5	45	5	45	0	0	0	0
	point30	30	240	45	5	45	5	45	0	0	0	0
	point31	31	240	45	5	45	5	45	0	0	0	0
	point32	32	240	45	5	45	5	45	0	0	0	0
	point33	33										
(2) SB ROUTE 22	point34	34	240	45	5	45	5	45	0	0	0	0
	point35	35	240	45	5	45	5	45	0	0	0	0
	point36	36	240	45	5	45	5	45	0	0	0	0
	point37	37	240	45	5	45	5	45	0	0	0	0
	point38	38	240	45	5	45	5	45	0	0	0	0
	point39	39	240	45	5	45	5	45	0	0	0	0
	point40	40	240	45	5	45	5	45	0	0	0	0
	point41	41	240	45	5	45	5	45	0	0	0	0
	point42	42	240	45	5	45	5	45	0	0	0	0
	point43	43										
(2) NB ROUTE 22	point44	44	320	45	6	45	6	45	0	0	0	0
	point45	45	320	45	6	45	6	45	0	0	0	0
	point46	46	320	45	6	45	6	45	0	0	0	0
	point47	47	320	45	6	45	6	45	0	0	0	0
	point48	48	320	45	6	45	6	45	0	0	0	0
	point49	49	320	45	6	45	6	45	0	0	0	0
	point50	50	320	45	6	45	6	45	0	0	0	0
	point51	51	320	45	6	45	6	45	0	0	0	0
	point52	52	320	45	6	45	6	45	0	0	0	0
	point53	53										
NB & SB 684	point54	54	6902	70	138	70	138	70	0	0	0	0
	point55	55	6902	70	138	70	138	70	0	0	0	0
	point56	56	6902	70	138	70	138	70	0	0	0	0
	point57	57	6902	70	138	70	138	70	0	0	0	0
	point58	58	6902	70	138	70	138	70	0	0	0	0
	point59	59	6902	70	138	70	138	70	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes****BRYNWOOD**

	point60	60	6902	70	138	70	138	70	0	0	0	0
	point61	61	6902	70	138	70	138	70	0	0	0	0
	point62	62	6902	70	138	70	138	70	0	0	0	0
	point63	63	6902	70	138	70	138	70	0	0	0	0
	point64	64	6902	70	138	70	138	70	0	0	0	0
	point65	65	6902	70	138	70	138	70	0	0	0	0
	point66	66	6902	70	138	70	138	70	0	0	0	0
	point67	67	6902	70	138	70	138	70	0	0	0	0
	point68	68	6902	70	138	70	138	70	0	0	0	0
	point69	69	6902	70	138	70	138	70	0	0	0	0
	point70	70	6902	70	138	70	138	70	0	0	0	0
	point71	71	6902	70	138	70	138	70	0	0	0	0
	point72	72	6902	70	138	70	138	70	0	0	0	0
	point73	73	6902	70	138	70	138	70	0	0	0	0
	point74	74	6902	70	138	70	138	70	0	0	0	0
	point75	75	6902	70	138	70	138	70	0	0	0	0
	point76	76	6902	70	138	70	138	70	0	0	0	0
	point77	77										

# Existing Sound Levels

**RESULTS: SOUND LEVELS**
**BRYNWOOD**

VHB								28 February 2013				
MDQT								TNM 2.5				
								Calculated with TNM 2.5				
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		BRYNWOOD										
RUN:		EXISTING										
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless			
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH							of a different type with approval of FHWA.			
Receiver												
Name	No.	#DUs	Existing	No Barrier				With Barrier				
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	Goal
												dB
EMBASSY CT 1	25	1	0.0	52.8	66	52.8	10	----	52.8	0.0	8	-8.0
EMBASSY CT 2	26	1	0.0	53.1	66	53.1	10	----	53.1	0.0	8	-8.0
ILANA CT 3	27	1	0.0	55.8	66	55.8	10	----	55.8	0.0	8	-8.0
EMBASSY CT 4	28	1	0.0	57.7	66	57.7	10	----	57.7	0.0	8	-8.0
EMBASSY CT 5	29	1	0.0	53.3	66	53.3	10	----	53.3	0.0	8	-8.0
EMBASSY CT 6	30	1	0.0	52.9	66	52.9	10	----	52.9	0.0	8	-8.0
EVERGREEN ROW 7	31	1	0.0	54.3	66	54.3	10	----	54.3	0.0	8	-8.0
EVERGREEN ROW 8	32	1	0.0	49.3	66	49.3	10	----	49.3	0.0	8	-8.0
NORTH LN 9	33	1	0.0	58.2	66	58.2	10	----	58.2	0.0	8	-8.0
EVERGREEN ROW 10	34	1	0.0	57.9	66	57.9	10	----	57.9	0.0	8	-8.0
EVERGREEN ROW 11	35	1	0.0	54.7	66	54.7	10	----	54.7	0.0	8	-8.0
EVERGREEN ROW 12	36	1	0.0	53.5	66	53.5	10	----	53.5	0.0	8	-8.0
EVERGREEN ROW 13	37	1	0.0	53.4	66	53.4	10	----	53.4	0.0	8	-8.0
EVERGREEN ROW 14	38	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0
EVERGREEN ROW 15	39	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0
EVERGREEN ROW 16	40	1	0.0	47.6	66	47.6	10	----	47.6	0.0	8	-8.0
EVERGREEN ROW 17	41	1	0.0	47.8	66	47.8	10	----	47.8	0.0	8	-8.0
EVERGREEN ROW 18	42	1	0.0	47.4	66	47.4	10	----	47.4	0.0	8	-8.0
EVERGREEN ROW 19	43	1	0.0	47.6	66	47.6	10	----	47.6	0.0	8	-8.0
EVERGREEN ROW 20	44	1	0.0	47.9	66	47.9	10	----	47.9	0.0	8	-8.0
EVERGREEN ROW 21	45	1	0.0	48.6	66	48.6	10	----	48.6	0.0	8	-8.0
EVERGREEN ROW 22	46	1	0.0	49.4	66	49.4	10	----	49.4	0.0	8	-8.0
EVERGREEN ROW 23	47	1	0.0	49.6	66	49.6	10	----	49.6	0.0	8	-8.0

**RESULTS: SOUND LEVELS**
**BRYNWOOD**

Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		23	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

# Build Inputs

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**BRYNWOOD**

VHB			28 February 2013											
MDQT			TNM 2.5											
INPUT: TRAFFIC FOR LAeq1h Volumes														
PROJECT/CONTRACT:	BRYNWOOD													
RUN:	BUILD													
Roadway	Points													
Name	Name	No.	Segment											
			Autos		MTrucks		HTrucks		Buses		Motorcycles			
			V	S	V	S	V	S	V	S	V	S		
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph		
TRIPP LANE	point1	1	267	35	5	35	5	35	0	0	0	0		
	point2	2												
UPLAND LANE	point3	3	126	35	3	35	3	35	0	0	0	0		
	point4	4	126	35	3	35	3	35	0	0	0	0		
	point5	5	126	35	3	35	3	35	0	0	0	0		
	point6	6	126	35	3	35	3	35	0	0	0	0		
	point7	7	126	35	3	35	3	35	0	0	0	0		
	point8	8	126	35	3	35	3	35	0	0	0	0		
	point9	9	126	35	3	35	3	35	0	0	0	0		
	point10	10	126	35	3	35	3	35	0	0	0	0		
	point11	11												
COMAN HILL ELEMENTARY SCHOOL	point12	12	51	15	1	15	1	15	0	0	0	0		
	point13	13	51	15	1	15	1	15	0	0	0	0		
	point14	14	51	15	1	15	1	15	0	0	0	0		
	point15	15												
BALDWIN ROAD	point16	16	40	35	1	35	1	35	0	0	0	0		
	point17	17												
(1) SB ROUTE 22	point18	18	178	45	4	45	4	45	0	0	0	0		
	point19	19	178	45	4	45	4	45	0	0	0	0		
	point20	20	178	45	4	45	4	45	0	0	0	0		
	point21	21	178	45	4	45	4	45	0	0	0	0		
	point22	22	178	45	4	45	4	45	0	0	0	0		
	point23	23	178	45	4	45	4	45	0	0	0	0		



**INPUT: TRAFFIC FOR LAeq1h Volumes**
**BRYNWOOD**

	point24	24	178	45	4	45	4	45	0	0	0	0
	point25	25										
(1) NB ROUTE 22	point26	26	300	45	6	45	6	45	0	0	0	0
	point27	27	300	45	6	45	6	45	0	0	0	0
	point28	28	300	45	6	45	6	45	0	0	0	0
	point29	29	300	45	6	45	6	45	0	0	0	0
	point30	30	300	45	6	45	6	45	0	0	0	0
	point31	31	300	45	6	45	6	45	0	0	0	0
	point32	32	300	45	6	45	6	45	0	0	0	0
	point33	33										
(2) SB ROUTE 22	point34	34	278	45	6	45	6	45	0	0	0	0
	point35	35	278	45	6	45	6	45	0	0	0	0
	point36	36	278	45	6	45	6	45	0	0	0	0
	point37	37	278	45	6	45	6	45	0	0	0	0
	point38	38	278	45	6	45	6	45	0	0	0	0
	point39	39	278	45	6	45	6	45	0	0	0	0
	point40	40	278	45	6	45	6	45	0	0	0	0
	point41	41	278	45	6	45	6	45	0	0	0	0
	point42	42	278	45	6	45	6	45	0	0	0	0
	point43	43										
(2) NB ROUTE 22	point44	44	384	45	8	45	8	45	0	0	0	0
	point45	45	384	45	8	45	8	45	0	0	0	0
	point46	46	384	45	8	45	8	45	0	0	0	0
	point47	47	384	45	8	45	8	45	0	0	0	0
	point48	48	384	45	8	45	8	45	0	0	0	0
	point49	49	384	45	8	45	8	45	0	0	0	0
	point50	50	384	45	8	45	8	45	0	0	0	0
	point51	51	384	45	8	45	8	45	0	0	0	0
	point52	52	384	45	8	45	8	45	0	0	0	0
	point53	53										
NB & SB 684	point54	54	6902	70	138	70	138	70	0	0	0	0
	point55	55	6902	70	138	70	138	70	0	0	0	0
	point56	56	6902	70	138	70	138	70	0	0	0	0
	point57	57	6902	70	138	70	138	70	0	0	0	0
	point58	58	6902	70	138	70	138	70	0	0	0	0
	point59	59	6902	70	138	70	138	70	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes****BRYNWOOD**

	point60	60	6902	70	138	70	138	70	0	0	0	0
	point61	61	6902	70	138	70	138	70	0	0	0	0
	point62	62	6902	70	138	70	138	70	0	0	0	0
	point63	63	6902	70	138	70	138	70	0	0	0	0
	point64	64	6902	70	138	70	138	70	0	0	0	0
	point65	65	6902	70	138	70	138	70	0	0	0	0
	point66	66	6902	70	138	70	138	70	0	0	0	0
	point67	67	6902	70	138	70	138	70	0	0	0	0
	point68	68	6902	70	138	70	138	70	0	0	0	0
	point69	69	6902	70	138	70	138	70	0	0	0	0
	point70	70	6902	70	138	70	138	70	0	0	0	0
	point71	71	6902	70	138	70	138	70	0	0	0	0
	point72	72	6902	70	138	70	138	70	0	0	0	0
	point73	73	6902	70	138	70	138	70	0	0	0	0
	point74	74	6902	70	138	70	138	70	0	0	0	0
	point75	75	6902	70	138	70	138	70	0	0	0	0
	point76	76	6902	70	138	70	138	70	0	0	0	0
	point77	77										

# Build Sound Levels

**RESULTS: SOUND LEVELS**
**BRYNWOOD**

VHB							28 February 2013						
MDQT							TNM 2.5						
							Calculated with TNM 2.5						
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		BRYNWOOD											
RUN:		BUILD											
BARRIER DESIGN:		INPUT HEIGHTS						Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.					
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
EMBASSY CT 1	25	1	0.0	53.2	66	53.2	10	----	53.2	0.0	8	-8.0	
EMBASSY CT 2	26	1	0.0	53.2	66	53.2	10	----	53.2	0.0	8	-8.0	
ILANA CT 3	27	1	0.0	55.8	66	55.8	10	----	55.8	0.0	8	-8.0	
EMBASSY CT 4	28	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0	
EMBASSY CT 5	29	1	0.0	53.8	66	53.8	10	----	53.8	0.0	8	-8.0	
EMBASSY CT 6	30	1	0.0	53.1	66	53.1	10	----	53.1	0.0	8	-8.0	
EVERGREEN ROW 7	31	1	0.0	55.1	66	55.1	10	----	55.1	0.0	8	-8.0	
EVERGREEN ROW 8	32	1	0.0	49.7	66	49.7	10	----	49.7	0.0	8	-8.0	
NORTH LN 9	33	1	0.0	59.1	66	59.1	10	----	59.1	0.0	8	-8.0	
EVERGREEN ROW 10	34	1	0.0	58.8	66	58.8	10	----	58.8	0.0	8	-8.0	
EVERGREEN ROW 11	35	1	0.0	55.5	66	55.5	10	----	55.5	0.0	8	-8.0	
EVERGREEN ROW 12	36	1	0.0	54.3	66	54.3	10	----	54.3	0.0	8	-8.0	
EVERGREEN ROW 13	37	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0	
EVERGREEN ROW 14	38	1	0.0	55.0	66	55.0	10	----	55.0	0.0	8	-8.0	
EVERGREEN ROW 15	39	1	0.0	55.0	66	55.0	10	----	55.0	0.0	8	-8.0	
EVERGREEN ROW 16	40	1	0.0	48.1	66	48.1	10	----	48.1	0.0	8	-8.0	
EVERGREEN ROW 17	41	1	0.0	48.3	66	48.3	10	----	48.3	0.0	8	-8.0	
EVERGREEN ROW 18	42	1	0.0	47.9	66	47.9	10	----	47.9	0.0	8	-8.0	
EVERGREEN ROW 19	43	1	0.0	48.1	66	48.1	10	----	48.1	0.0	8	-8.0	
EVERGREEN ROW 20	44	1	0.0	48.3	66	48.3	10	----	48.3	0.0	8	-8.0	
EVERGREEN ROW 21	45	1	0.0	49.1	66	49.1	10	----	49.1	0.0	8	-8.0	
EVERGREEN ROW 22	46	1	0.0	49.9	66	49.9	10	----	49.9	0.0	8	-8.0	
EVERGREEN ROW 23	47	1	0.0	50.2	66	50.2	10	----	50.2	0.0	8	-8.0	

**RESULTS: SOUND LEVELS**
**BRYNWOOD**

Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		23	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

# Mechanical Equipment Sound Level Calculation

Ambient Sound Levels, dB(A)																								
Station		MD1	MD2	MD3	MD4	MD5	MD6	MD7	MD8	MD9	MD10	MD11	MD12	MD13	MD14	MD15	MD16	MD17	MD18	MD19	MD20	MD21	MD22	MD23
Description		EMBASSY CT 1	EMBASSY CT 2	ILANA CT 3	EMBASSY CT 4	EMBASSY CT 5	EMBASSY CT 6	EVERGREE N ROW 7	EVERGREE N ROW 8	NORTH LN 9	EVERGREE N ROW 10	EVERGREE N ROW 11	EVERGREE N ROW 12	EVERGREE N ROW 13	EVERGREE N ROW 14	EVERGREE N ROW 15	EVERGREE N ROW 16	EVERGREE N ROW 17	EVERGREE N ROW 18	EVERGREE N ROW 19	EVERGREE N ROW 20	EVERGREE N ROW 21	EVERGREE N ROW 22	EVERGREE N ROW 23
Existing Sound Levels	Leq	47.5	47.8	50.5	52.4	48.0	47.6	49.0	44.0	52.9	52.6	49.4	48.2	48.1	48.9	48.9	42.3	42.5	42.1	42.3	42.6	43.3	44.1	44.3

Receptor Descriptions																							
	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20	REC21	REC22	REC23
Description	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential
Nearest Reference [#]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23



[illegible]

Distances from RECEPTOR TO NOISE SOURCE (feet)																								
		REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20	REC21	REC22	REC23
		Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential
NS1	Unit#1	960	1200	1420	990	1210	1280	960	985	645	455	280	250	305	450	615	815	695	630	575	520	780	510	450
NS2	Unit#2	850	1110	1330	870	1110	1180	845	865	520	340	230	280	390	565	730	890	770	670	600	510	440	440	645
NS3	Unit#3	720	990	1230	740	975	1055	700	560	390	220	250	380	520	690	860	995	865	755	670	560	440	380	520
NS4	Unit#4	540	840	1104	540	800	885	500	560	200	155	390	560	715	890	1050	1160	1025	900	800	670	520	390	380
NS5	Unit#5	505	785	1025	520	800	835	540	630	270	245	440	590	735	915	1080	1210	1075	960	865	740	600	480	475
NS6	Gen#6	675	935	1165	710	935	1005	700	765	400	270	320	435	565	735	895	1060	925	820	740	635	520	450	560
NS7	Gen #7	815	1070	1285	850	1075	1140	840	890	535	360	285	330	435	595	760	950	810	730	660	575	490	480	660
NS8	Gen #8	355	570	805	430	610	660	585	755	430	485	675	795	930	1090	1245	1425	1290	1185	1095	970	840	715	655
NS9	Gen #9	605	825	1035	675	870	910	755	865	495	435	510	590	700	845	1005	1205	1080	985	915	815	705	635	695
NS10	Gen#10	830	1040	1235	895	1095	1135	935	1010	645	505	445	465	525	645	795	1035	920	845	790	730	660	650	800
NS11	Gen #11	340	365	535	485	520	495	750	960	695	780	965	1080	1195	1335	1495	1700	1560	1470	1390	1265	1130	1010	910
NS12	Gen #12	520	625	780	650	755	755	845	1015	680	690	810	895	985	1110	1260	1495	1380	1285	1210	1110	1010	910	900
NS13	Gen #13	745	880	1040	845	1000	1005	985	1115	750	675	695	735	790	895	1040	1310	1185	1120	1065	990	905	870	950
NS14	Gen #14	935	1075	1230	1020	1180	1195	1125	1220	855	735	685	670	690	755	880	1185	1075	1030	995	945	895	890	1035
NS15	Gen #15	1210	1360	1450	1295	1455	1475	1360	1430	1075	915	780	705	645	645	730	1080	1000	1000	985	985	970	1025	1225
NS16	Gen #16	1495	1695	1875	1555	1765	1805	1545	1555	1225	1205	785	630	490	355	360	740	700	750	780	855	910	1040	1310
NS17	Gen #17	1825	2015	2185	1905	2095	2135	1895	1890	1575	1375	1125	950	800	630	550	890	890	980	1045	1150	1230	1370	1650

[illegible]

[illegible]

Noise Propagation Calculator																									
		REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20	REC21	REC22	REC23	
Description		Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	
NS1	Unit#1	27	25	23	26	25	24	27	26	30	33	37	38	37	33	30	28	29	30	31	32	28	32	33	
	Unit#2	28	25	24	27	25	25	28	28	32	36	39	37	34	31	29	27	29	30	31	32	33	33	30	
NS3	Unit#3	29	26	24	29	26	26	29	31	34	39	38	35	32	29	28	26	28	29	30	31	33	35	32	
	Unit#4	32	28	25	32	28	27	32	31	40	42	34	31	29	27	26	25	26	27	28	30	32	34	35	
NS5	Unit#5	32	28	26	32	28	28	32	30	38	38	33	31	29	27	26	25	26	27	28	29	31	33	33	
	Unit#6	25	22	20	24	22	21	24	24	29	33	31	28	26	24	22	21	22	23	24	25	27	28	26	
NS7	Unit#7	23	21	19	23	21	20	23	22	27	30	32	31	28	26	24	22	23	24	25	26	27	28	25	
	Unit#8	42	38	35	40	37	36	37	35	40	39	36	35	33	32	31	30	31	31	32	33	34	36	36	
NS9	Unit#9	32	29	27	31	29	29	30	29	34	35	34	32	31	29	28	26	27	28	29	30	31	32	31	
	Unit#10	29	27	26	29	27	27	28	28	32	34	35	34	33	32	30	27	29	29	30	31	31	32	30	
NS11	Unit#11	42	42	38	39	38	39	35	33	36	35	33	32	31	30	29	28	29	29	30	31	32	33	34	
	Unit#12	33	32	30	32	30	30	29	28	31	31	30	29	28	27	26	24	25	26	26	27	28	29	29	
NS13	Unit#13	30	29	27	29	28	28	28	27	30	31	31	30	30	29	27	25	26	27	27	28	29	29	28	
	Unit#14	28	27	26	28	26	26	27	26	29	30	31	31	31	30	29	26	27	28	28	28	29	29	27	
NS15	Unit#15	24	23	22	23	22	22	23	22	25	26	27	28	29	29	28	25	25	25	25	25	25	25	23	
	Unit#16	27	26	25	26	25	25	26	26	28	29	32	34	36	39	39	33	33	33	32	32	31	30	28	
NS17	Unit#17	25	24	23	25	24	24	25	25	26	27	29	31	32	34	35	31	31	30	30	29	28	27	26	
	TOTAL	46	44	42	45	43	43	43	42	47	48	47	46	44	44	43	40	41	41	41	42	43	44	43	

Resultant Noise Levels at Receptor Locations [dB(A)]																							
	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20	REC21	REC22	REC23
Description	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential
Noise Monitoring Data [dBA]	47.5	47.8	50.5	52.4	48.0	47.6	49.0	44.0	52.9	52.6	49.4	48.2	48.1	48.9	48.9	42.3	42.5	42.1	42.3	42.6	43.3	44.1	44.3
Noise Source [dBA]	46.5	44.4	41.7	44.7	42.8	42.6	42.8	41.5	46.6	48.1	46.6	45.6	44.5	44.0	43.3	39.8	40.6	41.0	41.5	42.2	43.0	44.0	43.5
Calculated Noise Level [dBA]	50.0	49.4	51.0	53.1	49.1	48.8	49.9	46.0	53.8	53.9	51.2	50.1	49.7	50.1	49.9	44.2	44.7	44.6	44.9	45.4	46.2	47.1	46.9
Difference	2.5	1.6	0.5	0.7	1.1	1.2	0.9	2.0	0.9	1.3	1.8	1.9	1.6	1.2	1.0	1.9	2.2	2.5	2.6	2.8	2.9	3.0	2.6

---

# Construction Sound Level Calculation

# Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/28/2013

Case Description: Brynwood

## ---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Receptor @ 400 feet	Residential	58	42	42

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Excavator	No	40		80.7	400	0
Front End Loader	No	40		79.1	400	0
Grader	No	40	85		400	0
Dozer	No	40		81.7	400	0
Dump Truck	No	40		76.5	400	0
Concrete Mixer Truck	No	40		78.8	400	0
Crane	No	16		80.6	400	0
Pneumatic Tools	No	50		85.2	400	0

## Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pneumatic Tools	67.1	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.1	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.



## **APPENDIX P**



## **Brynwood Golf & Country Club Residential Analysis**

*Prepared By:*

HR&A Advisors, Inc.  
99 Hudson Street, Third Floor  
New York, NY 10013

*Prepared for:*

Brynwood Partners, LLC

March 18, 2013

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# Table of Contents

EXECUTIVE SUMMARY .....	1
INTRODUCTION.....	3
Overview of the HR&A Report .....	3
DEMOGRAPHIC TRENDS.....	5
Methodology .....	5
Data Sources .....	5
Study Areas.....	5
Demographic Overview .....	10
RESIDENTIAL MARKET CONDITIONS .....	15
Westchester County Trends .....	15
Comparable Residential Projects .....	15
Golf Course Community Precedent Research.....	17
Condominium Precedent Research.....	21
Implications for Brynwood .....	22
RESIDENTIAL DEMAND ANALYSIS.....	23
Demand Analysis: Primary Home Market.....	23
Demand Analysis: Secondary Home Market.....	26
CONCLUSION.....	27

# List of Figures

- Figure 1: Brynwood Golf and Country Club Master Plan ..... 4
- Figure 2: Map of Study Areas ..... 6
- Figure 3: Population and Population Growth ..... 10
- Figure 4: Income Distribution, 2012 ..... 11
- Figure 5: Median Household Income..... 11
- Figure 6: Age Distribution, 2012..... 12
- Figure 7: Change in Age Distribution, 2000-2012..... 12
- Figure 8: Population age 25+ by Educational Attainment, 2011 ..... 13
- Figure 9: Migration into Westchester County ..... 14
- Figure 10: Map of Comparable Residential Projects..... 16
- Figure 11: Historical Sales, 2009-2012 ..... 21
- Figure 12: Mobility by Age and Tenure, 2011 ..... 24
- Figure 13: Fair Share to Brynwood ..... 25
- Figure 14: Qualified Households' Annual Demand for Brynwood Residences as a Primary Home ..... 26
- Figure 15: Summary of Residential Demand in Households..... 27
- Figure 16: Residential Demand by Age of Householder..... 27
- Figure 17: Historical Sales: Ritz Carlton White Plains & Christie Place..... 28
- Figure 18: Residential Demand Analysis..... 30

# General and Limiting Conditions

1. Any person who relies on or otherwise uses this Study is required to have first read, understood and accepted the following disclosures, limitations and disclaimers, and will, by reason of such reliance or other use, be deemed to have read, understood and accepted the same.
2. HR&A Advisors, Inc. (HR&A) has been engaged and compensated by Brynwood Partners, LLC to prepare this Study. In preparing this Study HR&A has used its independent professional judgment and skills in good faith, subject to the limitations, disclosures and disclaimers herein.
3. This Study is based on estimates, assumptions and other information developed by HR&A, other third party consultants, and city officials. Every reasonable effort has been made to ensure that the data contained in this Study are accurate as of the date of this Study; however, factors exist that are outside the control of HR&A and that may affect the estimates and/or projections noted herein. HR&A neither guarantees any results nor takes responsibility for their actual achievement or continuing applicability, as actual outcomes will depend on future events and circumstances beyond HR&A's control.
4. HR&A reviewed the information and projections provided by third parties using its independent professional judgment and skills in good faith, but assumes no liability resulting from errors, omissions or any other inaccuracies with respect to the information provided by such third parties referenced in this Study.
5. HR&A also relied on data provided by or purchased from the U.S. Census, American Community Survey, National Golf Foundation and the National Association of Realtors. HR&A assumes no liability resulting from errors, omissions or any other inaccuracies with respect to the information provided by these parties.
6. In addition to relying on data, information, projections and forecasts of others as referred to above, HR&A has included in this Study estimates and assumptions made by HR&A that HR&A believes are appropriate, but HR&A makes no representation that there will be no variances between actual outcomes and such estimates and assumptions.
7. No summary or abstract of this Study, and no excerpts from this Study, may be made for any purpose without HR&A's prior written consent.
8. No opinion is intended to be expressed and no responsibility is assumed for any matters that are legal in nature or require legal expertise or specialized knowledge beyond that of a real estate consultant.
9. Many of the figures presented in this report will be rounded. HR&A disclaims any and all liability relating to rounding errors.
10. This Study may be relied on and otherwise used only by persons who receive this Study from HR&A or with HR&A's prior written consent and only for the purpose stated in writing in conjunction with such receipt or consent. No reliance on or other use of this Study by any person or for any purpose other

than as stated in the previous sentence is permitted. HR&A disclaims all responsibility in the case of any reliance on or other use of this Study in conflict with the above portions of this paragraph.

11. If the Study is referred to or included in any offering material or prospectus, the Study shall be deemed to have been included for informational purposes only and its use shall be subject to these General and Limiting Conditions. HR&A, its directors, officers and employees have no liability to recipients of any such offering material or prospectus. HR&A disclaims any and all liability to any party.

12. This Study is qualified in its entirety by, and should be considered in light of these General and Limiting Conditions. By use of this Study each party that uses this Study agrees to be bound by all of the General and Limiting Conditions stated herein.

# EXECUTIVE SUMMARY

HR&A was engaged by Brynwood Partners, LLC, as a part of a team led by Vanasse Hangen Brustlin, Inc. (VHB), to conduct a market analysis for a proposed residential condominium development at Brynwood Golf & Country Club (Brynwood) in Armonk, New York in the Town of North Castle. The proposed project would include construction of 88 condominium units, including a mix of two, three, and four bedroom units, and a redesign of the golf course and clubhouse.

## ***Demographics***

- The proposed project is located in a highly affluent area. The median household income in Armonk (\$166,000 in 2012) is more twice that of Westchester County overall (\$76,000). The secondary catchment area (New York City, Bergen, and Fairfield counties) also have large number of high income households,
- The regional population has growth steadily. Growth in Armonk has been faster than the region overall.
- The population in Westchester is aging. The fastest growing age group in all three areas is people 55-64 years of age. The region is also showing moderate growth in people 45-55 and 65+.
- Migration is primarily local with turnover from Westchester households and relocations from New York City.

## ***Market Findings***

- There are only a few comparable golf course projects in the market, so this study considers both golf course and luxury condominium developments.
- The projects that are in the marker are performing well, suggesting an opportunity for new, highly amenitized, luxury developments that target aging baby boomers.
- The three existing golf course communities in Westchester were built before 2005. The newest one (Trump National Golf Club Westchester) has no units on the market. Average sales prices of available units at the other two (St. Andrews and Doral Arrowwood) are approximately \$225-\$300 per square foot.
- Recent sales for newer, highly amenitized luxury condos indicate the market is supporting sales of \$500+ per square foot.
- HR&A finds that the proposed project would be most attractive to empty nesters and adult households who play golf. The availability of single family homes with more space at lower price points suggests that this product would be less attractive to households with children. HR&A estimates that 87% of buyers are likely to be 55+ years of age.
- HR&A estimates that the target market for the project would be households with annual income of at least \$300,000 per year and/or net worth above \$250,000. The income required is nearly twice the median household income in Armonk.
- HR&A estimates that the project could support absorption of approximately 30 units per year from regional demand.



- Condominiums are more attractive than fee simple units to households (particularly seniors) looking for a lifestyle product because they are taxed at approximately half the regular rate.
- While the highly amenitized golf course product could be attractive as a second home, HR&A projects minimal demand given historical trends and the lack of an existing second home market in Westchester County. However, actual performance could be higher given emerging demographic trends and qualitative information from local real estate marketers.

# INTRODUCTION

HR&A was engaged by Brynwood Partners, LLC, as a part of a team led by Vanasse Hangen Brustlin, Inc. (VHB), to conduct a market analysis of a proposed residential condominium development at Brynwood Golf & Country Club (Brynwood) in Armonk, New York in the Town of North Castle. The entire is approximately 156 acres, located off of Route 22 at 568 Bedford Road. The proposed development would occupy approximately 16 acres adjacent to the road.

The purpose of this study is to demonstrate demand for this project and validate the developer's market assumptions to support the Draft Environmental Impact Statement (DEIS) required by the State Environmental Quality Review (SEQR). The proposed project would include a total of 88 condominium units broken into the following:

- 6 three-bedroom golf residences
- 58 two-bedroom golf residences
- 14 three-bedroom Club Villas
- 5 detached, four-bedroom Golf Cottages
- 5 three-bedroom Fairway Residences

Membership will be required of all owners of golf residences. The club currently has 360 members, with a capacity of 400.

The proposed plan also includes a redesign of the golf course by Rees Jones and a new clubhouse designed by Hart Howerton. The club will feature an expanded pool area, multiple high-quality food and beverage options and luxury spa facilities. The construction of this golf community requires amendments to the Zoning Code for the Town of New Castle. Brynwood Partners, LLC, has proposed the establishment of a R-2A One-Family Residential District, called a "Golf Course Community" and amendments to the Town's Comprehensive Plan to make room for their proposed project.

## ***Overview of the HR&A Report***

The following report provides an assessment of the viability of the proposed Brynwood project in Armonk. The first section provides a socioeconomic overview of Project area in the context of Westchester County and the secondary market that includes Fairfield County, Bergen County, and New York City. The second section evaluates the market for luxury residential units located in golf communities, and includes an overview of comparable projects currently in the regional market and nationwide. The last section of the report analyzes overall residential market trends, provides a residential demand analysis for luxury housing and assesses the potential for residential development at the Project site within the context of the existing market and future residential growth.

**Figure 1: Brynwood Golf & Country Club Master Plan**



Source: *Brynwood Partners*

# DEMOGRAPHIC TRENDS

## *Methodology*

HR&A conducted an analysis of socioeconomic and demographic trends in the region around the Brynwood Golf & Country Club to assess market demand for the proposed residential development.

## *Data Sources*

HR&A examined the most current data available from multiple private and public data sources. Information gathered includes demographic and employment data from the U.S. Census Bureau's 2000, 2010 and 2012 projections surveys, the 2007-2011 American Community Survey, and the Environmental Systems Research Institute, Inc. (ESRI) Business Analyst Online.<sup>1</sup> Residential market data was obtained from Westchester brokers, including Houlihan Lawrence—the largest regional broker serving Westchester, Dutchess and Putnam Counties- the National Association of Realtors, the Urban Land Institute, and primary property research. Golf participation data was obtained from the National Golf Foundation.

## *Study Areas*

The proposed project will attract residents looking to purchase a new permanent home or a secondary seasonal/vacation home. Based on broker conversations and an assessment of regional trends, HR&A estimates that a majority of the market would be people looking for a permanent home, with a very small percentage of people from New York City looking for a golf course product as a seasonal/vacation home. The catchment areas for the permanent market are:

- **Primary Market:** Westchester County is bound to the north by Putnam County, south by New York City, west by the Hudson River, east by Fairfield County and the Long Island Sound, as determined by census-defined boundaries. As shown in Figure 2, Armonk is located in the center of Westchester County. Approximately 60% of the market for permanent residences would likely come from Westchester, mainly from “empty nesters” looking to downsize but remain close to friends and family.
- **Secondary Market:** The secondary market is Bergen County, Fairfield County, and New York City, including its five boroughs. These geographies were chosen based on a review of IRS migration and conversations with local brokers. As a unique, golf-course product, the Brynwood residences would be attractive to people from around the region.

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<sup>1</sup> Block groups are the smallest areas for which complete Census data is reported. ESRI uses the business address to assign it to a census block, and apportions block group data based on the percentage of the block group area covered by the site.



**Figure 2: Map of Study Areas**



Source: ESRI 2012

## Westchester County

Westchester County is located directly north of New York City in New York State. In 2012, Westchester County had a population of 949,931, which represents a 0.2% annual increase from 2000 to 2012, which is the same rate as New York State overall. Due to its close proximity to the New York City, approximately 50% of new residents in Westchester move from one of the City's five boroughs. Yonkers is the largest city in Westchester County, with a 2012 population of 196,271. In addition to large cities such as Yonkers, White Plains, New Rochelle, and Rye, Westchester is composed of Towns, Villages, such as Hastings on Hudson, and hamlets, which are smaller communities within Towns, such as Armonk.

Westchester County had 371,874 housing units in 2012, 56.5% of which were owner occupied. The number of units is a 6.4% increase from the number in 2000. Fifty percent of the housing units are single family homes, with 23% between two and nine units, and 15% having 50 or more units. Of the 16,187 units built from 2000 to 2012, single family homes represented 48% (7,693). Median home value was \$464,680 in 2012, but home values vary widely between communities, as do income levels, which reveal the range of economic groups residing in the County. Median household income in 2012 ranged from approximately \$46,200 in Mount Vernon to \$200,000 in Scarsdale.

Approximately 471,000 people worked in Westchester County in 2011. The unemployment rate as of December 2012 was 7%, lower than the national rate of 7.8%. Major national companies headquartered in Westchester County include IBM Corporation, Pepsico Incorporated, Nokia, Inc., Snapple Beverage Group/Motts, Inc., and Consolidated Edison, among other Fortune 500 companies.<sup>2</sup> These companies benefit from the access to graduates from Westchester's colleges and universities, including Pace University, Concordia College, and Sarah Lawrence College, and convenient access to New York City.

Workers can commute to and from the New York City by highway, Metro-North, Amtrak, and private commuter buses. Westchester County also has its own airport, known as the White Plains/Westchester Airport, which is served by five airlines and offers non-stop service to several major and minor cities. According to an area broker, residents living south of I-287 tend to commute into New York City for work, while those living north of I-287 work locally or in New Jersey or Connecticut.

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<http://www.thinkingwestchester.com/westchester.html>

## ***Bergen County***

Bergen County is the most populous county in New Jersey, with approximately 905,800 residents and 336,700 households. Bergen County is in the northeast corner of New Jersey, and has direct access to Manhattan via the George Washington Bridge. The close proximity to Manhattan makes Bergen County appealing to many residents who work in Manhattan or nearby counties, which composes approximately 56% of employed residents. Hackensack is the largest city in Bergen County, with approximately 43,000 residents.

The population is well educated, with 44% of the population over the age of 25 holding a bachelors degree or higher. Residents have a 2012 median household income of approximately \$79,300. Owner-occupied homes account for 66% of the 353,295 housing units.

Bergen County employs 500,000 workers, with approximately 12% of jobs in the private sector. The largest industry is in trade, transportation and utilities, accounting for 27% of the jobs. Employment in educational and health services, which includes hospitals, doctors' offices, medical laboratories, and social assistance, is the fastest growing sector. Bergen County attractions include the MetLife Stadium and IZOD Center, which draw visitors from across the United States. The County also includes five golf courses that are open from May through December.

## ***Fairfield County***

Fairfield County is located in the southwest corner of Connecticut, and borders New York State to the west. The 2012 population was 922,084, and there were 337,808 households, of which 70% are homeowners. The demographics in Fairfield County are similar to Bergen County, with a well educated population (43% of the population over the age of 25 holds a bachelor's degree or higher) and a similarly high median household income of approximately \$80,300. Fairfield County is heavily divided according to annual income, with the communities in the southern portion of the County with commuting access to New York City via the Metro North Rail Line having a median household income of approximately \$200,000, and households in the northern portion of the County without rail access and further from New York City having a median household income of approximately \$40,000. This correlation is due to proximity to the MetroNorth rail line with commuting access to New York City. Fairfield County employs approximately 510,000 workers, 68% of which live and work in Fairfield County.

## ***New York City***

New York City is the nation's largest city, home to approximately 8.3 million residents and approximately 3.6 million employees across its five boroughs. New York has achieved moderate population growth, at 0.3 percent annually from 2000 to 2012 due to a number of factors, including its educated workforce, extensive infrastructure, diversified economy, and access to global markets.<sup>3</sup> In contrast to its suburban counterparts, 64% of New York City residents are renters.

Headquarters to 45 Fortune 500 companies, employment is concentrated largely in the financial services sector, though growth is coming from the technology sector. From 2005 to 2010, the technology industry in New York City grew significantly, with a 30% increase in employment to over 100,000 employees.

New York City includes some of the world's most recognizable cultural landmarks and attractions, from Central Park, the Metropolitan Museum of Art, and Times Square. Regional demand is largely dependent on the City's amenities, with development supported by demand from residents and businesses that prefer to settle nearby the City.

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<sup>3</sup> Population data from U.S. Census Bureau, employment data from U.S. Bureau of Labor Statistics.



## Demographic Overview

**Populations in both the primary and secondary markets have grown steadily over the past decade.** The primary market includes 949,931 Westchester County residents, of which 4,251 live in Armonk.<sup>4</sup> The secondary market includes the 8.3 million New York City residents, and approximately 900,000 and 920,000 residents in Bergen and Fairfield Counties, respectively. The population of Westchester County increased by 0.2% annually from 2000-2012, while the secondary market grew by 0.3% annually. While Armonk is a very small community within Westchester County, its population has grown at a faster rate of 1.1% annually over the same time period, for a total increase of 14%.

The primary market includes 347,408 households in Westchester County as a whole, and 1,386 households in Armonk. The secondary market includes 3.8 million households, 3.1 million of them living in New York City. Households have followed the same trends as the population, growing steadily over the past decade. Average household size is higher in Armonk than in Westchester overall and secondary market area.

**Figure 3: Population and Population Growth**

	2000	2010	2012	Annualized Growth 2000-2012
<b>Population</b>				
Primary Market				
Armonk	3,732	4,330	4,252	1.1%
Westchester County <sup>1</sup>	923,459	949,113	949,931	0.2%
Secondary Market <sup>2</sup>	9,774,961	9,997,078	10,098,015	0.3%
<b>Households</b>				
Primary Market				
Armonk	1,218	1,413	1,386	1.1%
Ave. HH Size	3.0	3.0	3.0	
Westchester County <sup>1</sup>	337,142	347,232	347,408	0.3%
Ave. HH Size	2.7	2.7	2.7	
Secondary Market <sup>2</sup>	3,676,371	3,781,059	3,819,253	0.3%
Ave. HH Size	2.6	2.6	2.6	

Source: ESRI, 2012

### Notes

<sup>1</sup>Includes Armonk

<sup>2</sup>Includes Bergen and Fairfield Counties and New York City

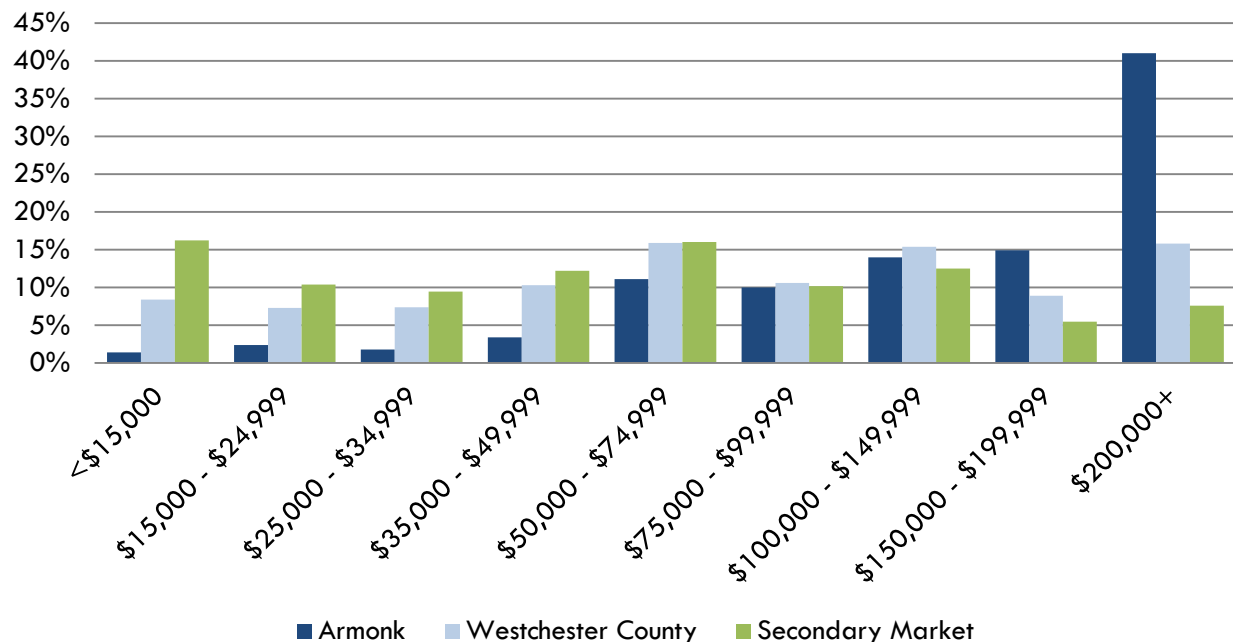
<sup>4</sup> Armonk is a Census-Designated Place (CDP) in the Town of North Castle. CDPs are populated areas that otherwise lack their own municipal government

**Armonk contains a large concentration of very high income households.** As shown in Figure 4, 41% of residents in Armonk earn above \$200,000, with an additional 15% earning between \$150,000 and \$199,999 per year. By comparison, in Westchester County as a whole, 16% of residents earn above \$200,000 per year and 9% earn between \$150,000 and \$149,999 per year. Westchester County has a larger share of residents earning above \$100,000 than the secondary markets.

Figure 5 further demonstrates the high earnings in Armonk, which had a median household income of \$166,365 in 2012, nearly double that of Westchester County (\$76,333). Between 2000 and 2012, Armonk's median household income grew 3.6% annually, a faster rate than both the primary and secondary markets.

As incomes continue to rise in Armonk, demand for high-end residential products is expected to increase.

**Figure 4: Income Distribution, 2012**



Source: ESRI 2012

**Figure 5: Median Household Income**

	2000	2012	Annualized Growth 2000-2012
Primary Market			
Armonk	\$108,508	\$166,365	3.6%
Westchester County	\$63,637	\$76,333	1.5%
Secondary Market	\$55,774	\$69,404	1.8%

Source: ESRI 2012

**The population in Westchester County, particularly in Armonk, is aging.** Figure 6 and Figure 7 illustrate the population distribution by age cohort and change in this distribution between 2000 and 2012. Overall, the primary and secondary study areas are exhibiting a significant aging trend with increases in the number of people over the age of 45 and a decline in people between the ages of 25 and 44. On a percentage basis, the most significant increase has been in people between the ages of 55 and 64, which grew by 70% in Armonk and by nearly 40% in Westchester and the secondary market from 2000 to 2012. These trends suggest growing demand for a lifestyle product targeted towards active seniors who will want to downsize from their single family homes.

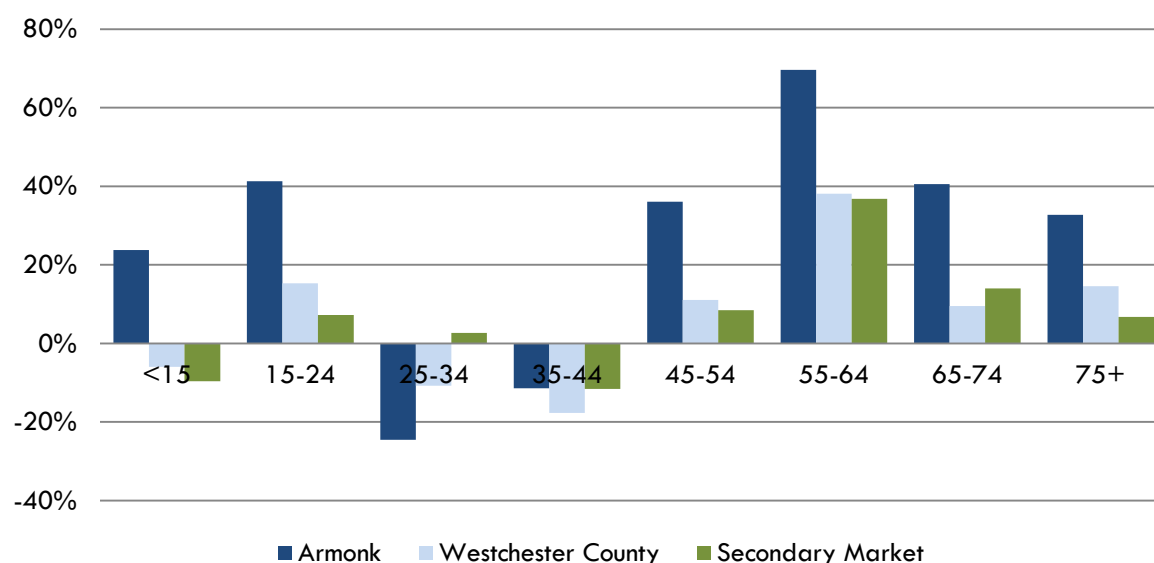
**Figure 6: Age Distribution, 2012**

Age	Armonk	%	Westchester County	%	Secondary Market	%
<15	1,084	25%	184,287	19%	1,805,737	18%
15-24	438	10%	116,842	12%	1,389,193	14%
25-34	208	5%	110,192	12%	1,646,425	16%
35-44	591	14%	129,191	14%	1,388,006	14%
45-54	778	18%	144,390	15%	1,372,192	14%
55-64	595	14%	119,691	13%	1,166,584	12%
65-74	332	8%	73,145	8%	710,415	7%
75+	230	5%	71,245	8%	604,751	6%
Total	4,252*	100%	949,113*	100%	10,098,015*	100%

Source: Census 2000, 2010

\*May not add due to rounding

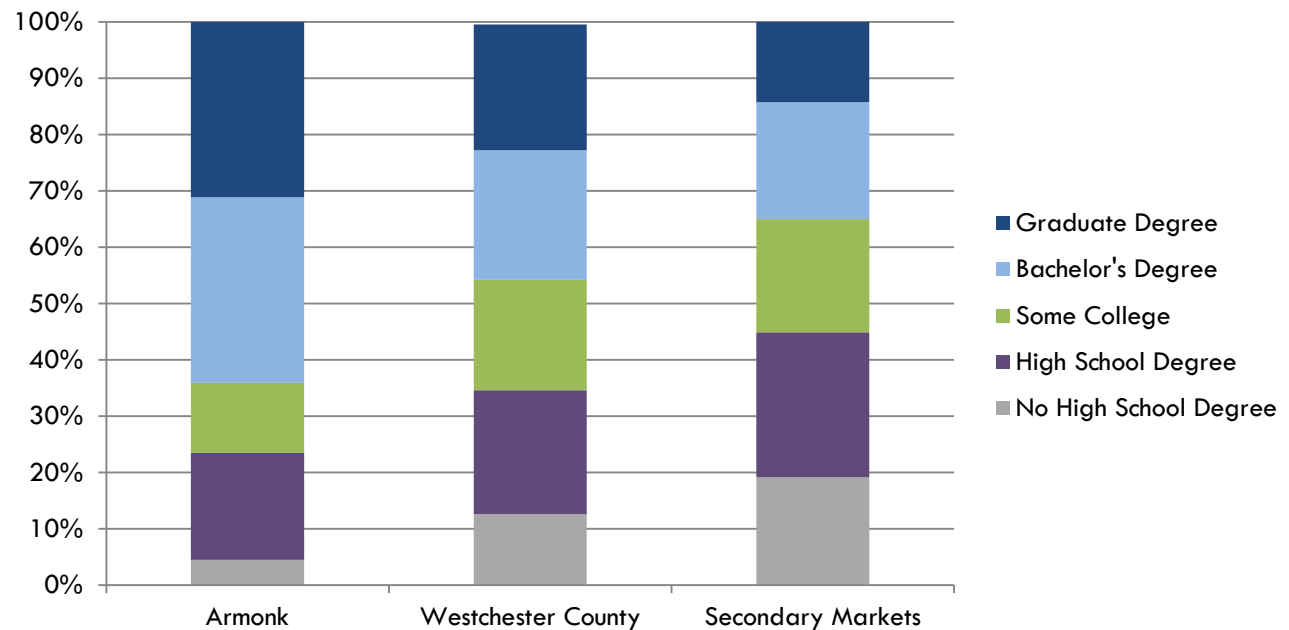
**Figure 7: Change in Age Distribution, 2000-2012**



Source: Census 2000, 2010

**The population in Westchester County is highly educated.** Figure 8 shows the percentage of the population above 25 years of age by the highest degree or level of school completed. Educational attainment is a strong predictor of economic stability and consumer preferences. Nationally, nearly a quarter of the population above 25 years of age holds a bachelor's degree or higher. In Armonk, approximately 67% of residents in this age group hold bachelors' or graduate degrees. This is higher than in the already-well educated Westchester County, where nearly half of the population over 25 years of age holds a bachelor's or graduate degree. The secondary market, at 35%, has a higher proportion than the national share, but a lower proportion than Westchester County.

**Figure 8: Population age 25+ by Educational Attainment, 2011**



Source: ACS 2011-3 year survey

**Westchester attracts households primarily from New York City.** An analysis of Internal Revenue Service household mobility data by County shows that 15,771 households moved into Westchester County in 2010, a slight decline from the previous year. However, Westchester continues to draw households largely from New York City with nearly 45% of new households from Bronx, New York, or Queens counties in 2010. This data is not available for Armonk specifically.

HR&A used this data, combined with conversations with local brokers, to define a catchment area for the proposed development.

**Figure 9: Migration into Westchester County**

Origin County	2008-2009	2009-2010	% (2010)
Bronx County	3,510	3,777	24%
New York County	2,206	2,197	14%
Queens County	912	958	6%
Fairfield County	779	714	5%
Kings County	696	709	4%
Putnam County	601	622	4%
Dutchess County	444	425	3%
Rockland County	352	347	2%
Nassau County	288	283	2%
Orange County	267	250	2%
Other Locations	6,625	5,489	35%
<b>Total</b>	<b>16,680</b>	<b>15,771</b>	<b>100%</b>

Source: Internal Revenue Service, Statistics of Income

# RESIDENTIAL MARKET CONDITIONS

## *Westchester County Trends*

Across the United States, residential growth continues to favor low-density counties in metropolitan areas.<sup>5</sup> According to the Joint Center for Housing Studies of Harvard University, from 2000 to 2010, 12 million residents shifted towards metropolitan areas. The report projects that baby boomers may reinforce these trends, relocating to suburbs nearby large metropolitan areas or, if they already live in the suburbs, aging in place rather than moving away from their families. It notes that one in three people aged 65–74 in 2007 reported having moved in the past decade, many to smaller homes. At this rate, by 2020, approximately 3.8 million seniors would downsize their homes, lifting the demand for smaller units. Westchester County, as one of the low-density suburban counties nearest to New York City, will be significantly impacted by these trends.

Westchester County had 371,874 housing units in 2012, 56.5% of which were owner occupied. The number of units is a 6.4% increase from the number in 2000. Westchester County is primarily comprised of single family homes, though new construction is introducing more condominiums. Of the 16,187 units built from 2000 to 2012, single family homes represented 48% (7,693), and residential units with five or more units represented 43% (7,035).<sup>6</sup> There were approximately 1,250 residential sales within Westchester County of between \$1 million and \$2 million, with approximately 2.5% of the units being condominiums in 2012.<sup>7</sup>

## *Comparable Residential Projects*

There are few direct comparisons to the proposed project in Westchester County. While other golf courses may be contemplating similar plans to develop housing, HR&A analyzed three courses with on-site residential components in the area: Doral Arrowwood, Saint Andrew's, and Trump National. All of these developments were built before 2005, suggesting that, unless significantly renovated, any units on the market are most likely dated.

There are additional examples of high end products without golf course components that do provide some insights into the luxury market in Westchester. These luxury residences include the Ritz Carlton in White Plains and Christie Place in Scarsdale, and are priced over \$1 million and offer a range of amenities.

Figure 10 presents a map of the comparable residential projects examined.

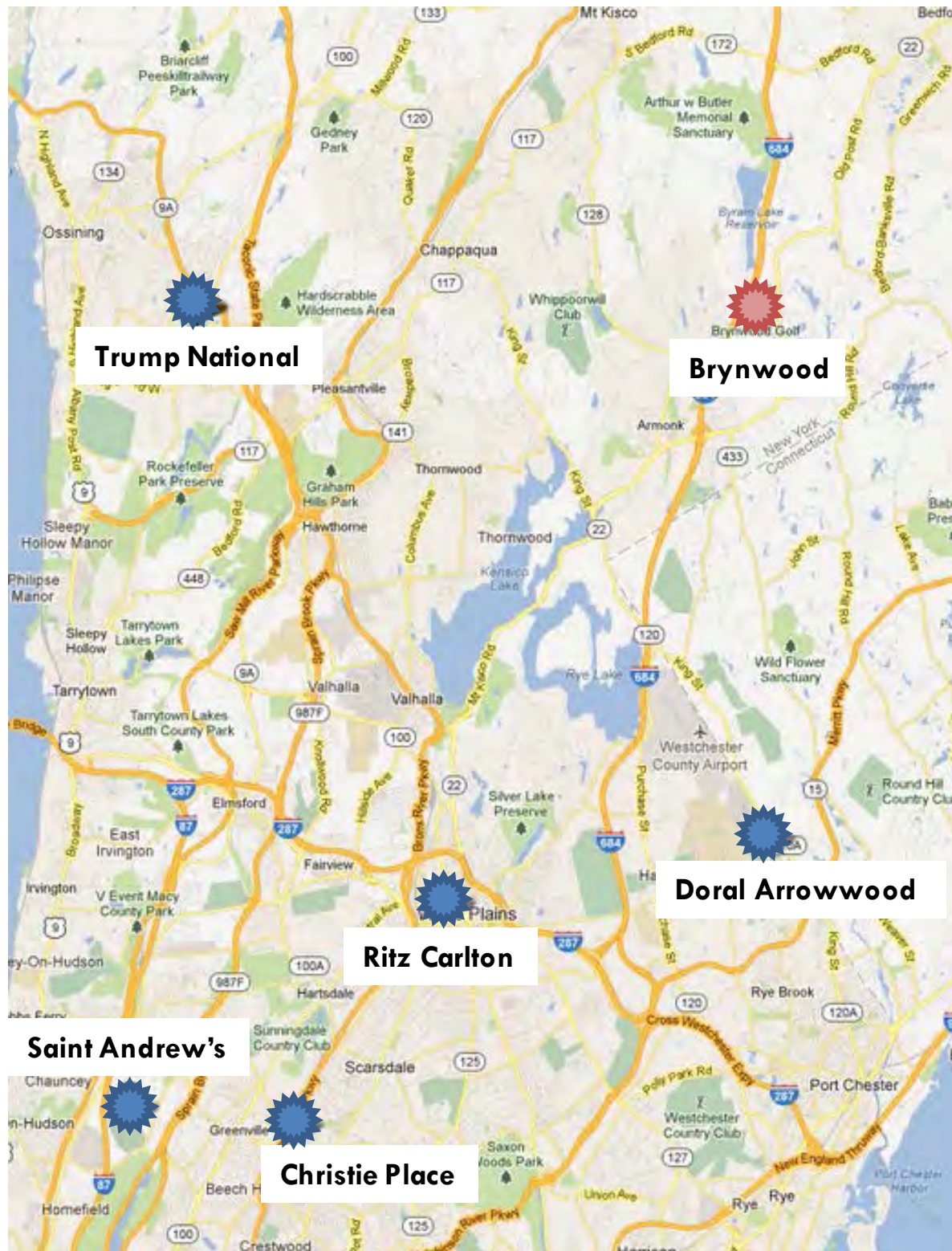
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<sup>5</sup> The 2011 State of the Nation's Housing report, issued by the Harvard Joint Center for Housing.

<sup>6</sup> <http://censtats.census.gov/bldg/bldgprmt.shtml>

<sup>7</sup> Houlihan Lawrence, 2012

**Figure 10: Map of Comparable Residential Projects**



Source: Google, HR&A



## ***Golf Course Community Precedent Research***

The following sections provide an overview of the characteristics of existing golf course communities in Westchester, and some key national comparables. Given Westchester market demographics, success of other luxury developments, and lack of new golf course development, there may be untapped demand for this use.

### **DORAL ARROWWOOD**



Doral Arrowwood is located on 114 acres in Rye Brook, New York. Rye Brook is located 30 miles north of Manhattan. It features a hotel with 373 guest rooms and a wide array of resort activities including tennis and squash courts, a health club, swimming pool, and a golf academy. The golf club includes a nine-hole golf course designed by Robert von Hagge. Membership at the golf club is required for all visitors and residents, available for individuals (\$3,900 per week), families (\$6,500 per week) and corporations (\$18,000 per week). The golf club is only open seasonally, from approximately April to October, depending on the weather conditions.



Doral Arrowwood includes 138 residential units that were completed in 1994. According to area brokers, the majority of occupants are year round, permanent residents. Initially owned and operated by the Doral Arrowwood hotel, they are now separately managed, but guests can still benefit from hotel amenities such as room service, laundry service, and use of hotel facilities.

The townhomes are configured in single, horizontal alignment and loop around the golf course. Each townhome offers views of the golf course and/or pond. Townhomes range from 1,600 to 2,100 square feet, with six recent listings priced between \$625,000 and \$875,000, at an average of \$400 per square foot.



## SAINT ANDREW'S GOLF CLUB



Saint Andrew's Golf Club is America's oldest golf club, founded in 1888. It is located in Hastings-on-Hudson, 20 miles north of Manhattan. The golf course spans 6,641 yards and was redesigned in 1983 by Jack Nicklaus. Full family membership is available for an initiation fee of \$40,000, annual dues of \$11,025, a food and beverage minimum of \$1,750, and a capital fee \$1,800, for a total of approximately \$14,000 to \$15,000 per season. The club does not include a pool or tennis court.



Jack Nicklaus also led the development of Saint Andrew's 87 townhomes, completed in 1986. Townhomes range from 2,500 to 4,800 square feet, and a townhome that is currently listed on the market is priced at approximately \$1 million, or \$225 per square foot. Townhomes are clustered in the north portion of the club, in semi-detached arrangements. Approximately 50% of members live in the townhomes, but not all townhomes are occupied by members, since membership is not required of residents. The average age of members is 50 to 55.

## TRUMP NATIONAL GOLF CLUB WESTCHESTER



The Trump National Golf Club Westchester is located in Briarcliff Manor, 30 minutes from Manhattan. The property is 147 acres, and was the site of the former Briar Hall Country Club. The 18-hole golf course, designed by Jim Fazio, spans 7,291 yards and opened in 2003. Membership is available to families for an initiation fee of \$100,000, annual dues of \$18,500, and a food and beverage minimum of \$1,500, for a total of \$20,000 per season. Membership includes access to the club's tennis courts and pool. According to a golf club membership representative, members are affluent residents who live nearby, and include a mix of seniors and families with children. The club has approximately 260 members and capacity for 300.



Trump also completed 16 townhouses in 2005, sized 3,160 to 5,850 square feet. The townhouses are concentrated at the top of the hill, in a row overlooking the golf course. Three townhomes have appeared on the market since 2005, which were between 5,200 and 5,850 square feet, and priced between \$1.5 million and \$2.45 million for an average of \$337 per square foot. As of February 2013, none of the units were for sale, supporting strong demand for this product type. Membership is not required to own a townhome.

Outside of the New York Metro area, there are other successful precedents for luxury golf course communities that help illustrate the potential market for the 88 units proposed at Brynwood. They include:

- **Old Sandwich Golf Club:** Old Sandwich Golf Club, which opened in 2004, is located between Boston and Cape Cod in Plymouth, MA. The golf course was designed by Bill Core and Ben Crenshaw, and attracts buyers primarily from the Boston metropolitan area. The club's 48 homesites, which were then developed into condos and single family homes, started selling in 2008. They are located off of the golf course, but have views of the golf course and landscape. The residential units range from 2,600 to 3,000 square feet.
- **Lake Las Vegas:** Lake Las Vegas Resort is a resort community located in Henderson, NV, ten miles southeast of Las Vegas, Nevada. The site is 3,592 acres and features a 320-acre manmade lake and includes several golf courses. Residential products were built in 1995 include single-family homes, townhouses, and condominium units to fractional-ownership flats, which total 8,900. Single family homes range from approximately 1,780 to 3,300 square feet. Lake Las Vegas includes a casino and a variety of community entertainment events, such as live music.
- **Forest Highlands:** Forest Highlands is a 1,100-acre, second-home and golf course community established in 1987. It is located two hours north of Phoenix in the pine forests of Flagstaff, Arizona. Community facilities include an 18-hole golf course and clubhouse, a swimming pool, tennis courts, and children's playground. The community offers 655 single family units located on the golf course, which began construction in 1993. Available properties are both new and old, being built from 1999 to 2010. Size ranges from approximately 3,500 to 6,850 square feet.

## Condominium Precedent Research

HR&A analyzed sales data provided by Houlihan Lawrence from 2009-2012 for residential units at the Ritz Carlton in White Plains and at Christie Place in Scarsdale. The Ritz Carlton's two residential towers, each with 46 floors were completed in 2007 for a total of 92 units. Residents have access to hotel amenities, including a room service, the hotel spa and pool, maid service, and the concierge. Units sold at the Ritz Carlton ranged from 1,030 to 5,080 square feet, with a price range of \$449 to \$802 per square foot.

Christie Place is a smaller project with 42 condos, the majority of which are two bedrooms, built in 2008. Christie Place was designed for active adults and is restricted to those ages 55 and above. Christie Place offers amenities such as a concierge, fitness center, and rooftop garden. At Christie Place, units range from 1,000 to 1,945 square feet, and \$715 to \$916 per square foot. Units were absorbed at a rate of 0.75 units per month over the first two years, according to a local broker.<sup>8</sup> Given that Christie Place was completed in the depth of the recession, HR&A expects Brynwood to be absorbed more quickly.

Both projects are marketed towards buyers who will pay a premium for a highly amenitized luxury product. At both the Ritz Carlton and Christie Place, pricing remained stable, which indicates that the demand for this product remained strong. The average sale price at these residences from 2009 to 2012 was \$1.2 million (\$648 per square foot).

**Figure 11: Historical Sales, 2009-2012**

		Price Range (\$/SF)			
	Average Unit Size (SF)	2009	2010	2011	2012
The Ritz Carlton	2,049	-	\$525-\$576	\$449-\$802	\$473-\$572
Christie Place	1,612	\$721-\$792	\$715-\$818	\$771-\$916	-

Source: Houlihan Lawrence, 2012

\*Complete list of comps provided by Houlihan Lawrence is included in the Appendix

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<sup>8</sup> Hanley Wood

## *Implications for Brynwood*

The comparison analysis supports Brynwood's pricing of \$1.2 to \$2 million (~\$600 per square foot). Units at the Ritz Carlton in White Plains sold from approximately \$450 to \$800 per square foot, and at Christie Place units sold for even higher, from approximately \$700 to \$900 per square foot. Based on the success of these comparable residential projects in the market, which have absorbed at demanding prices during an economic recession, HR&A expects Brynwood's pricing to be competitive.

The lack of new golf course communities in the region makes it difficult to make pricing comparisons on a per square foot basis. Of the golf course communities in the area, the Trump National Golf Club Westchester is the newest, completing its 16 townhouses in 2005. Sale data from the past several years indicate a resale price of approximately \$350 per square foot. None of the units are currently on the market, which means there are no recent comps available, but it does demonstrate the attractiveness of the product and market opportunity for additional development of this type. The pricing is much lower because the units are older.

The older golf course residences on the market are able to achieve relatively high prices per square foot, but are lower than the non-golf course comparables because of the age of the product. The Doral Arrowwood's 138 residential units sold at an average of \$400 per square foot despite being nearly 20 years old. Saint Andrew's townhomes on the market today are priced the lowest at approximately \$225 per square foot because the units are nearly 30 years old. The scan of golf course communities in the local market show few options, and slightly lower pricing than Brynwood, as expected due to the age of the projects.

The national golf course communities show a wide range in the number of units, configurations, and pricing. Condominiums at the Old Sandwich Golf Club, which started selling in 2008, are located off of the golf course, but each offer views. Forest Highlands, which offers 655 single family homes built between 1999 and 2010, appeals to families by including a children's playground. Lake Las Vegas, which is a much larger project that offers 8,900 residences in a variety of configurations, includes a casino and other forms of entertainment in an effort to appeal to younger households and families.

# RESIDENTIAL DEMAND ANALYSIS

To project potential demand and identify the depth of the market for new residential units at Brynwood, HR&A analyzed demographic data from the U.S. Census Bureau and other sources. The demand forecast provides a reasonable third-party examination of overall market opportunities and rests on several critical assumptions:

- HR&A considered all eligible types of residents from within the catchment area defined earlier, and determined their demand based on income, net worth, propensity to purchase a new home, and interest in golf.
- HR&A included the required annual golf membership fee in the base cost of housing.
- HR&A assumes that Brynwood would compete with other luxury residential products in Westchester County, although more directly with the few golf communities in the area.
- The most likely markets are active seniors and married or unmarried adults without children who desire a low-maintenance lifestyle in a community that offers amenities and services, primarily golf.
- HR&A qualitatively considered the potential for second home purchases as market data do not support Westchester as a strong second home market.

## *Demand Analysis: Primary Home Market*

The following methodology provides a quantitative estimate of the average annual absorption that could be expected at the site. This methodology was only used to determine the demand for Brynwood residences as primary homes.

- **Capture Area.** HR&A defined Westchester County as the primary market from which buyers looking to move will originate. There are 345,826 households in Westchester County. The secondary market was defined as Bergen County, Fairfield County, and New York City, including all five boroughs. The secondary market has 3,819,189 households. These geographies were chosen based on a review of IRS migration and conversations with local brokers. As a unique, golf-course product, the Brynwood residences would be attractive to people from around the region. The total market has 4,165,015 households.
- **Required Household Incomes.** HR&A estimated that units on the proposed project would require a household income of at least \$300,000 to afford the monthly mortgage payment, taxes and insurance, and required golf course membership dues. This analysis assumes an affordability price point of 30%, consistent with HUD guidelines. HR&A also considers households older than 55 years of age with a net worth of \$250,000 and over (the highest level reported) to account for the fact that household wealth may not be fully reflected in base income and this product targets this market segment.

- **Turnover Rate.** To understand the number of buyers that will be “in the market” for a new housing unit each year, HR&A used household migration statistics from the US Census Bureau 2007-2011 American Community Survey for Westchester County, and the secondary market as shown in Figure 12. These data indicate the number of households new to their residences during the past year, and reflects the level of household movement taking place within that geographic area.

Of the approximately 345,826 households in Westchester County, 10%, or about 38,800 households had moved to their residence during the past year. These households have moved from other states and other counties within New York, or have moved within Westchester. HR&A adjusted the percentages for mobility by age to capture those residents who moved within the past year and previously owned their home. These adjusted rates are shown in Figure 12.

The population between 25 and 34 had the highest turnover rates in both Westchester and the secondary markets, at 4% and 5% respectively. Residents above 65 years of age accounted for 3% of all residents who move to or within Westchester County. This amounted to approximately 1,065 households with seniors looking to buy a residence in Westchester County. This proportion is larger than in the secondary markets, where only 2% of those who move to or within one those markets are above 65 years of age.

**Figure 12: Mobility by Age and Tenure, 2011**

	Westchester County	Secondary Markets
Total Households	345,826	3,819,189
% Moved	10.3%	10.9%
Total Households that Moved	35,509	417,429
Age Distribution of Householders that Moved		
< 25	3%	3%
25-34	4%	5%
35-44	3%	3%
45-54	2%	2%
55-64	1%	1%
65-74	1%	1%
75+	2%	1%

Source: ACS 2007-2011

- **Homeownership.** The analysis considers households that currently own their homes, and will likely prefer to purchase, rather than rent, their next home. This is the likely scenario for those households who downsize. HR&A determined this by analyzing the mobility of households by tenure and homeownership rates. As expected, the majority of householders aged 55 and up (approximately 70%) owned their homes. Approximately 7,000 households will be on the market to buy a new home, with 1,059 households from within Westchester, and 5,985 households from the secondary markets.



- **Golf Participation Rate.** To calculate the portion of residents in the market that might have a preference for living in a golf community, the demand analysis utilized data from the National Golf Foundation on golf participation rates by age and income.
- **Fair Share to Brynwood.** HR&A determined that the annual demand from eligible households would vary by age and market shown in Figure 13. The variation of these factors was driven by review of market data, conversation with industry experts, lack of regional golf course communities, and an assessment of the proposed development's unit size, configuration, positioning and amenities. Based on this assessment, HR&A used the following capture rates to estimate a "fair share" of absorption that Brynwood could capture:
  - Primary market:
    - 5% of eligible households under the age of 55 due to availability of single-family homes on individual lots at similar price points
    - 25% of eligible households 55-74 years of age due to the product positioning as an active community and market trends of baby boomers looking to downsize
    - 5% of eligible households 75+ due to decline in interest in active communities and more interest in communities with assistance.
  - Secondary market:
    - 1% of eligible households under the age of 55 due to availability of single-family homes at similar price points and regional competition
    - 5% of eligible households 55-74 years of age due to the product positioning as an active community, market trends of baby boomers looking to downsize, and regional competition
    - 1% of eligible households 75+ due to decline in interest in active communities, more interest in communities with assistance, and regional competition.

**Figure 13: Fair Share to Brynwood**

	<b>Primary Market Westchester County</b>	<b>Secondary Markets Bergen, Fairfield, NYC</b>
<b>Age of Householder</b>	<b>Brynwood Fair Share</b>	<b>Brynwood Fair Share</b>
< 25	5%	1%
25-34	5%	1%
35-44	5%	1%
45-54	5%	1%
55-64	25%	5%
65-74	25%	5%
75+	5%	1%



Figure 14 presents a summary of the analysis. From left to right, HR&A estimates the number of households that would be in the market and consider purchasing a Brynwood residence. Brynwood demand indicates that each year roughly 15 households in Westchester County and 15 in the secondary markets meet the established target market criteria.

**Figure 14: Qualified Households' Annual Demand for Brynwood Residences as a Primary Home**

Age	Primary Market Westchester County		Secondary Markets Bergen, Fairfield, NYC		All Markets	
	Households	Brynwood Demand	Households	Brynwood Demand	Households	Brynwood Demand
< 25	4,536	0	128,240	0	132,776	0
25-34	40,327	0	677,699	0	718,026	0
35-44	63,764	1	722,526	1	786,290	2
45-54	78,185	1	770,304	1	848,489	2
55-64	69,173	7	688,134	8	757,307	15
65-74	44,505	5	439,547	4	484,052	9
75+	45,336	1	392,739	1	438,075	2
<b>Total</b>	<b>345,826</b>	<b>15</b>	<b>3,819,189</b>	<b>15</b>	<b>4,165,015</b>	<b>30</b>

Sources: U.S. Census Bureau; ESRI; The National Association of Realtors; National Golf Foundation, HR&A Analysis

### ***Demand Analysis: Secondary Home Market***

Westchester County is not a strong market for second homes-only 1% of the housing stock in the County and 3% in the three-mile area around Armonk is a seasonable or vacation home, compared to 66% in Suffolk County, Long Island. The highly amenitized nature of the proposed project suggests it may be of interest to a second home buyer, likely from Manhattan. Further, Westchester County's aging population and high household income suggest that there may be demand for future housing development that meets the needs of households that want to downsize and move to a warmer climate, but retain a seasonal unit close to family and friends. As an emerging trend, this market segment is not yet documented in Census data forming the base of this analysis. However, strong qualitative evidence by experienced real estate marketing professionals suggests the proposed product is extremely well positioned for this market. Based on historical trends, HR&A projects minimal demand, but actual performance could be higher.

# CONCLUSION

HR&A's residential demand analysis shows that the demand from Westchester County and the secondary markets (defined as Bergen and Fairfield Counties and the five boroughs of New York City) can support Brynwood's development of 88 units if phased over several years. HR&A's analysis of qualified households' demand for housing in Westchester County found that Brynwood could capture an estimated 30 units per year. Nearly half of this demand would come from households currently living in Westchester County and 87% would be from households 55 years of age and older. A minimal amount of additional demand could be generated by second home buyers.

Brynwood's proposed pricing of \$650 per square foot is at the high end of the current luxury market, but brokers have confirmed there has been an active market in the \$1.2 million-\$2 million range, which is anticipated for the golf course product. Figures 15 and 16 present a summary of the household demand by source and age of householder.

**Figure 15: Summary of Residential Demand in Households**

<b>Primary Home</b>	<b>Brynwood Demand</b>
Westchester County	15
Secondary Market	15
<i>Total Primary Homes</i>	<i>30</i>
<b>TOTAL</b>	<b>30</b>
<b>Years to Absorb 88 Units</b>	<b>3</b>

**Figure 16: Residential Demand by Age of Householder**

<b>Age of Householder</b>	<b>Brynwood Demand</b>
< 25	0
25-34	0
35-44	2
45-54	2
55-64	15
65-74	9
75+	2
<b>Total</b>	<b>30</b>
<b>% 55+</b>	<b>87%</b>

# APPENDIX

**Figure 17: Historical Sales: Ritz Carlton White Plains & Christie Place**

Address	Date Sold	Sale Price	Square Feet	Price Per SF
Ritz Carlton WP, #11A	4/23/2012	\$ 705,000	1,489	\$ 473.47
Ritz Carlton WP, #27F	4/9/2012	\$ 760,000	1,467	\$ 518.06
Ritz Carlton WP, #31A	3/26/2012	\$ 829,000	1,453	\$ 570.54
Ritz Carlton WP, #15B	2/17/2012	\$ 520,000	1,028	\$ 505.84
Ritz Carlton WP, #19G	1/5/2012	\$ 1,225,000	2,139	\$ 572.70
Ritz Carlton WP, #PH2C	12/21/2011	\$ 1,850,000	2,304	\$ 802.95
Ritz Carlton WP, #15A	12/21/2011	\$ 761,840	1,489	\$ 511.65
Ritz Carlton WP, #PH2E	12/13/2011	\$ 3,450,000	5,079	\$ 679.27
Ritz Carlton WP, #28BC	11/29/2011	\$ 2,225,000	3,167	\$ 702.56
Ritz Carlton WP, #26C	10/20/2011	\$ 1,334,000	2,304	\$ 578.99
Ritz Carlton WP, #29F	10/18/2011	\$ 745,000	1,445	\$ 515.57
Ritz Carlton WP, #20C	10/6/2011	\$ 1,600,000	2,328	\$ 687.29
Christie Place, #407E	10/3/2011	\$ 1,340,207	1,660	\$ 807.35
Ritz Carlton WP, #19BC	9/28/2011	\$ 2,260,000	3,808	\$ 593.49
Christie Place, #205W	9/28/2011	\$ 1,199,000	1,445	\$ 829.76
Christie Place, #207E	8/24/2011	\$ 1,400,000	1,660	\$ 843.37
Ritz Carlton WP, #9A	8/17/2011	\$ 670,000	1,489	\$ 449.97
Ritz Carlton WP, #16D	8/9/2011	\$ 935,000	1,757	\$ 532.16
Ritz Carlton WP, #PH1C	7/19/2011	\$ 1,800,000	2,304	\$ 781.25
Ritz Carlton WP, #18B	7/15/2011	\$ 625,900	1,079	\$ 580.07
Christie Place, #402E	7/14/2011	\$ 1,750,000	1,910	\$ 916.23
Ritz Carlton WP, #30G	7/11/2011	\$ 1,300,000	2,139	\$ 607.76
Christie Place, #307E	7/1/2011	\$ 1,307,000	1,660	\$ 787.35
Ritz Carlton WP, #V7B	6/29/2011	\$ 740,000	1,480	\$ 500.00
Christie Place, #204E	6/27/2011	\$ 1,320,000	1,691	\$ 780.60
Ritz Carlton WP, #12A	6/24/2011	\$ 685,000	1,489	\$ 460.04
Ritz Carlton WP, #31G	6/2/2011	\$ 1,350,000	2,139	\$ 631.14
Ritz Carlton WP, #32G	5/17/2011	\$ 950,000	1,785	\$ 532.21
Ritz Carlton WP, #10A	4/19/2011	\$ 677,000	1,489	\$ 454.67
Christie Place, #301E	4/15/2011	\$ 1,499,817	1,945	\$ 771.11
Ritz Carlton WP, #32E	3/15/2011	\$ 1,700,000	2,498	\$ 680.54
Christie Place, #401W	2/28/2011	\$ 1,500,000	1,945	\$ 771.21
Ritz Carlton WP, #27C	2/25/2011	\$ 1,330,000	2,304	\$ 577.26
Christie Place, #406E	12/16/2010	\$ 747,360	1,000	\$ 747.36
Ritz Carlton WP, #29G	11/23/2010	\$ 1,125,000	2,139	\$ 525.95
Ritz Carlton WP, #18E	11/18/2010	\$ 1,000,000	1,734	\$ 576.70
Christie Place, #207W	9/10/2010	\$ 1,210,135	1,691	\$ 715.63

Address	Date Sold	Sale Price	Square Feet	Price Per SF
Christie Place, #203W	8/12/2010	\$ 1,401,976	1,713	\$ 818.43
Christie Place, #306W	7/2/2009	\$ 792,750	1,000	\$ 792.75
Christie Place, #304W	4/13/2009	\$ 1,176,325	1,630	\$ 721.67
AVERAGE		\$ 1,244,933	1,907	\$ 648

Source: Houlihan Lawrence, 2012

**Figure 18: Residential Demand Analysis**

**Primary Market- Westchester County**

Age of Householder	Total HHs	HHs Earning >\$300k	High Net Worth HHs (+\$250k)	Eligible HHs	Turnover Rate	% Homeowners	Golf Participation Rate	Annual Demand	Brynwood Fair Share	Brynwood Demand
Step	1	2	3	4	5	6	7	8	9	10
< 25	4,536	16%	0	717	3%	7%	7%	0	5%	0
25-34	40,327	6%	0	2,282	4%	31%	7%	2	5%	0
35-44	63,764	14%	0	8,771	3%	56%	9%	13	5%	1
45-54	78,185	16%	0	12,314	2%	67%	10%	15	5%	1
55-64	69,173	12%	28,319	36,812	1%	72%	10%	28	25%	7
65-74	44,505	7%	18,718	21,642	1%	73%	10%	20	25%	5
75+	45,336	6%	19,955	22,546	2%	71%	9%	24	5%	1
<b>Total HHs</b>	<b>345,826</b>	<b>38,093</b>	<b>66,992</b>	<b>105,085</b>	<b>1,628</b>	<b>1,059</b>	<b>103</b>	<b>103</b>	<b>15</b>	<b>15</b>

**Secondary Market- Bergen, Fairfield, NYC (5 Boroughs)**

Age of Householder	Total HHs	HHs Earning >\$300k	High Net Worth HHs (+\$250k)	Eligible HHs	Turnover Rate	% Homeowners	Golf Participation Rate	Annual Demand	Brynwood Fair Share	Brynwood Demand
Step	1	2	3	4	5	6	7	8	9	10
< 25	128,240	13%	0	17,093	3%	6%	7%	2	1%	0
25-34	677,699	8%	0	52,793	5%	19%	7%	38	1%	0
35-44	722,526	14%	0	101,717	3%	44%	9%	111	1%	1
45-54	770,304	14%	0	104,097	2%	53%	10%	97	1%	1
55-64	688,134	11%	153,158	226,548	1%	54%	10%	163	5%	8
65-74	439,547	7%	109,928	142,777	1%	54%	10%	83	5%	4
75+	392,739	6%	108,852	132,864	1%	52%	9%	77	1%	1
<b>Total HHs</b>	<b>3,819,189</b>	<b>405,952</b>	<b>371,938</b>	<b>777,889</b>	<b>13,843</b>	<b>5,985</b>	<b>570</b>	<b>570</b>	<b>15</b>	<b>15</b>

## **APPENDIX Q**





## U.S. ENVIRONMENTAL PROTECTION AGENCY TIER I QUALIFIED FACILITY SPCC PLAN

### Tier I Qualified Facility SPCC Plan for Brynwood Golf and Country Club

Title 40, Part 112 of the Code of Federal Regulations (40 CFR § 112) requires the preparation and implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan for any non-transportation related on-shore or off-shore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products that meet the following criteria:

(1) Oil storage capacity of the facility is greater than:

- 1,320 gallons in total aboveground storage (only containers of oil with a capacity of 55 gallons or greater are counted, including equipment containing oil for ancillary purposes such as transformers); and/or
- 42,000 gallons in total completely buried storage (not including completely buried containers and connected underground piping, underground ancillary equipment, and containment systems that are currently subject to all of the technical requirements of 40 CFR § 280 or all of the technical requirements of a State program approved under 40 CFR § 281).

(2) As described in 40 CFR § 112.1(b), Brynwood Golf and Country Club, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful into or upon navigable waters or shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. As defined in 40 CFR § 110.3, discharges of oil in quantities that may be harmful to the public health, public welfare, or the environment of the United States include discharges of oil that:

- Violate applicable water quality standards; or
- Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

Considering aboveground oil containers with a storage capacity of 55 gallons or greater, the total volume of aboveground oil storage capacity located at Brynwood Golf and Country Club is approximately 7,000 gallons as of June 1, 2013.

The purpose of this SPCC Plan for Brynwood Golf and Country Club is to address all relevant spill prevention, control, and countermeasures necessary to prevent oil discharges to navigable waters and to provide guidance in response to a discharge.

#### Facility Description

Facility Name	Brynwood Golf and Country Club		
Facility Address	568 Bedford Road		
City	Armonk	State	New York ZIP 10504
County	Wetchester	Tel. Number	( 914 ) 273 - 9300
Owner or Operator Name	Corigin Real Estate Group		
Owner or Operator Address	505 5 <sup>th</sup> Ave		
City	New York	State	New York ZIP 10017
County	New York	Tel. Number	( 212 ) 775 - 1111



**I. Self-Certification Statement (§112.6(a)(1))**

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

I Andrew Thompson certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Brynwood SPCC plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. Brynwood meets the following qualification criteria (under §112.3(g)(1)):
  - a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
  - b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
  - c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
  - a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
  - b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
  - c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature \_\_\_\_\_

Title: Golf Course Superintendent

Name Andrew S. Thompson

Date: 6 / 3 / 2013

## II. Record of Plan Review and Amendments

### Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility, if applicable. Implement any SPCC Plan amendment as soon as possible, but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	<input type="checkbox"/>
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. [§112.6(a)(2)]	<input type="checkbox"/>

## III. Plan Requirements

### 1. Oil Storage Containers (§112.7(a)(3)(i)):

As described in 40 CFR § 112.2, the definition of “oil” includes oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and other oils and greases, including petroleum, fuel oil, sludge, synthetic oils (including heat transfer fluids, engine fluids, hydraulic and transmission fluids, metal working fluids, dielectric fluids, compressor lubricants, and turbine lubricants), mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers <sup>a</sup> and completely buried tanks <sup>b</sup> ) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.		<input type="checkbox"/>
Oil Storage Container (indicate whether aboveground (A) or completely buried (B))	Type of Oil	Shell Capacity (gallons)
Aboveground (Agronomy Gas)	Petroleum (Gasoline)	1500
Aboveground (Agronomy Diesel)	Petroleum (Diesel)	500
Aboveground (Golf Ops Gas)	Petroleum (Gasoline)	500
Aboveground (Clubhouse Heating Oil)	Heating oil	2500
Aboveground (clubhouse generator)	Petroleum (Diesel)	1000
Aboveground (WTP generator)	Petroleum (Diesel)	250
Aboveground (Irrigation generator)	Petroleum (Diesel)	750
Total Aboveground Storage Capacity <sup>c</sup>		7000 gallons
Total Completely Buried Storage Capacity		0 gallons
Facility Total Oil Storage Capacity		7000 gallons

<sup>a</sup> Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment, such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

<sup>b</sup> Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

<sup>c</sup> Counts toward qualified facility applicability threshold.

**2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):**

<b>Table G-3 Secondary Containment and Oil Spill Control</b>	
Appropriate secondary containment and/or diversionary structures or equipment <sup>a</sup> is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	<input type="checkbox"/>

As per Westchester County Coding requirement the following options are available to utilized for secondary containment. Due to the size and capacity of our above ground storage tanks Brynwood Golf and Country Club utilizes Option #2.

**OPTION 1: Diking**

Required for tanks with a capacity greater than 10,000 gallons  
Acceptable for smaller tanks

- Dike, liner, pad, pond, impoundment, curb, ditch, sump, receiving tank, vault, basement or room, or a combination.
- Diking must be impervious to product stored. Poured concrete; metal; petroleum compatible plastic or epoxy coating, or any material meeting the standards of NYSDEC guidance document TECH #3. Bare brick or cinder block is unacceptable.
- Diking cannot have cracks, holes or conduits.
- The diking must be capable of containing 110% of the capacity of the largest tank within the diking.
- Diking must be equipped with storm water control. Acceptable devices are a control valve (kept locked in the closed position), manual siphoning or a roofed containment area.
- Rain shields are not permitted for tanks with a capacity greater than 10,000 gallons.

**OPTION 2: Alternative to Diking**

Acceptable for tanks with a capacity of 10,000 gallons or less

- A fill port spill catch basin is required even if exempted under 873.2515.2.
- An automatic shutoff device must be used for overfill prevention.
- All valves, pumps and other connections must be located on the tank top. Valves must be kept locked in the closed position.
- If the tank is located in a traffic area, it must be protected from vehicles; e.g., traffic bollards, 6-inch concrete vault.
- Tanks installed after 6/23/98 with a capacity greater than 1,100 gallons but less than 10,000 gallons must be double-walled.
- If the tank is located in an area subject to flooding, it must be encased in concrete.
- Rain shields may remain if the secondary containment otherwise meets the above requirements.

**NOTES**

Wrapped tanks: Weep holes are required around base. The tank must be inspected monthly for leakage and a written log documenting the inspection must be maintained. Additional containment is required if any leakage from the weep holes could impact soil or water.

Vaulted tanks (without access): For tanks installed before 12/27/86 equipped with a vault that cannot be inspected for leakage, an annual tightness test is required. For tanks installed after 12/27/86, the vault must be provided with a means of monitoring for leakage.

Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

<b>Table G-5 Inspections, Testing, Recordkeeping and Personnel Training</b>	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this . [§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]	<input type="checkbox"/>
<p>As described in 40 CFR § 112.8(c)(6), Brynwood shall test each aboveground container for integrity on a regular schedule and when material repairs are performed. Brynwood shall inspect the outside of the containers for signs of deterioration, discharges, or accumulation of oil inside diked areas. In addition, container supports and foundations shall also be inspected. Brynwood shall combine visual inspection with an integrity testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. The frequency and type of integrity testing shall take into account the container size and design. Comparison records of integrity testing shall be maintained at the facility for the life of each storage tank.</p> <p><u>Weekly inspections shall consist of:</u></p> <p>Check for locks on fill ports and interstitial monitoring ports (as applicable).  Check liquid level gauge for proper operation.  Inspect tank for corrosion, cracks, damage, and deterioration; and inspect tank area for leaks.  Inspect all piping and joints from tank to generator for leaks, excessive corrosion, damage, and other deterioration.  Inspect all piping supports from tank to generator for excessive corrosion, damage, and other deterioration.  Inspect area near aboveground storage tank for evidence of leaks.  Check for spill cleanup materials  Verify drain valves for tank are securely closed (as applicable).  Check high level and leak detection alarms (as applicable).  Inspect containment area for leaks, cracks, and oil stains.  Verify drain valves for the containment area are securely closed (as applicable).</p> <p><u>Semiannual:</u></p> <p>Verify tank vents are clear of obstructions.</p>	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. [§112.7(e)]	<input type="checkbox"/>
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. [§112.7(e)]	<input type="checkbox"/>
Inspections and tests are signed by the appropriate supervisor or inspector. [§112.7(e)]	<input type="checkbox"/>
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. [§112.7(f)]	<input type="checkbox"/>
A person who reports to facility management is designated and accountable for discharge prevention. [§112.7(f)]	<input type="checkbox"/>
Name/Title: <u>Andrew S. Thompson, Chris Burnell, Scott Moran</u>	
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. [§112.7(f)]	<input type="checkbox"/>

**4. Security (excluding oil production facilities) §112.7(g):****Table G-6 Implementation and Description of Security Measures**

Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.	<input type="checkbox"/>
--	--------------------------

As described in 40 CFR § 112.7(g)(1), a facility that handles, processes, or stores oil shall be fully fenced and entrance gates shall be locked and/or guarded when the facility is not in production or unattended. SPCC-regulated storage tanks, piping, and fuel dispensers located at Brynwood that are fully fenced with locked entrance gates or doors are located at the Agronomy Department.

For the SPCC-regulated storage tanks and fuel dispensers that are not fully fenced with locked entrance gates or doors, Brynwood provides environmental protection that is equivalent to the protective measures of 40 CFR § 112.7(g)(1) through the use of a 24-hour closed circuit camera system, adequate facility lighting, security locks for the majority of fill ports, and security locks or other security measures for the fuel dispenser pump starter controls. Furthermore, the starter controls are only accessible to authorized personnel. The starter controls for the fuel pumps located on each emergency generator at Brynwood are contained within locked access panels or located within locked rooms.

The starter controls for the fuel dispensing pumps located at Agronomy and Golf Operations' facilities are shifted to the "off" position and locked after each shift at the end of regular business hours. Keys to the locks are provided for authorized personnel only. All fuel dispenser handles are equipped with a lock that prevents unauthorized use of the dispenser, and the key to the lock is maintained inside the Agronomy building and the clubhouse building respectively.

As an added protective measure, emergency push-button shutoff switches are located adjacent to the fuel dispensers at Electric Distribution Operations Center and General Storeroom. The entrance gates to Agronomy, and the clubhouse building are locked after regular business hours and the facilities are accessible to authorized personnel only.

The facility lighting located at Brynwood is sufficient to assist in the discovery of discharges occurring during hours of darkness and to prevent discharges from occurring through acts of vandalism.

**5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):****Table G-7 Description of Emergency Procedures and Notifications**

The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines [*§112.7(a)(3)(iv) and 112.7(a)(5)*]:

As described in 40 CFR § 112.8(c)(10), a facility is required to promptly correct visible discharges which result in a loss of oil from the container including, but not limited to, seams, gaskets, piping, pumps, valves, rivets, and bolts. Furthermore, a facility is required to promptly remove any accumulations of oil in diked areas.

Upon discovery of a visible discharge from an oil storage container or piping, Brynwood personnel promptly correct the cause of the discharge, provide documentation on the inspection form, and report the corrective action to the Westchester County officials as well as NYSDEC. If accumulation of oil is observed in the secondary containment protocols, the personnel notify the NYSDEC to arrange for a licensed waste transport and disposal contractor to remove the accumulated oil for proper disposal.

**6. Contact List (§112.7(a)(3)(vi)):**

<b>Table G-8 Contact List</b>	
<b>Contact Organization / Person</b>	<b>Telephone Number</b>
National Response Center (NRC)	1-800-424-8802
Cleanup Contractor: National Environmental Specialists	(914) 741-5472
<b>Key Facility Personnel</b>	
Designated Person Accountable for Discharge Prevention: Andrew Thompson and Scott Moran	Office: 914-273-9300
	Emergency: 812-229-0841
Andrew Thompson	Office: 914-273-9300 ext 343
	Emergency: 812-229-0841
Scott Moran	Office: 914-273-9300 ext 41
	Emergency: 914-703-1814
Josh Lowney	Office: 914-273-9300 ext 331
	Emergency: 858-210-0182
State Oil Pollution Control Agencies NYSDEC Hazardous Waste	518-402-8792
Local Fire Department: Armonk Fire Department	(914) 273-3292
Local Police Department: North Castle Police Department	(914) 273-9500
Hospital: Greenwich Hospital	(203) 863-3000

**7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):**

<b>Table G-9 NRC Notification Procedure</b>	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines: [§112.7(a)(4)]	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The exact address or location and phone number of the facility;</li> <li>• Date and time of the discharge;</li> <li>• Type of material discharged;</li> <li>• Estimate of the total quantity discharged;</li> <li>• Estimate of the quantity discharged to navigable waters;</li> <li>• Source of the discharge;</li> </ul>	<ul style="list-style-type: none"> <li>• Description of all affected media;</li> <li>• Cause of the discharge;</li> <li>• Any damages or injuries caused by the discharge;</li> <li>• Actions being used to stop, remove, and mitigate the effects of the discharge;</li> <li>• Whether an evacuation may be needed; and</li> <li>• Names of individuals and/or organizations who have also been contacted.</li> </ul>

**8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):**

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

- A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
- Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

The following information from Brynwood will be submitted to the RA as well as the NYSDEC:

- (1) Name of the facility – Brynwood Golf and Country Club
- (2) Your name – Manager on duty or responsible person
- (3) Location of the facility – Armonk, NY
- (4) Maximum storage or handling capacity of the facility and normal daily throughput – 7000 U.S. Gallons.
- (5) Based on material involved on spill, corrective action and countermeasures you have taken, including a description of equipment repairs and replacements.
- (6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary – Kept at Superintendents office as well as Facilities managers office.
- (7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred.
- (8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence.
- (9) Such other information as the Regional Administrator may reasonably require pertinent to the plan or discharge. \* \* \* \* \*



The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators.

<b>Table G-10 General Rule Requirements for Onshore Facilities</b>		<b>N/A</b>
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. [§§112.8(b)(1) and 112.12(b)(1)]	<input type="checkbox"/>	<input type="checkbox"/>
Valves of manual, open-and-closed design are used for the drainage of diked areas. [§§112.8(b)(2) and 112.12(b)(2)]	<input type="checkbox"/>	<input type="checkbox"/>
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. [§§112.8(c)(1) and 112.12(c)(1)]	<input type="checkbox"/>	<input type="checkbox"/>
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). [§112.6(a)(3)(ii)]	<input type="checkbox"/>	<input type="checkbox"/>
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: [§§112.8(c)(3) and 112.12(c)(3)]		
<ul style="list-style-type: none"> <li>Bypass valve is normally sealed closed</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Bypass valve is opened and resealed under responsible supervision</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Adequate records of drainage are kept</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
For completely buried metallic tanks installed on or after January 10, 1974 at this facility [§§112.8(c)(4) and 112.12(c)(4)]:		
<ul style="list-style-type: none"> <li>Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Regular leak testing is conducted.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
For partially buried or bunkered metallic tanks [§112.8(c)(5) and §112.12(c)(5)]:		
<ul style="list-style-type: none"> <li>Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. [§112.8(c)(6) and §112.12(c)(6)(i)]	<input type="checkbox"/>	<input type="checkbox"/>
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. [§§112.8(c)(6) and 112.12(c)(6)]	<input type="checkbox"/>	<input type="checkbox"/>
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. [§112.12(c)(6)(ii)]	<input type="checkbox"/>	<input type="checkbox"/>
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe:	<input type="checkbox"/>	<input type="checkbox"/>
Liquid level sensing devices are regularly tested to ensure proper [§112.6(a)(3)(iii)]	<input type="checkbox"/>	<input type="checkbox"/>
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. [§§112.8(c)(10) and 112.12(c)(10)]	<input type="checkbox"/>	<input type="checkbox"/>
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. [§§112.8(d)(4) and 112.12(d)(4)]	<input type="checkbox"/>	<input type="checkbox"/>
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. [§§112.8(d)(4) and 112.12(d)(4)]	<input type="checkbox"/>	<input type="checkbox"/>



To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

<b>Table G-17 Bulk Storage Container Inspection Schedule</b>	
<b>Container Size and Design Specification</b>	<b>Inspection requirement</b>
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection <sup>a</sup>	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection <sup>a</sup>	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

<sup>a</sup> Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

The following table contains our Bulk Storage Containers along with their contents and capacity. Our inspection schedule follows the above schedule.

<b>Oil Storage Container</b> ( <i>indicate whether aboveground (A) or completely buried (B)</i> )	<b>Type of Oil</b>	<b>Shell Capacity (gallons)</b>
Aboveground (Agronomy Gas)	Petroleum (Gasoline)	1500
Aboveground (Agronomy Diesel)	Petroleum (Diesel)	500
Aboveground (Golf Ops Gas)	Petroleum (Gasoline)	500
Aboveground (Clubhouse Heating Oil)	Heating oil	2500
Aboveground (clubhouse generator)	Petroleum (Diesel)	1000
Aboveground (WTP generator)	Petroleum (Diesel)	250
Aboveground (Irrigation generator)	Petroleum (Diesel)	750



## ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center [also see the notification information provided in Section 7 of the Plan]:

Table G-20 Information provided to the National Response Center in the Event of a Discharge			
Discharge/Discovery Date		Time	
Facility Name			
Facility Location (Address/Lat-Long/Section Township Range)			
Name of reporting individual		Telephone #	
Type of material discharged		Estimated total quantity discharged	Gallons/Barrels
Source of the discharge		Media affected	<input type="checkbox"/> Soil
			<input type="checkbox"/> Water (specify)
			<input type="checkbox"/> Other (specify)
Actions taken			
Damage or injuries	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify)	Evacuation needed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify)
Organizations and individuals contacted	<input type="checkbox"/> National Response Center 800-424-8802 Time		
	<input type="checkbox"/> Cleanup contractor (Specify) Time		
	<input type="checkbox"/> Facility personnel (Specify) Time		
	<input type="checkbox"/> State Agency (Specify) Time		
	<input type="checkbox"/> Other (Specify) Time		



## **APPENDIX R**

**BRYNWOOD GOLF & COUNTRY CLUB  
GROUNDWATER EXPLORATION AND  
72-HOUR PUMPING TEST PROGRAM  
ARMONK, NEW YORK**

Prepared For:

Brynwood Partners, LLC

June 2013

Prepared By:

**LEGGETTE, BRASHEARS & GRAHAM, INC**  
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4 Research Drive, Suite 301  
Shelton, CT 06484

## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION .....	1
PROJECT WATER DEMAND .....	1
GROUNDWATER EXPLORATION PROGRAM .....	2
PUMPING TEST PROGRAM .....	3
PUMPING WELLS .....	8
Well 1 .....	8
Well 2B .....	9
Well 3 .....	10
Well 5 .....	11
Irrigation Well 4 .....	12
Irrigation Well 5 .....	13
Well 6A .....	14
180-Day Water-Level Drawdown Projections .....	15
ONSITE MONITORING WELLS .....	15
ONSITE SURFACE-WATER MONITORING .....	17
PZ-A .....	18
PZ-B .....	18
PZ-C .....	19
PZ-D .....	19
PZ-E .....	20
PZ-F .....	20
SG-A .....	21
SG-B .....	21
SG-C .....	22
SG-D .....	23
SG-E .....	23
SG-G .....	24

**TABLE OF CONTENTS**  
**(continued)**

	<b><u>Page</u></b>
STREAM GAGING.....	24
Simultaneous 72-Hour Pumping Test.....	24
Individual 72-Hour Pumping Test .....	26
OFFSITE WELL MONITORING.....	26
Offsite Wells .....	26
OFFSITE SURFACE-WATER MONITORING (BYRAM LAKE) .....	29
WATER QUALITY .....	29
CONCLUSIONS.....	30



**LIST OF TABLES**  
**(at end of report)**

**Table**

- 1     Summary of Potable Water Demand Requirements for Proposed Development on Brynwood Property
- 2     Summary of Stream Flow Observations and Measurements Collected During Simultaneous Pumping Tests on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 6 Conducted May 20 through May 23, 2013 and During Individual Pumping Test on Proposed Supply Well 6A, Conducted May 28 through May 31, 2013
- 3     Summary of Precipitation Record from Westchester County Airport Climate Station for 2013
- 4     Summary of Daily Discharges from Wastewater Treatment Plant
- 5     Summary of Solicitation Conducted on Offsite Properties for Permission to Include Wells in Offsite Monitoring Program

**LIST OF FIGURES**  
**(at end of report)**

**Figure**

- 1     Site Location Map
- 2     Offsite Monitoring Program

**LIST OF APPENDICES**  
**(at end of report)**

**Appendix**

- |     |  |
|-----|--|
| I   | Approval Letters from Westchester County Department of Health and Town of North Castle |
| II  | Well Completion Reports  |
| III | Pumping Wells  |
| IV  | Monitoring Locations   |
| V   | Physical Parameters  |
| VI  | 180-Day Water-Level Drawdown Projection  |
| VII | Irrigation Wells 4 and 5, Water Quality  |

**PLATE**  
**(in pocket at end of report)**

**Plate**

- |   |          |
|---|----------|
| 1 | Site Map |
|---|----------|

**BRYNWOOD GOLF & COUNTRY CLUB  
GROUNDWATER EXPLORATION AND  
72-HOUR PUMPING TEST PROGRAM  
ARMONK, NEW YORK**

**INTRODUCTION**

A groundwater exploration and 72-hour pumping test program have been conducted by Leggette, Brashears & Graham, Inc. (LBG) at the Brynwood Golf & Country Club to develop an onsite groundwater supply to meet the water demand requirements of a proposed residential development and Clubhouse renovations on the property. The groundwater exploration program included the selection of suitable well locations for the drilling of bedrock test wells. The locations were submitted for review and approval to the Westchester County Department of Health (WCDH) prior to drilling. Six test wells were drilled as part of the groundwater exploration program. Five of the six test wells drilled had estimated yields at the completion of drilling that appeared suitable for potential development as water-supply sources.

Following the completion of drilling, a 72-hour pumping test program was conducted which included the simultaneous pumping of four of the newly drilled bedrock test wells (Wells 1, 2B, 3 and 5) and the two existing irrigation wells (Irrigation Wells 4 and 5) on the golf course. The simultaneous pumping test was followed by an individual test on the most productive well drilled (Well 6A) during the groundwater exploration program. The pumping test program included the water-level monitoring of the onsite pumping wells, onsite bedrock monitoring wells, offsite bedrock monitoring wells, onsite surface-water features and stream flows and offsite surface water in Byram Lake.

A Pumping Test Plan was prepared prior to the completion of the 72-hour pumping tests in accordance with the New York State Department of Environmental Conservation's (NYSDEC) Appendix 10, TOGS 3.2.1, "Pumping Test Procedures for Water Withdrawal Applications", March 2013. The Pumping Test Plan was submitted the NYSDEC for review and comment. The plan was approved by the NYSDEC on May 8, 2013.

**PROJECT WATER DEMAND**

The proposed potable average water demand for the Brynwood project, which includes the development of 88 residential units and renovations and modifications to the Clubhouse

facilities, is estimated to be 51,955 gpd (gallons per day) or about 36.1 gpm (gallons per minute). A summary table of the proposed water demand requirements for the Brynwood project is shown on table 1.

The New York State Department of Health (NYSDOH) requires the development of twice the average water demand of a project with the most productive well (best well) out of service. Therefore, the proposed Brynwood project would require the development of 103,910 gpd or 72.2 gpm with the best well out of service.

In addition to the proposed potable water demand, the existing golf course uses two irrigation wells, Irrigation Wells 4 and 5, to supplement the surface-water runoff collected in their onsite irrigation ponds which is used to irrigate the golf course. Therefore, the water-supply wells developed to meet the potable water demand requirements of the project must be able to pump simultaneously with the existing onsite irrigation wells.

### **GROUNDWATER EXPLORATION PROGRAM**

A groundwater exploration program was conducted on Brynwood Property from January 2013 through May 2013. Following the receipt of the necessary well drilling permits from the WCDH and wetland permit from the Town of North Castle, six test wells were drilled on the Brynwood Property. Copies of the approval letters from the WCDH and the Town of North Castle to conduct the well drilling are included in Appendix I and copies of the well completion reports are included in Appendix II.

Wells 3, 4 and 5 were drilled in January and February 2013. The estimated yields for these wells at the completion of drilling were 40 gpm, 7 gpm, and 25 gpm, respectively. Well 3 was drilled to total depth of 645 feet. Water-bearing fractures were encountered in Well 3 at depths of 250 feet and 510 feet. Well 4 was drilled to a depth of 545 feet and fractures were encountered at 100 feet and 440 feet. Well 5 was drilled to a depth of 540 feet and the main water-bearing fracture was encountered at a depth of 263 feet in this well.

Wells 1 and 2B were drilled in April 2013. The estimated well yields at the completion of drilling for these wells were 75 gpm and 20 gpm, respectively. Well 1 was drilled to a total depth of 575 feet. Water-bearing fractures were encountered in Well 1 at depths of 390 feet,

445 feet and 570 feet. Well 2B was drilled to a total depth of 545 feet and fractures were encountered at 150 feet, 315 feet and 375 feet.

Based on these estimated well yields from Wells 1, 2B, 3 and 5, LBG determined that sufficient yield had been developed to meet twice the average water demand of the project. An application was submitted to the WCDH to drill a redundant well location near Well 1 (the most productive well drilled to date) in May 2013. The purpose of the redundant well was to meet the NYSDOH requirement of supplying twice the average water demand of a project with the best well out of service. Following receipt of approval from the WCDH, Well 6A was drilled in May 2013. Well 6A was drilled to a total depth of 625 feet and the estimated yield at the completion of drilling was 80 gpm. Water-bearing fractures were encountered at depths of 155 feet, 345 feet and 500 feet in this well.

### **PUMPING TEST PROGRAM**

A simultaneous 72-hour pumping test of six bedrock wells (proposed bedrock supply Wells 1, 2B, 3 and 5 and existing Irrigation Wells 4 and 5) was conducted at the Brynwood Golf & Country Club from May 20 through 23, 2013. Following the completion of the simultaneous pumping test and a water-level recovery period, an individual 72-hour pumping test of the most productive well, Well 6A, was conducted from May 28 through May 31, 2013 to meet the NYSDOH well yield requirement of demonstrating twice the average water demand with the most productive well (best well) out of service.

During the pumping test period, water-level measurements were collected from Wells 1, 2B, 3, 5, and 6A and Irrigation Wells 4 and 5 to assess water-level drawdown and stabilization in the pumping wells. Water-level measurements were also collected from four other onsite bedrock monitoring wells (Wells 3, 4, 9, and 10), six onsite piezometers (PZ-A, PZ-B, PZ-C, PZ-D, PZ-E and PZ-F) and six onsite staff gages (SG-A, SG-B, SG-C, SG-D, SG-E and SG-G) in the ponds located on the golf course. In addition to the onsite monitoring, water-level measurements were collected from 15 nearby residential wells located north, south and west of the study property and from one piezometer (PZ-G) installed in Byram Lake located northwest of the site. Properties east of Brynwood are supplied with water by the Windmill Farm Water District; therefore, no offsite wells were monitored on this side of the Brynwood property. The

onsite and offsite water-level monitoring locations are shown on Plate 1 and figure 2. Hydrographs and summary tables of the water-level measurements collected from the pumping wells during their respective pumping test period are included in Appendix III. Hydrographs of water-level measurements collected from the onsite and offsite bedrock monitoring wells and surface-water monitoring points are included in Appendix IV. Electronic copies of spreadsheets containing all of the water-level data collected from the pumping wells and monitoring locations have been provided as an attachment to this report.

Stream gaging was conducted onsite during the pumping test period. During the simultaneous pumping test, stream gage observations and/or measurements were collected at locations SG-1, SG-2, SG-3 and SG-6 on the study property (Plate 1). During the individual test on Well 6A, stream gaging observations and/or measurements were collected from SG-1, SG-2 and SG-3. A summary of the stream gaging data collected is included on table 2.

Existing Irrigation Wells 4 and 5 were in use at the golf course prior to the start of the background water-level monitoring period before the start of the pumping tests. The pumps in both irrigation wells were turned off at approximately 18:20 on May 16 and no pumping in these wells was conducted during the background monitoring period. Irrigation Wells 4 and 5 were pumped during the simultaneous pumping test along with the proposed supply Wells 1, 2B, 3 and 5. The irrigation wells were shut down at the end of the simultaneous pumping test along with the wells and were not pumped during the individual test conducted on Well 6A or during the recovery period following the end of that test.

At the start of the simultaneous pumping test on May 20, a staggered pump start-up schedule was conducted to assess the potential for mutual water-level interference between the wells under simultaneous pumping conditions. Pumping was started as 9:24 in Well 1, 10:39 in Well 5, 11:53 in Well 3, 13:50 in Well 2B, 15:13 in Irrigation Well 5, and 16:12 in Irrigation Well 4. The simultaneous pumping of the six bedrock wells was ended at 16:49 on May 23, for a total of 72 hours and 37 minute of simultaneous pumping. The individual test on Well 6A was started at 11:51 on May 28 and the test was shut down at 11:52 on May 31 for a total of 72 hours and 1 minute of pumping.

Temporary well pumps, totalizing meters, sample ports and discharge hose were utilized on Wells 1, 2B, 3, 5 and 6A during their respective test periods. The pump settings for the wells are provided below:

Well ID	Pump Depth (feet)
Well 1	400
Well 2B	300; 260*
Well 3	240
Well 5	250
Well 6A	320
Irrigation Well 4	270**
Irrigation Well 5	70***

\* First value is the original pump setting, second value is setting of the replacement pump.

\*\* Obstruction encountered in well during transducer installation. Obstruction assumed to be depth of top of pump.

\*\*\* Reported pump setting.

The discharge locations used for these wells during the tests are shown on Plate 1. The water from Wells 1, 2B, 3, 5, and 6A was discharged to waste on the ground surface downgradient of the wells through temporary discharge hose during their respective test periods. For Irrigation Wells 4 and 5, the existing appurtenance were used (permanent pumps, electrical service, discharge pipe, and totalizing meters) during the simultaneous pumping test period. The water from the irrigation wells was discharged into the onsite irrigation pond (Pond 2) during the simultaneous test.

The discharge rates for the wells were measured using the totalizing meters installed on the wells' discharge lines and also using volume calibrated buckets at the ends of the discharge hose. For consistency, the discharge rates measured with the buckets at the end of the discharge hoses have been used in this report as the confirmed yields for all of the pumping wells.

The physical parameters of temperature, pH and conductivity were measured in the discharge water from Wells 1, 2B, 3, 5, and 6A during the pumping tests as part of an assessment for potential groundwater under the influence of surface water (GWUDI). For comparison to the data collected from Well 2B, temperature, pH and conductivity were also measured in the stream channel located near Well 2B. There was insufficient or no surface water located within 200 feet of Wells 1, 3, 5 and 6A during the tests to collect parameter measurements for comparison. Graphs and a table summarizing the temperature, pH and conductivity measurements collected are included in Appendix V.

Precipitation was monitored using a manual rain gage placed on the Brynwood property during the test period and information from a local rain gage station in Armonk, NY that

publishes hourly precipitation totals on the internet was reviewed for comparison. Daily precipitation measured at the local Armonk rain gage is shown on the hydrographs for the wells and surface-water monitoring locations for reference. Table 3 contains a summary of monthly precipitation information from the climate station located at the Westchester County Airport from 2013. The 2013 monthly precipitation totals have been compared to the historical, long-term monthly average precipitation data (1971-2000) for this climate station. The data show that prior to the start of the start of pumping test period in May 2013 the region had experience below average rainfall for all of 2013 from January through April. This below average rainfall is reflected in the low surface-water levels in the onsite ponds, the little or no stream flow between ponds measured prior to the test, and the absence of surface water at several of the piezometer locations installed in wetland features and intermittent streams on the site.

During the background data collection period prior to the start of the simultaneous 72-hour pumping test, 0.06 inch and 0.31 inch of precipitation were received on May 19 and 20, respectively. No precipitation was received on May 20, 21 or 22 during the simultaneous 72-hour pumping test period. A large precipitation event totaling 3.31 inches occurred on the final day of the simultaneous 72-hour test, starting at approximately 13:40 on May 23. The onsite pumping wells, which had all demonstrated 6+ hours of stabilized water-level drawdown prior to the start of the rain event, showed no discernible water-level change in response to the precipitation prior to shut down of the pumps starting at 16:49 on May 23. This lack of response to the rain event in the water level in the pumping wells can be seen on the hydrographs for the wells and the summary tables of the water-level measurements located in Appendix III.

Precipitation totaling 0.14 inch and 0.71 inch was received on May 24 and 25, respectively, during the recovery period following shut down of the simultaneous pumping test. No precipitation was received on May 26 and 27, before the start of the individual test on Well 6A. On May 28, the startup day of the second pumping test, 0.31 inch of precipitation was received and 0.02 inch was received in the early morning hours of May 29. No additional rainfall was received during the remainder of the second test period on May 29, 30 and 31. No precipitation occurred on June 1 or for most of the day on June 2 during the recovery period following shut down of the second test. Rainfall totaling 0.09 inch and 1.74 inches was received in the late evening on June 2 and early morning of June 3 which was the final day of the water-level recovery period at the end of the pumping test period. The table below shows a summary



of the locally recorded rain totals (unofficial) from the Armonk, NY rain gage during the pumping test period.

**Table: Summary of Precipitation Received During Aquifer Test Period, Wappinger, New York**

<b>Date</b>	<b>Approximate Duration of Precipitation Event</b>	<b>Total Precipitation (inches)</b>
5/16/13	NA	0.00
5/17/13	NA	0.00
5/18/13	16:00-17:45	0.06
5/19/13	4:40-21:20	0.31
5/20/13	NA	0.00
5/21/13	NA	0.00
5/22/13	NA	0.00
5/23/13	9:40-9:55; 11:50-12:00;13:40-17:00; 19:20-20:45	0.02; 0.02; 2.21; 0.92
5/24/13	1:45-2:00; 18:40-19:10	0.04; 0.10
5/25/13	2:40-4:00; 6:10-8:50; 20:55-21:20	0.11; 0.42; 0.18
5/26/13	NA	0.00
5/27/13	NA	0.00
5/28/13	13:50-19:15	0.31
5/29/13	3:00	0.02
5/30/13	NA	0.00
5/31/13	NA	0.00
6/1/13	NA	0.00
6/2/13	20:15-23:45	0.09
6/3/13	0:15-1:15; 2:25-4:00; 8:25-9:00	1.30; 0.14; 0.30

NA not applicable

Water-level monitoring equipment was installed in the onsite and offsite monitoring locations starting on May 16, prior to the start of the testing program, to collect background water-level information. Water levels were measured manually and with automated pressure transducers during the test periods. The monitoring equipment was removed starting June 3, following the end of the second pumping test and water-level recovery period.

Water samples were collected from proposed water-supply Wells 1, 2B, 3, 5 and 6A during the respective pumping tests. The samples were taken to Envirotest Laboratories, Inc. located in Newburgh, New York for analysis. The samples were analyzed for all parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1. In addition, microscopic

particulate analysis (MPA) samples were collected as part of the assessment for potential GWUDI, and dioxin, endothall, glyphosate and diquat analyses were completed.

## **PUMPING WELLS**

### **Well 1**

The pump in Well 1 was started at 9:24 on May 20, 2013. Prior to the start of pumping, the static water level in Well 1 was 0.0 ft btoc (feet below top of casing) and water was flowing artesian over the top of the casing. Pumping rate adjustments were completed using a gate valve on the discharge line following startup of the pump. A pumping rate of 50 gpm was achieved at 9:44 and the pumping rate of Well 1 remained 50 gpm for the duration of the test period. The totalizing meter installed on the discharge line of Well 1 stopped working approximately 30 minutes after the start of the test. Therefore, the pumping rate of Well 1 was measured using a 15-gallon bucket at the end of the discharge hose throughout the test.

The pump in Well 1 was shut down at 16:54 on May 23. The pumping water level in the well at the end of the test was 177.88 ft btoc, for a total water-level drawdown of 177.88 feet. Water-level drawdown in Well 1 was stable for the last 20.5 hours of the test period. No rise in water level was observed in Well 1 during the final hours of the pumping test as a result of the rain event which started at 13:40 on May 23.

Rapid water-level recovery occurred in Well 1 after shut down of the pump. Ninety (90) percent water-level recovery was reached 1 hour and 43 minutes after shut down and the water level in the well reached the top of casing and began to flow artesian again 3 hours and 35 minutes after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Well 1 during the simultaneous pumping test period are included in Appendix III.

Water-level measurements were also collected from Well 1 during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured in Well 1 as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Well 1 during the second test period is located in Appendix IV.

## **Well 2B**

The temporary pump and appurtenance was installed in Well 2B on May 13, 2013. A test was run on the pump on May 19 to confirm proper functioning. A malfunction of the pump was noted at that time and the pump was pulled and replaced on the morning of May 20. Rock chips were observed inside the malfunctioning pump; therefore, a shallower pump setting 40 feet above the original depth setting was used for the replacement pump.

The test on Well 2B was started at 13:50 on May 20, 2013. The static water level in Well 2B was 0.0 ft btoc before the start of pumping and water was flowing artesian over the top of the casing. No drawdown impact to the water level in Well 2B was observed as a result of pumping in the other onsite wells during the staggered startup period of the test.

Pumping rate adjustments were completed using a gate valve on the discharge line following the startup of the pump in Well 2B. A pumping rate of 10.3 gpm was achieved at 13:54 on May 20. Two pumping rate adjustments were completed during the test period on Well 2B to compensate for small rate decreases observed during the test period. These rate decreases are attributed to minor clogging of the pump motor as Well 2B was further developed (cleared of fine debris and rock chips which accumulate during drilling) during the pumping test.

The manual increases in the pumping rate were completed at 9:39 on May 21 and 8:53 on May 22. The pumping rate in Well 2B following the last rate increase was 12 gpm and it remained for the final 30 hours of the test period. The pumping rate in Well 2B was measured using a totalizing meter installed on the discharge line near the wellhead and with a 5-gallon bucket at the end of the discharge hose.

The pump in Well 2B was shut down at 16:56 on May 23. The pumping water level in the well was 65.84 ft btoc at the end of the test, for a total water-level drawdown of 65.84 feet. Water-level drawdown in Well 2B was stable for the last 15 hours of the test period. No rise in water level was observed in Well 2B during the final hours of the pumping test period as a result of the rain event which started at 13:40 on May 23.

Rapid water-level recovery occurred in Well 2B after shut down of the pump. Ninety (90) percent water-level recovery was reached approximately 4 hours and 22 minutes after shut down of the pump. The water level in the well reached the top of casing and began to flow artesian again 17 hours and 14 minutes after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Well 2B during the simultaneous pumping test are included in Appendix III.

Water-level measurements were also collected from Well 2B during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured in Well 2B as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Well 2B during the second test period is located in Appendix IV.

### **Well 3**

The pump in Well 3 was started at 11:53 on May 20, 2013. Prior to the start of pumping, the static water level in Well 3 was 0.0 ft btoc and water was flowing artesian over the top of the casing. No drawdown impact to the water level in Well 3 was observed as a result of pumping in the other onsite wells during the staggered start-up period of the test.

Pumping rate adjustments were completed using a gate valve on the discharge line following start-up of the pump. The initial pumping rate in Well 3 was 36 gpm but declined over the first 30 minutes of the test to 33 gpm. No pumping rate adjustments were completed on Well 3 during the simultaneous test period and by the early afternoon on May 21, the pumping rate of the well had reached 32 gpm where it remained for the duration of the test period. The pumping rate in Well 3 was measured using a totalizing meter installed on the discharge line near the wellhead and with a 15-gallon bucket at the end of the discharge hose.

The pump in Well 3 was shut down at 16:50 on May 23. The pumping water level in the well at the end of the test was 69.88 ft btoc, for a total water-level drawdown of 69.88 feet. Water-level drawdown in Well 3 was stable for the last 12.5 hours of the test period. No rise in water level was observed in Well 3 during the final hours of the pumping test as a result of the rain event which started at 13:40 on May 23.

The water level in Well 3 reached 90-percent recovery to the pre-test static level 13 hours and 22 minutes after shut down of the pump. The water level in the well reached the top of casing and began to flow artesian again 19 hours and 2 minutes after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Well 3 during the simultaneous pumping test are included in Appendix III.

Water-level measurements were also collected from Well 3 during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured

in Well 3 as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Well 3 during the second test period is located in Appendix IV.

### **Well 5**

The pump in Well 5 was started at 10:39 on May 20, 2013. Prior to the start of pumping, the static water level in Well 5 was 0.0 ft btoc and water was flowing artesian over the top of the casing. No drawdown impact to the water level in Well 5 was observed as a result of pumping in the other onsite wells during the staggered start-up period of the test.

Pumping rate adjustments were completed using a gate valve on the discharge line following start-up of the pump. The initial pumping rate in Well 5 was 21.7 gpm but declined over the first 30 minutes of the test to 20 gpm. No pumping rate adjustments were completed on Well 5 during the simultaneous test period and by the early evening on May 20, the pumping rate of the well had reached 19.5 gpm where it remained for the duration of the test period. The pumping rate in Well 5 was measured using a totalizing meter installed on the discharge line near the wellhead and with a 15-gallon bucket at the end of the discharge hose.

The pump in Well 5 was shut down at 16:59 on May 23. The pumping water level in the well at the end of the test was 143.81 ft btoc, for a total water-level drawdown of 143.81 feet. Water-level drawdown in Well 5 was stable for the last 39 hours of the test period. No rise in water level was observed in Well 5 during the final hours of the pumping test period as a result of the rain event which started at 13:40 on May 23.

The water level in Well 5 reached 90-percent recovery to the pre-test static level 50 minutes after shut down of the pump. The water level in the well reached the top of casing and began to flow artesian again 1 hour and 31 minutes after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Well 5 during the simultaneous pumping test are included in Appendix III.

Water-level measurements were also collected from Well 5 during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured in Well 5 as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Well 5 during the second test period is located in Appendix IV.

#### **Irrigation Well 4**

The pump in Irrigation Well 4 was started at 16:12 on May 20, 2013. Prior to the start of pumping in any of the onsite wells, the static water level in Irrigation Well 4 at 9:24 was 4.87 ft btoc. Minor drawdown in the water level in Irrigation Well 4 was measured as a result of pumping in the other onsite wells during the staggered startup period of the test. Drawdown of approximate 0.1 foot was measured in the early part of the test period and is attributed to pumping in Wells 1, 2B, 3 and 5. Approximately 0.4 foot of drawdown occurred after the start of the pump in Irrigation Well 5. The water level in Irrigation Well 4 just prior to the start of pumping at 16:12 was 5.33 ft btoc.

Following the start of the pump in Irrigation Well 4, no pumping rate adjustments were completed on the well during the test period. Irrigation Well 4 was pumped at the maximum capacity of the existing pump installed in the well. The initial pumping rate in Irrigation Well 4 was 37 gpm but declined over the first several hours of the test period to 36 gpm at 16:22, 32.5 gpm at 18:57 and 32 gpm at 22:58 on May 20. The pumping rate of the well remained at 32 gpm for the duration of the test period. The pumping rate in Irrigation Well 4 was measured using a totalizing meter installed on the discharge line near the wellhead and with a 5-gallon bucket at the end of the discharge hose.

Following start-up of the pump in Well 4, the water level in the well declined rapidly. Cascading water in the borehole starting at a depth of approximately 50 ft btoc was encountered in the well which prevented the collection of backup manual water-level measurements once pumping had started.

The water level reached a depth of approximately 170 ft btoc by 21:00 on May 20, five hours after start-up of the well. After reaching this depth the water level in the well began to oscillate in the range from about 170 ft btoc to 177 ft btoc over the last 67 hours of the test period. The maximum depth reached by the water level in the well of 177.49 ft btoc occurred at 03:03 on May 23. Based on the duration of the time period that the water level in Irrigation Well 4 remained in this depth range, the water-level drawdown was considered stable at the end of the test period.

The pump in Irrigation Well 4 was shut down at 16:51 on May 23. The pumping water level in the well at the end of the test was 175.12 ft btoc, for a total water-level drawdown of

170.25 feet. No rise in water level was observed in Irrigation Well 4 during the final hours of the pumping test period corresponding to the rain event which started at 13:40 on May 23.

The water level in Irrigation Well 4 reached 90-percent recovery to the pre-test static level 29 minutes after shut down of the pump. The water level in the well reached 100 percent of the pre-test static level approximately 39.5 hours after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Irrigation Well 4 during the simultaneous pumping test are included in Appendix III.

Water-level measurements were also collected from Irrigation Well 4 during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured in Irrigation Well 4 as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Irrigation Well 4 during the second test period is located in Appendix IV.

### **Irrigation Well 5**

The pump in Irrigation Well 5 was started at 15:13 on May 20, 2013. Prior to the start of pumping in any of the onsite wells, the static water level in Irrigation Well 5 at 9:24 was 9.34 ft btoc. Minor drawdown in the water level in Irrigation Well 5 was measured as a result of pumping in the other onsite wells during the staggered start-up period of the test. Drawdown of approximate 0.4 foot was measured in the early part of the test period and is attributed to pumping in Wells 1, 2B, 3 and 5. The water level in Irrigation Well 5 just prior to the start of pumping at 15:13 was 9.75 ft btoc.

Following the start of the pump in Irrigation Well 5, no pumping rate adjustments were completed on the well during the test period. Irrigation Well 5 was pumped at the maximum capacity of the existing pump installed in the well. The initial pumping rate in Irrigation Well 5 was 42 gpm but declined over the first several hours of the test period to 41 gpm at 14:41, and 40 gpm at 22:17 on May 20. The pumping rate of the well remained at 40 gpm for the duration of the test period. The pumping rate in Irrigation Well 5 was measured using a totalizing meter installed on the discharge line near the wellhead and with a 5-gallon bucket at the end of the discharge hose.

The pump in Irrigation Well 5 was shut down at 16:49 on May 23. The pumping water level in the well at the end of the test was 36.29 ft btoc, for a total water-level drawdown of

26.95 feet. Water-level drawdown in Irrigation Well 5 was stable for the last 14 hours of the test period. No rise in water level was observed in Irrigation Well 5 during the final hours of the pumping test period as a result of the rain event which started at 13:40 on May 23.

The water level in Irrigation Well 5 reached 90-percent recovery to the pre-test static level approximately 33 hours after shut down of the pump. The water level in the well reached 100 percent recovery to the pre-test static level approximately 57 hours after shut down of the test.

The hydrograph and a summary table of water-level measurements collected from Irrigation Well 5 during the simultaneous pumping test are included in Appendix III.

Water-level measurements were also collected from Irrigation Well 5 during the individual test conducted on Well 6A the following week. No discernible water-level drawdown was measured in Irrigation Well 5 as a result of pumping Well 6A at 55 gpm. The hydrograph showing the water-level measurements collected from Irrigation Well 5 during the second test period is located in Appendix IV.

### **Well 6A**

The temporary pump and discharge appurtenance for Well 6A were installed on the morning of May 28. The pumping test on Well 6A was started at 11:51 on May 28, 2013. Prior to the start of pumping, the static water level in Well 6A was 0.0 ft btoc and water was flowing artesian over the top of the casing.

Pumping rate adjustments were completed using a gate valve on the discharge line following start-up of the pump. A pumping rate of 55 gpm was achieved at 11:56 and the pumping rate of Well 6A remained 55 gpm for the duration of the test period. The pumping rate in Well 6A was measured using a totalizing meter installed on the discharge line near the wellhead and with a 15-gallon bucket at the end of the discharge hose.

The pump in Well 6A was shut down at 11:52 on May 31. The pumping water level in the well at the end of the test was 66.05 ft btoc, for a total water-level drawdown of 66.05 feet. Water-level drawdown in Well 6A was stable for the last 39 hours of the test period.

The water level in Well 6A reached 90-percent recovery to the pre-test static level 80 minutes after shut down of the pump. The water level in the well reached the top of casing and began to flow artesian again 2 hour and 40 minutes after shut down of the test.



The hydrograph and a summary table of water-level measurements collected from Well 6A during the individual pumping test are included in Appendix III.

Water-level measurements were also collected from Well 6A during the simultaneous test conducted on Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 the prior week. A total water-level drawdown of 5.6 feet was measured in Well 6A as a result of pumping of the wells at a combined yield of 185.5 gpm. Following shut down of the simultaneous pumping test, the water level in Well 6A recovered rapidly and reached the top of casing and began to flow artesian after 1 hour and 13 minutes. The hydrograph showing the water-level measurements collected from Well 6A during the simultaneous test period is located in Appendix IV.

### **180-Day Water-Level Drawdown Projections**

One hundred and eighty (180) day water-level drawdown projections were completed for all of the pumping wells (Wells 1, 2B, 3, 5 and 6A and Irrigation Wells 4 and 5) from the data collected during their respective pumping tests. For Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5, because of the rainfall event which occurred near the end of the test period and since all of the wells had demonstrated stabilization prior to the start of the rainfall, the drawdown projections were completed using data from the start of the stabilization period until 13:00 (prior to the start of the rain event on May 23). Copies of the graphs with the 180-day drawdown projections are included in Appendix VI.

The projected water levels in the pumping wells remain above the pumping settings in all of the wells after 180 days of theoretical pumping with no precipitation recharge.

## **ONSITE MONITORING WELLS**

Water-level measurements were collected from onsite monitoring Wells 3, 4, 9 and 10 during the pumping tests. In addition, Well 6A was included as a monitoring well during the simultaneous 72-hour pumping test and proposed supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 were included as monitoring wells during the individual 72-hour pumping test conducted. The monitoring locations are shown on Plate 1.

Monitoring Well 3 is a former irrigation well located near Pond 3. The well is no longer in-service and is not pumped. Well 4 was drilled in February 2013 as part of the groundwater

exploration program conducted at the Brynwood site. The yield of Well 4 was estimated to be 7 gpm at the completion of drilling and the well was not pursued as a proposed water-supply source. Well 9 is a supply well located next to the Brynwood wastewater treatment plant. Well 9 was in-service and pumped periodically during the test to supply water to the facility. Well 10 is an unused well located next to the maintenance building on the golf course. The well is not equipped with a pump and is currently not in-service. Well 10 was not located until near the end of the simultaneous 72-hour test period; therefore, background and early-time water-level data from the first test period is missing for this well.

Summary tables of water -level measurements collected from the onsite monitoring wells are included in Appendix IV. The table below shows the maximum drawdown measured in the onsite monitoring wells during the simultaneous and individual 72-hour pumping tests conducted:

<b>Well ID</b>	<b>Drawdown Observed During Test on Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 (feet)</b>	<b>Drawdown Observed During Test on Well 6A (feet)</b>
MW Well 3	23.3	ND
MW Well 4	3.8	33.5
MW Well 9	0.8	ND
MW Well 10	4.3	ND
Well 1	--	ND
Well 2B	--	ND
Well 3	--	ND
Well 5	--	ND
Irrigation Well 4	--	ND
Irrigation Well 5	--	ND
Well 6A	5.6	--

ND - none discernible

During the simultaneous pumping test, water-level drawdown in the onsite monitoring wells ranged from not 0.8 feet to 23.3 feet. Monitoring Well 3 showed the largest drawdown as a result of pumping of the onsite wells. A review of the data from monitoring Well 3 during the staggered start-up period of the wells on May 20 and during the background monitoring prior on May 16 when the irrigation wells were still pumping show that Irrigation Well 4 was the main cause of the drawdown in monitoring Well 3. The drawdown measured in the remaining

monitoring wells during the simultaneous pumping test appears to be caused by the combined influence of all of the onsite pumping wells. The water level in all of the monitoring wells fully recovered following shut down of the simultaneous test.

During the individual pumping test on Well 6A, only monitoring Well 4 showed water-level drawdown as a result of pumping. No discernible drawdown was measured in any of the other onsite wells monitored. The water level in monitoring Well 4 recovered rapidly following shut down of the test.

### **ONSITE SURFACE-WATER MONITORING**

Water-level measurements were collected from six onsite piezometers and six onsite staff gages during both pumping tests conducted. The six piezometers, PZ-A, PZ-B, PZ-C, PZ-D, PZ-E and PZ-F, were installed for the pumping test program by LBG in the onsite surface-water features located near the pumping wells. Six existing staff gages, SG-A, SG-B, SG-C, SG-D and SG-E, located in the onsite ponds at the golf course were also measured during the pumping tests. Hydrographs and summary tables of the water-level measurements collected from the onsite piezometers and staff gages during the pumping tests are included in Appendix IV and the locations of the surface-water monitoring points are shown on Plate 1.

The piezometers were constructed of a 1.25-inch diameter, 1-foot long, 10-slot screens attached to 5-foot lengths of galvanized steel drive pipe. Shallow groundwater level measurements were collected from the interior of the piezometers and, where surface water was present, surface-water level measurements were collected from the exterior of the piezometer.

Staff gages SG-A, SG-B, SG-C, SG-D and SG-E are permanent, pre-marked gages that are 3.3 feet in height. The gages are used to measure the elevation of the surface water in the onsite ponds. The heights on the gages are read based on zero (0) feet being near the pond bottom. The sixth gage, SG-G, is constructed from a wooden stake driven into the pond bottom (Pond 3). This gage is not pre-marked and surface-water height is measured from the top of stake down to the top of the surface water.

### **PZ-A**

Piezometer PZ-A was installed in the wetland feature/intermittent stream located near Wells 1 and 6A on the study property. At the time of piezometer installation, there was no flow in the intermittent stream channel and no surface water present in the wetland feature. A slight rise in groundwater was measured in the piezometer in response to the rainfall received on May 19. There was a slight recession in groundwater after that rain event during the simultaneous pumping test period. The groundwater rose again on May 23 in response to the rain event on that day and remained above the elevation of the surrounding grade level throughout the remainder of the data collection period.

No discernible drawdown in the groundwater level at PZ-A was observed during the simultaneous or individual 72-hour pumping tests that can be attributed to pumping of the onsite wells. Surface water was present for short period near PZ-A in response to the rain event on May 23, but was dry again before the start of the individual pumping test on Well 6A.

### **PZ-B**

Piezometer PZ-B is located in the stream channel near Well 2B on the study property. The stream channel upgradient of PZ-B receives the outflow from the onsite wastewater treatment plant and from the four ponds (Ponds 1, 2, 3 and 4) located on the southern portion of the golf course. A decline in the groundwater level in PZ-B of approximately 0.5 foot was measured during the simultaneous pumping test. No drawdown was observed in the surface-water level at this piezometer location. The decline in groundwater level is attributed to the pumping of Well 2B. Prior to the start of the simultaneous pumping test, the groundwater level on the interior of the piezometer was higher than the surface-water level, which is an upward gradient (groundwater discharging to surface water). Over the course of the test period, the groundwater level decline to below surface-water level height and the gradient became downward (surface water recharging groundwater). As shown on the hydrograph, the water levels in the interior and on the exterior of the piezometer were affected by the rain event on May 23 which started prior to the shut down of the pump in Well 2B. Therefore, groundwater level recovery in PZ-B during the post-test period could not be assessed.

No discernible groundwater or surface-water level drawdown was measured in PZ-B during the individual test on Well 6A.

### **PZ-C**

Piezometer PZ-C is located in a small onsite pond (Pond 6) north of Well 2B on the study property. The groundwater elevation at PZ-C was below the surface-water elevation throughout the data collection period which is a downward gradient (surface water recharging groundwater). A slight decline in the groundwater level of about 0.1 foot was measured in PZ-C during the simultaneous pumping test. There was no corresponding change in the surface-water level during that period. The groundwater level drawdown may be the result of pumping in Well 2B; however, it is not clearly discernible because the drawdown does not start until more than 24 hours after the start of the simultaneous test. The water levels in the interior and on the exterior of the piezometer were affected by the rain event on May 23 which started prior to the shut down of the pump in Well 2B; therefore, groundwater recovery in PZ-C during the post-test period could not be assessed.

No discernible groundwater or surface-water level drawdown was measured in PZ-C during the individual test on Well 6A.

### **PZ-D**

Piezometer PZ-D is located in a small intermittent stream northeast of Well 5. At the time of piezometer installation, there was no surface water in the intermittent stream channel. A decline in groundwater level was measured during the background monitoring period prior to the rainfall received on May 19. The May 19 rain caused a slow rise in groundwater level in the piezometer and the precipitation lead to the presence of a small amount of surface water in the stream channel.

A slight recession in groundwater after that rain event occurred starting approximately 36 hours after the start of the simultaneous pumping test and surface water was again dry in the stream channel. The groundwater and surface-water level rose again on May 23 in response to the rain event on that day.

The groundwater level began a slow declining trend on May 26, prior to the start of the individual test on Well 6A and a small amount of surface water was present on the exterior of the piezometer throughout this test period.

No discernible drawdown in the groundwater or surface-water level at PZ-D was observed during the simultaneous or individual 72-hour pumping tests that can be attributed to pumping of the onsite wells.

#### **PZ-E**

Piezometer PZ-E is located in a small onsite pond (Pond 1) east of Irrigation Well 5 on the study property. The groundwater elevation at PZ-E was below the surface-water elevation throughout most the data collection period which is a downward gradient (surface water recharging groundwater). A slight decline in the groundwater level of about 0.1 foot was measured in PZ-E during the simultaneous pumping test and a slight increase in the downward gradient between the surface water and groundwater was observed. The groundwater level drawdown may be the result of pumping in Irrigation Well 5. However, the surface-water level at PZ-E does not appear to have been impacted by pumping. The water levels in the interior and on the exterior of the piezometer were affected by the rain event on May 23 which started prior to the shut down of simultaneous pumping test. Therefore, groundwater recovery in PZ-E during the post-test period could not be assessed.

No discernible groundwater or surface-water level drawdown was measured in PZ-E during the individual test on Well 6A.

#### **PZ-F**

Piezometer PZ-F is located in a small intermittent stream near the southern property boundary east of Wells 1 and 6A. At the time of piezometer installation, there was no surface water in the intermittent stream channel. A slight rise in the groundwater level in the piezometer occurred during the background monitoring period and continued during the simultaneous test. An increase in the groundwater level rising trend occurred in response the rain event on May 23 and the precipitation resulted in the presence of a small amount of surface water in the stream channel on the exterior of the piezometer for the duration of the data collection period. The rise in groundwater level caused by the precipitation received on May 23 continued throughout the individual pumping test on Well 6A.

No discernible drawdown in the groundwater or surface-water level at PZ-F was observed during the simultaneous or individual 72-hour pumping tests that can be attributed to pumping of the onsite wells.

### **SG-A**

Staff gage SG-A is located in the upper most pond (Pond 1) on the southern portion of the project site. The gage shows a very slow, steady decline in surface-water level in the pond prior to and during most of the simultaneous pumping test period. A significant increase in surface-water level occurred on the early afternoon of May 23 in response to the rainfall event. As the pond level rose in response to the rainfall, outflow at SG-1 was observed for the first time during the test event. The surface-water level at SG-A remained elevated after the rain event and throughout the individual pumping test conducted on Well 6A.

During the test on Well 6A, there was a slight rise in surface-water height on May 28 in response to the relatively small rain event which occurred on that day. The surface-water declined slightly following the end of the rain event and the decline leveled off near the end of the test period. No surface-water level drawdown during either the simultaneous or individual pumping tests was discernible that could attributed to the pumping of the onsite wells.

### **SG-B**

Staff gage SG-B is located in the irrigation pond (Pond 2) on the southern portion of the project site which received the discharge water from Irrigation Wells 4 and 5 during the simultaneous pumping test. The staff gage measurements collected from SG-B show a steady increase in the surface-water height in Pond 2 in response to the discharge of water from Irrigation Wells 4 and 5 through most of the simultaneous pumping test period.

Prior to the start of the pumping test, the level in Pond 2 was below the height of the discharge outlet from the pond and no flow was observed at stream gage location SG-2 (pond outlet). Based on the measurement from SG-B (1.39 feet) collected just prior to the start of pumping, the pond storage volume was estimated to be 3,366,000 gallons. As the irrigation wells pumped, the pond storage volume was filled until some intermittent flow was observed at SG-2 at approximately 16:30 on May 21. The height on SG-B when intermittent outflow was

observed at stream gage location SG-2 was 1.50 feet which is equivalent to a pond volume of about about 3,428,000 gallons.

Even after intermittent outflow was observed from Pond 2, the surface-water level in the pond continued to rise steadily. This continued rise is a result of a control device on the outflow from the pond (a board has been placed across the weir at the pond outlet). Only a small amount of water flows through gaps between the board and the edges of the weir. The pond surface-water height reached 1.69 feet on SG-B near the end of the test (prior to the rain event) which is a pond volume of about 3,535,000 gallons.

Water was also pumped out of Pond 2 during the simultaneous pumping test to irrigation the golf course. A total volume of 27,060 gallons was pumped out of Pond 2 through the irrigation system during the simultaneous pumping test period. A comparison of the pond's water storage capacity, irrigation well discharge to pond and the irrigation system withdrawal during the test indicate that little or no increase in recharge of groundwater occurred from discharging water from Irrigation Wells 4 and 5 into Pond 2 during the simultaneous pumping test.

A significant increase in surface-water level occurred on the early afternoon of May 23 in response to the rainfall event. The surface-water level at SG-B remained elevated after the rain event and throughout the individual pumping test conducted on Well 6A.

During the test on Well 6A, there was a slight rise in surface-water height on May 28 in response to the relative small rain event which occurred on that day. The surface water declined slightly following the end of the rain event and the decline leveled off near the end of the test period. No surface-water level drawdown during the individual pumping test was discernible that could attributed to the pumping of Well 6A.

### **SG-C**

Staff gage SG-C is located in the outflow channel from Pond 4 on the project site. The gage shows very little change in surface-water height during the first two days of the simultaneous test and then a very slight decline in surface-water level towards the end of the test period. A significant increase in surface-water level occurred on the early afternoon of May 23 in response to the rainfall event. The surface-water level remained somewhat higher after the rain event and throughout the individual pumping test conducted on Well 6A.



During the test on Well 6A, there was a slight rise in surface-water height on May 28 in response to the relatively small rain event which occurred on that day. The surface water declined slightly following the end of the rain event and the decline leveled off near the end of the test period. No surface-water level drawdown during either the simultaneous or individual pumping tests was discernible that could be attributed to the pumping of the onsite wells.

#### **SG-D**

Staff gage SG-D is located in the upper-most pond (Pond 5) on the northern portion of the project site. The surface-water height on Pond 5 remained relatively level throughout the simultaneous pumping test, with the exception of a decline which occurred at approximately 06:00 on May 21. The decline was the result of a blockage (leaf pile) dislodging in the outlet channel of the pond. The removal of the blockage caused an increase in the outflow from Pond 5 and a drop in surface-water level. A corresponding, brief rise in surface-water level in Pond 6 can be seen on the graph for SG-E during the same time period. After this event, the surface-water height at SG-D remained level until the rain event on May 23. The surface-water level returned to normal soon after the end of the rain event and no notable change in surface-water level occurred during the individual pumping test conducted on Well 6A. Based on the data collected, no surface-water level drawdown during either the simultaneous or individual pumping tests was discernible that could be attributed to the pumping of the onsite wells.

#### **SG-E**

Staff gage SG-E is located in the lower pond (Pond 6) on the northern portion of the project site. The surface-water height on Pond 6 remained relatively consistent throughout the simultaneous pumping test, with the exception of a slight increase corresponding to the decline in SG-D described above which occurred at approximately 06:00 on May 21. After this event, the surface-water height at SG-E again remained level until the rain event on May 23. The surface-water level returned to normal soon after the end of the rain event and no notable change in surface-water level occurred during the individual pumping test conducted on Well 6A. Based on the data collected, no surface-water level drawdown during either the simultaneous or individual pumping tests was discernible that could be attributed to the pumping of the onsite wells.

### **SG-G**

Staff gage SG-G is located in Pond 3. The gage shows a slow, steady decline in surface-water level in the pond of about 0.05 foot during most of the simultaneous pumping test period. A significant increase in surface-water level occurred on the early afternoon of May 23 in response to the rainfall event. The surface-water level at SG-G remained elevated after the rain event and throughout the individual pumping test conducted on Well 6A.

During the test on Well 6A, there was a slight rise in surface-water height on May 28 in response to the relatively small rain event which occurred on that day. The surface water declined following the end of the rain event and throughout the remainder of the test period. No surface-water drawdown during either the simultaneous or individual pumping tests was discernible that could attributed to the pumping of the onsite wells.

## **STREAM GAGING**

Stream gaging was conducted on the project site during the 72-hour pumping tests conducted. During the simultaneous pumping test, stream gaging observation and/or measurements were collected from SG-1, SG-2, SG-3 and SG-6. During the individual pumping test on Well 6A, stream gaging observations and/or measurements were collected from SG-1, SG-2 and SG-3. The stream gaging locations are shown on Plate 1. A summary table of stream flow measurements and observations are included on table 2.

### **Simultaneous 72-Hour Pumping Test**

Stream gage location SG-1 consists of two culvert pipes which connect the Ponds 1 and 2 on the southern portion of the golf course. No flow was observed at SG-1 prior to the start of the simultaneous pumping. The no flow condition at SG-1 continued throughout the test period until the rain event started on May 23. The storm-water runoff collected in Pond 1 caused an increase in the surface-water elevation in the pond (SG-A) and high flow was observed through the culvert pipes near the end of the simultaneous pumping test period.

Stream gage location SG-2 is a culvert pipe located at the outlet of the onsite irrigation pond (Pond 2). No flow was observed in this culvert pipe prior to the start of the simultaneous pumping test. The no flow conditions continued until approximately 16:00 on May 22 when

intermittent flow began as a result of the water from Irrigation Wells 4 and 5 being discharged into Pond 2. The flow through this culvert pipe was intermittent throughout the remainder of the test period and was too low to measure using a stream gaging meter (Marsh McBirney Flowmate) until the start of the rain event on May 23. The flow from Pond 2 following this rain event near the end of the simultaneous pumping test period overflowed the culvert pipe and took several indirect channels into the lower pond and could not be measured.

Stream gage location SG-3 is a culvert pipe located in the outlet channel from Pond 4, downgradient of Ponds 1, 2 and 3. Low flow was observed in this culvert throughout the simultaneous pumping test period. The flow in the culvert pipe increased significantly in response to the rain event on the early afternoon of May 23 near the end of the simultaneous pumping test period. The flow conditions through the culvert pipe became turbulent and could not be measured using a stream gage meter at that time.

Stream gage location SG-6 is located in the stream channel near Well 2B. This portion of the stream channel received outflow from Ponds 1, 2, 3 and 4 and the intermittent discharge from the onsite wastewater treatment plant. Stream flow was measured at this location prior to and throughout the simultaneous pumping test period. Prior to the start of the test, the flow at SG-6 was 6 gpm on May 17 and 13 gpm on May 20. During the test period, the flow ranged from about 5 gpm to 308 gpm. The variation in stream flow volume was the result of the intermittent discharge from the onsite wastewater treatment plant which occurred at various times during the test period. Table 4 shows a summary of the total daily discharge from the onsite wastewater treatment plant.

Based on the stream flow data collected, no decrease in flow was observed at SG-6 as a result of pumping during the test period. However, as described above, slight drawdown in the groundwater level at PZ-B, which was located near SG-6, was measured during the test period. No corresponding drawdown in the surface-water level on the exterior of the piezometer was discernible and no notable change in stream flow was measured at SG-6 which can be attributed to pumping. Therefore, it does not appear that surface water was impacted during the simultaneous pumping test in the stream channel near Well 2B.

Stream flow at SG-6 increased significantly in response to the rain event on the early afternoon of May 23. The flow in the stream channel became turbulent and the depth of water in

the channel prevented the safe measurement of stream flow at the end of the simultaneous pumping test period.

### **Individual 72-Hour Pumping Test**

During the individual pumping test on Well 6A, stream gaging observations and/or measurements were collected from SG-1, SG-2 and SG-3. The stream-flow measurements show an increase in stream flow at all three locations after the start of pumping in Well 6A compared to the pre-test data. This rise is attributed to the precipitation received on May 28. After the end of the rain event, the stream flow shows a slow decline at each location. This decline is attributed to the natural recession of flow after a rain event and no impact to flow is attributed to the pumping of Well 6A. This is supported by the data collected from the onsite piezometers and staff gages which show no impact to surface water or shallow groundwater during the test.

## **OFFSITE WELL MONITORING**

During the 72-hour pumping test period, water-level measurements were collected from 15 offsite residential wells located north, south and west of the study property. The residential properties east of the site are supplied with water by the Windmill Farms Water District; therefore, no offsite wells were monitored on that side of the project site. Hydrographs for the offsite monitoring locations are included in Appendix IV.

Door to door solicitation of offsite well owners was initiated on April 30, 2013. As a result of the limited positive response received to the initial solicitation effort, four follow-up door to door solicitation events were conducted by LBG. Table 5 shows a summary of the solicitation conducted and responses received and the offsite monitoring well network is shown on figure 2.

### **Offsite Wells**

Water-level measurements were collected from 15 offsite wells during the simultaneous 72-hour pumping test. Water-level drawdown as a result of pumping Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 on the Brynwood property ranged from not discernible to 13 feet during the test. A summary of the drawdown observed in the offsite well is provided in the table below:

Address	Drawdown Observed During Test on Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 (feet)	Drawdown Observed During Test on Well 6A (feet)
19 Ilana Ct.	ND	ND
12 Ilana Ct.	ND	ND
8 Embassy Ct.	11	7
4 Embassy Ct.	ND	ND
3 Embassy Ct.	ND	ND
6 Colonial Ct.	ND	ND
34 Blair Rd.	13	ND
30 Blair Rd.	13	ND
26 Blair Rd.	1	ND
70 Old Byram Lake Rd.	ND	ND
198 Byram Lake Rd.	ND	NA
9 Oregon Rd.	ND	ND
11 Oregon Rd.	ND	ND
4 Norman Pl.	ND	ND
3 Norman Pl.	ND	ND

ND none discernible

NA not applicable

The water-level drawdown observed at 34 Blair Road and 30 Blair Road is mainly attributed to pumping of existing Irrigation Wells 4 and 5. As shown on the hydrograph, water-level recovery occurred in these wells prior to the start of the simultaneous pumping test when the pumps in the irrigation wells were turned off on May 16. Water-level recovery of about 9 feet was measured in both residential supply wells after shut down of the irrigation wells during the background monitoring period. By comparing this recovery to the drawdown measured in these two wells during the simultaneous test, the pumping of the proposed supply wells on the Brynwood property caused an additional 4 feet of drawdown in the wells at 34 Blair Road and 30 Blair Road. The trend of water-level drawdown appears to stabilize in these wells near the end of the simultaneous test period indicating that drawdown was not causing dewatering of the fractures which supply these wells. Therefore, the water-level drawdown observed at 34 and 30 Blair Road as a result of pumping Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 at a combined rate of 185.5 gpm will not likely have an adverse impact on the use of these wells.

Water-level drawdown of about 11 feet was also measured in the well at 8 Embassy Court. No water-level recovery was measured in this well following shut down of the irrigation

wells on May 16. Therefore, based on the locations of the Brynwood pumping wells, the water-level interference was likely caused by pumping in Well 5 which is the well located closest to the northern property boundary and this offsite well. The pattern of water-level drawdown measured in the well at 8 Embassy Court does not show a dewatering trend on the hydrograph. Therefore, the water-level drawdown observed at 8 Embassy Court as a result of pumping Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 at a combined rate of 185.5 gpm will not likely have an adverse impact on the use of this well.

No discernible water-level drawdown was measured in any of the other offsite wells monitored during the simultaneous 72-hour pumping test with the exception of 26 Blair Road which had about 1 foot of drawdown which can be attributed to the pumping of the onsite wells.

Several of the offsite wells show an immediate response to the rainfall event which started on the afternoon of May 23, just prior to shut down of the onsite pumping wells. However, based on the length of the data record from the offsite wells and the observations of drawdown or no drawdown in the wells at the start of the test and during the subsequent 2 ½ days of the test period, the rainfall event did not interfere with the interpretation of the water-level data.

The rainfall event on May 23 caused flooding on the property at 198 Old Byram Lake Road. Therefore, as a precaution water-level monitoring was suspended in this well for the individual 72-hour test period conducted the following week and the well was disinfected. An inspection of the remaining offsite wells conducted by LBG on May 23 showed no other well was disturbed by the rain event. Therefore, water-level data was collected from 14 offsite residential wells during the individual pumping test conducted on Well 6A from May 28 through May 31, 2013.

During the individual pumping test, water-level drawdown in the offsite wells ranged from not discernible to approximately 7 feet. During a portion of the test period on Well 6A, there appears to be water-level drawdown of about 7 feet in the well at 8 Embassy Court. The drawdown does not start until approximately 24 hours after the start of pumping in Well 6A and water-level recovery in the well at 8 Embassy begins approximately 24 hours before the shut down of pumping in Well 6A. Because of the irregular pattern of drawdown in this well related to its pumping cycles, it is difficult to discern whether the 7 feet of drawdown is a result of pumping on the Brynwood property or whether it is a natural occurrence. To be conservative,

the drawdown during the test period in this well has been attributed to the pumping of Well 6A. However, the amount of drawdown does not appear significant and will not likely affect the use of the well. No water-level drawdown was measured in any of the other offsite wells during the test on Well 6A.

### **OFFSITE SURFACE-WATER MONITORING (BYRAM LAKE)**

A temporary piezometer, PZ-G, was installed in Byram Lake on May 16, 2013. Manual water-level measurements were collected from the interior and exterior of the piezometer to assess the potential of water-level drawdown impact from pumping on the Brynwood property. The hydrograph for PZ-G is included in Appendix IV. The graph shows an upward gradient, with groundwater recharging surface water, throughout both pumping tests. Both the groundwater and surface water show a response to the rain events on May 23 and June 3, but no groundwater or surface-water level drawdown as a result of pumping on the Brynwood property is discernible in PZ-G during the simultaneous 72-hour pumping test or the individual 72-hour pumping test conducted.

### **WATER QUALITY**

Water samples were collected from proposed water-supply Wells 1, 2B, 3, 5 and 6A during the respective pumping tests. The samples were taken to Envirotest Laboratories, Inc. located in Newburgh, New York for analysis. The samples were analyzed for all parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1. In addition, microscopic particulate analysis (MPA) samples were collected as part of the assessment for potential GWUDI, and dioxin, endothall, glyphosate and diquat analyses were completed. The results of the Part 5 analyses are pending and will be provided as an addendum to this report.

The physical parameters of temperature, pH and conductivity were also measured in the discharge water from Wells 1, 2B, 3, 5, and 6A during the pumping tests as part of the assessment for potential GWUDI. For comparison to the data collected, temperature, pH and conductivity were also measured in the stream channel located near Well 2B. There was insufficient or no surface water located within 200 feet of Wells 1, 3, 5 and 6A during the test

periods to collect parameter measurements for comparison. Graphs of the temperature, pH and conductivity measurements collected are included in Appendix V. The physical parameter measurements of pH, temperature and conductivity collected from Wells 1, 2B, 3, 5 and 6 show low potential risk of GWUDI for these wells.

Water samples from Irrigation Wells 4 and 5 had previously been collected and analyzed for SOC (semi-volatile organic compounds) in November 2012. A copy of the laboratory report from this sampling event is included in Appendix VII. The SOC samples collected from Irrigation Wells 4 and 5 in November 2012 reported all parameters analyzed as not detected. This data indicates that the historical use of a pesticide management program on the golf course has not affected the groundwater quality at these well locations.

## **CONCLUSIONS**

- Proposed supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 demonstrated stabilized yield and water-level drawdown during the simultaneous 72-hour pumping test conducted at pumping rates of 50 gpm, 12 gpm, 32 gpm, 19.5 gpm, 32 gpm and 40 gpm, respectively. The combined yield of the six pumping wells during the simultaneous 72-hour pumping test was 185.5 gpm.
- The combined stabilized yield demonstrated during the simultaneous pumping test of proposed supply Wells 1, 2B, 3 and 5 of 113.5 gpm is more than sufficient to meet twice the average water demand of the proposed Brynwood project of 72.2 gpm.
- Proposed supply Well 6A demonstrated stabilized yield and water-level drawdown at a pumping rate of 55 gpm. This well was tested individually as the best well and satisfies the NYSDOH well yield requirement of meeting twice the average water demand with the best well out of service.
- Both of the May 2013 pumping tests conducted meet the SEQRA requirements of demonstrating a satisfactory water supply for the proposed Brynwood project.



- One hundred and eighty (180) day water-level drawdown projections were completed for all of the pumping wells (Wells 1, 2B, 3, 5 and 6A and Irrigation Wells 4 and 5) from the data collected during their respective pumping test periods. The projected water levels in the pumping wells remain above the pumping settings in all of the wells after 180 days of theoretical pumping assuming no recharge from precipitation.
- Water-level drawdown measured in the onsite bedrock monitoring wells during the simultaneous 72-hour pumping test ranged from 0.8 foot to 23.3 feet.
- Water-level drawdown was measured in four offsite bedrock wells during the simultaneous 72-hour pumping test. Drawdown was measured in three wells to the south of the Brynwood property in the wells at 34, 30 and 26 Blair Road of 13 feet, 13 feet and 1 foot, respectively. The majority of the drawdown observed (approximately 9 feet) in 34 and 30 Blair Road is attributed to the pumping of the existing irrigation wells. Water-level drawdown of 11 feet was also measured in the well at 8 Embassy Court. The water-level interference in this well is attributed to the pumping of Brynwood proposed Well 5. The water-level drawdown observed in the offsite wells does not appear significant and will not likely impact the use of the wells.
- Water-level and stream flow measurements were collected from the onsite surface-water features and from Byram Lake during the simultaneous 72-hour pumping test. No discernible surface-water level impact was measured in any of the piezometers or staff gage locations as a result of pumping of the onsite wells. Groundwater level drawdown of 0.5 foot was measured in PZ-B as a result of pumping Well 2B. Groundwater level drawdown of about 0.1 foot was also measured in PZ-C which could be attributed to pumping in Well 2B. However, the drawdown in PZ-C is not clearly discernible and does not start until more than 24 hours into the test period. Potential drawdown of about 0.1 foot was measured in PZ-E which may be attributed to pumping in Irrigation Well 5.

- Water-level drawdown during the individual 72-hour pumping test on Well 6A was measured in one onsite bedrock monitoring well. The drawdown measured in onsite monitoring Well 4 was 33.5 feet.
- Water-level drawdown was measured in one offsite bedrock well during the pumping test on Well 6A. During a portion of the test period on Well 6A, there appears to be water-level drawdown of about 7 feet in the well at 8 Embassy Court. The drawdown does not start until approximately 24 hours after the start of pumping in Well 6A and water-level recovery in the well at 8 Embassy begins approximately 24 hours before the shut down of pumping in Well 6A. Because of the irregular pattern of drawdown in this well related to its pumping cycles, it is difficult to discern whether the 7 feet of drawdown is a result of pumping on the Brynwood property or whether it is a natural occurrence. To be conservative, the drawdown during the test period in this well has been attributed to the pumping of Well 6A. However, the amount of drawdown does not appear significant and will not likely affect the use of the well. No discernible water-level drawdown was measured in any of the other offsite wells during the test on Well 6A.
- Water-level and stream flow measurements were collected from the onsite surface-water features and from Byram Lake during the individual 72-hour pumping test on Well 6A. No discernible surface-water or groundwater level drawdown was measured in any of the piezometers or staff gages as a result of pumping of the onsite Well 6A.
- Water samples were collected from proposed water-supply Wells 1, 2B, 3, 5 and 6A during the respective pumping tests. The samples were taken to Envirotest Laboratories, Inc. located in Newburgh, New York for analysis. The samples were analyzed for all parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1. In addition, microscopic particulate analysis (MPA) samples were collected as part of the assessment for potential GWUDI, and dioxin, endosulfan, glyphosate and diquat analyses were completed. The results of the Part 5 analyses are pending and will be provided as an addendum to this report.

- The physical parameter measurements of pH, temperature and conductivity collected from Wells 1, 2B, 3, 5 and 6 show low potential risk of GWUDI for these wells.
- The SOC water-quality results from Irrigation Wells 4 and 5 from November 2012 reported all parameters analyzed as not detected. This data indicates that the historical use of a pesticide management program on the golf course has not affected the groundwater quality at these well locations.
- Based on the well yields demonstrated during the simultaneous and individual 72-hour pumping tests, LBG recommends the development of Wells 1 and 3 (combined yield 82 gpm) as the main water-supply wells for the Brynwood project with Well 6A (yield 55 gpm) as the back-up (redundant) source. Wells 2B and 5 should be held in reserve as potential back-up or alternative water-supply sources.
- The largest water-level interference effects on the offsite residential wells occurred as a result of pumping Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 at a combined yield of 185.5 gpm for three days at a rates significantly higher than what would be needed to meet the average water demands of the project. The water-level interference in the offsite residential wells which will occur from normal operation (12-hour daily pump cycles) and rotational use of the supply wells to be developed to supply the actual water demands of the project should be significantly less than observed during the simultaneous pumping test event. The expected groundwater withdrawal to meet average water demands will not likely result in significant impact to any offsite wells or impact water usage.
- Neighboring well owners concerned about the project's withdrawals should consider that the use of the proposed Brynwood supply wells will require the approval of the Town and regulatory agencies. Additional well operational monitoring is recommended once the proposed supply wells go in to service. This additional monitoring should include offsite wells showing water-level inference during the recent pumping tests (May 2013) to assess impact, if any, under normal operation of the proposed well source to meet the

water demands of the project. The future monitoring program should be continued until two years following build-out of the proposed project.

LEGGETTE, BRASHEARS & GRAHAM, INC.



Stacy Stieber  
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Reviewed by:



Thomas P. Cusack, CPG  
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cmm

June 6, 2013

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## **TABLES**

**TABLE 1**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Potable Water Demand Requirements for Proposed Development on  
Brynwood Property**

<b>Usage Type</b>	<b>Subcategory</b>	<b>Number</b>	<b>Water Usage Rate</b>	<b>Water Demand (gpd)</b>	<b>Water Demand (gpm)</b>
Residential	2-bedroom residence	58 units	300 gpd/2-bedroom house	17,400	12.1
	3-bedroom residence	25 units	400 gpd/2-bedroom house	10,000	6.9
	4-bedroom residence	5 units	475 gpd/2-bedroom house	2,375	1.6
	Seasonal employee housing (dorm style)	12 employees	75 gpd/person	900	0.6
	Guest Suites	10 suites	120 gpd/room	1,200	0.8
Clubhouse	Club Members Peak Day	400 members	25 gpd/member	10,000	6.9
	Restaurant/Bar	100 seats	35 gpd/seat	3,500	2.4
Banquet Hall		250 seats	20 gpd/person	5,000	3.5
Employees		92	15 gpd/person	1,380	1.0
Golf Course		2,000 sq.	0.1 gpd/sq.ft.	200	0.1
<b>Average Water Demand</b>				<b>51,955</b>	<b>36.1</b>
<b>Twice Average Water Demand</b>				<b>103,910</b>	<b>72.2</b>

gpm    gallons per minute

gpd    gallons per day

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TABLE 2

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Stream Flow Observations and Measurements Collected During Simultaneous Pumping  
Test on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 Conducted May 20  
Through May 23, 2013 and During Individual Pumping Test on Proposed Supply Well 6A  
Conducted May 28 Through May 31, 2013**

Date	Time	Stream Flow (Q) (gpm)	Comments
<b>SG-1</b>			
5/17/2013	11:30	0.00	No flow.
5/20/2013	8:00	0.00	No flow.
5/21/2013	12:00	0.00	No flow.
5/22/2013	12:00	0.00	No flow.
5/23/2013	12:00	0.00	No flow.
5/23/2013	15:00	--	Flow very high because of rain event.
5/28/2013	11:02	34.58	
5/28/2013	17:20	51.31	
5/29/2013	14:20	32.05	
5/30/2013	16:05	23.74	
<b>SG-2</b>			
5/17/2013	15:30	0.00	No flow.
5/20/2013	12:00	0.00	No flow.
5/21/2013	12:27	0.00	No flow.
5/21/2013	14:19	0.00	No flow.
5/21/2013	16:32	NM	Flow too low to gage.
5/21/2013	17:51	NM	Flow too low to gage.
5/21/2013	23:13	NM	Flow too low to gage.
5/22/2013	2:15	NM	Flow too low to gage.
5/22/2013	4:39	NM	Flow too low to gage.
5/22/2013	6:42	NM	Flow too low to gage.
5/22/2013	9:02	NM	Flow too low to gage.
5/22/2013	15:35	NM	Flow too low to gage.
5/22/2013	17:37	NM	Flow too low to gage.
5/22/2013	19:01	NM	Flow too low to gage.
5/22/2013	21:40	NM	Flow too low to gage.
5/22/2013	23:11	NM	Flow too low to gage.
5/23/2013	1:30	NM	Flow too low to gage.
5/23/2013	5:59	NM	Flow too low to gage.
5/23/2013	8:57	NM	Flow too low to gage.
5/23/2013	12:29	NM	Flow too low to gage.
5/23/2013	14:28	--	High flow, flooding around outflow channel.
5/24/2013	9:35	--	High flow, flooding around outflow channel.
5/24/2013	11:54	--	High flow, flooding around outflow channel.
5/28/2013	11:25	150.54	
5/28/2013	17:33	161.75	
5/29/2013	14:32	132.86	
5/30/2013	16:12	83.48	
<b>SG-3</b>			
5/17/2013	16:00	NM	Flow too low to gage.
5/20/2013	12:30	NM	Flow too low to gage.
5/21/2013	12:55	NM	Flow too low to gage.
5/21/2013	14:47	NM	Flow too low to gage.
5/21/2013	18:02	NM	Flow too low to gage.
5/21/2013	23:22	NM	Flow too low to gage.
5/22/2013	2:23	NM	Flow too low to gage.
5/22/2013	4:46	NM	Flow too low to gage.
5/22/2013	6:49	NM	Flow too low to gage.
5/22/2013	9:11	NM	Flow too low to gage.

TABLE 2

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Stream Flow Observations and Measurements Collected During Simultaneous Pumping  
Test on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 Conducted May 20  
Through May 23, 2013 and During Individual Pumping Test on Proposed Supply Well 6A  
Conducted May 28 Through May 31, 2013**

Date	Time	Stream Flow (Q) (gpm)	Comments
5/22/2013	15:47	NM	Flow too low to gage.
5/22/2013	17:47	NM	Flow too low to gage.
5/22/2013	19:08	NM	Flow too low to gage.
5/22/2013	21:48	NM	Flow too low to gage.
5/22/2013	23:16	NM	Flow too low to gage.
5/23/2013	1:37	NM	Flow too low to gage.
5/23/2013	6:08	NM	Flow too low to gage.
5/23/2013	9:08	NM	Flow too low to gage.
5/23/2013	12:34	NM	Flow too low to gage.
5/23/2013	14:35	--	High flow, flooding.
5/24/2013	9:44	--	High flow, flooding.
5/24/2013	12:03	--	High flow, flooding.
5/28/2013	11:30	95.62	
5/28/2013	17:40	103.71	
5/29/2013	14:42	156.47	
5/30/2013	16:30	90.78	
<b>SG-6</b>			
5/17/2013	11:45	6.42	
5/20/2013	8:45	13.33	
5/20/2013	15:30	8.08	
5/21/2013	9:40	39.55	
5/21/2013	14:48	11.50	
5/21/2013	18:30	7.81	
5/22/2013	9:25	4.78	
5/22/2013	16:08	11.06	
5/22/2013	18:05	23.86	
5/23/2013	9:20	47.17	
5/23/2013	12:45	20.03	
5/23/2013	9:55	308.13	
5/23/2013	16:30	--	High flow, flooding.

gpm                      gallons per minute

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**TABLE 3**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

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**Summary of Precipitation Record from  
Westchester County Airport Climate Station for 2013**

<b>2013</b>	<b>2013 Total Monthly Precipitation (inches)</b>	<b>30-Year Monthly Average Precipitation (1971-200) (inches)</b>
January	2.59	4.32
February	1.90	3.24
March	0.37	4.73
April	1.28	4.44
May	4.92	4.58

gpm    gallons per minute

gpd    gallons per day

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**TABLE 4**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

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**Summary of Daily Discharges from Wastewater Treatment Plant**

<b>Date</b>	<b>Wastewater Treatment Discharge (gallons)</b>
5/15/2013	4,600
5/16/2013	10,000
5/17/2013	12,760
5/18/2013	12,840
5/19/2013	12,000
5/20/2013	9,800
5/21/2013	8,000
5/22/2013	6,000
5/23/2013	35,240
5/24/2013	9,720
5/25/2013	9,200
5/26/2013	8,840
5/27/2013	9,800
5/28/2013	10,400
5/29/2013	7,200
5/30/2013	6,840
5/31/2013	6,760
6/1/2013	10,920
6/2/2013	12,320

H:\Brynwood\2013\72-Hour Pumping Test Report\Table 4 - WWTP discharge table.docx

**TABLE 5**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Solicitation Conducted on Offsite Properties for Permission to  
Include Wells in Offsite Monitoring Program**

Address	Dates of Solicitation	Yes	No Response Received	No or Well Inaccessible	Comments
19 Ilana Ct	4/30/2013	x			Homeowner not home, left letter. Homeowner faxed in signed permission form
17 Ilana Ct	4/30/2013		x		Homeowner not home, left letter.
15 Ilana Ct	4/30/2013		x		Homeowner not home, left letter.
16 Ilana Ct	4/30/2013		x		Homeowner not home, left letter.
13 Ilana Ct	4/30/2013, 5/4/2013		x		Homeowner not home, left letter. Follow-up 5/4/13: spoke to homeowner, no response given at time of second solicitation.
12 Ilana Ct	5/4/2013	x			Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Received faxed signed permission form.
3 Embassy Ct	4/30/2013, 5/4/2013; 5/11/13	x			Homeowner not home, left letter. Follow-up 5/4/13: No one home. Follow-up 5/11/13 Spoke to homeowner, received signed permission form.
8 Embassy Ct	4/30/2013, 5/4/2013	x			Homeowner not home, left letter. Follow-up 5/4/13: spoke to homeowner, signed form.
6 Embassy Ct	4/30/2013		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner.
1 Embassy Ct	4/30/2013, 5/4/2013; 5/11/13		x		Spoke to homeowner, no response given at time of solicitation. Follow-up 5/4/13: spoke to homeowner, no response given. Follow-up 5/13/11: Spoke to homeowner, no response given.
4 Embassy Ct	5/4/2013	x			Homeowner not home, left letter. Homeowner faxed in signed permission form
2 Embassy Ct	5/4/2013		x		Homeowner not home, left letter.
8 Colonial Ct	4/30/2013, 5/4/2013; 5/11/13		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/4/13: spoke to homeowner, no response given. Follow-up 5/11/13: No one home.
7 Colonial Ct	4/30/2013, 5/4/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/4/13: No one home. Follow-up 5/11/13: Spoke to homeowner, will discuss with husband.
5 Colonial Ct	4/30/2013, 5/4/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/4/13: spoke to homeowner, no response given. Follow-up 5/11/13: No one home, left letter.
6 Colonial Ct	4/30/2013; 5/11/13	x			Homeowner not home, left letter. Follow-up 5/11/13: Received permission from homeowner.
4 Colonial Ct	5/4/2013; 5/11/13		x		House is gated, left letter. Follow-up 5/11/13: Left letter in mailbox

**TABLE 5**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Solicitation Conducted on Offsite Properties for Permission to  
Include Wells in Offsite Monitoring Program**

Address	Dates of Solicitation	Yes	No Response Received	No or Well Inaccessible	Comments
1 Colonial Ct	5/7/2013		x		Homeowner not home, left letter.
3 Colonial Ct	5/7/2013; 5/11/13			x	Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/11/13: Spoke to homeowner, declined to participate in monitoring program.
538 Bedford Rd	5/4/2013		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner.
82 Old Byram Lake Rd	4/30/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/11/13: Spoke to housekeeper, requested that letter be left in mailbox.
80 Old Byram Lake Rd	4/30/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/11/13: Homeowner not home.
76 Old Byram Lake Rd	4/30/2013			x	Spoke to homeowner. Well is not accessible.
74 Old Byram Lake Rd	5/4/2013		x		Homeowner not home, left letter.
70 Old Byram Lake Rd	5/4/2013	x			Homeowner not home, left letter. Homeowner faxed in signed permission form
68 Old Byram Lake Rd	5/4/2013				Homeowner not home, left letter.
6 Byram Hill Rd	5/4/2013, 5/7/2013		x		Homeowner not home, left letter. Follow-up 5/7/13: homeowner not home.
8 Byram Hill Rd	5/4/2013, 5/7/2013			x	Homeowner not home, left letter. Follow up 5/7/13: spoke to young man, left letter. 5/15/13 Received signed form in the mail. Inspection of well by LBG on 5/17/13, well cap was partially buried, well is inaccessible to monitoring equipment.
10 Byram Hill Rd	5/4/2013		x		Homeowner not home, left letter.
24 Blair Rd	4/30/2013			x	Spoke to homeowner. Homeowner said no to participating in monitoring program
26 Blair Rd	4/30/2013	x			Spoke to homeowner. Homeowner signed form.
34 Blair Rd	4/30/2013	x			Spoke to homeowner, left letter. Homeowner faxed in signed permission form.
30 Blair Rd	4/30/2013	x			Spoke to homeowner. Homeowner signed form.
14 Willow Pond Ln	4/30/2013		x		Homeowner not home, left letter.
10 Willow Pond Ln	4/30/2013		x		Homeowner not home, left letter.
7 Willow Pond Ln	4/30/2013, 5/4/2013		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/4/13: spoke to homeowner, no response given.
3 Willow Pond Ln	4/30/2013		x		Homeowner not home, left letter.
182 Byram Lake Rd	4/30/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/13/11: No one home.
188 Byram Lake Rd	4/30/2013, 5/7/2013; 5/11/13		x		Homeowner not home, left letter. Follow-up 5/7/13: homeowner not home, left letter. Follow-up 5/13/11: No one home. Left copy of letter.

**TABLE 5**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

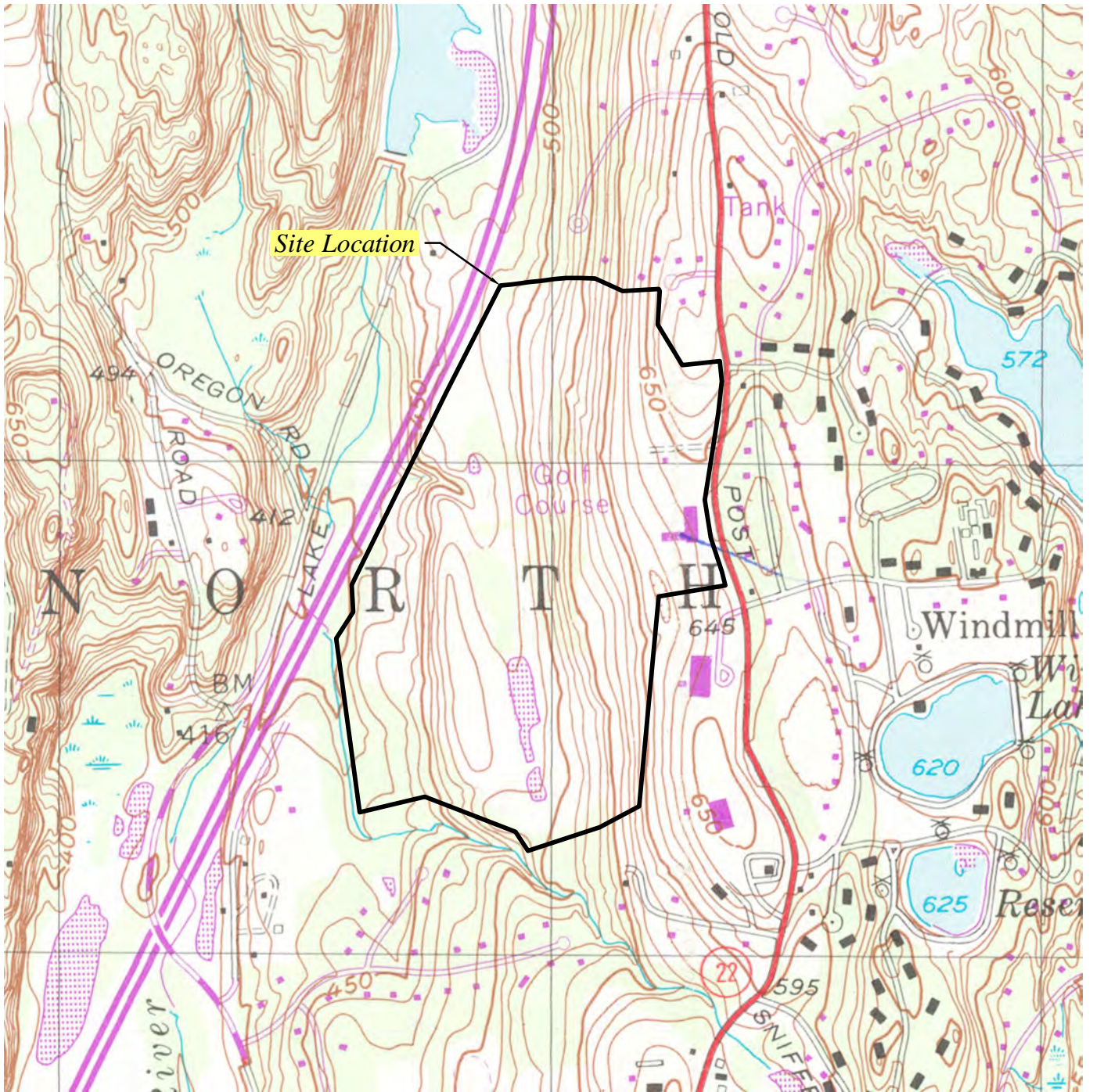
**Summary of Solicitation Conducted on Offsite Properties for Permission to  
Include Wells in Offsite Monitoring Program**

Address	Dates of Solicitation	Yes	No Response Received	No or Well Inaccessible	Comments
190 Byram Lake Rd	4/30/2013; 5/11/13		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/13/11: Spoke to homeowner, no response given.
198 Byram Lake Rd	5/4/2013; 5/11/13	x			Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/13/11: Homeowner signed permission form.
5 Norman Pl	4/30/2013, 5/4/2013; 5/11/13		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/4/13: spoke to homeowner, no response given. Follow-up 5/11/13: No one home.
6 Norman Pl	4/30/2013		x		Homeowner not home, left letter.
3 Norman Pl	4/30/2013; 5/11/13; 5/15/13	x			Spoke to homeowner, no response given at time of solicitation. Follow-up 5/11/13: Spoke to homeowner, no response given. Follow-up 5/15/13, Homeowner signed form
4 Norman Pl	5/4/2013; 5/11/13	x			Homeowner not home, left letter. Follow-up 5/11/13: Spoke to homeowner. Received signed permission form. Well inaccessible?
8 Evans Pl	4/30/2013			x	Spoke to homeowner. Homeowner declined to take information letter.
7 Evans Pl	4/30/2013		x		Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner.
6 Evans Pl	5/7/2013; 5/11/13			x	Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/11/13: Homeowner declined to participate in monitoring program.
5 Evans Pl	5/7/2013; 5/11/13			x	Homeowner not home, left letter. Follow-up 5/11/13: Homeowner signed permission form. 5/16/13 Spoke to homeowner prior to transducer installation. Homeowner was concerned about having well cap removed. Declined permission to monitor well.
10 Evans Pl	5/4/2013		x		Homeowner not home, left letter.
9 Evans Pl	5/4/2013		x		Homeowner not home, left letter.
3 Oregon Rd	5/4/2013		x		Homeowner not home, left letter.
7 Oregon Rd	5/7/2013			x	Spoke to homeowner. Took letter, not interested in monitoring.
9 Oregon Rd	5/7/2013; 5/11/13	x			Spoke to homeowner, no response given at time of solicitation. Left letter with homeowner. Follow-up 5/11/13: Spoke to homeowner, received faxed signed permission form.
11 Oregon Rd	5/11/2013	x			Spoke to homeowner, received signed permission form.

H:\Brynwood\2013\72-Hour Pumping Test Report\Table 5 - offsite solicitation.docx

**LEGGETTE, BRASHEARS & GRAHAM, INC.**

## **FIGURES**



SOURCE: USGS TOPOGRAPHIC QUADRANGLE MOUNT KISCO, NEW YORK-CONNECTICUT (1998)

**LEGEND**

— PROPERTY BOUNDARY



QUADRANGLE LOCATION

0 1000

SCALE IN FEET

## BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

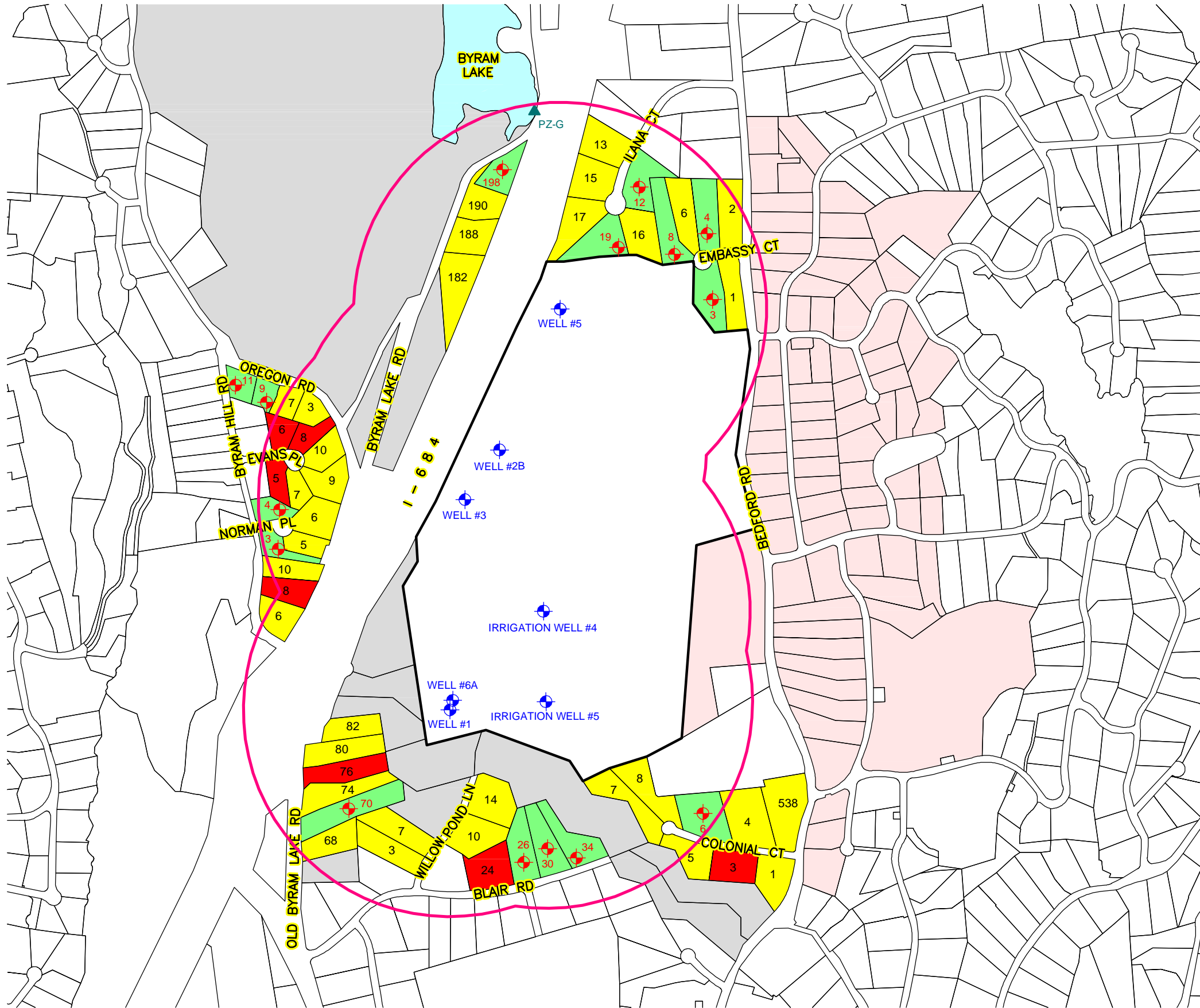
### SITE LOCATION MAP

DATE	REVISED	PREPARED BY:
		<b>LEGGETTE, BRASHEARS &amp; GRAHAM, INC.</b>
		Professional Groundwater and Environmental Engineering Services
		4 Research Drive
		Suite 301
		Shelton, Connecticut 06484
		(203) 929-8555
<b>DRAWN:</b>	MRV	<b>CHECKED:</b> SS
		<b>DATE:</b> 06/03/13
		<b>FIGURE:</b> 1





O:\DWG\Brynwood\2013\Offsite Monitoring Program.dwg, Layout1, 6/2/2013 2:14:43 PM, AutoPlot.pc3




#### LEGEND

- WELL #1
- PROPERTY SUPPLIED BY WINDMILL FARM WATER DISTRICT
- APPROXIMATE LOCATION OF OFFSITE WELL MONITORED DURING PUMPING TEST
- APPROXIMATE LOCATION OF OFFSITE PIEZOMETER
- WELL WAS NOT ACCESSIBLE FOR MONITORING OR HOMEOWNER DENIED PERMISSION TO ACCESS
- PROPERTY WAS SOLICITED FOR PERMISSION TO MONITOR WELL, NO RESPONSE RECEIVED
- PROPERTY INCLUDED IN OFFSITE MONITORING PROGRAM
- VACANT PARCEL
- 1,500-FOOT RADIUS FROM ONSITE PUMPING WELL

### BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

#### OFFSITE MONITORING PROGRAM

DATE	REVISED	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Groundwater and Environmental Engineering Services			
		 4 Research Drive Suite 301 Shelton, Connecticut 06484 (203) 929-8555			
DRAWN:	MRV	CHECKED:	SS	DATE:	05/29/13
				FIGURE:	2



**APPENDIX I**

**APPROVAL LETTERS FROM WESTCHESTER COUNTY  
DEPARTMENT OF HEALTH AND TOWN OF NORTH CASTLE**



Robert P. Astorino  
County Executive

Sherlita Amler, M.D.  
Commissioner of Health

January 23, 2013

John Meyer Consulting, P.C.  
120 Bedford Road  
Armonk, NY 10504  
Attention: Robert W. Roth, P.E.

RE: Proposed Test Well Construction  
Brynwood Partners, LLC  
Bedford Road  
Town of North Castle  
Section: 2, Block: 8, Lot: 7.C1A

Dear Mr. Roth:

Receipt of your submittal for construction of three (3) test well at the above location is hereby acknowledged.

Your plans dated November 28, 2012 and last revised January 4, 2013 are approved pursuant to Chapter 873, Article VII, Section 873.707.1 of the Laws of Westchester County for the construction of the proposed wells with the following conditions:

1. THAT the test wells shall be constructed at the locations shown on the approved plans.
2. THAT the test wells shall be utilized solely for the purposes described in this submittal.
3. THAT the test wells are not approved at this time to serve as a source of water for any Individual, Private or Public Water Supply System, nor for any irrigation system or other system or use.
4. THAT the test wells shall be permanently and physically abandoned in accordance with the approved plans following use of the test wells not to exceed one (1) year from the date of this approval.
5. THAT his Department shall be notified upon construction and abandonment of the test wells.
6. THAT this approval is for test wells only, and, that any other well use requires separate approval from this Department.

Should you have any questions, you may contact the undersigned at (914) 864-7296 or Rebecca Lepore at (914) 864-7358.

Very truly yours,

Delroy Taylor, P.E.  
Associate Engineer  
Bureau of Environmental Quality

DT:rl

cc: Stacy Stieber, Leggette, Brashears & Graham, Inc.  
Spencer Romoff, Brynwood Partners, LLC  
Steve Friaetta, Building Inspector-Town of Bedford  
William Nickson, Water Department

Department of Health  
118 North Bedford Road  
Mount Kisco, NY 10549

Telephone: (914) 813-5000

Fax: (914) 864-7341





Robert P. Astorino  
County Executive

Sherlita Amler, M.D.  
Commissioner of Health

April 4, 2013

John Meyer Consulting, P.C.  
120 Bedford Road  
Armonk, NY 10504  
Attention: Robert W. Roth, P.E.

RE: Proposed Test Well Construction  
Brynwood Partners, LLC  
Bedford Road  
Town of North Castle  
Section: 2, Block: 8, Lot: 7.C1A

Dear Mr. Roth:

Receipt of your submittal for construction of two (2) test well at the above location is hereby acknowledged.

Your plans dated November 28, 2012 and last revised February 25, 2013 are approved pursuant to Chapter 873, Article VII, Section 873.707.1 of the Laws of Westchester County for the construction of the proposed wells with the following conditions:

1. THAT the test wells shall be constructed at the locations shown on the approved plans.
2. THAT the test wells shall be utilized solely for the purposes described in this submittal.
3. THAT the test wells are not approved at this time to serve as a source of water for any Individual, Private or Public Water Supply System, nor for any irrigation system or other system or use.
4. THAT the test wells shall be permanently and physically abandoned in accordance with the approved plans following use of the test wells not to exceed one (1) year from the date of this approval.
5. THAT his Department shall be notified upon construction and abandonment of the test wells.
6. THAT this approval is for test wells only, and that any other well use requires separate approval from this Department.

Should you have any questions, you may contact the undersigned at (914) 864-7296 or Rebecca Lepore at (914) 864-7358.

Very truly yours,

Delroy Taylor, P.E.  
Associate Engineer  
Bureau of Environmental Quality

DT: rl

cc: Stacy Stieber, Leggett, Brashears & Graham, Inc.  
Spencer Romoff, Brynwood Partners, LLC  
Steve Friaetta, Building Inspector-Town of Bedford  
William Nickson, Water Department  
File

Department of Health  
118 North Bedford Road  
Mount Kisco, NY 10549

Telephone: (914) 813-5000

Fax: (914) 864-7341



ADMINISTRATIVE WETLAND PERMIT

TOWN OF NORTH CASTLE

17 Bedford Road  
Armonk, New York 10504

10726  
03/18/2013  
rk  
AG  
DL  
PS  
TS

Date Issued: March 18, 2013

Permit #: 5-13 W.P.

Permit is hereby issued to: Brynwood Partners, LLC

505 Fifth Avenue, New York, New York 10017

Description of Approved Activity: Drill two (2) potable wells (Proposed Well #1 and Proposed Well #2B) within the 100' wetland buffer. Total disturbance within the regulated area will not exceed 1,800 s.f.

Plans Titled and Dated: Plan, prepared by John Meyer Consulting, P.C. and dated (last revised) February 25, 2013;

- *Proposed Test Well Location Plan (WLP-1)*
- *Additional Information – Project Narrative – Application for Freshwater Wetland Permit Brynwood Golf Club (undated)*

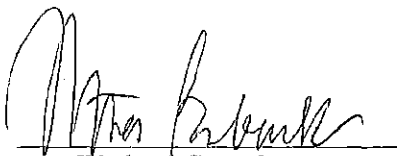
Location of Proposed Activity: 568 Bedford Road – NYS Route 22 (Brynwood Club)

Sheet: 2 Block: 08 Lot: 7.C1A

**Conditions:**

1. The applicant shall obtain approval from the Westchester County Department of Health prior to initiating any site disturbance.
2. Activities approved under this permit shall not discharge or directed so as to cause any turbid water into wetlands or watercourses.
3. Proposed well drilling is for testing purposes only.
4. No activity shall be permitted within wetlands or within the regulated wetland buffer area, except as approved herein.
5. Five days advance notice must be given to the Town Wetland Consultant (914-273-2323) and Building Inspector (914-273-8625) prior to commencement of work.

6. All work shall be performed in accordance with the "Erosion Control Standards", as set forth in Chapter 209 "Wetlands and Watercourse Protection" and Chapter 173 "Stormwater Management" of the Town Code. The Westchester County Best Management Practices Manual on Construction Related Activities shall be used to provide guidelines for design and implementation of all erosion and sediment control devices.
7. Periodic site inspections will be conducted by the Town Wetland Consultant to confirm continued compliance with the conditions of this Wetland Permit Approval.
8. All work covered by this permit is to be completed before March 18, 2015, unless an extension of this period is requested in writing and granted.

  
Wetland Consultant

  
Building Inspector



**Robert P. Astorino**  
County Executive

Sherlita Amler, M.D.  
Commissioner of Health

May 2, 2013

John Meyer Consulting, P.C.  
120 Bedford Road  
Armonk, NY 10504  
Attention: Robert W. Roth, P.E.

RE: Proposed Test Well Construction  
Wells 6A & 6B  
Brynwood Partners, LLC  
Bedford Road  
Town of North Castle  
Section: 2, Block: 8, Lot: 7.C1A

Dear Mr. Roth:

Receipt of your submittal for construction of two (2) test well at the above location is hereby acknowledged.

Your plans dated November 28, 2012 and last revised April 29, 2013 are approved pursuant to Chapter 873, Article VII, Section 873.707.1 of the Laws of Westchester County for the construction of the proposed wells with the following conditions:

1. THAT the test wells shall be constructed at the locations shown on the approved plans.
2. THAT the test wells shall be utilized solely for the purposes described in this submittal.
3. THAT the test wells are not approved at this time to serve as a source of water for any Individual, Private or Public Water Supply System, nor for any irrigation system or other system or use.
4. THAT the test wells shall be permanently and physically abandoned in accordance with the approved plans following use of the test wells not to exceed one (1) year from the date of this approval.
5. THAT his Department shall be notified upon construction and abandonment of the test wells.
6. THAT this approval is for test wells only, and that any other well use requires separate approval from this Department.

Should you have any questions, you may contact the undersigned at (914) 864-7357 or Rebecca Lepore at (914) 864-7358.

Very truly yours,

*Delroy Taylor* /ms

Delroy Taylor, P.E.  
Associate Engineer  
Bureau of Environmental Quality

DT: rl

cc: Stacy Stieber, Leggette, Brashears & Graham, Inc.  
Spencer Romoff, Brynwood Partners, LLC  
Steve Friaetta, Building Inspector-Town of Bedford  
William Nickson, Water Department  
File

Department of Health  
25 Moore Avenue  
Mount Kisco, NY 10549

Telephone: (914) 813-5000

Fax: (914) 864-7341



**APPENDIX II**  
**WELL COMPLETION REPORTS**

 Westchester gov.com	<b>Westchester County Department Health</b> <b>Bureau of Environmental Quality</b>
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**WELL COMPLETION REPORT:**

Well #1

WCDH File No.  

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept, Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

 Located at: 568 Bedford Rd Section:   Block:  

 Well Location Municipality: N. Castle Lot:  

 Owner Last Name: Brynwood Owner First Name: C.C.

 St. #: 568 Street Name: Rte 22 Municipality: Armonk State: NY Zip Code: 10504

 Well Driller (WD) Company Name:  

 Well Pit and Pump Equipment: Pitless Adapter:   Other - Describe:  

 Pump Make:   Pump Type:   Pump Capacity:   Pump GPM:  

 Storage Tank Type:   Storage Tank Capacity:  
**Well Details:**
 Casing Length: 51 Ft. Yield Test Type: A/C Measured from Land

 Casing Diameter: 6 in. Yield Test Duration: 6 Hrs. Water Level, Static: 0 Ft.

 Casing Material: STEEL Well Yield: 75 G.P.M. Water Level, Pumped: 500 Ft.

 Screen Make:   Screen Diameter:   Inches

 Screen Length:   Ft. Screen Slot Size:   TOTAL WELL DEPTH: 575 Ft.
**WELL LOG:**
 Depth From  
Ground Surface

Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

0 Ft. to	<span style="border: 1px solid black; padding: 0 20px;">17</span> Ft.	Well Geology, 1st Strata: <span style="border: 1px solid black; padding: 0 20px;">HARDPAN &amp; CLAY</span>
17 Ft. to	<span style="border: 1px solid black; padding: 0 20px;">575</span> Ft.	Well Geology, 2nd Strata: <span style="border: 1px solid black; padding: 0 20px;">GRAY GRANITE</span>
<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft. to	<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft.	Well Geology, 3rd Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>
<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft. to	<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft.	Well Geology, 4th Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>
<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft. to	<span style="border: 1px solid black; padding: 0 20px;"> </span> Ft.	Well Geology, 5th Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

 Date Well Was Completed: 4/25/13 Date of Signature: 5/29/13

 NYSDEC Registration #: 10318 Well Driller Signature: James Torlish





# Westchester County Department Health Bureau of Environmental Quality

**WELL COMPLETION REPORT:**

Well # 273

WCDH File No. 

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept. Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Located at: 568 Bedford RdSection: Block: Well Location Municipality: N. CASTLELot: Owner Last Name: BYNWOOD Owner First Name: C.C.St. # 568 Street Name: Rte 22 Municipality: ARMONK State: NY Zip Code: 10504Well Driller (WD) Company Name: Well Pit and Pump Equipment: Pitless Adapter:  Other - Describe Pump Make:  Pump Type:  Pump Capacity:  Pump GPM: Storage Tank Type:  Storage Tank Capacity: **Well Details:**Casing Length: 100 Ft. Yield Test Type: Air Measured from LandCasing Diameter: 6 In. Yield Test Duration: 6 Hrs. Water Level, Static: 0 Ft.Casing Material: Steel Well Yield: 20 G.P.M. Water Level, Pumped: 500 Ft.Screen Make:  Screen Diameter:  InchesScreen Length:  Ft. Screen Slot Size:  TOTAL WELL DEPTH: 545 Ft.**WELL LOG:**Depth From  
Ground Surface

Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

0 Ft. to	32 Ft.	Well Geology, 1st Strata:	<u>HARDPAN + WATER</u>
32 Ft. to	38 Ft.	Well Geology, 2nd Strata:	<u>SOFT CAVING ROCK</u>
38 Ft. to	545 Ft.	Well Geology, 3rd Strata:	<u>GRAY GRANITE</u>
545 Ft. to		Well Geology, 4th Strata:	
		Well Geology, 5th Strata:	

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Date Well Was Completed: 4/23/13 Date of Signature: 5/29/13NYSDEC Registration #: 10313 Well Driller Signature: James Torlish



# Westchester County Department Health Bureau of Environmental Quality

**WELL COMPLETION REPORT:**

Well # 3

WCDH File No. 

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept. Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Located at: 568 Bedford Ter Section:  Block:

Well Location Municipality: N. Castle Lot:

Owner Last Name: Brownwood Owner First Name: C.C.

St. #: 568 Street Name: Ter. 82 Municipality: Armonk State: NY Zip Code: 10504

Well Driller (WD) Company Name:

Well Pit and Pump Equipment: Pitless Adapter:  Other - Describe:

Pump Make:  Pump Type:  Pump Capacity:  Pump GPM:

Storage Tank Type:  Storage Tank Capacity:

**Well Details:**

Casing Length: 61 Ft. Yield Test Type: Air Measured from Land

Casing Diameter: 6 In. Yield Test Duration: 6 Hrs. Water Level, Static: 0 Ft.

Casing Material: Steel Well Yield: 40 G.P.M. Water Level, Pumped: 600 Ft.

Screen Make:  Screen Diameter:  Inches

Screen Length:  Ft. Screen Slot Size:  TOTAL WELL DEPTH: 645 Ft.

**WELL LOG:**

Depth From  
Ground Surface

Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

<input type="checkbox"/> Ft. to <input type="checkbox"/> Ft.	Well Geology, 1st Strata: <u>HARDPAN + CLAY</u>
<input type="checkbox"/> Ft. to <input type="checkbox"/> Ft.	Well Geology, 2nd Strata: <u>GRAY GRANITE</u>
<input type="checkbox"/> Ft. to <input type="checkbox"/> Ft.	Well Geology, 3rd Strata: <input type="text"/>
<input type="checkbox"/> Ft. to <input type="checkbox"/> Ft.	Well Geology, 4th Strata: <input type="text"/>
<input type="checkbox"/> Ft. to <input type="checkbox"/> Ft.	Well Geology, 5th Strata: <input type="text"/>

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Date Well Was Completed: 1/30/13 Date of Signature: 5/29/13

NYSDOC Registration #: 10318 Well Driller Signature: James Torlish



# Westchester County Department Health Bureau of Environmental Quality

**WELL COMPLETION REPORT:**

Well # 4

WCDH File No. 

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept. Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Located at: 568 Bedford Rd Section:  Block:

Well Location Municipality: N. Castle Lot:

Owner Last Name: BRUNWOOD Owner First Name: C. C.

St. #: 568 Street Name: TRC RD Municipality: ARMONK State: NY Zip Code: 10504

Well Driller (WD) Company Name:

**Well Pit and Pump Equipment:** Pitless Adapter:  Other - Describe:

Pump Make:  Pump Type:  Pump Capacity:  Pump GPM:

Storage Tank Type:  Storage Tank Capacity:

**Well Details:**

Casing Length: 61 Ft. Yield Test Type: Air Measured from Land

Casing Diameter: 6 In. Yield Test Duration: 6 Hrs. Water Level, Static: 0 Ft.

Casing Material: STEEL Well Yield: 7 G.P.M. Water Level, Pumped: 500 Ft.

Screen Make:  Screen Diameter:  Inches

Screen Length:  Ft. Screen Slot Size:  TOTAL WELL DEPTH: 545 Ft.

**WELL LOG:**

Depth From  
Ground Surface


Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

<input type="checkbox"/> 0 Ft. to	<input type="checkbox"/> 4 Ft.	Well Geology, 1st Strata: <u>HARDPAN</u>
<input type="checkbox"/> 4 Ft. to	<input type="checkbox"/> 545 Ft.	Well Geology, 2nd Strata: <u>GRAY GRANITE</u>
<input type="checkbox"/> Ft. to	<input type="checkbox"/> Ft.	Well Geology, 3rd Strata: <input type="text"/>
<input type="checkbox"/> Ft. to	<input type="checkbox"/> Ft.	Well Geology, 4th Strata: <input type="text"/>
<input type="checkbox"/> Ft. to	<input type="checkbox"/> Ft.	Well Geology, 5th Strata: <input type="text"/>

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Date Well Was Completed: 2/1/13 Date of Signature: 5/29/13

NYSDEC Registration #: 10317 Well Driller Signature: James Torlish

	<b>Westchester County Department Health</b> <b>Bureau of Environmental Quality</b>
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**WELL COMPLETION REPORT:***Well # 5*WCDH File No.  

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept. Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Located at: 568 Bedford Rd Section:   Block:  

Well Location Municipality: N. CASTLE Lot:  

Owner Last Name: BRYNWOOD Owner First Name: C. C.

St. # 568 Street Name: TER 22 Municipality: ARMONK State: N.Y. Zip Code: 10504

Well Driller (WD) Company Name:

Well Pit and Pump Equipment: Pitless Adapter:   Other - Describe:  

Pump Make:   Pump Type:   Pump Capacity:   Pump GPM:  

Storage Tank Type:   Storage Tank Capacity:  

**Well Details:**

Casing Length: 61 Ft. Yield Test Type: AIR Measured from Land

Casing Diameter: 6 In. Yield Test Duration: 6 Hrs. Water Level, Static: 2 Ft.

Casing Material: STEEL Well Yield: 25 G.P.M. Water Level, Pumped: 500 Ft.

Screen Make:   Screen Diameter:   Inches

Screen Length:   Ft. Screen Slot Size:   TOTAL WELL DEPTH: 540 Ft.

**WELL LOG:**

Depth From  
Ground Surface

Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

0 Ft. to	7 Ft.	Well Geology, 1st Strata: <span style="border: 1px solid black; padding: 0 20px;">HARDPAN</span>
7 Ft. to	540 Ft.	Well Geology, 2nd Strata: <span style="border: 1px solid black; padding: 0 20px;">GRAY GRANITE</span>
Ft. to	Ft.	Well Geology, 3rd Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>
Ft. to	Ft.	Well Geology, 4th Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>
Ft. to	Ft.	Well Geology, 5th Strata: <span style="border: 1px solid black; padding: 0 20px;"> </span>

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Date Well Was Completed: 2/6/13 Date of Signature: 5/29/13

NYSDOC Registration #: 10313 Well Driller Signature: James Torlish



# Westchester County Department Health Bureau of Environmental Quality

**WELL COMPLETION REPORT:**

WELL # 6A

WCDH File No. 

This report is to be completed by well driller and submitted to Health Department, together with laboratory report of analysis of water sample indicating water is of satisfactory bacterial quality, before certificate of construction compliance is issued.

Well construction to be in accordance with Westchester County Health Dept. Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

Located at: 568 Bedford RDSection: Block: Well Location Municipality: N. CASTLELot: Owner Last Name: BRYNWOOD Owner First Name: C.C.St. # 568 Street Name: TOR 22 Municipality: ARMONE State: NY Zip Code: 10504Well Driller (WD) Company Name: Well Pit and Pump Equipment: Pitless Adapter:  Other - Describe: Pump Make:  Pump Type:  Pump Capacity:  Pump GPM: Storage Tank Type:  Storage Tank Capacity: **Well Details:**Casing Length: 61 Ft. Yield Test Type: AIR Measured from LandCasing Diameter: 6 In. Yield Test Duration: 6 Hrs. Water Level, Static: 0 Ft.Casing Material: STEEL Well Yield: 30 G.P.M. Water Level, Pumped: 600 Ft.Screen Make:  Screen Diameter:  InchesScreen Length:  Ft. Screen Slot Size:  TOTAL WELL DEPTH:  Ft.**WELL LOG:**Depth From  
Ground Surface

Give description of formation penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, sandstone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse), color of material, structure (loose, packed, cemented, soft, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.

<u>0</u> Ft. to	<u>20</u> Ft.	Well Geology, 1st Strata: <u>HARDPAN &amp; CLAY</u>
<u>20</u> Ft. to	<u>65</u> Ft.	Well Geology, 2nd Strata: <u>GRAY GRANITE</u>
<u>65</u> Ft. to	<u>  </u> Ft.	Well Geology, 3rd Strata: <u>  </u>
<u>  </u> Ft. to	<u>  </u> Ft.	Well Geology, 4th Strata: <u>  </u>
<u>  </u> Ft. to	<u>  </u> Ft.	Well Geology, 5th Strata: <u>  </u>

I certify that the individual water supply indicated above was installed as per the Westchester County Health Department Rules & Regulations for the Design and Construction of Residential Subsurface Sewage Treatment System and Drilled Wells in Westchester County, NY.

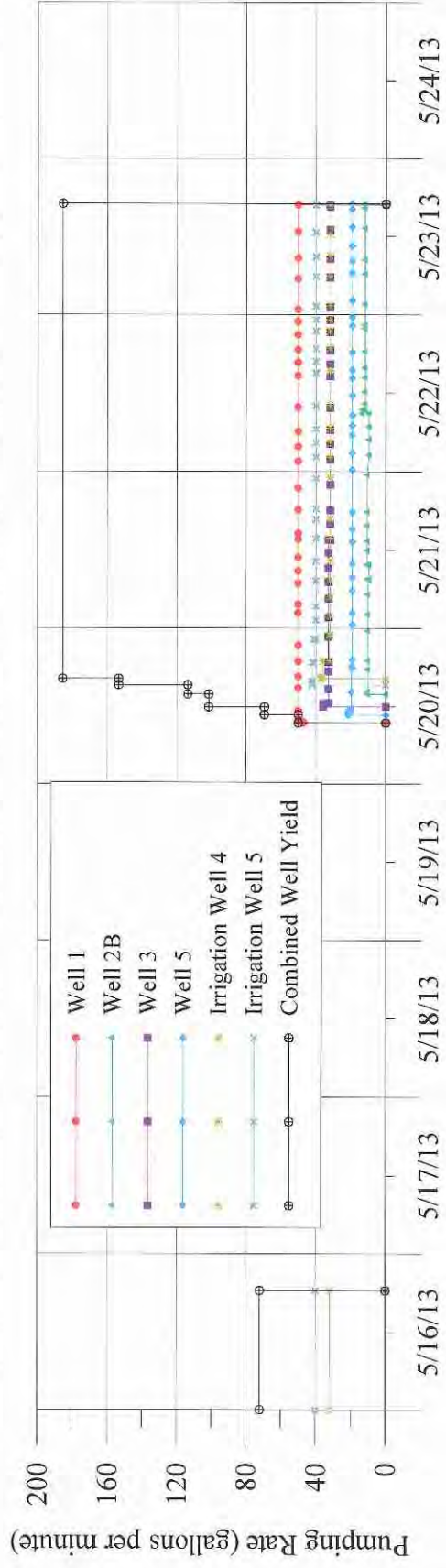
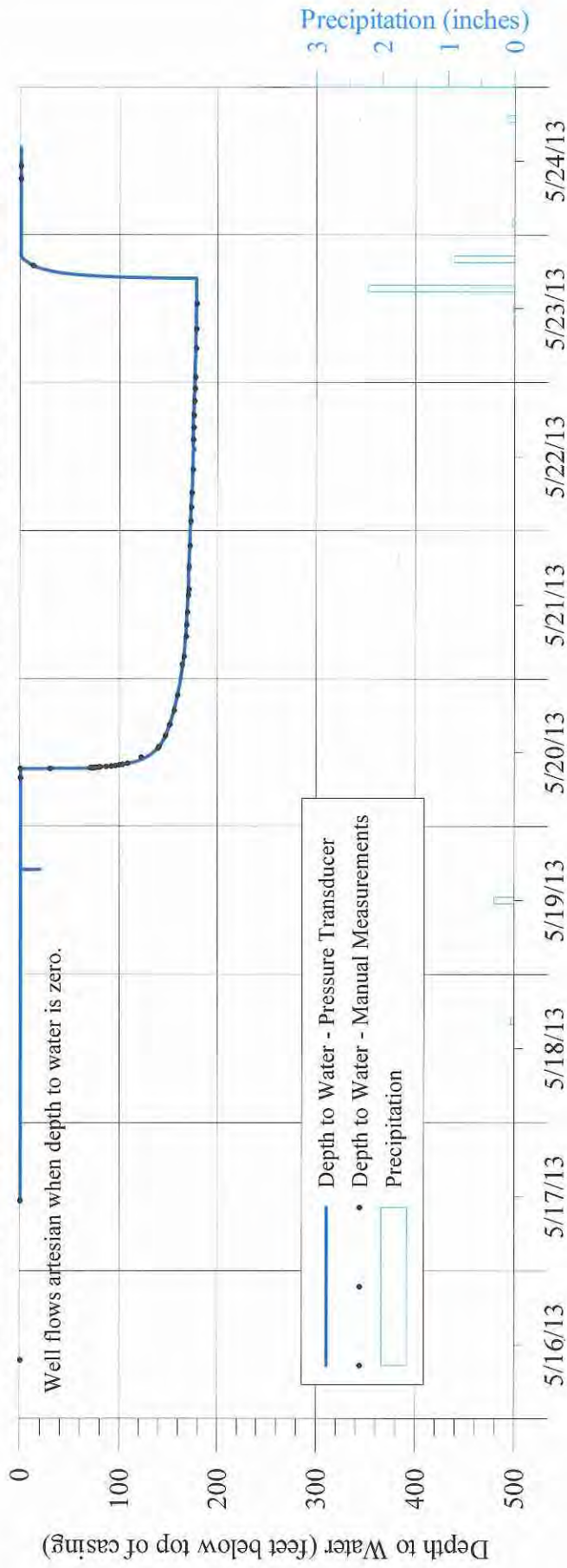
Date Well Was Completed: 5/13/13Date of Signature: 5/29/13NYSDEC Registration #: 10318Well Driller Signature: James Torlish

**APPENDIX III**  
**PUMPING WELLS**

**WELL 1**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from Well 1 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013





**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 1 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/17/2013	12:00	--	0.00	0.00	
5/17/2013	13:00	--	0.00	0.00	
5/17/2013	14:00	--	0.00	0.00	
5/17/2013	15:00	--	0.00	0.00	
5/17/2013	16:00	--	0.00	0.00	
5/17/2013	17:00	--	0.00	0.00	
5/17/2013	18:00	--	0.00	0.00	
5/17/2013	19:00	--	0.00	0.00	
5/17/2013	20:00	--	0.00	0.00	
5/17/2013	21:00	--	0.00	0.00	
5/17/2013	22:00	--	0.00	0.00	
5/17/2013	23:00	--	0.00	0.00	
5/18/2013	0:00	--	0.00	0.00	
5/18/2013	1:00	--	0.00	0.00	
5/18/2013	2:00	--	0.00	0.00	
5/18/2013	3:00	--	0.00	0.00	
5/18/2013	4:00	--	0.00	0.00	
5/18/2013	5:00	--	0.00	0.00	
5/18/2013	6:00	--	0.00	0.00	
5/18/2013	7:00	--	0.00	0.00	
5/18/2013	8:00	--	0.00	0.00	
5/18/2013	9:00	--	0.00	0.00	
5/18/2013	10:00	--	0.00	0.00	
5/18/2013	11:00	--	0.00	0.00	
5/18/2013	12:00	--	0.00	0.00	
5/18/2013	13:00	--	0.00	0.00	
5/18/2013	14:00	--	0.00	0.00	
5/18/2013	15:00	--	0.00	0.00	
5/18/2013	16:00	--	0.00	0.00	
5/18/2013	17:00	--	0.00	0.00	
5/18/2013	18:00	--	0.00	0.00	
5/18/2013	19:00	--	0.00	0.00	
5/18/2013	20:00	--	0.00	0.00	
5/18/2013	21:00	--	0.00	0.00	
5/18/2013	22:00	--	0.00	0.00	
5/18/2013	23:00	--	0.00	0.00	
5/19/2013	0:00	--	0.00	0.00	
5/19/2013	1:00	--	0.00	0.00	
5/19/2013	2:00	--	0.00	0.00	
5/19/2013	3:00	--	0.00	0.00	
5/19/2013	4:00	--	0.00	0.00	
5/19/2013	5:00	--	0.00	0.00	
5/19/2013	6:00	--	0.00	0.00	
5/19/2013	7:00	--	0.00	0.00	
5/19/2013	8:00	--	0.00	0.00	
5/19/2013	9:00	--	0.00	0.00	
5/19/2013	10:00	--	0.00	0.00	
5/19/2013	11:00	--	0.00	0.00	
5/19/2013	12:00	--	0.00	0.00	
5/19/2013	13:00	--	0.00	0.00	
5/19/2013	14:00	--	0.00	0.00	
5/19/2013	15:00	--	0.00	0.00	
5/19/2013	16:00	--	0.00	0.00	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 1 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/19/2013	17:00	--	10.01	10.01	Tested pump in Well 1.
5/19/2013	18:00	--	0.00	0.00	
5/19/2013	19:00	--	0.00	0.00	
5/19/2013	20:00	--	0.00	0.00	
5/19/2013	21:00	--	0.00	0.00	
5/19/2013	22:00	--	0.00	0.00	
5/19/2013	23:00	--	0.00	0.00	
5/20/2013	0:00	--	0.00	0.00	
5/20/2013	1:00	--	0.00	0.00	
5/20/2013	2:00	--	0.00	0.00	
5/20/2013	3:00	--	0.00	0.00	
5/20/2013	4:00	--	0.00	0.00	
5/20/2013	5:00	--	0.00	0.00	
5/20/2013	6:00	--	0.00	0.00	
5/20/2013	7:00	--	0.00	0.00	
5/20/2013	8:00	--	0.00	0.00	
5/20/2013	9:00	--	0.00	0.00	
5/20/2013	9:20	--	0.00	0.00	
5/20/2013	9:21	--	0.00	0.00	
5/20/2013	9:22	--	0.00	0.00	
5/20/2013	9:23	0	0.00	0.00	
5/20/2013	9:24	1	20.67	20.67	Pump in Well 1 started.
5/20/2013	9:25	2	41.08	41.08	Adjusting pumping rate in Well 1.
5/20/2013	9:26	3	55.26	55.26	
5/20/2013	9:27	4	64.20	64.20	
5/20/2013	9:28	5	68.80	68.80	
5/20/2013	9:29	6	71.37	71.37	
5/20/2013	9:30	7	73.09	73.09	
5/20/2013	9:31	8	72.69	72.69	
5/20/2013	9:32	9	70.28	70.28	
5/20/2013	9:33	10	69.40	69.40	
5/20/2013	9:34	11	71.26	71.26	
5/20/2013	9:35	12	73.40	73.40	
5/20/2013	9:36	13	74.89	74.89	
5/20/2013	9:37	14	76.62	76.62	
5/20/2013	9:38	15	78.18	78.18	
5/20/2013	9:43	20	83.91	83.91	Pumping rate set at 50 gpm in Well 1.
5/20/2013	9:48	25	89.47	89.47	
5/20/2013	9:53	30	93.82	93.82	Totalizing meter stopped spinning. Pumping rate measured using bucket only.
5/20/2013	9:58	35	97.97	97.97	
5/20/2013	10:03	40	101.50	101.50	Well 1 pumping rate 50 gpm.
5/20/2013	10:08	45	104.47	104.47	
5/20/2013	10:13	50	107.17	107.17	
5/20/2013	10:23	60	112.41	112.41	
5/20/2013	10:33	70	116.34	116.34	
5/20/2013	10:39	76	118.14	118.14	Pump in Well 5 started.
5/20/2013	10:43	80	119.36	119.36	
5/20/2013	10:53	90	122.17	122.17	
5/20/2013	11:03	100	124.27	124.27	Well 1 pumping rate 50 gpm.
5/20/2013	11:33	130	129.66	129.66	
5/20/2013	11:53	150	132.47	132.47	Pump in Well 3 started.
5/20/2013	12:03	160	133.76	133.76	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 1 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	12:33	190	137.10	137.10	Well 1 pumping rate 50 gpm.
5/20/2013	13:03	220	140.26	140.26	
5/20/2013	13:33	250	142.33	142.33	
5/20/2013	13:50	267	143.25	143.25	Pump in Well 2B started.
5/20/2013	14:03	280	144.05	144.05	
5/20/2013	14:33	310	145.58	145.58	Well 1 pumping rate 50 gpm.
5/20/2013	15:03	340	146.97	146.97	
5/20/2013	15:13	350	147.38	147.38	Pump in Irrigation Well 5 started.
5/20/2013	15:33	370	148.33	148.33	
5/20/2013	16:03	400	149.32	149.32	
5/20/2013	16:12	409	149.41	149.41	Pump in Irrigation Well 4 started.
5/20/2013	16:33	430	150.43	150.43	
5/20/2013	17:03	460	151.43	151.43	
5/20/2013	17:33	490	152.45	152.45	Well 1 pumping rate 50 gpm.
5/20/2013	18:33	520	154.09	154.09	
5/20/2013	19:00	547	154.99	154.99	Well 1 pumping rate 50 gpm.
5/20/2013	20:00	607	156.83	156.83	
5/20/2013	21:00	667	158.10	158.10	Well 1 pumping rate 50 gpm.
5/20/2013	22:00	727	159.44	159.44	
5/21/2013	0:00	787	161.82	161.82	Well 1 pumping rate 50 gpm.
5/21/2013	1:00	847	162.83	162.83	
5/21/2013	2:00	907	163.70	163.70	Well 1 pumping rate 50 gpm.
5/21/2013	3:00	967	164.66	164.66	
5/21/2013	4:00	1027	165.27	165.27	Well 1 pumping rate 50 gpm.
5/21/2013	5:00	1087	165.82	165.82	
5/21/2013	6:00	1147	166.65	166.65	Well 1 pumping rate 50 gpm.
5/21/2013	7:00	1207	167.09	167.09	
5/21/2013	8:00	1267	167.36	167.36	Well 1 pumping rate 50 gpm.
5/21/2013	9:00	1327	168.00	168.00	
5/21/2013	10:00	1387	168.08	168.08	Well 1 pumping rate 50 gpm.
5/21/2013	11:00	1447	168.42	168.42	
5/21/2013	12:00	1507	168.87	168.87	Well 1 pumping rate 50 gpm.
5/21/2013	13:00	1567	169.15	169.15	
5/21/2013	14:00	1627	169.28	169.28	Well 1 pumping rate 50 gpm.
5/21/2013	15:00	1687	169.79	169.79	
5/21/2013	16:00	1747	170.02	170.02	Well 1 pumping rate 50 gpm.
5/21/2013	17:00	1807	169.69	169.69	
5/21/2013	18:00	1867	170.03	170.03	Well 1 pumping rate 50 gpm.
5/21/2013	19:00	1927	170.32	170.32	
5/21/2013	20:00	1987	170.51	170.51	Well 1 pumping rate 50 gpm.
5/21/2013	21:00	2047	170.83	170.83	
5/21/2013	22:00	2107	171.00	171.00	Well 1 pumping rate 50 gpm.
5/21/2013	23:00	2167	171.26	171.26	
5/22/2013	0:00	2227	171.69	171.69	Well 1 pumping rate 50 gpm.
5/22/2013	1:00	2287	171.77	171.77	
5/22/2013	2:00	2347	171.90	171.90	Well 1 pumping rate 50 gpm.
5/22/2013	3:00	2407	172.27	172.27	
5/22/2013	4:00	2467	172.41	172.41	Well 1 pumping rate 50 gpm.
5/22/2013	5:00	2527	172.79	172.79	
5/22/2013	6:00	2587	173.06	173.06	Well 1 pumping rate 50 gpm.
5/22/2013	7:00	2647	173.60	173.60	
5/22/2013	8:00	2707	173.66	173.66	Well 1 pumping rate 50 gpm.
5/22/2013	9:00	2767	174.07	174.07	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 1 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/22/2013	10:00	2827	174.05	174.05	Well 1 pumping rate 50 gpm.
5/22/2013	11:00	2887	174.26	174.26	
5/22/2013	12:00	2947	174.24	174.24	Well 1 pumping rate 50 gpm.
5/22/2013	13:00	3007	175.77	175.77	
5/22/2013	14:00	3067	174.45	174.45	Well 1 pumping rate 50 gpm.
5/22/2013	15:00	3127	174.39	174.39	
5/22/2013	16:00	3187	174.50	174.50	Well 1 pumping rate 50 gpm.
5/22/2013	17:00	3247	174.31	174.31	
5/22/2013	18:00	3307	174.53	174.53	Well 1 pumping rate 50 gpm.
5/22/2013	19:00	3367	175.05	175.05	
5/22/2013	20:00	3427	175.26	175.26	Well 1 pumping rate 50 gpm.
5/22/2013	20:23	3450	175.03	175.03	Start of stabilization period in Well 1.
5/22/2013	21:00	3487	175.59	175.59	Well 1 pumping rate 50 gpm.
5/22/2013	22:00	3547	175.72	175.72	
5/22/2013	23:00	3607	175.94	175.94	Well 1 pumping rate 50 gpm.
5/23/2013	0:00	3667	176.08	176.08	
5/23/2013	1:00	3727	176.06	176.06	Well 1 pumping rate 50 gpm.
5/23/2013	2:00	3787	176.34	176.34	
5/23/2013	3:00	3847	176.52	176.52	Well 1 pumping rate 50 gpm.
5/23/2013	4:00	3907	176.62	176.62	
5/23/2013	5:00	3967	176.80	176.80	Well 1 pumping rate 50 gpm.
5/23/2013	6:00	4027	177.00	177.00	
5/23/2013	7:00	4087	177.07	177.07	Well 1 pumping rate 50 gpm.
5/23/2013	8:00	4147	177.23	177.23	
5/23/2013	9:00	4207	177.31	177.31	Well 1 pumping rate 50 gpm.
5/23/2013	10:00	4267	177.27	177.27	
5/23/2013	11:00	4327	177.46	177.46	Well 1 pumping rate 50 gpm.
5/23/2013	12:00	4387	177.66	177.66	
5/23/2013	13:00	4447	177.55	177.55	Well 1 pumping rate 50 gpm.
5/23/2013	14:00	4507	177.90	177.90	
5/23/2013	15:00	4567	177.74	177.74	Well 1 pumping rate 50 gpm.
5/23/2013	16:00	4627	177.77	177.77	
5/23/2013	16:49	4676	177.87	177.87	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	4677	177.90	177.90	Pump in Well 3 shut down.
5/23/2013	16:51	4678	177.96	177.96	Pump in Irrigation Well 4 shut down.
5/23/2013	16:52	4679	177.77	177.77	Well 1 pumping rate 50 gpm.
5/23/2013	16:53	4680	177.88	177.88	
5/23/2013	16:54	-1	166.22	166.22	Pump shut down in Well 1.
5/23/2013	16:55	-2	153.48	153.48	
5/23/2013	16:56	-3	143.97	143.97	Pump in Well 2B shut down.
5/23/2013	16:57	-4	136.83	136.83	
5/23/2013	16:58	-5	130.85	130.85	
5/23/2013	16:59	-6	125.41	125.41	
5/23/2013	17:00	-7	120.31	120.31	Pump in Well 5 shut down.
5/23/2013	17:01	-8	115.72	115.72	
5/23/2013	17:02	-9	111.41	111.41	
5/23/2013	17:03	-10	107.49	107.49	
5/23/2013	17:04	-11	103.81	103.81	
5/23/2013	17:05	-12	100.32	100.32	
5/23/2013	17:06	-13	97.13	97.13	
5/23/2013	17:07	-14	94.07	94.07	
5/23/2013	17:08	-15	91.17	91.17	
5/23/2013	17:13	-20	79.35	79.35	

**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 1 During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	17:18	-25	70.25	70.25	
5/23/2013	17:23	-30	62.79	62.79	
5/23/2013	17:28	-35	56.64	56.64	
5/23/2013	17:33	-40	51.34	51.34	
5/23/2013	17:38	-45	46.80	46.80	
5/23/2013	17:43	-50	42.75	42.75	
5/23/2013	17:53	-60	35.72	35.72	
5/23/2013	18:03	-70	30.27	30.27	
5/23/2013	18:13	-80	25.65	25.65	
5/23/2013	18:23	-90	21.89	21.89	
5/23/2013	18:33	-100	18.63	18.63	
5/23/2013	18:36	-103	17.75	17.75	Water level in Well 1 recovered 90% of pre-test static.
5/23/2013	19:03	-130	11.28	11.28	
5/23/2013	19:33	-160	6.21	6.21	
5/23/2013	20:03	-190	2.51	2.51	
5/23/2013	20:28	-215	0.00	0.00	Water level in Well 1 recovered to 100% of pre-test static.
5/23/2013	20:33	-220	0.00	0.00	
5/23/2013	21:03	-250	0.00	0.00	
5/23/2013	21:33	-280	0.00	0.00	
5/23/2013	22:03	-310	0.00	0.00	
5/23/2013	22:33	-340	0.00	0.00	
5/23/2013	23:03	-370	0.00	0.00	
5/23/2013	23:33	-400	0.00	0.00	
5/24/2013	0:03	-430	0.00	0.00	
5/24/2013	0:33	-460	0.00	0.00	
5/24/2013	1:03	-490	0.00	0.00	
5/24/2013	1:33	-520	0.00	0.00	
5/24/2013	2:00	-547	0.00	0.00	
5/24/2013	3:00	-607	0.00	0.00	
5/24/2013	4:00	-667	0.00	0.00	
5/24/2013	5:00	-727	0.00	0.00	
5/24/2013	6:00	-787	0.00	0.00	
5/24/2013	7:00	-847	0.00	0.00	
5/24/2013	8:00	-907	0.00	0.00	
5/24/2013	9:00	-967	0.00	0.00	
5/24/2013	10:00	-1027	0.00	0.00	
5/24/2013	11:00	-1087	0.00	0.00	
5/24/2013	12:00	-1147	0.00	0.00	
5/24/2013	13:00	-1207	0.00	0.00	
5/24/2013	14:00	-1267	0.00	0.00	

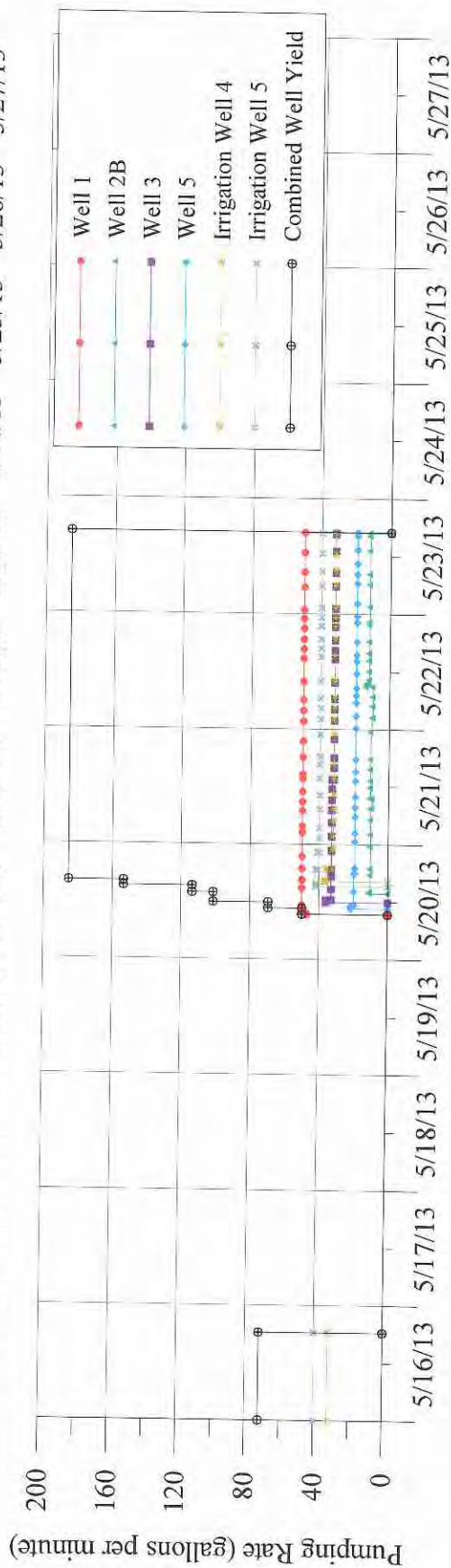
min        minutes  
ft btoc    feet below top of casing  
gpm        gallons per minute

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**WELL 2**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

**Hydrograph of Water-Level Measurements Collected from Well 2B During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/16/2013	10:00	--	0.00	0.00	
5/16/2013	11:00	--	0.00	0.00	
5/16/2013	12:00	--	0.00	0.00	
5/16/2013	13:00	--	0.00	0.00	
5/16/2013	14:00	--	0.00	0.00	
5/16/2013	15:00	--	0.00	0.00	
5/16/2013	16:00	--	0.00	0.00	
5/16/2013	17:00	--	0.00	0.00	
5/16/2013	18:00	--	0.00	0.00	
5/16/2013	19:00	--	0.00	0.00	
5/16/2013	20:00	--	0.00	0.00	
5/16/2013	21:00	--	0.00	0.00	
5/16/2013	22:00	--	0.00	0.00	
5/16/2013	23:00	--	0.00	0.00	
5/17/2013	0:00	--	0.00	0.00	
5/17/2013	1:00	--	0.00	0.00	
5/17/2013	2:00	--	0.00	0.00	
5/17/2013	3:00	--	0.00	0.00	
5/17/2013	4:00	--	0.00	0.00	
5/17/2013	5:00	--	0.00	0.00	
5/17/2013	6:00	--	0.00	0.00	
5/17/2013	7:00	--	0.00	0.00	
5/17/2013	8:00	--	0.00	0.00	
5/17/2013	9:00	--	0.00	0.00	
5/17/2013	10:00	--	0.00	0.00	
5/17/2013	11:00	--	0.00	0.00	
5/17/2013	12:00	--	0.00	0.00	
5/17/2013	13:00	--	0.00	0.00	
5/17/2013	14:00	--	0.00	0.00	
5/17/2013	15:00	--	0.00	0.00	
5/17/2013	16:00	--	0.00	0.00	
5/17/2013	17:00	--	0.00	0.00	
5/17/2013	18:00	--	0.00	0.00	
5/17/2013	19:00	--	0.00	0.00	
5/17/2013	20:00	--	0.00	0.00	
5/17/2013	21:00	--	0.00	0.00	
5/17/2013	22:00	--	0.00	0.00	
5/17/2013	23:00	--	0.00	0.00	
5/18/2013	0:00	--	0.00	0.00	
5/18/2013	1:00	--	0.00	0.00	
5/18/2013	2:00	--	0.00	0.00	
5/18/2013	3:00	--	0.00	0.00	
5/18/2013	4:00	--	0.00	0.00	
5/18/2013	5:00	--	0.00	0.00	
5/18/2013	6:00	--	0.00	0.00	
5/18/2013	7:00	--	0.00	0.00	
5/18/2013	8:00	--	0.00	0.00	
5/18/2013	9:00	--	0.00	0.00	
5/18/2013	10:00	--	0.00	0.00	
5/18/2013	11:00	--	0.00	0.00	
5/18/2013	12:00	--	0.00	0.00	
5/18/2013	13:00	--	0.00	0.00	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/18/2013	14:00	--	0.00	0.00	
5/18/2013	15:00	--	0.00	0.00	
5/18/2013	16:00	--	0.00	0.00	
5/18/2013	17:00	--	0.00	0.00	
5/18/2013	18:00	--	0.00	0.00	
5/18/2013	19:00	--	0.00	0.00	
5/18/2013	20:00	--	0.00	0.00	
5/18/2013	21:00	--	0.00	0.00	
5/18/2013	22:00	--	0.00	0.00	
5/18/2013	23:00	--	0.00	0.00	
5/19/2013	0:00	--	0.00	0.00	
5/19/2013	1:00	--	0.00	0.00	
5/19/2013	2:00	--	0.00	0.00	
5/19/2013	3:00	--	0.00	0.00	
5/19/2013	4:00	--	0.00	0.00	
5/19/2013	5:00	--	0.00	0.00	
5/19/2013	6:00	--	0.00	0.00	
5/19/2013	7:00	--	0.00	0.00	
5/19/2013	8:00	--	0.00	0.00	
5/19/2013	9:00	--	0.00	0.00	
5/19/2013	10:00	--	0.00	0.00	
5/19/2013	11:00	--	0.00	0.00	
5/19/2013	12:00	--	0.00	0.00	
5/19/2013	13:00	--	0.00	0.00	
5/19/2013	14:00	--	0.00	0.00	
5/19/2013	15:00	--	0.00	0.00	
5/19/2013	16:00	--	0.00	0.00	
5/19/2013	17:00	--	0.00	0.00	
5/19/2013	18:00	--	0.00	0.00	
5/19/2013	19:00	--	2.32	2.32	Tested pump in Well 2B.
5/19/2013	20:00	--	0.00	0.00	
5/19/2013	21:00	--	0.00	0.00	
5/19/2013	22:00	--	0.00	0.00	
5/19/2013	23:00	--	0.00	0.00	
5/20/2013	0:00	--	0.00	0.00	
5/20/2013	1:00	--	0.00	0.00	
5/20/2013	2:00	--	0.00	0.00	
5/20/2013	3:00	--	0.00	0.00	
5/20/2013	4:00	--	0.00	0.00	
5/20/2013	5:00	--	0.00	0.00	
5/20/2013	6:00	--	0.00	0.00	
5/20/2013	7:00	--	0.00	0.00	
5/20/2013	7:31	--	0.00	0.00	Pump motor was clogged and not functioning properly. Transducer removed from Well 2B to replace pump.
5/20/2013	13:47	--	0.00	0.00	Transducer reinstalled in Well 2B.
5/20/2013	13:48	--	0.00	0.00	
5/20/2013	13:49	0	0.00	0.00	
5/20/2013	13:50	1	13.86	13.86	Pump in Well 2B started.
5/20/2013	13:51	2	29.30	29.30	Adjusting pumping rate in Well 2B.
5/20/2013	13:52	3	33.79	33.79	
5/20/2013	13:53	4	34.44	34.44	
5/20/2013	13:54	5	34.61	34.61	Pumping rate set at 10.3 gpm in Well 2B.

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	13:55	6	34.88	34.88	
5/20/2013	13:56	7	35.11	35.11	
5/20/2013	13:57	8	35.42	35.42	
5/20/2013	13:58	9	35.73	35.73	
5/20/2013	13:59	10	35.71	35.71	Well 2B pumping rate 10.3 gpm.
5/20/2013	14:00	11	35.82	35.82	
5/20/2013	14:01	12	35.98	35.98	
5/20/2013	14:02	13	36.10	36.10	
5/20/2013	14:03	14	36.31	36.31	
5/20/2013	14:04	15	36.46	36.46	
5/20/2013	14:09	20	38.03	38.03	Well 2B pumping rate 10.3 gpm.
5/20/2013	14:14	25	39.41	39.41	
5/20/2013	14:19	30	40.22	40.22	
5/20/2013	14:24	35	40.90	40.90	Well 2B pumping rate 10.3 gpm.
5/20/2013	14:29	40	41.53	41.53	
5/20/2013	14:34	45	42.18	42.18	
5/20/2013	14:39	50	42.72	42.72	Well 2B pumping rate 10.3 gpm.
5/20/2013	14:49	60	43.83	43.83	
5/20/2013	14:59	70	44.58	44.58	
5/20/2013	15:09	80	45.14	45.14	Well 2B pumping rate 10.3 gpm.
5/20/2013	15:19	90	45.61	45.61	
5/20/2013	15:29	100	46.17	46.17	
5/20/2013	15:59	130	47.19	47.19	Well 2B pumping rate 10.3 gpm.
5/20/2013	16:29	160	48.35	48.35	
5/20/2013	16:59	190	49.12	49.12	
5/20/2013	17:29	220	49.56	49.56	Well 2B pumping rate 10.3 gpm.
5/20/2013	17:59	250	49.66	49.66	
5/20/2013	18:29	280	49.44	49.44	
5/20/2013	18:59	310	49.54	49.54	Well 2B pumping rate 10.3 gpm.
5/20/2013	19:29	340	49.72	49.72	
5/20/2013	19:59	370	49.79	49.79	
5/20/2013	20:29	400	49.85	49.85	Well 2B pumping rate 10.3 gpm.
5/20/2013	20:59	430	50.06	50.06	
5/20/2013	21:29	460	50.15	50.15	
5/20/2013	21:59	490	50.49	50.49	Well 2B pumping rate 10.3 gpm.
5/20/2013	22:29	520	50.57	50.57	
5/20/2013	23:00	551	50.63	50.63	Well 2B pumping rate 10.3 gpm.
5/21/2013	0:00	611	50.77	50.77	
5/21/2013	1:00	671	50.60	50.60	Well 2B pumping rate 10.3 gpm.
5/21/2013	2:00	731	50.79	50.79	
5/21/2013	3:00	791	51.04	51.04	Well 2B pumping rate 10.3 gpm.
5/21/2013	4:00	851	51.27	51.27	
5/21/2013	5:00	911	51.24	51.24	Well 2B pumping rate 10.3 gpm.
5/21/2013	6:00	971	51.53	51.53	
5/21/2013	7:00	1031	51.65	51.65	Well 2B pumping rate 9.6 gpm.
5/21/2013	8:00	1091	51.92	51.92	
5/21/2013	9:00	1151	48.13	48.13	Well 2B pumping rate 9.6 gpm.
5/21/2013	9:39	1190	50.22	50.22	Manually increased pumping rate in Well 2B.
5/21/2013	10:00	1211	56.83	56.83	Well 2B pumping rate 10.7 gpm.
5/21/2013	11:00	1271	57.67	57.67	
5/21/2013	12:00	1331	57.72	57.72	Well 2B pumping rate 10.7 gpm.
5/21/2013	13:00	1391	57.92	57.92	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/21/2013	14:00	1451	57.81	57.81	Well 2B pumping rate 10.7 gpm.
5/21/2013	15:00	1511	57.97	57.97	
5/21/2013	16:00	1571	58.25	58.25	Well 2B pumping rate 10.7 gpm.
5/21/2013	17:00	1631	58.27	58.27	
5/21/2013	18:00	1691	58.36	58.36	Well 2B pumping rate 10.7 gpm.
5/21/2013	19:00	1751	58.12	58.12	
5/21/2013	20:00	1811	58.10	58.10	Well 2B pumping rate 10.7 gpm.
5/21/2013	21:00	1871	58.10	58.10	
5/21/2013	22:00	1931	58.31	58.31	Well 2B pumping rate 10.7 gpm.
5/21/2013	23:00	1991	58.35	58.35	
5/22/2013	0:00	2051	53.46	53.46	Well 2B pumping rate 10.7 gpm.
5/22/2013	1:00	2111	53.47	53.47	
5/22/2013	2:00	2171	53.24	53.24	Well 2B pumping rate 10.7 gpm.
5/22/2013	3:00	2231	53.26	53.26	Well 2B pumping rate 9.7 gpm.
5/22/2013	4:00	2291	53.16	53.16	
5/22/2013	5:00	2351	53.10	53.10	Well 2B pumping rate 9.7 gpm.
5/22/2013	6:00	2411	53.19	53.19	
5/22/2013	7:00	2471	53.22	53.22	Well 2B pumping rate 9.7 gpm.
5/22/2013	8:00	2531	53.27	53.27	Well 2B pumping rate 9.7 gpm.
5/22/2013	8:53	2584	61.53	61.53	Manually increased pumping rate in Well 2B.
5/22/2013	9:00	2591	71.66	71.66	Well 2B pumping rate 13.6 gpm.
5/22/2013	10:00	2651	67.77	67.77	Well 2B pumping rate 12.0 gpm.
5/22/2013	11:00	2711	66.69	66.69	
5/22/2013	12:00	2771	69.89	69.89	Well 2B pumping rate 12.0 gpm.
5/22/2013	13:00	2831	67.05	67.05	
5/22/2013	14:00	2891	66.89	66.89	Well 2B pumping rate 12.0 gpm.
5/22/2013	15:00	2951	66.38	66.38	
5/22/2013	16:00	3011	65.81	65.81	Well 2B pumping rate 12.0 gpm.
5/22/2013	17:00	3071	65.78	65.78	
5/22/2013	18:00	3131	65.35	65.35	Well 2B pumping rate 12.0 gpm.
5/22/2013	19:00	3191	65.42	65.42	
5/22/2013	20:00	3251	65.52	65.52	Well 2B pumping rate 12.0 gpm.
5/22/2013	21:00	3311	65.50	65.50	
5/22/2013	22:00	3371	65.74	65.74	Well 2B pumping rate 12.0 gpm.
5/22/2013	23:00	3431	66.36	66.36	
5/23/2013	0:00	3491	65.98	65.98	Well 2B pumping rate 12.0 gpm.
5/23/2013	1:00	3551	65.82	65.82	
5/23/2013	1:57	3608	68.54	68.54	Start of water-level stabilization period.
5/23/2013	2:00	3611	67.70	67.70	
5/23/2013	3:00	3671	65.81	65.81	Well 2B pumping rate 12.0 gpm.
5/23/2013	4:00	3731	65.89	65.89	
5/23/2013	5:00	3791	65.98	65.98	Well 2B pumping rate 12.0 gpm.
5/23/2013	6:00	3851	65.95	65.95	
5/23/2013	7:00	3911	65.96	65.96	Well 2B pumping rate 12.0 gpm.
5/23/2013	8:00	3971	66.10	66.10	
5/23/2013	9:00	4031	66.11	66.11	Well 2B pumping rate 12.0 gpm.
5/23/2013	10:00	4091	65.87	65.87	
5/23/2013	11:00	4151	66.01	66.01	Well 2B pumping rate 12.0 gpm.
5/23/2013	12:00	4211	66.03	66.03	
5/23/2013	13:00	4271	66.04	66.04	Well 2B pumping rate 12.0 gpm.
5/23/2013	14:00	4331	65.93	65.93	
5/23/2013	15:00	4391	66.04	66.04	Well 2B pumping rate 12.0 gpm.

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	16:00	4451	66.04	66.04	
5/23/2013	16:49	4500	65.85	65.85	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	4501	65.77	65.77	Pump in Well 3 shut down.
5/23/2013	16:51	4502	65.83	65.83	Pump In Irrigation Well 4 shut down.
5/23/2013	16:52	4503	65.79	65.79	
5/23/2013	16:53	4504	65.79	65.79	
5/23/2013	16:54	4505	65.80	65.80	Pump in Well 1 shut down.
5/23/2013	16:55	4506	65.84	65.84	Well 2B pumping rate 12.0 gpm.
5/23/2013	16:56	-1	65.33	65.33	Pump in Well 2B shut down.
5/23/2013	16:57	-2	55.96	55.96	
5/23/2013	16:58	-3	50.16	50.16	
5/23/2013	16:59	-4	45.27	45.27	
5/23/2013	17:00	-5	41.11	41.11	Pump in Well 5 shut down.
5/23/2013	17:01	-6	37.52	37.52	
5/23/2013	17:02	-7	34.60	34.60	
5/23/2013	17:03	-8	31.79	31.79	
5/23/2013	17:04	-9	29.56	29.56	
5/23/2013	17:05	-10	27.65	27.65	
5/23/2013	17:06	-11	26.01	26.01	
5/23/2013	17:07	-12	24.62	24.62	
5/23/2013	17:08	-13	23.44	23.44	
5/23/2013	17:09	-14	22.46	22.46	
5/23/2013	17:10	-15	21.63	21.63	
5/23/2013	17:15	-20	18.94	18.94	
5/23/2013	17:20	-25	17.41	17.41	
5/23/2013	17:25	-30	16.41	16.41	
5/23/2013	17:30	-35	15.65	15.65	
5/23/2013	17:35	-40	15.05	15.05	
5/23/2013	17:40	-45	14.54	14.54	
5/23/2013	17:45	-50	13.98	13.98	
5/23/2013	17:55	-60	13.18	13.18	
5/23/2013	18:05	-70	12.51	12.51	
5/23/2013	18:15	-80	11.97	11.97	
5/23/2013	18:25	-90	11.40	11.40	
5/23/2013	18:35	-100	10.91	10.91	
5/23/2013	19:05	-130	9.77	9.77	
5/23/2013	19:35	-160	8.88	8.88	
5/23/2013	20:05	-190	8.08	8.08	
5/23/2013	20:35	-220	7.42	7.42	
5/23/2013	21:05	-250	6.86	6.86	
5/23/2013	21:17	-262	6.65	6.65	Water level recovered to 90% of pre-test static level.
5/23/2013	21:35	-280	6.35	6.35	
5/23/2013	22:05	-310	5.89	5.89	
5/23/2013	22:35	-340	5.47	5.47	
5/23/2013	23:05	-370	5.07	5.07	
5/23/2013	23:35	-400	4.68	4.68	
5/24/2013	0:05	-430	4.34	4.34	
5/24/2013	0:35	-460	4.00	4.00	
5/24/2013	1:05	-490	3.69	3.69	
5/24/2013	1:35	-520	3.39	3.39	
5/24/2013	2:00	-545	3.15	3.15	
5/24/2013	3:00	-605	2.61	2.61	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 2B During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/24/2013	4:00	-665	2.12	2.12	
5/24/2013	5:00	-725	1.68	1.68	
5/24/2013	6:00	-785	1.31	1.31	
5/24/2013	7:00	-845	0.97	0.97	
5/24/2013	8:00	-905	0.63	0.63	
5/24/2013	9:00	-965	0.32	0.32	
5/24/2013	10:00	-1025	0.05	0.05	
5/24/2013	10:09	-1034	0.00	0.00	Water level recovered to 100% of pre-test static level.
5/24/2013	11:00	-1085	0.00	0.00	
5/24/2013	12:00	-1145	0.00	0.00	
5/24/2013	13:00	-1205	0.00	0.00	
5/24/2013	14:00	-1265	0.00	0.00	
5/24/2013	15:00	-1325	0.00	0.00	
5/24/2013	16:00	-1385	0.00	0.00	
5/24/2013	17:00	-1445	0.00	0.00	
5/24/2013	18:00	-1505	0.00	0.00	
5/24/2013	19:00	-1565	0.00	0.00	
5/24/2013	20:00	-1625	0.00	0.00	
5/24/2013	21:00	-1685	0.00	0.00	
5/24/2013	22:00	-1745	0.00	0.00	
5/24/2013	23:00	-1805	0.00	0.00	

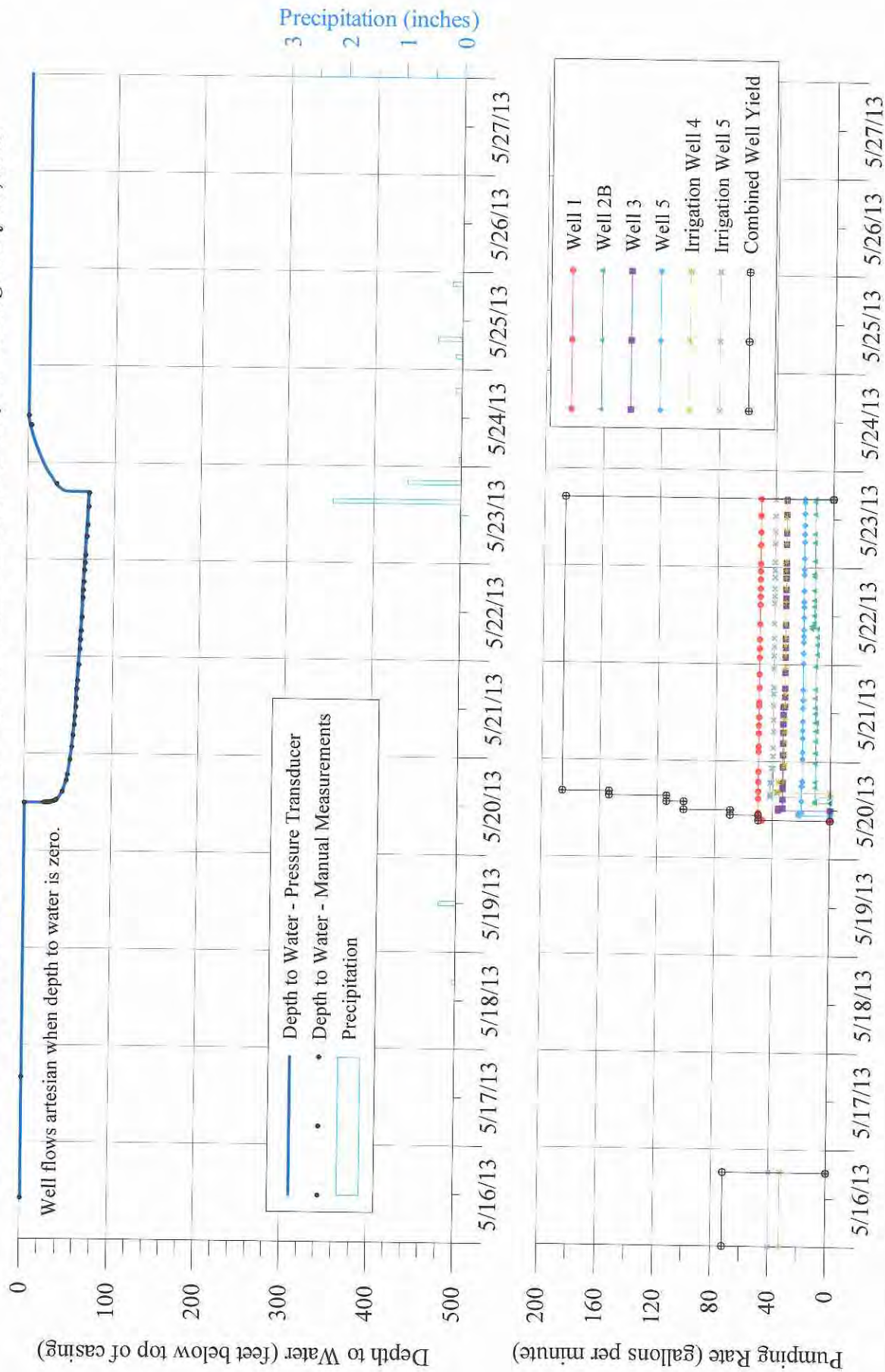
min        minutes  
ft btoc    feet below top of casing  
gpm        gallons per minute

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**WELL 3**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from Well 3 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/16/2013	11:00	--	0.00	0.00	
5/16/2013	12:00	--	0.00	0.00	
5/16/2013	13:00	--	0.00	0.00	
5/16/2013	14:00	--	0.00	0.00	
5/16/2013	15:00	--	0.00	0.00	
5/16/2013	16:00	--	0.00	0.00	
5/16/2013	17:00	--	0.00	0.00	
5/16/2013	18:00	--	0.00	0.00	
5/16/2013	19:00	--	0.00	0.00	
5/16/2013	20:00	--	0.00	0.00	
5/16/2013	21:00	--	0.00	0.00	
5/16/2013	22:00	--	0.00	0.00	
5/16/2013	23:00	--	0.00	0.00	
5/17/2013	0:00	--	0.00	0.00	
5/17/2013	1:00	--	0.00	0.00	
5/17/2013	2:00	--	0.00	0.00	
5/17/2013	3:00	--	0.00	0.00	
5/17/2013	4:00	--	0.00	0.00	
5/17/2013	5:00	--	0.00	0.00	
5/17/2013	6:00	--	0.00	0.00	
5/17/2013	7:00	--	0.00	0.00	
5/17/2013	8:00	--	0.00	0.00	
5/17/2013	9:00	--	0.00	0.00	
5/17/2013	10:00	--	0.00	0.00	
5/17/2013	11:00	--	0.00	0.00	
5/17/2013	12:00	--	0.00	0.00	
5/17/2013	13:00	--	0.00	0.00	
5/17/2013	14:00	--	0.00	0.00	
5/17/2013	15:00	--	0.00	0.00	
5/17/2013	16:00	--	0.00	0.00	
5/17/2013	17:00	--	0.00	0.00	
5/17/2013	18:00	--	0.00	0.00	
5/17/2013	19:00	--	0.00	0.00	
5/17/2013	20:00	--	0.00	0.00	
5/17/2013	21:00	--	0.00	0.00	
5/17/2013	22:00	--	0.00	0.00	
5/17/2013	23:00	--	0.00	0.00	
5/18/2013	0:00	--	0.00	0.00	
5/18/2013	1:00	--	0.00	0.00	
5/18/2013	2:00	--	0.00	0.00	
5/18/2013	3:00	--	0.00	0.00	
5/18/2013	4:00	--	0.00	0.00	
5/18/2013	5:00	--	0.00	0.00	
5/18/2013	6:00	--	0.00	0.00	
5/18/2013	7:00	--	0.00	0.00	
5/18/2013	8:00	--	0.00	0.00	
5/18/2013	9:00	--	0.00	0.00	
5/18/2013	10:00	--	0.00	0.00	
5/18/2013	11:00	--	0.00	0.00	
5/18/2013	12:00	--	0.00	0.00	
5/18/2013	13:00	--	0.00	0.00	
5/18/2013	14:00	--	0.00	0.00	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/18/2013	15:00	--	0.00	0.00	
5/18/2013	16:00	--	0.00	0.00	
5/18/2013	17:00	--	0.00	0.00	
5/18/2013	18:00	--	0.00	0.00	
5/18/2013	19:00	--	0.00	0.00	
5/18/2013	20:00	--	0.00	0.00	
5/18/2013	21:00	--	0.00	0.00	
5/18/2013	22:00	--	0.00	0.00	
5/18/2013	23:00	--	0.00	0.00	
5/19/2013	0:00	--	0.00	0.00	
5/19/2013	1:00	--	0.00	0.00	
5/19/2013	2:00	--	0.00	0.00	
5/19/2013	3:00	--	0.00	0.00	
5/19/2013	4:00	--	0.00	0.00	
5/19/2013	5:00	--	0.00	0.00	
5/19/2013	6:00	--	0.00	0.00	
5/19/2013	7:00	--	0.00	0.00	
5/19/2013	8:00	--	0.00	0.00	
5/19/2013	9:00	--	0.00	0.00	
5/19/2013	10:00	--	0.00	0.00	
5/19/2013	11:00	--	0.00	0.00	
5/19/2013	12:00	--	0.00	0.00	
5/19/2013	13:00	--	0.00	0.00	
5/19/2013	14:00	--	0.00	0.00	
5/19/2013	15:00	--	0.00	0.00	
5/19/2013	16:00	--	0.00	0.00	
5/19/2013	17:00	--	0.00	0.00	
5/19/2013	18:00	--	0.00	0.00	
5/19/2013	19:00	--	0.00	0.00	
5/19/2013	20:00	--	0.00	0.00	
5/19/2013	21:00	--	0.00	0.00	
5/19/2013	22:00	--	0.00	0.00	
5/19/2013	23:00	--	0.00	0.00	
5/20/2013	0:00	--	0.00	0.00	
5/20/2013	1:00	--	0.00	0.00	
5/20/2013	2:00	--	0.00	0.00	
5/20/2013	3:00	--	0.00	0.00	
5/20/2013	4:00	--	0.00	0.00	
5/20/2013	5:00	--	0.00	0.00	
5/20/2013	6:00	--	0.00	0.00	
5/20/2013	7:00	--	0.00	0.00	
5/20/2013	8:00	--	0.00	0.00	
5/20/2013	9:24	--	0.00	0.00	Pump in Well 1 started.
5/20/2013	10:00	--	0.00	0.00	
5/20/2013	10:39	--	0.00	0.00	Pump in Well 5 started.
5/20/2013	11:00	--	0.00	0.00	
5/20/2013	11:47	--	0.00	0.00	
5/20/2013	11:48	--	0.00	0.00	
5/20/2013	11:49	--	0.00	0.00	
5/20/2013	11:50	--	0.00	0.00	
5/20/2013	11:51	--	0.00	0.00	
5/20/2013	11:52	0	0.00	0.00	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	11:53	1	22.48	22.48	Pump in Well 3 started.
5/20/2013	11:54	2	22.84	22.84	Adjusting pumping rate in Well 3.
5/20/2013	11:55	3	22.58	22.58	
5/20/2013	11:56	4	24.00	24.00	
5/20/2013	11:57	5	25.27	25.27	Pumping rate set at 36 gpm.
5/20/2013	11:58	6	26.24	26.24	
5/20/2013	11:59	7	27.04	27.04	
5/20/2013	12:00	8	27.67	27.67	
5/20/2013	12:01	9	28.32	28.32	
5/20/2013	12:02	10	28.79	28.79	Well 3 pumping rate 36 gpm.
5/20/2013	12:03	11	29.28	29.28	
5/20/2013	12:04	12	30.01	30.01	
5/20/2013	12:05	13	30.13	30.13	
5/20/2013	12:06	14	30.70	30.70	
5/20/2013	12:07	15	30.92	30.92	
5/20/2013	12:12	20	32.42	32.42	
5/20/2013	12:17	25	33.33	33.33	
5/20/2013	12:22	30	34.44	34.44	Well 3 pumping rate 33 gpm.
5/20/2013	12:27	35	34.77	34.77	
5/20/2013	12:32	40	35.70	35.70	
5/20/2013	12:37	45	36.28	36.28	
5/20/2013	12:42	50	36.48	36.48	
5/20/2013	12:52	60	37.40	37.40	
5/20/2013	13:02	70	38.40	38.40	
5/20/2013	13:12	80	39.13	39.13	
5/20/2013	13:22	90	39.85	39.85	Well 3 pumping rate 33 gpm.
5/20/2013	13:32	100	39.93	39.93	
5/20/2013	13:50	118	40.95	40.95	Pump in Well 2B started.
5/20/2013	14:02	130	41.31	41.31	
5/20/2013	14:32	160	42.57	42.57	Well 3 pumping rate 33 gpm.
5/20/2013	15:02	190	43.48	43.48	
5/20/2013	15:13	201	44.03	44.03	Pump in Irrigation Well 5 started.
5/20/2013	15:32	220	44.64	44.64	
5/20/2013	16:02	250	45.59	45.59	
5/20/2013	16:12	260	45.94	45.94	Pump in Irrigation Well 4 started.
5/20/2013	16:32	280	45.92	45.92	
5/20/2013	17:02	310	46.75	46.75	Well 3 pumping rate 33 gpm.
5/20/2013	17:32	340	47.59	47.59	
5/20/2013	18:02	370	47.81	47.81	
5/20/2013	18:32	400	48.19	48.19	Well 3 pumping rate 33 gpm.
5/20/2013	19:02	430	49.29	49.29	
5/20/2013	19:32	460	49.76	49.76	
5/20/2013	20:02	490	49.80	49.80	Well 3 pumping rate 33 gpm.
5/20/2013	20:32	520	50.45	50.45	
5/20/2013	21:00	548	50.47	50.47	
5/20/2013	22:00	608	51.37	51.37	Well 3 pumping rate 33 gpm.
5/20/2013	23:00	668	51.80	51.80	
5/21/2013	0:00	728	52.56	52.56	
5/21/2013	1:00	788	52.95	52.95	Well 3 pumping rate 33 gpm.
5/21/2013	2:00	848	53.88	53.88	
5/21/2013	3:00	908	54.18	54.18	
5/21/2013	4:00	968	54.91	54.91	Well 3 pumping rate 33 gpm.

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/21/2013	5:00	1028	55.24	55.24	
5/21/2013	6:00	1088	55.35	55.35	
5/21/2013	7:00	1148	56.08	56.08	Well 3 pumping rate 33 gpm.
5/21/2013	8:00	1208	56.64	56.64	
5/21/2013	9:00	1268	56.69	56.69	
5/21/2013	10:00	1328	57.39	57.39	Well 3 pumping rate 33 gpm.
5/21/2013	11:00	1388	57.58	57.58	
5/21/2013	12:00	1448	57.74	57.74	
5/21/2013	13:00	1508	57.92	57.92	Well 3 pumping rate 32 gpm.
5/21/2013	14:00	1568	58.18	58.18	
5/21/2013	15:00	1628	58.29	58.29	
5/21/2013	16:00	1688	58.44	58.44	Well 3 pumping rate 32 gpm.
5/21/2013	17:00	1748	58.61	58.61	
5/21/2013	18:00	1808	59.21	59.21	
5/21/2013	19:00	1868	59.42	59.42	Well 3 pumping rate 32 gpm.
5/21/2013	20:00	1928	59.92	59.92	
5/21/2013	21:00	1988	60.18	60.18	
5/21/2013	22:00	2048	60.31	60.31	Well 3 pumping rate 32 gpm.
5/21/2013	23:00	2108	60.84	60.84	
5/22/2013	0:00	2168	60.93	60.93	
5/22/2013	1:00	2228	61.00	61.00	Well 3 pumping rate 32 gpm.
5/22/2013	2:00	2288	61.24	61.24	
5/22/2013	3:00	2348	61.45	61.45	
5/22/2013	4:00	2408	61.82	61.82	Well 3 pumping rate 32 gpm.
5/22/2013	5:00	2468	62.16	62.16	
5/22/2013	6:00	2528	62.76	62.76	
5/22/2013	7:00	2588	62.86	62.86	Well 3 pumping rate 32 gpm.
5/22/2013	8:00	2648	63.03	63.03	
5/22/2013	9:00	2708	63.07	63.07	
5/22/2013	10:00	2768	63.40	63.40	Well 3 pumping rate 32 gpm.
5/22/2013	11:00	2828	63.61	63.61	
5/22/2013	12:00	2888	63.59	63.59	
5/22/2013	13:00	2948	63.53	63.53	Well 3 pumping rate 32 gpm.
5/22/2013	14:00	3008	63.96	63.96	
5/22/2013	15:00	3068	63.96	63.96	
5/22/2013	16:00	3128	64.26	64.26	Well 3 pumping rate 32 gpm.
5/22/2013	17:00	3188	64.23	64.23	
5/22/2013	18:00	3248	64.39	64.39	
5/22/2013	19:00	3308	64.47	64.47	Well 3 pumping rate 32 gpm.
5/22/2013	20:00	3368	64.85	64.85	
5/22/2013	21:00	3428	65.43	65.43	
5/22/2013	22:00	3488	65.74	65.74	Well 3 pumping rate 32 gpm.
5/22/2013	23:00	3548	65.88	65.88	
5/23/2013	0:00	3608	66.00	66.00	
5/23/2013	1:00	3668	66.32	66.32	Well 3 pumping rate 32 gpm.
5/23/2013	2:00	3728	66.42	66.42	
5/23/2013	3:00	3788	66.86	66.86	
5/23/2013	4:00	3848	66.97	66.97	Well 3 pumping rate 32 gpm.
5/23/2013	4:11	3859	66.92	66.92	Start of water-level stabilization period.
5/23/2013	5:00	3908	67.14	67.14	
5/23/2013	6:00	3968	67.43	67.43	Well 3 pumping rate 32 gpm.
5/23/2013	7:00	4028	67.72	67.72	

**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	8:00	4088	67.98	67.98	
5/23/2013	9:00	4148	68.30	68.30	Well 3 pumping rate 32 gpm.
5/23/2013	10:00	4208	68.45	68.45	
5/23/2013	11:00	4268	68.67	68.67	
5/23/2013	12:00	4328	68.67	68.67	Well 3 pumping rate 32 gpm.
5/23/2013	13:00	4388	69.14	69.14	
5/23/2013	14:00	4448	69.13	69.13	
5/23/2013	15:00	4508	69.45	69.45	Well 3 pumping rate 32 gpm.
5/23/2013	16:00	4568	69.49	69.49	
5/23/2013	16:45	4613	69.84	69.84	
5/23/2013	16:46	4614	70.12	70.12	Well 3 pumping rate 32 gpm.
5/23/2013	16:47	4615	69.93	69.93	
5/23/2013	16:48	4616	70.14	70.14	Well 3 pumping rate 32 gpm.
5/23/2013	16:49	4617	69.88	69.88	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	-1	53.53	53.53	Pump in Well 3 shut down.
5/23/2013	16:51	-2	47.39	47.39	Pump In Irrigation Well 4 shut down.
5/23/2013	16:52	-3	45.79	45.79	
5/23/2013	16:53	-4	44.89	44.89	
5/23/2013	16:54	-5	44.28	44.28	Pump in Well 1 shut down.
5/23/2013	16:55	-6	43.80	43.80	
5/23/2013	16:56	-7	43.42	43.42	Pump in Well 2B shut down.
5/23/2013	16:57	-8	43.09	43.09	
5/23/2013	16:58	-9	42.81	42.81	
5/23/2013	16:59	-10	42.55	42.55	
5/23/2013	17:00	-11	42.31	42.31	Pump in Well 5 shut down.
5/23/2013	17:01	-12	42.10	42.10	
5/23/2013	17:02	-13	41.89	41.89	
5/23/2013	17:03	-14	41.69	41.69	
5/23/2013	17:04	-15	41.50	41.50	
5/23/2013	17:09	-20	40.69	40.69	
5/23/2013	17:14	-25	40.00	40.00	
5/23/2013	17:19	-30	39.38	39.38	
5/23/2013	17:24	-35	38.82	38.82	
5/23/2013	17:29	-40	38.32	38.32	
5/23/2013	17:34	-45	37.86	37.86	
5/23/2013	17:39	-50	37.39	37.39	
5/23/2013	17:40	-60	37.30	37.30	
5/23/2013	17:41	-70	37.21	37.21	
5/23/2013	17:42	-80	37.11	37.11	
5/23/2013	17:43	-90	37.02	37.02	
5/23/2013	17:44	-100	36.95	36.95	
5/23/2013	18:14	-130	34.44	34.44	
5/23/2013	18:44	-160	32.29	32.29	
5/23/2013	19:14	-190	30.48	30.48	
5/23/2013	19:44	-220	28.90	28.90	
5/23/2013	20:14	-250	27.44	27.44	
5/23/2013	20:44	-280	25.91	25.91	
5/23/2013	21:14	-310	23.95	23.95	
5/23/2013	21:44	-340	22.46	22.46	
5/23/2013	22:14	-370	21.11	21.11	
5/23/2013	22:44	-400	19.80	19.80	
5/23/2013	23:14	-430	18.69	18.69	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 3 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	23:44	-460	17.55	17.55	
5/24/2013	0:14	-490	16.45	16.45	
5/24/2013	0:44	-520	15.48	15.48	
5/24/2013	1:00	-536	14.96	14.96	
5/24/2013	2:00	-596	13.12	13.12	
5/24/2013	3:00	-656	11.20	11.20	
5/24/2013	4:00	-716	9.34	9.34	
5/24/2013	5:00	-776	7.68	7.68	
5/24/2013	5:26	-802	6.98	6.98	Water level recovered to 90% of pre-test static level.
5/24/2013	6:00	-836	6.04	6.04	
5/24/2013	7:00	-896	4.58	4.58	
5/24/2013	8:00	-956	3.32	3.32	
5/24/2013	9:00	-1016	2.16	2.16	
5/24/2013	10:00	-1076	1.09	1.09	
5/24/2013	11:00	-1136	0.10	0.10	
5/24/2013	11:06	-1142	0.00	0.00	Water level recovered to 100% of pre-test static level.
5/24/2013	12:00	-1196	0.00	0.00	
5/24/2013	13:00	-1256	0.00	0.00	
5/24/2013	14:00	-1316	0.00	0.00	
5/24/2013	15:00	-1376	0.00	0.00	
5/24/2013	16:00	-1436	0.00	0.00	
5/24/2013	17:00	-1496	0.00	0.00	
5/24/2013	18:00	-1556	0.00	0.00	
5/24/2013	19:00	-1616	0.00	0.00	
5/24/2013	20:00	-1676	0.00	0.00	
5/24/2013	21:00	-1736	0.00	0.00	
5/24/2013	22:00	-1796	0.00	0.00	
5/24/2013	23:00	-1856	0.00	0.00	

min      minutes

ft btoc    feet below top of casing

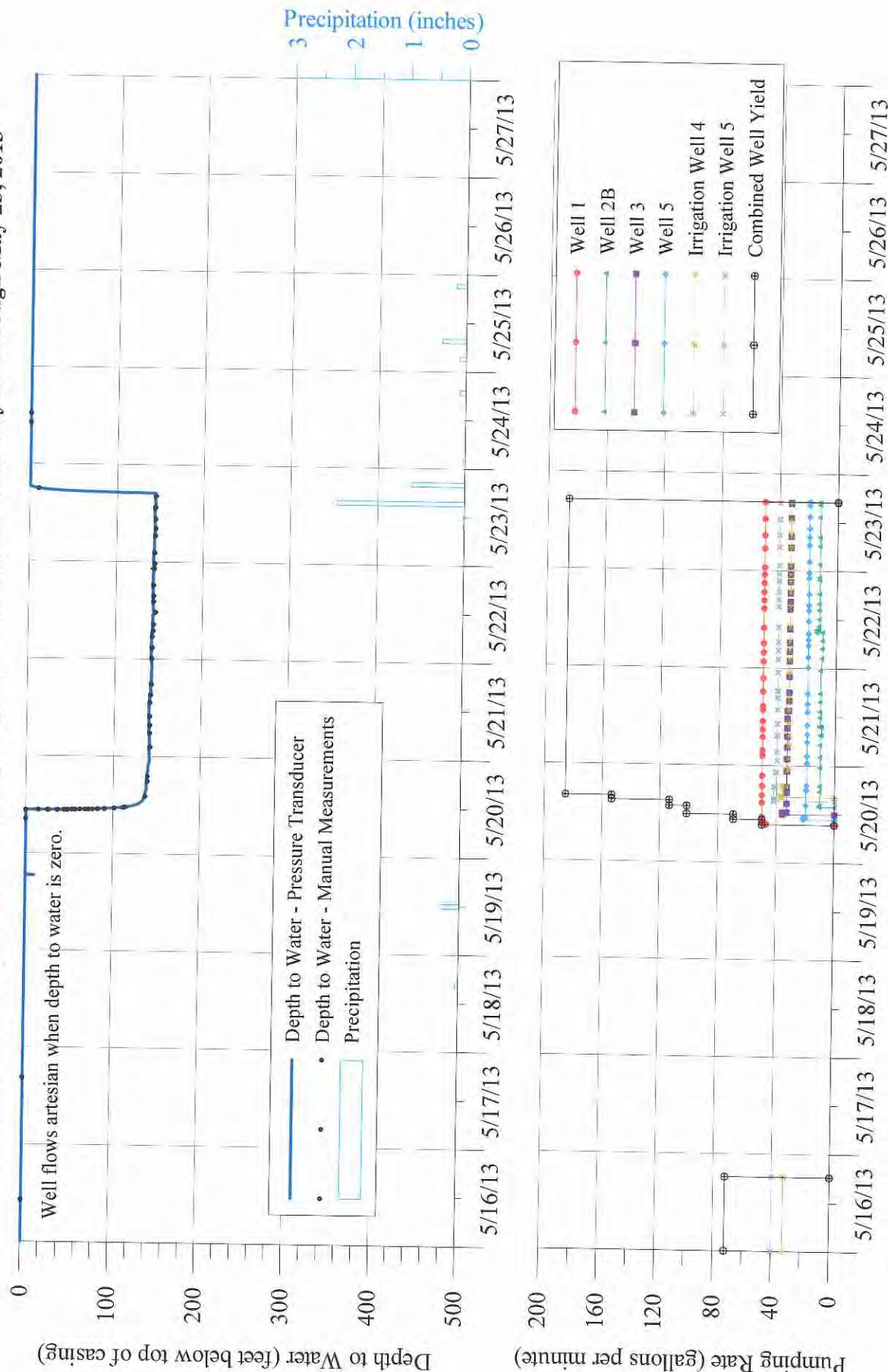
gpm      gallons per minute

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**WELL 5**

# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Well 5 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/16/2013	0:00	--	0.00	0.00	
5/16/2013	1:00	--	0.00	0.00	
5/16/2013	2:00	--	0.00	0.00	
5/16/2013	3:00	--	0.00	0.00	
5/16/2013	4:00	--	0.00	0.00	
5/16/2013	5:00	--	0.00	0.00	
5/16/2013	6:00	--	0.00	0.00	
5/16/2013	7:00	--	0.00	0.00	
5/16/2013	8:00	--	0.00	0.00	
5/16/2013	9:00	--	0.00	0.00	
5/16/2013	10:00	--	0.00	0.00	
5/16/2013	11:00	--	0.00	0.00	
5/16/2013	12:00	--	0.00	0.00	
5/16/2013	13:00	--	0.00	0.00	
5/16/2013	14:00	--	0.00	0.00	
5/16/2013	15:00	--	0.00	0.00	
5/16/2013	16:00	--	0.00	0.00	
5/16/2013	17:00	--	0.00	0.00	
5/16/2013	18:00	--	0.00	0.00	
5/16/2013	19:00	--	0.00	0.00	
5/16/2013	20:00	--	0.00	0.00	
5/16/2013	21:00	--	0.00	0.00	
5/16/2013	22:00	--	0.00	0.00	
5/16/2013	23:00	--	0.00	0.00	
5/17/2013	0:00	--	0.00	0.00	
5/17/2013	1:00	--	0.00	0.00	
5/17/2013	2:00	--	0.00	0.00	
5/17/2013	3:00	--	0.00	0.00	
5/17/2013	4:00	--	0.00	0.00	
5/17/2013	5:00	--	0.00	0.00	
5/17/2013	6:00	--	0.00	0.00	
5/17/2013	7:00	--	0.00	0.00	
5/17/2013	8:00	--	0.00	0.00	
5/17/2013	9:00	--	0.00	0.00	
5/17/2013	10:00	--	0.00	0.00	
5/17/2013	11:00	--	0.00	0.00	
5/17/2013	12:00	--	0.00	0.00	
5/17/2013	13:00	--	0.00	0.00	
5/17/2013	14:00	--	0.00	0.00	
5/17/2013	15:00	--	0.00	0.00	
5/17/2013	16:00	--	0.00	0.00	
5/17/2013	17:00	--	0.00	0.00	
5/17/2013	18:00	--	0.00	0.00	
5/17/2013	19:00	--	0.00	0.00	
5/17/2013	20:00	--	0.00	0.00	
5/17/2013	21:00	--	0.00	0.00	
5/17/2013	22:00	--	0.00	0.00	
5/17/2013	23:00	--	0.00	0.00	
5/18/2013	0:00	--	0.00	0.00	
5/18/2013	1:00	--	0.00	0.00	
5/18/2013	2:00	--	0.00	0.00	
5/18/2013	3:00	--	0.00	0.00	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/18/2013	4:00	--	0.00	0.00	
5/18/2013	5:00	--	0.00	0.00	
5/18/2013	6:00	--	0.00	0.00	
5/18/2013	7:00	--	0.00	0.00	
5/18/2013	8:00	--	0.00	0.00	
5/18/2013	9:00	--	0.00	0.00	
5/18/2013	10:00	--	0.00	0.00	
5/18/2013	11:00	--	0.00	0.00	
5/18/2013	12:00	--	0.00	0.00	
5/18/2013	13:00	--	0.00	0.00	
5/18/2013	14:00	--	0.00	0.00	
5/18/2013	15:00	--	0.00	0.00	
5/18/2013	16:00	--	0.00	0.00	
5/18/2013	17:00	--	0.00	0.00	
5/18/2013	18:00	--	0.00	0.00	
5/18/2013	19:00	--	0.00	0.00	
5/18/2013	20:00	--	0.00	0.00	
5/18/2013	21:00	--	0.00	0.00	
5/18/2013	22:00	--	0.00	0.00	
5/18/2013	23:00	--	0.00	0.00	
5/19/2013	0:00	--	0.00	0.00	
5/19/2013	1:00	--	0.00	0.00	
5/19/2013	2:00	--	0.00	0.00	
5/19/2013	3:00	--	0.00	0.00	
5/19/2013	4:00	--	0.00	0.00	
5/19/2013	5:00	--	0.00	0.00	
5/19/2013	6:00	--	0.00	0.00	
5/19/2013	7:00	--	0.00	0.00	
5/19/2013	8:00	--	0.00	0.00	
5/19/2013	9:00	--	0.00	0.00	
5/19/2013	10:00	--	0.00	0.00	
5/19/2013	11:00	--	0.00	0.00	
5/19/2013	12:00	--	0.00	0.00	
5/19/2013	13:00	--	0.00	0.00	
5/19/2013	14:00	--	0.00	0.00	
5/19/2013	15:00	--	0.00	0.00	
5/19/2013	16:00	--	0.00	0.00	
5/19/2013	17:00	--	0.00	0.00	
5/19/2013	18:00	--	0.00	0.00	
5/19/2013	19:00	--	0.00	0.00	
5/19/2013	20:00	--	0.00	0.00	
5/19/2013	21:00	--	0.00	0.00	
5/19/2013	22:00	--	0.00	0.00	
5/19/2013	23:00	--	0.00	0.00	
5/20/2013	0:00	--	0.00	0.00	
5/20/2013	1:00	--	0.00	0.00	
5/20/2013	2:00	--	0.00	0.00	
5/20/2013	3:00	--	0.00	0.00	
5/20/2013	4:00	--	0.00	0.00	
5/20/2013	5:00	--	0.00	0.00	
5/20/2013	6:00	--	0.00	0.00	
5/20/2013	7:00	--	0.00	0.00	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	8:00	--	0.00	0.00	
5/20/2013	9:00	--	0.00	0.00	
5/20/2013	9:24	--	0.00	0.00	Pump in Well 1 started.
5/20/2013	10:00	--	0.00	0.00	
5/20/2013	10:35	--	0.00	0.00	
5/20/2013	10:36	--	0.00	0.00	
5/20/2013	10:37	--	0.00	0.00	
5/20/2013	10:38	0	0.00	0.00	
5/20/2013	10:39	1	0.25	0.25	Pump in Well 5 started.
5/20/2013	10:40	2	4.76	4.76	Adjusting pumping rate in Well 5.
5/20/2013	10:41	3	13.48	13.48	
5/20/2013	10:42	4	23.43	23.43	
5/20/2013	10:43	5	33.93	33.93	
5/20/2013	10:44	6	42.31	42.31	
5/20/2013	10:45	7	45.75	45.75	Well 5 pumping rate 21.7 gpm.
5/20/2013	10:46	8	49.53	49.53	
5/20/2013	10:47	9	52.63	52.63	
5/20/2013	10:48	10	56.15	56.15	
5/20/2013	10:49	11	58.97	58.97	
5/20/2013	10:50	12	61.83	61.83	
5/20/2013	10:51	13	64.48	64.48	
5/20/2013	10:52	14	66.93	66.93	
5/20/2013	10:53	15	69.44	69.44	Well 5 pumping rate 21.7 gpm.
5/20/2013	10:58	20	79.94	79.94	
5/20/2013	11:03	25	88.22	88.22	
5/20/2013	11:08	30	94.44	94.44	
5/20/2013	11:13	35	100.29	100.29	Well 5 pumping rate 20 gpm.
5/20/2013	11:18	40	104.86	104.86	
5/20/2013	11:23	45	108.63	108.63	
5/20/2013	11:28	50	111.81	111.81	Well 5 pumping rate 20 gpm.
5/20/2013	11:38	60	117.10	117.10	
5/20/2013	11:48	70	120.95	120.95	
5/20/2013	11:53	75	122.56	122.56	Pump in Well 3 started.
5/20/2013	11:58	80	124.24	124.24	
5/20/2013	12:08	90	126.66	126.66	Well 5 pumping rate 20 gpm.
5/20/2013	12:18	100	128.25	128.25	
5/20/2013	12:48	130	131.94	131.94	
5/20/2013	13:18	160	134.05	134.05	Well 5 pumping rate 20 gpm.
5/20/2013	13:48	190	135.22	135.22	
5/20/2013	13:50	192	135.48	135.48	Pump in Well 2B started.
5/20/2013	14:18	220	135.90	135.90	
5/20/2013	14:48	250	136.55	136.55	Well 5 pumping rate 20 gpm.
5/20/2013	15:13	275	136.41	136.41	Pump in Irrigation Well 5 started.
5/20/2013	15:18	280	136.62	136.62	
5/20/2013	15:48	310	137.65	137.65	Well 5 pumping rate 20 gpm.
5/20/2013	16:12	334	137.83	137.83	Pump in Irrigation Well 4 started.
5/20/2013	16:18	340	137.92	137.92	
5/20/2013	16:48	370	137.70	137.70	Well 5 pumping rate 20 gpm.
5/20/2013	17:18	400	137.76	137.76	
5/20/2013	17:48	430	138.31	138.31	
5/20/2013	18:18	460	138.48	138.48	Well 5 pumping rate 19.5 gpm.
5/20/2013	18:48	490	138.30	138.30	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	19:18	520	138.39	138.39	
5/20/2013	20:00	562	138.96	138.96	Well 5 pumping rate 19.5 gpm.
5/20/2013	21:00	622	139.51	139.51	
5/20/2013	22:00	682	139.81	139.81	
5/20/2013	23:00	742	140.91	140.91	Well 5 pumping rate 19.5 gpm.
5/21/2013	0:00	802	140.70	140.70	
5/21/2013	1:00	862	140.39	140.39	
5/21/2013	2:00	922	140.48	140.48	Well 5 pumping rate 19.5 gpm.
5/21/2013	3:00	982	140.86	140.86	
5/21/2013	4:00	1042	140.64	140.64	
5/21/2013	5:00	1102	140.43	140.43	Well 5 pumping rate 19.5 gpm.
5/21/2013	6:00	1162	140.11	140.11	
5/21/2013	7:00	1222	140.25	140.25	
5/21/2013	8:00	1282	140.11	140.11	Well 5 pumping rate 19.5 gpm.
5/21/2013	9:00	1342	139.85	139.85	
5/21/2013	10:00	1402	139.86	139.86	
5/21/2013	11:00	1462	139.89	139.89	Well 5 pumping rate 19.5 gpm.
5/21/2013	12:00	1522	139.60	139.60	
5/21/2013	13:00	1582	140.06	140.06	
5/21/2013	14:00	1642	140.16	140.16	Well 5 pumping rate 19.5 gpm.
5/21/2013	15:00	1702	140.23	140.23	
5/21/2013	16:00	1762	142.07	142.07	
5/21/2013	17:00	1822	141.18	141.18	Well 5 pumping rate 19.5 gpm.
5/21/2013	18:00	1882	141.33	141.33	
5/21/2013	19:00	1942	141.96	141.96	
5/21/2013	20:00	2002	141.99	141.99	Well 5 pumping rate 19.5 gpm.
5/21/2013	21:00	2062	142.14	142.14	
5/21/2013	22:00	2122	142.31	142.31	
5/21/2013	23:00	2182	142.03	142.03	Well 5 pumping rate 19.5 gpm.
5/22/2013	0:00	2242	141.61	141.61	
5/22/2013	1:00	2302	141.29	141.29	Well 5 pumping rate 19.5 gpm.
5/22/2013	1:50	2352	141.34	141.34	Start of water level stabilization period.
5/22/2013	2:00	2362	141.15	141.15	
5/22/2013	3:00	2422	141.39	141.39	Well 5 pumping rate 19.5 gpm.
5/22/2013	4:00	2482	141.37	141.37	
5/22/2013	5:00	2542	141.34	141.34	
5/22/2013	6:00	2602	141.86	141.86	Well 5 pumping rate 19.5 gpm.
5/22/2013	7:00	2662	142.30	142.30	
5/22/2013	8:00	2722	142.62	142.62	
5/22/2013	9:00	2782	142.53	142.53	Well 5 pumping rate 19.5 gpm.
5/22/2013	10:00	2842	142.63	142.63	
5/22/2013	11:00	2902	142.59	142.59	
5/22/2013	12:00	2962	143.55	143.55	Well 5 pumping rate 19.5 gpm.
5/22/2013	13:00	3022	142.87	142.87	
5/22/2013	14:00	3082	142.38	142.38	
5/22/2013	15:00	3142	142.65	142.65	Well 5 pumping rate 19.5 gpm.
5/22/2013	16:00	3202	142.66	142.66	
5/22/2013	17:00	3262	142.51	142.51	
5/22/2013	18:00	3322	142.02	142.02	Well 5 pumping rate 19.5 gpm.
5/22/2013	19:00	3382	142.26	142.26	
5/22/2013	20:00	3442	142.49	142.49	
5/22/2013	21:00	3502	142.59	142.59	Well 5 pumping rate 19.5 gpm.

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/22/2013	22:00	3562	143.03	143.03	
5/22/2013	23:00	3622	143.02	143.02	
5/23/2013	0:00	3682	142.70	142.70	Well 5 pumping rate 19.5 gpm.
5/23/2013	1:00	3742	142.59	142.59	
5/23/2013	2:00	3802	142.85	142.85	
5/23/2013	3:00	3862	143.17	143.17	Well 5 pumping rate 19.5 gpm.
5/23/2013	4:00	3922	143.38	143.38	
5/23/2013	5:00	3982	143.12	143.12	
5/23/2013	6:00	4042	143.37	143.37	Well 5 pumping rate 19.5 gpm.
5/23/2013	7:00	4102	143.48	143.48	
5/23/2013	8:00	4162	143.64	143.64	
5/23/2013	9:00	4222	143.74	143.74	Well 5 pumping rate 19.5 gpm.
5/23/2013	10:00	4282	143.65	143.65	
5/23/2013	11:00	4342	143.39	143.39	
5/23/2013	12:00	4402	143.30	143.30	Well 5 pumping rate 19.5 gpm.
5/23/2013	13:00	4462	143.13	143.13	
5/23/2013	14:00	4522	144.01	144.01	
5/23/2013	15:00	4582	144.02	144.02	Well 5 pumping rate 19.5 gpm.
5/23/2013	16:00	4642	143.47	143.47	
5/23/2013	16:45	4687	143.80	143.80	
5/23/2013	16:46	4688	143.82	143.82	Well 5 pumping rate 19.5 gpm.
5/23/2013	16:47	4689	143.74	143.74	
5/23/2013	16:48	4690	143.96	143.96	Well 5 pumping rate 19.5 gpm.
5/23/2013	16:49	4691	143.84	143.84	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	4692	143.95	143.95	Pump in Well 3 shut down.
5/23/2013	16:51	4693	144.13	144.13	Pump In Irrigation Well 4 shut down.
5/23/2013	16:52	4694	143.85	143.85	
5/23/2013	16:53	4695	143.77	143.77	Well 5 pumping rate 19.5 gpm.
5/23/2013	16:54	4696	143.92	143.92	Pump in Well 1 shut down.
5/23/2013	16:55	4697	143.80	143.80	
5/23/2013	16:56	4698	143.76	143.76	Pump in Well 2B shut down.
5/23/2013	16:57	4699	143.75	143.75	
5/23/2013	16:58	4700	143.80	143.80	
5/23/2013	16:59	4701	143.81	143.81	Well 5 pumping rate 19.5 gpm.
5/23/2013	17:00	-1	133.45	133.45	Pump in Well 5 shut down.
5/23/2013	17:01	-2	125.70	125.70	
5/23/2013	17:02	-3	118.79	118.79	
5/23/2013	17:03	-4	112.56	112.56	
5/23/2013	17:04	-5	106.65	106.65	
5/23/2013	17:05	-6	101.15	101.15	
5/23/2013	17:06	-7	96.15	96.15	
5/23/2013	17:07	-8	91.64	91.64	
5/23/2013	17:08	-9	87.50	87.50	
5/23/2013	17:09	-10	83.20	83.20	
5/23/2013	17:10	-11	79.21	79.21	
5/23/2013	17:11	-12	74.60	74.60	
5/23/2013	17:12	-13	71.14	71.14	
5/23/2013	17:13	-14	67.83	67.83	
5/23/2013	17:14	-15	64.72	64.72	
5/23/2013	17:19	-20	51.57	51.57	
5/23/2013	17:24	-25	41.40	41.40	
5/23/2013	17:29	-30	33.41	33.41	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 5 During Simultaneous 72-Hour Pumping Test of Proposed  
Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

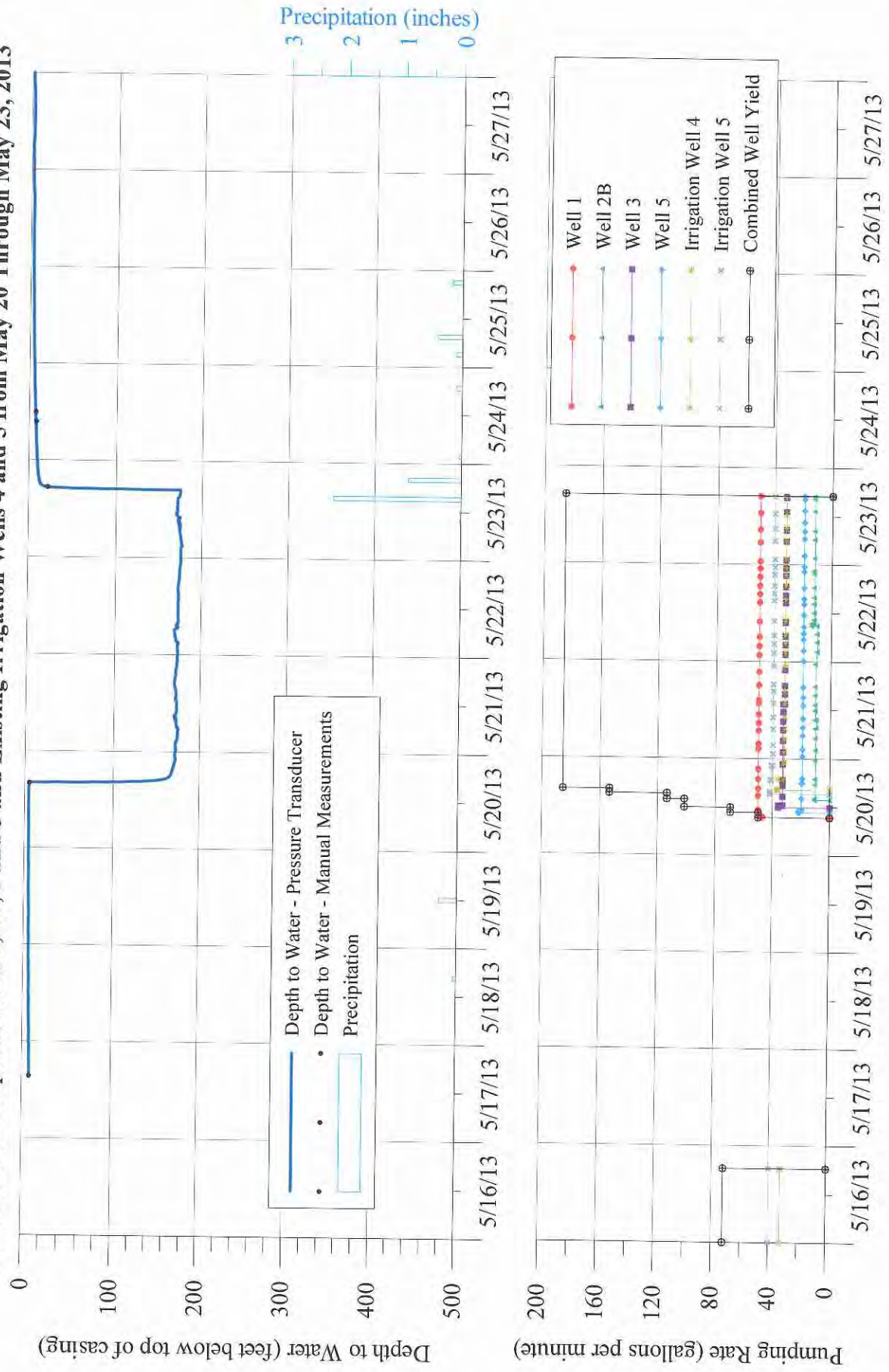
Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	17:34	-35	27.14	27.14	
5/23/2013	17:39	-40	22.08	22.08	
5/23/2013	17:44	-45	17.93	17.93	
5/23/2013	17:49	-50	14.46	14.46	Water level recovered to 90% of pre-test static level.
5/23/2013	17:59	-60	9.10	9.10	
5/23/2013	18:09	-70	5.20	5.20	
5/23/2013	18:19	-80	2.25	2.25	
5/23/2013	18:29	-90	0.00	0.00	
5/23/2013	18:30	-91	0.00	0.00	Water level recovered to 100% of pre-test static level.
5/23/2013	18:39	-100	0.00	0.00	
5/23/2013	19:09	-130	0.00	0.00	
5/23/2013	19:39	-160	0.00	0.00	
5/23/2013	20:09	-190	0.00	0.00	
5/23/2013	20:39	-220	0.00	0.00	
5/23/2013	21:09	-250	0.00	0.00	
5/23/2013	21:39	-280	0.00	0.00	
5/23/2013	22:09	-310	0.00	0.00	
5/23/2013	22:39	-340	0.00	0.00	
5/23/2013	23:09	-370	0.00	0.00	
5/23/2013	23:39	-400	0.00	0.00	
5/24/2013	0:09	-430	0.00	0.00	
5/24/2013	0:39	-460	0.00	0.00	
5/24/2013	1:09	-490	0.00	0.00	
5/24/2013	1:39	-520	0.00	0.00	
5/24/2013	2:00	-541	0.00	0.00	
5/24/2013	3:00	-601	0.00	0.00	
5/24/2013	4:00	-661	0.00	0.00	
5/24/2013	5:00	-721	0.00	0.00	
5/24/2013	6:00	-781	0.00	0.00	
5/24/2013	7:00	-841	0.00	0.00	
5/24/2013	8:00	-901	0.00	0.00	
5/24/2013	9:00	-961	0.00	0.00	
5/24/2013	10:00	-1021	0.00	0.00	
5/24/2013	11:00	-1081	0.00	0.00	
5/24/2013	12:00	-1141	0.00	0.00	
5/24/2013	13:00	-1201	0.00	0.00	
5/24/2013	14:00	-1261	0.00	0.00	
5/24/2013	15:00	-1321	0.00	0.00	
5/24/2013	16:00	-1381	0.00	0.00	
5/24/2013	17:00	-1441	0.00	0.00	
5/24/2013	18:00	-1501	0.00	0.00	
5/24/2013	19:00	-1561	0.00	0.00	
5/24/2013	20:00	-1621	0.00	0.00	
5/24/2013	21:00	-1681	0.00	0.00	
5/24/2013	22:00	-1741	0.00	0.00	
5/24/2013	23:00	-1801	0.00	0.00	

min            minutes  
ft btoc        feet below top of casing  
gpm           gallons per minute

**IRRIGATION WELL 4**

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Irrigation Well 4 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/17/2013	16:00	--	8.38	3.51	
5/17/2013	17:00	--	8.28	3.41	
5/17/2013	18:00	--	8.19	3.32	
5/17/2013	19:00	--	8.11	3.24	
5/17/2013	20:00	--	8.04	3.17	
5/17/2013	21:00	--	7.97	3.10	
5/17/2013	22:00	--	7.87	3.00	
5/17/2013	23:00	--	7.80	2.93	
5/18/2013	0:00	--	7.69	2.82	
5/18/2013	1:00	--	7.61	2.74	
5/18/2013	2:00	--	7.56	2.69	
5/18/2013	3:00	--	7.48	2.61	
5/18/2013	4:00	--	7.41	2.54	
5/18/2013	5:00	--	7.35	2.48	
5/18/2013	6:00	--	7.28	2.41	
5/18/2013	7:00	--	7.22	2.35	
5/18/2013	8:00	--	7.13	2.26	
5/18/2013	9:00	--	7.11	2.24	
5/18/2013	10:00	--	7.05	2.18	
5/18/2013	11:00	--	6.96	2.09	
5/18/2013	12:00	--	6.87	2.00	
5/18/2013	13:00	--	6.83	1.96	
5/18/2013	14:00	--	6.77	1.90	
5/18/2013	15:00	--	6.68	1.81	
5/18/2013	16:00	--	6.66	1.79	
5/18/2013	17:00	--	6.57	1.70	
5/18/2013	18:00	--	6.53	1.66	
5/18/2013	19:00	--	6.49	1.62	
5/18/2013	20:00	--	6.44	1.57	
5/18/2013	21:00	--	6.36	1.49	
5/18/2013	22:00	--	6.34	1.47	
5/18/2013	23:00	--	6.27	1.40	
5/19/2013	0:00	--	6.21	1.34	
5/19/2013	1:00	--	6.17	1.30	
5/19/2013	2:00	--	6.10	1.23	
5/19/2013	3:00	--	6.06	1.19	
5/19/2013	4:00	--	6.01	1.14	
5/19/2013	5:00	--	5.97	1.10	
5/19/2013	6:00	--	5.99	1.12	
5/19/2013	7:00	--	5.91	1.04	
5/19/2013	8:00	--	5.80	0.93	
5/19/2013	9:00	--	5.78	0.91	
5/19/2013	10:00	--	5.71	0.84	
5/19/2013	11:00	--	5.69	0.82	
5/19/2013	12:00	--	5.63	0.76	
5/19/2013	13:00	--	5.56	0.69	
5/19/2013	14:00	--	5.54	0.67	
5/19/2013	15:00	--	5.50	0.63	
5/19/2013	16:00	--	5.44	0.57	
5/19/2013	17:00	--	5.41	0.54	
5/19/2013	18:00	--	5.39	0.52	
5/19/2013	19:00	--	5.33	0.46	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/19/2013	20:00	--	5.28	0.41	
5/19/2013	21:00	--	5.24	0.37	
5/19/2013	22:00	--	5.20	0.33	
5/19/2013	23:00	--	5.18	0.31	
5/20/2013	0:00	--	5.16	0.29	
5/20/2013	1:00	--	5.11	0.24	
5/20/2013	2:00	--	5.07	0.20	
5/20/2013	3:00	--	5.04	0.17	
5/20/2013	4:00	--	5.02	0.15	
5/20/2013	5:00	--	4.98	0.11	
5/20/2013	6:00	--	4.96	0.09	
5/20/2013	7:00	--	4.96	0.09	
5/20/2013	8:00	--	4.92	0.05	
5/20/2013	9:24	--	4.87	0.00	Pump started in Well 1.
5/20/2013	10:00	--	4.87	0.00	
5/20/2013	10:39	--	4.81	-0.06	Pump started in Well 5.
5/20/2013	11:00	--	4.83	-0.04	
5/20/2013	11:53	--	4.83	-0.04	Pump started in Well 3.
5/20/2013	12:00	--	4.81	-0.06	
5/20/2013	13:00	--	4.85	-0.02	
5/20/2013	13:50	--	4.85	-0.02	Pump started in Well 2B.
5/20/2013	14:00	--	4.90	0.02	
5/20/2013	15:00	--	4.90	0.02	
5/20/2013	15:13	--	4.94	0.07	Pump started in Irrigation Well 5.
5/20/2013	16:00	--	5.31	0.44	
5/20/2013	16:08	--	5.33	0.46	
5/20/2013	16:09	--	5.33	0.46	
5/20/2013	16:10	--	5.33	0.46	
5/20/2013	16:11	0	5.33	0.46	
5/20/2013	16:12	1	11.45	6.58	Pump started in Irrigation Well 4.
5/20/2013	16:13	2	23.68	18.81	
5/20/2013	16:14	3	34.17	29.30	
5/20/2013	16:15	4	43.14	38.27	Irrigation Well 4 pumping rate 37 gpm.
5/20/2013	16:16	5	50.48	45.61	
5/20/2013	16:17	6	57.51	52.64	
5/20/2013	16:18	7	63.97	59.10	
5/20/2013	16:19	8	69.98	65.11	
5/20/2013	16:20	9	75.58	70.71	
5/20/2013	16:21	10	80.73	75.86	
5/20/2013	16:22	11	85.54	80.67	Irrigation Well 4 pumping rate 36 gpm.
5/20/2013	16:23	12	90.07	85.20	
5/20/2013	16:24	13	94.20	89.33	
5/20/2013	16:25	14	98.09	93.22	
5/20/2013	16:26	15	101.75	96.88	
5/20/2013	16:31	20	116.85	111.98	
5/20/2013	16:36	25	127.94	123.07	
5/20/2013	16:41	30	136.16	131.29	
5/20/2013	16:46	35	142.57	137.70	
5/20/2013	16:51	40	147.37	142.50	
5/20/2013	16:56	45	151.07	146.20	Irrigation Well 4 pumping rate 36 gpm.
5/20/2013	17:01	50	153.82	148.95	
5/20/2013	17:11	60	158.05	153.18	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	17:21	70	160.80	155.93	
5/20/2013	17:31	80	162.66	157.79	
5/20/2013	17:41	90	163.92	159.05	
5/20/2013	17:51	100	164.80	159.93	
5/20/2013	18:21	130	166.87	162.00	
5/20/2013	18:51	160	167.66	162.79	Irrigation Well 4 pumping rate 32.5 gpm.
5/20/2013	19:21	190	168.35	163.48	
5/20/2013	19:51	220	169.08	164.21	
5/20/2013	20:21	250	169.99	165.12	
5/20/2013	20:51	280	170.44	165.57	
5/20/2013	21:21	310	171.06	166.19	
5/20/2013	21:51	340	171.62	166.75	
5/20/2013	22:21	370	172.30	167.43	
5/20/2013	22:51	400	171.30	166.43	Irrigation Well 4 pumping rate 32 gpm.
5/20/2013	23:21	430	171.19	166.32	
5/20/2013	23:51	460	171.73	166.86	
5/21/2013	0:21	490	172.05	167.18	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	0:51	520	172.11	167.24	
5/21/2013	1:00	529	171.92	167.05	
5/21/2013	2:00	589	171.94	167.07	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	3:00	649	173.59	168.72	
5/21/2013	4:00	709	174.10	169.23	
5/21/2013	5:00	769	174.38	169.51	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	6:00	829	173.99	169.12	
5/21/2013	7:00	889	172.41	167.54	
5/21/2013	8:00	949	171.17	166.30	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	9:00	1009	170.36	165.49	
5/21/2013	10:00	1069	172.84	167.97	
5/21/2013	11:00	1129	172.72	167.85	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	12:00	1189	172.88	168.01	
5/21/2013	13:00	1249	171.23	166.36	
5/21/2013	14:00	1309	172.21	167.34	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	15:00	1369	172.06	167.19	
5/21/2013	16:00	1429	171.30	166.43	
5/21/2013	17:00	1489	170.13	165.26	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	18:00	1549	170.57	165.70	
5/21/2013	19:00	1609	171.54	166.67	
5/21/2013	20:00	1669	171.51	166.64	Irrigation Well 4 pumping rate 32 gpm.
5/21/2013	21:00	1729	172.41	167.54	
5/21/2013	22:00	1789	172.56	167.69	
5/21/2013	23:00	1849	173.24	168.37	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	0:00	1909	173.31	168.44	
5/22/2013	1:00	1969	173.48	168.61	
5/22/2013	2:00	2029	172.86	167.99	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	3:00	2089	174.06	169.19	
5/22/2013	4:00	2149	170.79	165.92	
5/22/2013	5:00	2209	170.08	165.21	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	6:00	2269	169.55	164.68	
5/22/2013	7:00	2329	173.20	168.33	
5/22/2013	8:00	2389	173.28	168.41	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	9:00	2449	173.65	168.78	
5/22/2013	10:00	2509	173.33	168.46	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/22/2013	11:00	2569	173.48	168.61	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	12:00	2629	173.41	168.54	
5/22/2013	13:00	2689	173.39	168.52	
5/22/2013	14:00	2749	173.78	168.91	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	15:00	2809	173.63	168.76	
5/22/2013	16:00	2869	173.11	168.24	
5/22/2013	17:00	2929	173.33	168.46	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	18:00	2989	174.10	169.23	
5/22/2013	19:00	3049	174.29	169.42	
5/22/2013	20:00	3109	174.76	169.89	Irrigation Well 4 pumping rate 32 gpm.
5/22/2013	21:00	3169	174.95	170.08	
5/22/2013	22:00	3229	175.42	170.55	
5/22/2013	23:00	3289	176.06	171.19	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	0:00	3349	176.08	171.21	
5/23/2013	1:00	3409	176.08	171.21	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	2:00	3469	176.10	171.23	
5/23/2013	3:00	3529	177.39	172.52	Start of water level stabilization period.
5/23/2013	4:00	3589	176.47	171.60	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	5:00	3649	175.89	171.02	
5/23/2013	6:00	3709	175.04	170.17	
5/23/2013	7:00	3769	174.46	169.59	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	8:00	3829	174.57	169.70	
5/23/2013	9:00	3889	173.75	168.88	
5/23/2013	10:00	3949	174.87	170.00	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	11:00	4009	170.25	165.38	
5/23/2013	12:00	4069	171.71	166.84	
5/23/2013	13:00	4129	171.69	166.82	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	14:00	4189	171.81	166.94	
5/23/2013	15:00	4249	172.90	168.03	
5/23/2013	16:00	4309	174.85	169.98	Irrigation Well 4 pumping rate 32 gpm.
5/23/2013	16:49	4358	175.17	170.30	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	4359	175.12	170.25	Pump in Well 3 shut down.
5/23/2013	16:51	-1	168.44	163.57	Pump In Irrigation Well 4 shut down.
5/23/2013	16:52	-2	156.61	151.74	
5/23/2013	16:53	-3	145.65	140.78	
5/23/2013	16:54	-4	135.10	130.23	Pump in Well 1 shut down.
5/23/2013	16:55	-5	125.11	120.24	
5/23/2013	16:56	-6	115.56	110.69	Pump in Well 2B shut down.
5/23/2013	16:57	-7	106.53	101.66	
5/23/2013	16:58	-8	97.95	93.08	
5/23/2013	16:59	-9	89.92	85.05	
5/23/2013	17:00	-10	82.23	77.36	Pump in Well 5 shut down.
5/23/2013	17:01	-11	75.19	70.32	
5/23/2013	17:02	-12	68.48	63.61	
5/23/2013	17:03	-13	62.39	57.52	
5/23/2013	17:04	-14	56.86	51.99	
5/23/2013	17:05	-15	51.70	46.83	
5/23/2013	17:10	-20	33.55	28.68	
5/23/2013	17:15	-25	24.92	20.05	
5/23/2013	17:19	-29	21.75	16.88	Water level recovered to 90% of pre-test static level.
5/23/2013	17:20	-30	21.18	16.31	
5/23/2013	17:25	-35	19.27	14.40	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	17:30	-40	17.87	13.00	
5/23/2013	17:35	-45	16.86	11.99	
5/23/2013	17:40	-50	16.07	11.20	
5/23/2013	17:50	-60	15.02	10.15	
5/23/2013	18:00	-70	14.32	9.45	
5/23/2013	18:10	-80	13.80	8.93	
5/23/2013	18:20	-90	13.44	8.57	
5/23/2013	18:30	-100	13.09	8.22	
5/23/2013	19:00	-130	12.45	7.58	
5/23/2013	19:30	-160	12.00	7.13	
5/23/2013	20:00	-190	11.54	6.67	
5/23/2013	20:30	-220	11.16	6.29	
5/23/2013	21:00	-250	10.94	6.07	
5/23/2013	21:30	-280	10.74	5.87	
5/23/2013	22:00	-310	10.57	5.70	
5/23/2013	22:30	-340	10.38	5.51	
5/23/2013	23:00	-370	10.22	5.35	
5/23/2013	23:30	-400	10.09	5.22	
5/24/2013	0:00	-430	9.94	5.07	
5/24/2013	0:30	-460	9.79	4.92	
5/24/2013	1:00	-490	9.64	4.77	
5/24/2013	1:30	-520	9.51	4.64	
5/24/2013	2:00	-550	9.36	4.49	
5/24/2013	3:00	-610	9.17	4.30	
5/24/2013	4:00	-670	8.95	4.08	
5/24/2013	5:00	-730	8.71	3.84	
5/24/2013	6:00	-790	8.52	3.65	
5/24/2013	7:00	-850	8.35	3.48	
5/24/2013	8:00	-910	8.24	3.37	
5/24/2013	9:00	-970	8.09	3.22	
5/24/2013	10:00	-1030	8.00	3.13	
5/24/2013	11:00	-1090	7.68	2.81	
5/24/2013	12:00	-1150	7.44	2.57	
5/24/2013	13:00	-1210	7.27	2.40	
5/24/2013	14:00	-1270	7.12	2.25	
5/24/2013	15:00	-1330	6.95	2.08	
5/24/2013	16:00	-1390	6.76	1.89	
5/24/2013	17:00	-1450	6.61	1.74	
5/24/2013	18:00	-1510	6.48	1.61	
5/24/2013	19:00	-1570	6.33	1.46	
5/24/2013	20:00	-1630	6.13	1.26	
5/24/2013	21:00	-1690	6.05	1.18	
5/24/2013	22:00	-1750	5.87	1.00	
5/24/2013	23:00	-1810	5.79	0.92	
5/25/2013	0:00	-1870	5.66	0.79	
5/25/2013	1:00	-1930	5.58	0.71	
5/25/2013	2:00	-1990	5.44	0.57	
5/25/2013	3:00	-2050	5.36	0.49	
5/25/2013	4:00	-2110	5.27	0.40	
5/25/2013	5:00	-2170	5.19	0.32	
5/25/2013	6:00	-2230	5.06	0.19	
5/25/2013	7:00	-2290	4.97	0.10	

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ARMONK, NEW YORK**

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**Summary of Water-Level Measurements Collected from Irrigation Well 4 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth To Water (ft btoc)	Drawdown (feet)	Comments
5/25/2013	8:00	-2350	4.89	0.02	
5/25/2013	8:18	-2368	4.87	0.00	Water level recovered to 100% of pre-test static level.
5/25/2013	9:00	-2410	4.87	0.00	
5/25/2013	10:00	-2470	4.78	-0.09	
5/25/2013	11:00	-2530	4.74	-0.14	
5/25/2013	12:00	-2590	4.74	-0.14	
5/25/2013	13:00	-2650	4.61	-0.26	
5/25/2013	14:00	-2710	4.54	-0.33	
5/25/2013	15:00	-2770	4.46	-0.41	
5/25/2013	16:00	-2830	4.35	-0.52	
5/25/2013	17:00	-2890	4.22	-0.65	
5/25/2013	18:00	-2950	4.18	-0.69	
5/25/2013	19:00	-3010	4.09	-0.78	
5/25/2013	20:00	-3070	3.94	-0.93	
5/25/2013	21:00	-3130	3.88	-0.99	
5/25/2013	22:00	-3190	3.77	-1.10	
5/25/2013	23:00	-3250	3.73	-1.14	

min       minutes

ft btoc    feet below top of casing

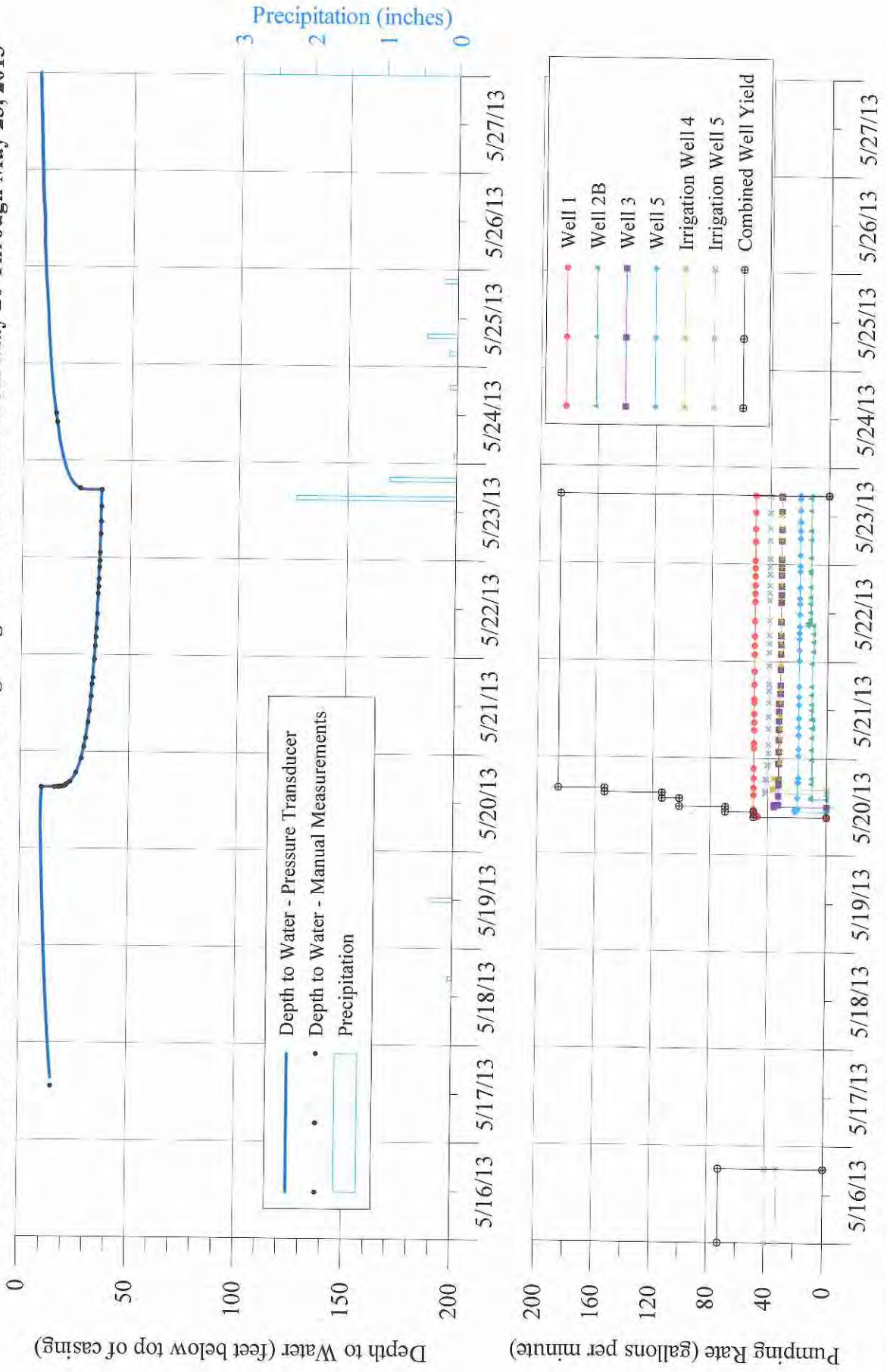
gpm        gallons per minute

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**IRRIGATION WELL 5**

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**Hydrograph of Water-Level Measurements Collected from Irrigation Well 5 During the Simultaneous Pumping Test  
Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



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ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/17/2013	16:00	--	14.63	5.29	
5/17/2013	17:00	--	14.45	5.11	
5/17/2013	18:00	--	14.28	4.94	
5/17/2013	19:00	--	14.13	4.79	
5/17/2013	20:00	--	13.98	4.64	
5/17/2013	21:00	--	13.84	4.50	
5/17/2013	22:00	--	13.71	4.37	
5/17/2013	23:00	--	13.57	4.23	
5/18/2013	0:00	--	13.44	4.10	
5/18/2013	1:00	--	13.31	3.97	
5/18/2013	2:00	--	13.18	3.84	
5/18/2013	3:00	--	13.06	3.72	
5/18/2013	4:00	--	12.95	3.61	
5/18/2013	5:00	--	12.84	3.50	
5/18/2013	6:00	--	12.74	3.40	
5/18/2013	7:00	--	12.64	3.30	
5/18/2013	8:00	--	12.54	3.20	
5/18/2013	9:00	--	12.44	3.10	
5/18/2013	10:00	--	12.34	3.00	
5/18/2013	11:00	--	12.23	2.89	
5/18/2013	12:00	--	12.13	2.79	
5/18/2013	13:00	--	12.03	2.69	
5/18/2013	14:00	--	11.94	2.60	
5/18/2013	15:00	--	11.85	2.51	
5/18/2013	16:00	--	11.77	2.43	
5/18/2013	17:00	--	11.69	2.35	
5/18/2013	18:00	--	11.61	2.27	
5/18/2013	19:00	--	11.53	2.19	
5/18/2013	20:00	--	11.45	2.11	
5/18/2013	21:00	--	11.37	2.03	
5/18/2013	22:00	--	11.29	1.95	
5/18/2013	23:00	--	11.21	1.87	
5/19/2013	0:00	--	11.14	1.80	
5/19/2013	1:00	--	11.06	1.72	
5/19/2013	2:00	--	10.99	1.65	
5/19/2013	3:00	--	10.92	1.58	
5/19/2013	4:00	--	10.85	1.51	
5/19/2013	5:00	--	10.79	1.45	
5/19/2013	6:00	--	10.73	1.39	
5/19/2013	7:00	--	10.67	1.33	
5/19/2013	8:00	--	10.62	1.28	
5/19/2013	9:00	--	10.56	1.22	
5/19/2013	10:00	--	10.50	1.16	
5/19/2013	11:00	--	10.44	1.10	
5/19/2013	12:00	--	10.37	1.03	
5/19/2013	13:00	--	10.30	0.96	
5/19/2013	14:00	--	10.24	0.90	
5/19/2013	15:00	--	10.17	0.83	
5/19/2013	16:00	--	10.12	0.78	
5/19/2013	17:00	--	10.07	0.73	
5/19/2013	18:00	--	10.01	0.67	
5/19/2013	19:00	--	9.96	0.62	



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ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/19/2013	20:00	--	9.90	0.56	
5/19/2013	21:00	--	9.85	0.51	
5/19/2013	22:00	--	9.80	0.46	
5/19/2013	23:00	--	9.75	0.41	
5/20/2013	0:00	--	9.69	0.35	
5/20/2013	1:00	--	9.63	0.29	
5/20/2013	2:00	--	9.58	0.24	
5/20/2013	3:00	--	9.52	0.18	
5/20/2013	4:00	--	9.49	0.15	
5/20/2013	5:00	--	9.44	0.10	
5/20/2013	6:00	--	9.41	0.07	
5/20/2013	7:00	--	9.40	0.06	
5/20/2013	8:00	--	9.39	0.05	
5/20/2013	9:00	--	9.36	0.02	
5/20/2013	9:24	--	9.34	0.00	Pump in Well 1 started.
5/20/2013	10:00	--	9.35	0.01	
5/20/2013	10:39	--	9.41	0.06	Pump in Well 5 started.
5/20/2013	11:00	--	9.44	0.10	
5/20/2013	11:53	--	9.51	0.17	Pumping Well 3 started.
5/20/2013	12:00	--	9.52	0.18	
5/20/2013	13:00	--	9.60	0.26	
5/20/2013	13:50	--	9.66	0.32	Pumping Well 2B started.
5/20/2013	14:00	--	9.68	0.34	
5/20/2013	15:00	--	9.74	0.40	
5/20/2013	15:10	--	9.75	0.41	
5/20/2013	15:11	--	9.75	0.41	
5/20/2013	15:12	0	9.75	0.41	
5/20/2013	15:13	1	15.55	6.21	Pump in Irrigation Well 5 started.
5/20/2013	15:14	2	17.08	7.74	
5/20/2013	15:15	3	17.81	8.47	
5/20/2013	15:16	4	18.28	8.94	
5/20/2013	15:17	5	18.60	9.26	
5/20/2013	15:18	6	18.86	9.52	
5/20/2013	15:19	7	19.09	9.75	
5/20/2013	15:20	8	19.19	9.85	Irrigation Well 5 pumping rate 42 gpm.
5/20/2013	15:21	9	19.38	10.04	
5/20/2013	15:22	10	19.56	10.22	
5/20/2013	15:23	11	19.71	10.37	
5/20/2013	15:24	12	19.84	10.50	Well 5 pumping rate 42 gpm.
5/20/2013	15:25	13	19.95	10.61	
5/20/2013	15:26	14	20.05	10.71	
5/20/2013	15:27	15	20.15	10.81	
5/20/2013	15:32	20	20.47	11.13	Irrigation Well 5 pumping rate 42 gpm.
5/20/2013	15:37	25	20.56	11.22	
5/20/2013	15:42	30	20.80	11.46	
5/20/2013	15:47	35	21.01	11.67	
5/20/2013	15:52	40	21.17	11.83	
5/20/2013	15:57	45	21.64	12.30	Irrigation Well 5 pumping rate 42 gpm.
5/20/2013	16:02	50	21.85	12.51	
5/20/2013	16:12	60	22.18	12.84	Pump in Irrigation Well 4 started.
5/20/2013	16:22	70	22.48	13.14	
5/20/2013	16:32	80	22.78	13.44	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/20/2013	16:42	90	23.06	13.72	
5/20/2013	16:52	100	23.33	13.99	Irrigation Well 5 pumping rate 42 gpm.
5/20/2013	17:22	130	24.03	14.69	
5/20/2013	17:52	160	24.62	15.28	
5/20/2013	18:22	190	25.15	15.81	
5/20/2013	18:52	220	25.60	16.26	Irrigation Well 5 pumping rate 41 gpm.
5/20/2013	19:22	250	26.01	16.67	
5/20/2013	19:52	280	26.38	17.04	
5/20/2013	20:22	310	26.73	17.39	
5/20/2013	20:52	340	27.06	17.72	
5/20/2013	21:22	370	27.36	18.02	Irrigation Well 5 pumping rate 40 gpm.
5/20/2013	21:52	400	27.64	18.30	
5/20/2013	22:22	430	27.91	18.57	
5/20/2013	22:52	460	28.11	18.77	Irrigation Well 5 pumping rate 40 gpm.
5/20/2013	23:22	490	28.33	18.99	
5/20/2013	23:52	520	28.56	19.22	
5/21/2013	0:00	528	28.62	19.28	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	1:00	588	29.00	19.66	
5/21/2013	2:00	648	29.36	20.02	
5/21/2013	3:00	708	29.73	20.39	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	4:00	768	30.04	20.70	
5/21/2013	5:00	828	30.34	21.00	
5/21/2013	6:00	888	30.59	21.25	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	7:00	948	30.81	21.47	
5/21/2013	8:00	1008	31.00	21.66	
5/21/2013	9:00	1068	31.23	21.89	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	10:00	1128	31.52	22.18	
5/21/2013	11:00	1188	31.71	22.37	
5/21/2013	12:00	1248	31.91	22.57	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	13:00	1308	32.02	22.68	
5/21/2013	14:00	1368	32.23	22.89	
5/21/2013	15:00	1428	32.38	23.04	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	16:00	1488	32.49	23.15	
5/21/2013	17:00	1548	32.63	23.29	
5/21/2013	18:00	1608	32.79	23.45	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	19:00	1668	32.96	23.62	
5/21/2013	20:00	1728	33.09	23.75	
5/21/2013	21:00	1788	33.24	23.90	Irrigation Well 5 pumping rate 40 gpm.
5/21/2013	22:00	1848	33.37	24.03	
5/21/2013	23:00	1908	33.50	24.16	
5/22/2013	0:00	1968	33.67	24.33	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	1:00	2028	33.79	24.45	
5/22/2013	2:00	2088	33.89	24.55	
5/22/2013	3:00	2148	34.01	24.67	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	4:00	2208	34.02	24.68	
5/22/2013	5:00	2268	34.12	24.78	
5/22/2013	6:00	2328	34.22	24.88	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	7:00	2388	34.37	25.03	
5/22/2013	8:00	2448	34.53	25.19	
5/22/2013	9:00	2508	34.62	25.28	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	10:00	2568	34.71	25.37	
5/22/2013	11:00	2628	34.80	25.46	

**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/22/2013	12:00	2688	34.87	25.53	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	13:00	2748	34.92	25.58	
5/22/2013	14:00	2808	34.98	25.64	
5/22/2013	15:00	2868	35.05	25.71	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	16:00	2928	35.08	25.74	
5/22/2013	17:00	2988	35.15	25.81	
5/22/2013	18:00	3048	35.24	25.90	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	19:00	3108	35.31	25.97	
5/22/2013	20:00	3168	35.39	26.05	
5/22/2013	21:00	3228	35.47	26.13	Irrigation Well 5 pumping rate 40 gpm.
5/22/2013	22:00	3288	35.56	26.22	
5/22/2013	23:00	3348	35.62	26.28	
5/23/2013	0:00	3408	35.68	26.34	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	1:00	3468	35.74	26.40	
5/23/2013	2:00	3528	35.79	26.45	
5/23/2013	2:40	3568	35.84	26.50	Start of water-level stabilization period.
5/23/2013	3:00	3588	35.87	26.53	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	4:00	3648	35.90	26.56	
5/23/2013	5:00	3708	35.93	26.59	
5/23/2013	6:00	3768	35.97	26.63	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	7:00	3828	36.01	26.67	
5/23/2013	8:00	3888	36.11	26.77	
5/23/2013	9:00	3948	36.12	26.78	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	10:00	4008	36.18	26.84	
5/23/2013	11:00	4068	36.07	26.73	
5/23/2013	12:00	4128	36.14	26.80	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	13:00	4188	36.18	26.84	
5/23/2013	14:00	4248	36.16	26.82	
5/23/2013	15:00	4308	36.24	26.90	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	16:00	4368	36.26	26.92	
5/23/2013	16:45	4413	36.29	26.95	
5/23/2013	16:46	4414	36.29	26.95	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	16:47	4415	36.28	26.94	
5/23/2013	16:48	4416	36.29	26.95	Irrigation Well 5 pumping rate 40 gpm.
5/23/2013	16:49	-1	31.29	21.95	Pump in Irrigation Well 5 shut down.
5/23/2013	16:50	-2	30.08	20.74	Pump in Well 3 shut down.
5/23/2013	16:51	-3	29.49	20.15	Pump In Irrigation Well 4 shut down.
5/23/2013	16:52	-4	28.99	19.65	
5/23/2013	16:53	-5	28.60	19.26	
5/23/2013	16:54	-6	28.31	18.97	Pump in Well 1 shut down.
5/23/2013	16:55	-7	28.08	18.74	
5/23/2013	16:56	-8	27.87	18.53	Pump in Well 2B shut down.
5/23/2013	16:57	-9	27.70	18.36	
5/23/2013	16:58	-10	27.54	18.20	
5/23/2013	16:59	-11	27.39	18.05	
5/23/2013	17:00	-12	27.25	17.91	Pump in Well 5 shut down.
5/23/2013	17:01	-13	27.12	17.78	
5/23/2013	17:02	-14	27.00	17.66	
5/23/2013	17:03	-15	26.89	17.55	
5/23/2013	17:08	-20	26.39	17.05	
5/23/2013	17:13	-25	26.10	16.76	
5/23/2013	17:18	-30	25.76	16.42	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/23/2013	17:23	-35	25.47	16.13	
5/23/2013	17:28	-40	25.22	15.88	
5/23/2013	17:33	-45	24.99	15.65	
5/23/2013	17:38	-50	24.78	15.44	
5/23/2013	17:48	-60	24.39	15.05	
5/23/2013	17:58	-70	24.05	14.71	
5/23/2013	18:08	-80	23.74	14.40	
5/23/2013	18:18	-90	23.47	14.13	
5/23/2013	18:28	-100	23.21	13.87	
5/23/2013	18:58	-130	22.54	13.20	
5/23/2013	19:28	-160	21.96	12.62	
5/23/2013	19:58	-190	21.44	12.10	
5/23/2013	20:28	-220	20.98	11.64	
5/23/2013	20:58	-250	20.58	11.24	
5/23/2013	21:28	-280	20.21	10.87	
5/23/2013	21:58	-310	19.85	10.51	
5/23/2013	22:28	-340	19.53	10.19	
5/23/2013	22:58	-370	19.23	9.89	
5/23/2013	23:28	-400	18.95	9.61	
5/24/2013	23:58	-430	12.18	2.84	
5/24/2013	0:28	-460	12.13	2.79	
5/24/2013	0:58	-490	12.06	2.72	
5/24/2013	1:00	-492	18.20	8.86	
5/24/2013	2:00	-552	17.76	8.42	
5/24/2013	3:00	-612	17.37	8.03	
5/24/2013	4:00	-672	16.94	7.60	
5/24/2013	5:00	-732	16.60	7.26	
5/24/2013	6:00	-792	16.29	6.95	
5/24/2013	7:00	-852	16.02	6.68	
5/24/2013	8:00	-912	15.77	6.43	
5/24/2013	9:00	-972	15.51	6.17	
5/24/2013	10:00	-1032	15.25	5.91	
5/24/2013	11:00	-1092	14.91	5.57	
5/24/2013	12:00	-1152	14.66	5.32	
5/24/2013	13:00	-1212	14.38	5.04	
5/24/2013	14:00	-1272	14.14	4.80	
5/24/2013	15:00	-1332	13.88	4.54	
5/24/2013	16:00	-1392	13.64	4.30	
5/24/2013	17:00	-1452	13.42	4.08	
5/24/2013	18:00	-1512	13.21	3.87	
5/24/2013	19:00	-1572	13.01	3.67	
5/24/2013	20:00	-1632	12.82	3.48	
5/24/2013	21:00	-1692	12.69	3.35	
5/24/2013	22:00	-1752	12.49	3.15	
5/24/2013	23:00	-1812	12.33	2.99	
5/25/2013	0:00	-1872	12.18	2.84	
5/25/2013	1:00	-1932	12.05	2.71	
5/25/2013	1:03	-1992	12.04	2.70	Water level recovered to 90% of pre-test static level.
5/25/2013	2:00	-2052	11.88	2.54	
5/25/2013	3:00	-2112	11.77	2.43	
5/25/2013	4:00	-2172	11.63	2.29	
5/25/2013	5:00	-2232	11.49	2.15	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Irrigation Well 5 During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013**

Date	Time	Elapsed Time (min)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/25/2013	6:00	-2292	11.35	2.01	
5/25/2013	7:00	-2352	11.21	1.87	
5/25/2013	8:00	-2412	11.08	1.74	
5/25/2013	9:00	-2472	11.01	1.67	
5/25/2013	10:00	-2532	10.92	1.58	
5/25/2013	11:00	-2592	10.84	1.50	
5/25/2013	12:00	-2652	10.80	1.46	
5/25/2013	13:00	-2712	10.67	1.33	
5/25/2013	14:00	-2772	10.55	1.21	
5/25/2013	15:00	-2832	10.44	1.10	
5/25/2013	16:00	-2892	10.30	0.96	
5/25/2013	17:00	-2952	10.16	0.82	
5/25/2013	18:00	-3012	10.08	0.74	
5/25/2013	19:00	-3072	9.94	0.60	
5/25/2013	20:00	-3132	9.78	0.44	
5/25/2013	21:00	-3192	9.64	0.30	
5/25/2013	22:00	-3252	9.53	0.19	
5/25/2013	23:00	-3312	9.44	0.10	
5/26/2013	0:00	-3372	9.36	0.02	
5/26/2013	0:06	-3432	9.35	0.01	Water level recovered to 100% of pre-test static level.
5/26/2013	1:00	-3492	9.26	-0.08	
5/26/2013	2:00	-3552	9.18	-0.16	
5/26/2013	3:00	-3612	9.12	-0.22	
5/26/2013	4:00	-3672	9.01	-0.33	
5/26/2013	5:00	-3732	8.91	-0.43	
5/26/2013	6:00	-3792	8.83	-0.51	
5/26/2013	7:00	-3852	8.78	-0.56	
5/26/2013	8:00	-3912	8.78	-0.56	
5/26/2013	9:00	-3972	8.78	-0.56	
5/26/2013	10:00	-4032	8.75	-0.59	
5/26/2013	11:00	-4092	8.74	-0.61	
5/26/2013	12:00	-4152	8.73	-0.61	
5/26/2013	13:00	-4212	8.64	-0.70	
5/26/2013	14:00	-4272	8.55	-0.79	
5/26/2013	15:00	-4332	8.44	-0.90	
5/26/2013	16:00	-4392	8.29	-1.05	
5/26/2013	17:00	-4452	8.21	-1.14	
5/26/2013	18:00	-4512	8.11	-1.23	
5/26/2013	19:00	-4572	7.98	-1.36	
5/26/2013	20:00	-4632	7.93	-1.41	
5/26/2013	21:00	-4692	7.87	-1.47	
5/26/2013	22:00	-4752	7.87	-1.47	
5/26/2013	23:00	-4812	7.82	-1.52	

min minutes

ft btoc feet below top of casing

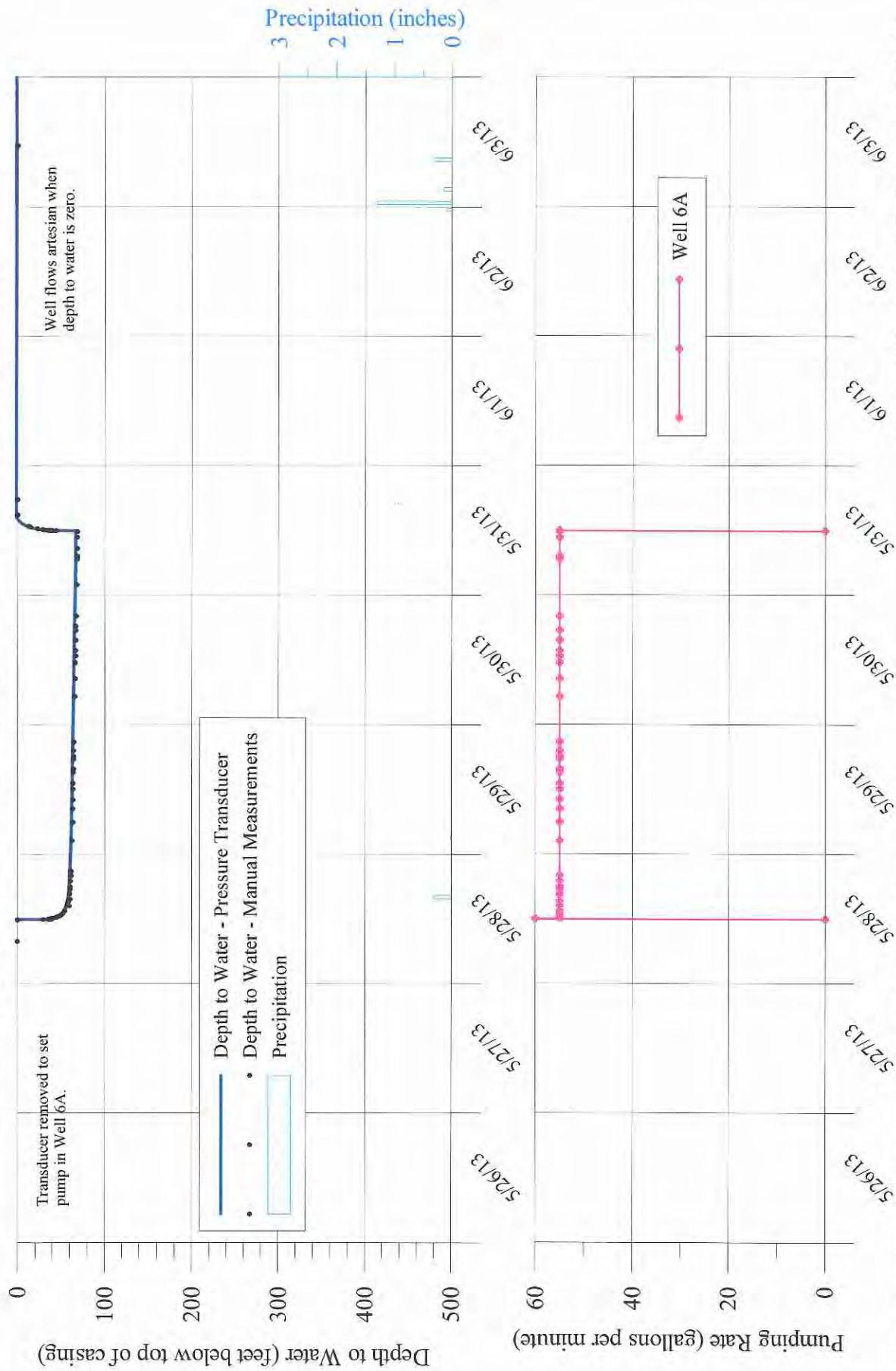
gpm gallons per minute

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**WELL 6A**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

## Hydrograph of Water-Level Measurements Collected from Well 6A During the Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 6A During Individual 72-Hour Pumping Test of Proposed  
Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Elapsed Time (minutes)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/28/2013	11:49	--	0.00	0.00	Transducer installed in Well 6A after pump installation.
5/28/2013	11:50	--	0.00	0.00	
5/28/2013	11:51	0	0.00	0.00	Pump started n Well 6A
5/28/2013	11:52	1	26.41	26.41	Adjusting pumping rate in Well 6A.
5/28/2013	11:53	2	35.87	35.87	
5/28/2013	11:54	3	37.18	37.18	Well 6A pumping rate 60 gpm.
5/28/2013	11:55	4	35.90	35.90	
5/28/2013	11:56	5	34.59	34.59	Well 6A pumping rate 55 gpm.
5/28/2013	11:57	6	34.90	34.90	
5/28/2013	11:58	7	35.12	35.12	
5/28/2013	11:59	8	35.95	35.95	Well 6A pumping rate 55 gpm.
5/28/2013	12:00	9	36.13	36.13	
5/28/2013	12:01	10	37.00	37.00	
5/28/2013	12:02	11	37.74	37.74	Well 6A pumping rate 55 gpm.
5/28/2013	12:03	12	38.22	38.22	
5/28/2013	12:04	13	39.08	39.08	
5/28/2013	12:05	14	39.08	39.08	Well 6A pumping rate 55 gpm.
5/28/2013	12:06	15	39.59	39.59	
5/28/2013	12:11	20	41.99	41.99	
5/28/2013	12:16	25	43.42	43.42	Well 6A pumping rate 55 gpm.
5/28/2013	12:21	30	44.75	44.75	
5/28/2013	12:26	35	46.15	46.15	
5/28/2013	12:31	40	47.19	47.19	Well 6A pumping rate 55 gpm.
5/28/2013	12:36	45	47.85	47.85	
5/28/2013	12:41	50	48.58	48.58	
5/28/2013	12:51	60	50.19	50.19	Well 6A pumping rate 55 gpm.
5/28/2013	13:01	70	51.47	51.47	
5/28/2013	13:11	80	52.17	52.17	
5/28/2013	13:21	90	53.02	53.02	Well 6A pumping rate 55 gpm.
5/28/2013	13:31	100	53.46	53.46	
5/28/2013	14:01	130	55.13	55.13	
5/28/2013	14:31	160	55.84	55.84	Well 6A pumping rate 55 gpm.
5/28/2013	15:01	190	57.10	57.10	
5/28/2013	15:31	220	57.34	57.34	
5/28/2013	16:01	250	57.98	57.98	Well 6A pumping rate 55 gpm.
5/28/2013	16:31	280	58.61	58.61	
5/28/2013	17:01	310	58.51	58.51	
5/28/2013	17:31	340	58.72	58.72	Well 6A pumping rate 55 gpm.
5/28/2013	18:01	370	59.08	59.08	
5/28/2013	18:31	400	59.17	59.17	
5/28/2013	19:01	430	59.51	59.51	Well 6A pumping rate 55 gpm.
5/28/2013	19:31	460	59.38	59.38	
5/28/2013	20:01	490	59.56	59.56	
5/28/2013	20:31	520	59.97	59.97	Well 6A pumping rate 55 gpm.
5/28/2013	21:00	549	59.67	59.67	
5/28/2013	22:00	609	60.59	60.59	
5/28/2013	23:00	669	60.64	60.64	Well 6A pumping rate 55 gpm.
5/29/2013	0:00	729	61.04	61.04	
5/29/2013	1:00	789	60.78	60.78	
5/29/2013	2:00	849	61.30	61.30	Well 6A pumping rate 55 gpm.
5/29/2013	3:00	909	61.15	61.15	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 6A During Individual 72-Hour Pumping Test of Proposed  
Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Elapsed Time (minutes)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/29/2013	4:00	969	61.45	61.45	
5/29/2013	5:00	1029	61.63	61.63	Well 6A pumping rate 55 gpm.
5/29/2013	6:00	1089	61.54	61.54	
5/29/2013	7:00	1149	61.79	61.79	
5/29/2013	8:00	1209	61.88	61.88	Well 6A pumping rate 55 gpm.
5/29/2013	9:00	1269	61.92	61.92	
5/29/2013	10:00	1329	62.39	62.39	
5/29/2013	11:00	1389	62.21	62.21	Well 6A pumping rate 55 gpm.
5/29/2013	12:00	1449	62.07	62.07	
5/29/2013	13:00	1509	62.43	62.43	
5/29/2013	14:00	1569	62.17	62.17	Well 6A pumping rate 55 gpm.
5/29/2013	15:00	1629	62.61	62.61	
5/29/2013	16:00	1689	62.87	62.87	
5/29/2013	17:00	1749	62.62	62.62	Well 6A pumping rate 55 gpm.
5/29/2013	18:00	1809	62.59	62.59	
5/29/2013	19:00	1869	62.93	62.93	
5/29/2013	20:00	1929	62.82	62.82	Well 6A pumping rate 55 gpm.
5/29/2013	21:00	1989	63.05	63.05	Start of water-level stabilization period.
5/29/2013	22:00	2049	63.25	63.25	
5/29/2013	23:00	2109	63.44	63.44	Well 6A pumping rate 55 gpm.
5/30/2013	0:00	2169	63.34	63.34	
5/30/2013	1:00	2229	63.51	63.51	
5/30/2013	2:00	2289	63.85	63.85	Well 6A pumping rate 55 gpm.
5/30/2013	3:00	2349	63.84	63.84	
5/30/2013	4:00	2409	63.61	63.61	
5/30/2013	5:00	2469	63.85	63.85	Well 6A pumping rate 55 gpm.
5/30/2013	6:00	2529	64.07	64.07	
5/30/2013	7:00	2589	64.26	64.26	
5/30/2013	8:00	2649	63.89	63.89	Well 6A pumping rate 55 gpm.
5/30/2013	9:00	2709	64.42	64.42	
5/30/2013	10:00	2769	64.20	64.20	
5/30/2013	11:00	2829	64.45	64.45	Well 6A pumping rate 55 gpm.
5/30/2013	12:00	2889	64.27	64.27	
5/30/2013	13:00	2949	64.64	64.64	
5/30/2013	14:00	3009	64.71	64.71	Well 6A pumping rate 55 gpm.
5/30/2013	15:00	3069	64.54	64.54	
5/30/2013	16:00	3129	64.69	64.69	
5/30/2013	17:00	3189	64.64	64.64	Well 6A pumping rate 55 gpm.
5/30/2013	18:00	3249	65.18	65.18	
5/30/2013	19:00	3309	64.84	64.84	
5/30/2013	20:00	3369	65.13	65.13	Well 6A pumping rate 55 gpm.
5/30/2013	21:00	3429	65.23	65.23	
5/30/2013	22:00	3489	65.39	65.39	
5/30/2013	23:00	3549	65.59	65.59	Well 6A pumping rate 55 gpm.
5/31/2013	0:00	3609	65.57	65.57	
5/31/2013	1:00	3669	65.88	65.88	
5/31/2013	2:00	3729	65.96	65.96	Well 6A pumping rate 55 gpm.
5/31/2013	3:00	3789	66.33	66.33	
5/31/2013	4:00	3849	65.92	65.92	
5/31/2013	5:00	3909	66.34	66.34	Well 6A pumping rate 55 gpm.
5/31/2013	6:00	3969	66.47	66.47	
5/31/2013	7:00	4029	65.98	65.98	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 6A During Individual 72-Hour Pumping Test of Proposed  
Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Elapsed Time (minutes)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/31/2013	8:00	4089	66.26	66.26	Well 6A pumping rate 55 gpm.
5/31/2013	9:00	4149	66.16	66.16	
5/31/2013	10:00	4209	66.22	66.22	
5/31/2013	11:00	4269	66.17	66.17	Well 6A pumping rate 55 gpm.
5/31/2013	11:48	4317	66.42	66.42	
5/31/2013	11:49	4318	66.10	66.10	
5/31/2013	11:50	4319	66.43	66.43	
5/31/2013	11:51	4320	66.08	66.08	Well 6A pumping rate 55 gpm.
5/31/2013	11:52	4321	66.05	66.05	Shut down pump in Well 6A.
5/31/2013	11:53	-1	46.75	46.75	
5/31/2013	11:54	-2	39.21	39.21	
5/31/2013	11:55	-3	36.45	36.45	
5/31/2013	11:56	-4	34.84	34.84	
5/31/2013	11:57	-5	33.53	33.53	
5/31/2013	11:58	-6	32.49	32.49	
5/31/2013	11:59	-7	31.46	31.46	
5/31/2013	12:00	-8	30.59	30.59	
5/31/2013	12:01	-9	29.79	29.79	
5/31/2013	12:02	-10	28.80	28.80	
5/31/2013	12:03	-11	28.15	28.15	
5/31/2013	12:04	-12	27.46	27.46	
5/31/2013	12:05	-13	26.78	26.78	
5/31/2013	12:06	-14	26.11	26.11	
5/31/2013	12:07	-15	25.46	25.46	
5/31/2013	12:12	-20	22.51	22.51	
5/31/2013	12:17	-25	19.79	19.79	
5/31/2013	12:22	-30	17.60	17.60	
5/31/2013	12:27	-35	15.67	15.67	
5/31/2013	12:32	-40	13.78	13.78	
5/31/2013	12:37	-45	12.30	12.30	
5/31/2013	12:42	-50	10.91	10.91	
5/31/2013	12:52	-60	8.70	8.70	
5/31/2013	13:02	-70	6.78	6.78	
5/31/2013	13:12	-80	5.25	5.25	Water level is 90% recovered to pre-test static level.
5/31/2013	13:22	-90	3.92	3.92	
5/31/2013	13:32	-100	2.76	2.76	
5/31/2013	14:02	-130	0.01	0.01	
5/31/2013	14:32	-160	0.00	0.00	Water level is 100% recovered to pre-test static level.
5/31/2013	15:02	-190	0.00	0.00	
5/31/2013	15:32	-220	0.00	0.00	
5/31/2013	16:02	-250	0.00	0.00	
5/31/2013	16:32	-280	0.00	0.00	
5/31/2013	17:02	-310	0.00	0.00	
5/31/2013	17:32	-340	0.00	0.00	
5/31/2013	18:02	-370	0.00	0.00	
5/31/2013	18:32	-400	0.00	0.00	
5/31/2013	19:02	-430	0.00	0.00	
5/31/2013	19:32	-460	0.00	0.00	
5/31/2013	20:02	-490	0.00	0.00	
5/31/2013	20:32	-520	0.00	0.00	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 6A During Individual 72-Hour Pumping Test of Proposed  
Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Elapsed Time (minutes)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
5/31/2013	21:00	-548	0.00	0.00	
5/31/2013	22:00	-608	0.00	0.00	
5/31/2013	23:00	-668	0.00	0.00	
6/1/2013	0:00	-728	0.00	0.00	
6/1/2013	1:00	-788	0.00	0.00	
6/1/2013	2:00	-848	0.00	0.00	
6/1/2013	3:00	-908	0.00	0.00	
6/1/2013	4:00	-968	0.00	0.00	
6/1/2013	5:00	-1028	0.00	0.00	
6/1/2013	6:00	-1088	0.00	0.00	
6/1/2013	7:00	-1148	0.00	0.00	
6/1/2013	8:00	-1208	0.00	0.00	
6/1/2013	9:00	-1268	0.00	0.00	
6/1/2013	10:00	-1328	0.00	0.00	
6/1/2013	11:00	-1388	0.00	0.00	
6/1/2013	12:00	-1448	0.00	0.00	
6/1/2013	13:00	-1508	0.00	0.00	
6/1/2013	14:00	-1568	0.00	0.00	
6/1/2013	15:00	-1628	0.00	0.00	
6/1/2013	16:00	-1688	0.00	0.00	
6/1/2013	17:00	-1748	0.00	0.00	
6/1/2013	18:00	-1808	0.00	0.00	
6/1/2013	19:00	-1868	0.00	0.00	
6/1/2013	20:00	-1928	0.00	0.00	
6/1/2013	21:00	-1988	0.00	0.00	
6/1/2013	22:00	-2048	0.00	0.00	
6/1/2013	23:00	-2108	0.00	0.00	
6/2/2013	0:00	-2168	0.00	0.00	
6/2/2013	1:00	-2228	0.00	0.00	
6/2/2013	2:00	-2288	0.00	0.00	
6/2/2013	3:00	-2348	0.00	0.00	
6/2/2013	4:00	-2408	0.00	0.00	
6/2/2013	5:00	-2468	0.00	0.00	
6/2/2013	6:00	-2528	0.00	0.00	
6/2/2013	7:00	-2588	0.00	0.00	
6/2/2013	8:00	-2648	0.00	0.00	
6/2/2013	9:00	-2708	0.00	0.00	
6/2/2013	10:00	-2768	0.00	0.00	
6/2/2013	11:00	-2828	0.00	0.00	
6/2/2013	12:00	-2888	0.00	0.00	
6/2/2013	13:00	-2948	0.00	0.00	
6/2/2013	14:00	-3008	0.00	0.00	
6/2/2013	15:00	-3068	0.00	0.00	
6/2/2013	16:00	-3128	0.00	0.00	
6/2/2013	17:00	-3188	0.00	0.00	
6/2/2013	18:00	-3248	0.00	0.00	
6/2/2013	19:00	-3308	0.00	0.00	
6/2/2013	20:00	-3368	0.00	0.00	
6/2/2013	21:00	-3428	0.00	0.00	
6/2/2013	22:00	-3488	0.00	0.00	
6/2/2013	23:00	-3548	0.00	0.00	
6/3/2013	0:00	-3608	0.00	0.00	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Well 6A During Individual 72-Hour Pumping Test of Proposed  
Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Elapsed Time (minutes)	Depth to Water (ft btoc)	Drawdown (feet)	Comments
6/3/2013	1:00	-3668	0.00	0.00	
6/3/2013	2:00	-3728	0.00	0.00	
6/3/2013	3:00	-3788	0.00	0.00	
6/3/2013	4:00	-3848	0.00	0.00	
6/3/2013	5:00	-3908	0.00	0.00	
6/3/2013	6:00	-3968	0.00	0.00	
6/3/2013	7:00	-4028	0.00	0.00	
6/3/2013	8:00	-4088	0.00	0.00	
6/3/2013	9:00	-4148	0.00	0.00	
6/3/2013	10:00	-4208	0.00	0.00	
6/3/2013	11:00	-4268	0.00	0.00	
6/3/2013	12:00	-4328	0.00	0.00	
6/3/2013	13:00	-4388	0.00	0.00	
6/3/2013	14:00	-4448	0.00	0.00	
6/3/2013	15:00	-4508	0.00	0.00	
6/3/2013	16:00	-4568	0.00	0.00	
6/3/2013	17:00	-4628	0.00	0.00	
6/3/2013	18:00	-4688	0.00	0.00	
6/3/2013	19:00	-4748	0.00	0.00	
6/3/2013	20:00	-4808	0.00	0.00	
6/3/2013	21:00	-4868	0.00	0.00	
6/3/2013	22:00	-4928	0.00	0.00	
6/3/2013	23:00	-4988	0.00	0.00	

ft btoc    feet below top of casing

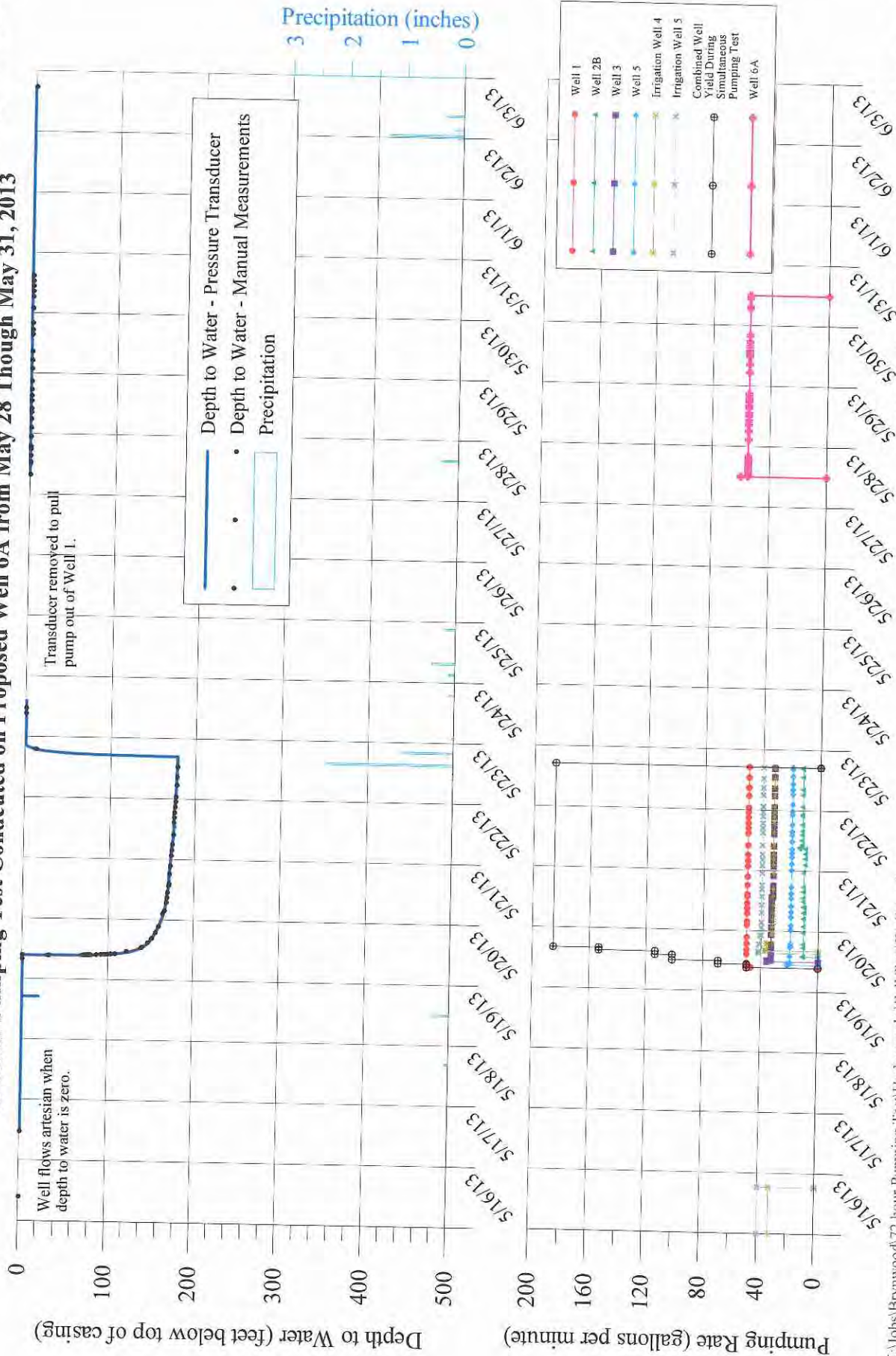
K:\Jobs\Brynwood\72 hour Pumping Test\Report\Water Level Tables\Well 6A.docx

**APPENDIX IV**  
**MONITORING LOCATIONS**

## **PUMPING WELLS**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

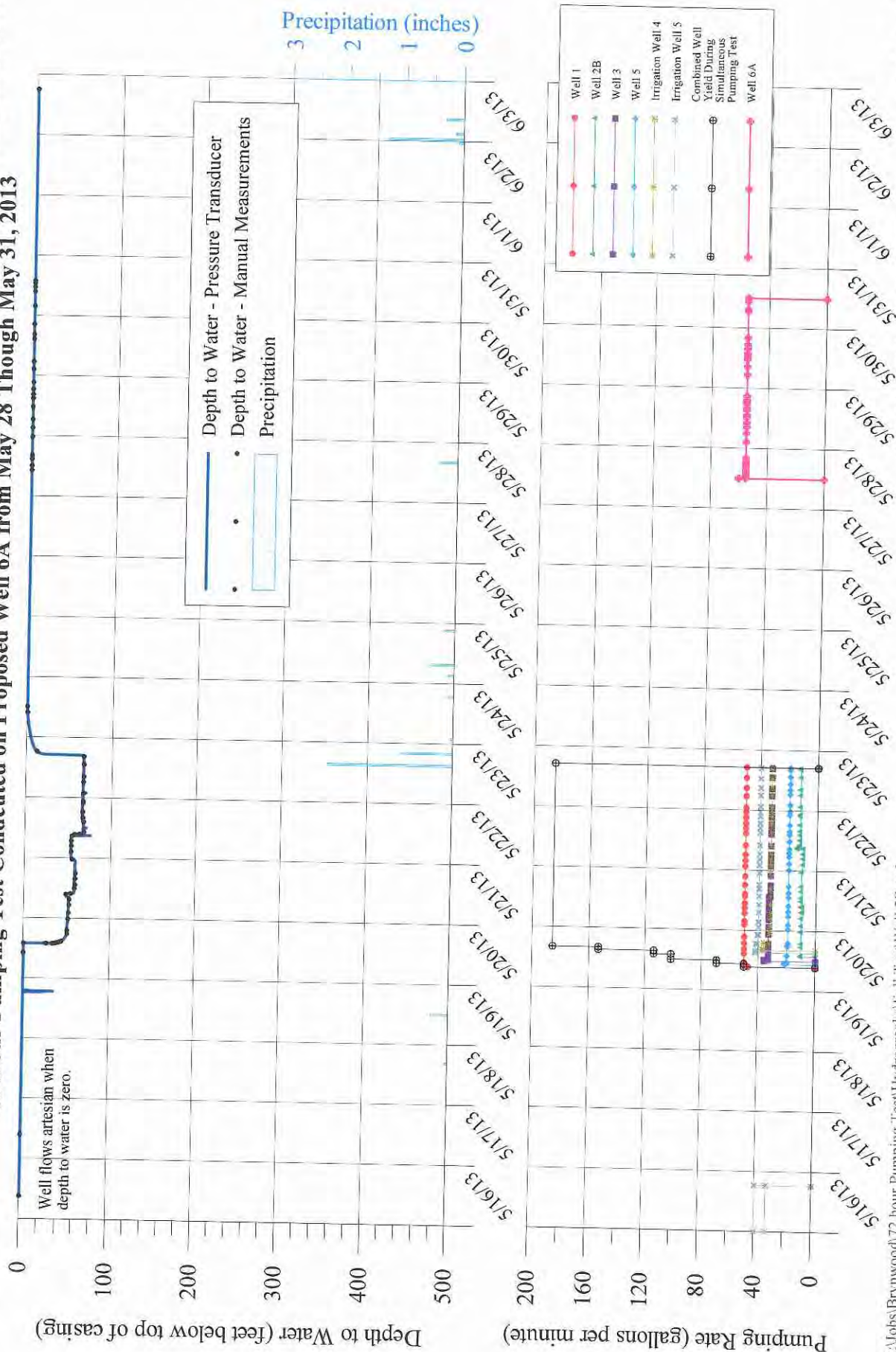
**Hydrograph of Water-Level Measurements Collected from Well 1 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**





# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

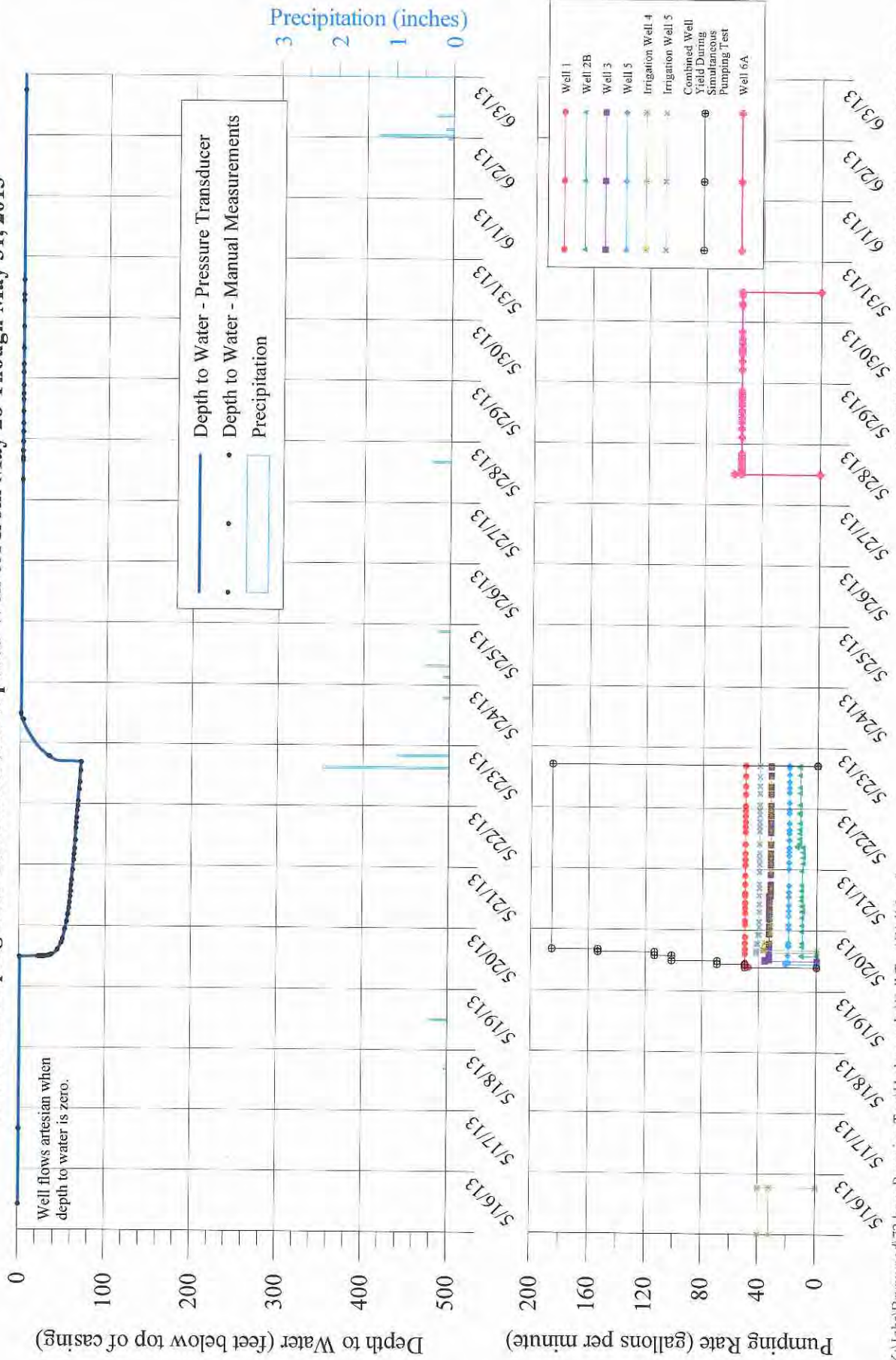
**Hydrograph of Water-Level Measurements Collected from Well 2B During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**





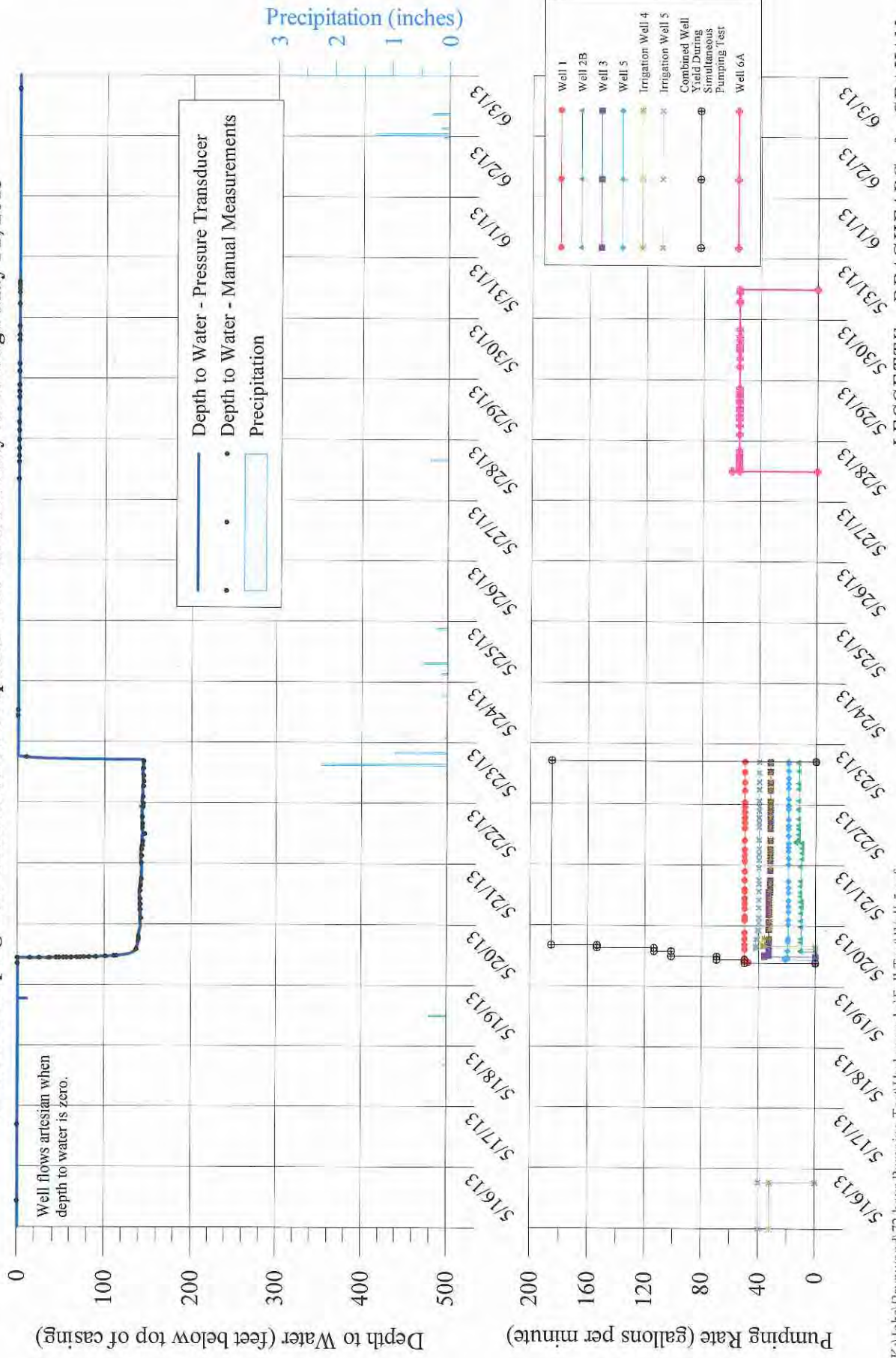
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

**Hydrograph of Water-Level Measurements Collected from Well 3 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**



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ARMONK, NEW YORK**

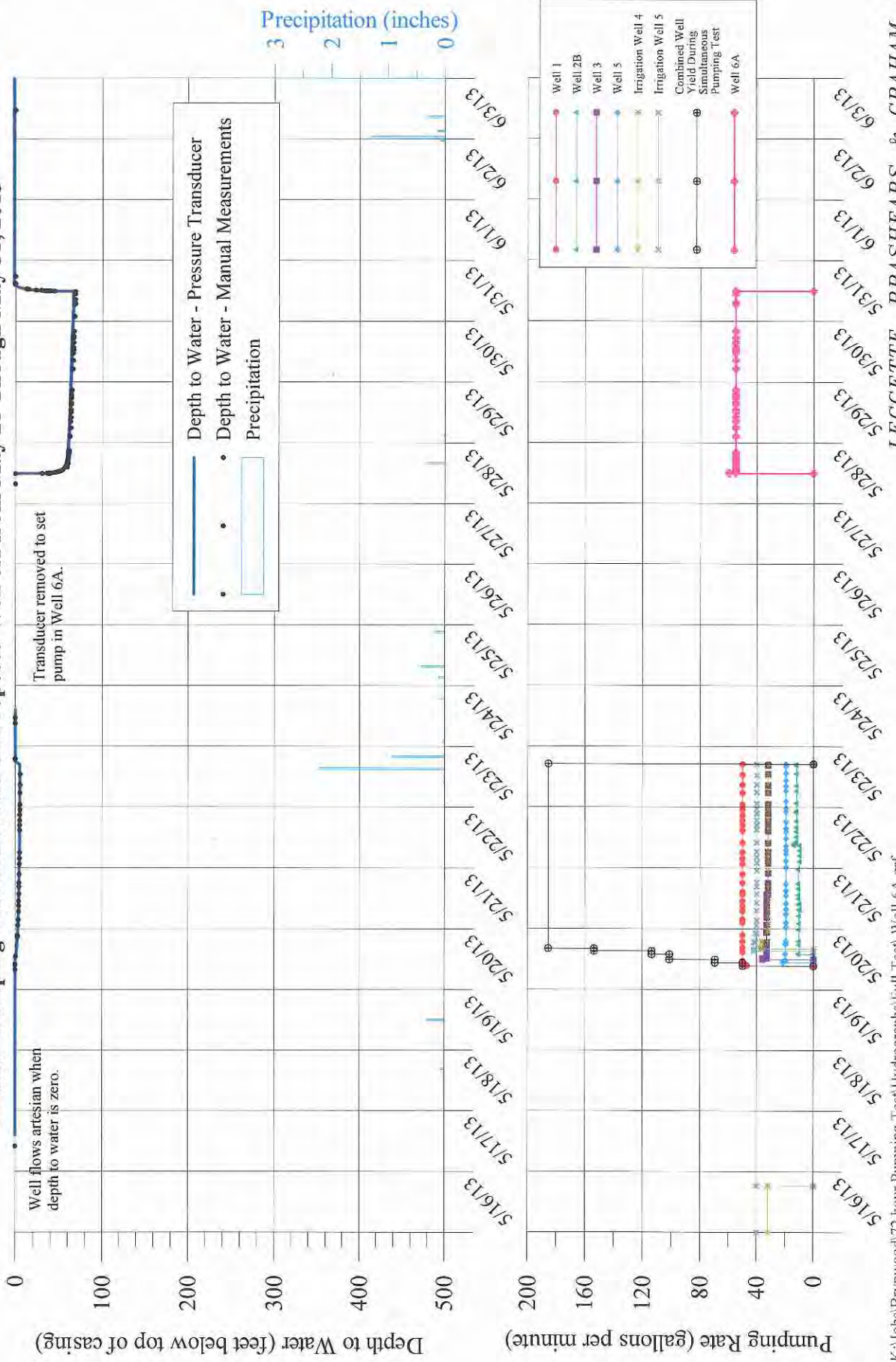
**Hydrograph of Water-Level Measurements Collected from Well 5 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Though May 31, 2013**





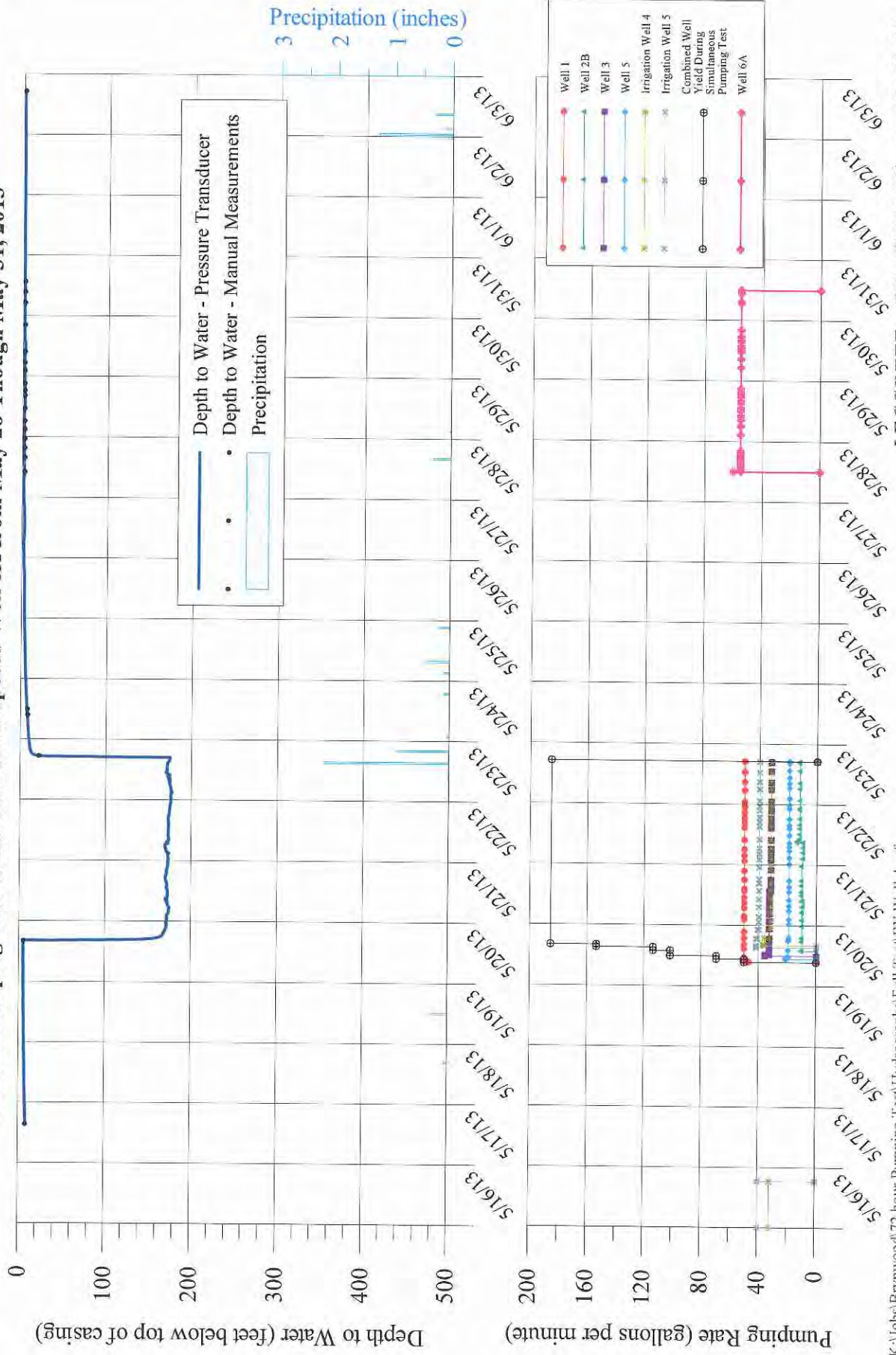
**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Well 6A During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 31, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

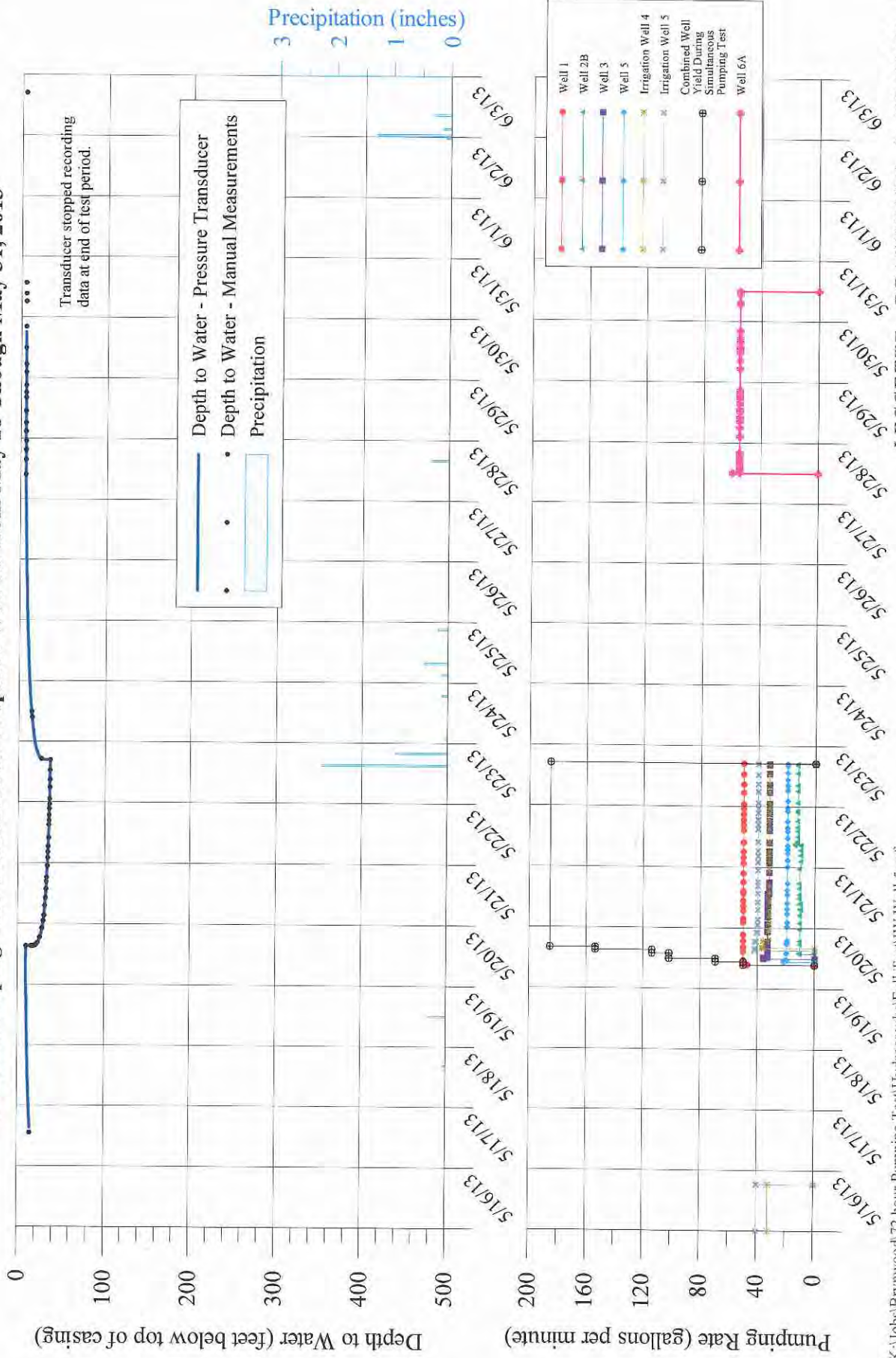
Hydrograph of Water-Level Measurements Collected from Irrigation Well 4 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013





# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

## Hydrograph of Water-Level Measurements Collected from Irrigation Well 5 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Well 1</b>				
5/17/2013	12:00	0.00	0.00	
5/18/2013	0:00	0.00	0.00	
5/18/2013	12:00	0.00	0.00	
5/19/2013	0:00	0.00	0.00	
5/19/2013	12:00	0.00	0.00	
5/20/2013	0:00	0.00	0.00	
5/20/2013	9:24	20.67	20.67	Start of test on Well 1.
5/20/2013	10:39	118.14	118.14	
5/20/2013	11:53	132.47	132.47	
5/20/2013	13:50	143.25	143.25	
5/20/2013	15:13	147.38	147.38	
5/20/2013	16:12	149.41	149.41	
5/20/2013	17:12	151.68	151.68	
5/21/2013	0:00	161.82	161.82	
5/21/2013	12:00	168.87	168.87	
5/22/2013	0:00	171.69	171.69	
5/22/2013	12:00	174.24	174.24	
5/23/2013	0:00	176.08	176.08	
5/23/2013	7:00	177.07	177.07	
5/23/2013	8:00	177.23	177.23	
5/23/2013	9:00	177.31	177.31	
5/23/2013	10:00	177.27	177.27	
5/23/2013	12:00	177.66	177.66	
5/23/2013	13:00	177.55	177.55	
5/23/2013	14:00	177.90	177.90	
5/23/2013	16:49	177.87	177.87	End of simultaneous pumping test.
5/24/2013	0:00	0.00	0.00	
5/24/2013	12:00	0.00	0.00	Transducer removed from Well 1 to remove pump.
5/28/2013	11:51	0.00	0.00	Start of pumping test on Well 6A.
5/28/2013	12:00	0.00	0.00	
5/29/2013	0:00	0.00	0.00	
5/29/2013	12:00	0.00	0.00	
5/30/2013	0:00	0.00	0.00	
5/30/2013	12:00	0.00	0.00	
5/31/2013	0:00	0.00	0.00	
5/31/2013	11:52	0.00	0.00	End of pumping test on Well 6A.
5/31/2013	12:00	0.00	0.00	
6/1/2013	0:00	0.00	0.00	
6/1/2013	12:00	0.00	0.00	
6/2/2013	0:00	0.00	0.00	
6/2/2013	12:00	0.00	0.00	
6/3/2013	0:00	0.00	0.00	
6/3/2013	12:00	0.00	0.00	
<b>Well 2B</b>				
5/17/2013	12:00	0.00	0.00	
5/18/2013	0:00	0.00	0.00	
5/18/2013	12:00	0.00	0.00	
5/19/2013	0:00	0.00	0.00	
5/19/2013	12:00	0.00	0.00	
5/20/2013	0:00	0.00	0.00	
5/20/2013	13:50	13.86	13.86	Start of test on Well 2B.
5/20/2013	15:13	45.33	45.33	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Well 2B (continued)</b>				
5/20/2013	16:12	47.77	47.77	
5/20/2013	17:12	49.29	49.29	
5/21/2013	0:00	50.77	50.77	
5/21/2013	12:00	57.72	57.72	
5/22/2013	0:00	53.46	53.46	
5/22/2013	12:00	69.89	69.89	
5/23/2013	0:00	65.98	65.98	
5/23/2013	7:00	65.96	65.96	
5/23/2013	8:00	66.10	66.10	
5/23/2013	9:00	66.11	66.11	
5/23/2013	10:00	65.87	65.87	
5/23/2013	12:00	66.03	66.03	
5/23/2013	13:00	66.04	66.04	
5/23/2013	14:00	65.93	65.93	
5/23/2013	16:49	65.85	65.85	End of simultaneous pumping test.
5/24/2013	0:00	4.39	4.39	
5/24/2013	12:00	0.00	0.00	
5/25/2013	0:00	0.00	0.00	
5/25/2013	12:00	0.00	0.00	
5/26/2013	0:00	0.00	0.00	
5/26/2013	12:00	0.00	0.00	
5/27/2013	0:00	0.00	0.00	
5/27/2013	12:00	0.00	0.00	
5/28/2013	0:00	0.00	0.00	
5/28/2013	11:51	0.00	0.00	Start of pumping test on Well 6A.
5/28/2013	12:00	0.00	0.00	
5/29/2013	0:00	0.00	0.00	
5/29/2013	12:00	0.00	0.00	
5/30/2013	0:00	0.00	0.00	
5/30/2013	12:00	0.00	0.00	
5/31/2013	0:00	0.00	0.00	
5/31/2013	11:52	0.00	0.00	End of pumping test on Well 6A.
5/31/2013	12:00	0.00	0.00	
6/1/2013	0:00	0.00	0.00	
6/1/2013	12:00	0.00	0.00	
6/2/2013	0:00	0.00	0.00	
6/2/2013	12:00	0.00	0.00	
6/3/2013	0:00	0.00	0.00	
6/3/2013	12:00	0.00	0.00	
<b>Well 3</b>				
5/17/2013	12:00	0.00	0.00	
5/18/2013	0:00	0.00	0.00	
5/18/2013	12:00	0.00	0.00	
5/19/2013	0:00	0.00	0.00	
5/19/2013	12:00	0.00	0.00	
5/20/2013	0:00	0.00	0.00	
5/20/2013	9:24	0.00	0.00	
5/20/2013	10:39	0.00	0.00	
5/20/2013	11:53	22.48	22.48	Start of test on Well 3.
5/20/2013	13:50	40.95	40.95	
5/20/2013	15:13	44.03	44.03	
5/20/2013	16:12	45.94	45.94	

**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Well 3 (continued)</b>				
5/20/2013	17:12	47.03	47.03	
5/21/2013	0:00	52.56	52.56	
5/21/2013	12:00	57.74	57.74	
5/22/2013	0:00	60.93	60.93	
5/22/2013	12:00	63.59	63.59	
5/23/2013	0:00	66.00	66.00	
5/23/2013	7:00	67.72	67.72	
5/23/2013	8:00	67.98	67.98	
5/23/2013	9:00	68.30	68.30	
5/23/2013	10:00	68.45	68.45	
5/23/2013	12:00	68.67	68.67	
5/23/2013	13:00	69.14	69.14	
5/23/2013	14:00	69.13	69.13	
5/23/2013	16:49	69.88	69.88	End of simultaneous pumping test.
5/24/2013	0:00	16.98	16.98	
5/24/2013	12:00	0.00	0.00	
5/25/2013	0:00	0.00	0.00	
5/25/2013	12:00	0.00	0.00	
5/26/2013	0:00	0.00	0.00	
5/26/2013	12:00	0.00	0.00	
5/27/2013	0:00	0.00	0.00	
5/27/2013	12:00	0.00	0.00	
5/28/2013	0:00	0.00	0.00	
5/28/2013	11:51	0.00	0.00	Start of pumping test on Well 6A.
5/28/2013	12:00	0.00	0.00	
5/29/2013	0:00	0.00	0.00	
5/29/2013	12:00	0.00	0.00	
5/30/2013	0:00	0.00	0.00	
5/30/2013	12:00	0.00	0.00	
5/31/2013	0:00	0.00	0.00	
5/31/2013	11:52	0.00	0.00	End of pumping test on Well 6A.
5/31/2013	12:00	0.00	0.00	
6/1/2013	0:00	0.00	0.00	
6/1/2013	12:00	0.00	0.00	
6/2/2013	0:00	0.00	0.00	
6/2/2013	12:00	0.00	0.00	
6/3/2013	0:00	0.00	0.00	
6/3/2013	12:00	0.00	0.00	
<b>Well 5</b>				
5/17/2013	12:00	0.00	0.00	
5/18/2013	0:00	0.00	0.00	
5/18/2013	12:00	0.00	0.00	
5/19/2013	0:00	0.00	0.00	
5/19/2013	12:00	0.00	0.00	
5/20/2013	0:00	0.00	0.00	
5/20/2013	9:24	0.00	0.00	
5/20/2013	10:39	0.25	0.25	Start of test on Well 5.
5/20/2013	11:53	122.56	122.56	
5/20/2013	13:50	135.48	135.48	
5/20/2013	15:13	136.41	136.41	
5/20/2013	16:12	137.83	137.83	
5/20/2013	17:12	137.91	137.91	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Well 5 (continued)</b>				
5/21/2013	0:00	140.70	140.70	
5/21/2013	12:00	139.60	139.60	
5/22/2013	0:00	141.61	141.61	
5/22/2013	12:00	143.55	143.55	
5/23/2013	0:00	142.70	142.70	
5/23/2013	7:00	143.48	143.48	
5/23/2013	8:00	143.64	143.64	
5/23/2013	9:00	143.74	143.74	
5/23/2013	10:00	143.65	143.65	
5/23/2013	12:00	143.30	143.30	
5/23/2013	13:00	143.13	143.13	
5/23/2013	14:00	144.01	144.01	
5/23/2013	16:49	143.84	143.84	End of simultaneous pumping test.
5/24/2013	0:00	0.00	0.00	
5/24/2013	12:00	0.00	0.00	
5/25/2013	0:00	0.00	0.00	
5/25/2013	12:00	0.00	0.00	
5/26/2013	0:00	0.00	0.00	
5/26/2013	12:00	0.00	0.00	
5/27/2013	0:00	0.00	0.00	
5/27/2013	12:00	0.00	0.00	
5/28/2013	0:00	0.00	0.00	
5/28/2013	11:51	0.00	0.00	Start of pumping test on Well 6A.
5/28/2013	12:00	0.00	0.00	
5/29/2013	0:00	0.00	0.00	
5/29/2013	12:00	0.00	0.00	
5/30/2013	0:00	0.00	0.00	
5/30/2013	12:00	0.00	0.00	
5/31/2013	0:00	0.00	0.00	
5/31/2013	11:52	0.00	0.00	End of pumping test on Well 6A.
5/31/2013	12:00	0.00	0.00	
6/1/2013	0:00	0.00	0.00	
6/1/2013	12:00	0.00	0.00	
6/2/2013	0:00	0.00	0.00	
6/2/2013	12:00	0.00	0.00	
6/3/2013	0:00	0.00	0.00	
6/3/2013	12:00	0.00	0.00	
<b>Well 6A</b>				
5/18/2013	0:00	0.00	0.00	
5/18/2013	12:00	0.00	0.00	
5/19/2013	0:00	0.00	0.00	
5/19/2013	12:00	0.00	0.00	
5/20/2013	0:00	0.00	0.00	
5/20/2013	9:24	0.00	0.00	Start of test on Simultaneous pumping test.
5/20/2013	10:39	0.00	0.00	
5/20/2013	11:53	0.07	0.07	
5/20/2013	13:50	1.01	1.01	
5/20/2013	15:13	1.48	1.48	
5/20/2013	16:12	1.80	1.80	
5/20/2013	17:12	2.09	2.09	
5/21/2013	0:00	3.31	3.31	
5/21/2013	12:00	4.37	4.37	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Well 6A (continued)</b>				
5/22/2013	0:00	4.91	4.91	
5/22/2013	12:00	5.26	5.26	
5/23/2013	0:00	5.44	5.44	
5/23/2013	7:00	5.51	5.51	
5/23/2013	8:00	5.57	5.57	
5/23/2013	9:00	5.56	5.56	
5/23/2013	10:00	5.59	5.59	
5/23/2013	12:00	5.58	5.58	
5/23/2013	13:00	5.55	5.55	
5/23/2013	14:00	5.45	5.45	
5/23/2013	16:49	5.26	5.26	End of simultaneous pumping test.
5/24/2013	0:00	0.00	0.00	
5/24/2013	12:00	0.00	0.00	
5/28/2013	11:51	0.00	0.00	Start of pumping test on Well 6A.
5/28/2013	12:00	36.13	36.13	
5/29/2013	0:00	61.04	61.04	
5/29/2013	12:00	62.07	62.07	
5/30/2013	0:00	63.34	63.34	
5/30/2013	12:00	64.27	64.27	
5/31/2013	0:00	65.57	65.57	
5/31/2013	11:52	66.05	66.05	End of pumping test on Well 6A.
5/31/2013	12:00	30.59	30.59	
6/1/2013	0:00	0.00	0.00	
6/1/2013	12:00	0.00	0.00	
6/2/2013	0:00	0.00	0.00	
6/2/2013	12:00	0.00	0.00	
6/3/2013	0:00	0.00	0.00	
6/3/2013	12:00	0.00	0.00	
<b>Irrigation Well 4</b>				
5/18/2013	0:00	7.69	2.82	
5/18/2013	12:00	6.87	2.00	
5/19/2013	0:00	6.21	1.34	
5/19/2013	12:00	5.63	0.76	
5/20/2013	0:00	5.16	0.29	
5/20/2013	9:24	4.87	0.00	
5/20/2013	10:39	4.81	-0.06	
5/20/2013	11:53	4.83	-0.04	
5/20/2013	13:50	4.85	-0.02	
5/20/2013	15:13	4.94	0.07	
5/20/2013	16:12	11.45	6.58	Start of test on Irrigation Well 4.
5/20/2013	17:12	158.39	153.52	
5/21/2013	0:00	171.92	167.05	
5/21/2013	12:00	172.88	168.01	
5/22/2013	0:00	173.31	168.44	
5/22/2013	12:00	173.41	168.54	
5/23/2013	0:00	176.08	171.21	
5/23/2013	7:00	174.46	169.59	
5/23/2013	8:00	174.57	169.70	
5/23/2013	9:00	173.75	168.88	
5/23/2013	10:00	174.87	170.00	
5/23/2013	12:00	171.71	166.84	
5/23/2013	13:00	171.69	166.82	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Irrigation Well 4 (continued)</b>				
5/23/2013	14:00	171.81	166.94	
5/23/2013	16:49	175.17	170.30	End of simultaneous pumping test.
5/24/2013	0:00	9.94	5.07	
5/24/2013	12:00	7.44	2.57	
5/25/2013	0:00	5.66	0.79	
5/25/2013	12:00	4.74	-0.14	
5/26/2013	0:00	3.66	-1.21	
5/26/2013	12:00	3.55	-1.32	
5/27/2013	0:00	2.46	-2.41	
5/27/2013	12:00	3.10	-1.77	
5/28/2013	0:00	2.03	-2.84	
5/28/2013	11:51	2.43	-2.44	Start of pumping test on Well 6A.
5/28/2013	12:00	2.43	-2.44	
5/29/2013	0:00	1.96	-2.91	
5/29/2013	12:00	2.41	-2.46	
5/30/2013	0:00	1.96	-2.91	
5/30/2013	12:00	2.54	-2.33	
5/31/2013	0:00	1.53	-3.34	
5/31/2013	11:52	1.64	-3.24	End of pumping test on Well 6A.
5/31/2013	12:00	1.61	-3.26	
6/1/2013	0:00	1.49	-3.38	
6/1/2013	12:00	1.38	-3.49	
6/2/2013	0:00	1.27	-3.60	
6/2/2013	12:00	1.21	-3.67	
6/3/2013	0:00	1.18	-3.69	
6/3/2013	12:00	0.99	-3.88	
<b>Irrigation Well 5</b>				
5/18/2013	0:00	13.44	4.10	
5/18/2013	12:00	12.13	2.79	
5/19/2013	0:00	11.14	1.80	
5/19/2013	12:00	10.37	1.03	
5/20/2013	0:00	9.69	0.35	
5/20/2013	9:24	9.34	0.00	
5/20/2013	10:39	9.41	0.06	
5/20/2013	11:53	9.51	0.17	
5/20/2013	13:50	9.66	0.32	
5/20/2013	15:13	15.55	6.21	Start of test on Irrigation Well 5.
5/20/2013	16:12	22.18	12.84	
5/20/2013	17:12	23.81	14.47	
5/21/2013	0:00	28.62	19.28	
5/21/2013	12:00	31.91	22.57	
5/22/2013	0:00	33.67	24.33	
5/22/2013	12:00	34.87	25.53	
5/23/2013	0:00	35.68	26.34	
5/23/2013	7:00	36.01	26.67	
5/23/2013	8:00	36.11	26.77	
5/23/2013	9:00	36.12	26.78	
5/23/2013	10:00	36.18	26.84	
5/23/2013	12:00	36.14	26.80	
5/23/2013	13:00	36.18	26.84	
5/23/2013	14:00	36.16	26.82	
5/23/2013	16:49	31.29	21.95	End of simultaneous pumping test.

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Pumping Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>Irrigation Well 5 (continued)</b>				
5/24/2013	0:00	18.68	9.34	
5/24/2013	12:00	14.66	5.32	
5/25/2013	0:00	12.18	2.84	
5/25/2013	12:00	10.80	1.46	
5/26/2013	0:00	9.36	0.02	
5/26/2013	12:00	8.73	-0.61	
5/27/2013	0:00	7.76	-1.58	
5/27/2013	12:00	7.09	-2.25	
5/28/2013	0:00	6.54	-2.81	
5/28/2013	11:51	6.21	-3.13	Start of pumping test on Well 6A.
5/28/2013	12:00	6.22	-3.12	
5/29/2013	0:00	6.07	-3.27	
5/29/2013	12:00	5.97	-3.38	
5/30/2013	0:00	5.82	-3.53	
5/30/2013	12:00	5.75	-3.59	
5/30/2013	20:15	5.63	-3.71	
5/31/2013	6:13	5.67	-3.67	
5/31/2013	9:18	5.64	-3.70	
5/31/2013	13:35	5.57	-3.77	End of pumping test on Well 6A at 11:52.
6/3/2013	16:57	4.54	-4.80	

DTW     depth to water

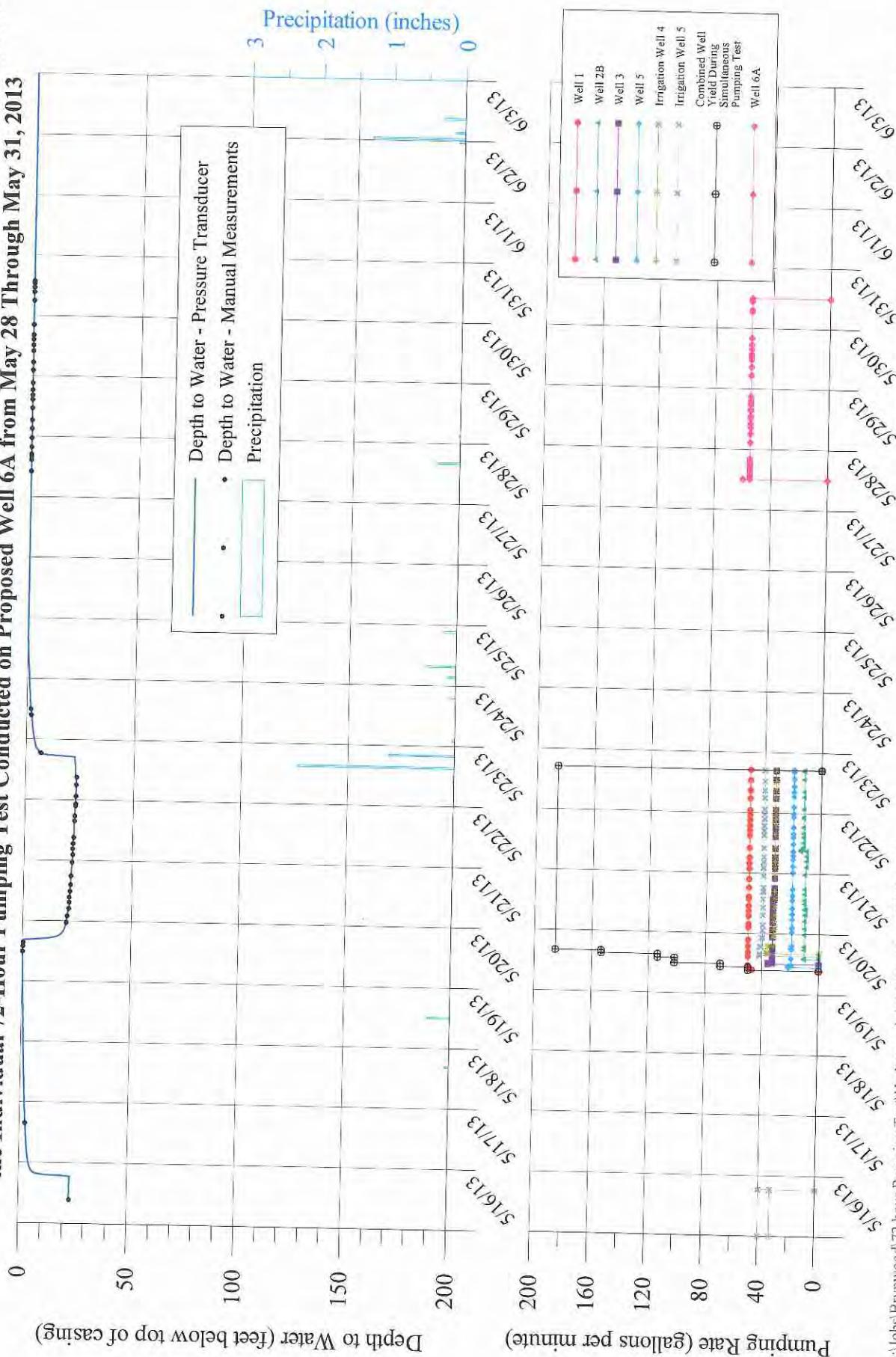
ft btoc     feet below top of casing

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## **ONSITE MONITORING WELLS**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

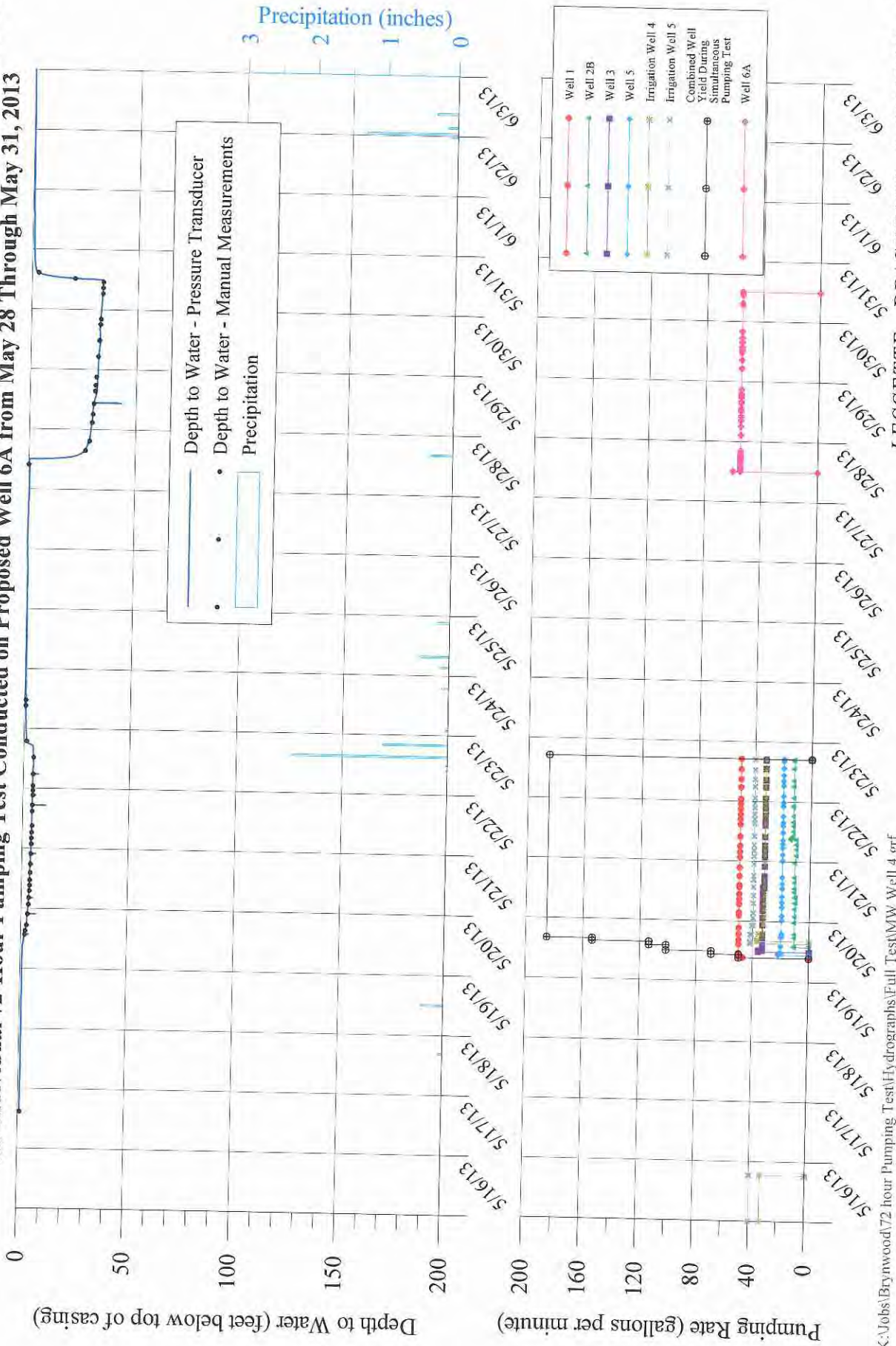
**Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well 3 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**





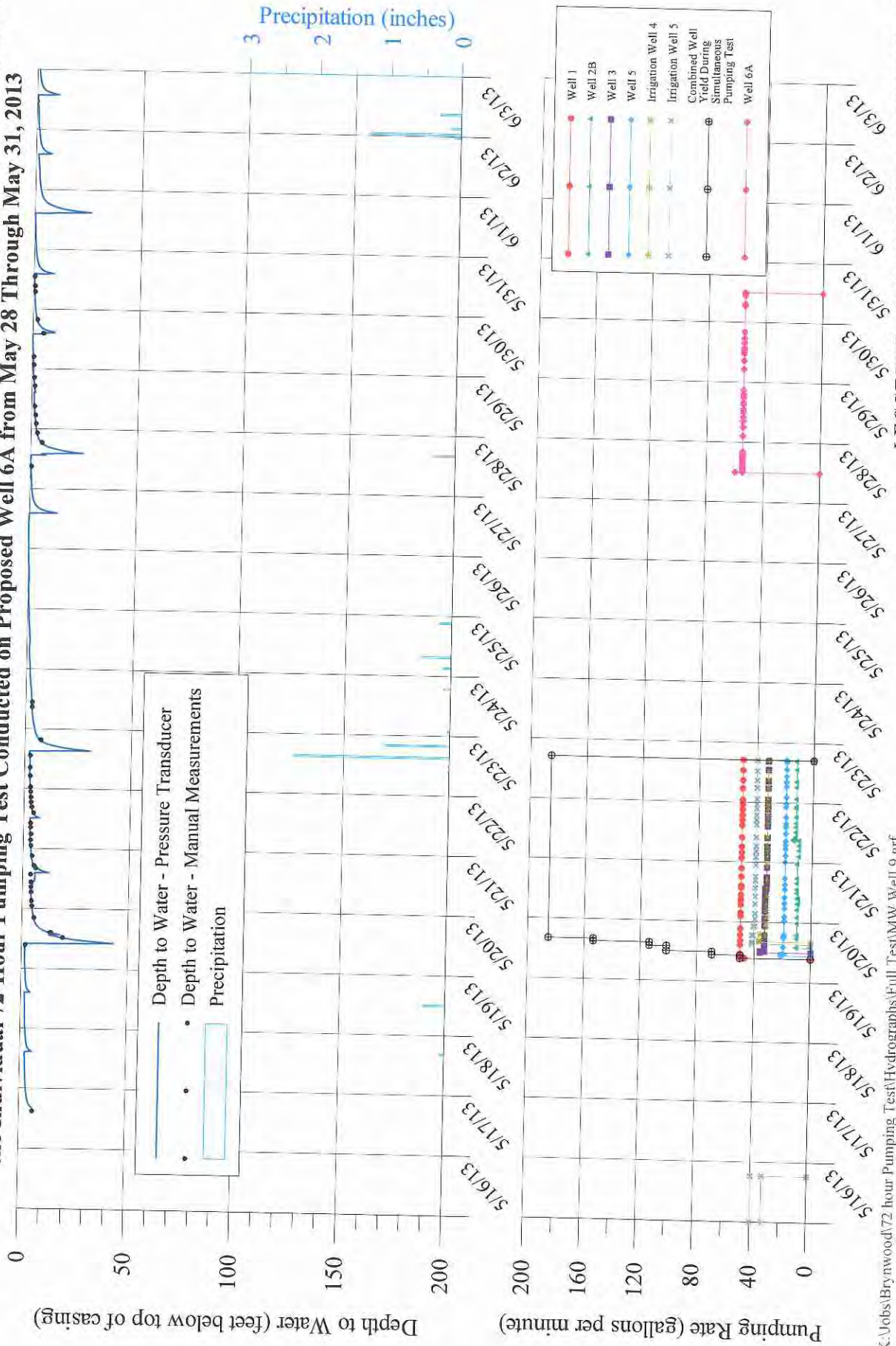
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well 4 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013



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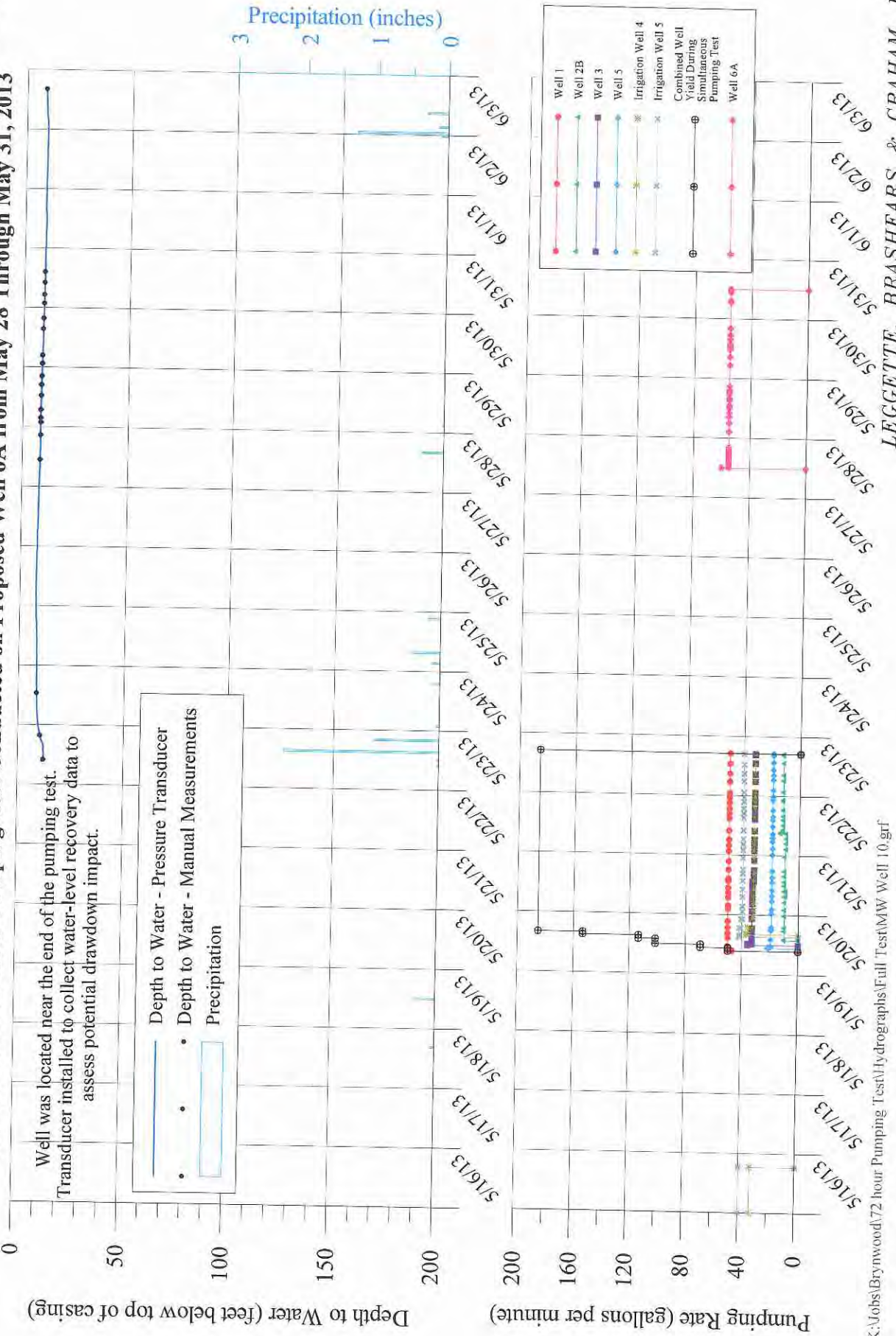
**Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well 9 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 31, 2013 and During the Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**





**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well 10 During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Proposed Well 6A from May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Monitoring Wells During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>MW Well 3</b>				
5/16/2013	12:00	23.27	23.07	Irrigation wells shut down at 18:20.
5/17/2013	0:00	4.27	4.07	
5/17/2013	12:00	2.83	2.63	
5/18/2013	0:00	2.08	1.88	
5/18/2013	12:00	1.52	1.32	
5/19/2013	0:00	1.06	0.86	
5/19/2013	12:00	0.71	0.51	
5/20/2013	0:00	0.37	0.17	
5/20/2013	9:24	0.20	0.00	Static water level 0.20 ft btoc.
5/20/2013	10:39	0.17	-0.03	
5/20/2013	11:53	0.16	-0.04	
5/20/2013	13:50	0.27	0.07	
5/20/2013	15:13	0.32	0.12	
5/20/2013	16:12	0.52	0.32	
5/20/2013	17:12	12.55	12.35	
5/21/2013	0:00	19.93	19.73	
5/21/2013	12:00	21.48	21.28	
5/22/2013	0:00	22.25	22.05	
5/22/2013	12:00	22.81	22.61	
5/23/2013	0:00	23.29	23.09	
5/23/2013	7:00	23.47	23.27	
5/23/2013	8:00	23.49	23.29	Maximum water level drawdown during simultaneous pumping test.
5/23/2013	9:00	23.47	23.27	
5/23/2013	10:00	23.20	23.00	
5/23/2013	12:00	23.06	22.86	
5/23/2013	13:00	23.05	22.85	
5/23/2013	14:00	22.98	22.78	
5/23/2013	16:49	22.65	22.45	
5/24/2013	0:00	3.71	3.51	
5/24/2013	12:00	1.87	1.67	
5/25/2013	0:00	0.97	0.77	
5/25/2013	12:00	0.19	-0.01	
5/26/2013	0:00	0.07	-0.13	
5/26/2013	12:00	0.06	-0.14	
5/27/2013	0:00	0.05	-0.15	
5/27/2013	12:00	0.05	-0.16	
5/28/2013	0:00	0.04	-0.16	
5/28/2013	11:51	0.04	-0.16	
5/28/2013	12:00	0.04	-0.16	
5/29/2013	0:00	0.03	-0.17	
5/29/2013	12:00	0.03	-0.17	
5/30/2013	0:00	0.03	-0.17	
5/30/2013	12:00	0.03	-0.17	
5/31/2013	0:00	-0.04	-0.24	
5/31/2013	11:52	-0.04	-0.24	
5/31/2013	12:00	-0.04	-0.24	
6/1/2013	0:00	-0.04	-0.24	
6/1/2013	12:00	-0.04	-0.24	
6/2/2013	0:00	-0.05	-0.25	
6/2/2013	12:00	-0.04	-0.24	
6/3/2013	0:00	-0.04	-0.24	
6/3/2013	12:00	-0.04	-0.24	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Monitoring Wells During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>MW Well 4</b>				
5/18/2013	0:00	0.75	-0.11	
5/18/2013	12:00	0.79	-0.07	
5/19/2013	0:00	0.80	-0.06	
5/19/2013	12:00	0.84	-0.02	
5/20/2013	9:24	0.86	0.00	
5/20/2013	10:39	1.30	0.44	Static water level 0.86 ft btoc.
5/20/2013	11:53	1.37	0.51	
5/20/2013	13:50	1.90	1.04	
5/20/2013	15:13	2.13	1.27	
5/20/2013	16:12	2.32	1.46	
5/20/2013	17:12	2.49	1.63	
5/21/2013	0:00	3.19	2.33	
5/21/2013	12:00	3.80	2.94	
5/22/2013	0:00	4.13	3.27	
5/22/2013	12:00	4.42	3.56	
5/23/2013	0:00	4.51	3.65	
5/23/2013	8:00	4.62	3.76	
5/23/2013	9:00	4.64	3.78	
5/23/2013	10:00	4.66	3.80	
5/23/2013	11:00	4.66	3.80	Maximum water level drawdown during simultaneous pumping test.
5/23/2013	12:00	4.64	3.78	
5/23/2013	13:00	4.63	3.77	
5/23/2013	14:00	4.55	3.69	
5/23/2013	15:00	4.48	3.62	
5/23/2013	16:00	4.44	3.58	
5/23/2013	16:49	4.41	3.55	
5/24/2013	0:00	0.88	0.02	
5/24/2013	12:00	0.64	-0.22	
5/25/2013	0:00	0.43	-0.43	
5/25/2013	12:00	0.47	-0.39	
5/26/2013	0:00	0.35	-0.51	
5/26/2013	12:00	0.36	-0.50	
5/27/2013	0:00	-0.01	-0.87	
5/27/2013	12:00	0.09	-0.77	
5/28/2013	0:00	0.38	-0.48	
5/28/2013	11:51	0.01	0.00	Static water level 0.01 ft btoc.
5/28/2013	12:00	4.73	4.72	
5/29/2013	0:00	28.69	28.68	
5/29/2013	12:00	30.30	30.29	
5/30/2013	0:00	31.75	31.74	
5/30/2013	12:00	32.77	32.76	
5/31/2013	0:00	32.84	32.83	
5/31/2013	11:52	33.48	33.47	
5/31/2013	12:00	31.95	31.94	
6/1/2013	0:00	0.89	0.88	
6/1/2013	12:00	0.73	0.72	
6/2/2013	0:00	0.47	0.46	
6/2/2013	12:00	0.48	0.47	
6/3/2013	0:00	0.34	0.33	
6/3/2013	12:00	0.33	0.32	

**BRYNWOOD GOLF & COUNTRY CLUB  
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**Summary of Water-Level Measurements Collected from Onsite Monitoring Wells During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>MW Well 9</b>				
5/18/2013	0:00	3.11	1.46	
5/18/2013	12:00	2.38	0.73	
5/19/2013	0:00	2.40	0.75	
5/19/2013	12:00	1.88	0.23	
5/20/2013	9:24	1.65	0.00	Static water level is 1.65 ft btoc.
5/20/2013	10:39	39.59	37.94	
5/20/2013	11:53	23.09	21.44	
5/20/2013	13:50	16.25	14.60	
5/20/2013	15:13	10.47	8.82	
5/20/2013	16:12	8.49	6.84	
5/20/2013	17:12	7.26	5.61	
5/21/2013	0:00	4.83	3.18	
5/21/2013	12:00	5.77	4.12	
5/22/2013	0:00	3.73	2.08	
5/22/2013	12:00	3.06	1.41	
5/23/2013	0:00	2.91	1.26	
5/23/2013	12:00	2.53	0.88	
5/23/2013	13:00	2.50	0.85	
5/23/2013	14:00	2.38	0.73	
5/23/2013	13:30	2.47	0.82	Final drawdown. Limited interference from well's own pumping cycle.
5/24/2013	0:00	4.44	2.79	
5/24/2013	12:00	2.81	1.16	
5/25/2013	0:00	1.75	0.10	
5/25/2013	12:00	1.60	-0.05	
5/26/2013	0:00	0.64	-1.01	
5/26/2013	12:00	0.41	-1.24	
5/27/2013	0:00	-0.07	-1.72	
5/27/2013	12:00	-0.22	-1.87	
5/28/2013	0:00	0.89	-0.76	
5/28/2013	11:51	0.24	-1.41	
5/28/2013	12:00	0.22	-1.43	
5/29/2013	0:00	2.46	0.81	
5/29/2013	12:00	1.15	-0.50	
5/30/2013	0:00	0.55	-1.10	
5/30/2013	12:00	0.04	-1.61	
5/31/2013	0:00	1.07	-0.58	
5/31/2013	11:52	0.33	-1.32	
5/31/2013	12:00	0.32	-1.33	
6/1/2013	0:00	0.84	-0.81	
6/1/2013	12:00	0.20	-1.45	
6/2/2013	0:00	2.61	0.96	
6/2/2013	12:00	1.33	-0.32	
6/3/2013	0:00	1.31	-0.35	
6/3/2013	12:00	0.54	-1.11	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Onsite Monitoring Wells During Simultaneous 72-Hour Pumping Test  
of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	DTW (ft btoc)	Drawdown	Comments
<b>MW Well 10</b>				
5/23/2013	10:00	11.92	4.31	Static water level estimated to be 7.61 ft btoc.
5/23/2013	11:00	11.91	4.30	
5/23/2013	12:00	11.91	4.30	
5/23/2013	13:00	11.90	4.29	
5/23/2013	14:00	11.89	4.28	
5/23/2013	16:49	11.44	3.83	
5/24/2013	0:00	9.48	1.87	
5/24/2013	12:00	8.65	1.04	
5/25/2013	0:00	8.51	0.90	
5/25/2013	12:00	8.27	0.66	
5/26/2013	0:00	7.73	0.12	
5/26/2013	12:00	7.61	0.00	
5/27/2013	0:00	7.80	0.19	
5/27/2013	12:00	7.99	0.38	
5/28/2013	0:00	8.19	0.58	
5/28/2013	11:51	8.39	0.78	
5/28/2013	12:00	8.40	0.79	
5/29/2013	0:00	8.41	0.79	
5/29/2013	12:00	8.45	0.84	
5/30/2013	0:00	8.62	1.01	
5/30/2013	12:00	8.80	1.19	
5/31/2013	0:00	8.97	1.36	
5/31/2013	11:52	9.11	1.50	
5/31/2013	12:00	9.12	1.51	
6/1/2013	0:00	9.24	1.63	
6/1/2013	12:00	9.33	1.72	
6/2/2013	0:00	9.19	1.58	
6/2/2013	12:00	9.34	1.73	
6/3/2013	0:00	9.47	1.86	
6/3/2013	12:00	8.66	1.05	

ft btoc (feet below top of casing)

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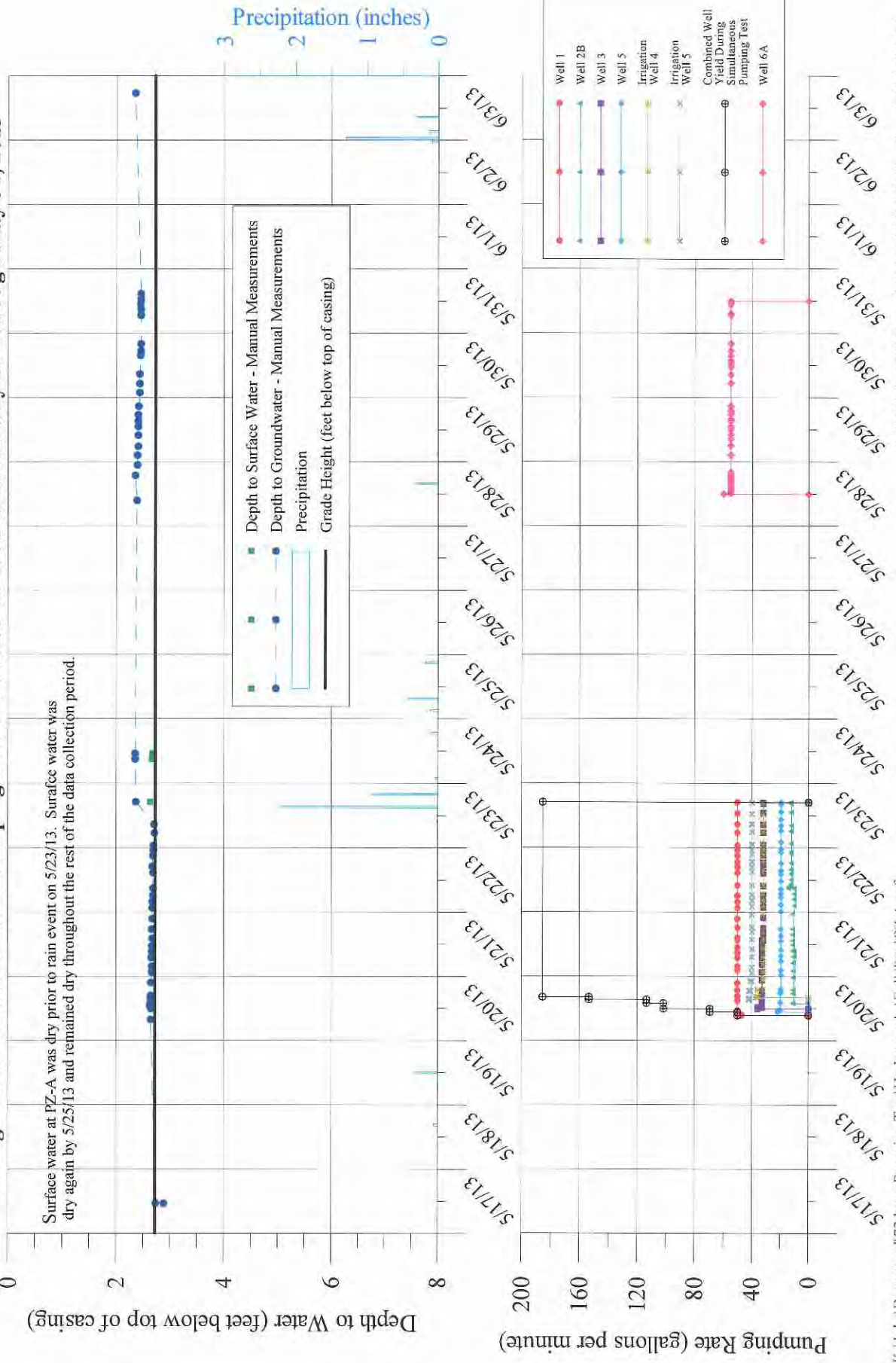
## **PIEZOMETERS**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

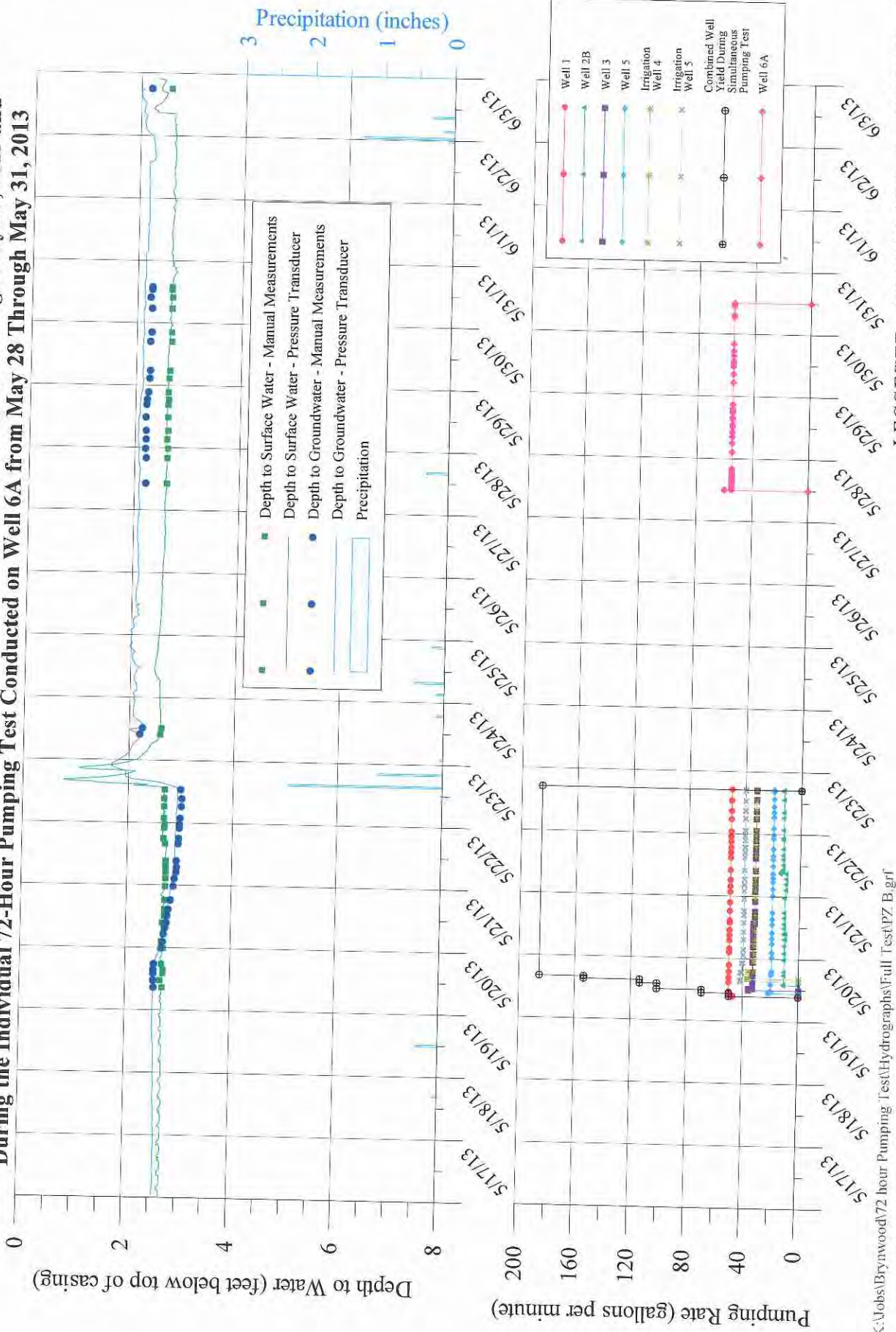
## Hydrograph of Water-Level Measurements Collected from Piezometer PZ-A During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013

Surface water at PZ-A was dry prior to rain event on 5/23/13. Surface water was dry again by 5/25/13 and remained dry throughout the rest of the data collection period.



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**ARMONK, NEW YORK**

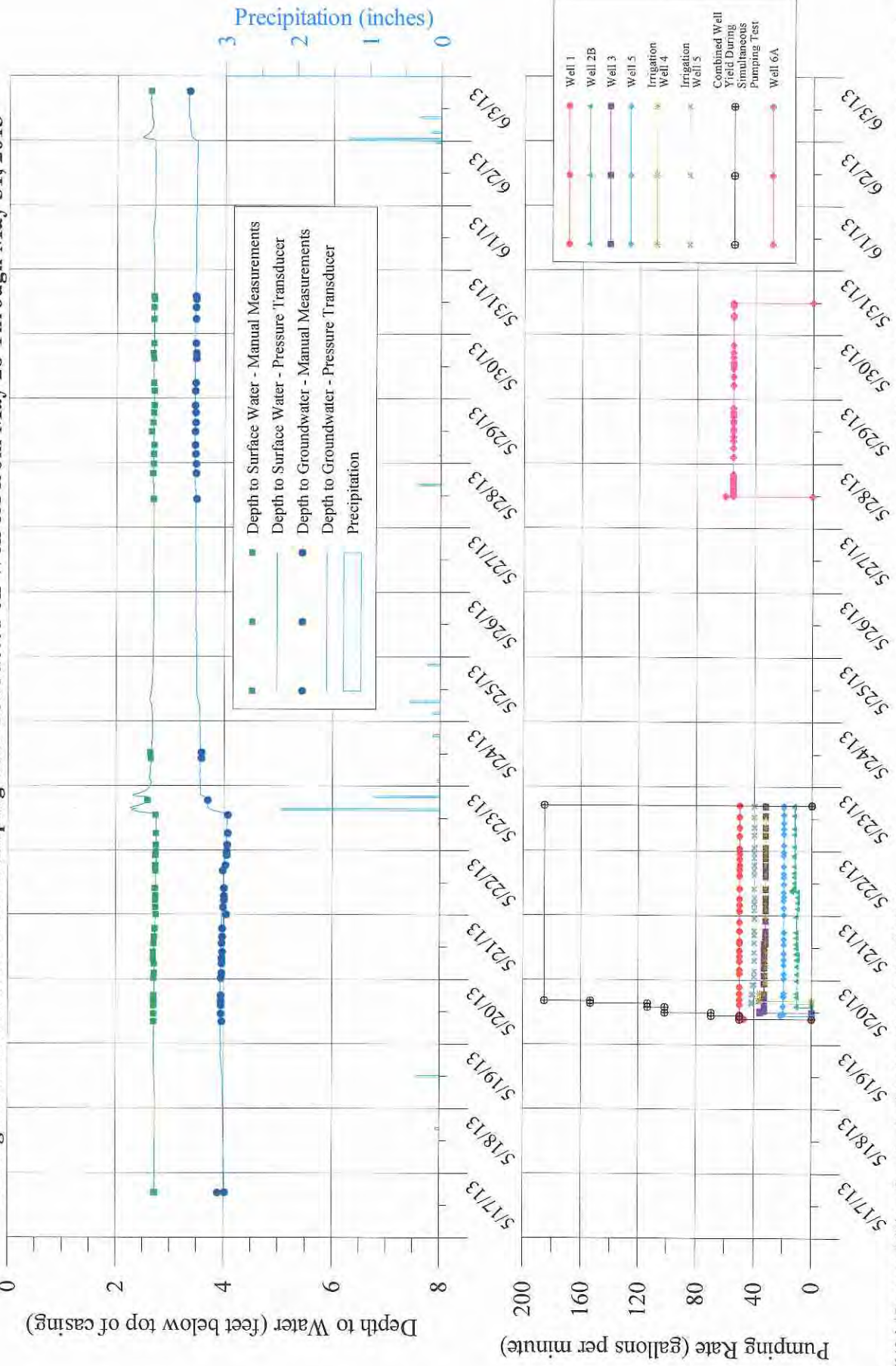
**Hydrograph of Water-Level Measurements Collected from Piezometer PZ-B During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





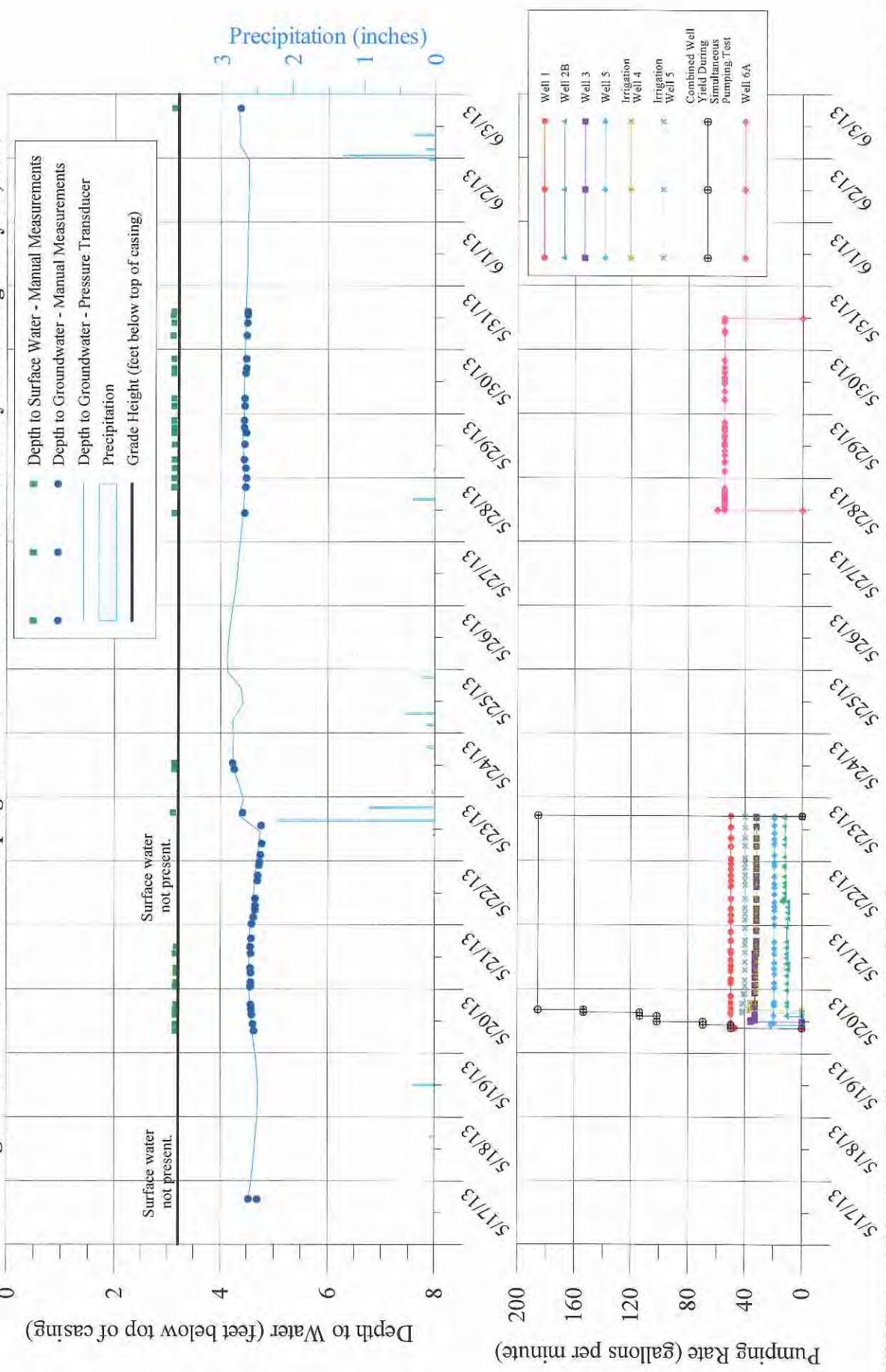
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from Piezometer PZ-C During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 31, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

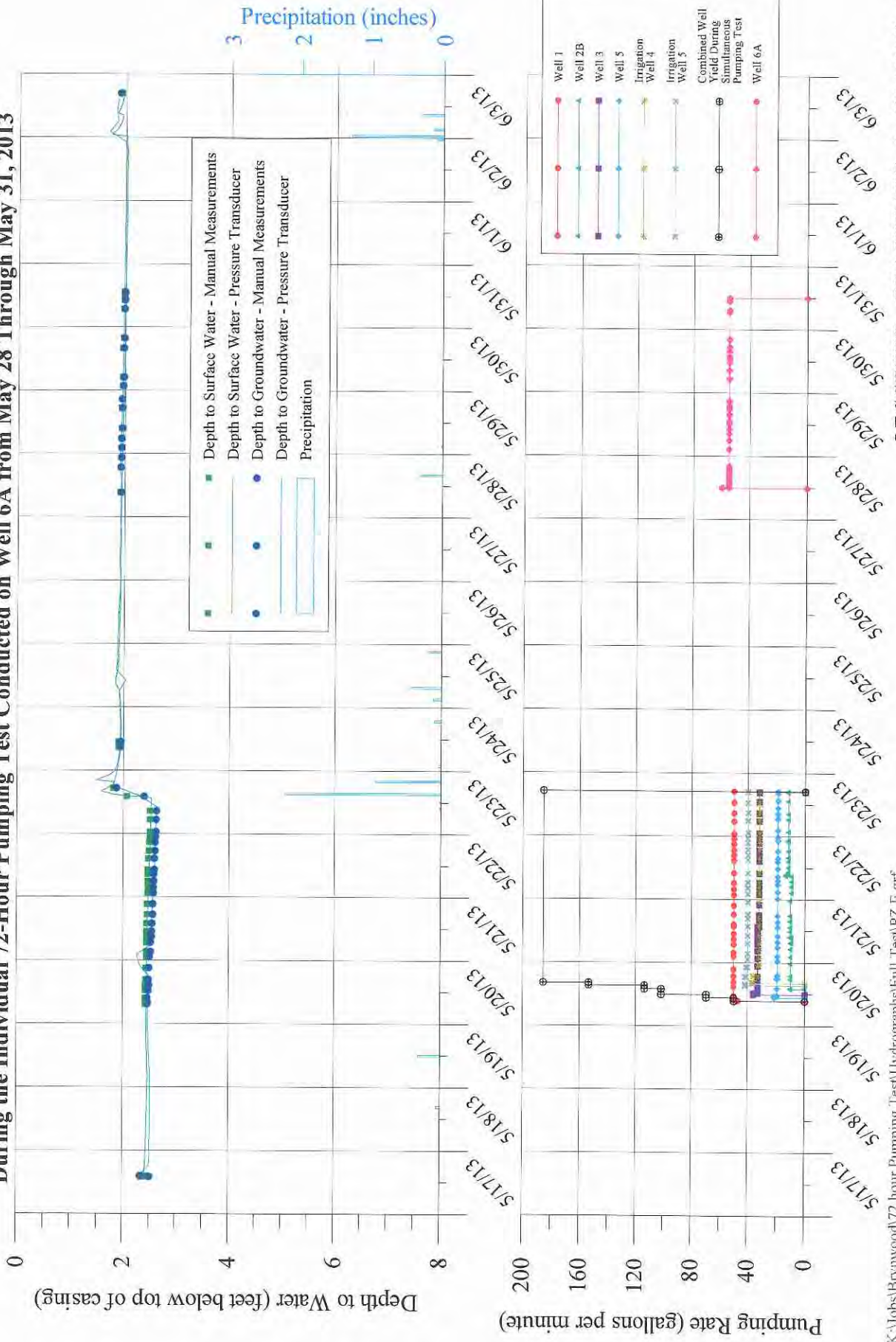
**Hydrograph of Water-Level Measurements Collected from Piezometer PZ-D During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





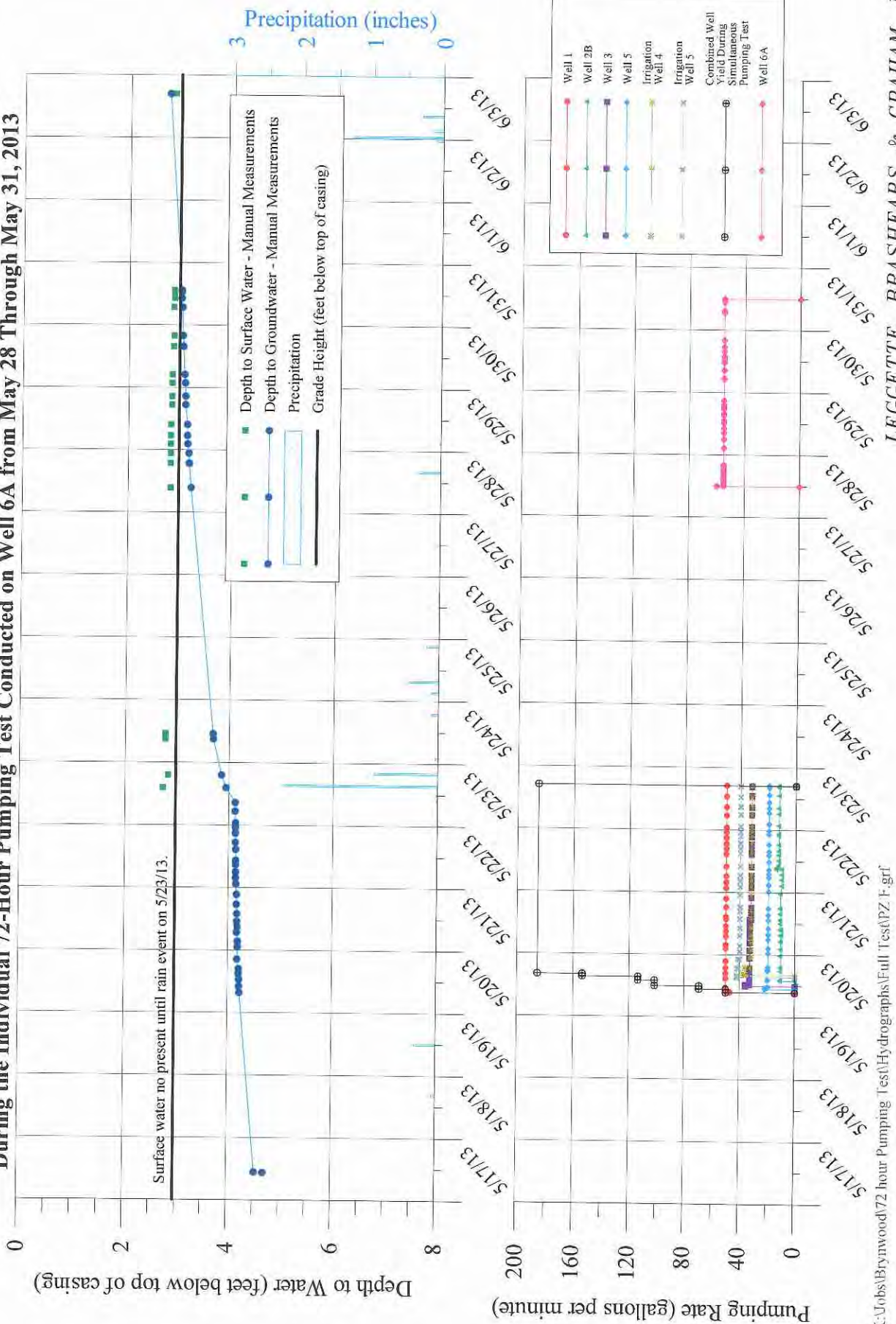
**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Piezometer PZ-E During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

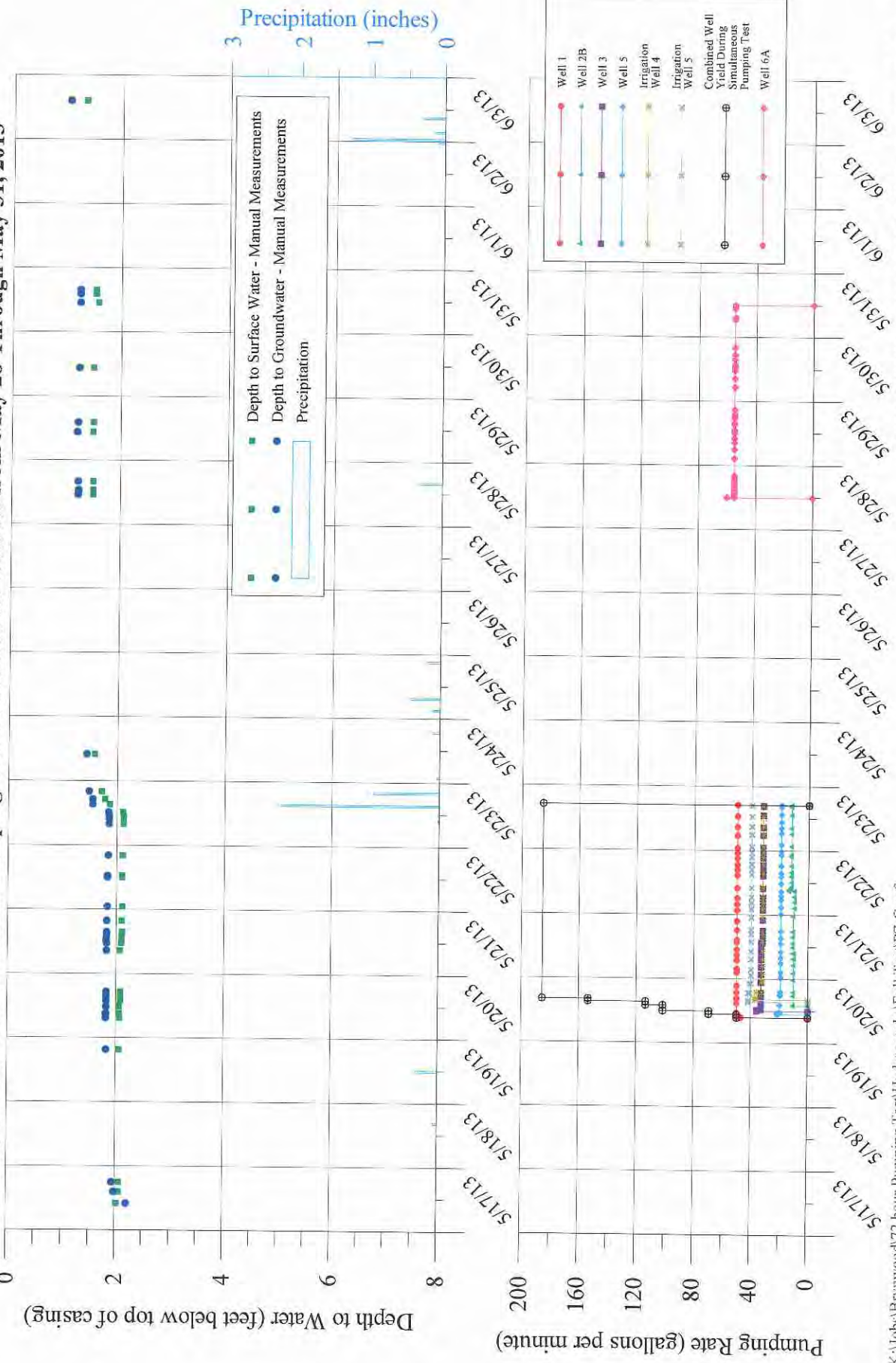
**Hydrograph of Water-Level Measurements Collected from Piezometer PZ-F During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Piezometer PZ-G (Byram Lake) During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-A</b>				
5/17/2013	11:10	2.88	Dry (2.72 ft btoc)	--
5/17/2013	11:15	2.73	Dry (2.72 ft btoc)	--
5/20/2013	7:50	2.64	Dry (2.72 ft btoc)	--
5/20/2013	11:53	2.64	Dry (2.72 ft btoc)	--
5/20/2013	13:11	2.62	Dry (2.72 ft btoc)	--
5/20/2013	14:51	2.64	Dry (2.72 ft btoc)	--
5/20/2013	15:54	2.64	Dry (2.72 ft btoc)	--
5/20/2013	16:49	2.64	Dry (2.72 ft btoc)	--
5/20/2013	21:36	2.64	Dry (2.72 ft btoc)	--
5/21/2013	1:28	2.66	Dry (2.72 ft btoc)	--
5/21/2013	3:41	2.66	Dry (2.72 ft btoc)	--
5/21/2013	6:59	2.65	Dry (2.72 ft btoc)	--
5/21/2013	9:06	2.66	Dry (2.72 ft btoc)	--
5/21/2013	11:14	2.66	Dry (2.72 ft btoc)	--
5/21/2013	14:08	2.67	Dry (2.72 ft btoc)	--
5/21/2013	17:33	2.66	Dry (2.72 ft btoc)	--
5/21/2013	21:32	2.67	Dry (2.72 ft btoc)	--
5/22/2013	1:36	2.67	Dry (2.72 ft btoc)	--
5/22/2013	3:57	2.67	Dry (2.72 ft btoc)	--
5/22/2013	6:11	2.68	Dry (2.72 ft btoc)	--
5/22/2013	8:52	2.68	Dry (2.72 ft btoc)	--
5/22/2013	14:42	2.68	Dry (2.72 ft btoc)	--
5/22/2013	17:05	2.67	Dry (2.72 ft btoc)	--
5/22/2013	21:01	2.68	Dry (2.72 ft btoc)	--
5/22/2013	23:02	2.69	Dry (2.72 ft btoc)	--
5/23/2013	0:50	2.69	Dry (2.72 ft btoc)	--
5/23/2013	5:31	2.71	Dry (2.72 ft btoc)	--
5/23/2013	8:46	2.70	Dry (2.72 ft btoc)	--
5/23/2013	17:05	2.36	2.63	Upward
5/24/2013	9:04	2.35	2.66	Upward
5/24/2013	11:08	2.35	2.67	Upward
5/28/2013	9:34	2.38	Dry (2.72 ft btoc)	--
5/28/2013	18:54	2.35	Dry (2.72 ft btoc)	--
5/28/2013	22:43	2.39	Dry (2.72 ft btoc)	--
5/29/2013	2:25	2.39	Dry (2.72 ft btoc)	--
5/29/2013	5:48	2.40	Dry (2.72 ft btoc)	--
5/29/2013	9:56	2.40	Dry (2.72 ft btoc)	--
5/29/2013	13:11	2.40	Dry (2.72 ft btoc)	--
5/29/2013	15:14	2.40	Dry (2.72 ft btoc)	--
5/29/2013	17:34	2.40	Dry (2.72 ft btoc)	--
5/29/2013	20:44	2.41	Dry (2.72 ft btoc)	--
5/30/2013	1:50	2.43	Dry (2.72 ft btoc)	--
5/30/2013	5:09	2.43	Dry (2.72 ft btoc)	--
5/30/2013	8:48	2.43	Dry (2.72 ft btoc)	--
5/30/2013	15:41	2.44	Dry (2.72 ft btoc)	--
5/30/2013	17:22	2.45	Dry (2.72 ft btoc)	--
5/30/2013	20:01	2.45	Dry (2.72 ft btoc)	--
5/31/2013	6:38	2.45	Dry (2.72 ft btoc)	--
5/31/2013	8:40	2.45	Dry (2.72 ft btoc)	--
5/31/2013	10:39	2.44	Dry (2.72 ft btoc)	--
5/31/2013	12:40	2.45	Dry (2.72 ft btoc)	--

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-A (continued)</b>				
5/31/2013	14:47	2.45	Dry (2.72 ft btoc)	--
6/3/2013	17:33	2.35	Dry (2.72 ft btoc)	--
<b>PZ-B</b>				
5/16/2013	9:37	2.58	2.71	Upward
5/20/2013	8:37	2.55	2.71	Upward
5/20/2013	11:18	2.54	2.67	Upward
5/20/2013	14:02	2.54	2.72	Upward
5/20/2013	15:28	2.54	2.72	Upward
5/20/2013	17:38	2.55	2.69	Upward
5/20/2013	23:41	2.68	2.72	Upward
5/21/2013	2:10	2.71	2.68	Downward
5/21/2013	5:10	2.72	2.72	Neutral
5/21/2013	7:34	2.75	2.73	Downward
5/21/2013	9:31	2.77	2.69	Downward
5/21/2013	12:11	2.78	2.73	Downward
5/21/2013	14:36	2.80	2.73	Downward
5/21/2013	18:11	2.84	2.73	Downward
5/21/2013	23:34	2.89	2.74	Downward
5/22/2013	2:28	2.91	2.74	Downward
5/22/2013	5:02	2.94	2.74	Downward
5/22/2013	6:55	2.95	2.74	Downward
5/22/2013	9:20	2.94	2.74	Downward
5/22/2013	15:52	2.97	2.72	Downward
5/22/2013	17:57	2.98	2.69	Downward
5/22/2013	21:55	2.99	2.70	Downward
5/22/2013	23:18	2.99	2.71	Downward
5/23/2013	1:42	3.00	2.69	Downward
5/23/2013	6:15	3.02	2.69	Downward
5/23/2013	9:14	3.03	2.69	Downward
5/23/2013	12:41	3.00	2.70	Downward
5/24/2013	9:51	2.20	2.59	Upward
5/24/2013	12:17	2.25	2.61	Upward
5/28/2013	10:17	2.22	2.62	Upward
5/28/2013	19:55	2.22	2.62	Upward
5/28/2013	23:32	2.20	2.63	Upward
5/29/2013	3:11	2.21	2.61	Upward
5/29/2013	6:30	2.21	2.63	Upward
5/29/2013	11:34	2.20	2.62	Upward
5/29/2013	16:31	2.21	2.62	Upward
5/29/2013	18:31	2.22	2.63	Upward
5/29/2013	21:17	2.24	2.62	Upward
5/30/2013	2:36	2.26	2.63	Upward
5/30/2013	5:37	2.27	2.64	Upward
5/30/2013	16:46	2.26	2.67	Upward
5/30/2013	20:26	2.28	2.66	Upward
5/31/2013	5:37	2.28	2.66	Upward
5/31/2013	9:49	2.25	2.67	Upward
5/31/2013	12:53	2.28	2.65	Upward
5/31/2013	13:51	2.28	2.66	Upward
6/3/2013	17:58	2.20	2.58	Upward

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-C</b>				
5/17/2013	16:35	3.89	2.71	Downward
5/17/2013	16:40	4.02	2.72	Downward
5/20/2013	8:11	3.96	2.70	Downward
5/20/2013	11:03	3.95	2.70	Downward
5/20/2013	14:14	3.95	2.70	Downward
5/20/2013	16:09	3.95	2.70	Downward
5/20/2013	17:54	3.95	2.70	Downward
5/21/2013	0:20	3.95	2.70	Downward
5/21/2013	2:14	3.96	2.71	Downward
5/21/2013	5:40	3.96	2.71	Downward
5/21/2013	7:38	3.96	2.69	Downward
5/21/2013	10:01	3.97	2.69	Downward
5/21/2013	13:13	3.96	2.70	Downward
5/21/2013	15:41	3.97	2.71	Downward
5/21/2013	18:45	3.97	2.72	Downward
5/22/2013	0:00	4.04	2.74	Downward
5/22/2013	2:42	3.99	2.73	Downward
5/22/2013	5:19	4.00	2.73	Downward
5/22/2013	7:00	4.00	2.73	Downward
5/22/2013	9:47	4.00	2.72	Downward
5/22/2013	16:22	3.98	2.73	Downward
5/22/2013	18:21	4.03	2.73	Downward
5/22/2013	22:08	4.05	2.73	Downward
5/22/2013	23:25	4.05	2.74	Downward
5/23/2013	1:57	4.06	2.74	Downward
5/23/2013	6:20	4.07	2.74	Downward
5/23/2013	13:03	4.07	2.73	Downward
5/23/2013	18:34	3.70	2.58	Downward
5/24/2013	10:11	3.58	2.64	Downward
5/24/2013	12:22	3.58	2.63	Downward
5/28/2013	10:28	3.48	2.68	Downward
5/28/2013	20:04	3.47	2.67	Downward
5/28/2013	23:36	3.47	2.68	Downward
5/29/2013	3:15	3.46	2.68	Downward
5/29/2013	6:34	3.45	2.69	Downward
5/29/2013	11:40	3.45	2.64	Downward
5/29/2013	15:01	3.46	2.67	Downward
5/29/2013	18:39	3.46	2.68	Downward
5/29/2013	21:18	3.45	2.69	Downward
5/30/2013	2:45	3.45	2.69	Downward
5/30/2013	5:40	3.46	2.68	Downward
5/30/2013	14:49	3.47	2.68	Downward
5/30/2013	16:56	3.47	2.67	Downward
5/30/2013	20:28	3.46	2.68	Downward
5/31/2013	5:37	3.46	2.68	Downward
5/31/2013	9:55	3.46	2.68	Downward
5/31/2013	12:58	3.47	2.69	Downward
5/31/2013	14:02	3.46	2.68	Downward
6/3/2013	16:20	3.34	2.62	Downward



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-D</b>				
5/17/2013	16:56	4.69	Dry (3.21')	--
5/17/2013	16:59	4.53	Dry	--
5/20/2013	8:17	4.63	3.15	Downward
5/20/2013	10:48	4.61	3.15	Downward
5/20/2013	14:21	4.59	3.15	Downward
5/20/2013	16:17	4.58	3.15	Downward
5/20/2013	18:03	4.57	3.16	Downward
5/21/2013	0:45	4.56	3.16	Downward
5/21/2013	2:25	4.57	3.16	Downward
5/21/2013	6:00	4.57	3.16	Downward
5/21/2013	7:46	4.56	3.16	Downward
5/21/2013	1:09	4.57	3.15	Downward
5/21/2013	13:18	4.57	3.15	Downward
5/21/2013	15:48	4.56	3.17	Downward
5/21/2013	18:58	4.58	Dry (3.21')	--
5/22/2013	0:20	4.59	Dry (3.21')	--
5/22/2013	2:51	4.62	Dry (3.21')	--
5/22/2013	5:38	4.65	Dry (3.21')	--
5/22/2013	7:09	4.65	Dry (3.21')	--
5/22/2013	9:52	4.65	Dry (3.21')	--
5/22/2013	16:30	4.69	Dry (3.21')	--
5/22/2013	18:31	4.70	Dry (3.21')	--
5/22/2013	22:25	4.72	Dry (3.21')	--
5/22/2013	23:30	4.73	Dry (3.21')	--
5/23/2013	2:13	4.75	Dry (3.21')	--
5/23/2013	6:29	4.77	Dry (3.21')	--
5/23/2013	13:13	4.76	Dry (3.21')	--
5/23/2013	18:07	4.42	3.11	Downward
5/24/2013	10:24	4.26	3.13	Downward
5/24/2013	12:41	4.23	3.13	Downward
5/28/2013	10:41	4.45	3.13	Downward
5/28/2013	20:25	4.47	3.12	Downward
5/28/2013	23:50	4.48	3.12	Downward
5/29/2013	3:29	4.47	3.13	Downward
5/29/2013	6:45	4.44	3.13	Downward
5/29/2013	12:28	4.45	3.13	Downward
5/29/2013	16:47	4.48	3.12	Downward
5/29/2013	18:47	4.44	3.12	Downward
5/29/2013	21:25	4.44	3.12	Downward
5/30/2013	2:50	4.45	3.12	Downward
5/30/2013	5:45	4.45	3.12	Downward
5/30/2013	15:09	4.47	3.12	Downward
5/30/2013	17:05	4.48	3.12	Downward
5/30/2013	20:35	4.48	3.12	Downward
5/31/2013	5:19	4.49	3.10	Downward
5/31/2013	10:03	4.50	3.12	Downward
5/31/2013	13:02	4.51	3.11	Downward
5/31/2013	14:18	4.51	3.12	Downward
6/3/2013	18:43	4.37	3.13	Downward

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

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Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-E</b>				
5/17/2013	14:00	2.51	2.42	Downward
5/17/2013	14:11	2.34	2.42	Upward
5/20/2013	7:15	2.46	2.42	Downward
5/20/2013	7:44	2.47	2.42	Downward
5/20/2013	9:38	2.46	2.42	Downward
5/20/2013	12:32	2.48	2.42	Downward
5/20/2013	14:38	2.49	2.42	Downward
5/20/2013	16:39	2.48	2.43	Downward
5/20/2013	21:01	2.49	2.43	Downward
5/21/2013	1:07	2.50	2.44	Downward
5/21/2013	3:12	2.52	2.44	Downward
5/21/2013	6:44	2.52	2.44	Downward
5/21/2013	8:53	2.54	2.44	Downward
5/21/2013	10:55	2.54	2.44	Downward
5/21/2013	13:52	2.55	2.44	Downward
5/21/2013	17:19	2.56	2.45	Downward
5/21/2013	21:14	2.56	2.45	Downward
5/22/2013	1:24	2.57	2.46	Downward
5/22/2013	3:35	2.57	2.47	Downward
5/22/2013	5:59	2.58	2.46	Downward
5/22/2013	8:44	2.58	2.46	Downward
5/22/2013	10:20	2.59	2.46	Downward
5/22/2013	14:34	2.59	2.47	Downward
5/22/2013	17:30	2.60	2.48	Downward
5/22/2013	20:47	2.60	2.49	Downward
5/22/2013	22:57	2.61	2.50	Downward
5/23/2013	0:43	2.62	2.50	Downward
5/23/2013	5:18	2.62	2.50	Downward
5/23/2013	8:38	2.63	2.50	Downward
5/23/2013	14:10	2.39	2.07	Downward
5/23/2013	17:14	1.87	1.80	Downward
5/24/2013	8:51	1.94	1.90	Downward
5/24/2013	10:50	1.95	1.90	Downward
5/28/2013	9:18	1.93	1.91	Downward
5/28/2013	18:44	1.92	1.92	Neutral
5/28/2013	22:31	1.93	1.93	Neutral
5/29/2013	2:13	1.93	1.94	Upward
5/29/2013	5:38	1.93	1.93	Neutral
5/29/2013	9:37	1.95	1.93	Downward
5/29/2013	17:19	1.95	1.93	Downward
5/29/2013	20:37	1.94	1.94	Neutral
5/30/2013	1:37	1.96	1.95	Downward
5/30/2013	4:59	1.97	1.95	Downward
5/30/2013	15:58	1.97	1.95	Downward
5/30/2013	19:52	1.98	1.96	Downward
5/31/2013	6:56	1.98	1.97	Downward
5/31/2013	10:18	1.99	1.97	Downward
5/31/2013	12:48	1.99	1.97	Downward
5/31/2013	13:21	1.99	1.97	Downward
6/3/2013				

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-F</b>				
5/17/2013	10:30	4.70	Dry (2.97')	--
5/17/2013	10:35	4.53	Dry (2.97')	--
5/20/2013	7:35	4.23	Dry (2.97')	--
5/20/2013	10:00	4.22	Dry (2.97')	--
5/20/2013	12:36	4.22	Dry (2.97')	--
5/20/2013	14:44	4.21	Dry (2.97')	--
5/20/2013	16:43	4.21	Dry (2.97')	--
5/20/2013	20:27	4.18	Dry (2.97')	--
5/21/2013	1:09	4.19	Dry (2.97')	--
5/21/2013	3:17	4.19	Dry (2.97')	--
5/21/2013	6:47	4.17	Dry (2.97')	--
5/21/2013	8:59	4.18	Dry (2.97')	--
5/21/2013	10:58	4.17	Dry (2.97')	--
5/21/2013	13:55	4.17	Dry (2.97')	--
5/21/2013	17:26	4.16	Dry (2.97')	--
5/21/2013	21:20	4.16	Dry (2.97')	--
5/22/2013	1:16	4.15	Dry (2.97')	--
5/22/2013	3:42	4.14	Dry (2.97')	--
5/22/2013	6:01	4.14	Dry (2.97')	--
5/22/2013	8:47	4.14	Dry (2.97')	--
5/22/2013	10:24	4.14	Dry (2.97')	--
5/22/2013	14:37	4.14	Dry (2.97')	--
5/22/2013	17:20	4.13	Dry (2.97')	--
5/22/2013	17:22	4.13	Dry (2.97')	--
5/22/2013	20:52	4.13	Dry (2.97')	--
5/22/2013	22:59	4.13	Dry (2.97')	--
5/23/2013	0:45	4.13	Dry (2.97')	--
5/23/2013	5:20	4.12	Dry (2.97')	--
5/23/2013	8:41	4.12	Dry (2.97')	--
5/23/2013	14:21	3.94	2.72	Downward
5/23/2013	19:11	3.85	2.82	Downward
5/24/2013	8:54	3.69	2.76	Downward
5/24/2013	11:00	3.68	2.76	Downward
5/28/2013	9:28	3.21	2.81	Downward
5/28/2013	18:49	3.17	2.81	Downward
5/28/2013	22:37	3.16	2.81	Downward
5/29/2013	2:18	3.14	2.81	Downward
5/29/2013	5:30	3.13	2.81	Downward
5/29/2013	9:45	3.13	2.81	Downward
5/29/2013	17:23	3.09	2.83	Downward
5/29/2013	20:40	3.09	2.83	Downward
5/30/2013	1:45	3.08	2.83	Downward
5/30/2013	5:03	3.07	2.83	Downward
5/30/2013	15:51	3.04	2.85	Downward
5/30/2013	19:55	3.03	2.86	Downward
5/31/2013	6:48	3.02	2.85	Downward
5/31/2013	10:21	3.00	2.86	Downward
5/31/2013	12:46	3.00	2.86	Downward
5/31/2013	13:26	3.00	2.86	Downward
6/3/2013	16:48	2.75	2.86	Upward

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Piezometers During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Groundwater (ft btoc)	Depth to Surface Water (ft btoc)	Gradient
<b>PZ-G</b>				
5/17/2013	9:58	2.21	2.03	Downward
5/17/2013	14:19	1.98	2.07	Upward
5/17/2013	17:51	1.94	2.07	Upward
5/19/2013	19:30	1.82	2.06	Upward
5/20/2013	7:23	1.81	2.07	Upward
5/20/2013	9:02	1.81	2.06	Upward
5/20/2013	9:04	1.82	2.06	Upward
5/20/2013	11:35	1.82	2.06	Upward
5/20/2013	13:52	1.82	2.08	Upward
5/20/2013	15:31	1.82	2.08	Upward
5/20/2013	17:14	1.82	2.08	Upward
5/21/2013	8:33	1.82	2.07	Upward
5/21/2013	11:20	1.82	2.09	Upward
5/21/2013	12:32	1.81	2.10	Upward
5/21/2013	14:01	1.82	2.10	Upward
5/21/2013	15:37	1.82	2.11	Upward
5/21/2013	19:46	1.82	2.10	Upward
5/22/2013	1:05	1.83	2.11	Upward
5/22/2013	12:01	1.83	2.10	Upward
5/22/2013	12:35	1.83	2.10	Upward
5/22/2013	20:14	1.84	2.11	Upward
5/23/2013	8:00	1.85	2.12	Upward
5/23/2013	9:57	1.85	2.12	Upward
5/23/2013	10:46	1.85	2.12	Upward
5/23/2013	12:20	1.84	2.11	Upward
5/23/2013	15:17	1.54	1.86	Upward
5/23/2013	17:11	1.54	1.77	Upward
5/23/2013	20:05	1.47	1.71	Upward
5/24/2013	9:59	1.42	1.57	Upward
5/28/2013	11:02	1.21	1.49	Upward
5/28/2013	12:45	1.22	1.49	Upward
5/28/2013	16:02	1.21	1.49	Upward
5/29/2013	10:30	1.19	1.48	Upward
5/29/2013	14:10	1.20	1.49	Upward
5/30/2013	10:33	1.22	1.48	Upward
5/31/2013	11:00	1.23	1.57	Upward
5/31/2013	14:12	1.23	1.52	Upward
5/31/2013	15:41	1.23	1.52	Upward
6/3/2013	14:25	1.03	1.32	Upward

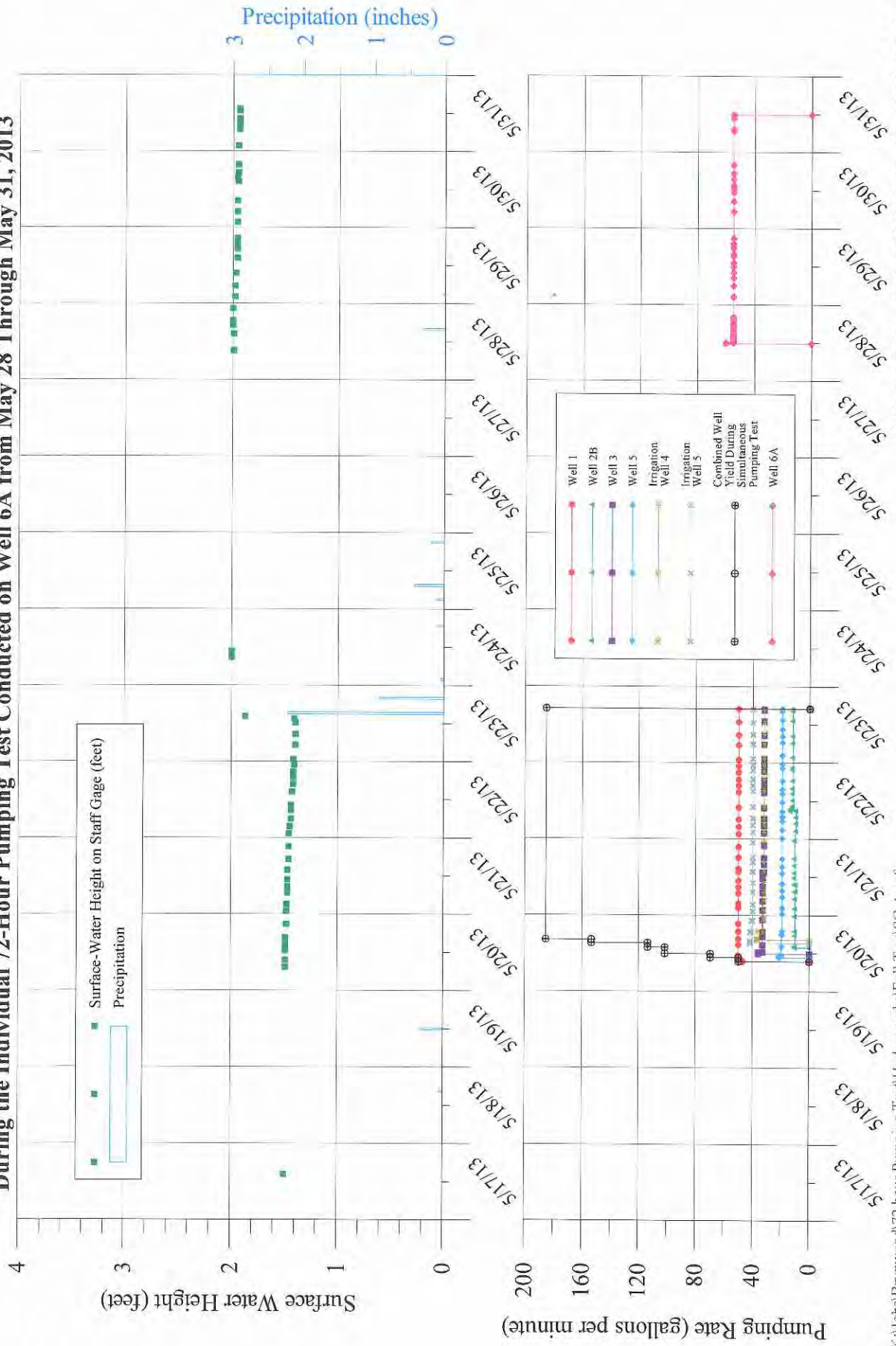
ft btoc    feet below top of casing

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## **STAFF GAGES**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

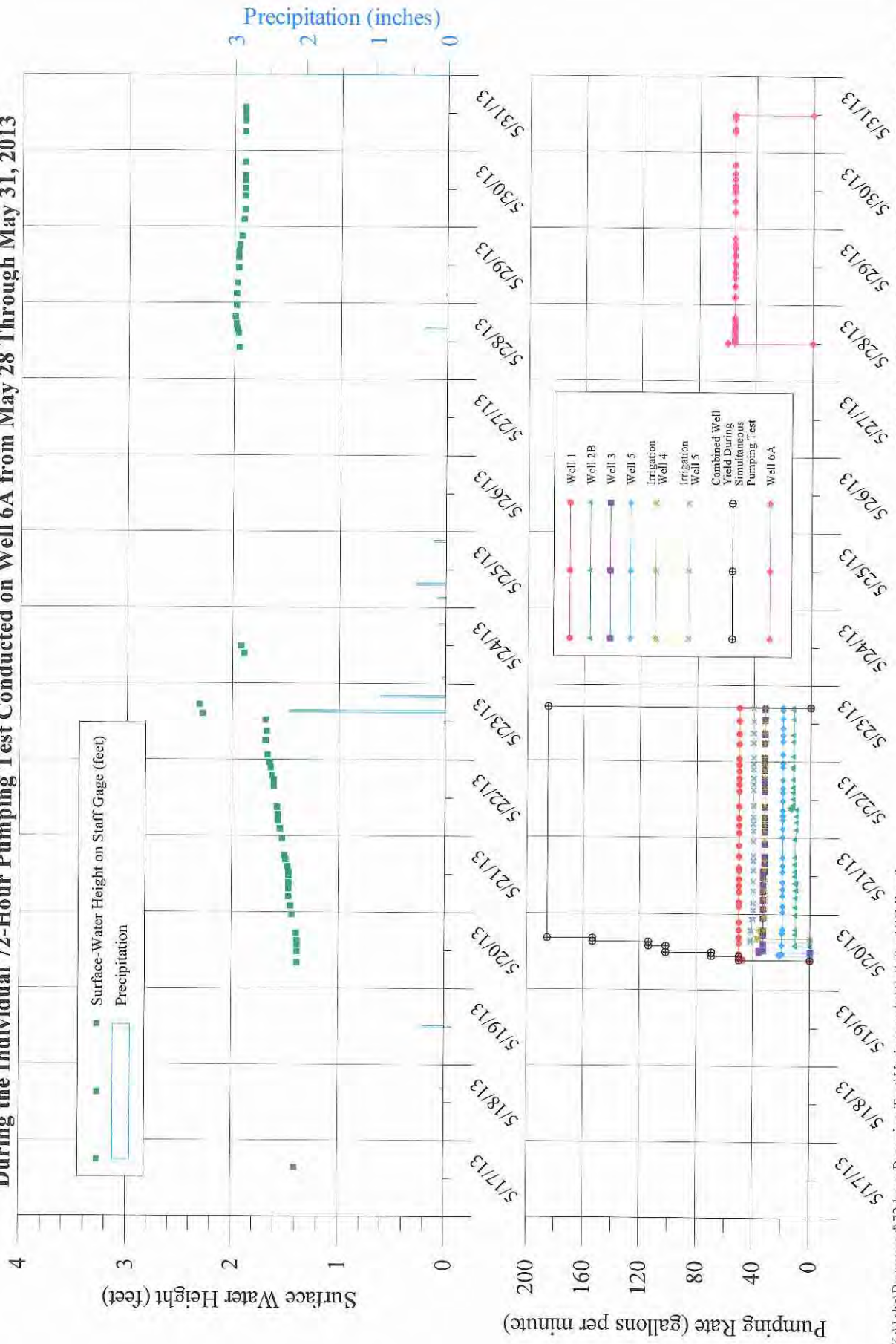
**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-A During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





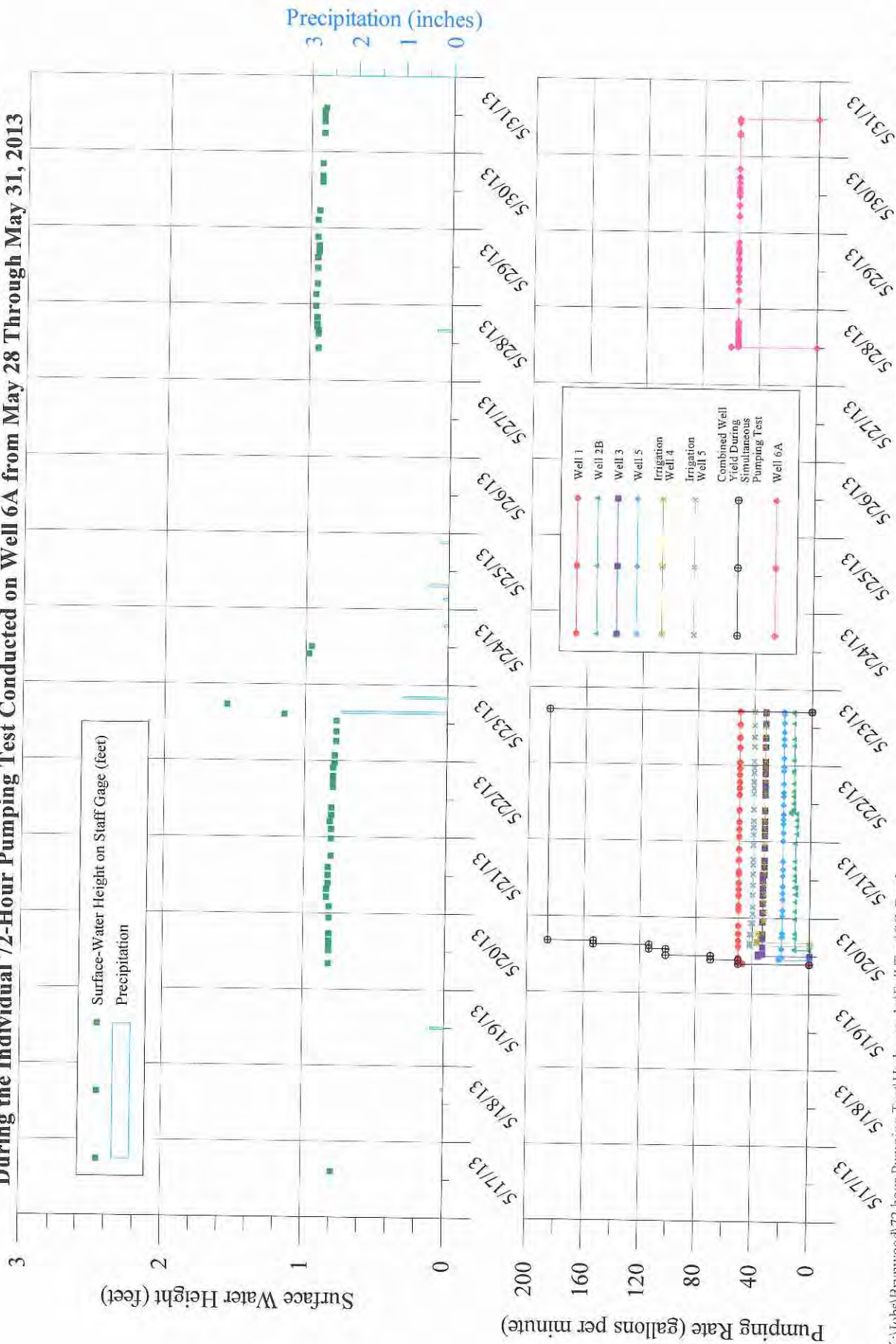
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-B During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

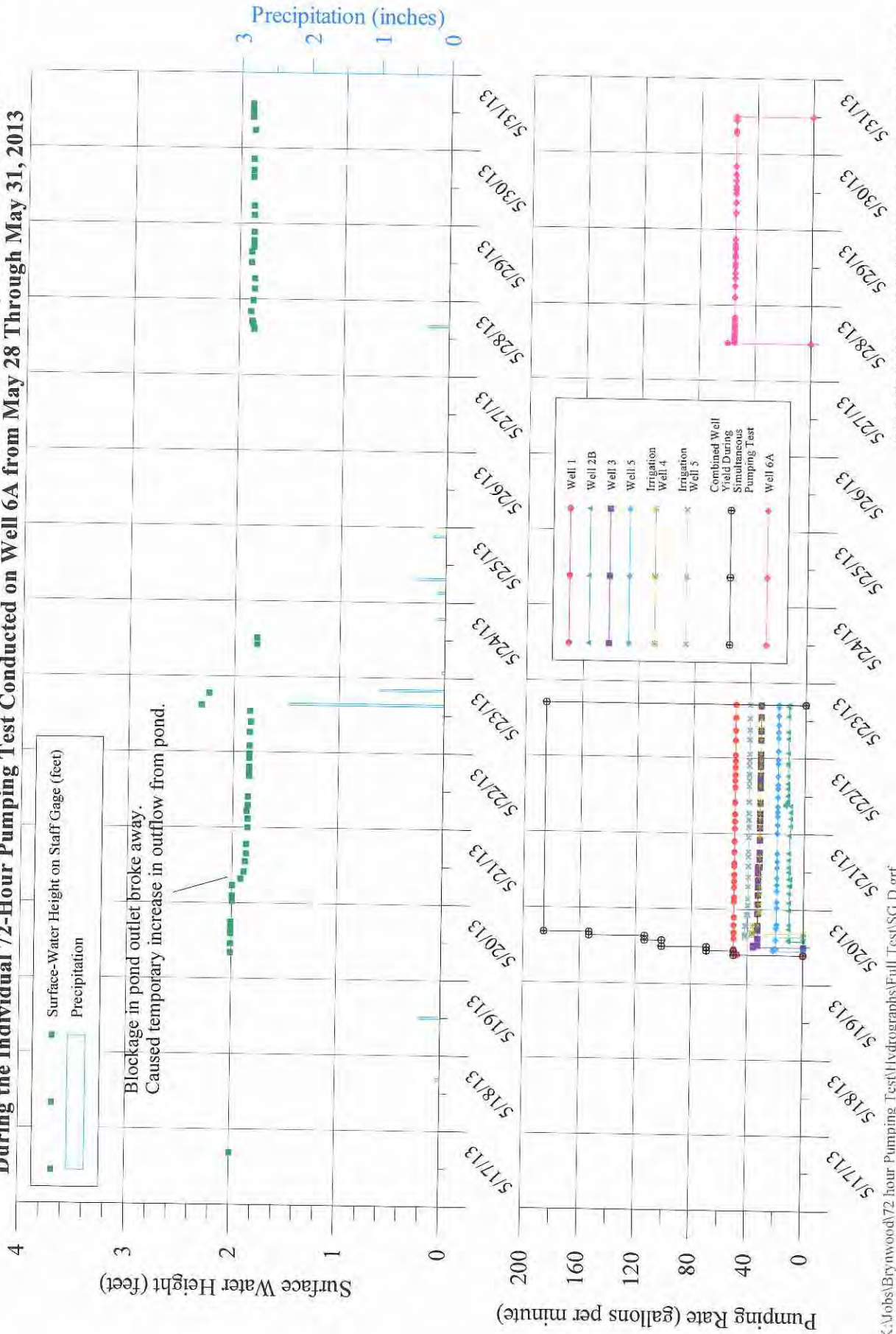
**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-C During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





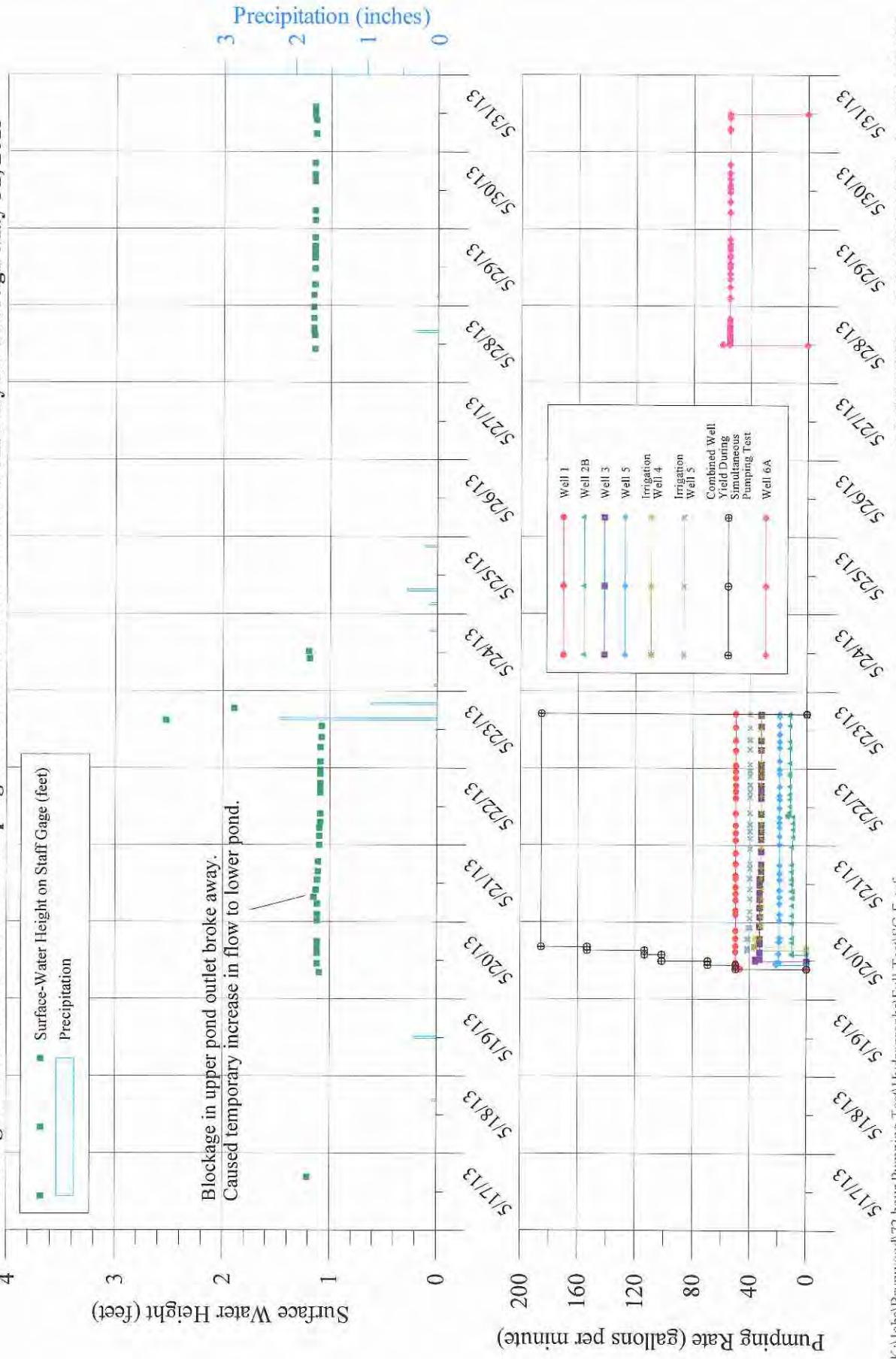
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-D During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

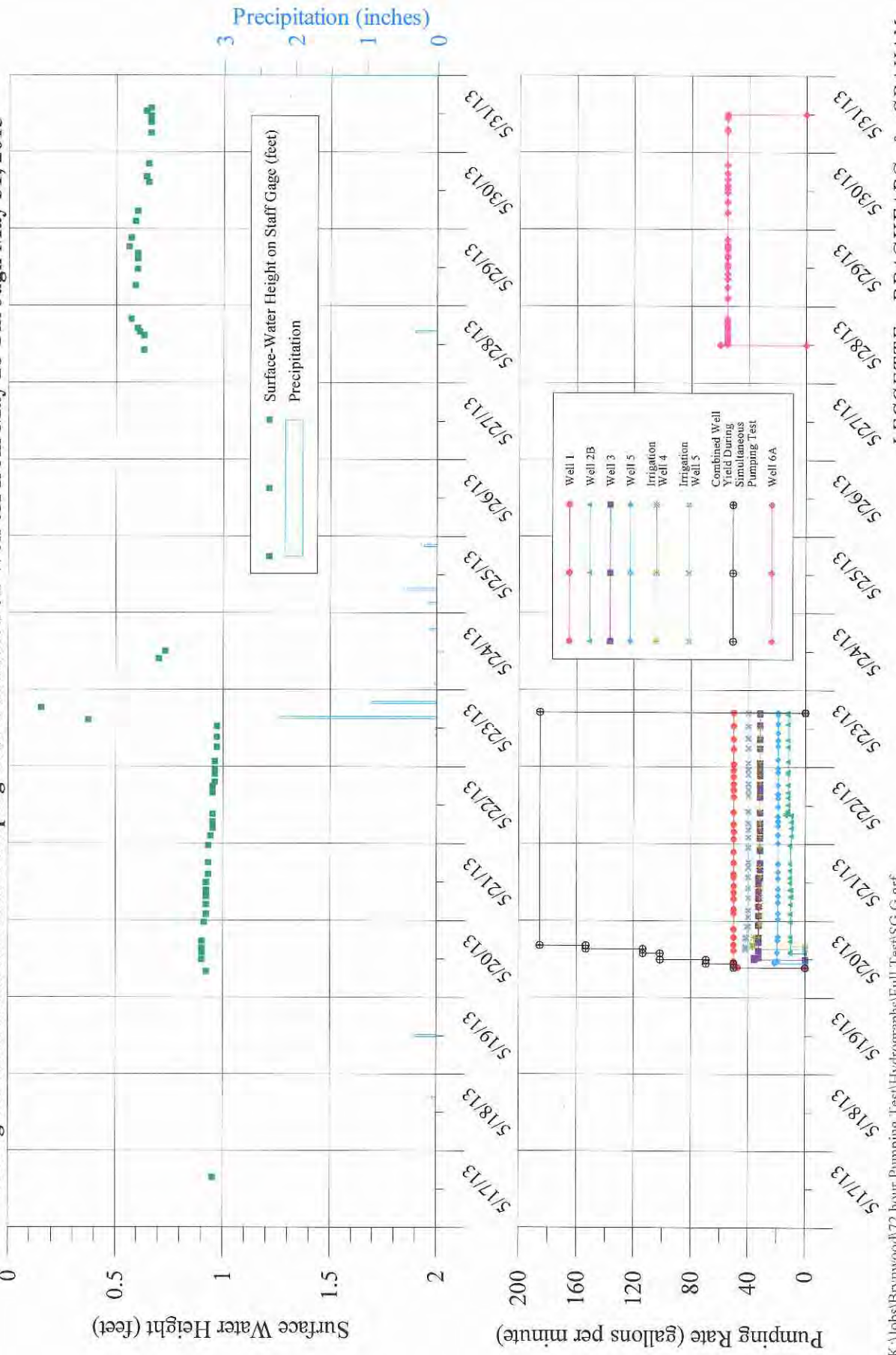
**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-E During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**





**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from Staff Gage SG-G During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
SG-A			
5/17/2013	14:14	1.50	
5/20/2013	7:20	1.49	
5/20/2013	9:35	1.49	
5/20/2013	12:31	1.49	
5/20/2013	14:35	1.49	
5/20/2013	16:36	1.49	
5/20/2013	20:53	1.48	
5/21/2013	1:05	1.48	
5/21/2013	3:07	1.48	
5/21/2013	6:42	1.47	
5/21/2013	8:44	1.47	
5/21/2013	10:52	1.47	
5/21/2013	13:50	1.47	
5/21/2013	17:17	1.46	
5/21/2013	21:13	1.46	
5/22/2013	1:21	1.46	
5/22/2013	3:34	1.45	
5/22/2013	5:58	1.44	
5/22/2013	8:39	1.44	
5/22/2013	10:16	1.44	
5/22/2013	14:31	1.43	
5/22/2013	16:54	1.42	
5/22/2013	18:58	1.42	
5/22/2013	20:45	1.42	
5/22/2013	22:54	1.41	
5/23/2013	0:41	1.42	
5/23/2013	5:17	1.40	
5/23/2013	8:35	1.40	
5/23/2013	12:19	1.40	
5/23/2013	13:31	1.41	
5/23/2013	14:13	1.87	
5/24/2013	8:47	2.00	
5/24/2013	10:46	2.00	
5/28/2013	9:15	1.99	
5/28/2013	14:29	1.99	
5/28/2013	17:17	2.00	
5/28/2013	18:41	2.00	
5/28/2013	22:29	2.00	
5/29/2013	2:09	1.98	
5/29/2013	5:36	1.98	
5/29/2013	9:34	1.97	
5/29/2013	14:19	1.96	
5/29/2013	17:17	1.96	
5/29/2013	19:06	1.96	
5/29/2013	20:34	1.96	
5/30/2013	1:40	1.96	
5/30/2013	4:57	1.96	
5/30/2013	8:27	1.96	
5/30/2013	14:28	1.95	
5/30/2013	15:34	1.96	
5/30/2013	17:17	1.95	
5/30/2013	19:50	1.95	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
<b>SG-A (continued)</b>			
5/31/2013	1:47	1.95	
5/31/2013	6:57	1.94	
5/31/2013	8:30	1.94	
5/31/2013	10:15	1.94	
5/31/2013	12:47	1.94	
5/31/2013	13:18	1.94	
<b>SG-B</b>			
5/17/2013	15:20	1.41	
5/20/2013	8:00	1.39	
5/20/2013	11:37	1.39	
5/20/2013	13:45	1.39	
5/20/2013	15:03	1.39	
5/20/2013	17:22	1.40	
5/20/2013	23:14	1.44	
5/21/2013	1:54	1.45	
5/21/2013	4:50	1.47	
5/21/2013	7:22	1.47	
5/21/2013	9:16	1.47	
5/21/2013	11:26	1.47	
5/21/2013	12:33	1.47	
5/21/2013	14:18	1.48	
5/21/2013	16:31	1.50	Intermittent outflow from Pond 2 started.
5/21/2013	17:50	1.51	
5/21/2013	23:12	1.53	
5/22/2013	2:15	1.55	
5/22/2013	4:38	1.57	
5/22/2013	6:40	1.57	
5/22/2013	9:01	1.58	
5/22/2013	15:37	1.61	
5/22/2013	17:36	1.61	
5/22/2013	19:00	1.63	
5/22/2013	21:36	1.64	
5/22/2013	23:10	1.65	
5/23/2013	1:29	1.67	
5/23/2013	5:58	1.69	
5/23/2013	8:56	1.68	
5/23/2013	12:28	1.69	
5/23/2013	14:27	2.28	Uncontrolled outflow from Pond 2 in response to rain event.
5/23/2013	17:20	2.31	
5/24/2013	9:34	1.89	
5/24/2013	11:53	1.92	
5/28/2013	10:02	1.95	
5/28/2013	14:33	1.96	
5/28/2013	15:45	1.97	
5/28/2013	16:52	1.98	
5/28/2013	17:32	1.98	
5/28/2013	19:42	1.99	
5/28/2013	23:16	1.98	
5/29/2013	2:58	1.98	
5/29/2013	6:19	1.97	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
<b>SG-B (continued)</b>			
5/29/2013	11:10	1.96	
5/29/2013	14:28	1.96	
5/29/2013	16:18	1.96	
5/29/2013	18:19	1.95	
5/29/2013	21:07	1.93	
5/30/2013	2:20	1.91	
5/30/2013	5:27	1.90	
5/30/2013	9:46	1.90	
5/30/2013	12:12	1.90	
5/30/2013	14:30	1.90	
5/30/2013	16:11	1.90	
5/30/2013	20:20	1.90	
5/31/2013	6:06	1.90	
5/31/2013	9:23	1.90	
5/31/2013	11:15	1.90	
5/31/2013	12:44	1.90	
5/31/2013	13:38	1.90	
<b>SG-C</b>			
5/17/2013	14:23	0.79	
5/20/2013	8:06	0.82	
5/20/2013	12:13	0.82	
5/20/2013	13:54	0.82	
5/20/2013	15:19	0.82	
5/20/2013	17:32	0.82	
5/20/2013	22:31	0.82	
5/21/2013	2:02	0.82	
5/21/2013	5:01	0.84	
5/21/2013	7:29	0.84	
5/21/2013	9:24	0.83	
5/21/2013	11:54	0.83	
5/21/2013	14:27	0.83	
5/21/2013	18:01	0.81	
5/21/2013	23:22	0.81	
5/22/2013	2:24	0.81	
5/22/2013	4:46	0.82	
5/22/2013	6:48	0.81	
5/22/2013	9:10	0.81	
5/22/2013	15:46	0.80	
5/22/2013	17:46	0.80	
5/22/2013	19:07	0.80	
5/22/2013	21:47	0.80	
5/22/2013	23:15	0.79	
5/23/2013	1:38	0.79	
5/23/2013	6:07	0.78	
5/23/2013	9:08	0.78	
5/23/2013	12:33	0.78	
5/23/2013	14:35	1.15	
5/23/2013	17:30	1.56	
5/24/2013	9:43	0.98	
5/24/2013	12:02	0.96	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
<b>SG-C (continued)</b>			
5/28/2013	10:11	0.94	
5/28/2013	14:42	0.94	
5/28/2013	15:52	0.94	
5/28/2013	16:57	0.95	
5/28/2013	17:44	0.95	
5/28/2013	19:49	0.95	
5/28/2013	23:23	0.96	
5/29/2013	3:05	0.96	
5/29/2013	6:24	0.95	
5/29/2013	11:25	0.95	
5/29/2013	14:42	0.95	
5/29/2013	16:25	0.94	
5/29/2013	18:26	0.94	
5/29/2013	21:13	0.95	
5/30/2013	2:30	0.95	
5/30/2013	5:31	0.94	
5/30/2013	14:34	0.92	
5/30/2013	16:22	0.92	
5/30/2013	20:23	0.92	
5/31/2013	5:58	0.91	
5/31/2013	9:39	0.91	
5/31/2013	11:22	0.91	
5/31/2013	12:52	0.91	
5/31/2013	13:48	0.90	
<b>SG-D</b>			
5/17/2013	16:32	2.00	
5/20/2013	8:11	2.01	
5/20/2013	11:01	2.01	
5/20/2013	14:11	2.01	
5/20/2013	16:06	2.01	
5/20/2013	17:52	2.01	
5/21/2013	0:26	2.00	
5/21/2013	2:12	2.00	
5/21/2013	5:34	2.00	
5/21/2013	7:37	1.92	Removal of blockage in outflow channel caused drop in surface-water level.
5/21/2013	9:57	1.89	
5/21/2013	13:08	1.88	
5/21/2013	15:38	1.87	
5/21/2013	18:41	1.87	
5/21/2013	23:55	1.86	
5/22/2013	2:42	1.86	
5/22/2013	5:17	1.87	
5/22/2013	6:57	1.86	
5/22/2013	9:44	1.86	
5/22/2013	16:19	1.85	
5/22/2013	18:18	1.85	
5/22/2013	19:13	1.85	
5/22/2013	22:05	1.85	
5/22/2013	23:21	1.85	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
<b>SG-D (continued)</b>			
5/23/2013	1:58	1.85	
5/23/2013	6:19	1.85	
5/23/2013	9:31	1.84	
5/23/2013	13:00	1.85	
5/23/2013	14:48	2.31	
5/23/2013	18:34	2.24	
5/24/2013	10:08	1.79	
5/24/2013	12:20	1.79	
5/28/2013	14:29	1.86	
5/28/2013	14:48	1.86	
5/28/2013	16:14	1.87	
5/28/2013	17:02	1.88	
5/28/2013	20:06	1.89	
5/28/2013	23:38	1.87	
5/29/2013	3:21	1.86	
5/29/2013	6:36	1.86	
5/29/2013	11:38	1.89	
5/29/2013	15:00	1.89	
5/29/2013	16:38	1.87	
5/29/2013	18:38	1.87	
5/29/2013	21:21	1.87	
5/30/2013	2:43	1.87	
5/30/2013	5:40	1.87	
5/30/2013	14:48	1.88	
5/30/2013	16:54	1.88	
5/30/2013	20:28	1.88	
5/31/2013	5:39	1.87	
5/31/2013	9:53	1.89	
5/31/2013	11:26	1.89	
5/31/2013	12:56	1.89	
5/31/2013	14:03	1.89	
<b>SG-E</b>			
5/17/2013	16:30	1.21	
5/20/2013	8:12	1.10	
5/20/2013	10:59	1.12	
5/20/2013	14:10	1.12	
5/20/2013	16:05	1.12	
5/20/2013	17:51	1.12	
5/21/2013	0:18	1.12	
5/21/2013	2:16	1.12	
5/21/2013	5:33	1.12	
5/21/2013	7:38	1.15	Removal of blockage in outflow channel of upper pond caused temporary rise in surface-water level.
5/21/2013	9:55	1.13	
5/21/2013	13:06	1.12	
5/21/2013	15:37	1.11	
5/21/2013	18:39	1.11	
5/21/2013	23:56	1.10	
5/22/2013	2:44	1.10	
5/22/2013	5:18	1.10	



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
<b>SG-E (continued)</b>			
5/22/2013	6:58	1.09	
5/22/2013	9:42	1.09	
5/22/2013	16:17	1.09	
5/22/2013	18:16	1.09	
5/22/2013	19:11	1.09	
5/22/2013	22:06	1.09	
5/22/2013	23:22	1.09	
5/23/2013	1:59	1.09	
5/23/2013	6:20	1.09	
5/23/2013	9:30	1.08	
5/23/2013	12:58	1.08	
5/23/2013	14:47	2.53	
5/23/2013	18:33	1.90	
5/24/2013	10:06	1.19	
5/24/2013	12:19	1.20	
5/28/2013	10:26	1.15	
5/28/2013	14:47	1.15	
5/28/2013	16:12	1.16	
5/28/2013	17:01	1.16	
5/28/2013	20:05	1.16	
5/28/2013	23:37	1.16	
5/29/2013	3:20	1.16	
5/29/2013	6:35	1.15	
5/29/2013	11:37	1.15	
5/29/2013	14:57	1.15	
5/29/2013	16:35	1.15	
5/29/2013	18:36	1.15	
5/29/2013	21:20	1.15	
5/30/2013	2:40	1.15	
5/30/2013	5:39	1.15	
5/30/2013	14:47	1.15	
5/30/2013	16:52	1.15	
5/30/2013	20:27	1.15	
5/31/2013	5:38	1.14	
5/31/2013	9:51	1.14	
5/31/2013	11:25	1.15	
5/31/2013	12:57	1.15	
5/31/2013	14:02	1.15	
<b>SG-G</b>			
5/17/2013	15:35	0.95	
5/20/2013	8:00	0.92	
5/20/2013	11:47	0.90	
5/20/2013	13:52	0.90	
5/20/2013	15:17	0.90	
5/20/2013	17:29	0.90	
5/20/2013	23:25	0.91	
5/21/2013	1:56	0.92	
5/21/2013	4:58	0.92	
5/21/2013	7:26	0.92	
5/21/2013	9:21	0.92	

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Staff Gages During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Staff Gage Reading (feet)*	Comments
SG-G (continued)			
5/21/2013	11:51	0.92	
5/21/2013	14:24	0.93	
5/21/2013	17:59	0.93	
5/21/2013	23:19	0.93	
5/22/2013	2:21	0.94	
5/22/2013	4:43	0.95	
5/22/2013	6:46	0.95	
5/22/2013	9:08	0.95	
5/22/2013	15:43	0.95	
5/22/2013	17:44	0.95	
5/22/2013	19:05	0.96	
5/22/2013	21:42	0.96	
5/22/2013	23:12	0.96	
5/23/2013	1:35	0.96	
5/23/2013	6:02	0.97	
5/23/2013	9:04	0.97	
5/23/2013	12:31	0.97	
5/23/2013	14:32	0.37	
5/23/2013	18:22	0.15	
5/24/2013	9:40	0.70	
5/24/2013	12:00	0.73	
5/28/2013	10:08	0.63	
5/28/2013	14:40	0.63	
5/28/2013	15:48	0.61	
5/28/2013	16:56	0.60	
5/28/2013	19:48	0.57	
5/29/2013	6:22	0.59	
5/29/2013	11:23	0.60	
5/29/2013	14:39	0.60	
5/29/2013	16:22	0.60	
5/29/2013	18:23	0.56	
5/29/2013	21:11	0.57	
5/30/2013	2:25	0.59	
5/30/2013	5:30	0.60	
5/30/2013	14:33	0.65	
5/30/2013	16:19	0.64	
5/30/2013	20:21	0.65	
5/31/2013	6:00	0.66	
5/31/2013	9:26	0.66	
5/31/2013	11:19	0.66	
5/31/2013	12:51	0.64	
5/31/2013	13:46	0.66	

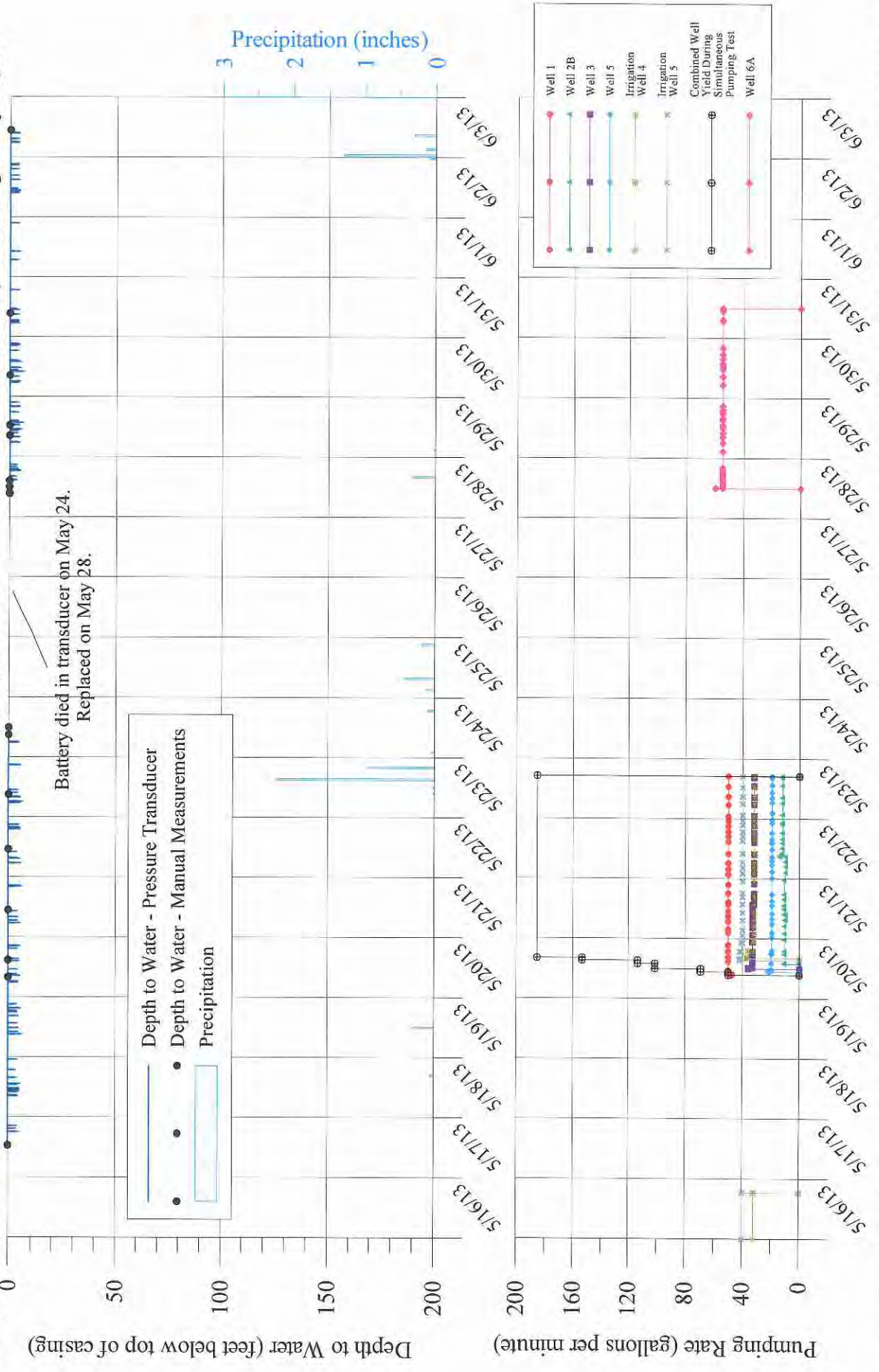
\*Staff gages SG-A, B, C, D and E are pre-marked gages, 0.00 to 3.30 feet. SG-G is a wooden stake, measurements read from top of gage to top of surface water.

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## **OFFSITE WELLS**

# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

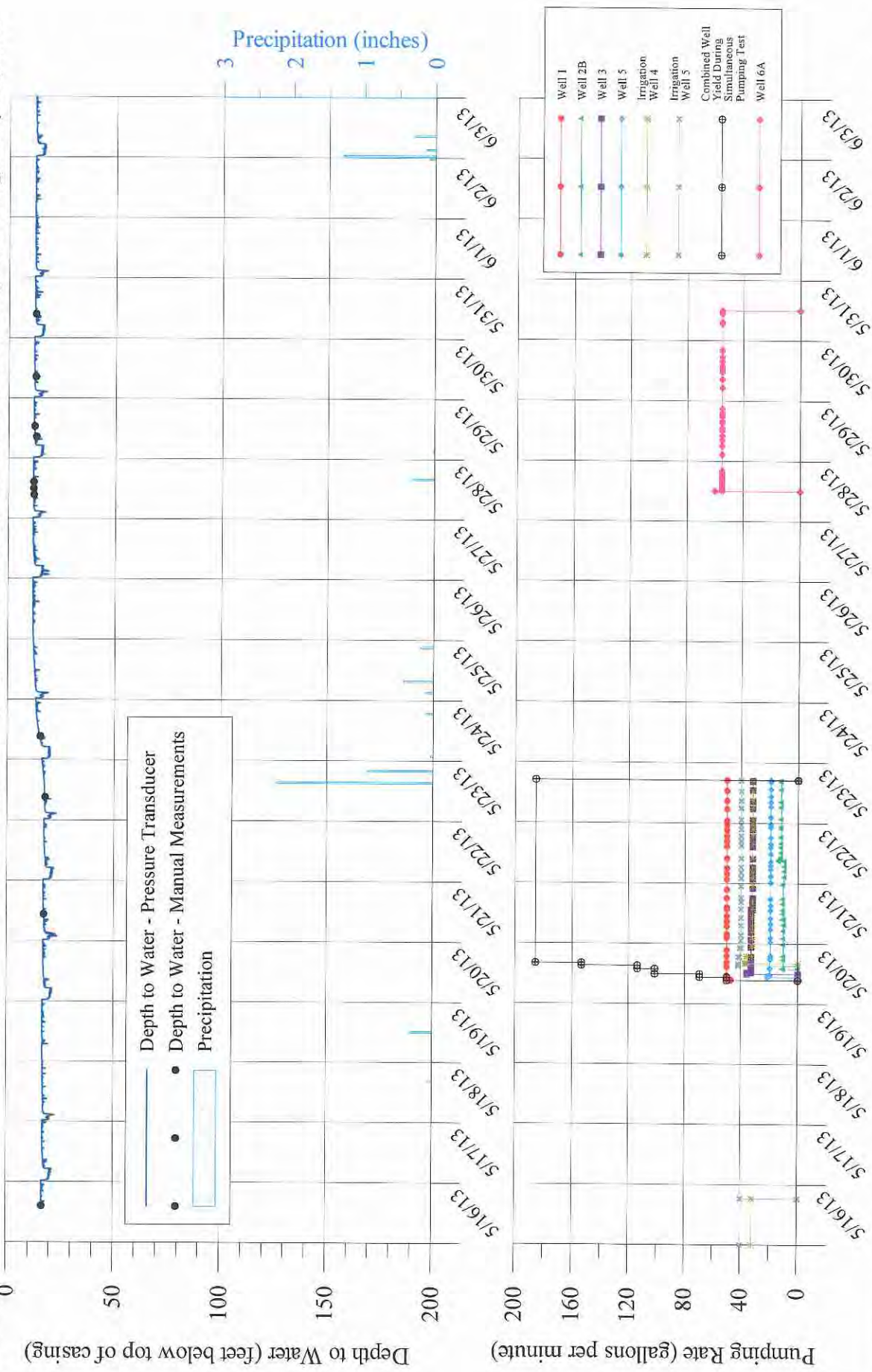
Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 19 Ilana Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013





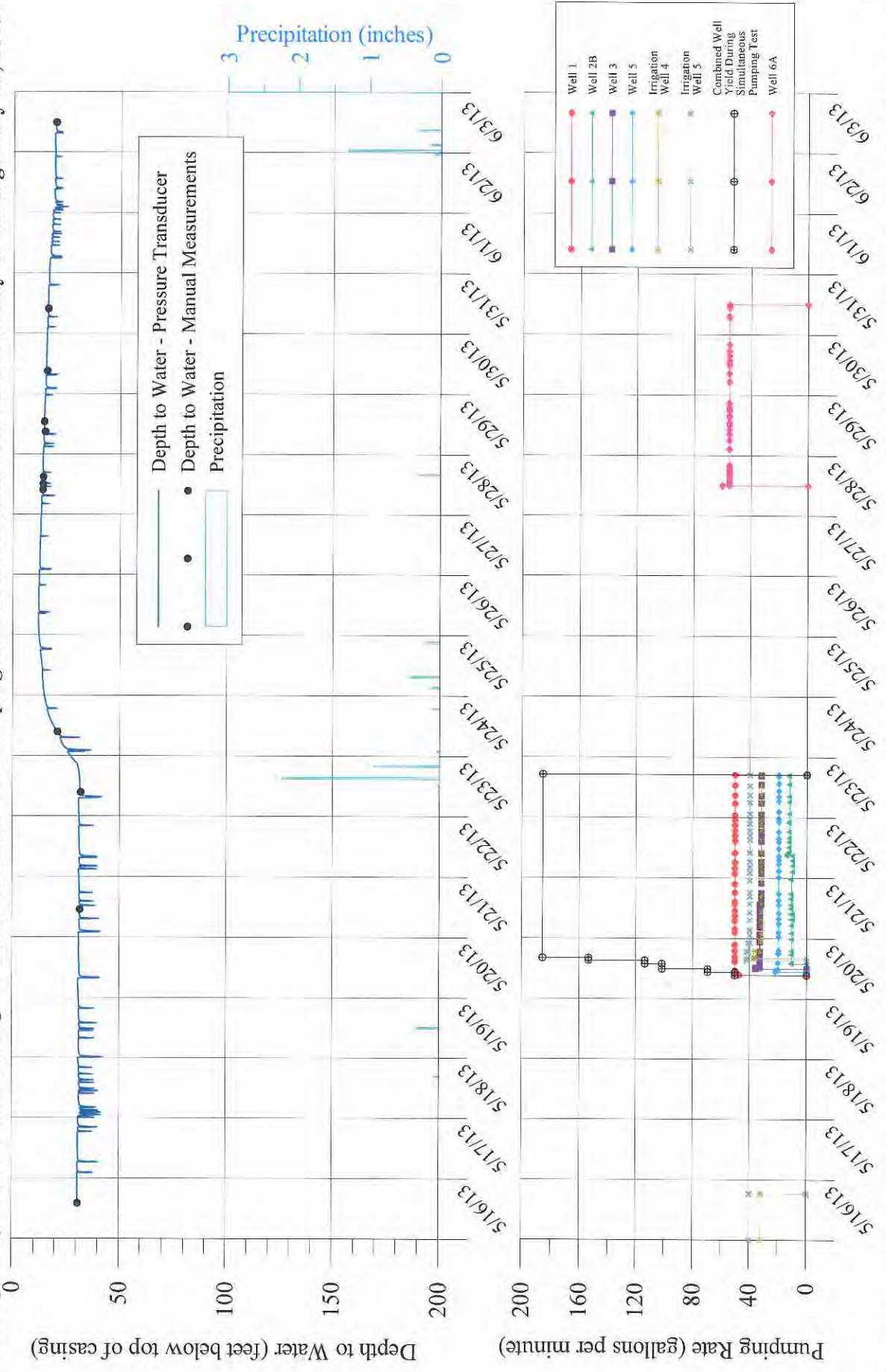
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 12 Ilana Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013



**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

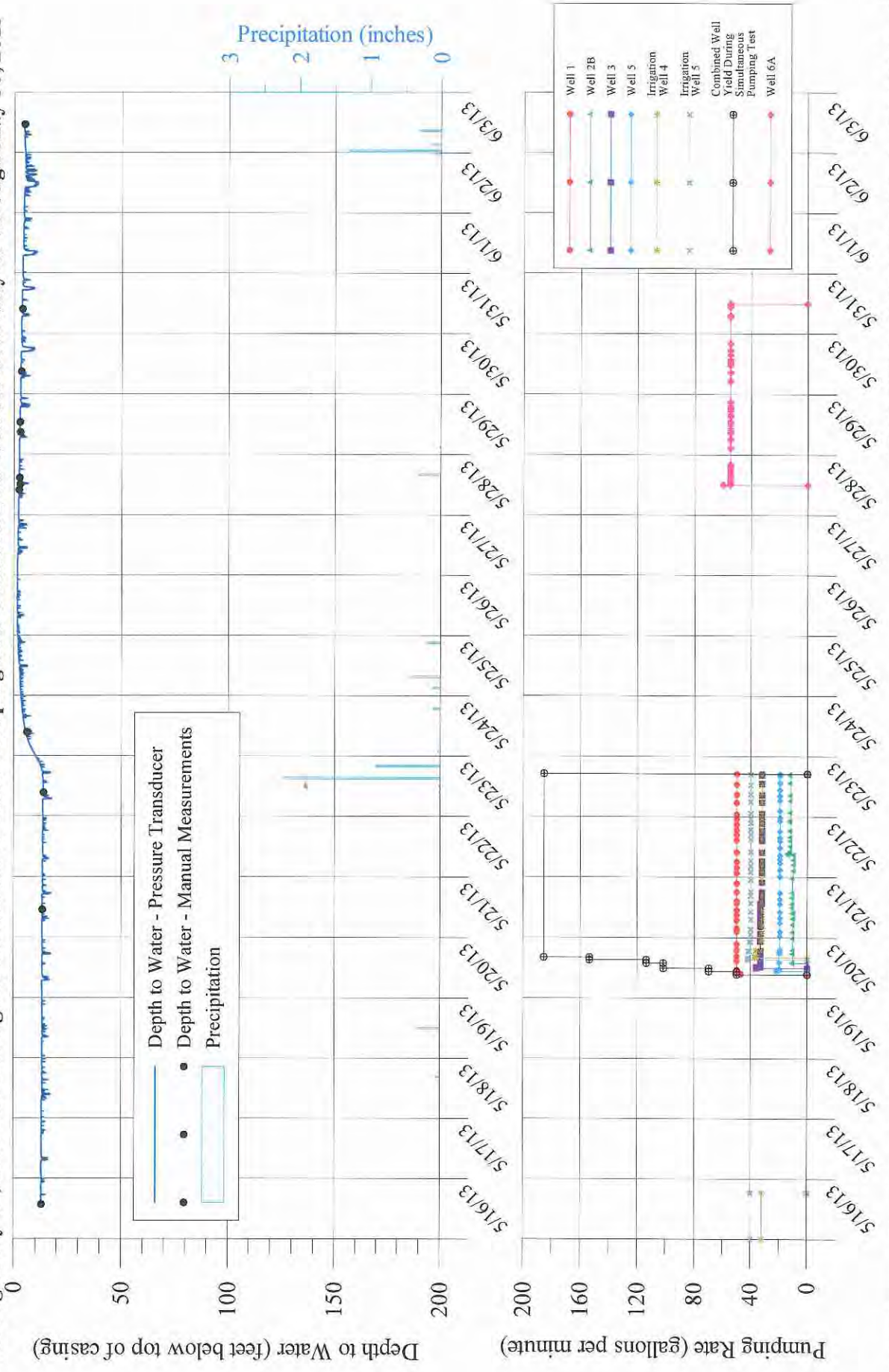
**Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 3 Embassy Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013**





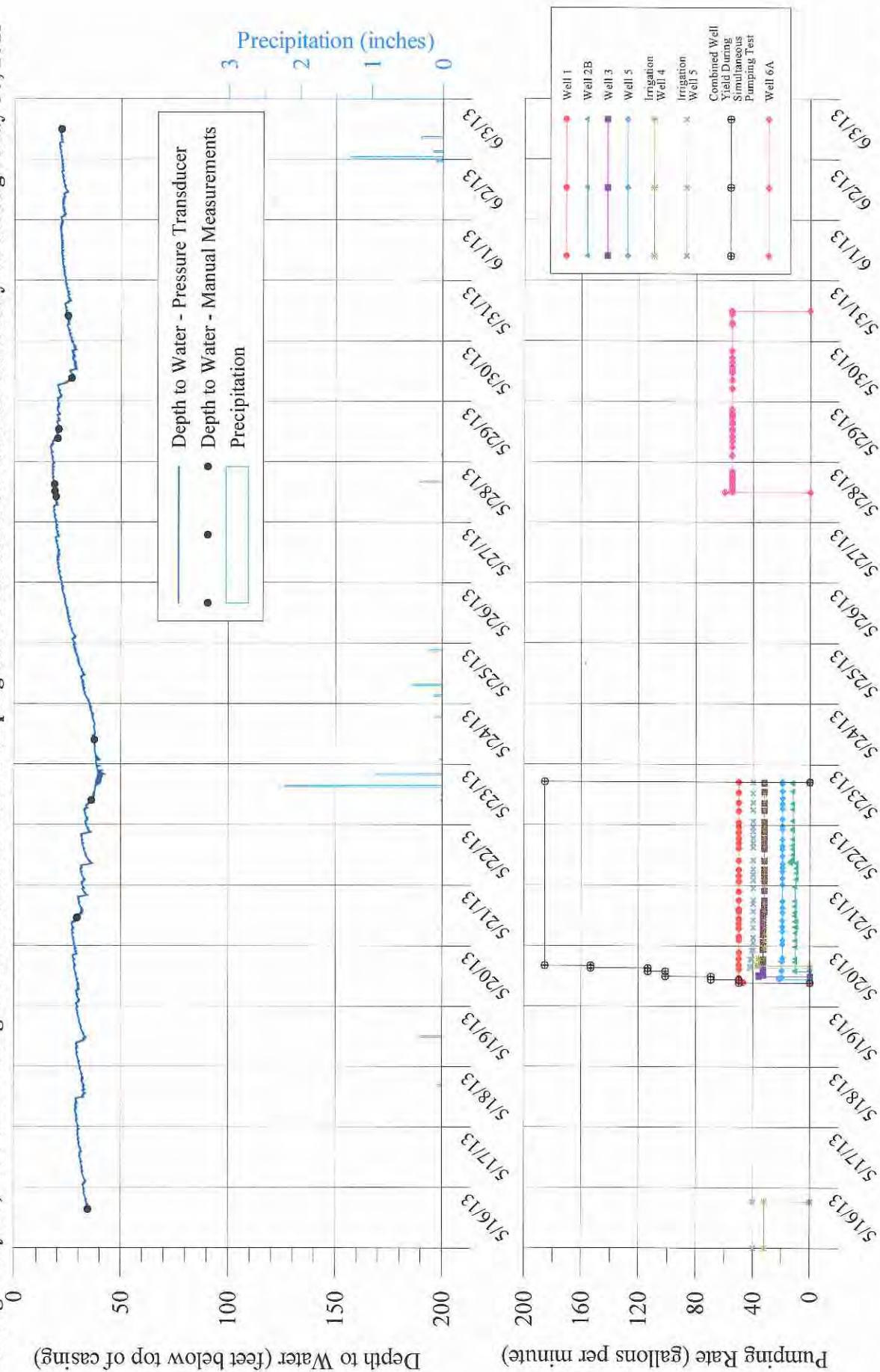
**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 4 Embassy Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

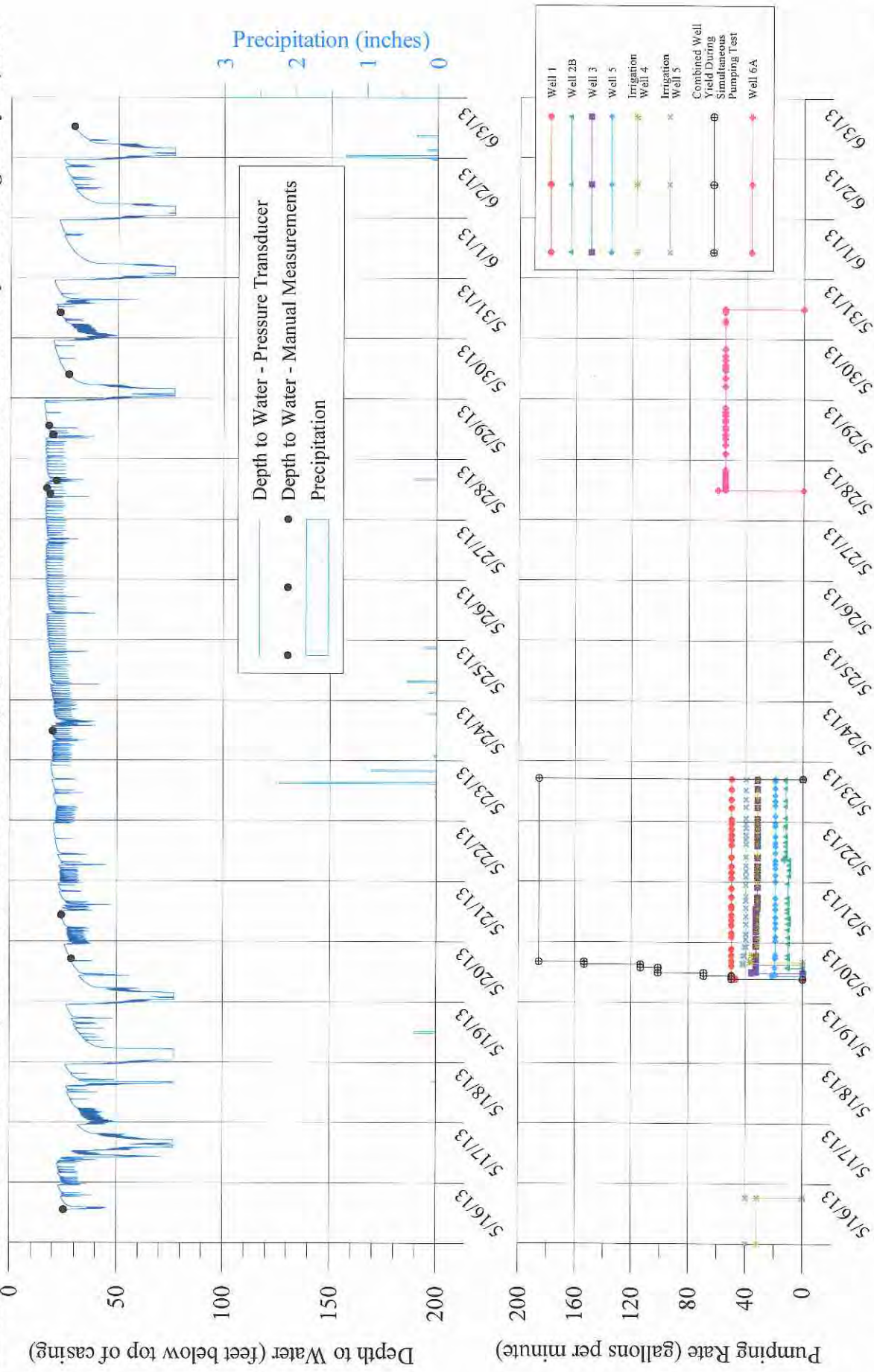
Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 8 Embassy Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013





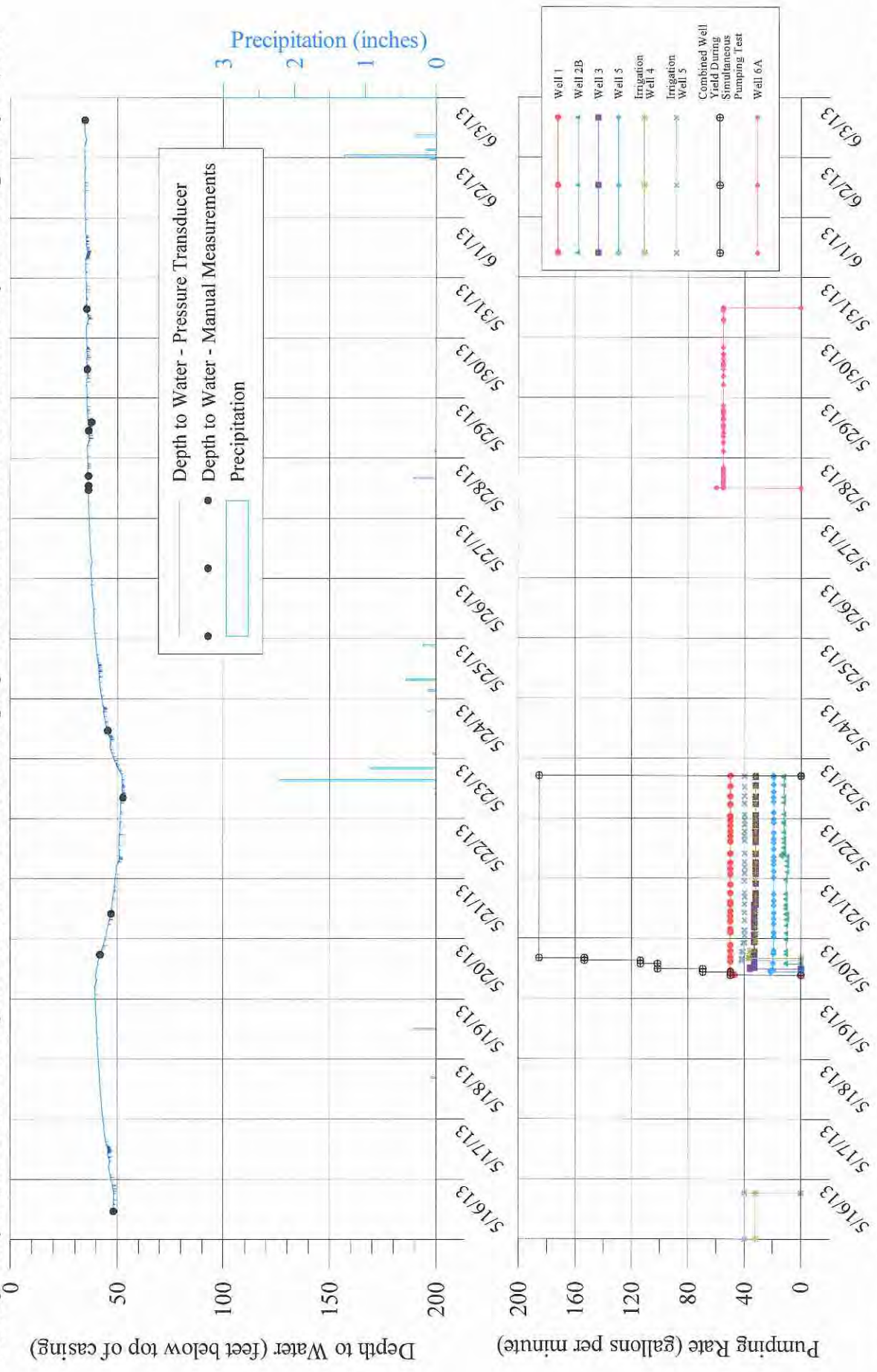
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 6 Colonial Court During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

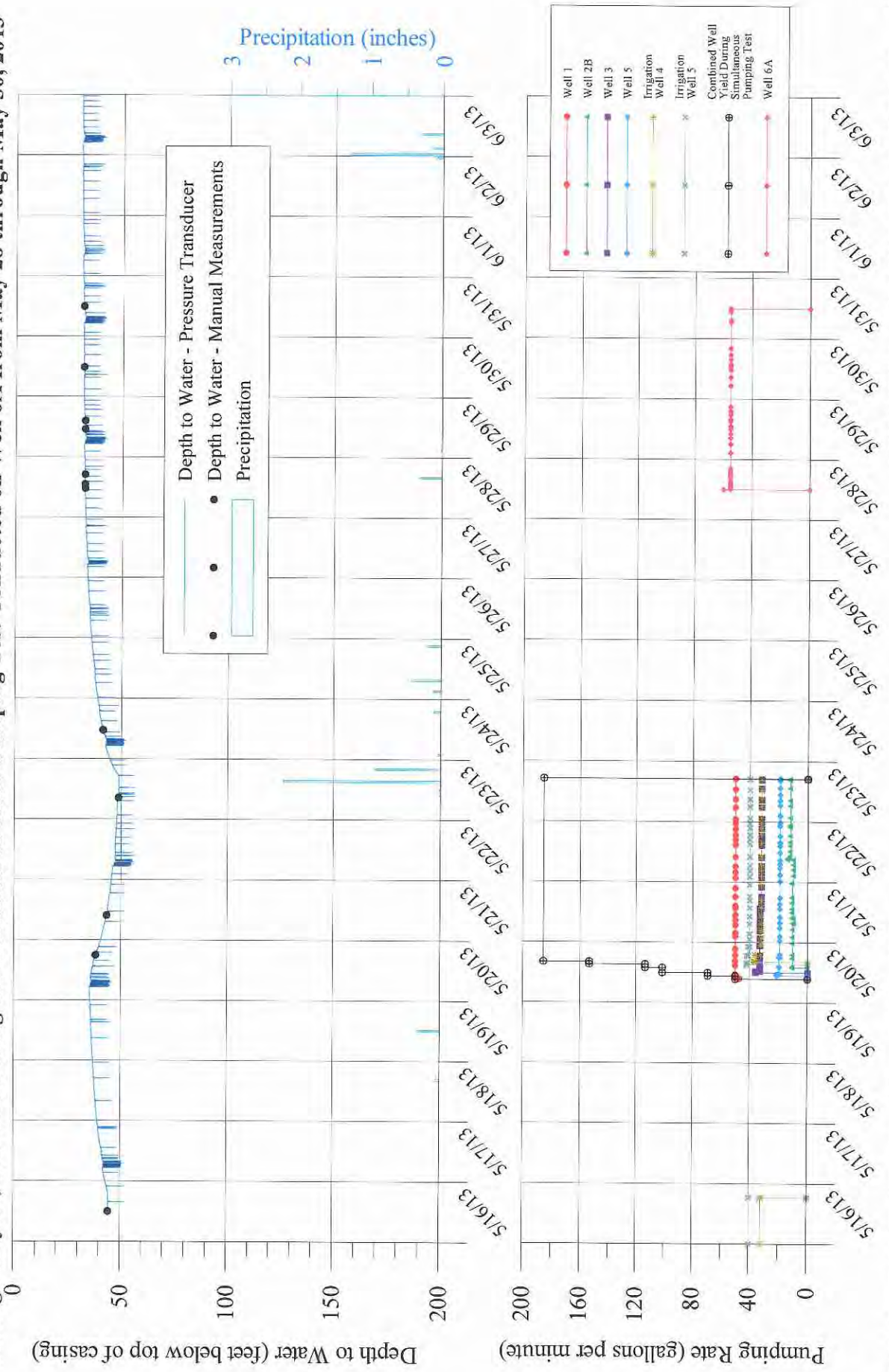
Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 34 Blair Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013





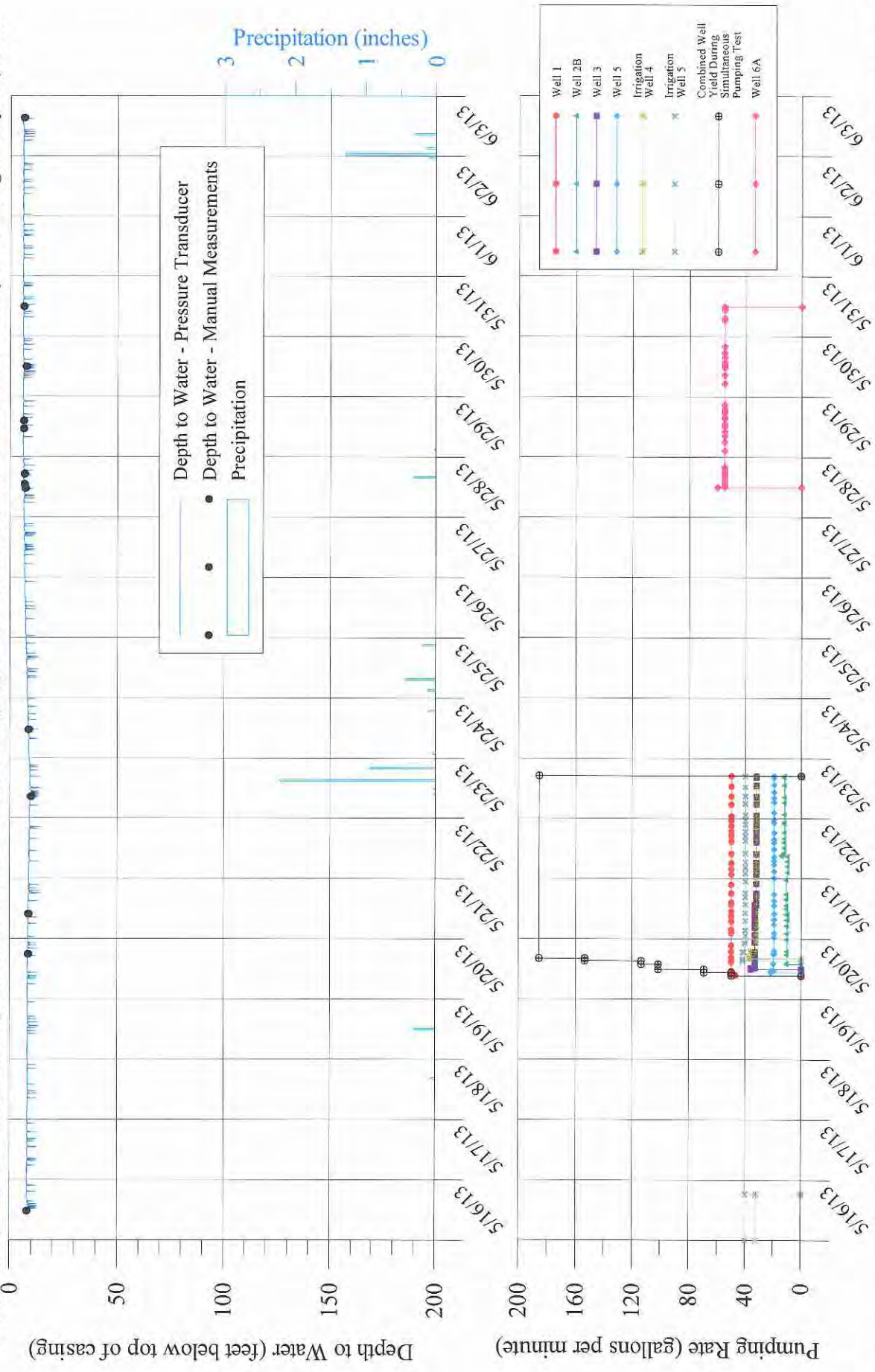
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 30 Blair Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

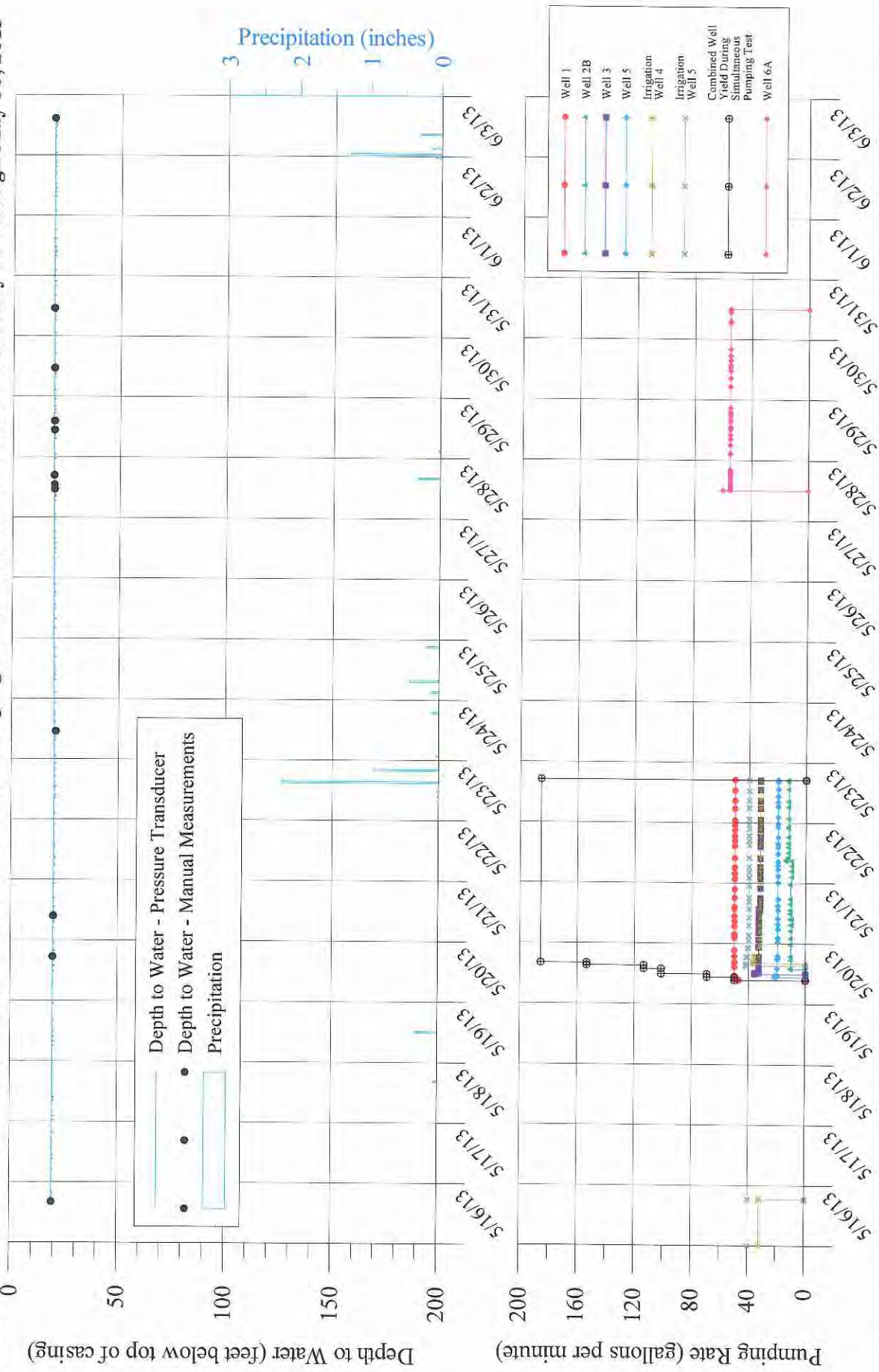
Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 26 Blair Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013





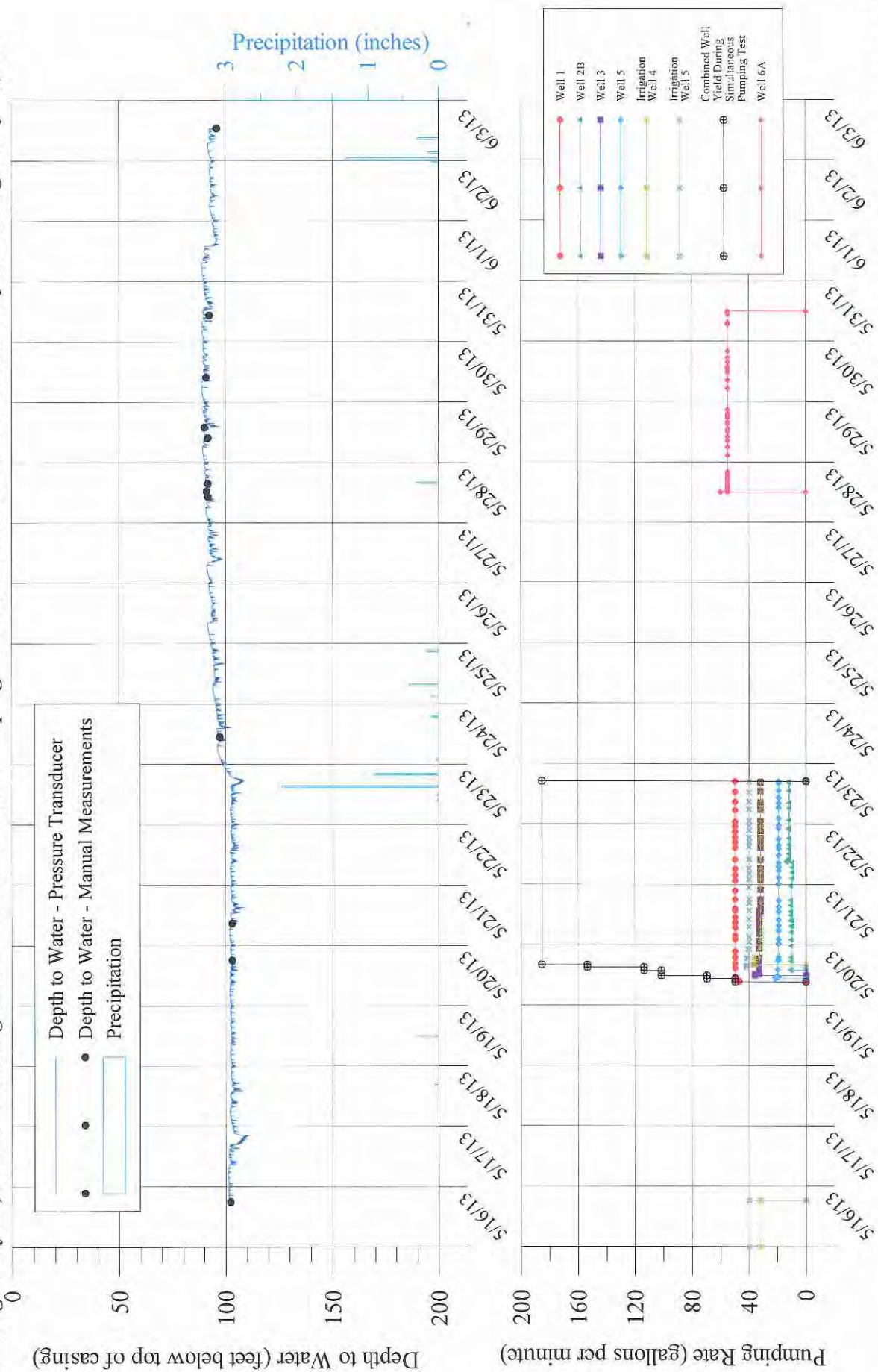
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 70 Old Byram Lake Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

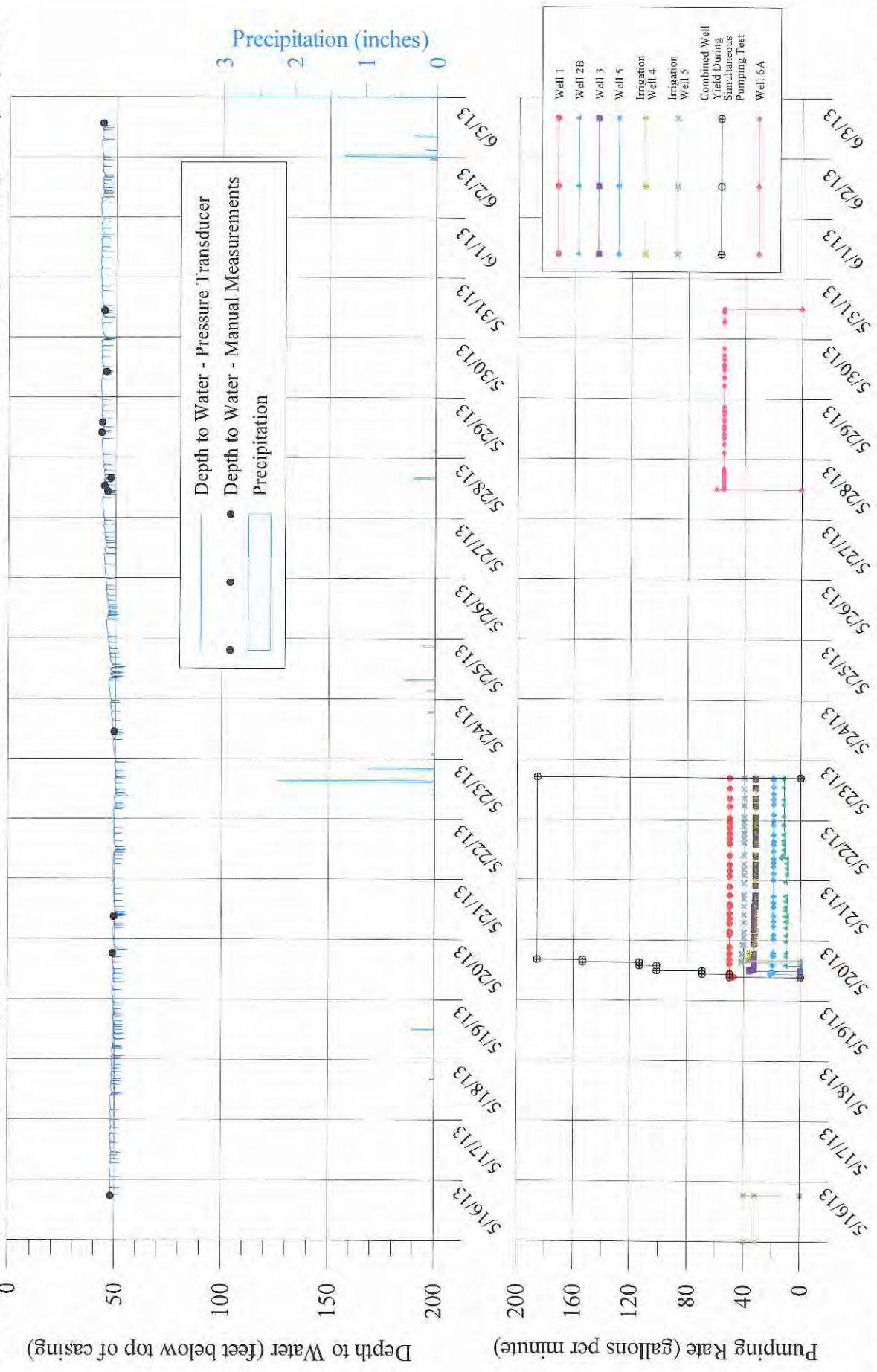
Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 3 Norman Place During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013





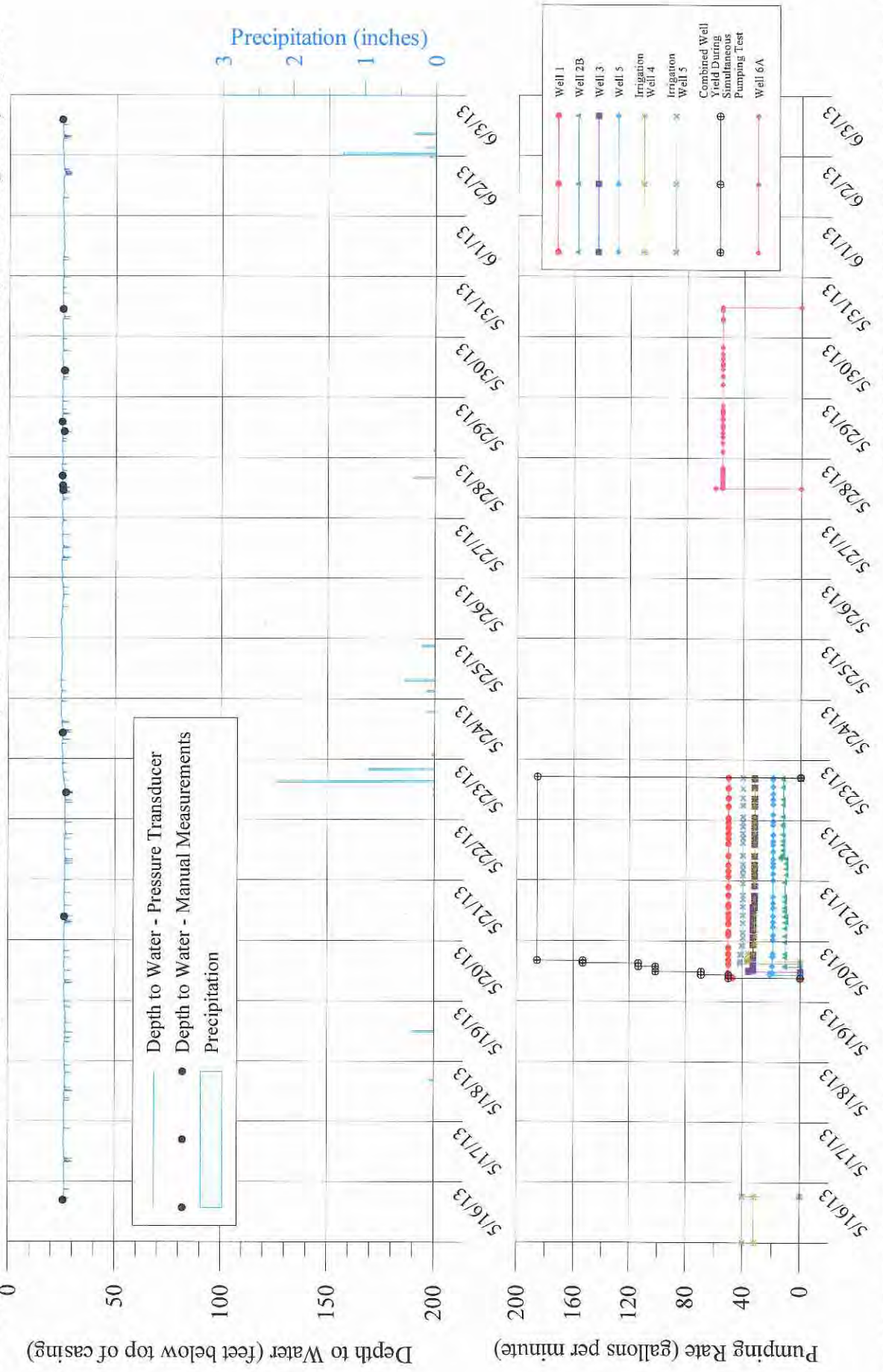
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 4 Norman Place During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

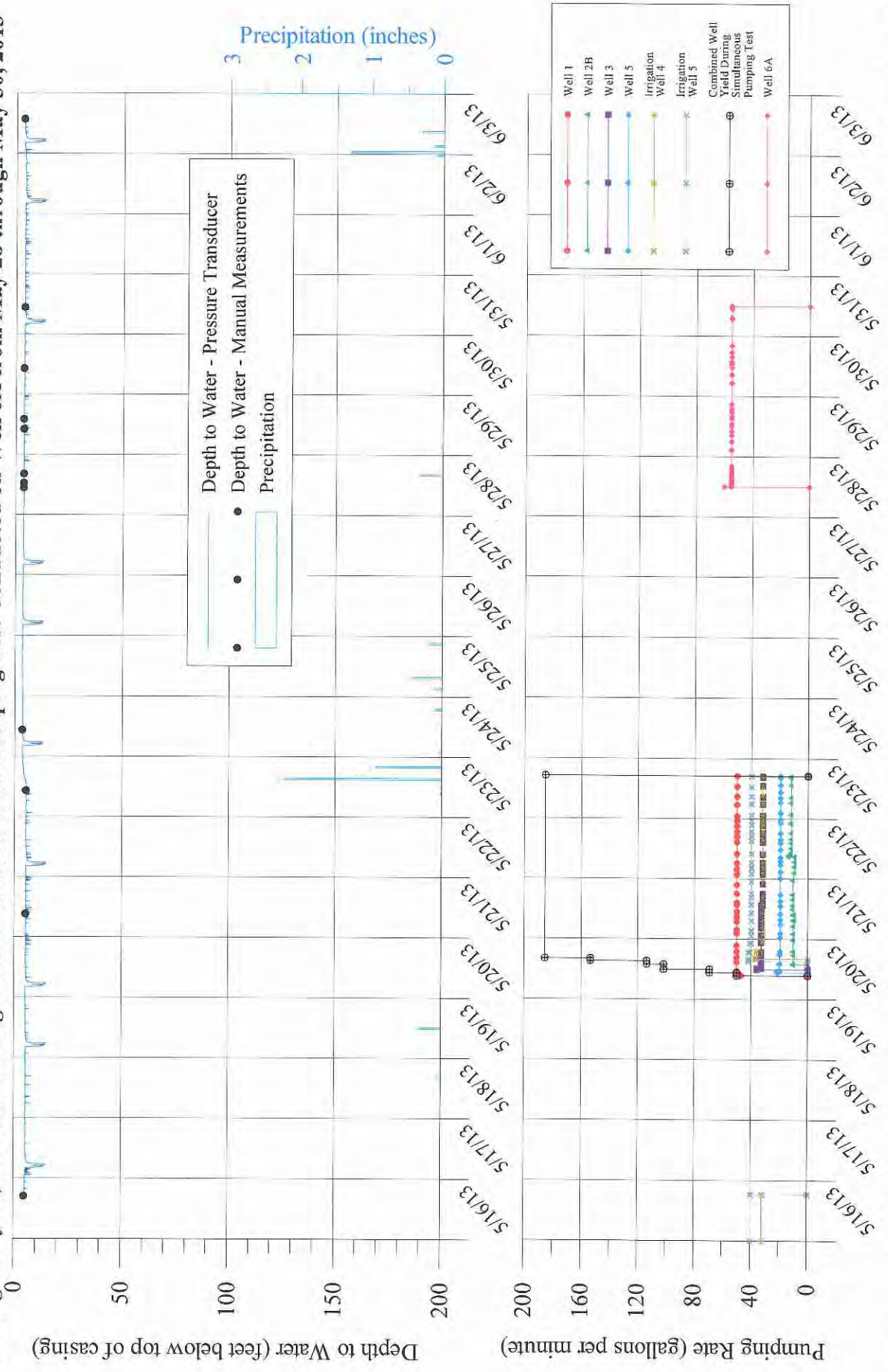
**Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 9 Oregon Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013**





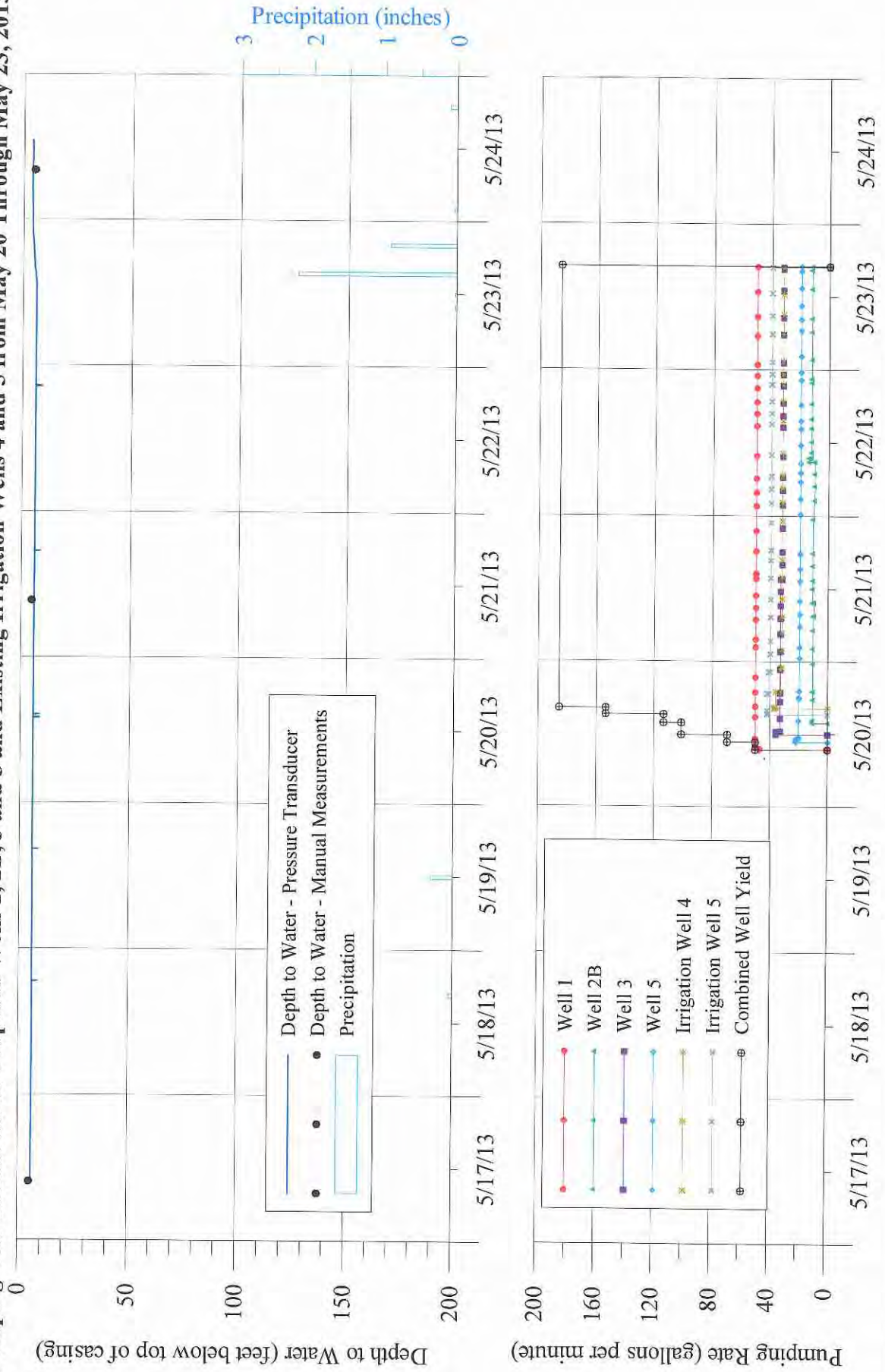
**BRYNWOOD GOLF & COUNTRY CLUB**  
**ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 11 Oregon Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013 and During the Individual 72-Hour Pumping Test Conducted on Well 6A from May 28 through May 30, 2013**



# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

**Hydrograph of Water-Level Measurements Collected from the Water-Supply Well Located at 198 Byram Lake Road During the Simultaneous Pumping Test Conducted on Proposed Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Offsite Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Water (ft btoc)
<b>19 Ilana Court</b>		
5/17/2013	12:40	0.00
5/20/2013	7:48	0.00
5/20/2013	14:38	0.00
5/21/2013	10:42	0.00
5/22/2013	11:10	0.00
5/23/2013	9:05	0.00
5/24/2013	8:56	0.00
5/24/2013	11:53	0.00
5/28/2013	9:11	0.00
5/28/2013	9:15	0.00
5/28/2013	9:25	0.00
5/28/2013	11:57	0.00
5/28/2013	14:27	0.00
5/29/2013	8:26	0.00
5/29/2013	12:42	0.00
5/30/2013	8:26	0.00
5/31/2013	9:22	0.00
6/3/2013	10:36	0.00
<b>12 Ilana Court</b>		
5/16/2013	14:26	16.47
5/21/2013	10:38	17.23
5/23/2013	9:14	17.61
5/24/2013	9:15	15.14
5/28/2013	9:37	11.52
5/28/2013	12:00	11.39
5/28/2013	14:33	11.37
5/29/2013	8:36	12.60
5/29/2013	12:46	11.64
5/30/2013	8:38	12.17
5/31/2013	9:29	12.21
6/4/2013	10:16	12.14
<b>3 Embassy Court</b>		
5/16/2013	14:01	30.73
5/21/2013	11:00	31.48
5/23/2013	9:28	31.87
5/24/2013	9:29	20.95
5/28/2013	9:54	13.74
5/28/2013	12:10	13.85
5/28/2013	14:52	13.91
5/29/2013	8:58	14.87
5/29/2013	12:53	14.37
5/30/2013	9:02	15.71
5/31/2013	9:45	16.22
6/3/2013	11:45	19.59
<b>4 Embassy Court</b>		
5/16/2013	13:41	12.92
5/21/2013	10:55	13.30
5/23/2013	9:23	13.75
5/24/2013	9:23	6.42
5/28/2013	9:48	2.54
5/28/2013	12:07	2.91
5/28/2013	14:45	2.65

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Offsite Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Water (ft btoc)
<b>4 Embassy Court (continued)</b>		
5/29/2013	8:50	3.01
5/29/2013	12:49	2.89
5/30/2013	8:50	3.49
5/31/2013	9:38	3.92
6/3/2013	11:15	4.79
<b>8 Embassy Court</b>		
5/16/2013	15:15	34.63
5/21/2013	11:06	29.34
5/23/2013	9:36	36.13
5/24/2013	9:36	37.56
5/28/2013	10:03	19.26
5/28/2013	12:13	18.70
5/28/2013	14:59	18.55
5/29/2013	9:10	20.06
5/29/2013	12:57	20.53
5/30/2013	9:11	26.57
5/31/2013	9:54	24.78
6/3/2013	12:00	21.72
<b>6 Colonial Court</b>		
5/16/2013	13:10	25.18
5/20/2013	17:02	28.54
5/21/2013	10:25	23.93
5/24/2013	11:33	19.78
5/28/2013	10:09	18.37
5/28/2013	12:19	16.84
5/28/2013	15:13	21.34
5/29/2013	9:25	19.76
5/29/2013	13:03	17.70
5/30/2013	9:25	26.87
5/31/2013	10:04	22.84
6/3/2013	12:20	29.15
<b>34 Blair Road</b>		
5/16/2013	11:14	48.21
5/20/2013	17:39	41.93
5/21/2013	9:58	47.05
5/23/2013	8:20	52.74
5/24/2013	11:10	45.46
5/28/2013	11:20	36.42
5/28/2013	13:02	36.33
5/28/2013	16:55	36.40
5/29/2013	10:54	36.31
5/29/2013	14:18	37.81
5/30/2013	11:24	35.69
5/31/2013	11:30	35.56
6/3/2013	15:05	34.63
<b>30 Blair Road</b>		
5/16/2013	11:59	44.40
5/20/2013	17:53	38.28
5/21/2013	9:49	43.40
5/23/2013	8:28	48.68
5/24/2013	11:18	41.43

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Offsite Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Date	Time	Depth to Water (ft btoc)
<b>30 Blair Road (continued)</b>		
5/28/2013	11:25	32.38
5/28/2013	13:06	32.29
5/28/2013	17:02	32.27
5/29/2013	11:02	32.27
5/29/2013	14:21	32.24
5/30/2013	11:46	31.60
5/31/2013	11:48	31.55
6/4/2013	11:46	30.40
<b>26 Blair Road</b>		
5/16/2013	11:38	8.15
5/20/2013	17:46	8.68
5/21/2013	9:45	8.89
5/23/2013	8:35	9.77
5/24/2013	11:23	8.90
5/28/2013	11:28	7.18
5/28/2013	13:12	6.65
5/28/2013	17:08	6.78
5/29/2013	11:13	6.35
5/29/2013	14:24	6.34
5/30/2013	11:59	7.49
5/31/2013	11:56	6.36
6/3/2013	15:18	6.42
<b>70 Old Byram Lake Road</b>		
5/16/2013	16:13	19.48
5/20/2013	17:26	19.63
5/21/2013	9:34	19.81
5/24/2013	10:58	20.53
5/28/2013	11:10	19.28
5/28/2013	12:54	19.18
5/28/2013	16:42	19.04
5/29/2013	10:40	18.98
5/29/2013	14:15	18.99
5/30/2013	11:13	18.96
5/31/2013	11:09	18.72
6/3/2013	14:42	18.54
<b>3 Norman Place</b>		
5/16/2013	17:54	102.14
5/20/2013	18:07	103.00
5/21/2013	8:47	103.08
5/24/2013	10:40	97.28
5/28/2013	10:28	91.75
5/28/2013	12:29	91.10
5/28/2013	15:33	91.72
5/29/2013	9:45	91.80
5/29/2013	13:54	90.12
5/30/2013	9:50	90.95
5/31/2013	10:30	92.55
6/3/2013	12:46	92.95
<b>4 Norman Place</b>		
5/16/2013	17:34	48.19
5/20/2013	18:16	49.01



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Water-Level Measurements Collected from Offsite Wells During Simultaneous 72-Hour Pumping Test of  
Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During  
Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

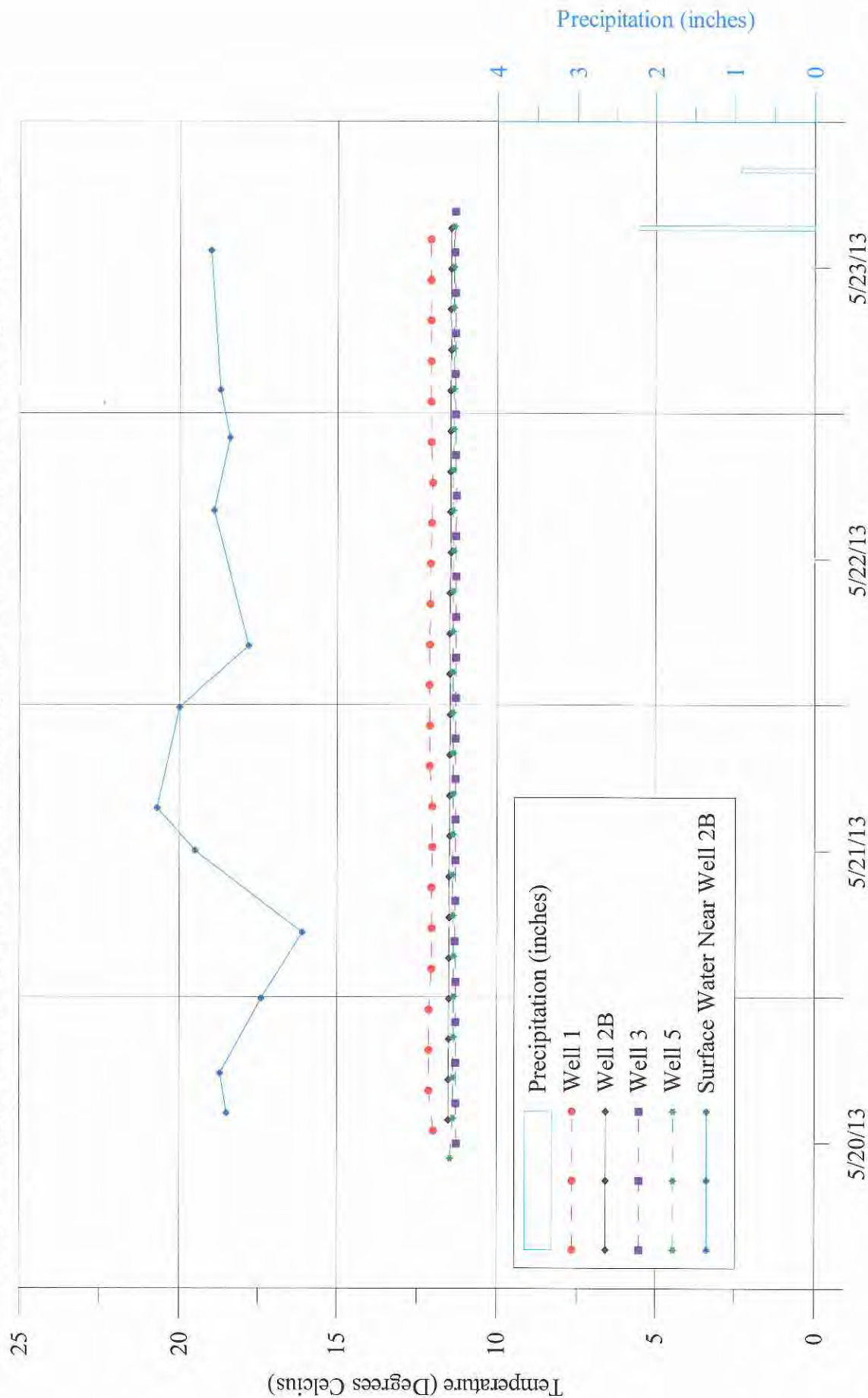
Date	Time	Depth to Water (ft btoc)
<b>4 Norman Place (continued)</b>		
5/21/2013	8:54	49.54
5/24/2013	10:46	49.54
5/28/2013	10:31	45.99
5/28/2013	12:33	44.51
5/28/2013	15:44	47.62
5/29/2013	9:55	43.20
5/29/2013	13:59	43.38
5/30/2013	10:08	45.33
5/31/2013	10:36	44.26
6/3/2013	13:22	43.48
<b>11 Oregon Road</b>		
5/16/2013	16:51	4.96
5/21/2013	9:07	5.27
5/23/2013	10:20	5.28
5/24/2013	10:29	3.51
5/28/2013	10:43	3.64
5/28/2013	12:38	3.64
5/28/2013	16:13	3.64
5/29/2013	10:06	3.64
5/29/2013	14:03	3.63
5/30/2013	10:17	3.76
5/31/2013	10:43	3.91
6/3/2013	13:39	3.49
<b>9 Oregon Road</b>		
5/16/2013	16:32	25.95
5/21/2013	9:12	26.30
5/23/2013	10:28	26.92
5/24/2013	10:18	25.42
5/28/2013	10:49	25.21
5/28/2013	12:40	25.09
5/28/2013	16:36	24.83
5/29/2013	10:15	25.75
5/29/2013	14:06	24.71
5/30/2013	10:23	25.75
5/31/2013	10:48	25.00
6/3/2013	14:10	24.56
<b>198 Byram Lake Road</b>		
5/17/2013	9:40	5.22
5/21/2013	9:22	4.85
5/23/2013	8:08	4.93
5/24/2013	8:08	4.93

ft btoc    feet below top of casing

**APPENDIX V**  
**PHYSICAL PARAMETERS**

# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

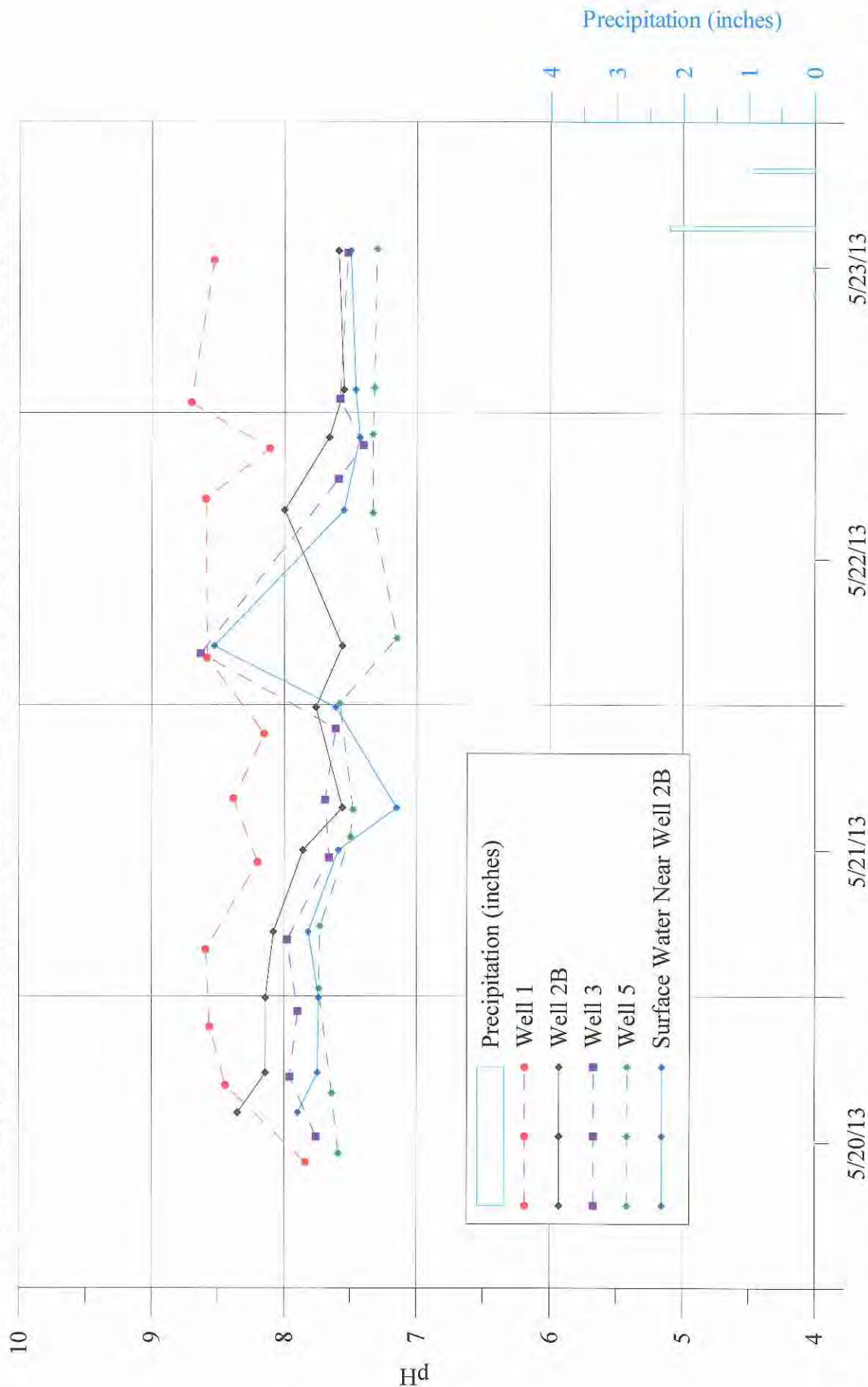
**Graph of Temperature Measurements Collected from Wells 1, 2B, 3 and 5 and the Stream Located Adjacent to Well 2B During the Simultaneous 72-Hour Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5, May 20 Through May 23, 2013**





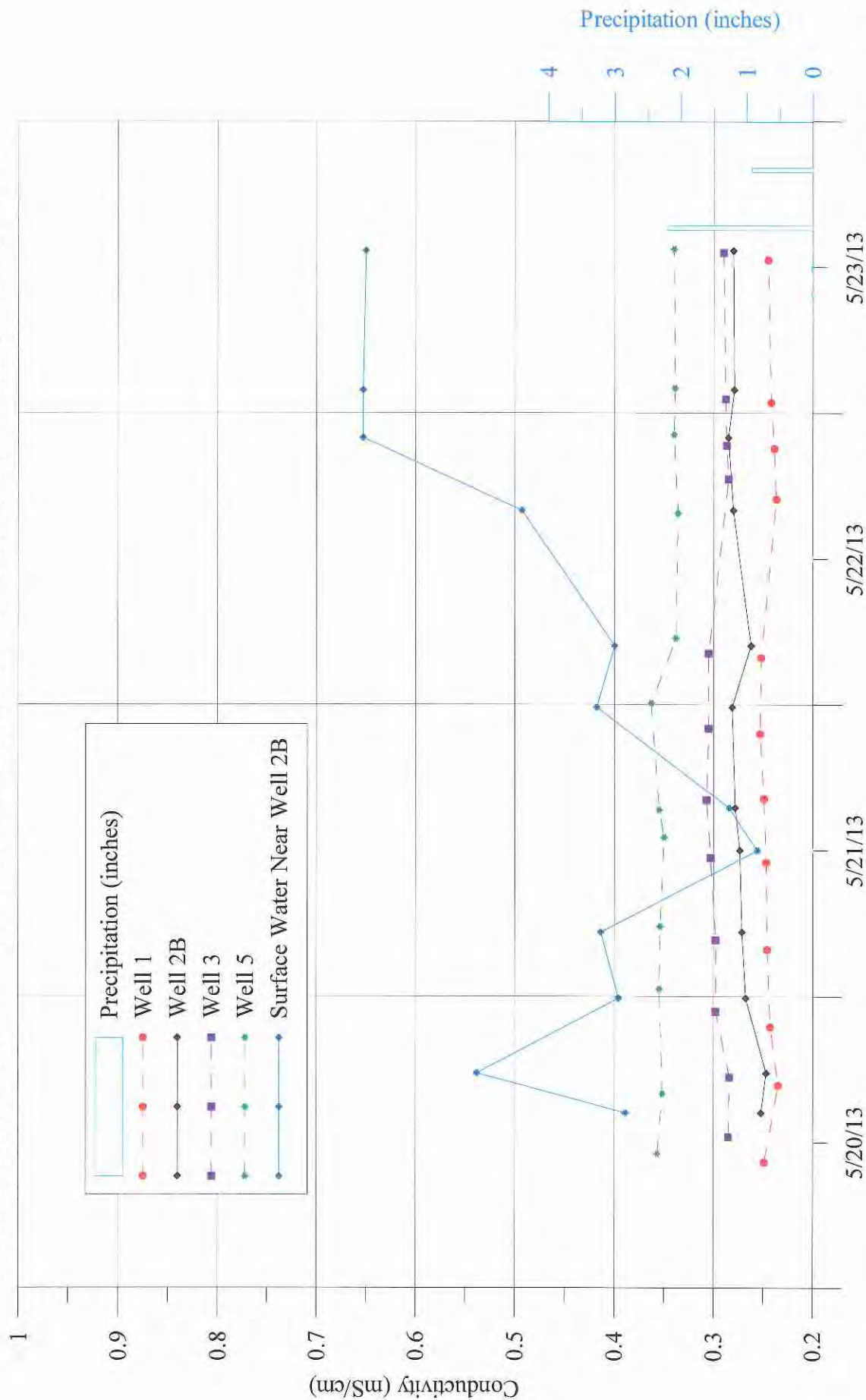
# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

**Graph of pH Measurements Collected from Wells 1, 2B, 3 and 5 and the Stream Located Adjacent to Well 2B During the Simultaneous 72-Hour Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5, May 20 Through May 23, 2013**



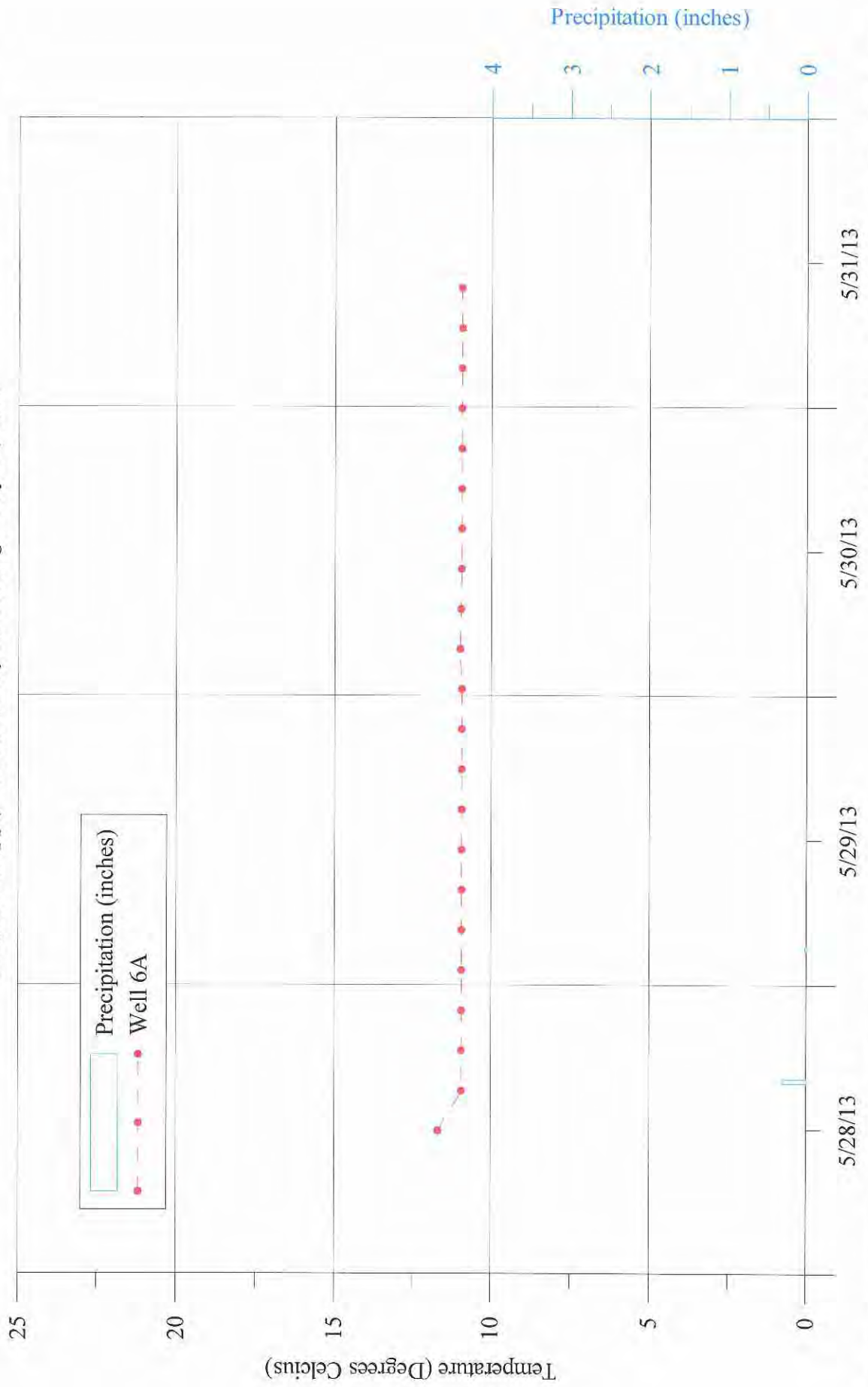
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

Graph of Conductivity Measurements Collected from Wells 1, 2B, 3 and 5 and the Stream Located Adjacent to Well 2B During the Simultaneous 72-Hour Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5, May 20 Through May 23, 2013



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

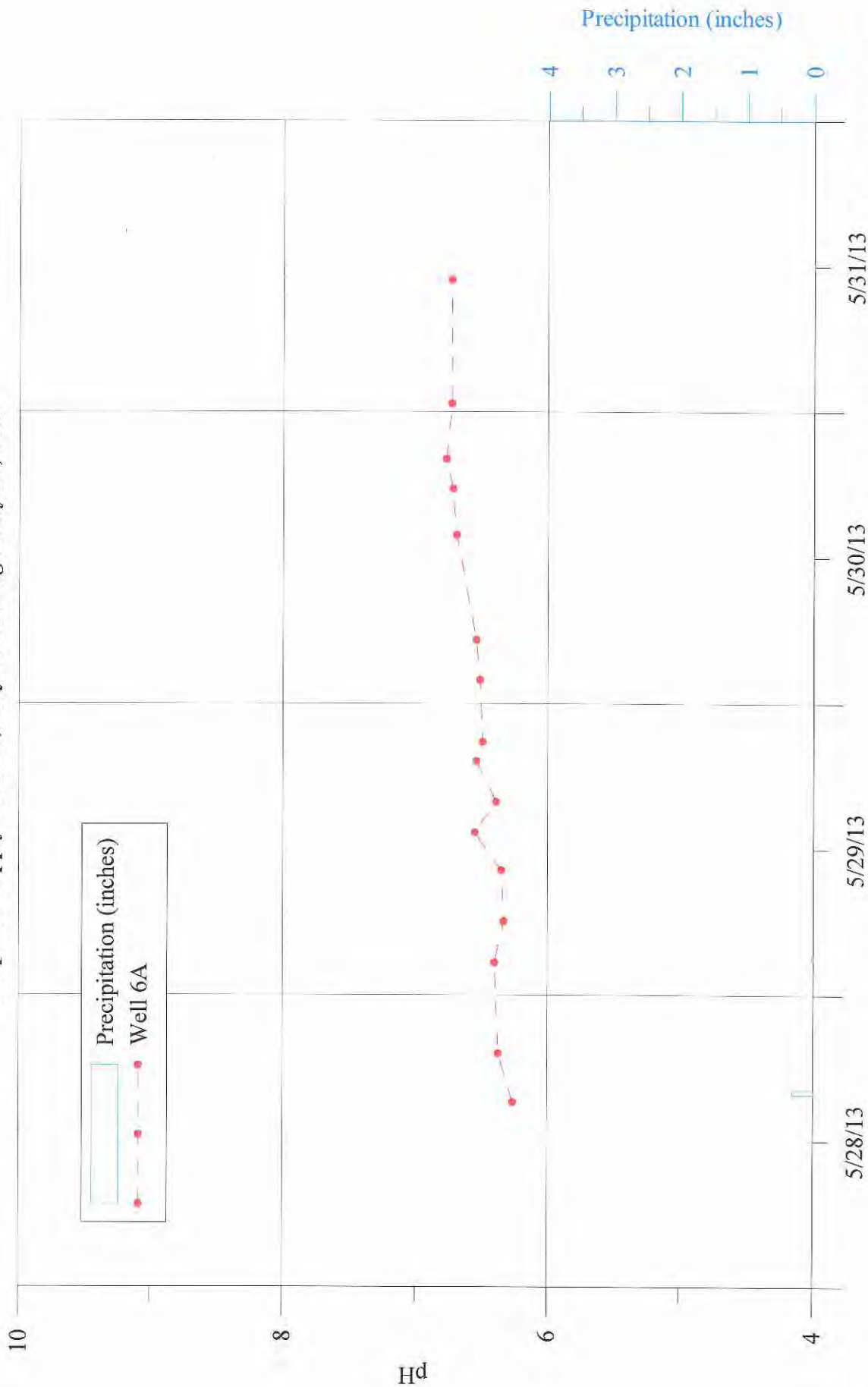
**Graph of Temperature Measurements Collected from Well 6A During the Individual 72-Hour Pumping Test Conducted on  
Proposed Supply Well 6A, May 28 Through May 31, 2013**





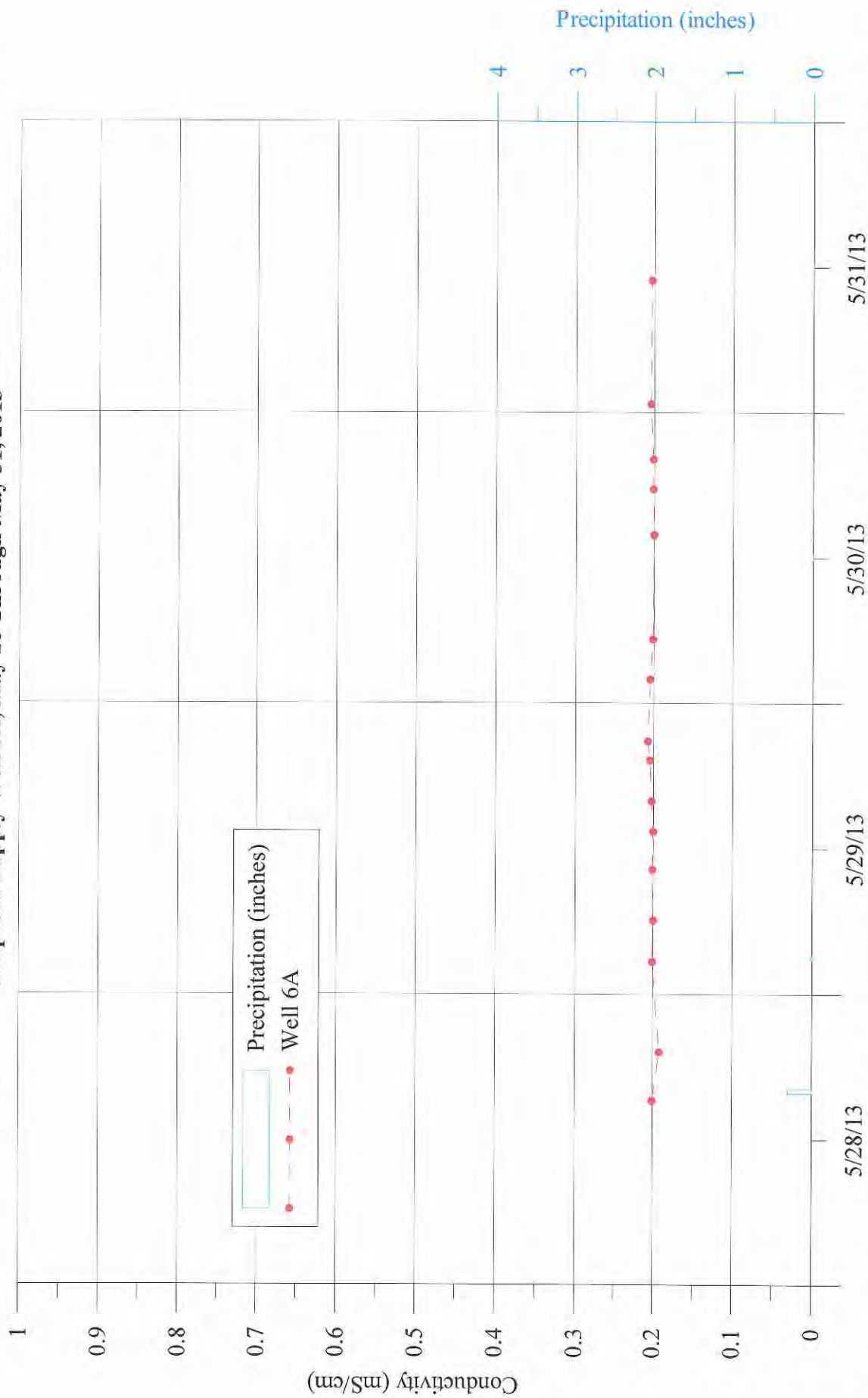
**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Graph of pH Measurements Collected from Well 6A During the Individual 72-Hour Pumping Test Conducted on  
Proposed Supply Well 6A, May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Graph of Conductivity Measurements Collected from Well 6A During the Individual 72-Hour Pumping Test Conducted on  
Proposed Supply Well 6A, May 28 Through May 31, 2013**



**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Physical Parameter Measurements Collected from During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Manual Measurements					Transducer Measurements		
Date	Time	Conductivity (mS/cm)	pH	Temperature (degrees Celsius)	Date	Time	Temperature (degrees Celsius)
<b>Well 1</b>							
5/20/2013	10:20	0.249	7.84	14.5	5/20/2013	13:24	12.1
5/20/2013	16:41	0.235	8.44	14.9	5/20/2013	17:24	12.1
5/20/2013	21:28	0.243	8.56	13.9	5/20/2013	21:24	12.1
5/21/2013	3:50	0.246	8.59	13.6	5/21/2013	1:24	12.1
5/21/2013	11:00	0.247	8.20	13.9	5/21/2013	5:24	12.0
5/21/2013	16:15	0.249	8.38	13.9	5/21/2013	9:24	12.0
5/21/2013	21:36	0.253	8.15	13.9	5/21/2013	13:24	12.0
5/22/2013	3:52	0.252	8.58	13.8	5/21/2013	17:24	12.1
5/22/2013	16:55	0.237	8.59	14.1	5/21/2013	21:24	12.1
5/22/2013	21:04	0.239	8.11	13.8	5/22/2013	1:24	12.1
5/23/2013	0:51	0.242	8.70	13.8	5/22/2013	5:24	12.1
5/23/2013	12:35	0.245	8.53	14.0	5/22/2013	9:24	12.1
--	--	--	--	--	5/22/2013	13:24	12.1
--	--	--	--	--	5/22/2013	17:24	12.0
--	--	--	--	--	5/22/2013	21:24	12.1
--	--	--	--	--	5/23/2013	1:24	12.1
--	--	--	--	--	5/23/2013	5:24	12.1
--	--	--	--	--	5/23/2013	9:24	12.1
--	--	--	--	--	5/23/2013	13:24	12.1
<b>Well 2B</b>							
5/20/2013	14:25	0.252	8.35	15.4	5/20/2013	14:00	11.5
5/20/2013	17:41	0.247	8.14	15.5	5/20/2013	18:00	11.5
5/20/2013	23:51	0.267	8.14	14.2	5/20/2013	22:00	11.5
5/21/2013	5:16	0.271	8.08	13.9	5/21/2013	2:00	11.5
5/21/2013	12:00	0.273	7.86	14.5	5/21/2013	6:00	11.5
5/21/2013	15:30	0.278	7.56	14.6	5/21/2013	10:00	11.5
5/21/2013	23:47	0.281	7.76	14.2	5/21/2013	14:00	11.5
5/22/2013	4:50	0.262	7.56	14.2	5/21/2013	18:00	11.5
5/22/2013	16:00	0.280	8.00	14.0	5/21/2013	22:00	11.5
5/22/2013	21:58	0.285	7.66	14.2	5/22/2013	2:00	11.5
5/23/2013	1:54	0.279	7.55	13.9	5/22/2013	6:00	11.5
5/23/2013	13:22	0.280	7.59	14.0	5/22/2013	10:00	11.5
--	--	--	--	--	5/22/2013	14:00	11.4
--	--	--	--	--	5/22/2013	18:00	11.5
--	--	--	--	--	5/22/2013	22:00	11.5
--	--	--	--	--	5/23/2013	2:00	11.5
--	--	--	--	--	5/23/2013	6:00	11.5
--	--	--	--	--	5/23/2013	10:00	11.4
--	--	--	--	--	5/23/2013	14:00	11.4
<b>Well 3</b>							
5/20/2013	12:26	0.285	7.76	13.6	5/20/2013	12:00	11.2
5/20/2013	17:22	0.284	7.96	13.6	5/20/2013	16:00	11.3
5/20/2013	22:45	0.298	7.90	12.9	5/20/2013	20:00	11.3
5/21/2013	4:38	0.298	7.98	12.8	5/21/2013	0:00	11.3
5/21/2013	11:23	0.303	7.66	13.4	5/21/2013	4:00	11.3
5/21/2013	16:10	0.307	7.69	13.2	5/21/2013	8:00	11.3
5/21/2013	22:02	0.305	7.61	13.2	5/21/2013	12:00	11.3
5/22/2013	4:13	0.305	8.63	13.0	5/21/2013	16:00	11.3
5/22/2013	18:35	0.285	7.59	13.1	5/21/2013	20:00	11.3

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Physical Parameter Measurements Collected from During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Manual Measurements					Transducer Measurements		
Date	Time	Conductivity (mS/cm)	pH	Temperature (degrees Celsius)	Date	Time	Temperature (degrees Celsius)
<b>Well 3 (continued)</b>							
5/22/2013	21:21	0.287	7.40	12.9	5/22/2013	0:00	11.3
5/23/2013	1:09	0.288	7.58	12.9	5/22/2013	4:00	11.3
5/23/2013	13:12	0.290	7.52	13.0	5/22/2013	8:00	11.3
--	--	--	--	--	5/22/2013	12:00	11.3
--	--	--	--	--	5/22/2013	16:00	11.3
--	--	--	--	--	5/22/2013	20:00	11.3
--	--	--	--	--	5/23/2013	0:00	11.3
--	--	--	--	--	5/23/2013	4:00	11.3
--	--	--	--	--	5/23/2013	8:00	11.3
--	--	--	--	--	5/23/2013	12:00	11.3
<b>Well 5</b>							
5/20/2013	11:04	0.357	7.59	13.8	5/20/2013	11:00	11.4
5/20/2013	16:00	0.352	7.64	14.1	5/20/2013	15:00	11.4
5/21/2013	0:37	0.355	7.74	13.0	5/20/2013	19:00	11.4
5/21/2013	5:45	0.354	7.73	12.9	5/20/2013	23:00	11.4
5/21/2013	13:04	0.350	7.50	13.7	5/21/2013	3:00	11.4
5/21/2013	15:20	0.355	7.48	13.8	5/21/2013	7:00	11.4
5/22/2013	0:07	0.363	7.58	13.0	5/21/2013	11:00	11.4
5/22/2013	5:29	0.338	7.15	13.0	5/21/2013	15:00	11.4
5/22/2013	15:46	0.336	7.33	13.3	5/21/2013	19:00	11.4
5/22/2013	22:15	0.340	7.33	13.0	5/21/2013	23:00	11.4
5/23/2013	2:04	0.339	7.32	13.0	5/22/2013	3:00	11.4
5/23/2013	13:30	0.340	7.30	13.1	5/22/2013	7:00	11.4
--	--	--	--	--	5/22/2013	11:00	11.4
--	--	--	--	--	5/22/2013	15:00	11.4
--	--	--	--	--	5/22/2013	19:00	11.4
--	--	--	--	--	5/22/2013	23:00	11.4
--	--	--	--	--	5/23/2013	3:00	11.4
--	--	--	--	--	5/23/2013	7:00	11.4
--	--	--	--	--	5/23/2013	11:00	11.4
--	--	--	--	--	5/23/2013	15:00	11.4
<b>Surface Water Near Well 2B</b>							
5/20/2013	14:25	0.389	7.90	18.5	--	--	--
5/20/2013	17:41	0.538	7.75	18.7	--	--	--
5/20/2013	23:51	0.396	7.74	17.4	--	--	--
5/21/2013	5:16	0.414	7.82	16.1	--	--	--
5/21/2013	12:00	0.256	7.59	19.5	--	--	--
5/21/2013	15:30	0.284	7.15	20.7	--	--	--
5/21/2013	23:47	0.418	7.61	20.0	--	--	--
5/22/2013	4:50	0.400	8.53	17.8	--	--	--
5/22/2013	16:00	0.493	7.55	18.9	--	--	--
5/22/2013	21:58	0.653	7.43	18.4	--	--	--
5/23/2013	1:54	0.653	7.46	18.7	--	--	--
5/23/2013	13:22	0.650	7.50	19.0	--	--	--
<b>Well 6A</b>							
5/28/2013	15:10	0.201	6.26	11.4	5/28/2013	12:00	11.0
5/28/2013	19:11	0.192	6.37	11.4	5/28/2013	16:00	10.9
5/29/2013	2:39	0.201	6.40	11.4	5/28/2013	20:00	10.9
5/29/2013	6:03	0.200	6.33	11.4	5/29/2013	0:00	10.9

**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**Summary of Physical Parameter Measurements Collected from During Simultaneous 72-Hour Pumping Test of Proposed Supply Wells 1, 2B, 3 and 5 and Irrigation Wells 4 and 5 Conducted May 20 Through May 23, 2013 and During Individual 72-Hour Pumping Test of Proposed Supply Well 6A Conducted May 28 Through May 31, 2013**

Manual Measurements					Transducer Measurements		
Date	Time	Conductivity (mS/cm)	pH	Temperature (degrees Celsius)	Date	Time	Temperature (degrees Celsius)
<b>Well 6 (continued)</b>							
5/29/2013	10:15	0.201	6.35	11.4	5/29/2013	4:00	10.9
5/29/2013	13:23	0.200	6.55	11.7	5/29/2013	8:00	10.9
5/29/2013	15:53	0.202	6.39	11.8	5/29/2013	12:00	10.9
5/29/2013	19:15	0.204	6.54	11.6	5/29/2013	16:00	10.9
5/29/2013	20:50	0.207	6.49	11.5	5/29/2013	20:00	10.9
5/30/2013	1:56	0.204	6.51	11.6	5/30/2013	0:00	10.9
5/30/2013	5:15	0.201	6.54	11.5	5/30/2013	4:00	11.0
5/30/2013	13:52	0.200	6.69	11.8	5/30/2013	8:00	11.0
5/30/2013	17:39	0.201	6.72	11.8	5/30/2013	12:00	10.9
5/30/2013	20:07	0.201	6.77	11.8	5/30/2013	16:00	10.9
5/31/2013	0:41	0.204	6.73	11.7	5/30/2013	20:00	10.9
5/31/2013	10:52	0.203	6.73	11.7	5/31/2013	0:00	10.9
--	--	--	--	--	5/31/2013	4:00	10.9
--	--	--	--	--	5/31/2013	8:00	10.9

mS/cm    milliSiemen per centimeter

K:\Jobs\Brynwood\72 hour Pumping Test\Report\Water Level Tables\Physical Parameters.docx

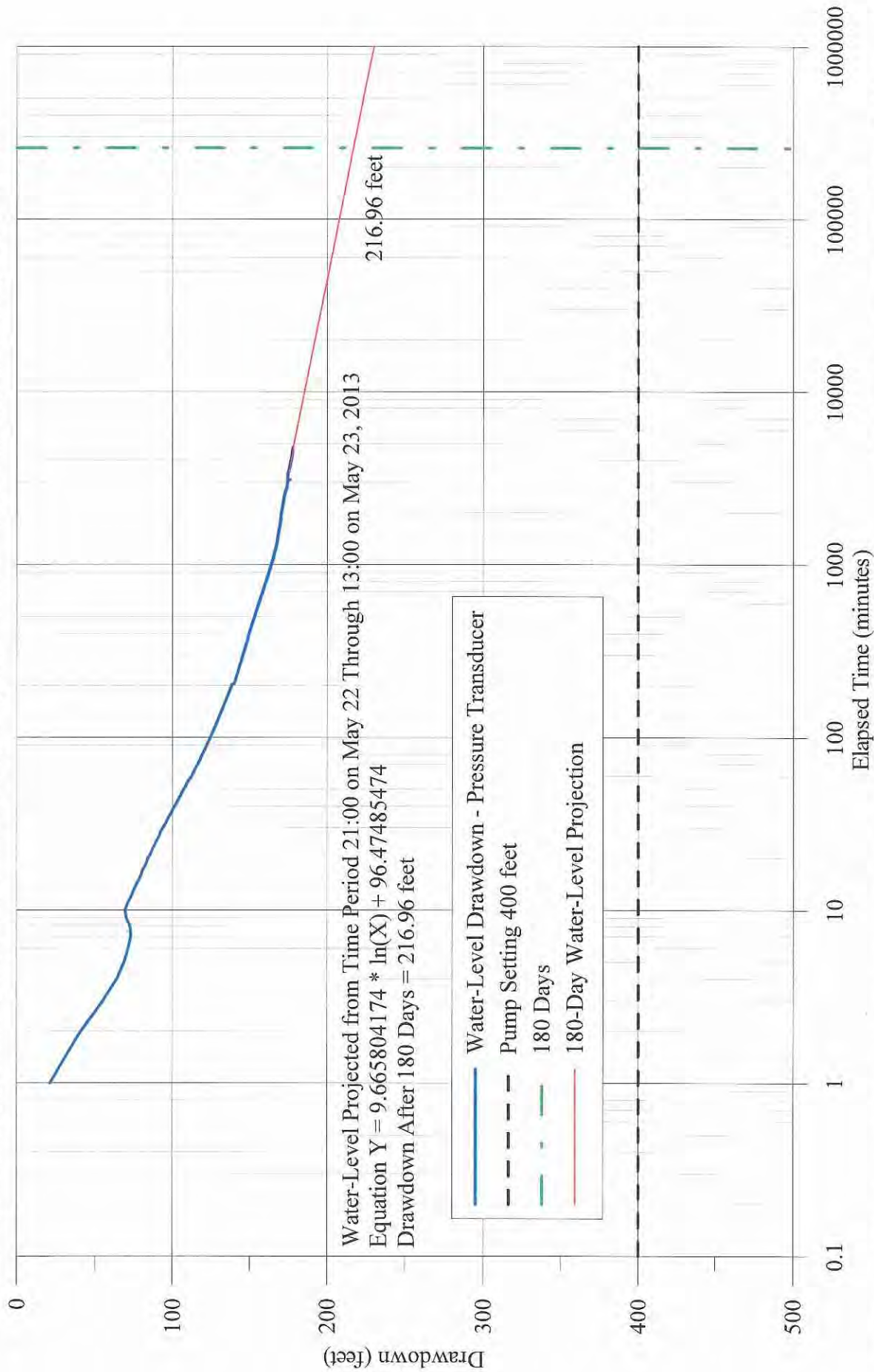


**APPENDIX VI**

**180-DAY WATER-LEVEL DRAWDOWN PROJECTIONS**

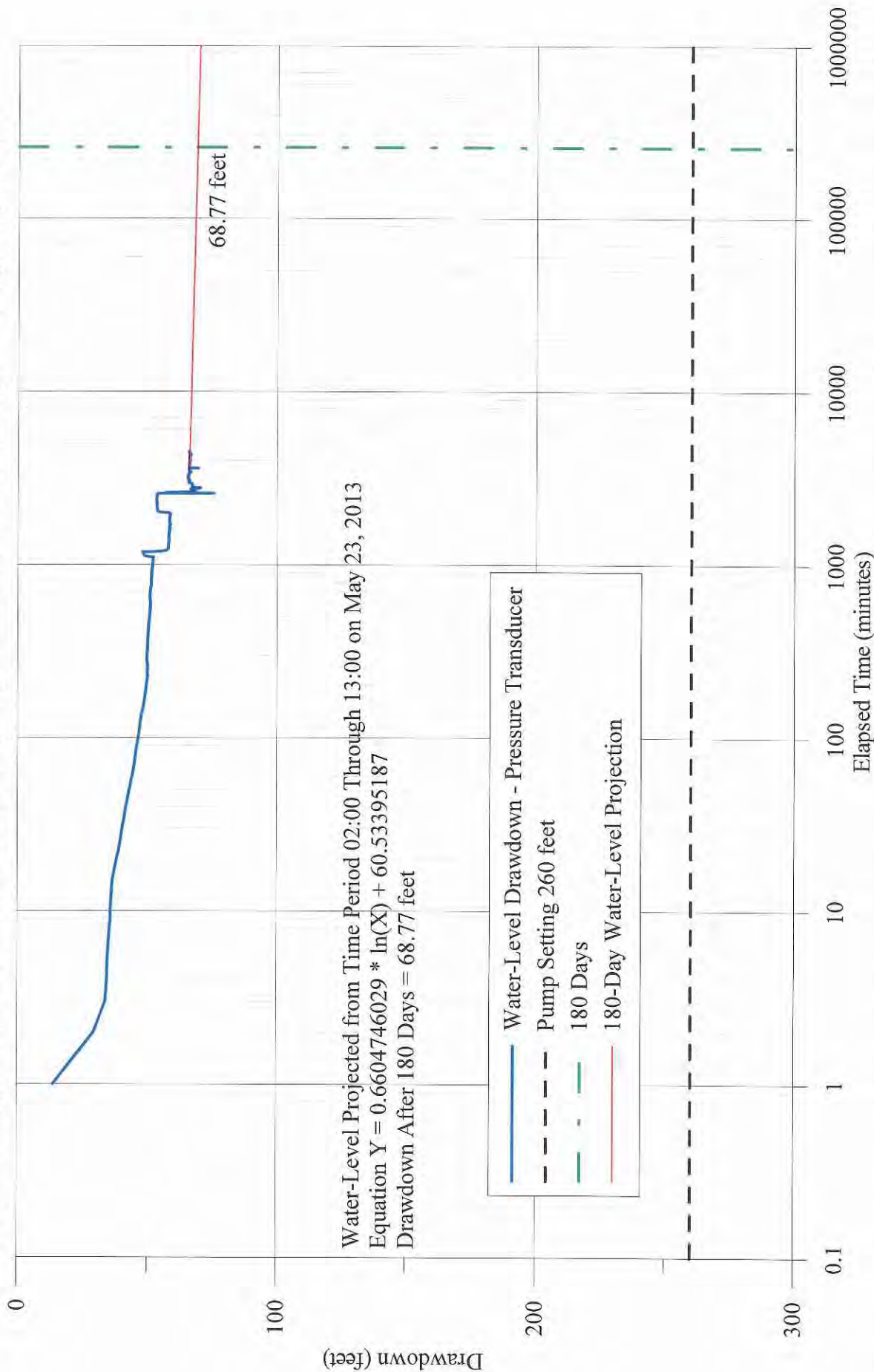
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

## 180-Day Water-Level Drawdown Projection for Well 1 from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013



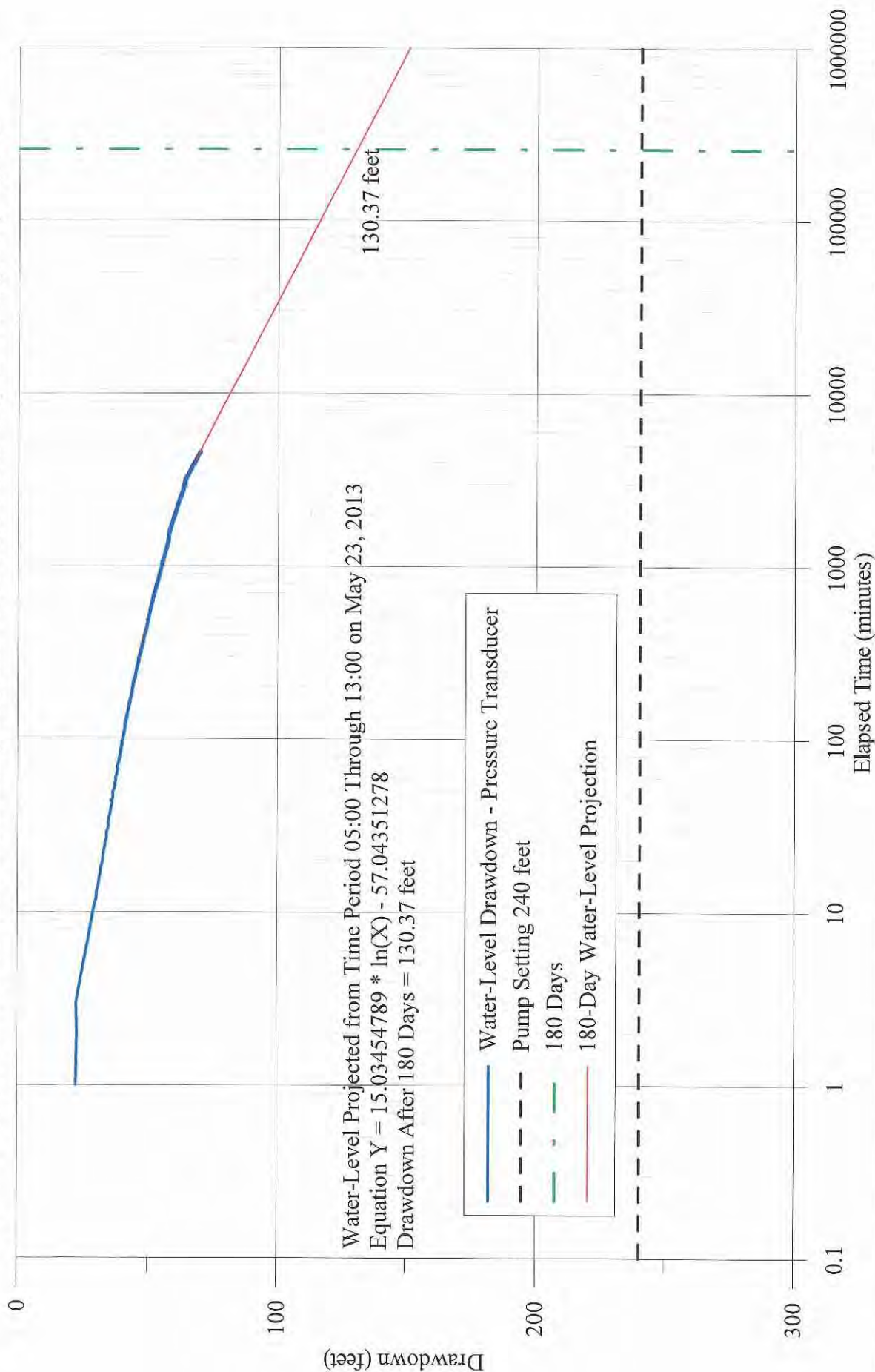
# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

180-Day Water-Level Drawdown Projection for Well 2B from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013



# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

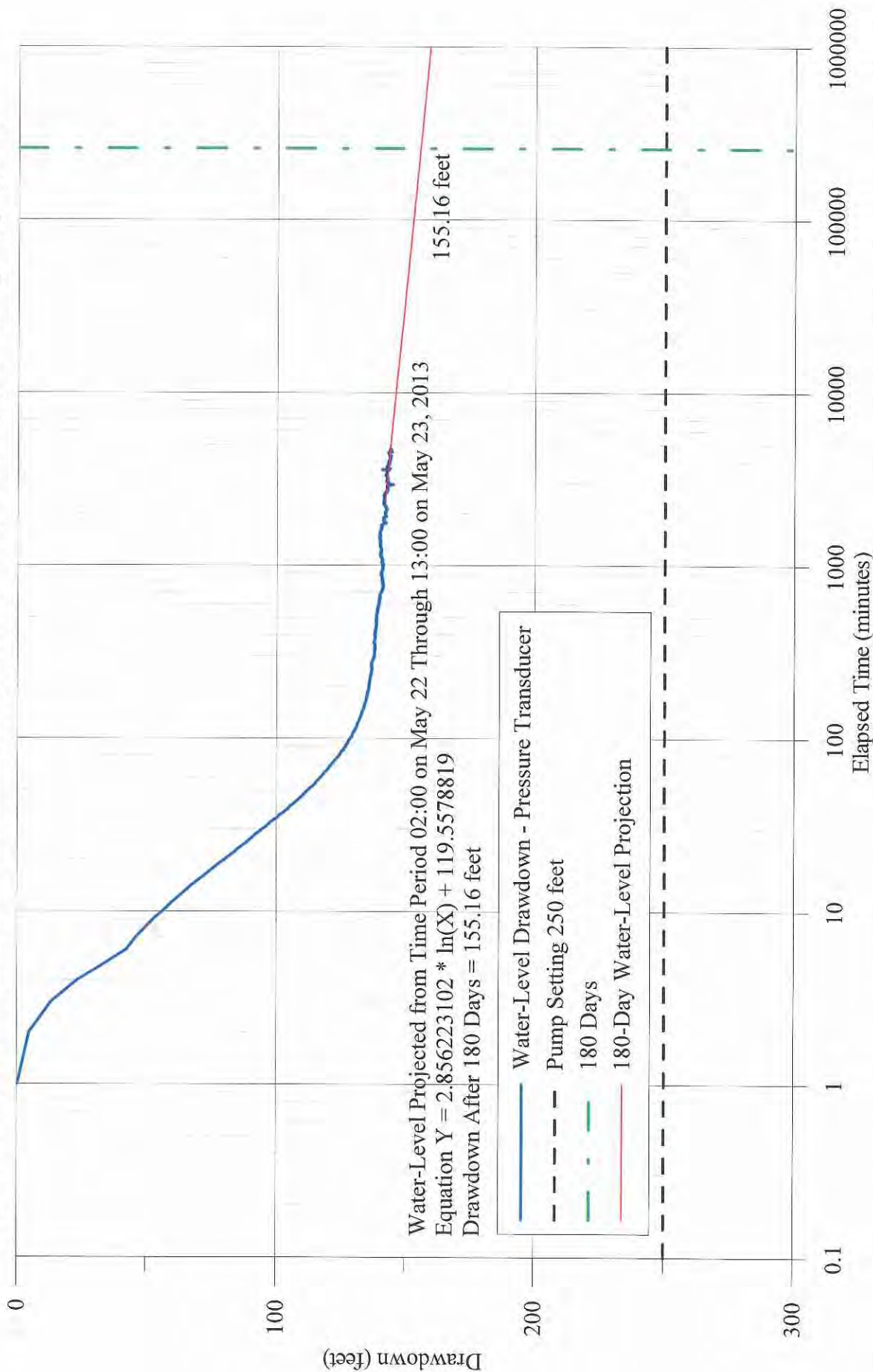
**180-Day Water-Level Drawdown Projection for Well 3 from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**





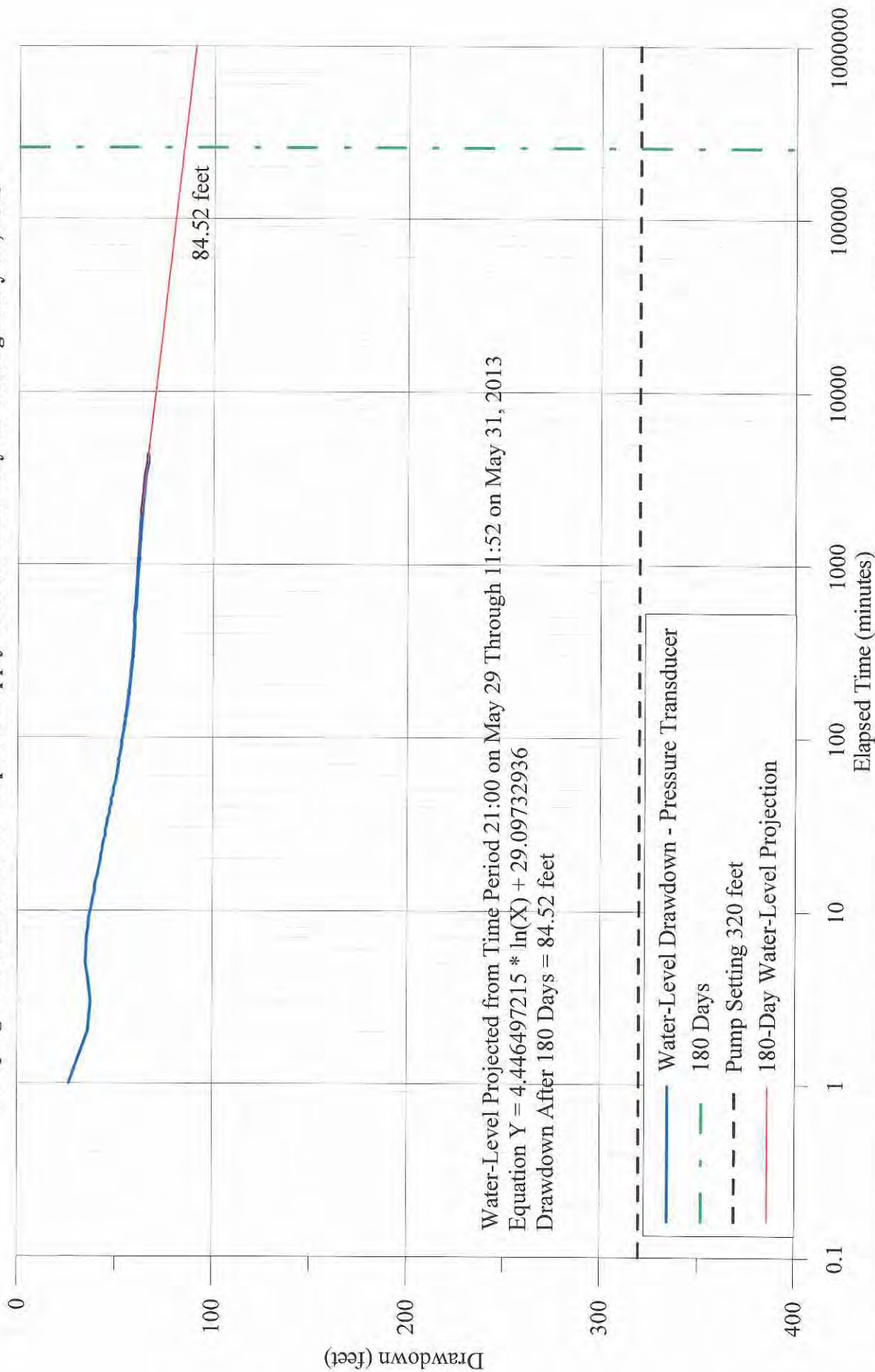
# **BRYNWOOD GOLF & COUNTRY CLUB** **ARMONK, NEW YORK**

## **180-Day Water-Level Drawdown Projection for Well 5 from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013**



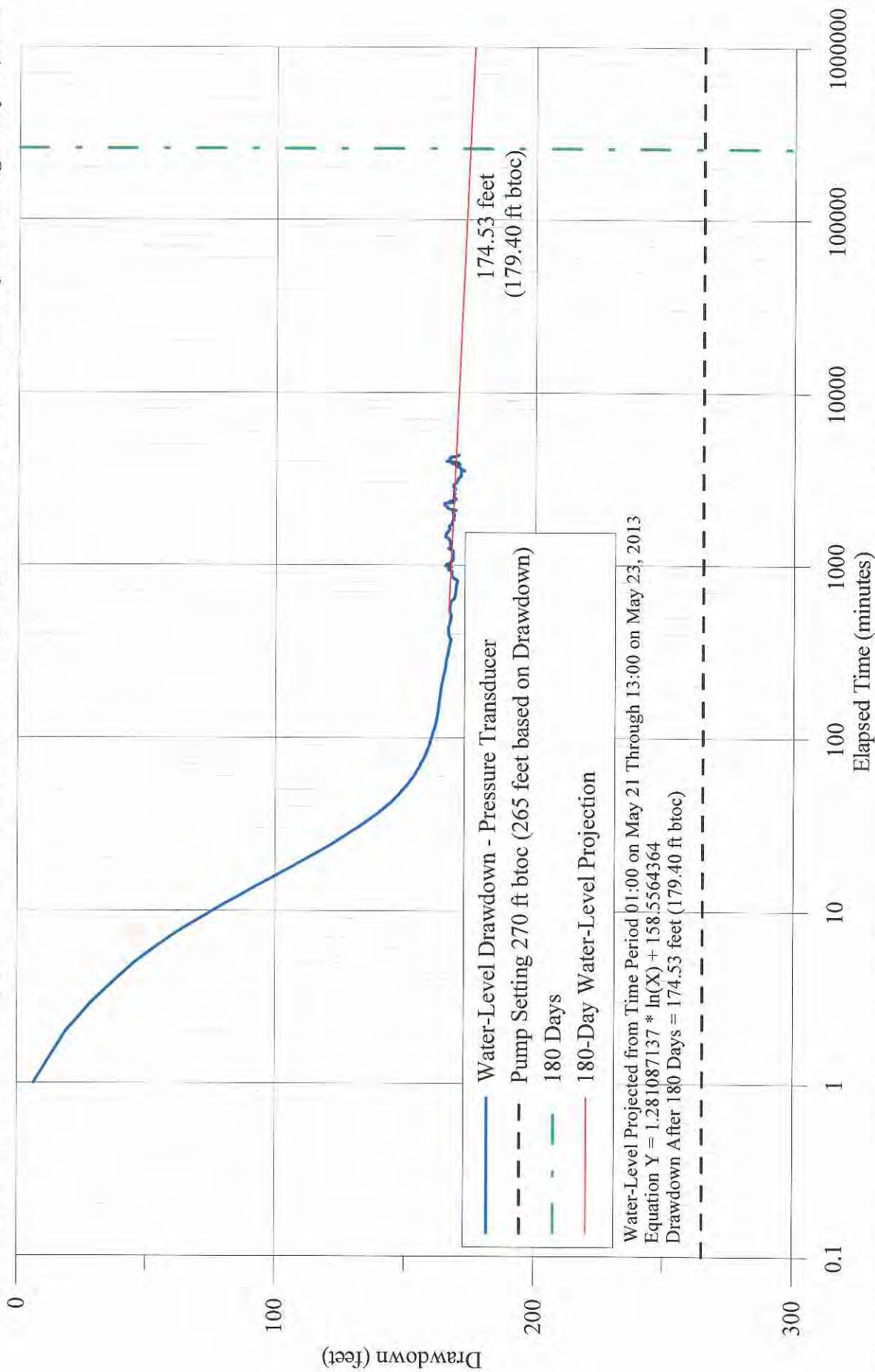
**BRYNWOOD GOLF & COUNTRY CLUB  
ARMONK, NEW YORK**

**180-Day Water-Level Drawdown Projection for Well 6A from Data Collected During the Individual  
Pumping Test Conducted on Proposed Supply Well 6A from May 28 Through May 31, 2013**



# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

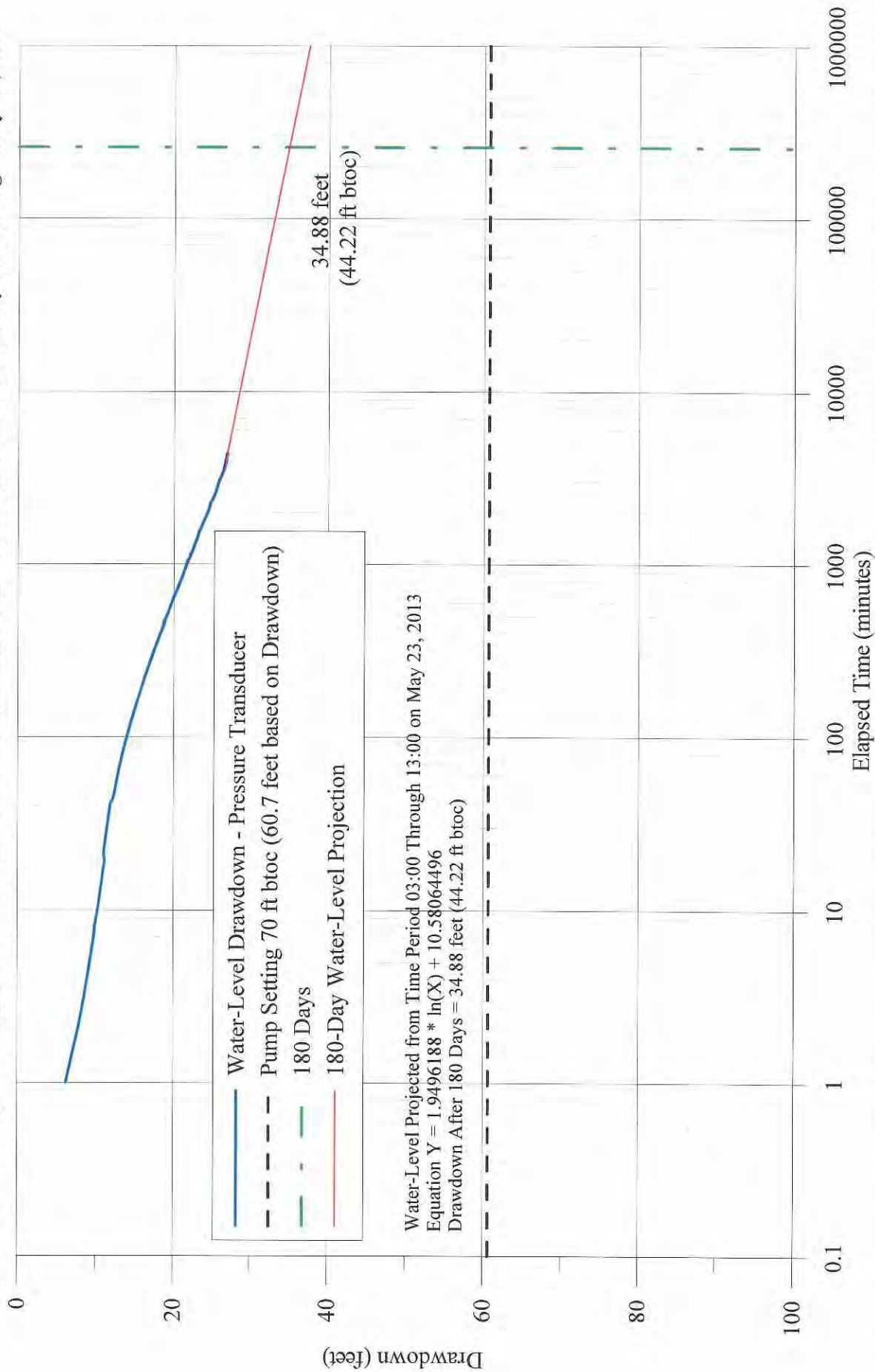
180-Day Water-Level Drawdown Projection for Irrigation Well 4 from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013





# BRYNWOOD GOLF & COUNTRY CLUB ARMONK, NEW YORK

180-Day Water-Level Drawdown Projection for Irrigation Well 5 from Data Collected During the Simultaneous Pumping Test Conducted on Proposed Supply Wells 1, 2B, 3 and 5 and Existing Irrigation Wells 4 and 5 from May 20 Through May 23, 2013





**APPENDIX VII**  
**IRRIGATION WELLS 4 AND 5**  
**WATER QUALITY**



## ANALYTICAL REPORT

Job Number: 420-61377-1

Job Description: LBG, Inc.

For:  
Leggette, Brashears & Graham, Inc.  
4 Research Drive  
Shelton, CT 06464

Attention: Stacy Stieber

A handwritten signature in dark ink, appearing to read "Debra Bayer", is positioned above a horizontal line.

---

Debra Bayer  
Customer Service Manager  
dbayer@envirotestlaboratories.com  
12/31/2012

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NELAP Accredited, NYSDOH 10142, NJDEP NY015, CTDOH PH-0554, EPA NY00049.

Envirotest Laboratories, Inc.  
315 Fullerton Avenue, Newburgh, NY 12550  
Tel (845) 562-0880 Fax (845) 562-0841 www.envirotestlaboratories.com

## METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-61377-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
EPA 504.1 EDB		EPA 504.1	
EPA 505 Pesticide/PCB		EPA 505	
EPA 515 Chlorinated Acids		EPA 515	
EPA 525.2 Semivolatile Organics		EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinkl		EPA 531.1	

### Lab References:

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### Method References:

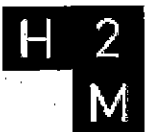
EPA = US Environmental Protection Agency

### **SAMPLE SUMMARY**

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-61377-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
420-61377-1	Well 4	Drinking Water	11/29/2012 1030	11/29/2012 1215
420-61377-2	Well 5	Drinking Water	11/29/2012 1040	11/29/2012 1215

**labs**

575 Broad Hollow Road, Melville, NY

TEL: (631) 694-3040

FAX: (631) 420-8436

NYSDOH ID#10478

**LABORATORY RESULTS**

Results for the samples and analytes requested

**Sample Information...**

Type : Potable Water

Origin:

**EnviroTest Laboratories Inc.****315 Fullerton Avenue****Newburgh, NY 12550****Attn To : Debra Bayer****Lab No. : 1211D27-001****Client Sample ID. : WELL 4 (420-61377-1)**

Federal ID

Collected : 11/29/2012 10:30:00 AM Point No:

Received : 11/30/2012 10:00:00 AM Location:

Collected By CLIENT

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
1,2-Dibromo-3-chloropropane	< 0.01		1	µg/L	0.2	E504.1	12/06/2012 1:45 AM
1,2-Dibromoethane	< 0.01		1	µg/L	0.05	E504.1	12/06/2012 1:45 AM
Alachlor	< 0.20		1	µg/L	2	E505	12/04/2012 9:46 PM
Aldrin	< 0.025		1	µg/L	5	E505	12/04/2012 9:46 PM
Chlordane	< 0.20	r	1	µg/L	2	E505	12/04/2012 9:46 PM
Dieldrin	< 0.050		1	µg/L	5	E505	12/04/2012 9:46 PM
Endrin	< 0.010		1	µg/L	2	E505	12/04/2012 9:46 PM
Heptachlor	< 0.025		1	µg/L	0.4	E505	12/04/2012 9:46 PM
Heptachlor epoxide	< 0.020		1	µg/L	0.2	E505	12/04/2012 9:46 PM
Hexachlorobenzene	< 0.10		1	µg/L	1	E505	12/04/2012 9:46 PM
Hexachlorocyclopentadiene	< 0.10		1	µg/L	5	E505	12/04/2012 9:46 PM
Lindane	< 0.020		1	µg/L	0.2	E505	12/04/2012 9:46 PM
Methoxychlor	< 0.10		1	µg/L	40	E505	12/04/2012 9:46 PM
Total PCBs	< 0.40		1	µg/L	0.5	E505	12/04/2012 9:46 PM
Toxaphene	< 1.0	r	1	µg/L	3	E505	12/04/2012 9:46 PM
Surr: Decachlorobiphenyl	113		1	%REC	30-150	E505	12/04/2012 9:46 PM
Surr: Tetrachloro-m-xylene	99.7		1	%REC	30-150	E505	12/04/2012 9:46 PM
2,4,5-TP (Silvex)	< 0.13		1	µg/L	10	E515.1	12/12/2012 5:38 PM
2,4-D	< 0.10		1	µg/L	50	E515.1	12/12/2012 5:38 PM
Dalapon	< 0.70		1	µg/L	50	E515.1	12/12/2012 5:38 PM
Dicamba	< 1.0		1	µg/L	50	E515.1	12/12/2012 5:38 PM
Dinoseb	< 0.20	s	1	µg/L	7	E515.1	12/12/2012 5:38 PM
Pentachlorophenol	< 0.040		1	µg/L	1	E515.1	12/12/2012 5:38 PM
Pictoram	< 0.10		1	µg/L	50	E515.1	12/12/2012 5:38 PM
Surr: DCAA	91.6		1	%REC	70-130	E515.1	12/12/2012 5:38 PM
3-Hydroxycarbofuran	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:07 PM
Aldicarb	< 0.50		1	µg/L	3	E531.1	12/04/2012 10:07 PM
Aldicarb sulfone	< 0.80		1	µg/L	2	E531.1	12/04/2012 10:07 PM
Aldicarb sulfoxide	< 0.50		1	µg/L	4	E531.1	12/04/2012 10:07 PM
Carbaryl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:07 PM
Carbofuran	< 0.90		1	µg/L	40	E531.1	12/04/2012 10:07 PM
Methomyl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:07 PM
Oxamyl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:07 PM
Surr: BDMC	110		1	%REC	68-119	E531.1	12/04/2012 10:07 PM
Atrazine	< 0.10		1	µg/L	3	E525.2	12/05/2012 11:25 PM
Benzo(a)pyrene	< 0.02	r	1	µg/L	0.2	E525.2	12/05/2012 11:25 PM

Qualifiers: E = Value above quantitation range

B = Found in Blank

D.F. = Dilution Factor D = Results for Dilution

H = Received/analyzed outside of analytical holding time

+ = ELAP / NELAC does not offer certification for this analyte

c = Calibration acceptability criteria exceeded for this analyte

r = Reporting limit below calibration range

J = Estimated value - below calibration range

s = Recovery exceeded control limits for this analyte

N = Indicates presumptive evidence of compound

Result(s) reported meet(s) NYS Regulatory Limit(s).

Result(s) flagged with \* Exceed NYS Regulatory Limit(s). Limit noted.

Laboratory Manager

Date Reported : 12/28/2012

Page 1 of 5

**labs**

575 Broad Hollow Road, Melville, NY  
 TEL: (631) 684-3040 FAX: (631) 420-8438  
 NYSDOH ID#10478

**LABORATORY RESULTS**

Results for the samples and analytes requested

Sample Information...

Type : Potable Water

Origin:

EnviroTest Laboratories Inc.

315 Fullerton Avenue

Newburgh, NY 12550

Attn To : Debra Bayer

Lab No. : 1211D27-001

Client Sample ID. : WELL 4 (420-61377-1)

Federal ID

Collected : 11/29/2012 10:30:00 AM Point No:

Received : 11/30/2012 10:00:00 AM Location:

Collected By CLIENT

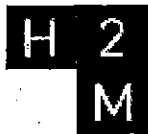
Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
bis(2-Ethylhexyl)adipate	< 0.60		1	µg/L	50	E525.2	12/05/2012 11:25 PM
Bis(2-ethylhexyl)phthalate	< 0.60		1	µg/L	6	E525.2	12/05/2012 11:25 PM
Butachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:25 PM
Metolachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:25 PM
Metribuzin	< 0.50		1	µg/L	50	E525.2	12/05/2012 11:25 PM
Propachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:25 PM
Simazine	<0.07	r	1	µg/L	4	E525.2	12/05/2012 11:25 PM
Surr: 4-Terphenyl-d14	191	S	1	%REC	77-143	E525.2	12/05/2012 11:25 PM
Surr: Dimethylnitrobenzene	98.4		1	%REC	70-130	E525.2	12/05/2012 11:25 PM
Surr: Perylene-d12	91.8		1	%REC	70-130	E525.2	12/05/2012 11:25 PM
Surr: Pyrene-d10	99.6		1	%REC	70-130	E525.2	12/05/2012 11:25 PM
Surr: Triphenylphosphate	94.4		1	%REC	70-130	E525.2	12/05/2012 11:25 PM

Qualifiers: E = Value above quantitation range  
 B = Found in Blank  
 D.F. = Dilution Factor D = Results for Dilution  
 H = Received/analyzed outside of analytical holding time  
 + = ELAP / NELAC does not offer certification for this analyte  
 c = Calibration acceptability criteria exceeded for this analyte  
 r = Reporting limit below calibration range  
 J = Estimated value - below calibration range  
 s = Recovery exceeded control limits for this analyte  
 N = Indicates presumptive evidence of compound  
 Result(s) reported meet(s) NYS Regulatory Limit(s).  
 Result(s) flagged with \* Exceed NYS Regulatory Limit(s). Limit noted.

Laboratory Manager

Date Reported : 12/28/2012

Page 2 of 5

**labs**

675 Broad Hollow Road, Melville, NY

TEL: (631) 694-3040 FAX: (631) 420-8436  
NYSDOH ID#10478**LABORATORY RESULTS**

Results for the samples and analytes requested

**Sample Information...**

Type : Potable Water

Origin:

**EnviroTest Laboratories Inc.****315 Fullerton Avenue****Newburgh, NY 12550**

Attn To : Debra Bayer

**Lab No. : 1211D27-002****Client Sample ID. : WELL 5 (420-61377-2)**

Federal ID

Collected : 11/29/2012 10:40:00 AM Point No:

Received : 11/30/2012 10:00:00 AM Location:

Collected By CLIENT

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
1,2-Dibromo-3-chloropropane	< 0.01		1	µg/L	0.2	E504.1	12/06/2012 2:10 AM
1,2-Dibromoethane	< 0.01		1	µg/L	0.05	E504.1	12/06/2012 2:10 AM
Alachlor	< 0.20		1	µg/L	2	E505	12/04/2012 10:08 PM
Aldrin	< 0.025		1	µg/L	5	E505	12/04/2012 10:08 PM
Chlordane	< 0.20	r	1	µg/L	2	E505	12/04/2012 10:08 PM
Dieldrin	< 0.050		1	µg/L	5	E505	12/04/2012 10:08 PM
Endrin	< 0.010		1	µg/L	2	E505	12/04/2012 10:08 PM
Heptachlor	< 0.025		1	µg/L	0.4	E505	12/04/2012 10:08 PM
Heptachlor epoxide	< 0.020		1	µg/L	0.2	E505	12/04/2012 10:08 PM
Hexachlorobenzene	< 0.10		1	µg/L	1	E505	12/04/2012 10:08 PM
Hexachlorocyclopentadiene	< 0.10		1	µg/L	5	E505	12/04/2012 10:08 PM
Lindane	< 0.020		1	µg/L	0.2	E505	12/04/2012 10:08 PM
Methoxychlor	< 0.10		1	µg/L	40	E505	12/04/2012 10:08 PM
Total PCBs	< 0.40		1	µg/L	0.5	E505	12/04/2012 10:08 PM
Toxaphene	< 1.0	r	1	µg/L	3	E505	12/04/2012 10:08 PM
Surr: Decachlorobiphenyl	108		1	%REC	30-150	E505	12/04/2012 10:08 PM
Surr: Tetrachloro-m-xylene	102		1	%REC	30-150	E505	12/04/2012 10:08 PM
2,4,5-TP (Silvex)	< 0.13		1	µg/L	10	E515.1	12/12/2012 8:08 PM
2,4-D	< 0.10		1	µg/L	50	E515.1	12/12/2012 8:06 PM
Dalapon	< 0.70		1	µg/L	50	E515.1	12/12/2012 8:06 PM
Dicamba	< 1.0		1	µg/L	50	E515.1	12/12/2012 8:06 PM
Dinoseb	< 0.20	s	1	µg/L	7	E515.1	12/12/2012 8:06 PM
Pentachlorophenol	< 0.040		1	µg/L	1	E515.1	12/12/2012 8:06 PM
Picloram	< 0.10		1	µg/L	50	E515.1	12/12/2012 8:06 PM
Surr: DCAA	79.8		1	%REC	70-130	E515.1	12/12/2012 8:06 PM
3-Hydroxycarbofuran	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:52 PM
Aldicarb	< 0.50		1	µg/L	3	E531.1	12/04/2012 10:52 PM
Aldicarb sulfone	< 0.80		1	µg/L	2	E531.1	12/04/2012 10:52 PM
Aldicarb sulfoxide	< 0.50		1	µg/L	4	E531.1	12/04/2012 10:52 PM
Carbaryl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:52 PM
Carbofuran	< 0.90		1	µg/L	40	E531.1	12/04/2012 10:52 PM
Methomyl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:52 PM
Oxamyl	< 1.0		1	µg/L	50	E531.1	12/04/2012 10:52 PM
Surr: BDMC	114		1	%REC	88-119	E531.1	12/04/2012 10:52 PM
Atrazine	< 0.10		1	µg/L	3	E525.2	12/05/2012 11:50 PM
Benzo(a)pyrene	< 0.02	r	1	µg/L	0.2	E525.2	12/05/2012 11:50 PM

Qualifiers: E = Value above quantitation range

B = Found in Blank

D.F. = Dilution Factor D = Results for Dilution

H = Received/analyzed outside of analytical holding time

+ = ELAP / NELAC does not offer certification for this analyte

c = Calibration acceptability criteria exceeded for this analyte

r = Reporting limit below calibration range

J = Estimated value - below calibration range

s = Recovery exceeded control limits for this analyte

N = Indicates presumptive evidence of compound

Result(s) reported meet(s) NYS Regulatory Limit(s).

Result(s) flagged with \* Exceed NYS Regulatory Limit(s). Limit noted.

Laboratory Manager

Date Reported : 12/28/2012

Page 3 of 5

**labs**

576 Broad Hollow Road, Melville, NY

TEL: (631) 894-3040 FAX: (631) 420-8436  
NYSDOH ID#10478**LABORATORY RESULTS**

Results for the samples and analytes requested

Sample Information...

Type: Potable Water

Origin:

EnviroTest Laboratories Inc.

315 Fullerton Avenue

Newburgh, NY 12550

Attn To: Debra Bayer

Lab No.: 1211D27-002

Client Sample ID.: WELL 5 (420-81377-2)

Federal ID

Collected: 11/29/2012 10:40:00 AM Point No:

Received: 11/30/2012 10:00:00 AM Location:

Collected By: CLIENT

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
bis(2-Ethylhexyl)adipate	< 0.60		1	µg/L	50	E525.2	12/05/2012 11:50 PM
Bis(2-ethylhexyl)phthalate	< 0.60		1	µg/L	6	E525.2	12/05/2012 11:50 PM
Butachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:50 PM
Metolachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:50 PM
Metribuzin	< 0.50		1	µg/L	50	E525.2	12/05/2012 11:50 PM
Propachlor	< 1.0		1	µg/L	50	E525.2	12/05/2012 11:50 PM
Simazine	< 0.07	r	1	µg/L	4	E525.2	12/05/2012 11:50 PM
Surr: 4-Terphenyl-d14	183	S	1	%REC	77-143	E525.2	12/05/2012 11:50 PM
Surr: Dimethylnitrobenzene	94.2		1	%REC	70-130	E525.2	12/05/2012 11:50 PM
Surr: Perylene-d12	77.8		1	%REC	70-130	E525.2	12/05/2012 11:50 PM
Surr: Pyrene-d10	99.6		1	%REC	70-130	E525.2	12/05/2012 11:50 PM
Surr: Triphenylphosphate	101		1	%REC	70-130	E525.2	12/05/2012 11:50 PM

Qualifiers: E = Value above quantitation range

B = Found In Blank

D.F. = Dilution Factor D = Results for Dilution

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Result(s) flagged with \* Exceed NYS Regulatory Limit(s). Limit noted.

Laboratory Manager

Date Reported: 12/28/2012

Page 4 of 5





H2M LABS INC  
575 Broad Hollow Road  
Melville, NY 11747  
TEL: (631) 694-3040 FAX: (631) 420-8436  
Website: [www.h2mlabs.com](http://www.h2mlabs.com)

## Sample Receipt Checklist

Client Name **ENV**

Date and Time Received: **11/30/2012 10:00:00 AM**

Work Order Number: **1211D27**

RcptNo: **1**

Received by **Lindsay Pacelli**

Completed by:

*Lindsay Pacelli*

Reviewed by:

*Stu Murrell*

Completed Date: **11/30/2012 11:57:19 AM**

Reviewed Date: **12/4/2012 3:05:59 PM**

Carrier name: **FedEx**

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Are matrices correctly identified on Chain of custody?

Yes ☒

No ☐

Is it clear what analyses were requested?

Yes ☒

No ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Samples in proper container/bottle?

Yes ☒

No ☐

Were correct preservatives used and noted?

Yes ☒

No ☐

NA ☐

Preservative added to bottles:

Sample Condition?

Intact ☒

Broken ☐

Leaking ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

Were container labels complete (ID, Pres, Date)?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Was an attempt made to cool the samples?

Yes ☒

No ☐

NA ☐

All samples received at a temp. of > 0° C to 6.0° C?

Yes ☒

No ☐

NA ☐

Response when temperature is outside of range:

Sample Temp. taken and recorded upon receipt?

Yes ☒

No ☐

To 5.3°

Water - Were bubbles absent in VOC vials?

Yes ☐

No ☐

No Vials ☒

Water - Was there Chlorine Present?

Yes ☐

No ☐

NA ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

No Water ☐

Are Samples considered acceptable?

Yes ☒

No ☐

Custody Seals present?

Yes ☐

No ☒

Airbill or Sticker?

Air Bill ☒

Sticker ☐

Not Present ☐

Airbill No:

794181805702

Case Number:

SDG:

SAS:

Any No response should be detailed in the comments section below, if applicable.

Client Contacted? ☐ Yes ☒ No

Person Contacted:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted:

Contacted By:

Regarding:

Comments:

One method 525 bottle for Well 5(420-61377-2) was received broken.

CorrectiveAction:



## LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-61377-1

Login Number: 61377

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	10.3 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	False	
If false, was sample received on ice within 6 hours of collection.	True	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, Incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing	True	

REPORT# (Lab Use Only)

**EnviroTest  
Laboratories, Inc.**

Lab Name **EnviroTest Laboratories**  
Address & Phone **315 Fullerton Avenue, Newburgh, New York 12550 845-562-0890**

[illegible]

RECEIVED FOR LABORATORY BY: <i>Anthony 97</i> <small>(signature)</small>		DATE: <i>11/29/12</i>	TIME: <i>12:15</i>	CUSTODY INTACT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Cooler Temp.: <i>10.3</i>	LABORATORY REMARKS: ICE <input checked="" type="checkbox"/> pH <input type="checkbox"/> CL2 <input type="checkbox"/>	Relieved by: _____
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## **PLATE**



