PHASE I ENVIRONMENTAL SITE ASSESSMENT FORMER FARM 1254 INDIAN FALLS ROAD PEMBROKE, NEW YORK

PREPARED FOR:
Public Properties, LLC
Washington, DC

PREPARED BY:
GZA GeoEnvironmental of New York
Buffalo, New York

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GZA
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of New York

Engineers and Scientists

April 29, 2014
File No. 21.0056713.00

Mr. Edward Brennan, Director
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Re: Phase I Environmental Site Assessment
Former Farm
1254 Indian Falls Road
Pembroke, New York 14063

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Dear Mr. Brennan:

GZA GeoEnvironmental of New York (GZA) is pleased to provide the attached Phase I Environmental Site Assessment Report. This assessment was completed in general accordance with the guidelines described in ASTM Standard Practice E1527-2013 for Phase I Environmental Site Assessments.

This report is based on our review of available historical and environmental records, visual observations of the surface of the subject and adjoining properties and personal interviews with available persons having knowledge of the property. Recognized environmental conditions have been identified. Section 11.00 of the report, our Findings and Conclusions, is considered an Executive Summary, and should be reviewed in conjunction with the entire report.

We hope this satisfies your present needs. If you need any additional information, please call Christopher Boron at 716-844-7046.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

Thomas Bohlen
Assistant Project Manager/
ENVIRONMENTAL PROFESSIONAL

Christopher Boron
Senior Project Manager/
ENVIRONMENTAL PROFESSIONAL

Bart A. Klettke, P.E.
Principal
Attachment: Report

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1.00 INTRODUCTION

1.10 PROJECT AUTHORIZATION

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by GZA GeoEnvironmental of New York (GZA) for Public Properties, LLC (Client) at the Former Farm located at 1254 Indian Falls Road in Pembroke, New York (Site). The Site visit portion of this environmental assessment of the property was conducted on April 2, 2014. Authorization to proceed on this project was granted in accordance with our signed proposal for Phase I ESA services dated November 13, 2013.

The scope of work described below was designed to be in general accordance with the ASTM Standard Practice for Phase I Environmental Site Assessments, E 1527-13 (ASTM 1527-13). As specified in our proposal for this work, we have assumed that the purpose of this report is to assist the User of this report in qualifying for Landowner Liability Protection (LLP) against CERCLA liability. We have also assumed that this assessment is not being funded, in whole or in part, with a federal grant under the EPA Brownfield Assessment and Characterization Program, and is not being funded by the US Small Business Administration.

1.20 PROJECT OBJECTIVES

The objectives of this Phase I Environmental Site Assessment were:

- To render an opinion as to whether surficial or historical evidence indicates the presence of recognized environmental conditions (RECs) which could result in the presence of hazardous substances or petroleum products in the environment, as defined in ASTM Standard Practice E1527-13 for Phase I Environmental Site Assessments; and

- To permit the User of this assessment to satisfy one of the requirements to qualify for certain Landowner Liability Protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

As defined by ASTM Method E1527, "…the term recognized environmental condition means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." *De minimis* conditions are not recognized environmental conditions.

1.30 SCOPE OF SERVICES

GZA's assessment of the Site was completed in general accordance with ASTM Method E1527-13 and GZA's proposal for services. GZA's scope of services consisted of the following activities:

- Review of federal and state regulatory agency databases identified by ASTM for the Site listing and other property listed within a selected radius around the Site;
- Contact with local environmental regulatory agencies to inquire about environmental conditions at the Site and in its vicinity;
- Review of the Site history through available ASTM Standard Historical Sources;
- A Site reconnaissance to make surficial observations for evidence of recognized environmental conditions;
- Visual observations from public property of properties within ¼ mile of the Site;
- A review of adjoining properties to identify the potential use of hazardous materials;
- An interview with the Key Site Manager regarding the current and past Site usage and facility operations;
- Review of the information provided as part of "User responsibilities" described in ASTM 1527-13; and
- Preparation of this report of our findings.

Omissions to the ASTM standard practice include:

- ASTM identifies a title search for environmental liens as a User Responsibility and recommends that the User provide it to the Environmental Professional for review. The Client did not provide a title search for our review. In GZA's opinion, however, this is not a significant data gap.
- Past owners were not interviewed as part of this assessment. However, it is unlikely that the past owners would provide information not obtained from other sources.

It should be noted that GZA's study does not include ASTM non-scope considerations, such as asbestos, lead paint, or regulatory compliance.

This report presents GZA's field observations, results, and opinions. This report is subject to modification if subsequent information is developed by GZA or any other party. This report has been prepared in accordance with the limitations presented in Section 13.00 and

Appendix A and the terms and conditions of our proposal dated November 13, 2013 which are also included in Appendix A.

2.00 BACKGROUND SITE INFORMATION

The following information was obtained during GZA's site reconnaissance and from interviews with people knowledgeable about the Site. Photographs depicting Site conditions at the time of GZA's assessment are presented in Appendix B. Additional information on Site use and area observations and activity at the Site is contained in Sections 6.00 and 7.00.

2.10 SITE LOCATION

The Site is addressed 1254 Indian Falls Road in Pembroke, New York and is identified by the Town of Pembroke Assessor's Office as SBL number 10.-1-5. The property is reportedly approximately 60.7 acres in size. The approximate Site location and property boundaries are shown on the attached Locus Plan, included as Figure 1.

2.20 SITE DESCRIPTION

The Site consists of one parcel totaling approximately 60.7-acres and is reportedly owned by the Robert H. Haeger Irrevocable Trust. Structures located on the northwestern portion of the Site consist of an occupied residence, a dilapidated barn, a small storage shed, and a dilapidated shack (assumed former snowmobiler post). A building foundation was located east of the barn. The remaining portions of the Site consist of vacant former farm land.

2.30 CURRENT SITE USE

At the time of GZA's site visit, the residence was occupied by a tenant. The remaining portions of the Site were occupied by buildings and vacant land associated with the former farm. A more detailed description of Site use and our reconnaissance observations are contained in Section 6.

2.40 ADJOINING PROPERTIES USE

The properties that adjoin the Site are shown on Figure 2 and are generally described below.

- North: Indian Falls Cemetery (this property is bound by the Site to the south, east, and west)/Residential/Vacant agricultural land
- South: Interstate I-90
- East: Vacant wooded and agricultural land/Natural gas well and related shed
- West: Vacant wooded and agricultural land

2.50 AREA USE

The general property usage in the vicinity of the Site is:

- North Agricultural/Residential
- South Agricultural/Residential/Commercial
- East Agricultural/Residential
- West Agricultural/Residential/Commercial

2.60 SITE UTILITIES

The Site is located in a rural area of Pembroke, New York. According to representatives from the Town of Pembroke Building Department, the following utilities service the Site area.

Gas:	Service not available
Electricity:	National Grid
Potable Water:	Private drinking water wells
Sanitary Sewer:	Private septic systems
Storm Sewer:	Town of Pembroke
Solid Waste:	Varies

3.00 ENVIRONMENTAL SETTING

The following subsection provides information regarding the general regional physiographic, regional hydrology and soil/rock conditions in the area of the Site.

3.10 REGIONAL PHYSIOGRAPHY

Based on a review of the U.S. Geologic Survey Map for Akron quadrangle, NY dated 1988 the Site's mean elevation is approximately 840 feet above mean sea level. The surrounding area has a topographic gradient that is relatively moderate which slopes downward to the north/northwest.

3.20 REGIONAL HYDROLOGY

Based on review of the USGS topographic map, Akron quadrangle and knowledge of the Site area, the estimated depth to groundwater is likely less than 20 feet below ground surface. Regional groundwater flow is assumed to be northerly and site groundwater flow is assumed to be northerly. However, localized flow direction in the area of the Site may vary as a result of underground utilities, septic systems, or heterogeneous subsurface conditions. Subsequent references to upgradient and downgradient properties are based on an assumed northerly groundwater flow direction.

Tonawanda Creek is located approximately 1,800 feet north of the Site and flows in a northwesterly direction. A tributary of Tonawanda Creek adjoins the northeastern portion of the Site to the east and is connected to drainage ditches located on-Site and on the easterly adjoining property. Based on information provided by Environmental Data Resources (EDR), national wetlands are mapped on the southeastern portion of the Site. State wetlands are mapped along the southern portion of the Site. 100 and 500 year floodplains were not indicated as being present on the Site.

3.30 SOIL AND ROCK CONDITIONS

Based on the EDR Geocheck report, the bedrock at the Site is anticipated to be of Paleozoic era, stratified sequence. According to the Soil Conservation Service STATSGO data supplied by EDR, and the Soil Survey website (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm), several different soils are present at the Site. A copy of the Natural Resources Conservation Service (NRCS) soil survey report is included in Appendix C.

- Canandaigua silt loams, with slopes varying from 0 to 2 percent, cover approximately 50 percent of the Site and are present on the northern, central, and southern portions. These soils are silty and clayey glaciolacustrine deposits, are poorly drained, and have moderately high transmissivity in its most limiting layer.

- Niagara silt loams, with slopes from 0 to 2 percent, cover approximately 22 percent of the Site and are present on the central and southern portions. These soils derived from silty and clayey glaciolacustrine deposits, are somewhat poorly drained and have moderately low to moderately high transmissitivity in its most limiting layers.

- Phelps gravelly loams, with slopes varying from 0 to 8 percent, cover approximately 10 percent of the Site and are present on the southern portions. These soils are moderately well drained and have moderately high to high transmissivity in its most limiting layer.

- Lima silt loams, with slopes varying from 0 to 8 percent, cover approximately 9 percent of the Site and are present along the northwestern property line. These soils are loamy till derived from limestone and calcareous shales. They are moderately well drained and have moderately low to moderately high transmissivity in their most limiting layer.

- Palmyra gravelly loams, with slopes varying from 8 to 15 percent, cover approximately 7 percent of the Site and are present on the northernmost portions. These soils were formed from glaciofluvial deposits derived from limestone and sedimentary rocks. They are described as well drained and as having moderately high to high transmissivity in its most limiting layer.

- Fredon gravelly loam with 0 to 3 percent slopes cover approximately 2 percent of the Site and are present on the northwest corner. These soils formed from loamy sandy and gravelly glaciofluvial deposits and are somewhat poorly drained. They have moderately high to high transmissivity in their most limiting layer.

Additionally the Soil Survey for Genesee County, New York issued by the United States Department of Agriculture Soil Conservation Service and dated 1969, indicated a gravel pit was present on the Site. The pit was located on the northern portion of the Site east of the residence. Evidence of a former gravel pit was not observed during GZA's Site reconnaissance.

4.00 HISTORICAL USE INFORMATION

The Site history was developed from ASTM Standard Historical Sources and available files at the Town of Pembroke Tax Assessor's office and building department. A list of sources interviewed is included in Section 9.00.

ASTM indicates that "all obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. ASTM further indicates that "data failure is not uncommon" when trying to establish the historical use of a property. A historical summary report is provided in Section 4.10. Specific information obtained from ASTM historical sources is contained in subsequent sections.

4.10 SITE AND AREA HISTORY SUMMARY

According to Ms. Andrea Cohen (Tilton Realty, real estate agent), the Site was utilized as a farm as early as 1874 and operated as a farm until approximately the 1990s. The residence on the northwestern portion of the Site is currently occupied.

The area surrounding the Site has been sparsely developed by various agricultural, wooded, residential, and commercial companies since the late 1800s to the present time.

4.20 CITY DIRECTORIES REVIEW

EDR completed a city directory search for the Site address of 1254 Indian Falls Road for the years 1942 to 2013. Those listings are summarized below and EDR's city directory review is included in Appendix C.

- 1942-1943 – Street not listed in source
- 1999 – No listings
- 2003-2008 – Residential
- 2013 – Unknown occupant

4.30 HISTORICAL TOPOGRAPHIC MAP REVIEW

EDR provided historical topographic maps for the Site for the years 1897, 1950, 1951, 1950, and 1981. Copies of the topographic maps are included in Appendix C.

Year	Site	Nearby Properties
1897	A residence appeared to occupy the northern portion of the Site. The remaining portions of the Site were vacant land	The areas surrounding the Site were generally vacant land with sparse residential development. The village of Indian Falls was located north of the Site.
1950, 1951	Three structures were indicated on the northern portion of the Site. Apparent drainage ditches were present on the Site, which flowed to the north to a tributary of Tonawanda Creek.	Generally appeared similar to the previous map with further development in the area. Wetlands were shown south and northwest of the Site. A cemetery adjoined the northern portion of the Site. The New York State Thruway I-90 adjoined the Site to the south.
1981	Generally appeared similar to the previous map. Two structures were indicated on the northern portion of the Site.	Generally appeared similar to the previous maps with further development in the area.

4.40 AERIAL PHOTOGRAPH REVIEW

GZA reviewed copies of historical aerial infrared orthophotographs provided by EDR dated 1972, 1986, 1995, 2006, 2008, 2009, and 2011. Copies of the photographs are included in Appendix C.

Year	Site	Nearby Properties
1972, 1986	The northern portions of the Site appeared to be occupied by buildings. The remaining portions of the Site appeared to be vacant agricultural land. Individual Site features were difficult to discern due to poor image resolution.	The area surrounding the Site appeared to be sparsely developed by residences and vacant agricultural land.
1995, 2006, 2008, 2009, 2011	Generally appeared similar to the previous photographs with better image resolution.	Generally appeared similar to the previous photographs with further development in the areas surrounding the Site. The natural gas well shed observed during GZA's area reconnaissance adjoined the Site to the east.

4.50 HISTORICAL ATLAS REVIEW

GZA requested historical Sanborn maps for the Site. EDR indicated that the Site is not covered by Sanborn maps. A copy of EDR's No Coverage letter is presented in Appendix C.

4.60 TITLE SEARCH AND ENVIRONMENTAL LIEN SEARCH REPORT

No abstract of title was provided to GZA for review. Completion of a title search was not included in the scope of this assessment. ASTM considers a title review a "User Responsibility". GZA requested that Mr. Edward Brennan, Public Properties LLC, complete our user questionnaire. Mr. Brennan has yet to respond to our questionnaire. Information received that changes the conclusions of this report will be forwarded to the client upon receipt.

4.70 BUILDING DEPARTMENT RECORDS

GZA visited the Town of Pembroke Building Department for information pertaining to the Site. Mr. Charles Reid, Town of Pembroke Building Department, was not available at the time of GZA's Site visit. GZA contacted Mr. Reid via telephone. Mr. Reid indicated he was unaware of any environmental concerns associated with the Site. Mr. Reid indicated he would respond to GZA via e-mail with any building permits pertaining to the Site. Mr. Reid has yet to respond to our e-mail. Information received that change the conclusions of this report will be forwarded to the client upon receipt.

4.80 PROPERTY TAX FILES

GZA visited the Town of Pembroke Assessor's Office for information pertaining to the Site. Ms. Deborah Conti, Assessor, indicated that she was unaware of any environmental concerns associated with the Site. Ms. Conti indicated that archeological artifacts (i.e. pottery, fire pits, and arrowheads) were discovered on the southern portion of the property that adjoins the Site to the west. The artifacts were discovered during the construction of Interstate 90, which adjoins the Site to the south. The information summarized below was obtained from an old tax card and the Genesee County Web Mapping System (http://gis.co.genesee.ny.us/OnlineMapping/Default.aspx#).

- Address: 1254 Indian Falls Road
- SBL Number: 10.-1-5
- Year Built: 1915
- Square footage (total): 1,476 square feet
- Property size: 60.7 acres
- Improvements: Two story general purpose barn (1890)
  Miscellaneous Structure (not dated)
  Sign (1993)
  Enclosed porch (not dated)
  One story attached garage (1960)

- Owners: Robert, Frances, James, and John Haeger (trustees – 5/7/2009)
- Previous Owners: Robert & Frances Haeger (11/10/1999); Theodore and Margaret Houseknecht (not dated).
- Additional Information: The old tax card indicated that the soil survey showed a gravel pit at the Site. See Section 3.30 for additional information.

5.00 PREVIOUS SITE INVESTIGATIONS

GZA was not provided any previous site investigations.

6.00 SITE RECONNAISSANCE

The purpose of GZA's site reconnaissance was to make surficial observations for evidence of recognized environmental conditions which could result in the presence of oil or hazardous materials in the environment. GZA Assistant Project Manager Thomas Bohlen visited the Site on April 2, 2014. Observations were documented and pertinent features or areas of environmental concern were photographed and are referenced in the text. Selected photographs are included in Appendix B, and Figure 2 depicts pertinent Site features. A summary of each area assessed is presented below.

6.10 EXTERIOR OBSERVATIONS

The periphery of the Site was visually assessed for recognized environmental conditions. Structures located on the northwestern portion of the Site consist of an occupied residence, a dilapidated barn, a small storage shed, and a dilapidated shack (assumed former snowmobiler post). A building foundation was located east of the barn. Visual observations were limited in select areas due to dense vegetation and/or sparse residual snow cover (approximately 4-inches in areas). A heavy mat of leaves, grasses, and brush throughout the overgrown areas prevented direct observation of the ground surface. GZA made observations from paths generally located along the perimeter of the Site. Observations into overgrown areas from the paths were limited to approximately 5 to 10 feet from the paths in the most densely vegetated areas.

6.10.1 Underground Storage Tanks (USTs)

No evidence of USTs was observed.

6.10.2 Aboveground Storage Tanks (ASTs)

A fill port and a vent pipe were observed on the northwest corner of the residence. No areas of staining or discoloration were observed on the house or on the ground in

the proximity of the piping. These pipes are assumed to be associated with the fuel oil AST located in the basement (see Section 8.20 for further information). GZA was not provided access to the interior portions of the residence to make observations and was not able to observe the AST or the construction/condition of the basement floor. GZA makes no opinion on areas not observed.

6.10.3 Hazardous Substances or Petroleum Products Use

No storage, use, or surficial evidence of the disposal of chemicals, hazardous substances, or petroleum products was observed on the exterior of the Site.

6.10.4 Staining

No areas of staining were observed; however, visual observations were limited in select areas due to dense vegetation and snow cover.

6.10.5 Electrical Transformers/Equipment

No electrical transformers or equipment were observed on the exterior portions of the Site.

6.10.6 Drywells and Sumps

No surficial evidence of exterior drywells or sumps was observed during GZA's site reconnaissance; however, visual observations were limited due to areas of dense vegetation and snow cover.

6.10.7 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were observed during the Site reconnaissance; however, visual observations were limited due to areas of dense vegetation and snow cover.

6.10.8 Wells

A capped access pipe to the residence's drinking water well was observed on a brick deck located northeast of the house. Additionally Mr. Charles Reid, Town of Pembroke building department, indicated that municipal drinking water is not available in the Site area.

6.10.9 Solid Waste

Minimal amounts of vinyl siding were observed on the ground west and south of the residence.

6.10.10 Process Wastewater

No surficial evidence of exterior on-site process wastewater disposal was observed.

6.10.11 Septic System

An assumed septic system vent pipe was observed near the southwest corner of the residence. According to the Town of Pembroke Building Department, the area surrounding the Site is not serviced by municipal sanitary sewer.

6.10.12 Stressed Vegetation

No areas of stressed vegetation were observed on the Site; however, visual observations were limited due to areas of dense vegetation and/or snow cover.

6.10.13 Soil/Water Sampling

No subsurface exploration or chemical analysis has been included as part of GZA's scope of services. Information regarding subsurface conditions can be obtained by traditional subsurface exploration techniques and the collection and chemical analysis of soil and water samples.

6.10.14 Oil/Water Separators

No oil/water separators were observed within the exterior portions of the Site, however, observations were limited due to areas of snow cover and dense vegetation.

6.10.15 Surface Water Runoff

Drainage ditches were observed on the vacant former farmland portions of the Site; and along the southern property boundary. These ditches are generally oriented in an east/west direction. Water observed in these ditches was observed to flow easterly. A drainage ditch was also observed along the eastern property boundary and along the approximate center of the northern portion of the Site. These ditches were generally oriented in a north/south direction and the water was observed to flow northerly. Surface water is expected to follow topography to the northeast or infiltrate into the ground.

Areas of partially frozen standing water were observed on the central portion of the Site, along an east-west oriented drainage ditch (see Figure 2).

6.10.16 Hydraulic Equipment and Lifts

No hydraulic equipment or lifts were observed on the exterior portion of the Site however, visual observations were limited due to areas of dense vegetation and/or snow cover.

6.10.17 Other Observations

A dilapidated shack labeled "Plaza 59" was observed east of the barn. Two deteriorated snow mobiles were observed behind the shack. This structure is assumed to have been formerly associated with snowmobile trails in the area.

Several pieces of farm equipment (i.e. trailers, carts, cultivators, and hopper trailers) were observed on the northern portion of the Site and south of the adjoining Indian Falls Cemetery. The equipment did not appear to have been motorized and was likely towed when operational. No significant areas of staining or discoloration were observed to be associated with the equipment.

Three natural gas pipeline markers were observed on the northern portion of the Site southeast of the structures. The apparent pipeline orientation, based on these markers is generally east to west. The pipeline is likely associated with the observed well on the easterly adjoining property. The markers were labeled as "United States Gypsum Company". Additionally, numerous yellow utility mark-out flags, indicating the presence of a natural gas line, were observed along the western property boundary.

6.20 INTERIOR OBSERVATIONS

GZA was not provided access to the occupied residence. The attached garage was left open for GZA's Site visit. Interior portions of the dilapidated barn were observed from outside of the structure as it appeared unsafe to enter. GZA makes no opinion on areas not observed. The attached garage and visible interior areas of the barn were visually assessed for evidence of recognized environmental conditions. The conditions observed are presented below.

6.20.1 Construction

The residence was constructed in 1915 and is generally of wood frame construction. It has a field stone and mortar/concrete block foundation and associated basement. The construction of the basement floor is unknown, but due to the building's age, it could be a dirt floor. Interior finishes of the residence are unknown. According to assessor records, the attached garage was constructed in 1960 and was constructed of used lumber.

The dilapidated barn was reportedly constructed in 1890 and is generally of wood frame construction. The barn was in very poor condition at the time of GZA's Site visit.

6.20.2 Heating and Cooling

The residence is assumed to be heated by a forced air furnace or boiler powered by the fuel oil AST located in the basement. GZA was not provided access to the basement and makes no opinion on areas not observed.

6.20.3 Current Site Use

At the time of GZA's site visit, the residence was occupied by a tenant; however, the tenant was not available to provide access to the home.

6.20.4 Chemical Use and Storage Areas

A white plastic 55-gallon drum was observed in the barn hay loft. The drum was unlabeled. GZA was not able to enter the barn to determine the drum contents due to the very poor condition of the barn. No areas of staining or discoloration appeared to be associated with the drum.

6.20.5 Hazardous Wastes Generated and Waste Storage Areas

No evidence of hazardous waste generation or storage was observed in the garage or barn.

6.20.6 Stains or Corrosion

Significant areas of staining or corrosion were not observed.

6.20.7 Floor Drains or Sumps

A floor drain was observed in the attached garage. An approximate 2-foot x 2-foot x 1-inch deep depression was observed to surround the floor drain. A washing machine discharges to this drain. Standing water was observed in the garage, indicating the floor drain was not functioning properly. Additionally, the standing water in the depression surrounding the drain was observed to be blue in color. GZA shook this liquid in a container and observed soap suds, and this blue liquid is assumed to be detergent. The discharge point of the floor drain is unknown, and it may discharge to the building's septic system. However, the garage is an addition and the floor drain may not be connected to the septic system.

6.20.8 Transformers

No transformers were observed during GZA's interior Site reconnaissance.

6.20.9 Hydraulic Lifts and Elevators

No hydraulic lifts or elevators were observed during GZA's interior Site reconnaissance.

6.20.10 Other Interior Observations

No other significant interior observations were made.

7.00 VICINITY RECONNAISSANCE

As part of GZA's site assessment, a reconnaissance of the properties adjoining the Site, as well as the vicinity within a ¼ mile radius of the Site, was conducted from public properties. The result of GZA's vicinity reconnaissance is presented below.

7.10 HAZARDOUS MATERIAL USE AT ADJOINING PROPERTIES

Adjoining properties are identified in Section 2.30. Hazardous materials and/or petroleum products are not expected to be used at these properties. GZA notes that the New York State Interstate I-90 adjoins the Site to the south, and a natural gas well adjoins the Site to the east.

7.20 HAZARDOUS MATERIAL USE AT VICINITY PROPERTIES

The area within ¼ mile of the study Site is primarily agricultural and residential. Hazardous materials and/or petroleum products are not expected to be used at these properties.

8.00 REGULATORY DATABASE REVIEW

The following section is based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases. These databases provide information about the regulatory status of a property and incidents involving use, storage, spillage, or transportation of oil or hazardous materials. Information was gathered by GZA personnel and by a professional data search service, EDR on April 1, 2014. Federal, state, and local regulatory information is presented in Appendix D. A discussion of the reviewed information is presented in the following sections.

8.10 FEDERAL AGENCY DATABASES

Source: Environmental Data Resources, Inc.

Site: The Site was not listed on the federal databases reviewed.

Nearby Properties: No nearby properties were identified on the Federal databases reviewed, either adjoining the property or in a potential upgradient direction, based on an assumed northerly groundwater flow direction.

8.20 STATE AGENCY DATABASE REVIEW

Source: Environmental Data Resources, Inc.

Site: The Site was listed on the following state databases reviewed.

- The Haight Residence at the Site address of 1254 Indian Falls Road was listed on the NY Spills database (spill number 9007542) for resident complaints of petroleum odors from the drinking water well. An aboveground tank was located in the basement but no leakage was observed around the tank. No further information was provided pertaining to this listing. The listing was closed by the regulators in November 1990. Since there was no evidence of a release and the listing has been closed, it is not expected to have significantly impacted the environment at the Site. However, this listing confirms the presence of a fuel oil AST in the basement.

Nearby Properties: Several nearby properties were identified on the state databases reviewed. The following properties were identified to be either adjoining the Site or in a potential upgradient direction, based on an assumed northerly groundwater flow direction.

- NYS Thruway Mile Marker 396, which was mapped to adjoin the Site to the southwest, was listed on the NY Spills database (spill number 0400308) for a traffic accident. Approximately 175 gallons of diesel fuel were released to the Interstate-90 median space. The release was remediated to the satisfaction of the regulators and the listing was closed in June 2004. Since the listing has been closed it is not expected to have significantly impacted the environment at the Site.

- In addition to the above listings, four LTANKS facilities, one NY Spills facility, and one Indian Reservation, were also identified within the indicated search radii. However, based upon the distance/direction from the Site and the facilities' regulatory status, these listings are not expected to have significantly impacted the environment at the Site.

Source: New York State Department of Environmental Conservation (NYSDEC)

Summary: Submitted a Freedom of Information Legislation (FOIL) request to NYSDEC dated March 31, 2014. At the time of this report, GZA has not received a response from NYSDEC. Information received that may change the conclusion of this report will be forwarded to the Client upon receipt.

8.30 HEALTH DEPARTMENT RECORDS AND LOCAL REGULATORY AGENCIES

Source: New York State Department of Health (NYSDOH)/Genesee County Health Department (GCHD)

Summary: Submitted a FOIL request to the NYSDOH and GCHD, dated March 31, 2014. At the time of this report, GZA has not received a response from NYSDOH or GCHD. Pertinent information that may change the conclusion of this report will be forwarded to Client upon receipt.

Source: Town of Pembroke Assessor's Office
Findings: The desk clerk did not have any additional records other than those summarized in Section 4.80.

Source: Town of Pembroke Building Department
Findings: The desk clerk did not have any additional records other than those summarized in Section 4.70.

9.00 INTERVIEWS

GZA interviewed the following people as part of this assessment:

- Ms. Andrea Cohen, Tilton Realty
- Mr. Charles Reid, Town of Pembroke Building Department
- Ms. Deborah Conti, Town of Pembroke Assessor

The information provided by each is discussed and referenced in the text or provided below.

10.00 USER RESPONSIBILITIES

GZA requested information from the User regarding title information, environmental liens, Activity and Use Limitations (AUL), and specialized knowledge or commonly known information regarding the Site and a reason for significantly lower purchase price (if applicable). GZA requested that Mr. Edward Brennan, Public Properties LLC, complete our user questionnaire. Mr. Brennan has yet to respond. Information received that change the conclusions of this report will be forwarded to the client upon receipt.

11.00 FINDINGS AND CONCLUSIONS

A Phase I Environmental Site Assessment following the general guidance of the ASTM Phase I Standard Practice 1527-13 has been conducted at a former farm located at 1254 Indian Falls Road in Pembroke, New York (Site). The study included a site reconnaissance, a review of Site history, a review of selected local, state and federal regulatory records, a review of information provided by the User, and interviews with persons and agencies familiar with environmental conditions at the Site. No subsurface explorations or chemical testing of soil or groundwater was conducted and no assessment for the presence of lead hazards, mold, radon or asbestos was completed.

11.10 FINDINGS

The findings below are based on the work conducted as part of this assessment:

- The Site is addressed 1254 Indian Falls Road in Pembroke, New York and is identified by the Town of Pembroke Assessor's Office as SBL number 10.-1-5. The Site consists of one parcel totaling approximately 60.7-acres and is reportedly owned by the Robert H. Haeger Irrevocable Trust. Structures located on the northwestern portion of the Site consist of an occupied residence, a dilapidated barn, a small storage shed, and a dilapidated shack (assumed former snowmobiler post). A building foundation was located east of the barn. The remaining portions of the Site consist of vacant former farm land.

- Based on a review of the U.S. Geologic Survey Map for Akron quadrangle, NY dated 1988 the Site's mean elevation is approximately 840 feet above mean sea level. The surrounding area has a topographic gradient that is relatively moderate which slopes downward to the north/northwest.

- Based on review of the USGS topographic map, Akron quadrangle and knowledge of the Site area, the estimated depth to groundwater is likely less than 20 feet below ground surface. Regional groundwater flow is assumed to be northerly and site groundwater flow is assumed to be northerly. However, localized flow direction in the area of the Site may vary as a result of underground utilities, septic systems, or

heterogeneous subsurface conditions. Subsequent references to upgradient and downgradient properties are based on an assumed northerly groundwater flow direction.

- Based on information provided by Environmental Data Resources (EDR), national wetlands are mapped on the southeastern portion of the Site. State wetlands are mapped along the southern portion of the Site. 100 and 500 year floodplains were not indicated on mapping provided by EDR on the Site.

- According to the Soil Survey for Genesee County, New York issued by the United States Department of Agriculture Soil Conservation Service and dated 1969, a gravel pit was formerly present on the Site. The pit was located on the northern portion of the Site east of the residence. Evidence of a former gravel pit was not observed during GZA's Site reconnaissance.

- A fill port and a vent pipe were observed on the northwest corner of the residence. No areas of staining or discoloration were observed on the house or on the ground in the proximity of the piping. These pipes are assumed to be associated with the fuel oil AST located in the basement. GZA was not provided access to the interior portions of the residence to make observations and was not able to observe the AST or the construction/condition of the basement floor. GZA makes no opinion on areas not observed. This is considered a data gap. In order to close this data gap, GZA could be provided access to the basement.

- A capped access pipe to the residence's drinking water well was observed on a brick deck located northeast of the house. Additionally, municipal drinking water is not available in the Site area.

- An assumed septic system vent pipe was observed near the southwest corner of the residence. According to the Town of Pembroke Building Department, the Site and areas surrounding the Site are not serviced by municipal sanitary sewer.

- Drainage ditches were observed on the vacant former farmland portions of the Site; and along the southern property boundary. These ditches are generally oriented in an east/west direction. Water observed in these ditches was observed to flow easterly. A drainage ditch was also observed along the eastern property boundary and along the approximate center of the northern portion of the Site. These ditches were generally oriented in a north/south direction and the water was observed to flow northerly. Surface water is expected to follow topography to the northeast or infiltrate into the ground.

- A dilapidated shack labeled "Plaza 59" was observed east of the barn. Two deteriorated snow mobiles were observed behind the shack. This structure is assumed to have been formerly associated with snowmobile trails in the area.

- Several pieces of farm equipment (i.e. trailers, carts, cultivators, and hopper trailers) were observed on the northern portion of the Site and south of the adjoining Indian Falls Cemetery. The equipment did not appear to have been motorized and was likely towed when operational. No significant areas of staining or discoloration were observed to be associated with the equipment.

- Three natural gas pipeline markers were observed on the northern portion of the Site southeast of the structures. The markers were labeled as "United States Gypsum Company". Additionally, numerous yellow utility mark-out flags, indicating the presence of a natural gas line, were observed along the western property boundary.

- A white plastic 55-gallon drum was observed in the barn hay loft. The drum was unlabeled. GZA was not able to enter the barn to determine the drum contents (if any) due to the very poor condition of the barn. No areas of staining or discoloration appeared to be associated with the drum.

- A floor drain was observed in the attached garage. An approximate 2-foot x 2-foot x 1-inch deep depression was observed to surround the floor drain. A washing machine discharges to this drain. Standing water was observed in the garage, indicating the floor drain was not functioning properly. Additionally, the standing water in the depression surrounding the drain was observed to be blue. GZA shook this liquid in a container and observed soap suds, and this blue liquid is assumed to be detergent. The discharge point of the floor drain is unknown, and it may discharge to the building's septic system. However, the garage is an addition to the house and the floor drain may not be connected to the septic system.

- The Haight Residence at the Site address of 1254 Indian Falls Road was listed on the NY Spills database (spill number 9007542) for resident complaints of petroleum odors from the drinking water well. An aboveground tank reportedly was located in the basement at the time but no leakage was observed around the tank. No further information was provided pertaining to this listing. The listing was closed by the regulators in November 1990. Since there was no evidence of a release and the listing has been closed, it is not expected to have significantly impacted the environment at the Site. However, this listing supports the conclusion that a fuel oil AST in present in the basement of this house.

- Adjoining and nearby facilities were listed on the State and Federal databases reviewed. However, based upon the distance/direction from the Site and the facilities' regulatory status, these listings are not expected to have significantly impacted the environment at the Site.

- At the time of the Site visit our observations were limited due to heavy vegetation and/or snow cover in select areas. This is considered a data gap. In order to close this data gap a site visit should be completed after the snow melt. However, based on our experience and observations made at the Site without snow cover, GZA does not anticipate significant issues that would change or alter our conclusions.

11.20 CONCLUSIONS AND OPINIONS

Based on the findings presented above, it is GZA's opinion that "we have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 at the Former Farm located at 1254 Indian Falls Road in Pembroke, New York (Site). Any exceptions to, or deletions from, this practice are described in Section 1.00 of this report.

This assessment has revealed the following evidence of a Recognized Environmental Conditions in connection with the property.

- The Site operated as a farm from approximately the late 1800s until approximately the 1990s. Herbicides and pesticides may have been applied to the Site soils during active farming operations. The potential exists for surficial soil contamination, surficial water contamination, and/or groundwater contamination to have resulted from the historical herbicide and pesticide application.

It is GZA's opinion that a subsurface investigation to include subsurface soil and groundwater sampling and analyses would be necessary to confirm the presence of contaminated materials in the environment associated with the identified Recognized Environmental Conditions.

GZA was not provided access to the interior portions of the residence and was not able to observe the fuel oil AST or the construction/condition of the basement floor. GZA makes no opinion on areas not observed. GZA considers this an environmentally significant data gap. In order to close this data gap, GZA would require access to the basement to observe the AST.

GZA requested information from the User regarding title information, environmental liens, Activity and Use Limitations (AUL), and specialized knowledge or commonly known information regarding the Site and a reason for significantly lower purchase price (if applicable). GZA requested that Mr. Edward Brennan, Public Properties LLC, complete our user questionnaire. Mr. Brennan has yet to respond. GZA considers this a data gap; however, based upon information gathered during this assessment, GZA does not consider this data gap as environmentally significant. In order to close this data gap, GZA requires a completed user questionnaire.

12.00 ENVIRONMENTAL PROFESSIONAL STATEMENT

GZA declares 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 12." 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 312." The signature of the Environmental Professional is contained on the cover page of this report.

13.00 LIMITATIONS

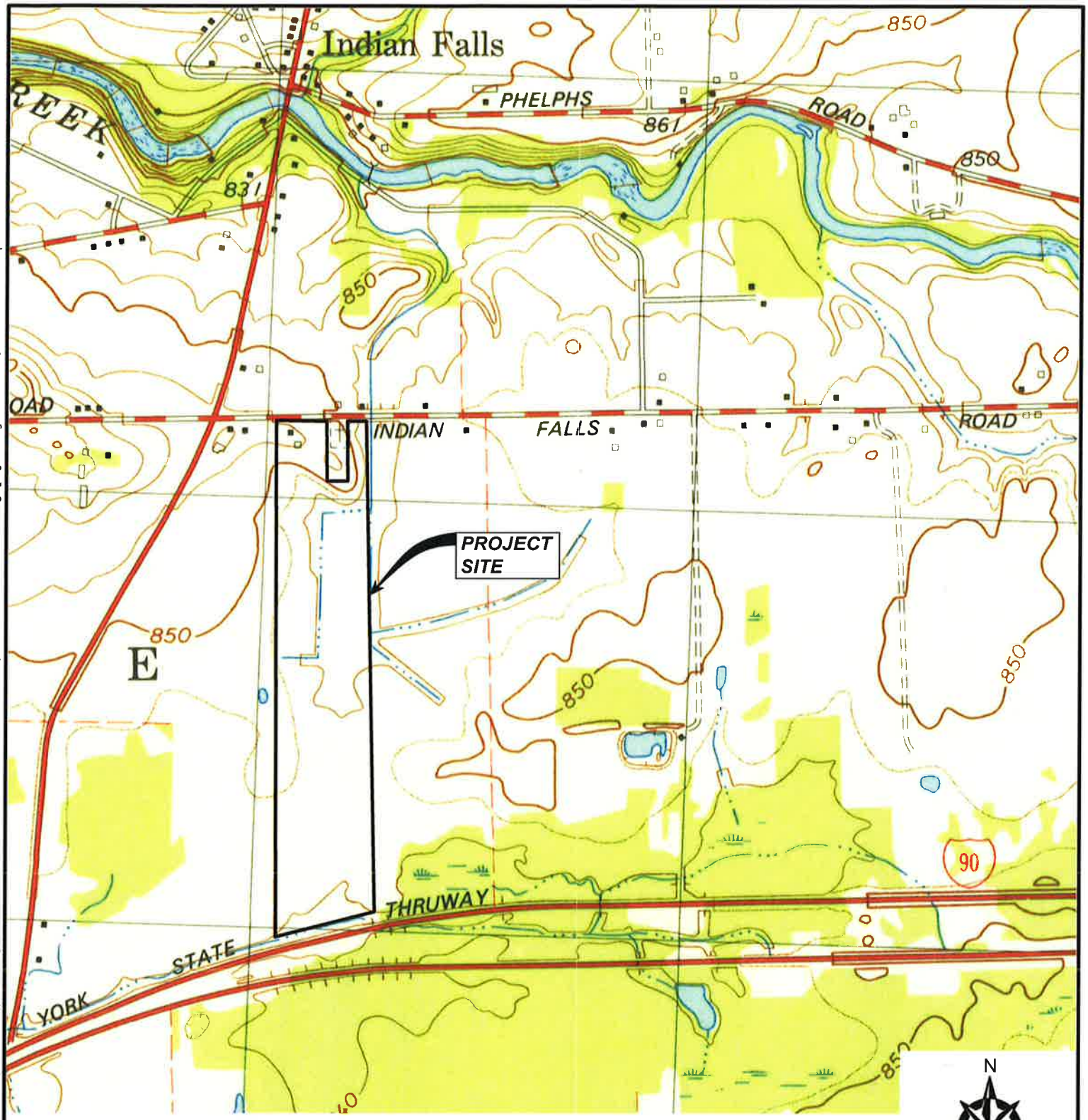
GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of **Public Properties, LLC** for the stated purpose(s) and location(s) identified in the Report. However, GZA acknowledges and agrees that the Report may be conveyed to the buyer, seller, and/or lender associated with the proximate sale of the subject location(s) to the extent set forth in our signed proposal dated November 13, 2013. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Our findings and conclusions are based on the work conducted as part of the Scope of Services set forth in this report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).

Our services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

This report is also subject to the specific limitations contained in **Appendix A**.

FIGURES



NOTE:
BASE MAP ADAPTED FROM U.S.G.S. TOPOGRAPHIC MAPS DOWNLOADED FROM TERRASERVER.MICROSOFT.COM

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NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
PUBLIC PROPERTIES, LLC

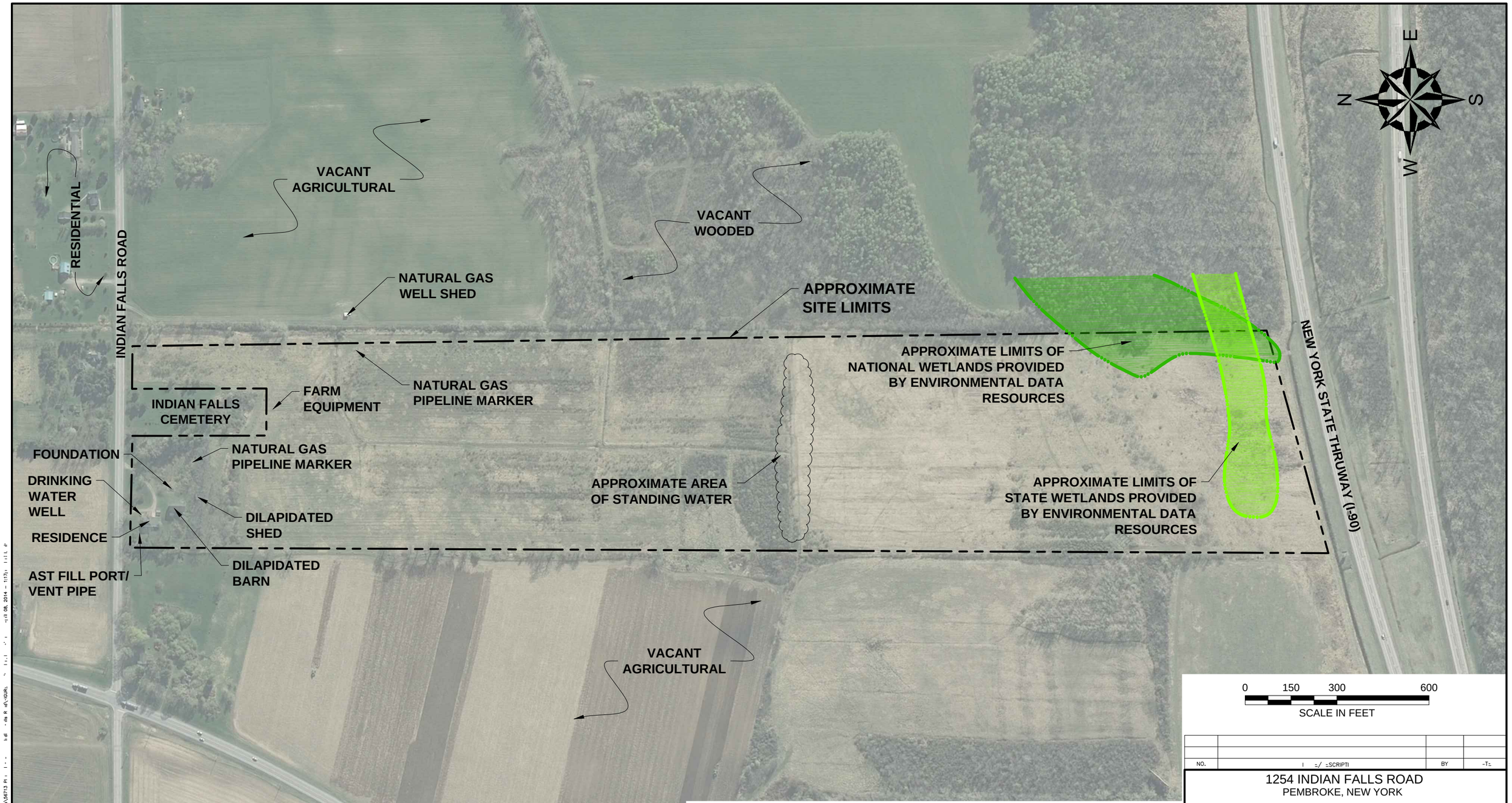
1254 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

PHASE I ENVIRONMENTAL SITE ASSESSMENT
LOCUS PLAN

FIGURE 1

PROJ MGR: CZB	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.	SHEET NO.
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	APRIL 2014	21.0056713.00		1 of 2

© 2014 – GZA GeoEnvironmental of N.Y. GZA-K:\PROJECTS\56700s\56713 Phase I ESA 1254 Indian Falls Road\FIGURE 1 Locus Plan.dwg [Figure 1] March 31, 2014 – 12:11pm daniel.wulf



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NOTES:

1. BASE MAP ADAPTED FROM A 2010 AERIAL PHOTO DOWNLOADED FROM http://www.orthos.dhses.ny.gov/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

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1254 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

PHASE I ENVIRONMENTAL SITE ASSESSMENT
SITE PLAN

PR= - \=D BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
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(716) 685-2300

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PUBLIC PROPERTIES, LLC

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APPENDIX A

LIMITATIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT
LIMITATIONS

Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of **Public Properties, LLC** for the stated purpose(s) and location(s) identified in the Report. However, GZA acknowledges and agrees that the Report may be conveyed to the buyer, seller, and/or lender associated with the proximate sale of the subject location(s) to the extent set forth in our signed proposal dated November 13, 2013. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Standard of Care

2. Our findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).

3. Our services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

Uncertainty not Eliminated

4. No environmental site assessment can eliminate the uncertainty of the possible presence of Recognized Environmental Conditions (RECs). This report was prepared to help reduce, not to eliminate, such uncertainties. Consistent with American Society for Testing and Materials (ASTM) Guidance (ASTM 1527-13), our opinions were developed in light of the constraints imposed by time and budget.

Limits to Observations

5. As indicated in the Report, we made observations for evidence of RECs at the Site and for conditions at adjoining properties that could result in RECs at the Site. Observations were made of the Site and of structures on the Site as indicated within the report. Where access to portions of the Site or to structures on the Site was unavailable or limited, GZA renders no opinion as to the presence of hazardous substances, hazardous wastes, or petroleum products, or to the presence of indirect evidence relating to these materials, in that portion of the Site or structure. In addition, GZA renders no opinion as to the presence of hazardous substances, hazardous wastes, or petroleum products, or to the presence of indirect evidence relating to these materials, where direct observation of the interior walls, floor, or ceiling of a structure on the Site was obstructed by objects or coverings on or over these surfaces. Our opinions are necessarily based on these limited observations. Additionally, some activities or events of potential interest, at the Site or on adjoining properties, may have been transient and not observable at the time of our visit.

Reliance on Information from Others

6. We relied upon information made available by Federal, state and local authorities, the Key Site Manager, and others. We did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

Additional Information

7. Additional opinions or information regarding RECs may be developed by the lender, seller, buyer, or other parties. Such additional opinions or information may not fully support the opinions provided in this report. In the event such additional opinions or information is developed, we recommend that we be retained, in a timely manner, to review this material. This will provide us the opportunity to evaluate and modify, as necessary, the opinions provided in the Report

Compliance with Regulations and Codes

8. Our services were performed to render an opinion on the presence of RECs. Unless specifically addressed within the Report, we rendered no opinion on the compliance of Site conditions or activities with local, state, or Federal codes or regulations.

Shelf Life

9. The opinions expressed in this Report are based on conditions observed during the course of our work on this Site; these conditions may change over time. ASTM Guidance (see ASTM 1527-05) states that observations and opinions are only valid for 180 days. After 180 days, an update of portions of the Report may be necessary.

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

© 2008 by GZA GeoEnvironmental, Inc.

Client ("You"): Public Properties, LLC
Proposal No: 21.P0000071.14
Site: 1254 Indian Falls Road, Pembroke, New York 14063

These Terms and Conditions, together with GZA's Proposal, make up the Agreement between GZA and you, Client, named above.

BEFORE SIGNING THE PROPOSAL, BE SURE YOU READ AND UNDERSTAND THE PARAGRAPHS ENTITLED "INDEMNIFICATION" AND "LIMITATION OF REMEDIES" WHICH DEAL WITH THE ALLOCATION OF RISK BETWEEN YOU AND GZA.

1. Services. GZA will perform the services set forth in its Proposal and any amendments or change orders authorized by you. Any request or direction from you that would require extra work or additional time for performance or would result in an increase in GZA's costs will be the subject of a negotiated amendment or change order.

2. Standard of Care. GZA will perform the services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time under similar conditions in the same or similar locality. **NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE OR INTENDED BY GZA'S PROPOSAL OR BY ANY OF GZA'S ORAL OR WRITTEN REPORTS.**

3. Payment.

a. Except as otherwise stated in the Proposal, you will compensate GZA for the services at the rates set forth in the applicable Proposal, amendment or change order; reimburse its expenses, which will include a communication fee calculated as a percentage of labor invoiced; and pay any sales or similar taxes thereon.
b. Any retainer specified in GZA's Proposal shall be due prior to the start of services and will be applied to the final invoice for services.
c. GZA will submit invoices periodically, and payment will be due within 30 days from invoice date. Overdue payments will bear interest at 1½ percent per month or, if lower, the maximum lawful rate. GZA may terminate its services upon 10 days' written notice anytime your payment is overdue on this or any other project and you will pay for all services through termination, plus termination costs. You will reimburse GZA's costs of collecting overdue invoices, including reasonable attorneys' fees.

4. Your Responsibilities.

a. Except as otherwise agreed, you will secure the approvals, permits, licenses and consents necessary for performance of the services. If you are the owner or operator of the Site, you will provide GZA with all documents, plans, information concerning underground structures (including but not limited to utilities, conduits, pipes, and tanks), information related to hazardous materials or other environmental or geotechnical conditions at the site and other information that may be pertinent to the services or, if you are not the owner or operator of the Site, you agree to make reasonable efforts to obtain these same documents and provide them to GZA. Unless otherwise indicated in writing, GZA will be entitled to rely on documents and information you provide.
b. If you use the services of a construction contractor at the Site, you agree to use best and reasonable efforts to include in your agreement(s) with the construction contractor provisions obligating the latter:
   (i) to indemnify, defend and hold harmless, to the fullest extent permitted by law, you and GZA, its officers, employees and principals, for or on account of any claims, liabilities, costs and expenses, including attorneys' fees, arising out of or relating to the design or implementation of construction means, methods, procedures, techniques, and sequences of construction, including safety precautions or programs, of the contractor, or any of its subcontractors or any engineer engaged by it;
   (ii) to name you and GZA as additional insureds under general liability and builder's risk insurance coverages maintained by the contractor, or any of its subcontractors; and
   (iii) to require that all of its subcontractors agree and be bound to the obligations set forth in (i) and (ii) above.
c. In the event that you are unable to secure such provisions in the agreement(s) with the construction contractor, you shall promptly notify GZA and GZA shall have the opportunity to negotiate with you reasonable substitute risk allocation and insurance indemnities and protections.

5. Right of Entry. You grant GZA and its subcontractor(s) permission to enter the site to perform the services. If you do not own the site, you represent and warrant that the owner has granted permission for GZA to enter the site and perform the services; you will provide reasonable verification on request; and you will indemnify GZA for any claims by the site owner related to alleged trespass by GZA or its subcontractors.

6. Reliance. The services, information, and other data furnished by you shall be at your expense, and GZA may rely upon all information and data that you furnish, including the accuracy and completeness thereof. You acknowledge that the quality of the services provided by GZA is directly related to the accuracy and completeness of the information and data that you furnish to GZA**. GZA's REPORTS ARE**

PREPARED FOR AND MADE AVAILABLE FOR YOUR SOLE USE. YOU ACKNOWLEDGE AND AGREE THAT USE OF OR RELIANCE UPON THE REPORT OR THE FINDINGS IN THE REPORT BY ANY OTHER PARTY, OR FOR ANY OTHER PROJECT OR PURPOSE, SHALL BE AT YOUR OR SUCH OTHER PARTY'S SOLE RISK AND WITHOUT ANY LIABILITY TO GZA.

7. GZA Professionals. GZA employees or consultants may act as licensed, certified or registered professionals (including but not limited to Professional Engineers, Licensed Site or Environmental Professionals, or Certified Industrial Hygienists, collectively referred to in this section as "GZA Professionals") whose duties may include the rendering of independent professional opinions. You acknowledge that a federal, state or local agency or other third party may audit the services of GZA or other contractor/consultant(s), which audit may require additional services, even though GZA and such GZA Professionals have each performed such services in accordance with the standard of care set forth herein. You agree to compensate GZA for all services performed in response to such an audit, or to meet additional requirements resulting from such an audit, at the rates set forth in the applicable Proposal, amendment or change order.

8. Hazardous Materials; GZA "Not a Generator". Before any hazardous or contaminated materials are removed from the site, you will sign manifests naming you as the generator of the waste (or, if you are not the generator, you will arrange for the generator to sign). You will select the treatment or disposal facility to which any waste is taken. GZA will not be the generator or owner of, nor will it possess, take title to, or assume legal liability for any hazardous or contaminated materials at or removed from the site. GZA will not have responsibility for or control of the site or of operations or activities at the site other than its own. GZA will not undertake, arrange for or control the handling, treatment, storage, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the site, other than any laboratory samples it collects or tests. You agree to defend, indemnify and hold GZA harmless for any costs or liability incurred by GZA in defense of or in payment for any legal actions in which it is alleged that GZA is the owner, generator, treater, storer or disposer of hazardous waste.

9. Limits on GZA's Responsibility. GZA will not be responsible for the acts or omissions of contractors or others at the site, except for its own subcontractors and employees. GZA will not supervise, direct or assume control over or the authority to stop any contractor's work, nor shall GZA's professional activities or the presence of GZA or its employees and subcontractors be construed to imply that GZA has authority over or responsibility for the means, methods, techniques, sequences or procedures of construction, for work site health or safety precautions or programs, or for any failure of contractors to comply with contracts, plans, specifications or laws. Any opinions by GZA of probable costs of labor, materials, equipment or services to be furnished by others are strictly estimates and are not a guarantee that actual costs will be consistent with the estimates.

10. Changed Conditions.

a. You recognize the uncertainties relating to the furnishing of professional services, which often require a phased or exploratory approach, with the need for additional services becoming apparent during the initial services. You also recognize that actual conditions encountered may vary significantly from those anticipated, that laws and regulations are subject to change, and that the requirements of regulatory authorities are often unpredictable.
b. If changed or unanticipated conditions or delays make additional services necessary or result in additional costs or time for performance, GZA will notify you and the parties will negotiate appropriate changes to the scope of services, compensation and schedule.
c. If no agreement can be reached, GZA will be entitled to terminate its services and to be equitably compensated for the services already performed. GZA will not be responsible for delays or failures to perform due to weather, labor disputes, intervention by or inability to get approvals from public authorities, acts or omissions on your part or any other causes beyond GZA's reasonable control, and you will compensate GZA for any resulting increase in its costs.

11. Documents and Information. All documents, data, calculations and work papers prepared or furnished by GZA are instruments of service and will remain GZA's property. Designs, reports, data and other work product delivered to you are for your use only, for the limited purposes disclosed to GZA. Any delayed use, use at another site, use on another project, or use by a third party will be at the user's sole risk, and without any liability to GZA. Any technology, methodology or technical information learned or developed by GZA will remain its property. Provided GZA is not in default under this Agreement, GZA's designs will not be used to complete this project by others, except by written agreement relating to use, liability and compensation.

12. Electronic Media. In accepting and utilizing any drawings, reports and data on any form of electronic media generated by GZA, you covenant and agree that all such electronic files are instruments of service of GZA, who shall be deemed the author, and shall retain all common law, statutory law and other rights, including copyrights. In the event of a conflict between the signed documents prepared by GZA and electronic files, the signed documents shall govern. You agree not to reuse these electronic files, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Any transfer of these electronic files to others or reuse or modifications to such files by you without the prior written consent of GZA will be at the user's sole risk and without any liability to GZA.

13. Confidentiality; Subpoenas. Information about this Agreement and GZA's services and information you provide to GZA regarding your business and the site, other than information available to the public and information acquired from third parties, will be maintained in confidence and will not be disclosed to others without your consent, except as GZA reasonably believes is necessary: (a) to perform its services; (b) to comply with professional standards to protect public health, safety and the environment; and (c) to comply with laws and court orders. GZA will

make reasonable efforts to give you prior notice of any disclosure under (b) or (c) above. You will reimburse GZA for responding to any subpoena or governmental inquiry or audit related to the services, at the rates set forth in the applicable Proposal, amendment or change order.

14. Insurance. During performance of the services, GZA will maintain workers compensation, commercial general liability, automobile liability, and professional liability insurance. GZA will furnish you certificates of such insurance on request.

15. Indemnification. You agree to hold harmless, indemnify, and defend GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") against all claims, suits, fines and penalties, including mandated cleanup costs and attorneys' fees and other costs of settlement and defense, which claims, suits, fines, penalties or costs arise out of or are related to this Agreement or the services, except to the extent they are caused by GZA's negligence or willful misconduct.

16. Limitation of Remedies.

a. To the fullest extent permitted by law and notwithstanding anything else in this Agreement to the contrary, the aggregate liability of GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") for all claims arising out of this Agreement or the services is limited to $50,000 or, if greater, 10% of the compensation received by GZA under this Agreement.
b. You may elect to increase the limit of liability by paying an additional fee, such fee to be negotiated prior to the execution of this Agreement.
c. Any claim will be deemed waived unless received by GZA within one year of substantial completion of the services.
d. GZA will not be liable for lost profits, loss of use of property, delays, or other special, indirect, incidental, consequential, punitive, exemplary or multiple damages.
e. GZA will not be liable to you or the site owner for injuries or deaths suffered by GZA's or its subcontractors' employees.
f. You will look solely to GZA for your remedy for any claim arising out of or relating to this Agreement, including any claim arising out of or relating to alleged negligence or errors or omissions of any GZA principal, officer, employee or agent.

17. Disputes.

a. All disputes between you and GZA shall be subject to non-binding mediation.
b. Either party may demand mediation by serving a written notice stating the essential nature of the dispute, the amount of time or money claimed, and requiring that the matter be mediated within forty-five (45) days of service of notice.
c. The mediation shall be administered by the American Arbitration Association in accordance with its most recent Construction Mediation Rules, or by such other person or organization as the parties may agree upon.
d. No action or suit may be commenced unless mediation has occurred but did not resolve the dispute, or unless a statute of limitation period would expire if suit were not filed prior to such forty-five (45) days after service of notice.

18. Miscellaneous.

a. New York law shall govern this Agreement.
b. The above terms and conditions regarding Limitation of Remedies and Indemnification shall survive the completion of the services under this Agreement and the termination of the contract for any cause.
c. Any amendment to these Terms and Conditions must be in writing and signed by both parties.
d. Having received these Terms and Conditions, your oral authorization to commence services, your actions, or your use of the Report or Work Product constitutes your acceptance of them.
e. This Agreement supersedes any contract terms, purchase orders or other documents issued by you.
f. Neither party may assign or transfer this Agreement or any rights or duties hereunder without the written consent of the other party.
g. Your failure or the failure of your successors or assigns to receive payment or reimbursement from any other party for any reason whatsoever shall not absolve you, your successors or assigns of any obligation to pay any sum to GZA under this agreement.
h. These Terms and Conditions shall govern over any inconsistent terms in GZA's Proposal.
i. The provisions of this Agreement are severable; if any provision is unenforceable it shall be appropriately limited and given effect to the extent it is enforceable.
j. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.

APPENDIX B

PHOTOGRAPHS

Residence, shed, and barn on northwest portion of Site looking southwest

Farm equipment on northern portion of the Site looking east

Standing water and floor drain in attached garage (note washing machine flex-tube discharge and blue detergent)

AST fill port/vent pipe at northwest corner of residence looking northeast

Drinking water well northeast of residence

"Plaza 59" dilapidated shack southeast of barn looking south

White plastic 55-gallon drum in barn hay loft

Two snowmobiles south of "Plaza 59" dilapidated shack

Septic system vent pipe and vinyl siding debris south of residence

Standing water along drainage ditch on south-central portion of Site

Vacant former farmland looking south

Natural gas pipeline marker

East-west oriented drainage ditch looking west

Drainage ditch along southern property boundary looking west

Dense vegetation on central portion of Site

Natural gas well shed on easterly adjoining property looking south

Natural gas well shed on easterly adjoining property looking northeast

APPENDIX C

HISTORICAL DOCUMENTATION

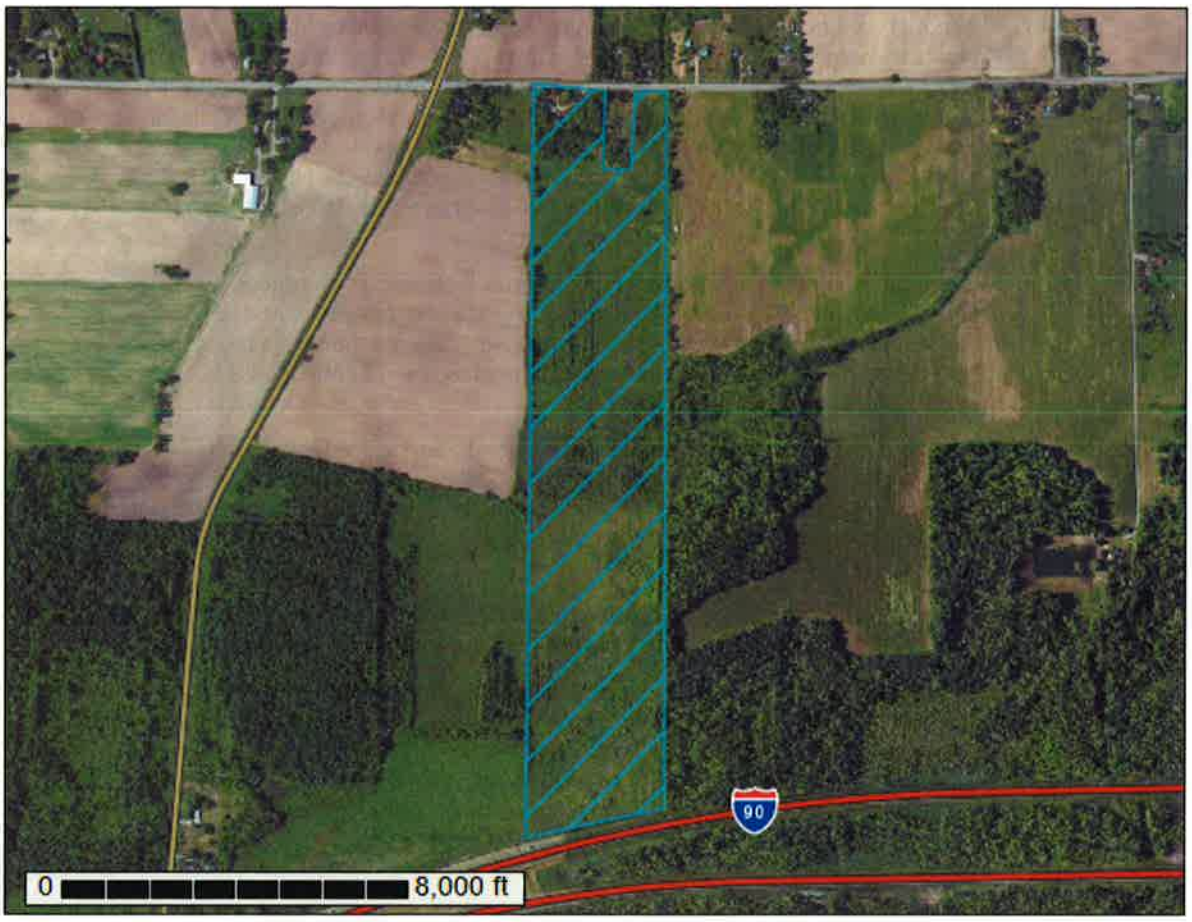
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Genesee County, New York



April 6, 2014

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

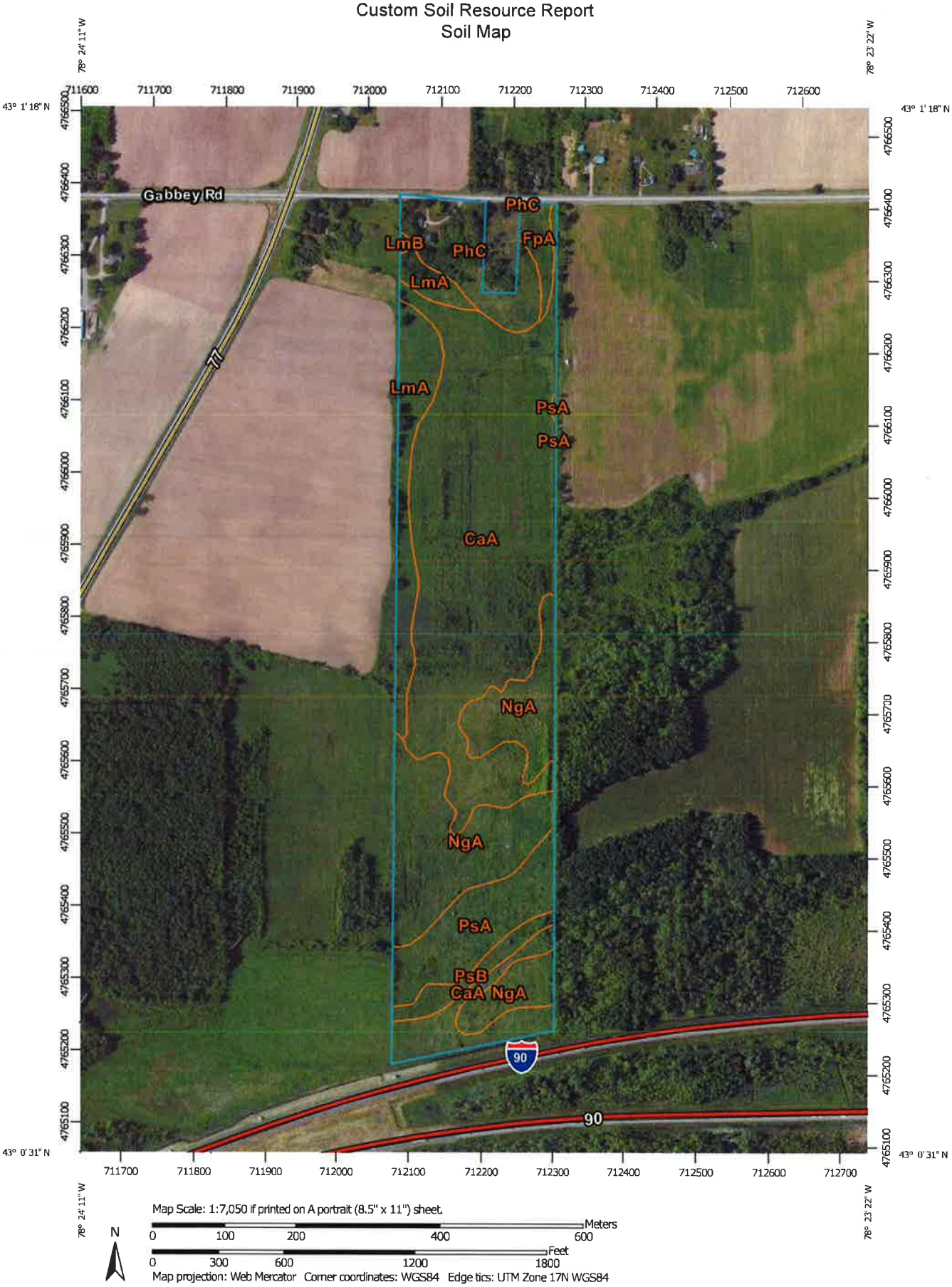
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Genesee County, New York
Survey Area Data: Version 13, Dec 16, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 2, 2010—Jul 1, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Genesee County, New York (NY037)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CaA	Canandaigua silt loam, 0 to 2 percent slopes	31.2	49.7%
FpA	Fredon gravelly loam, 0 to 3 percent slopes	1.1	1.8%
LmA	Lima silt loam, 0 to 3 percent slopes	5.3	8.4%
LmB	Lima silt loam, 3 to 8 percent slopes	0.1	0.1%
NgA	Niagara silt loam, 0 to 2 percent slopes	13.8	22.0%
PhC	Palmyra gravelly loam, 8 to 15 percent slopes	4.4	7.0%
PsA	Phelps gravelly loam, 0 to 3 percent slopes	5.3	8.5%
PsB	Phelps gravelly loam, 3 to 8 percent slopes	1.5	2.4%
Totals for Area of Interest		**62.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified

by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Genesee County, New York

CaA—Canandaigua silt loam, 0 to 2 percent slopes

Map Unit Setting

Elevation: 100 to 1,000 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition

Canandaigua and similar soils: 75 percent
Minor components: 25 percent

Description of Canandaigua

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey glaciolacustrine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: High (about 12.0 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 4w
Hydrologic Soil Group: C/D

Typical profile

0 to 9 inches: Silt loam
9 to 39 inches: Silt loam
39 to 72 inches: Silt loam

Minor Components

Bergen

Percent of map unit: 5 percent
Landform: Swamps, marshes

Unnamed soils

Percent of map unit: 5 percent

Lamson

Percent of map unit: 5 percent

Landform: Depressions

Halsey
Percent of map unit: 5 percent
Landform: Depressions

Madalin
Percent of map unit: 5 percent
Landform: Depressions

FpA—Fredon gravelly loam, 0 to 3 percent slopes

Map Unit Setting
Elevation: 750 to 1,740 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition
Fredon and similar soils: 80 percent
Minor components: 20 percent

Description of Fredon

Setting
Landform: Terraces, valley trains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups
Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 3w
Hydrologic Soil Group: B/D

Typical profile
0 to 9 inches: Gravelly loam
9 to 35 inches: Gravelly fine sandy loam

35 to 72 inches: Stratified gravelly sand to fine sand

Minor Components

Halsey
Percent of map unit: 5 percent
Landform: Depressions

Unnamed soils
Percent of map unit: 5 percent

Lamson
Percent of map unit: 5 percent
Landform: Depressions

Phelps
Percent of map unit: 5 percent

LmA—Lima silt loam, 0 to 3 percent slopes

Map Unit Setting
Elevation: 250 to 1,500 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition
Lima and similar soils: 80 percent
Minor components: 20 percent

Description of Lima

Setting
Landform: Drumlins, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy till derived mainly from limestone and calcareous shale

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.9 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: C/D

Typical profile

0 to 9 inches: Silt loam
9 to 21 inches: Silty clay loam
21 to 72 inches: Gravelly loam

Minor Components

Appleton

Percent of map unit: 5 percent

Unnamed soils

Percent of map unit: 5 percent

Kendaia

Percent of map unit: 5 percent

Mohawk

Percent of map unit: 5 percent

LmB—Lima silt loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 250 to 1,500 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition

Lima and similar soils: 80 percent
Minor components: 20 percent

Description of Lima

Setting

Landform: Drumlins, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy till derived mainly from limestone and calcareous shale

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.9 inches)

Interpretive groups
Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C/D

Typical profile
0 to 9 inches: Silt loam
9 to 21 inches: Silty clay loam
21 to 72 inches: Gravelly loam

Minor Components

Honeoye
Percent of map unit: 5 percent

Kendaia
Percent of map unit: 5 percent

Mohawk
Percent of map unit: 5 percent

Unnamed soils
Percent of map unit: 5 percent

NgA—Niagara silt loam, 0 to 2 percent slopes

Map Unit Setting
Elevation: 750 to 1,740 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 120 to 175 days

Map Unit Composition
Niagara and similar soils: 75 percent
Minor components: 25 percent

Description of Niagara

Setting
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty and clayey glaciolacustrine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: High (about 10.3 inches)

Interpretive groups

Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C/D

Typical profile

0 to 11 inches: Silt loam
11 to 26 inches: Silty clay loam
26 to 72 inches: Silt loam

Minor Components

Canandaigua

Percent of map unit: 5 percent
Landform: Depressions

Unnamed soils

Percent of map unit: 5 percent

Collamer

Percent of map unit: 5 percent

Rhinebeck

Percent of map unit: 5 percent

Minoa

Percent of map unit: 5 percent

PhC—Palmyra gravelly loam, 8 to 15 percent slopes

Map Unit Setting

Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition

Palmyra and similar soils: 80 percent
Minor components: 20 percent

Description of Palmyra

Setting

Landform: Terraces, deltas, outwash plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy over sandy and gravelly glaciofluvial deposits, derived mainly from limestone and other sedimentary rocks

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 4.5 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 3e
Hydrologic Soil Group: A

Typical profile

0 to 12 inches: Gravelly loam
12 to 29 inches: Gravelly clay loam
29 to 72 inches: Stratified very gravelly sand to fine sand

Minor Components

Fredon

Percent of map unit: 5 percent

Arkport

Percent of map unit: 5 percent

Dunkirk

Percent of map unit: 5 percent

Phelps

Percent of map unit: 5 percent

PsA—Phelps gravelly loam, 0 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F

Frost-free period: 140 to 175 days

Map Unit Composition

Phelps and similar soils: 80 percent
Minor components: 20 percent

Description of Phelps

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.0 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: B/D

Typical profile

0 to 9 inches: Gravelly loam
9 to 12 inches: Gravelly loam
12 to 24 inches: Gravelly clay loam
24 to 35 inches: Gravelly loam
35 to 72 inches: Stratified very gravelly sand

Minor Components

Palmyra

Percent of map unit: 5 percent

Fredon

Percent of map unit: 5 percent

Galen

Percent of map unit: 5 percent

Halsey

Percent of map unit: 5 percent
Landform: Depressions

PsB—Phelps gravelly loam, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days

Map Unit Composition

Phelps and similar soils: 80 percent
Minor components: 20 percent

Description of Phelps

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.0 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: B/D

Typical profile

0 to 9 inches: Gravelly loam
9 to 12 inches: Gravelly loam
12 to 24 inches: Gravelly clay loam
24 to 35 inches: Gravelly loam
35 to 72 inches: Stratified very gravelly sand

Minor Components

Fredon

Percent of map unit: 5 percent

Arkport

Percent of map unit: 5 percent

Palmyra

Percent of map unit: 5 percent

Scio

Percent of map unit: 5 percent

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(Joins sheet 17)

25

(Joins sheet 26)

(Joins sheet 33)

cale 1:15 840 0 5000 Feet

Residence/Vacant Farm
1254 Indian Falls Road
Corfu, NY 14036

Inquiry Number: 3897885.5
April 02, 2014

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2013	☑	☐	Cole Information Services
2008	☑	☐	Cole Information Services
2003	☑	☐	Cole Information Services
1999	☑	☐	Cole Information Services
1993	☐	☐	Haines Criss-Cross Directory
1989	☐	☐	Haines Criss-Cross Directory
1983	☐	☐	Haines Criss-Cross Directory
1979	☐	☐	Haines Criss-Cross Directory
1975	☐	☐	Haines Criss-Cross Directory
1969	☐	☐	Haines Criss-Cross Directory
1942	☐	☐	Haines Criss-Cross Directory

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FINDINGS

TARGET PROPERTY STREET

1254 Indian Falls Road
Corfu, NY 14036

Year	CD Image	Source	
INDIAN FALLS RD			
2013	pg A1	Cole Information Services	
2008	pg A2	Cole Information Services	
2003	pg A3	Cole Information Services	
1999	pg A4	Cole Information Services	
1993	-	Haines Criss-Cross Directory	Street not listed in Source
1989	-	Haines Criss-Cross Directory	Street not listed in Source
1983	-	Haines Criss-Cross Directory	Street not listed in Source
1979	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source
1969	-	Haines Criss-Cross Directory	Street not listed in Source
1942	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

INDIAN FALLS RD 2013

1232	LEROY VEENENDAAL
1254	OCCUPANT UNKNOWN
1279	OCCUPANT UNKNOWN
1293	BRIAN HALL
1305	JOHN CICHOCKI
1313	RANDY DIBBLE
1322	EDWARD NEAL
1376	PAUL LATURNER
1400	FRANCES LAPORTA
1405	RICHARD THOMPSON
1418	MAUREEN AUGUSTYN
1422	BRADLEY MEHOLICK
1438	CHRISTOPHER FANNING
1448	GEORGE CONDIV
1451	DONALD DYLAG
1473	GREG SVENHEIM
1474	PHILIP ONEILL
1486	CHAD MILEHAM
1493	JAMES KEMPISTY
1500	LU MILEHAM
1545	LINDA SIKORA
1550	JOSEPH BELLES

Target Street	Cross Street	Source
✓	-	Cole Information Services

INDIAN FALLS RD 2008

1232	CLIFFORD KEENE
1254	RENEE DYLAG
1279	DARRELL SMITH
1293	BRIAN HALL
1305	JOHN CICHOCKI
1313	RANDY DIBBLE
1322	EDWARD NEAL
1376	PAUL LATURNER
1400	FRANCES LAPORTA
1405	ROBERT THOMPSON
1418	MAUREEN AUGUSTYN
1422	BRADLEY MEHOLICK
1438	CASEY LUTTRELL
1448	WILLIAM CONIBEAR
1451	DONALD DYLAG
1473	GREG SVENHEIM
1474	PHILIP ONEILL
1486	EDWIN MILEHAM
1493	HENRY KEMPISTY
1500	EDWIN MILEHAM
1545	WILLIAM BELLES
1550	JOSEPH BELLES

Target Street	Cross Street	Source
✓	-	Cole Information Services

INDIAN FALLS RD 2003

1232	OCCUPANT UNKNOWN
1254	RENEE DYLAG
1279	DARRELL SMITH
1293	OCCUPANT UNKNOWN
1305	JOHN CICHOCKI
1313	OCCUPANT UNKNOWN
1400	OCCUPANT UNKNOWN
1405	OCCUPANT UNKNOWN
	RICHARD THOMPSON
1418	MAUREEN AUGUSTYN
1422	LINDA HORNER
1438	CASEY LUTTRELL
1448	OCCUPANT UNKNOWN
1451	OCCUPANT UNKNOWN
1473	OTTO COOK
1474	KATHLEEN WIATER
1486	OCCUPANT UNKNOWN
1493	OCCUPANT UNKNOWN
1500	OCCUPANT UNKNOWN
1545	CHARLES BALDWIN
	POVERTY HOLLOW FARM
1550	POLLY REISS

Target Street	Cross Street	Source
✓	-	Cole Information Services

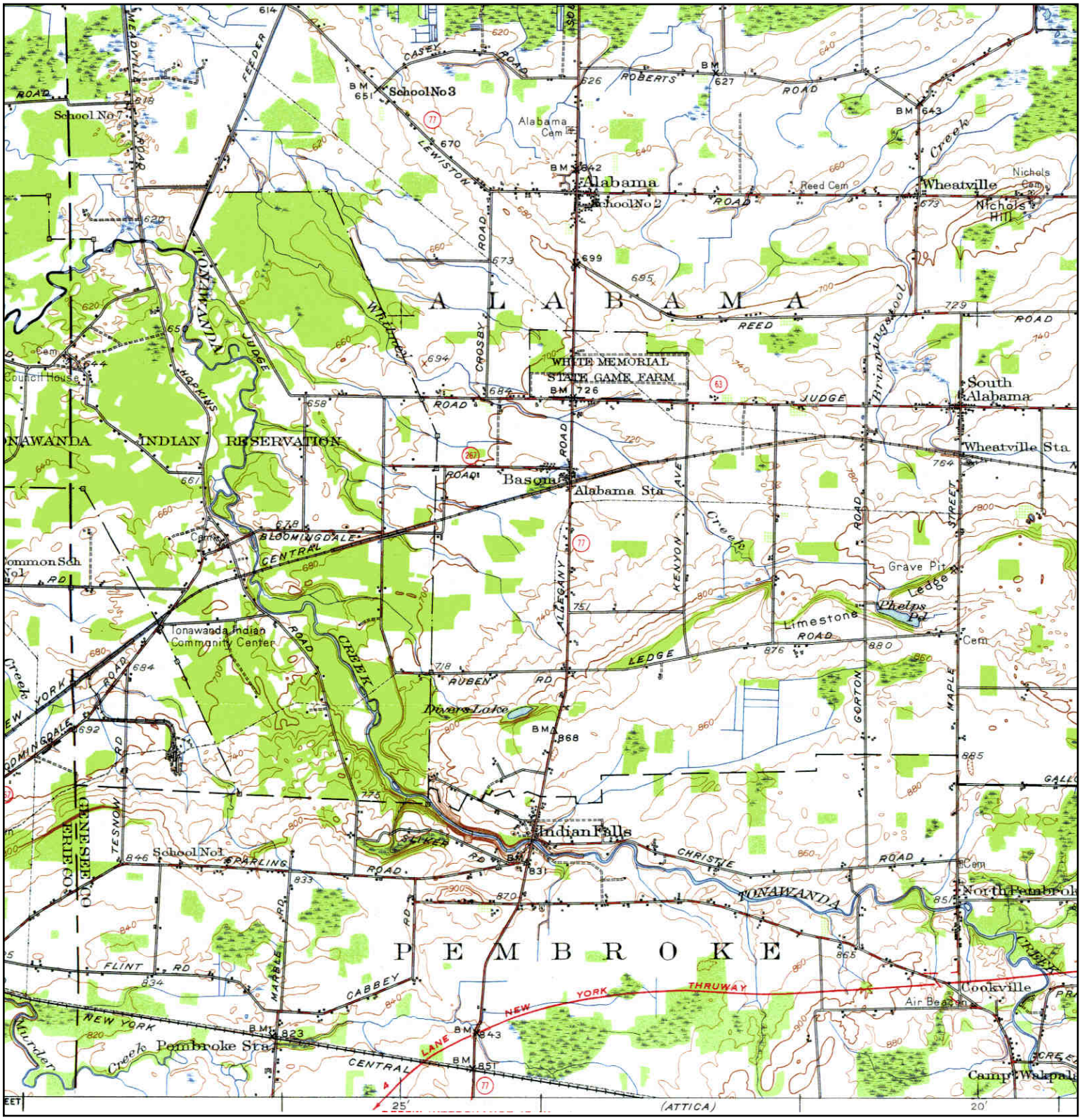
INDIAN FALLS RD 1999

1232	EVELYN SCHRIENER
1293	BRIAN HALL
1313	RANDY DIBBLE
1376	JANAE STINES
1400	JOSEPH LAPORTA
1405	RICHARD THOMPSON
1422	KENNETH HORNER
1448	EDWIN GRAHAM
1451	DONALD DYLAG
1473	OTTO COOK
1474	MARY WIATER
	PHILIP ONEILL
1486	EDWIN MILEHAM
1493	HENRY KEMPISTY
1500	EDWIN MILEHAM
1545	BALDWIN RONALD
	C JACKSON
	POVERTY HOLLOW FARM
1550	DERRICK NICHOLS

Historical Topographic Map

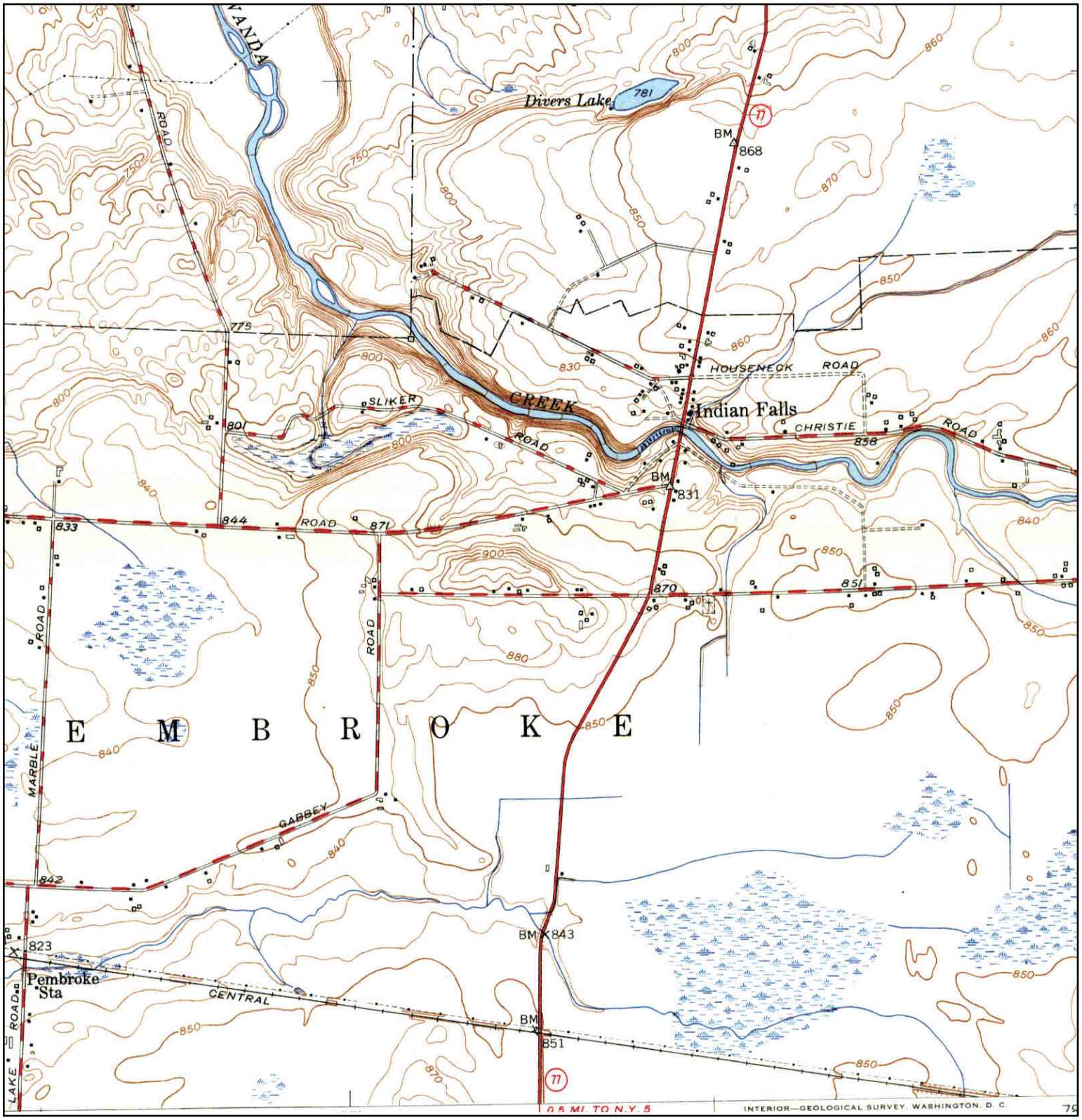
N	TARGET QUAD NAME: MEDINA MAP YEAR: 1897 SERIES: 15 SCALE: 1:62500	SITE NAME: Residence/Vacant Farm ADDRESS: 1254 Indian Falls Road Corfu, NY 14036 LAT/LONG: 43.016 / -78.3964	CLIENT: GZA GeoEnvironmental, Inc. CONTACT: Thomas Bohlen INQUIRY#: 3897885.4 RESEARCH DATE: 04/02/2014

Historical Topographic Map



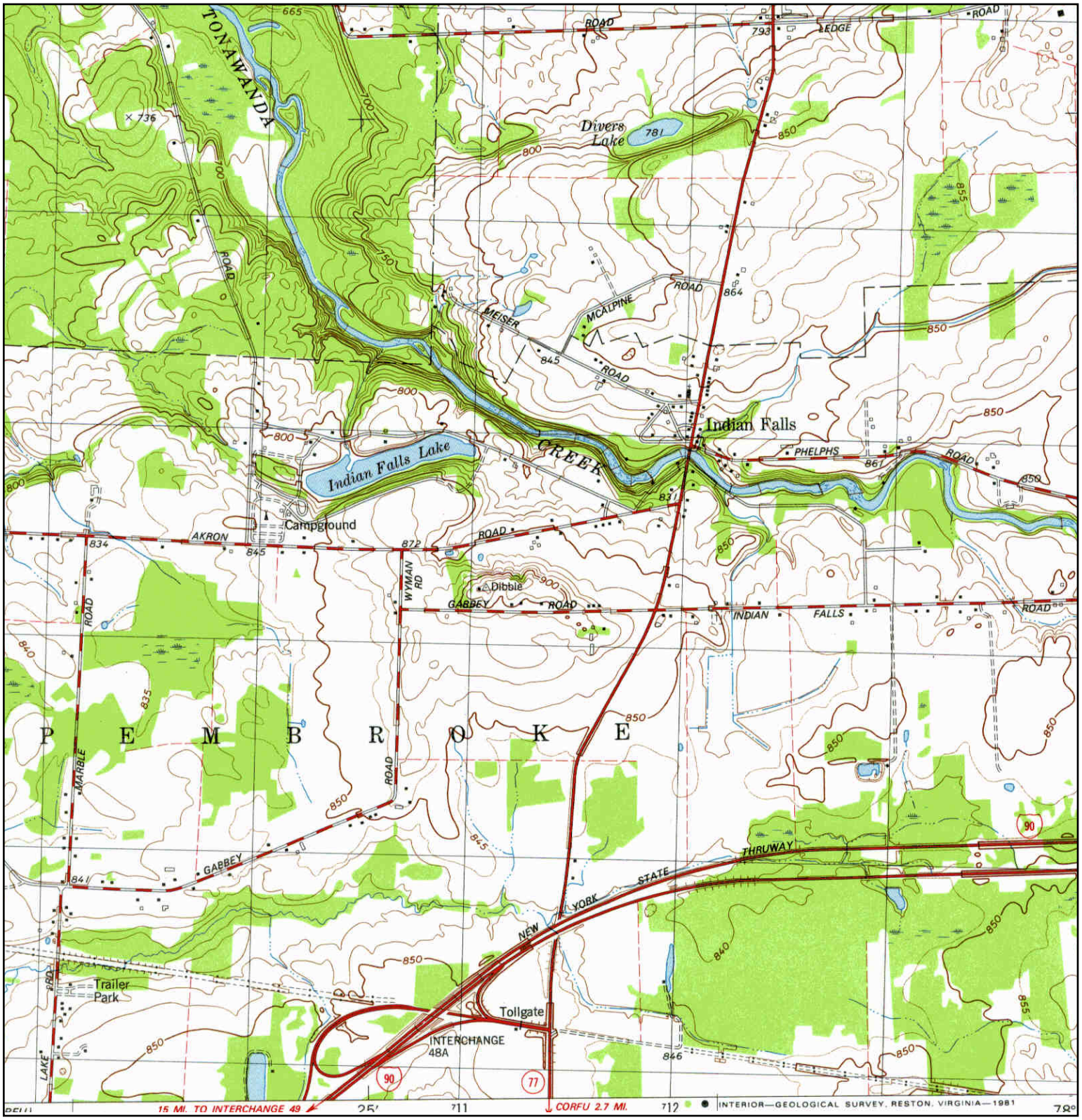
N	TARGET QUAD NAME: MEDINA MAP YEAR: 1950 SERIES: 15 SCALE: 1:62500	SITE NAME: Residence/Vacant Farm ADDRESS: 1254 Indian Falls Road Corfu, NY 14036 LAT/LONG: 43.016 / -78.3964	CLIENT: GZA GeoEnvironmental, Inc. CONTACT: Thomas Bohlen INQUIRY#: 3897885.4 RESEARCH DATE: 04/02/2014

Historical Topographic Map



N	TARGET QUAD NAME: AKRON MAP YEAR: 1951 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Residence/Vacant Farm ADDRESS: 1254 Indian Falls Road Corfu, NY 14036 LAT/LONG: 43.016 / -78.3964	CLIENT: GZA GeoEnvironmental, Inc. CONTACT: Thomas Bohlen INQUIRY#: 3897885.4 RESEARCH DATE: 04/02/2014

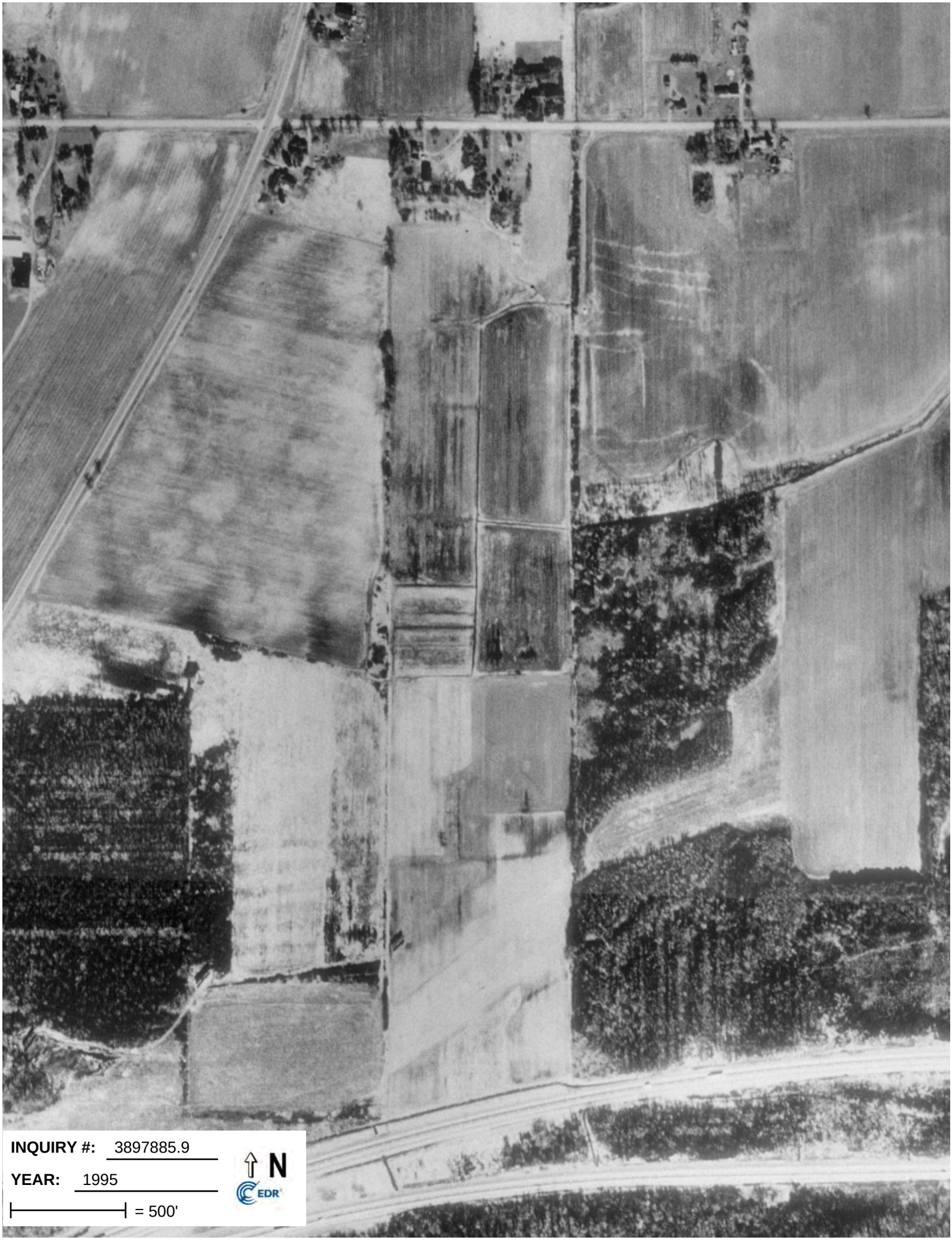
Historical Topographic Map



N	TARGET QUAD NAME: AKRON MAP YEAR: 1981 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Residence/Vacant Farm ADDRESS: 1254 Indian Falls Road Corfu, NY 14036 LAT/LONG: 43.016 / -78.3964	CLIENT: GZA GeoEnvironmental, Inc. CONTACT: Thomas Bohlen INQUIRY#: 3897885.4 RESEARCH DATE: 04/02/2014

INQUIRY #: 3897885.9
YEAR: 1972
= 500'
N
EDR

INQUIRY #: 3897885.9
YEAR: 1986
= 1000'
N
EDR


INQUIRY #: 3897885.9
YEAR: 1995
= 500'
N
EDR

INQUIRY #: 3897885.9
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 3897885.9
YEAR: 2008
= 500'
N
EDR

Residence/Vacant Farm
1254 Indian Falls Road
Corfu, NY 14036

Inquiry Number: 3897885.3
April 01, 2014

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

4/01/14

Site Name:
Residence/Vacant Farm
1254 Indian Falls Road
Corfu, NY 14036

Client Name:
GZA GeoEnvironmental, Inc.
535 Washington Street
Buffalo, NY 14203

EDR Inquiry # 3897885.3

Contact: Thomas Bohlen

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Certified Sanborn Results:

Site Name: Residence/Vacant Farm
Address: 1254 Indian Falls Road
City, State, Zip: Corfu, NY 14036
Cross Street:
P.O. # NA
Project: 21.0056713.00
Certification # 2B40-441E-A93E

Sanborn® Library search results
Certification # 2B40-441E-A93E

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Back to Search Results

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Parcel Summary

Assessment [redacted]	
Total Assessment:	$138,400
Total Land Assmt:	$57,400
County Taxable Assmt: (Genesee)	$138,400
Town Taxable Assmt:	$138,400
School Taxable Assmt:	$138,400
Village Taxable Assmt:	$0
Equalization Rate:	100%
Full Market Value:	$138,400

Property [redacted]	
Type:	Residential
Use:	240 - Rural res
Frontage:	0
Depth:	0
Acres:	60.7

Subject Property	
Address:	1254 INDIAN FALLS RD
SBL#	10.-1-5
School District:	184202
Owner Name:	HAEGER, IRRREVOCABLE TRUST, ROBERT H

Mapping

GIS Maps

Google Maps - Street View

Bing BirdsEye Map

Sales [redacted]	
Sale Date:	8/27/2009
Sale Price:	$0
Previous Owner:	HAEGER, ROBERT
Useable:	NO
Deed Book:	876
Deed Page:	1

Structure [redacted]	
Year Built:	1915
House Style:	Old Style
Square footage:	1,476
Bedrooms:	4
Baths:	1
Fire Places:	0
Stories:	2
Basement:	Full
Garage:	2 car attached ?
Garage Sqft:	500

Find Comparable Sales | Street Sales Report | Neighborhood Sales Report | Property Report

Genesee County PdHD

Welcome Search Parcel Information

GIS Map Report Tax Map

Tax Map #:	10.-1-5	Swis Code:	184289 - Pembroke	Historic:	False
School Dist:	184202 - PEMBROKE CEN	Frontage:		Sub Land Sep:	
Merge Request Note:					
Location No.:	1254	Depth:		Sub Div Lot:	
Location:	Indian Falls	Tract:	TR	Filed Map #:	
Location Suffix:		Great Lot:	8 & 19	Filed Date:	
Note:					
Side:	S	Section:			
Acres:	60.7	Township:	12	Edit User:	Irene
		Range:	4	Edit Date:	5/29/2008 2:47:48 PM

Owners [5 Records Found]

Last Name	First Name	Middle Name	Suffix	Note	Order#	Deeds				
						Liber	Page	Date	Sale Price	Note
Haeger	Robert	H		trustee	1	876	1	5/7/2009	$0	exception missing from description
Haeger	Frances	H		trustee	1	876	1	5/7/2009	$0	exception missing from description
Haeger	James	R		trustee	1	876	1	5/7/2009	$0	exception missing from description
Haeger	John	E		trustee	1	876	1	5/7/2009	$0	exception missing from description
Haeger Irrevocable Trust	Robert H. & Frances H.				1	876	1	5/7/2009	$0	exception missing from description

Grantors [4 Records Found]

Last Name	First Name	Middle Name	Suffix	Note	Order#	Deeds				
						Liber	Page	Date	Sale Price	Note
Houseknecht	Margaret				1	345	8	0/0/0	$	
Houseknecht	Theodore	H			1	345	8	0/0/0	$	
Haeger	Robert	H			2	749	277	11/10/1999	$0	exception missing from description see 472/142
Haeger	Frances	E			2	749	277	11/10/1999	$0	exception missing from description see 472/142

(A) PROPERTY CLASSIFICATION CODES

AGRICULTURE–100
105–Agricultural Vacant Land
110–Livestock & Products
111–Poultry & Products
112–Dairy & Products
113–Cattle, Hogs & Prod.
114–Sheep & Wool
115–Honey & Beeswax
116–Other Livestock
120–Field Crops
130–Truck Crops/Muckland
140–Truck Crops
150–Orchard Crops
151–Tree Fruits
152–Vineyards
160–Other Fruits
170–Nursery/Greenhouse
181–Fur Products
182–Pheasant
183–Aquatic
190–Fish/Game/Wildlife

RESIDENTIAL–200
210–1 Family Year-Round
220–2 Family Year-Round
230–3 Family Year-Round
240–Rural Residence with Acerage
250–Estate
260–Seasonal Residence
270–Mobile Home

VACANT LAND–300
311–Residential Vacant
312–Residential Vacant, Improved
313–Waterfront Vacant
314–Rural, 10 Acres or Less
321–Abandon Agricultural
322–Rural Res. 10 Ac. or More
323–Other Rural Vacant
330–Commercial Vacant
340–Industrial Vacant
350–Urban Renewal

COMMERCIAL–400
411–Apartments
417–Camps, Cottages (Rental)
418–Inns/Lodges/Boarding
439–SmallParking Garage
483–Partial Residential Use

WILD & FORESTED–900
910–Private (except 920)
920–Private Hunting & Fishing
930–State Owned
940–County Owned

*Consult detailed listing for further divisions as applicable

(B) LABEL CORRECTION

SECTION OR MAP:
BLOCK:
LOT OR PARCEL:
ROUTE NO.
PARCEL SUFFIX:
OWNER:
PROPERTY ADDRESS:
PROPERTY CLASSIFICATION:
SALE PRICE: DATE:

10. - 1 - 5. RTE # 015
SECTION BLOCK LOT
TOWN OF PEMBROKE CODE :
184289 10-1-5
HAEGER, Robert & Frances 240
1254 INDIAN FALLS RD.
LOT SIZE: 63.50 A
PROPERTY CLASSIFICATION: 120
SALE PRICE: $ DATE: -
HAEGER TRUST, ROBERT
SALE 8/27/09 $-0- FAMILY

(C) SALES VERIFICATION

SOURCE: 1 BUYER 2 SELLER 3 FEE 4 AGENT
VALID SALE: 0 NO 1 YES
SALES TYPE: 1 LAND 2 BUILDING 3 LAND AND BUILDING

OF

(E) LAND DESCRIPTION

0 NONE N

		VALUATION FRONTAGE	VALUATION DEPTH	UNIT PRICE	DEPTH FACTOR	ADJUSTED FF PRICE	INFLUENCE CODE	±	%	LAND VALUE
LOT										
01 PRIMARY SITE	L									
02 SECONDARY SITE										
12 REAR	L									
	L									
SQUARE FEET										
01 PRIMARY SITE	S		SQ. FT							
02 SECONDARY SITE			SQ. FT							
03 UNDEVELOPED	S		SQ. FT							
04 RESIDUAL	S		SQ. FT							
ACREAGE										
01 PRIMARY SITE	A 01	1.00	ACRES							
02 SECONDARY SITE	A 05	41.00	ACRES							
03 UNDEVELOPED			ACRES							
04 RESIDUAL	A 06	10.00	ACRES							
05 TILLABLE			ACRES							
06 PASTURE	A 08	8.70	ACRES							
07 WOODLAND			ACRES							
08 WASTELAND	A		ACRES							
09 MUCK			ACRES							
10 WATERFRONT	A		ACRES							
11 ORCHARD			ACRES							
13 OTHER	A		ACRES							
SITE VALUE										
01 SITE VALUE										

INFLUENCE CODES
1 EXCESS FRONTAGE
2 EXCESS DEPTH
3 TOPOGRAPHY
4 UNDEVELOPED
5 SHAPE
6 ECONOMIC MISIMPROVEMENT
7 VIEW
8 PLOTTAGE
9 OTHER
0 NONE

(F) SITE DESCRIPTION

NEIGHBORHOOD CODE:
ZONING:

NEIGHBORHOOD TYPE: 1 RURAL 2 RURAL CROSSROADS 3 SUBURBAN 4 URBAN 5 RESIDENTIAL SUBDIVISION 6 MIXED COMMERCIAL 1

ROAD: 0 NONE 1 DIRT 2 GRAVEL 3 LOCAL PAVED 4 STATE 3
FRONTING TRAFFIC: 0 LANDLOCKED 1 LIGHT 2 MEDIUM 3 HEAVY 1

VIEW INFLUENCE: 0 NONE 1 DETRIMENTAL 2 ENHANCING 0
DWELLING SETBACK (NEAREST 10 FEET): 60
SITE ELEVATION: 1 BELOW STREET 2 EVEN 3 ABOVE STREET 3

SEWER: 0 NONE 1 PRIVATE 2 COMMERCIAL 3 PUBLIC 1
WATER: 0 NONE 1 PRIVATE 2 COMMERCIAL 3 PUBLIC 1
OTHER UTILITIES: 0 NONE 1 GAS 2 ELECTRIC 3 GAS/ELECTRIC 2

SITE COMPARED TO SURROUNDINGS: 1 INFERIOR 2 TYPICAL 3 SUPERIOR 2
SITE DESIRABILITY: 1 POOR 2 TYPICAL 3 SUPERIOR 2
IMPROVEMENTS: 0 NO 1 YES 1

(G) MEMORANDA

Information on land from soil map. soil map shows gravel pit on land. Parcel also borders Thruway
ADDED 1980 - All used lumber

(H) AUDIT CONTROL

MEASURED BY: KDL DATE 03-03-75
LISTED BY: MJH DATE 04-12-75
MEASURING & LISTING COMPLETED ON VISIT:
1 FIRST 2 SECOND
3 THIRD 4 FOURTH 2

SOURCE: 1 OWNER 2 SPOUSE 3 TENANT 4 OTHER 5 ESTIMATE 6 REFUSAL 1

(I) ADMITTED BY:

Margaret U. Hunecknecht

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GENESEE COUNTY RESIDENTIAL/FARM/VACANT DATA COLLECTION FORM
Form No. 18-1 6/74

(M) RESIDENCE DESCRIPTION

STYLE:

01 RANCH
02 RAISED RANCH
03 SPLIT LEVEL
04 CAPE COD
05 COLONIAL
06 CONTEMPORARY
07 MANSION
08 OLD STYLE
09 COTTAGE
10 ROW
11 MOBILE
12 DUPLEX
13 OTHER

08

NUMBER OF STORIES: 2.0

EXTERIOR WALLS:

1 FRAME
2 BRICK
3 BRICK/FRAME
4 COMPOSITION
5 CONCRETE BLOCK
6 STUCCO
7 STONE
8 ALUMINUM SIDING
9 VINYL SIDING

1

AGE: YEAR BUILT 1915 REMODELED 1

ROOMS: BED 04 BATH 1.0 TOTAL 07

BASEMENT:
1 PIERS/SLAB 2 CRAWL 3 PART 4 FULL — 4

FINISHED AREA (SF)

ONE CAR OPENINGS TWO CAR OPENINGS

HEATING: 0 NONE 1 CENTRAL 2 CENTRAL W/A.C. — 1

PLUMBING: 0 NO 1 YES — 1

NUMBER OF KITCHENS: 1

STYLE OF KITCHENS:
0 NONE 1 OLD 2 SEMI-MODERN 3 MODERN — 2

BATH: 0 NONE 1 OLD 2 SEMI-MODERN 3 MODERN — 2

ATTIC: SQUARE FEET FINISHED AREA

OTHER FACTORS:
MASONRY TRIM (SF) BAYWINDOWS

UNFINISHED ROOM AREA (SF)

FIREPLACES: ON CHIMNEYS

INTERIOR CONDITION:
0 UNINHABITABLE 1 POOR 2 FAIR 3 NORMAL 4 GOOD — 3

(P) ATTACHED IMPROVEMENTS

	STR. CODE	MOD. CODE	U *	MEASUREMENT 1	MEASUREMENT 2	QUAN-TITY
1	RP4		2	8	20	01
2	RG1		3	670		01
3						
4						
5						

* UNITS 1 QUANTITY 2 DIMENSIONS 3 SQUARE FEET

(K) PRELIMINARY ESTIMATE OF GRADE

GRADE: B GOOD C AVERAGE D ECONOMY — C

EXTERIOR CONDITION:
1 POOR 2 FAIR 3 NORMAL 4 GOOD — 3

(N) LIVING AREA

FIRST FLOOR (SF)	778
SECOND FLOOR (SF)	698
ADDITIONAL FLOOR (SF)	
ADDITIONAL FLOOR (SF)	
HALF STORY FINISHED (SF)	
HALF STORY UNFINISHED (SF)	
3/4 STORY FINISHED (SF)	
TOTAL LIVING AREA (SF)	

(O) DETACHMENT CODES

STRUCTURES		MODIFICATIONS	
RG4	1 Story Detached Garage	I02	Finished Room Area in Garage
RG5	1.5 Story Detached Garage		
RG6	2 Story Detached Garage		
RM5	Mobile Home (Dimensions)	I06	7 x 12 Addition (Quantity)
		I07	7 x 24 Addition
LP7	Flagstoned Area		
LS1	Steel Vinyl Lined Inground Pool	H03	Electric Heater (Quantity)
LS2	Concrete, Gunite or Fiberglas Inground Pool	H10	Gas or Propane Heater (Quantity)
LS5	Above Ground Pool		
MS1	Miscellaneous Structure (Dollars)		
FB1	1 Story Dairy Barn	I01	Milk House
FB2	1.5 Story Dairy Barn	I02	Milking Parlor
FB3	2 Story Dairy Barn	I03	Stalls (Quantity)
FB4	1 Story Gen. Pr. Barn	S03	Multiple Section (Quantity)
FB5	1.5 Story Gen. Pr. Barn		
FB6	2 Story Gen. Pr. Barn		
FB7	Pole Barn		
FB8	Horse Barn		
FM1	Milk House	I03	Stalls (Quantity)
FM2	Milking Parlor		
FS1	Concrete Stave Silo	R03	No Roof (Quantity)
FS2	Harvestore Silo	E04	Bottom Unloader (Quantity)
FS3	Wood Stave Silo		
FS4	Tile or Block Silo		Neither Modification Applies to FS2
FS5	Metal Silo		
FC1	Machinery Shed	B06	Concrete Floor
FC2	Aluminum Shed	L01	Electricity
FC3	Galvanized Shed	H06	Central Heat
FC4	Finished Metal Shed		
FQ5	Quonset Shed	H06	Central Heat
		L02	No Electricity
		B03	Earth Floor
FP1	1 Story Poultry House	W07	Masonry Walls (Quantity)
FP2	2 Story Poultry House		
FP3	Additional Story	H09	Ventilation
		H07	No Insulation

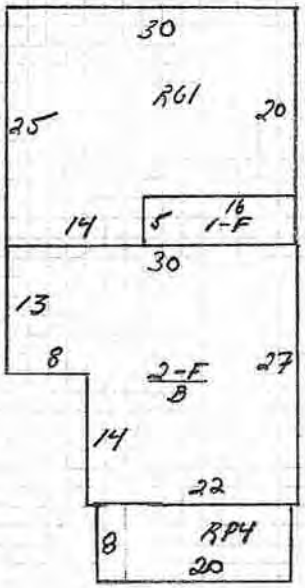
(R) ATTACHMENT CODES

STRUCTURES		MODIFICATIONS	
RP1	Open Porch	S05	Second Story Porch Area (Quantity)
RP2	Covered Porch		
RP4	Enclosed Porch		
RC1	Carport		
RG1	1 Story Attached Garage	I02	Finished Room Area in Garage
RG2	1.5 Story Attached Garage		
RG3	2 Story Attached Garage		

STAPLE PHOTOGRAPH HERE

(L)

RENTS LAND TO KEMPISTY HAD - SAC COM... 36AC HA... $350 yr to yr



(Q) DETACHED IMPROVEMENTS

	STR. CODE	MOD. CODE	U *	MEASUREMENT 1	MEASUREMENT 2	QUAN-TITY	GR **	YEAR BUILT	C †	FUNC. OBSO.
1	FB6		2	32	50	01	D	1890	2	33
2	MS1		4	500		04				
3	SIGN		-	80	60	01	C	1993		
4										
5										
6										
7										
8										
9										
10										

* UNITS 1 QUANTITY 2 DIMENSIONS 3 SQUARE FEET 4 DOLLARS (MS1 ONLY)

** GRADE B GOOD C AVERAGE D ECONOMY

† CONDITION 1 POOR 2 FAIR 3 NORMAL 4 GOOD

(S) MEMORANDA

APPENDIX D

DATABASE REVIEW

Residence/Vacant Farm
1254 Indian Falls Road
Corfu, NY 14036

Inquiry Number: 3897885.2s
April 01, 2014

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1254 INDIAN FALLS ROAD
CORFU, NY 14036

COORDINATES

Latitude (North):	43.0160000 - 43˚ 0' 57.60''
Longitude (West):	78.3964000 - 78˚ 23' 47.04''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	712171.2
UTM Y (Meters):	4765666.5
Elevation:	839 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	43078-A4 AKRON, NY
Most Recent Revision:	1981

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2011
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
HAIGHT RESIDENCE 1254 INDIAN FALLS ROAD CORFU, NY 14036	NY Spills Spill Number/Closed Date: 9007542 / 11/29/1990	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

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

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

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

VAPOR REOPENED..... Vapor Intrusion Legacy Site List

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Facility Register

State and tribal leaking storage tank lists

HIST LTANKS..... Listing of Leaking Storage Tanks
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

TANKS..... Storage Tank Faciliy Listing
UST..... Petroleum Bulk Storage (PBS) Database
CBS UST..... Chemical Bulk Storage Database
MOSF UST..... Major Oil Storage Facilities Database
AST..... Petroleum Bulk Storage
CBS AST..... Chemical Bulk Storage Database
MOSF AST..... Major Oil Storage Facilities Database
CBS..... Chemical Bulk Storage Site Listing
MOSF..... Major Oil Storage Facility Site Listing
INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Registry of Engineering Controls
INST CONTROL..... Registry of Institutional Controls
RES DECL..... Restrictive Declarations Listing

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Agreements

State and tribal Brownfields sites

ERP..... Environmental Restoration Program Listing
BROWNFIELDS..... Brownfields Site List

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
SWTIRE..... Registered Waste Tire Storage & Facility List
SWRCY..... Registered Recycling Facility List
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

EXECUTIVE SUMMARY

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
DEL SHWS ..... Delisted Registry Sites
US HIST CDL ..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

HIST UST ..... Historical Petroleum Bulk Storage Database
HIST AST ..... Historical Petroleum Bulk Storage Database

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LIENS ..... Spill Liens Information

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
NY Hist Spills ..... SPILLS Database
SPILLS 90 ..... SPILLS 90 data from FirstSearch
SPILLS 80 ..... SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators
DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
UMTRA ..... Uranium Mill Tailings Sites
US MINES ..... Mines Master Index File
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
FINDS ..... Facility Index System/Facility Registry System
RAATS ..... RCRA Administrative Action Tracking System
RMP ..... Risk Management Plans
HSWDS ..... Hazardous Substance Waste Disposal Site Inventory
UIC ..... Underground Injection Control Wells
MANIFEST ..... Facility and Manifest Data
DRYCLEANERS ..... Registered Drycleaners
SPDES ..... State Pollutant Discharge Elimination System
AIRS ..... Air Emissions Data
E DESIGNATION ..... E DESIGNATION SITE LISTING
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing

EXECUTIVE SUMMARY

US AIRS ..... Aerometric Information Retrieval System Facility Subsystem
LEAD SMELTERS ..... Lead Smelter Sites
PRP ..... Potentially Responsible Parties
2020 COR ACTION ..... 2020 Corrective Action Program List
EPA WATCH LIST ..... EPA WATCH LIST
COAL ASH DOE ..... Steam-Electric Plant Operation Data
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
Financial Assurance ..... Financial Assurance Information Listing
COAL ASH ..... Coal Ash Disposal Site Listing
US FIN ASSUR ..... Financial Assurance Information
PCB TRANSFORMER ..... PCB Transformer Registration Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ..... EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat ..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners ..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ..... Recovered Government Archive Solid Waste Facilities List
RGA HWS ..... Recovered Government Archive State Hazardous Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

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

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

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

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

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

A review of the LTANKS list, as provided by EDR, and dated 11/19/2013 has revealed that there are 4

LTANKS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TRAVEL CENTER OF AMERICA Spill Number/Closed Date: 0004078 / 7/13/2000	8120 ALLEGHANY ROAD	NNW 0 - 1/8 (0.094 mi.)	3	10
BLACK'S GROCERY STORE Spill Number/Closed Date: 7680509 / 5/10/1976	7936 ALLEGANY RD	NNW 0 - 1/8 (0.104 mi.)	A4	12
BUFFALO I-90 E AUTO TRK Spill Number/Closed Date: 9803070 / 11/5/1999	I 90 AND ROUTE 77	SW 1/4 - 1/2 (0.414 mi.)	B6	14
TRAVEL CENTERS OF AMERICA Spill Number/Closed Date: 1205174 / 3/7/2013	***8420 ALLEGHANY***	***SW 1/4 - 1/2 (0.430 mi.)***	***B7***	***15***

ADDITIONAL ENVIRONMENTAL RECORDS

Records of Emergency Release Reports

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

A review of the NY Spills list, as provided by EDR, and dated 11/19/2013 has revealed that there are 2 NY Spills sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NYS THRUWAY Spill Number/Closed Date: 0400308 / 6/1/2004	MILE MARKER 396 WESTBOU	S 0 - 1/8 (0.051 mi.)	2	9
DIBBLE BROS INC Spill Number/Closed Date: 9310700 / 12/9/1993	7935 ALLEGHANY ROAD	NNW 0 - 1/8 (0.109 mi.)	A5	13

Other Ascertainable Records

INDIAN RESERV: This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

A review of the INDIAN RESERV list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 INDIAN RESERV site within approximately 1 mile of the target property.

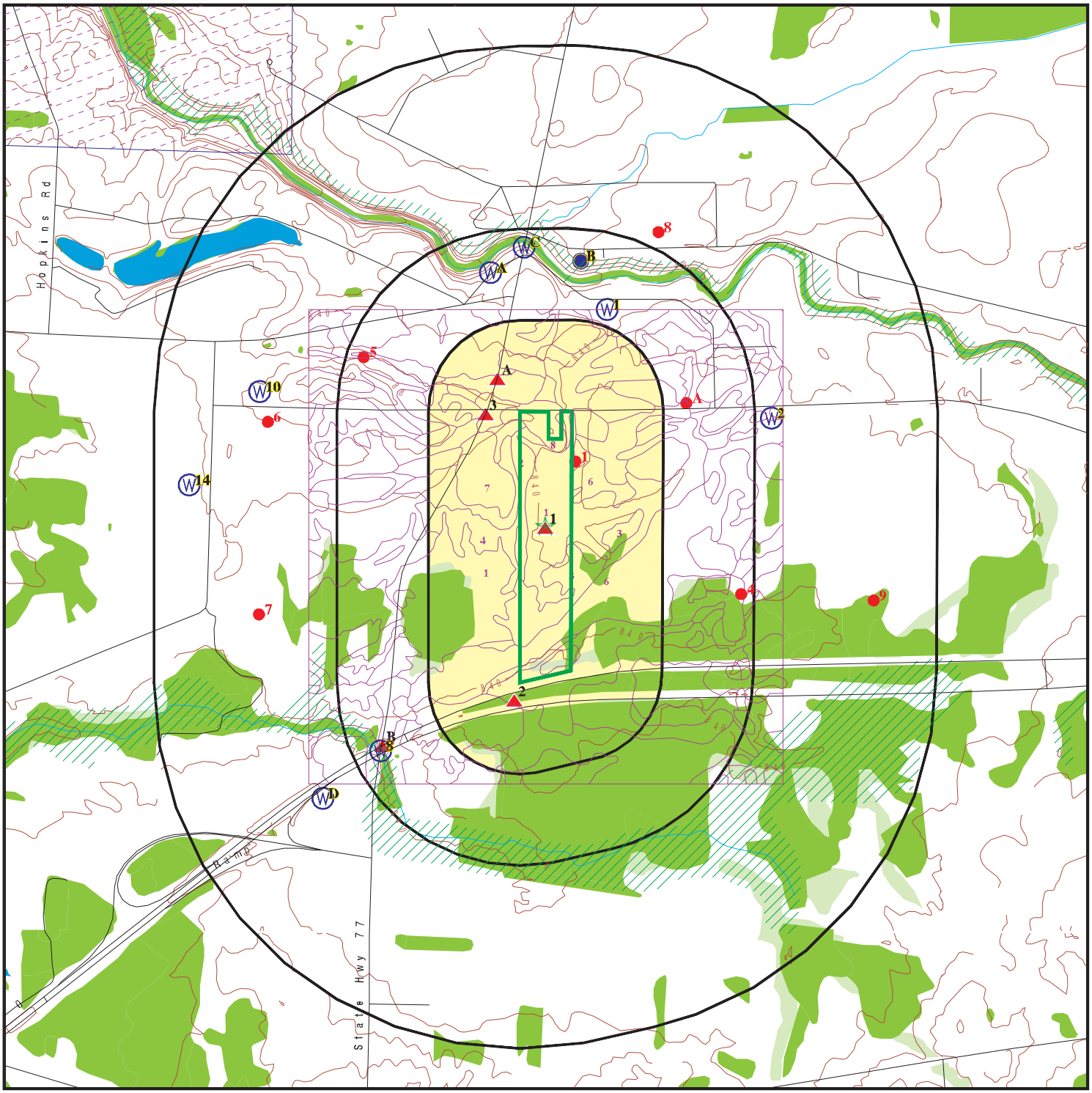
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TONAWANDA INDIAN RESERVATION		NW 1/2 - 1 (0.941 mi.)	0	9

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 8 records.

Site Name	Database(s)
KWIK-SERV INC	RCRA NonGen / NLR, FINDS, MANIFEST
ATLAS PAINTING	MANIFEST
KWIK SERVE GAS STATION	NY Spills
CORFU TRUCK STOP	NY Spills
STOP AND GO	NY Spills
MARLETT PLATING INC	NY Spills
NORTH AMERICAN VAN LINES	NY Spills
ALLIED WASTE SERVICES OF N. AMERIC	NY Spills

OVERVIEW MAP - 3897885.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Residence/Vacant Farm	CLIENT: GZA GeoEnvironmental, Inc.
ADDRESS: 1254 Indian Falls Road Corfu NY 14036	CONTACT: Thomas Bohlen INQUIRY #: 3897885.2s
LAT/LONG: 43.016 / 78.3964	DATE: April 01, 2014 12:10 pm

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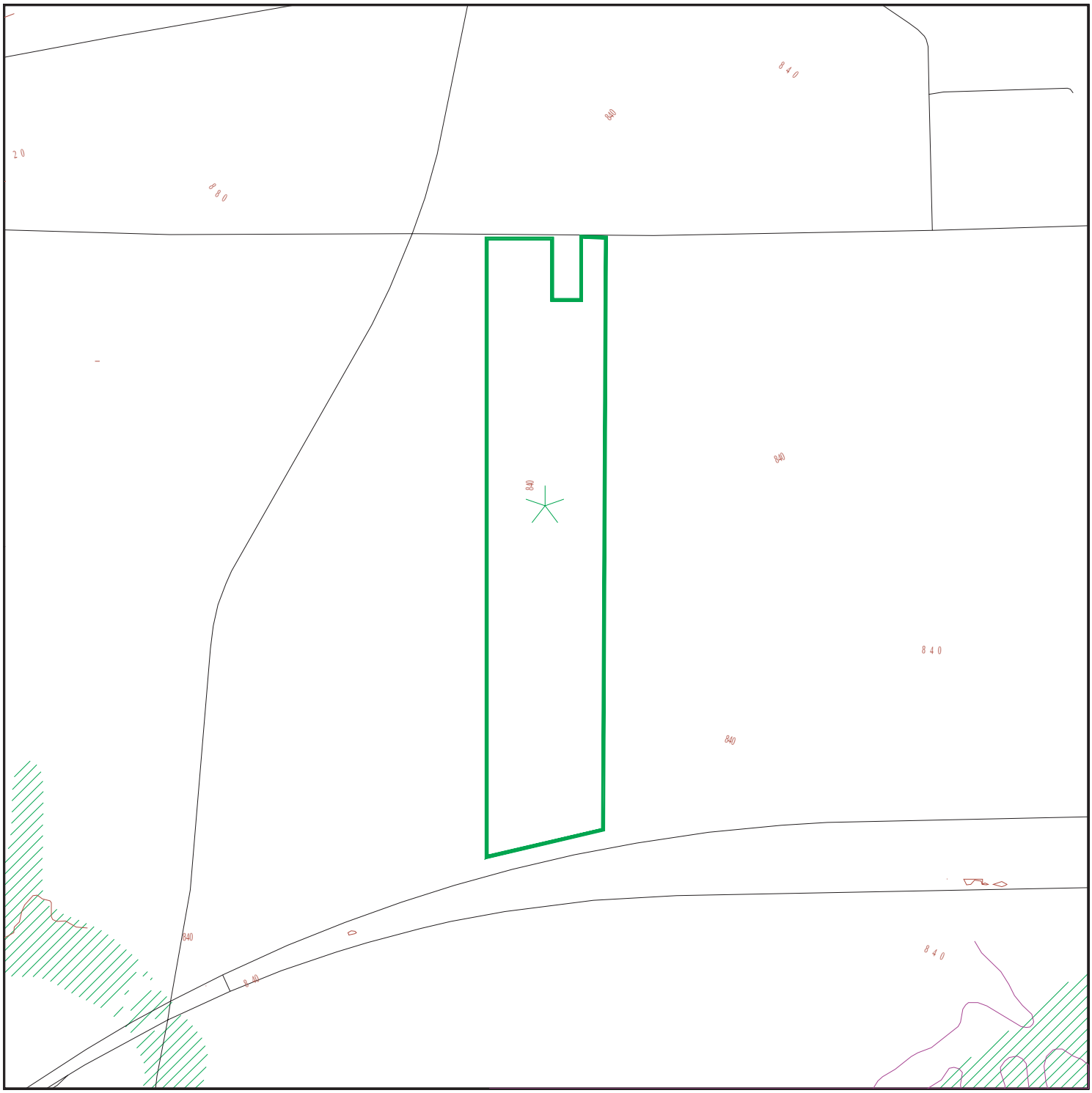
DETAIL MAP - 3897885.2s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Residence/Vacant Farm	CLIENT: GZA GeoEnvironmental, Inc.
ADDRESS: 1254 Indian Falls Road Corfu NY 14036	CONTACT: Thomas Bohlen INQUIRY #: 3897885.2s
LAT/LONG: 43.016 / 78.3964	DATE: April 01, 2014 12:13 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	0	0	0	NR	0
VAPOR REOPENED	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LTANKS	0.500		2	0	2	NR	NR	4
HIST LTANKS	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal registered storage tank lists								
TANKS	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
CBS UST	0.250		0	0	NR	NR	NR	0
MOSF UST	0.500		0	0	0	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
CBS AST	0.250		0	0	NR	NR	NR	0
MOSF AST	0.500		0	0	0	NR	NR	0
CBS	0.250		0	0	NR	NR	NR	0
MOSF	0.500		0	0	0	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
RES DECL	0.125		0	NR	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
ERP	0.500		0	0	0	NR	NR	0
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
SWTIRE	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
HIST UST	0.250		0	0	NR	NR	NR	0
HIST AST	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
NY Spills	0.125	1	2	NR	NR	NR	NR	3
NY Hist Spills	0.125		0	NR	NR	NR	NR	0
SPILLS 90	0.125		0	NR	NR	NR	NR	0
SPILLS 80	0.125		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
HSWDS	0.500		0	0	0	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
SPDES	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
E DESIGNATION	0.125		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	1	NR	1
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA HWS	TP		NR	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 Target Property | **HAIGHT RESIDENCE**
1254 INDIAN FALLS ROAD
CORFU, NY 14036 | **NY Spills** | **S102678943**
N/A

Actual: 839 ft.

SPILLS:

Facility ID:	9007542
Facility Type:	ER
DER Facility ID:	102606
Site ID:	118039
DEC Region:	8
Spill Date:	10/9/1990
Spill Number/Closed Date:	9007542 / 11/29/1990
Spill Cause:	Unknown
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1932
Investigator:	JRMARCHI
Referred To:	Not reported
Reported to Dept:	10/10/1990
CID:	Not reported
Water Affected:	GROUND WATER
Spill Source:	Private Dwelling
Spill Notifier:	Affected Persons
Cleanup Ceased:	11/29/1990
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	10/10/1990
Spill Record Last Update:	2/22/2007
Spiller Name:	Not reported
Spiller Company:	unknown
Spiller Address:	Not reported
Spiller City,St,Zip:	NY
Spiller Company:	999
Contact Name:	Not reported
Contact Phone:	Not reported
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was "JM".10/10/90: GENESEE COUNTY HEALTH DEPT CONTACTED AND WILL CHECK WITH RESIDENT. 09/28/95: This is additional information about material spilled from the translation of the old spill file: PETROLEUM ODOR.02/12/01: PAPER FILE REMOVED AS PER PAPER RETENTION POLICY.
Remarks:	RESIDENT COMPLAINS OF PETROLEUM ODORS IN HER WELL. ODOR JUST NOTICED. THEY HAVE AN ABOVEGROUND TANK IN BASEMENT BUT SHE REPORT NO LEAKAGE AROUND TANK.

Material:

Site ID:	118039
Operable Unit ID:	948197
Operable Unit:	01
Material ID:	564878
Material Code:	0066A
Material Name:	UNKNOWN PETROLEUM
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	0
Units:	Gallons
Recovered:	No

HAIGHT RESIDENCE (Continued) **S102678943**

Resource Affected: Not reported
Oxygenate: False

Tank Test:

IND RES **TONAWANDA INDIAN RESERVATION** **INDIAN RESERV** **CIND100214**
Region **N/A**
NW **TONAWANDA INDIAN RESERVAT (County), NY**
1/2-1
4966 ft.

INDIAN RESERV:
Feature: Indian Reservation
Name: Tonawanda Indian Reservation
Agency: BIA
State: NY

---

2 **NYS THRUWAY** **NY Spills** **S106384708**
South **MILE MARKER 396 WESTBOUND** **N/A**
< 1/8 **BATAVIA, NY**
0.051 mi.
268 ft.

Relative:
Higher

Actual:
839 ft.

SPILLS:

Facility ID:	0400308
Facility Type:	ER
DER Facility ID:	165205
Site ID:	198494
DEC Region:	8
Spill Date:	4/9/2004
Spill Number/Closed Date:	0400308 / 6/1/2004
Spill Cause:	Traffic Accident
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1924
Investigator:	TGHALL
Referred To:	Not reported
Reported to Dept:	4/9/2004
CID:	406
Water Affected:	Not reported
Spill Source:	Commercial Vehicle
Spill Notifier:	Police Department
Cleanup Ceased:	6/1/2004
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	4/9/2004
Spill Record Last Update:	6/23/2004
Spiller Name:	Not reported
Spiller Company:	SNYDER NATIONAL CARRIERS
Spiller Address:	20TH STREET TANDEM CENTER
Spiller City,St,Zip:	OTTOWA, IL 61350
Spiller Company:	001

NYS THRUWAY (Continued) **S106384708**

Contact Name: SERGEANT CAFABELLA
Contact Phone: (800) 635-8856
DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TH"EP&S FROM BUFFALO HAS BEEN HIRED TO PERFORM CLEANUP OF THE SPILL. CONTACT FOR EP&S IS RON HUNTINGTON 716-870-4271.06/01/2004: C&W ENVIRONMENTAL (AKA EP&S BUFFALO) COMPLETED CLEANUP, DISPOSAL AND RESTORATION WORK FOR SNYDER CARRIERS. NO FURTHER ACTION REQUIRED BY SPILLS UNIT AT THIS TIME-CLOSED.
Remarks: Material is still in the median at the location of the accident. No cleanup of the materiel has happened yet. Snyder should be making the call for a cleanup crew.

Material:
Site ID: 198494
Operable Unit ID: 882510
Operable Unit: 01
Material ID: 495089
Material Code: 0008
Material Name: Diesel
Case No.: Not reported
Material FA: Petroleum
Quantity: 175
Units: Gallons
Recovered: No
Resource Affected: Not reported
Oxygenate: False

Tank Test:

---

3 NNW < 1/8 0.094 mi. 494 ft. **TRAVEL CENTER OF AMERICA** **LTANKS** **S104621888**
8120 ALLEGHANY ROAD **N/A**
PEMBROKE, NY

Relative: Higher

Actual: 868 ft.

LTANKS:
Site ID: 99175
Spill Number/Closed Date: 0004078 / 7/13/2000
Spill Date: 7/5/2000
Spill Cause: Tank Test Failure
Spill Source: Commercial/Industrial
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Cleanup Ceased: 7/13/2000
Cleanup Meets Standard: True
SWIS: 1942
Investigator: TGHALL
Referred To: Not reported
Reported to Dept: 7/5/2000
CID: 389
Water Affected: Not reported
Spill Notifier: Tank Tester
Last Inspection: 7/13/2000
Recommended Penalty: False
UST Involvement: True
Remediation Phase: 0
Date Entered In Computer: 7/5/2000

TRAVEL CENTER OF AMERICA (Continued) **S104621888**

Spill Record Last Update:	1/18/2011
Spiller Name:	CALLER
Spiller Company:	TRAVEL CENTER OF AMERICA
Spiller Address:	8120 ALLEGHANY ROAD
Spiller City,St,Zip:	PEMBROKE, NY
Spiller County:	001
Spiller Contact:	CALLER
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	8
DER Facility ID:	88167
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TH"07/13/2000: TH TELCON WITH TANKNOLOGY. AS FAR AS THEY KNOW THE REPAIRS ON THE SYSTEM ARE BEING DONE BY ANOTHER FIRM. UNSURE IF REPAIRS ARE COMPLETE OR IF A RE-TEST HAS BEEN PERFORMED.07/13/2000: TH ON SITE WITH ANDY GILBERT (MONROE MECHANICAL). TANK HAS BEEN UNCOVERED AND RETESTED - TEST PASSED AS PER GILBERT. NO EVIDENCE OF RELEASE. TIGHTNESS TEST RESULTS TO BE FORWARDED TO PBS UNIT.01/18/11: PAPER FILE REMOVED PER FILE RETENTION POLICY.
Remarks:	The caller is reporting a failed tank test on the ullage only.

Material:

Site ID:	99175
Operable Unit ID:	826461
Operable Unit:	01
Material ID:	548829
Material Code:	0009
Material Name:	Gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	0
Units:	Gallons
Recovered:	No
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

Site ID:	99175
Spill Tank Test:	1525743
Tank Number:	006
Tank Size:	10000
Test Method:	99
Leak Rate:	0
Gross Fail:	Not reported
Modified By:	Spills
Last Modified:	10/1/2004
Test Method:	Alternate Test per 613.5a2v

A4 NNW < 1/8 0.104 mi. 548 ft. | **BLACK'S GROCERY STORE**
7936 ALLEGANY RD
CORFU, NY | **LTANKS** | **S101508503**
N/A

Site 1 of 2 in cluster A

Relative: Higher

Actual: 856 ft.

LTANKS:

Site ID:	243837
Spill Number/Closed Date:	7680509 / 5/10/1976
Spill Date:	5/10/1976
Spill Cause:	Tank Failure
Spill Source:	Gasoline Station
Spill Class:	Not reported
Cleanup Ceased:	5/10/1976
Cleanup Meets Standard:	True
SWIS:	1900
Investigator:	PEARSON
Referred To:	Not reported
Reported to Dept:	5/10/1976
CID:	Not reported
Water Affected:	Not reported
Spill Notifier:	Affected Persons
Last Inspection:	Not reported
Recommended Penalty:	False
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	12/2/2003
Spill Record Last Update:	2/19/2004
Spiller Name:	Not reported
Spiller Company:	BLACK'S GROCERY STORE
Spiller Address:	SAME
Spiller City,St,Zip:	ZZ
Spiller County:	001
Spiller Contact:	Not reported
Spiller Phone:	Not reported
Spiller Extention:	Not reported
DEC Region:	8
DER Facility ID:	200283
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TP"2004/02/19 - RCVD_Time was previously blank and replaced with Spill_Time to fix a data translation problem... Bob Corcoran05/10/76: INSPECTION TO BE MADE UPON DELIVERY.
Remarks:	GASOLINE IN INDIVIDUAL WELL; GAS STATION NEXTDOOR. ODORS STRONGER IMMEDIATELY AFTER FILLUP OF TANKS. SUSPECT LEAK IN TANK OR PIPING AT GROCERY.

Material:

Site ID:	243837
Operable Unit ID:	891642
Operable Unit:	01
Material ID:	483086
Material Code:	0009
Material Name:	Gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	0
Units:	Gallons
Recovered:	No
Resource Affected:	Not reported

BLACK'S GROCERY STORE (Continued) **S101508503**

Oxygenate: False

Tank Test:

A5 NNW < 1/8 0.109 mi. 577 ft. **DIBBLE BROS INC**
7935 ALLEGHANY ROAD
INDIAN FALLS, NY 14005
Site 2 of 2 in cluster A

NY Spills **S102171470**
N/A

Relative: Higher

Actual: 853 ft.

SPILLS:

Facility ID:	9310700
Facility Type:	ER
DER Facility ID:	121318
Site ID:	142119
DEC Region:	8
Spill Date:	12/2/1993
Spill Number/Closed Date:	9310700 / 12/9/1993
Spill Cause:	Unknown
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1922
Investigator:	CAHETTEN
Referred To:	Not reported
Reported to Dept:	12/3/1993
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Unknown
Spill Notifier:	Affected Persons
Cleanup Ceased:	12/9/1993
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	12/7/1993
Spill Record Last Update:	3/16/2006
Spiller Name:	Not reported
Spiller Company:	DIBBLE BROS INC
Spiller Address:	SAME
Spiller City,St,Zip:	CORFU, NY 14036
Spiller Company:	001
Contact Name:	Not reported
Contact Phone:	Not reported
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was "CH"12/03/93: BS CONTACTED HARRY DIBBLE WHO SAID ONLY 3-5 GALS OF DIESEL FUEL WAS ACTUALLY SPILLED & RAN DOWN DRIVEWAY. DIBBLE WHO IS ACTING INDIAN FALLS FIRE CHIEF WAS UNAWARE OF REPORTING REQUIRMENT FOR MINOR AMOUNT.12/03/93: DIBBLE SAID HIS SON WAS FUELING PICKUP & AUTOMATIC SHUTOFF WAS FROZEN ON. STONE & SAND APPLIED TO SPILLED MATERIAL. DIBBLE TO DISPOSE OF SPILL DEBRIS THROUGH REFUSE PICKUP. 12/09/93: BS INSPECTED SITE AND FUOND SPILLED MATERIAL CLEANED UP. NO FURTHER ACTION NEEDED.3/16/06 PAPER FILE REMOVED PER FILE RETENTION POLICY.
Remarks:	CALLER REPORTED THAT UNKNOWN QUANTITY OF FUEL OIL SPILLED TO GROUND SURFACE & COVERED UP WITH STONE BY SPILLER. SPILL OCCURRED NEAR ABOVE

DIBBLE BROS INC (Continued) **S102171470**

GROUND FUEL OIL TANK ACCORDING TO CALLER.

Material:

Site ID:	142119
Operable Unit ID:	992558
Operable Unit:	01
Material ID:	389783
Material Code:	0008
Material Name:	Diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	5
Units:	Gallons
Recovered:	No
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

B6 **BUFFALO I-90 E AUTO TRK** **LTANKS** **S103275030**
SW **I 90 AND ROUTE 77** **N/A**
1/4-1/2 **CORFU, NY**
0.414 mi.
2184 ft. **Site 1 of 2 in cluster B**

Relative:
Higher

Actual:
841 ft.

LTANKS:

Site ID:	182068
Spill Number/Closed Date:	9803070 / 11/5/1999
Spill Date:	6/9/1998
Spill Cause:	Tank Test Failure
Spill Source:	Gasoline Station
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Cleanup Ceased:	11/5/1999
Cleanup Meets Standard:	False
SWIS:	1942
Investigator:	PCLINDEN
Referred To:	Not reported
Reported to Dept:	6/9/1998
CID:	999
Water Affected:	Not reported
Spill Notifier:	Other
Last Inspection:	Not reported
Recommended Penalty:	False
UST Involvement:	True
Remediation Phase:	0
Date Entered In Computer:	6/9/1998
Spill Record Last Update:	1/20/2011
Spiller Name:	GARY ROGERS
Spiller Company:	BUFFALO I-90 E AUTO TRK
Spiller Address:	I 90 AND ROUTE 77
Spiller City,St,Zip:	CORFU, ZZ
Spiller County:	001
Spiller Contact:	GARY ROGERS
Spiller Phone:	(716) 599-4577
Spiller Extention:	Not reported
DEC Region:	8

BUFFALO I-90 E AUTO TRK (Continued) **S103275030**

DER Facility ID: 152651
DEC Memo: Prior to Sept, 2004 data translation this spill Lead_DEC Field was "PL".01/20/11: PAPER FILE REMOVED PER FILE RETENTION POLICY.
Remarks: WHILE TESTING NEW UPGRADED LINES TO 10,000 GALLON UNDERGROUND TANK, THE LINES FAILED A SYSTEM CHECK. THE LINES ARE TO BE CHECKED AND RE-TESTED. LINES RETESTED OK.

Material:
Site ID: 182068
Operable Unit ID: 1060895
Operable Unit: 01
Material ID: 321396
Material Code: 0009
Material Name: Gasoline
Case No.: Not reported
Material FA: Petroleum
Quantity: 0
Units: Gallons
Recovered: No
Resource Affected: Not reported
Oxygenate: False

Tank Test:
Site ID: 182068
Spill Tank Test: 1545965
Tank Number: Not reported
Tank Size: 0
Test Method: 00
Leak Rate: 0
Gross Fail: Not reported
Modified By: Spills
Last Modified: 10/1/2004
Test Method: Unknown

B7 **TRAVEL CENTERS OF AMERICA** **LTANKS** **S106868379**
SW **8420 ALLEGHANY** **NY Spills** **N/A**
1/4-1/2 **PEMBROKE, NY 14036**
0.430 mi.
2271 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
839 ft.

LTANKS:
Site ID: 468095
Spill Number/Closed Date: 1205174 / 3/7/2013
Spill Date: 8/22/2012
Spill Cause: Tank Test Failure
Spill Source: Commercial/Industrial
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Cleanup Ceased: 3/7/2013
Cleanup Meets Standard: True
SWIS: 1942
Investigator: TGHALL
Referred To: Not reported
Reported to Dept: 8/22/2012
CID: Not reported
Water Affected: Not reported

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

Spill Notifier:	Other
Last Inspection:	Not reported
Recommended Penalty:	False
UST Involvement:	False
Remediation Phase:	0
Date Entered In Computer:	8/22/2012
Spill Record Last Update:	6/28/2013
Spiller Name:	Not reported
Spiller Company:	Not reported
Spiller Address:	Not reported
Spiller City,St,Zip:	Not reported
Spiller County:	Not reported
Spiller Contact:	MIKE STABELL
Spiller Phone:	(585) 599-4577
Spiller Extention:	3
DEC Region:	8
DER Facility ID:	354785
DEC Memo:	08/22/2012: PRIMETIME HAS BEEN HIRED AND HAS BROKEN CONCRETE AND IS ON SITE INVESTIGATING POTENTIAL RELEASE. ANY SOIL THAT IS EXCAVATED WILL BE STAGED ON POLY FOR LATER DISPOSAL. THE FACILITY IS SCHEDULED FOR A COMPLETE DIESEL ISLAND, PIPING, AND TANK TOP UPGRADE IN OCTOBER. 08/23/2012: PRIMETIME REPLACES THE MAIN LINE FROM THE DIESEL TANKS WITH A TEMPORARY SINGLE WALL FIBERGLASS LINE. A PERMANENT REPLACEMENT WILL BE INSTALLED DURING UPGRADE WORK.03/07/2013: UST UPGRADE AND SPILL CLOSURE REPORT RECEIVED FROM SAIC. DURING COMPLETE DIESEL DISPENSER AND PIPING UPGRADE WORK BETWEEN THE PERIOD OF OCTOBER 1, 2012 AND DECEMBER 28, 2012, 1,371 TONS OF DIESEL IMPACTED SOIL WERE REMOVED. APPROXIMATELY 130,000 GALLONS OF CONTAMINATED WATER (GENERATED BY DE-WATERING ACTIVITIES MAINLY IN THE TANK FIELD) WAS TREATED AND DISCHARGED UNDER A STIPULATION AGREEMENT. CONFIRMATORY SOIL SAMPLES FROM THE IMPACTED AREAS ARE WITHIN CP-51 GUIDANCE FOR COMMERCIAL PROPERTIES. NO FURTHER ACTION IS REQUIRED AT THIS TIME. FILE CLOSED.
Remarks:	CALLER STATES THAT WHILE PERFORMING A LINE TEST ON DIESEL LINE THAT COMES FROM 3- 20,000 GALLON UNDERGROUND TANKS FAILED. CA NORRIS AND PRIMETIME TO MAKE REPAIRS.

Material:

Site ID:	468095
Operable Unit ID:	1218027
Operable Unit:	01
Material ID:	2216385
Material Code:	0008
Material Name:	Diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	0
Units:	Gallons
Recovered:	No
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

SPILLS:

Facility ID:	9806591
Facility Type:	ER
DER Facility ID:	195443
Site ID:	237223
DEC Region:	8
Spill Date:	8/27/1998
Spill Number/Closed Date:	9806591 / 8/27/1998
Spill Cause:	Equipment Failure
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1942
Investigator:	TPWALSH
Referred To:	Not reported
Reported to Dept:	8/27/1998
CID:	270
Water Affected:	ON LAND
Spill Source:	Commercial Vehicle
Spill Notifier:	Police Department
Cleanup Ceased:	8/27/1998
Cleanup Meets Std:	False
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	8/27/1998
Spill Record Last Update:	3/17/2006
Spiller Name:	Not reported
Spiller Company:	YOUNGBLOOD TRUCKLINE
Spiller Address:	6630 HENDERSONVILLE ROAD
Spiller City,St,Zip:	FLETCHER, NC 28732-8615
Spiller Company:	001
Contact Name:	DISPT DIEGLEMAN
Contact Phone:	(716) 343-5000
DEC Memo:	Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TW".SPILL IMPACTED ASPHALT. THE FIRE DEPARTMENT CONTAINED AND ABSORBED THE SPILL WITH SPEEDI DRY. THE SPILLER IS HIRING A CLEANUP CONTRACTOR. NO FURTHER ACTION NECESSARY. 03/17/06: PAPER FILE REMOVED PER FILE RETENTION POLICY.
Remarks:	UNATTENDED TRACTOR TRAILER ROLLED INTO ANOTHER VEHICLE RUPTURING ITS TANK. DEPUTY FERRANDO RESPONDED (CASE #98-10461). DT LEFT A MESSAGE WITH DEPUTY FERRANDO TO CALL THE DEPARTMENT BACK. THE DEPUTY SAYS THE SPILL IMPACTED ASPHALT. THE FIRE DEPARTMENT CONTAINED AND ABSORBED THE SPILL WITH SPEEDI DRY. THE SPILLER IS HIRING A CLEANUP CONTRACTOR. Not reported

Material:

Site ID:	237223
Operable Unit ID:	1067818
Operable Unit:	01
Material ID:	317743
Material Code:	0008
Material Name:	Diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	110
Units:	Gallons

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

Recovered:	No
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

Facility ID:	0500951
Facility Type:	ER
DER Facility ID:	290683
Site ID:	344065
DEC Region:	8
Spill Date:	4/22/2005
Spill Number/Closed Date:	0500951 / 10/11/2005
Spill Cause:	Equipment Failure
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1942
Investigator:	TGHALL
Referred To:	Not reported
Reported to Dept:	4/22/2005
CID:	409
Water Affected:	Not reported
Spill Source:	Institutional, Educational, Gov., Other
Spill Notifier:	Responsible Party
Cleanup Ceased:	8/3/2005
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	4/22/2005
Spill Record Last Update:	1/4/2011
Spiller Name:	JERRY ROGERS
Spiller Company:	TRAVEL CENTERS OF AMERICA
Spiller Address:	8420 ALLEGHANY
Spiller City,St,Zip:	CORFU, NY 14036
Spiller Company:	001
Contact Name:	JERRY ROGERS
Contact Phone:	(585) 599-4577
DEC Memo:	09/27/2005: SPILL RESPONSE REPORT RECEIVED FROM PLUMLEY ENGINEERING. 34.34 TONS OF CONTAMINATED SOIL WAS REMOVED FROM THE SWALE AND DISPOSED OF AT ENSOL. CONFIRMATORY SAMPLE RESULTS WITHIN TAGM 4046 GUIDENCE. NO FURTHER ACTION REQUIRED BY SPILLS UNIT AT THIS TIME-CLOSED.01/04/11: PAPER FILE REMOVED PER FILE RETENTION POLICY.
Remarks:	THERE WAS OILY WATER IN THE DITCH BECAUSE THE SEPERATOR BACKED UP, SPILLING APPROXIMATELY 10 GALLONS OF MOTOR OIL. THEY ARE PUMPING THE DITCH OUT.

Material:

Site ID:	344065
Operable Unit ID:	1102719
Operable Unit:	01
Material ID:	582941
Material Code:	0015
Material Name:	Motor Oil
Case No.:	Not reported

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

Material FA:	Petroleum
Quantity:	10
Units:	Gallons
Recovered:	No
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

Facility ID:	1100054
Facility Type:	ER
DER Facility ID:	402036
Site ID:	447419
DEC Region:	8
Spill Date:	4/2/2011
Spill Number/Closed Date:	1100054 / 4/4/2011
Spill Cause:	Equipment Failure
Spill Class:	Possible release with minimal potential for fire or hazard or Known release with no damage. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1942
Investigator:	DBDAKE
Referred To:	Not reported
Reported to Dept:	4/2/2011
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Commercial/Industrial
Spill Notifier:	Responsible Party
Cleanup Ceased:	4/2/2011
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	4/2/2011
Spill Record Last Update:	4/4/2011
Spiller Name:	JODI DEEP
Spiller Company:	SUPERIOR PLUS
Spiller Address:	BROOKS AVENUE
Spiller City,St,Zip:	ROCHESTER, NY
Spiller Company:	999
Contact Name:	JODI DEEP
Contact Phone:	(315) 527-2901
DEC Memo:	4/2/11: DD TELECON WITH JODI DEEP AT 1615 HOURS - VERY MINOR SPILL - TRUCK HAD SMALL LEAK IN HOSE THAT WAS FOUND DURING A DELIVERY. REPAIRS MADE TO HOSE, APPROX. 8-OUNCES DRIPPED ONTO ASPHALT AND WAS IMMEDIATELY CLEANED UP. BASED ON INFORMATION PROVIDED, NO FURTHER ACTIONS REQUIRED BY SPILLS UNIT/SPILL FILE CLOSED.
Remarks:	1613 THE CALLER ADVISED DISPATCH THE SPILL WAS DUE TO FAULTY HOSE LINE. THREE OUNCES SPILLED TOTAL. ASPHALT HAS BEEN IMPACTED. CLEAN UP HAS BEEN CONDUCTED.

Material:

Site ID:	447419
Operable Unit ID:	1197575
Operable Unit:	01

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

Material ID:	2193884
Material Code:	0008
Material Name:	Diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	0.25
Units:	Gallons
Recovered:	Not reported
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

Facility ID:	1111317
Facility Type:	ER
DER Facility ID:	49472
Site ID:	459209
DEC Region:	8
Spill Date:	12/20/2011
Spill Number/Closed Date:	1111317 / 4/9/2012
Spill Cause:	Unknown
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1942
Investigator:	TGHALL
Referred To:	Not reported
Reported to Dept:	12/20/2011
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station
Spill Notifier:	Other
Cleanup Ceased:	4/1/2012
Cleanup Meets Std:	True
Last Inspection:	12/22/2011
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	12/20/2011
Spill Record Last Update:	4/10/2012
Spiller Name:	Not reported
Spiller Company:	TA 194
Spiller Address:	Not reported
Spiller City,St,Zip:	NY
Spiller Company:	999
Contact Name:	KELLY GELSKE
Contact Phone:	Not reported
DEC Memo:	12/20/2011 WHILE PLACING A NEW DISPENSER, CONTAMINATED SOILS WERE ENCOUNTERED. SOILS BEING PLACED ON PLASTIC AND WORK TO CONTINUE. CONTRACTOR IS SCOTT TYLER WITH A PHONE# OF (570) 396-8395.12/22/2011: TH ON SITE AT 11:45. CONTAMINATED SOIL IS BEING REMOVED AND CONFIRMATORY SAMPLES WILL BE TAKEN. AN EXISTING MONITORING WELL LOCATED APPROXIMATELY 20' DOWNGRADIENT (NE) OF DISPENSER ISLAND WILL ALSO BE SAMPLED. PLUMLEY ENGINEERING WILL ISSUE A CLOSURE REPORT.04/09/2012: REMEDIATION REPORT RECEIVED FROM PLUMLEY ENGINEERING. 63 TONS OF IMPACTED SOIL TRANSPORTED TO MILL SEAT LANDFILL FOR DISPOSAL. POST EXCAVATION SOIL SAMPLE RESULTS AND WATER

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

SAMPLE RESULTS FROM EXISTING DOWNGRADIENT SITE MONITORING WELL ARE WITHIN DEPARTMENT GUIDENCE/STANDARDS. NO FURTHER ACTION REQUIRED AT THIS TIME-CLOSED.

Remarks: contamination found during excavation/ clean up underway

Material:

Site ID:	459209
Operable Unit ID:	1209300
Operable Unit:	01
Material ID:	2206699
Material Code:	0009
Material Name:	Gasoline
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	Not reported
Units:	Gallons
Recovered:	Not reported
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

Facility ID:	1212384
Facility Type:	ER
DER Facility ID:	413671
Site ID:	475531
DEC Region:	8
Spill Date:	11/22/2012
Spill Number/Closed Date:	1212384 / 11/27/2012
Spill Cause:	Human Error
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
SWIS:	1942
Investigator:	TGHALL
Referred To:	Not reported
Reported to Dept:	11/22/2012
CID:	Not reported
Water Affected:	Not reported
Spill Source:	Gasoline Station
Spill Notifier:	Responsible Party
Cleanup Ceased:	11/22/2012
Cleanup Meets Std:	True
Last Inspection:	Not reported
Recommended Penalty:	False
UST Trust:	False
Remediation Phase:	0
Date Entered In Computer:	11/22/2012
Spill Record Last Update:	2/6/2013
Spiller Name:	EVAN DUMRESE
Spiller Company:	SUPERIOR PLUS
Spiller Address:	8420 ALLEGHANY RD
Spiller City,St,Zip:	CORFU, NY
Spiller Company:	999
Contact Name:	EVAN DUMRESE
Contact Phone:	(585) 727-4584
DEC Memo:	11/27/2012: CLEANUP COMPLETED BY SUPERIOR PLUS. NO FURTHER ACTION

TRAVEL CENTERS OF AMERICA (Continued) **S106868379**

REQUIRED AT THIS TIME.

Remarks: Overflow of spill bucket during delivery. Spilled onto blacktop and gravel. Cleanup is underway.

Material:

Site ID:	475531
Operable Unit ID:	1225365
Operable Unit:	01
Material ID:	2222656
Material Code:	0008
Material Name:	Diesel
Case No.:	Not reported
Material FA:	Petroleum
Quantity:	2
Units:	Gallons
Recovered:	Not reported
Resource Affected:	Not reported
Oxygenate:	False

Tank Test:

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

Count: 8 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CORFU	S102131119	KWIK SERVE GAS STATION	ROUTE 77		NY Spills
CORFU	1004760107	KWIK-SERV INC	2 MAIN - RTE 33 & 77	14036	RCRA NonGen / NLR, FINDS, MANIFEST
CORFU	S108650254	ATLAS PAINTING	N PEMBROKE (INDIAN FALLS) RD/T	14036	MANIFEST
CORFU	S109583193	CORFU TRUCK STOP	STATE ROUTE 177	14036	NY Spills
CORFU	S102172773	STOP AND GO	STOP AND GO SHOP, JCT. RT		NY Spills
PEMBROKE	S102127744	MARLETT PLATING INC	ROUTE 5	14036	NY Spills
PEMBROKE	S102129074	NORTH AMERICAN VAN LINES	ROUTE 77 1/2 MI N T-WAY	14036	NY Spills
PEMBROKE	S111012008	ALLIED WASTE SERVICES OF N. AMERIC	I-90 WESTBOUND MM 398.4	14036	NY Spills

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

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

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 01/21/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

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

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 01/09/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

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

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: N/A
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 01/09/2014
Number of Days to Update: 78	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

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

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 02/28/2014
Number of Days to Update: 94	Next Scheduled EDR Contact: 06/09/2014
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/31/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/08/2013	Telephone: 703-603-8704
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 01/10/2014
Number of Days to Update: 151	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 02/28/2014
Number of Days to Update: 94	Next Scheduled EDR Contact: 06/09/2014
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/17/2013
Date Data Arrived at EDR: 01/14/2014
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/17/2013
Date Data Arrived at EDR: 01/14/2014
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/20/2013
Date Data Arrived at EDR: 11/21/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 95

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/14/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 02/07/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Inactive Hazardous Waste Disposal Sites in New York State

Referred to as the State Superfund Program, the Inactive Hazardous Waste Disposal Site Remedial Program is the cleanup program for inactive hazardous waste sites and now includes hazardous substance sites

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Annually

VAPOR REOPENED: Vapor Intrustion Legacy Site List

New York is currently re-evaluating previous assumptions and decisions regarding the potential for soil vapor intrusion exposures at sites. As a result, all past, current, and future contaminated sites will be evaluated to determine whether these sites have the potential for exposures related to soil vapor intrusion.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmenal Conservation
Telephone: 518-402-9814
Last EDR Contact: 02/19/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Varies

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Facility Register

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

Date of Government Version: 12/12/2013
Date Data Arrived at EDR: 01/07/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 35

Source: Department of Environmental Conservation
Telephone: 518-457-2051
Last EDR Contact: 01/06/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LTANKS: Spills Information Database

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

Date of Government Version: 11/19/2013
Date Data Arrived at EDR: 11/22/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 81

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 02/19/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Varies

HIST LTANKS: Listing of Leaking Storage Tanks

A listing of leaking underground and aboveground storage tanks. The causes of the incidents are tank test failures, tank failures or tank overfills. In 2002, the Department of Environmental Conservation stopped providing updates to its original Spills Information Database. This database includes fields that are no longer available from the NYDEC as of January 1, 2002. Current information may be found in the NY LTANKS database. Department of Environmental Conservation.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 07/08/2005
Date Made Active in Reports: 07/14/2005
Number of Days to Update: 6

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 07/07/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/13/2014
Date Data Arrived at EDR: 02/14/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 10

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/30/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/21/2013
Date Data Arrived at EDR: 11/26/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/21/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

State and tribal registered storage tank lists

TANKS: Storage Tank Faciliy Listing

This database contains records of facilities that are or have been regulated under Bulk Storage Program. Tank information for these facilities may not be releasable by the state agency.

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9543
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

UST: Petroleum Bulk Storage (PBS) Database

Facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons.

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: No Update Planned

CBS UST: Chemical Bulk Storage Database

Facilities that store regulated hazardous substances in underground tanks of any size

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 10/24/2005
Next Scheduled EDR Contact: 01/23/2006
Data Release Frequency: No Update Planned

MOSF UST: Major Oil Storage Facilities Database

Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: Varies

AST: Petroleum Bulk Storage

Registered Aboveground Storage Tanks.

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: No Update Planned

CBS AST: Chemical Bulk Storage Database

Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: No Update Planned

MOSF AST: Major Oil Storage Facilities Database

Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 02/20/2002
Date Made Active in Reports: 03/22/2002
Number of Days to Update: 30

Source: NYSDEC
Telephone: 518-402-9549
Last EDR Contact: 07/25/2005
Next Scheduled EDR Contact: 10/24/2005
Data Release Frequency: No Update Planned

CBS: Chemical Bulk Storage Site Listing

These facilities store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

MOSF: Major Oil Storage Facility Site Listing

These facilities may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/29/2014
Date Data Arrived at EDR: 01/29/2014
Date Made Active in Reports: 03/12/2014
Number of Days to Update: 42

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 92

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 129

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/13/2014
Date Data Arrived at EDR: 02/14/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 10

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/21/2013
Date Data Arrived at EDR: 11/26/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/30/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/13/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Registry of Engineering Controls
Environmental Remediation sites that have engineering controls in place.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9553
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Quarterly

INST CONTROL: Registry of Institutional Controls
Environmental Remediation sites that have institutional controls in place.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9553
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Quarterly

RES DECL: Restrictive Declarations Listing
A restrictive declaration is a covenant running with the land which binds the present and future owners of the property. As a condition of certain special permits, the City Planning Commission may require an applicant to sign and record a restrictive declaration that places specified conditions on the future use and development of the property. Certain restrictive declarations are indicated by a D on zoning maps.

Date of Government Version: 11/18/2010
Date Data Arrived at EDR: 12/23/2010
Date Made Active in Reports: 02/11/2011
Number of Days to Update: 50

Source: NYC Department of City Planning
Telephone: 212-720-3401
Last EDR Contact: 03/24/2014
Next Scheduled EDR Contact: 07/07/2014
Data Release Frequency: No Update Planned

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Agreements
New York established its Voluntary Cleanup Program (VCP) to address the environmental, legal and financial barriers that often hinder the redevelopment and reuse of contaminated properties. The Voluntary Cleanup Program was developed to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfield" sites.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9711
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Semi-Annually

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/17/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/01/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

ERP: Environmental Restoration Program Listing

In an effort to spur the cleanup and redevelopment of brownfields, New Yorkers approved a $200 million Environmental Restoration or Brownfields Fund as part of the $1.75 billion Clean Water/Clean Air Bond Act of 1996 (1996 Bond Act). Enhancements to the program were enacted on October 7, 2003. Under the Environmental Restoration Program, the State provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100% of off-site eligible costs for site investigation and remediation activities. Once remediated, the property may then be reused for commercial, industrial, residential or public use.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Quarterly

BROWNFIELDS: Brownfields Site List

A Brownfield is any real property where redevelopment or re-use may be complicated by the presence or potential presence of a hazardous waste, petroleum, pollutant, or contaminant.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9764
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/24/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/20/2014
Next Scheduled EDR Contact: 07/07/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWTIRE: Registered Waste Tire Storage & Facility List
A listing of facilities registered to accept waste tires.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 11/15/2006
Date Made Active in Reports: 11/30/2006
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8694
Last EDR Contact: 01/23/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Annually

SWRCY: Registered Recycling Facility List
A listing of recycling facilities.

Date of Government Version: 12/12/2013
Date Data Arrived at EDR: 01/07/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 35

Source: Department of Environmental Conservation
Telephone: 518-402-8705
Last EDR Contact: 01/06/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/04/2013
Date Data Arrived at EDR: 12/10/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 65

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/04/2014
Next Scheduled EDR Contact: 06/16/2014
Data Release Frequency: Quarterly

DEL SHWS: Delisted Registry Sites
A database listing of sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites.

Date of Government Version: 02/17/2014
Date Data Arrived at EDR: 02/19/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 40

Source: Department of Environmental Conservation
Telephone: 518-402-9622
Last EDR Contact: 03/27/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Annually

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/04/2014
Next Scheduled EDR Contact: 06/16/2014
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

HIST UST: Historical Petroleum Bulk Storage Database
These facilities have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons. This database contains detailed information per site. It is no longer updated due to the sensitive nature of the information involved. See UST for more current data.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 06/02/2006
Date Made Active in Reports: 07/20/2006
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

HIST AST: Historical Petroleum Bulk Storage Database
These facilities have petroleum storage capabilities in excess of 1,100 gallons and less than 400,000 gallons. This database contains detailed information per site. No longer updated due to the sensitive nature of the information involved. See AST for more current data.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 06/02/2006
Date Made Active in Reports: 07/20/2006
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

LIENS: Spill Liens Information
Lien information from the Oil Spill Fund.

Date of Government Version: 02/11/2014
Date Data Arrived at EDR: 02/13/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 46

Source: Office of the State Comptroller
Telephone: 518-474-9034
Last EDR Contact: 02/10/2014
Next Scheduled EDR Contact: 05/26/2014
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/03/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 52

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/01/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Annually

SPILLS: Spills Information Database

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

Date of Government Version: 11/19/2013
Date Data Arrived at EDR: 11/22/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 81

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 02/19/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Varies

HIST SPILLS: SPILLS Database

This database contains records of chemical and petroleum spill incidents. Under State law, petroleum and hazardous chemical spills that can impact the waters of the state must be reported by the spiller (and, in some cases, by anyone who has knowledge of the spills). In 2002, the Department of Environmental Conservation stopped providing updates to its original Spills Information Database. This database includes fields that are no longer available from the NYDEC as of January 1, 2002. Current information may be found in the NY SPILLS database. Department of Environmental Conservation.

Date of Government Version: 01/01/2002
Date Data Arrived at EDR: 07/08/2005
Date Made Active in Reports: 07/14/2005
Number of Days to Update: 6

Source: Department of Environmental Conservation
Telephone: 518-402-9549
Last EDR Contact: 07/07/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/14/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/12/2013
Number of Days to Update: 40

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 11/02/2010
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/07/2013
Number of Days to Update: 63

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 03/13/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/06/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: Varies

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

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/24/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 31

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

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

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/11/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/25/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 28

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/05/2014
Next Scheduled EDR Contact: 06/16/2014
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/26/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/28/2014
Next Scheduled EDR Contact: 07/07/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/24/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/24/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

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

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/28/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/28/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/09/2014
Date Data Arrived at EDR: 01/10/2014
Date Made Active in Reports: 03/12/2014
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/10/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

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

Date of Government Version: 11/18/2013
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 03/12/2014
Number of Days to Update: 13

Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 03/14/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

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

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/01/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

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

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/28/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Biennially

HSWDS: Hazardous Substance Waste Disposal Site Inventory

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

Date of Government Version: 01/01/2003
Date Data Arrived at EDR: 10/20/2006
Date Made Active in Reports: 11/30/2006
Number of Days to Update: 41

Source: Department of Environmental Conservation
Telephone: 518-402-9564
Last EDR Contact: 05/26/2009
Next Scheduled EDR Contact: 08/24/2009
Data Release Frequency: No Update Planned

UIC: Underground Injection Control Wells

A listing of enhanced oil recovery underground injection wells.

Date of Government Version: 12/09/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 61

Source: Department of Environmental Conservation
Telephone: 518-402-8056
Last EDR Contact: 03/12/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Quarterly

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/07/2014
Date Made Active in Reports: 03/31/2014
Number of Days to Update: 52

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 03/12/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: Annually

DRYCLEANERS: Registered Drycleaners

A listing of all registered drycleaning facilities.

Date of Government Version: 01/21/2014
Date Data Arrived at EDR: 01/22/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 20

Source: Department of Environmental Conservation
Telephone: 518-402-8403
Last EDR Contact: 03/17/2014
Next Scheduled EDR Contact: 06/30/2014
Data Release Frequency: Varies

SPDES: State Pollutant Discharge Elimination System

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

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 09/09/2013
Number of Days to Update: 54

Source: Department of Environmental Conservation
Telephone: 518-402-8233
Last EDR Contact: 02/10/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AIRS: Air Emissions Data
Point source emissions inventory data.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 11/01/2013
Date Made Active in Reports: 01/09/2014
Number of Days to Update: 69

Source: Department of Environmental Conservation
Telephone: 518-402-8452
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Annually

E DESIGNATION: E DESIGNATION SITE LISTING
The (E (Environmental)) designation would ensure that sampling and remediation take place on the subject properties, and would avoid any significant impacts related to hazardous materials at these locations. The (E) designations would require that the fee owner of the sites conduct a testing and sampling protocol, and remediation where appropriate, to the satisfaction of the NYCDEP before the issuance of a building permit by the Department of Buildings pursuant to the provisions of Section 11-15 of the Zoning Resolution (Environmental Requirements). The (E) designations also include a mandatory construction-related health and safety plan which must be approved by NYCDEP.

Date of Government Version: 12/10/2013
Date Data Arrived at EDR: 12/26/2013
Date Made Active in Reports: 01/31/2014
Number of Days to Update: 36

Source: New York City Department of City Planning
Telephone: 718-595-6658
Last EDR Contact: 03/24/2014
Next Scheduled EDR Contact: 07/07/2014
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/15/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/10/2014
Next Scheduled EDR Contact: 05/26/2014
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial assurance information.

Date of Government Version: 01/07/2014
Date Data Arrived at EDR: 01/07/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 35

Source: Department of Environmental Conservation
Telephone: 518-402-8660
Last EDR Contact: 01/06/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/03/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/14/2014
Next Scheduled EDR Contact: 05/26/2014
Data Release Frequency: Varies

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/15/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: N/A

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 03/31/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 03/31/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Annually

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 11/20/2013
Date Data Arrived at EDR: 12/03/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/14/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/01/2013
Date Data Arrived at EDR: 12/05/2013
Date Made Active in Reports: 02/17/2014
Number of Days to Update: 74

Source: Department of Environmental Conservation
Telephone: 518-402-8712
Last EDR Contact: 01/06/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/30/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/11/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Site Listing
A listing of coal ash disposal site locations.

Date of Government Version: 01/07/2014
Date Data Arrived at EDR: 01/09/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 33

Source: Department of Environmental Conservation
Telephone: 518-402-8660
Last EDR Contact: 01/06/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/13/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in New York.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/10/2014
Number of Days to Update: 193

Source: Department of Environmental Conservation
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List
The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in New York.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Department of Environmental Conservation
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

CORTLAND COUNTY:

Cortland County Storage Tank Listing
A listing of aboveground storage tank sites located in Cortland County.

Date of Government Version: 02/24/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 04/01/2014
Number of Days to Update: 35

Source: Cortland County Health Department
Telephone: 607-753-5035
Last EDR Contact: 02/05/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: Quarterly

Cortland County Storage Tank Listing
A listing of underground storage tank sites located in Cortland County.

Date of Government Version: 02/24/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 04/01/2014
Number of Days to Update: 35

Source: Cortland County Health Department
Telephone: 607-753-5035
Last EDR Contact: 02/05/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: Quarterly

NASSAU COUNTY:

Registered Tank Database
A listing of aboveground storage tank sites located in Nassau County.

Date of Government Version: 11/20/2013
Date Data Arrived at EDR: 11/22/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 81

Source: Nassau County Health Department
Telephone: 516-571-3314
Last EDR Contact: 01/21/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: No Update Planned

Storage Tank Database
A listing of aboveground storage tank sites located in Nassau County.

Date of Government Version: 02/15/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 03/29/2011
Number of Days to Update: 34

Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

Registered Tank Database
A listing of underground storage tank sites located in Nassau County.

Date of Government Version: 11/20/2013
Date Data Arrived at EDR: 11/22/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 81

Source: Nassau County Health Department
Telephone: 516-571-3314
Last EDR Contact: 01/21/2014
Next Scheduled EDR Contact: 04/21/2014
Data Release Frequency: No Update Planned

Storage Tank Database
A listing of underground storage tank sites located in Nassau County.

Date of Government Version: 02/15/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 03/29/2011
Number of Days to Update: 34

Source: Nassau County Office of the Fire Marshal
Telephone: 516-572-1000
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

ROCKLAND COUNTY:

Petroleum Bulk Storage Database
A listing of aboveground storage tank sites located in Rockland County.

Date of Government Version: 12/17/2013
Date Data Arrived at EDR: 12/18/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 55

Source: Rockland County Health Department
Telephone: 914-364-2605
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Quarterly

Petroleum Bulk Storage Database
A listing of underground storage tank sites located in Rockland County.

Date of Government Version: 12/17/2013
Date Data Arrived at EDR: 12/18/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 55

Source: Rockland County Health Department
Telephone: 914-364-2605
Last EDR Contact: 03/10/2014
Next Scheduled EDR Contact: 06/23/2014
Data Release Frequency: Quarterly

SUFFOLK COUNTY:

Storage Tank Database
A listing of aboveground storage tank sites located in Suffolk County.

Date of Government Version: 07/08/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 11/25/2013
Number of Days to Update: 76

Source: Suffolk County Department of Health Services
Telephone: 631-854-2521
Last EDR Contact: 02/18/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: No Update Planned

Storage Tank Database
A listing of underground storage tank sites located in Suffolk County.

Date of Government Version: 07/08/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 11/25/2013
Number of Days to Update: 76

Source: Suffolk County Department of Health Services
Telephone: 631-854-2521
Last EDR Contact: 02/18/2014
Next Scheduled EDR Contact: 05/19/2014
Data Release Frequency: No Update Planned

WESTCHESTER COUNTY:

Listing of Storage Tanks
A listing of aboveground storage tank sites located in Westchester County.

Date of Government Version: 12/18/2013
Date Data Arrived at EDR: 12/19/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 54

Source: Westchester County Department of Health
Telephone: 914-813-5161
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

Listing of Storage Tanks
A listing of underground storage tank sites located in Westchester County.

Date of Government Version: 12/18/2013
Date Data Arrived at EDR: 12/19/2013
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 54

Source: Westchester County Department of Health
Telephone: 914-813-5161
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

OTHER DATABASE(S)

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

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/21/2014
Next Scheduled EDR Contact: 06/02/2014
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/17/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/24/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 12/30/2013
Date Data Arrived at EDR: 02/11/2014
Date Made Active in Reports: 03/11/2014
Number of Days to Update: 28

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/17/2014
Next Scheduled EDR Contact: 06/30/2014
Data Release Frequency: Annually

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

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

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

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

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

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

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

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

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

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Freshwater Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RESIDENCE/VACANT FARM
1254 INDIAN FALLS ROAD
CORFU, NY 14036

TARGET PROPERTY COORDINATES

Latitude (North):	43.016 - 43˚ 0' 57.60''
Longitude (West):	78.3964 - 78˚ 23' 47.04''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	712171.2
UTM Y (Meters):	4765666.5
Elevation:	839 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	43078-A4 AKRON, NY
Most Recent Revision:	1981

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

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

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

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

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

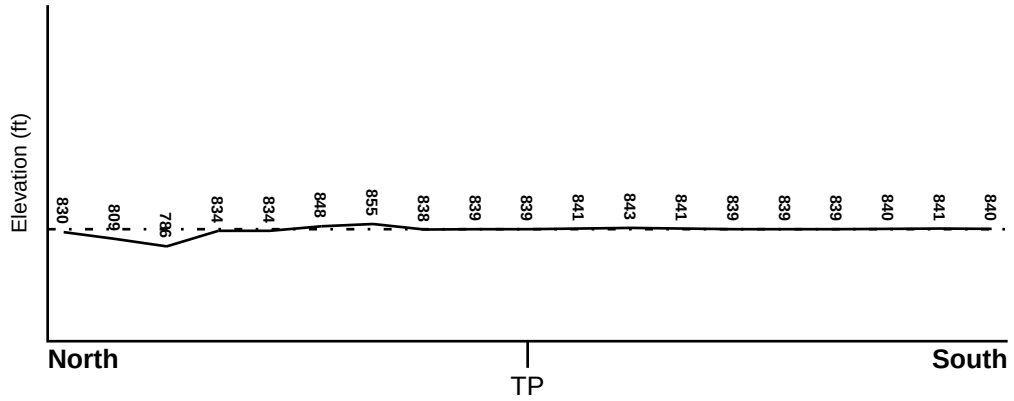
TOPOGRAPHIC INFORMATION

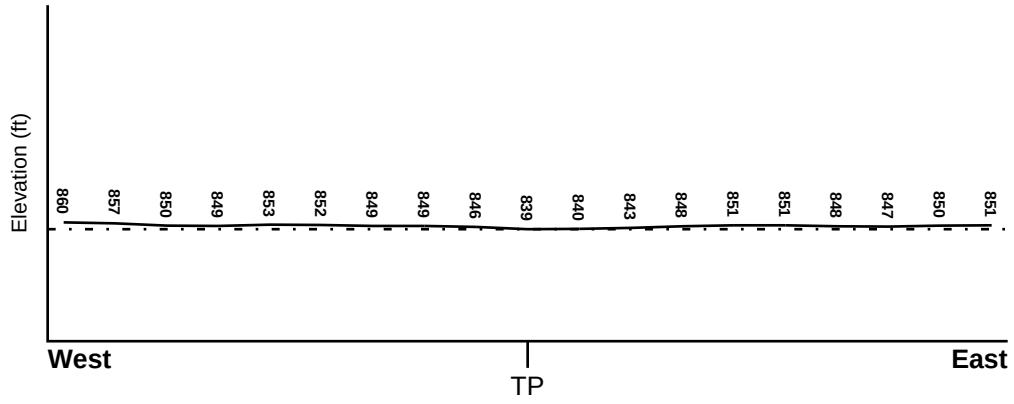
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient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

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 839 ft.

0 1/2 1 Miles

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

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

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

FEMA FLOOD ZONE

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

Flood Plain Panel at Target Property:	3602830005C - FEMA Q3 Flood data
Additional Panels in search area:	3602830010C - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

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

HYDROGEOLOGIC INFORMATION

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

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

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

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

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

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

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

ROCK STRATIGRAPHIC UNIT

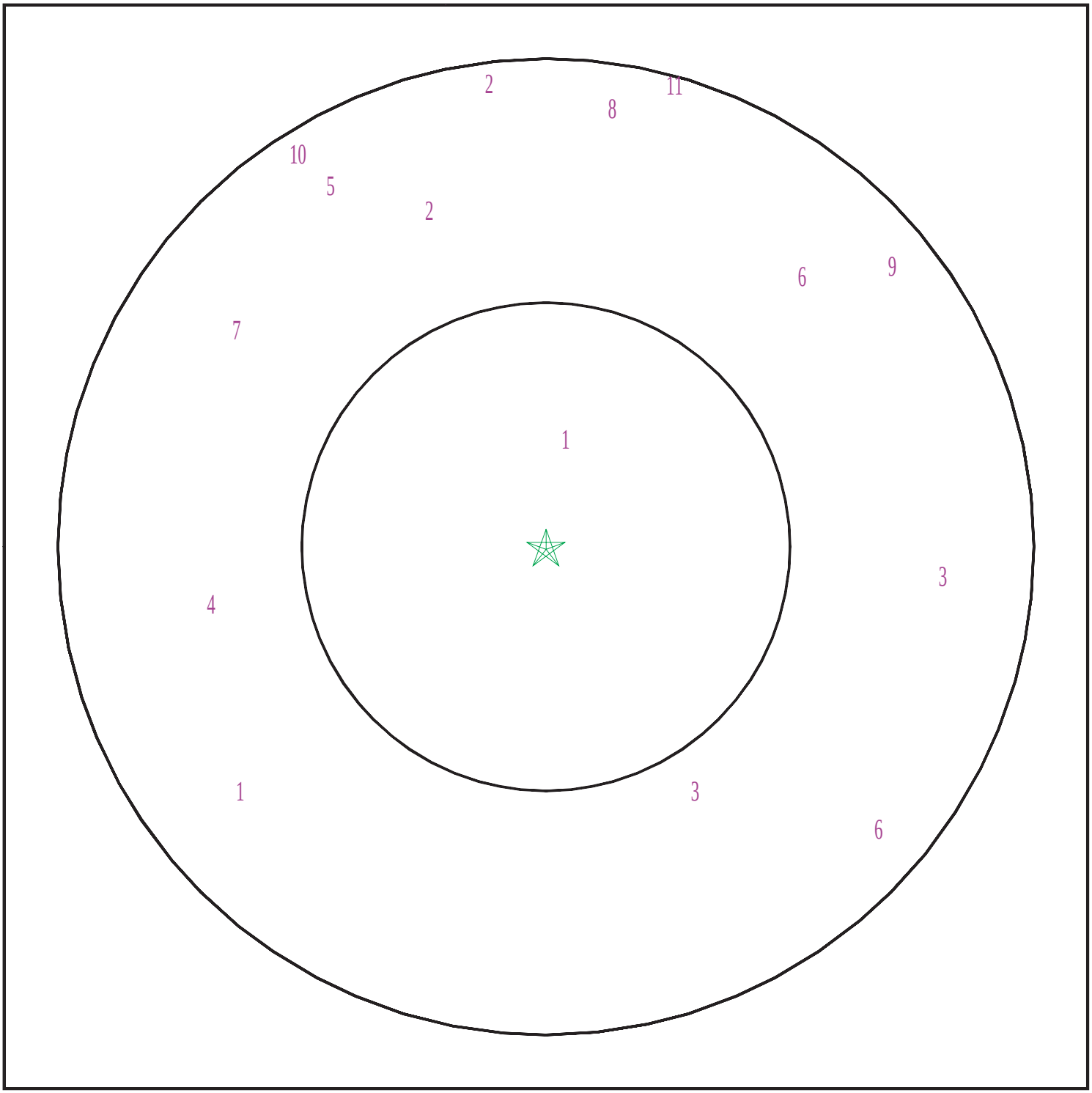
Era:	Paleozoic
System:	Devonian
Series:	Middle Devonian
Code:	D2 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

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

SSURGO SOIL MAP - 3897885.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Residence/Vacant Farm ADDRESS: 1254 Indian Falls Road Corfu NY 14036 LAT/LONG: 43.016 / 78.3964	CLIENT: GZA GeoEnvironmental, Inc. CONTACT: Thomas Bohlen INQUIRY #: 3897885.2s DATE: April 01, 2014 12:13 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

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

Soil Map ID: 1

Soil Component Name: Canandaigua

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 5.6
2	9 inches	38 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	38 inches	72 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1

Soil Map ID: 2

Soil Component Name: Lima

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 5.6
2	9 inches	20 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 5.6
3	20 inches	72 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: Niagara

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
2	11 inches	25 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	25 inches	72 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 0.42	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: Ovid

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 25 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	11 inches	29 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
3	29 inches	72 inches	gravelly silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 5

Soil Component Name: Ontario

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
2	7 inches	38 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
3	38 inches	72 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 6

Soil Component Name: Phelps

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	9 inches	11 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
3	11 inches	24 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
4	24 inches	35 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.8 Min: 6.1
5	35 inches	72 inches	stratified very gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 141 Min: 14	Max: 8.4 Min: 7.4

Soil Map ID: 7

Soil Component Name: Ontario

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
2	7 inches	38 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
3	38 inches	72 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 8

Soil Component Name: Palmyra

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42 Min: 4	Max: 7.3 Min: 5.6
2	11 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42 Min: 4	Max: 7.8 Min: 6.1
3	29 inches	72 inches	stratified very gravelly sand to fine sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 705 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 9

Soil Component Name: Galen

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 51 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 7.3 Min: 5.1
2	9 inches	20 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 7.3 Min: 5.6
3	20 inches	40 inches	loamy very fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 7.3 Min: 5.6
4	40 inches	72 inches	stratified fine sand to very fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 5.6

Soil Map ID: 10

Soil Component Name: Lima

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 30 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 5.6
2	9 inches	20 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 5.6
3	20 inches	72 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 11

Soil Component Name: Fredon

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
2	9 inches	35 inches	gravelly fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.1
3	35 inches	72 inches	stratified gravelly sand to fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	SW-SC	Max: 141 Min: 14	Max: 8.4 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

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

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000868480	1/2 - 1 Mile NNE
2	USGS40000868312	1/2 - 1 Mile ENE
C6	USGS40000868576	1/2 - 1 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
8	USGS40000867909	1/2 - 1 Mile SW
C9	USGS40000868602	1/2 - 1 Mile North
10	USGS40000868344	1/2 - 1 Mile WNW
14	USGS40000868222	1/2 - 1 Mile West

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B5	NY0015784	1/2 - 1 Mile North

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

STATE DATABASE WELL INFORMATION

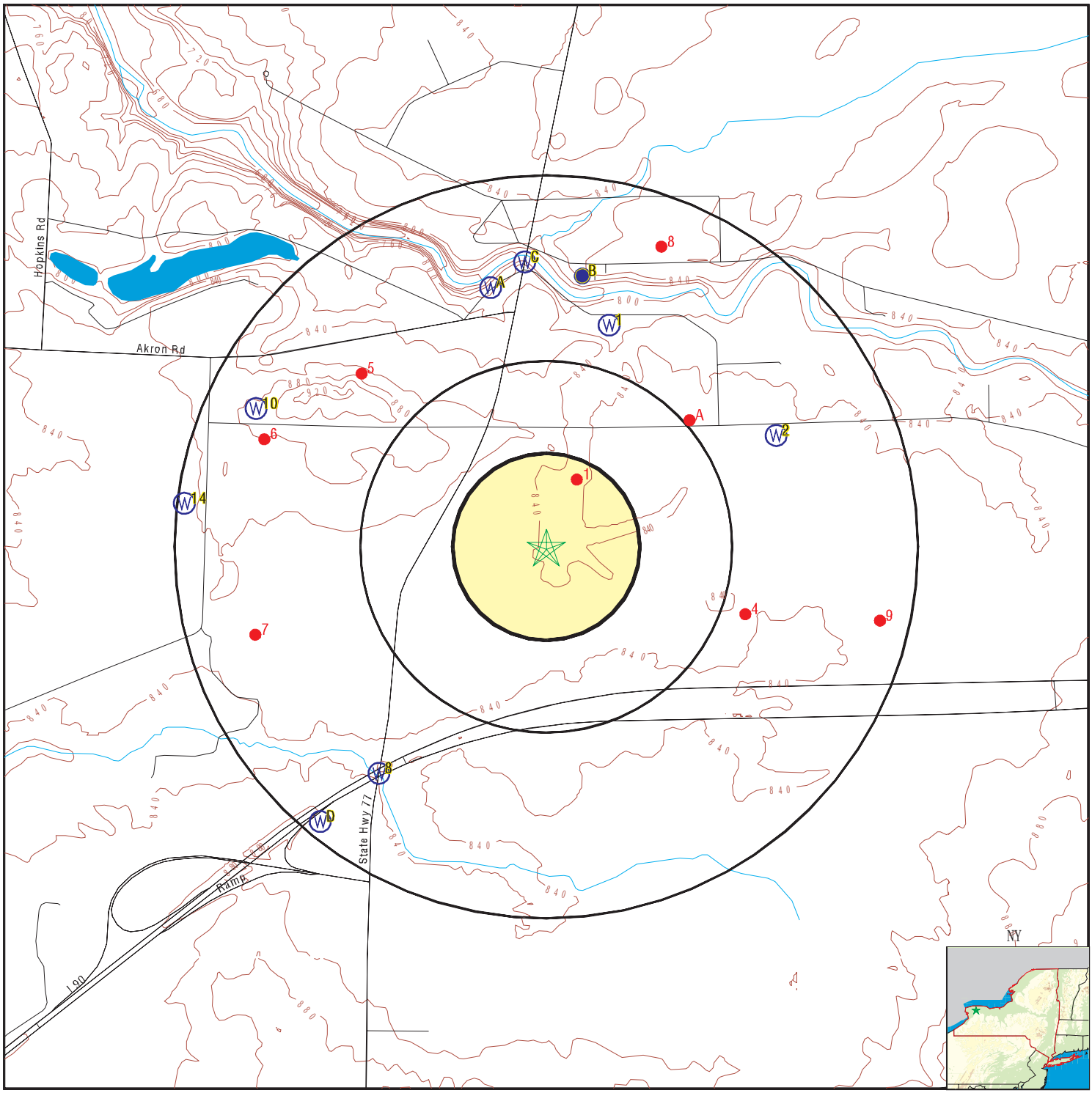
MAP ID	WELL ID	LOCATION FROM TP
A3	NYWS001165	1/2 - 1 Mile NNW
A4	NYWS001164	1/2 - 1 Mile NNW
B7	NYWS001160	1/2 - 1 Mile North
D11	NYWS001210	1/2 - 1 Mile SW
D12	NYWS001211	1/2 - 1 Mile SW
D13	NYWS001212	1/2 - 1 Mile SW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	NYOG70000038405	1/8 - 1/4 Mile NNE
A2	NYOG70000038425	1/2 - 1 Mile NE
A3	NYOG70000038426	1/2 - 1 Mile NE
4	NYOG70000038374	1/2 - 1 Mile ESE
5	NYOG70000038439	1/2 - 1 Mile NW
6	NYOG70000038418	1/2 - 1 Mile WNW
7	NYOG70000038369	1/2 - 1 Mile WSW
8	NYOG70000038468	1/2 - 1 Mile NNE
9	NYOG70000038372	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 3897885.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME:	Residence/Vacant Farm	CLIENT:	GZA GeoEnvironmental, Inc.
ADDRESS:	1254 Indian Falls Road Corfu NY 14036	CONTACT:	Thomas Bohlen
		INQUIRY #:	3897885.2s
LAT/LONG:	43.016 / 78.3964	DATE:	April 01, 2014 12:13 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **NNE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000868480**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430129078233501		
Monloc name:	GS 668		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0246389
Longitude:	-78.3930556	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	813
Vert measure units:	feet	Vertacc measure val:	3
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from digital elevation model (DEM)		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	50
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

---

2 **ENE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000868312**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430113078230401		
Monloc name:	GS 120		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	04120104	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0203371
Longitude:	-78.384188	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	850.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	New York and New England carbonate-rock aquifers		
Formation type:	Onondaga Limestone		

Aquifer type:	Not Reported		
Construction date:	1963	Welldepth:	75
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-11	29	

A3
NNW
1/2 - 1 Mile
Lower

NY WELLS **NYWS001165**

Well Id:	NY1815911	System name:	INDIAN FALLS LOG CABIN REST.
System Id:	001	Well name:	DRILLED WELL
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430133.96
Longitude:	782357.66	Slec_type_:	AC
Agency:	STRATTON, DANIEL		
Address:	1185 SLIKER ROAD		
City/State/Zip:	CORFU NY 14036		
Phone:	716-762-8422		

A4
NNW
1/2 - 1 Mile
Lower

NY WELLS **NYWS001164**

Well Id:	NY1815911	System name:	INDIAN FALLS LOG CABIN REST.
System Id:	001	Well name:	DRILLED WELL
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430133.96
Longitude:	782357.66	Slec_type_:	AC
Agency:	RASTELLI, VINCENT		
Address:	1185 SLIKER ROAD		
City/State/Zip:	CORFU NY 14036		
Phone:	716-762-8422		

B5
North
1/2 - 1 Mile
Lower

FRDS PWS **NY0015784**

PWS ID: NY0015784
Date Initiated: Not Reported Date Deactivated: Not Reported
PWS Name: BOULDER TRAILER PARK
PHELPS RD
CORFU, NY 14036

Addressee / Facility: System Owner/Responsible Party
MATTESON CHARLES E
745 GOODRICH RD
CLARENCE CENTER, NY 14032

Facility Latitude:	43 01 35	Facility Longitude:	078 23 42
City Served:	PEMBROKE (T)		
Treatment Class:	Treated	Population:	00000024

Violations information not reported.

C6
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000868576**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430136078235001		
Monloc name:	GS 269		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0267417
Longitude:	-78.3973083	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	802
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	22.8
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

B7
North
1/2 - 1 Mile
Lower

NY WELLS **NYWS001160**

Well Id:	NY1815784	System name:	BOULDER TRAILER PARK
System Id:	001	Well name:	DRILLED WELL
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430136 000
Longitude:	782339.2	Slec_type_:	AC
Agency:	MATTESON, CHARLES E		
Address:	7745 GOODRICH ROAD		
City/State/Zip:	CLARENCE CENTER NY 14032		
Phone:	Not Reported		

8
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40000867909**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430026078241901		
Monloc name:	GS 239		
Monloc type:	Well: Test hole not completed as a well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0071667
Longitude:	-78.4052778	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	859
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Reported		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	65.5
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

C9
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000868602**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430139078235201		
Monloc name:	GS 270		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0274611
Longitude:	-78.3977778	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	803.6
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	24.2
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID Direction Distance Elevation	Database	EDR ID Number
10 **WNW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000868344**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430117078244201		
Monloc name:	GS 434		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0213889
Longitude:	-78.4118056	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	884
Vert measure units:	feet	Vertacc measure val:	3
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from digital elevation model (DEM)		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	84
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

D11 **SW** **1/2 - 1 Mile** **Higher**	**NY WELLS**	**NYWS001210**

Well Id:	NY1819696	System name:	BUFFALO I 90 EAST AUTO/TRUCK C
System Id:	001	Well name:	DRILLED WELL # 1
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430019.7
Longitude:	782428.9	Slec_type_:	AC
Agency:	QUIRIN, JENE		
Address:	BUFFALO I-90 EAST AUTO/TRUCK CTR PO BOX 276		
City/State/Zip:	CORFU NY 14036		
Phone:	716-599-4577		

D12 **SW** **1/2 - 1 Mile** **Higher**	**NY WELLS**	**NYWS001211**

Well Id:	NY1819696	System name:	BUFFALO I 90 EAST AUTO/TRUCK C
System Id:	002	Well name:	DRILLED WELL # 2
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430018.9
Longitude:	782430.4	Slec_type_:	AC
Agency:	QUIRIN, JENE		
Address:	BUFFALO I-90 EAST AUTO/TRUCK CTR PO BOX 276		
City/State/Zip:	CORFU NY 14036		
Phone:	716-599-4577		

D13
SW
1/2 - 1 Mile
Higher

NY WELLS **NYWS001212**

Well Id:	NY1819696	System name:	BUFFALO I 90 EAST AUTO/TRUCK C
System Id:	004	Well name:	DRILLED WELL # 3
Type:	Well	Active?:	Active
County:	GENESEE COUNTY	Latitude:	430018.5
Longitude:	782431.4	Slec_type_:	AC
Agency:	QUIRIN, JENE		
Address:	BUFFALO I-90 EAST AUTO/TRUCK CTR PO BOX 276		
City/State/Zip:	CORFU NY 14036		
Phone:	716-599-4577		

14
West
1/2 - 1 Mile
Higher

FED USGS **USGS40000868222**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-430104078245601		
Monloc name:	GS 654		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	43.0176944
Longitude:	-78.4156111	Sourcemap scale:	Not Reported
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	855
Vert measure units:	feet	Vertacc measure val:	3
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from digital elevation model (DEM)		
Vert coord refsys:	NAVD88	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	70
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID Direction Distance	Database	EDR ID Number

1
NNE
1/8 - 1/4 Mile

OIL_GAS **NYOG70000038405**

Api wellno:	31037196270000	Cnty:	Genesee
Hole:	19627	Sidetrck:	0
Completion:	0		
Well nm:	Schmigel, D. 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	17-JAN-86	Dt spud:	21-MAR-86
Dt comp:	16-APR-86	Well typ:	Gas Development
Dtd:	1015		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.39478		
Yloc:	43.01862		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	844
Dt mod:	05-JAN-04	Site id:	NYOG70000038405

A2
NE
1/2 - 1 Mile

OIL_GAS **NYOG70000038425**

Api wellno:	31037529090000	Cnty:	Genesee
Hole:	52909	Sidetrck:	0
Completion:	0		
Well nm:	Thompson 1		
Coname:	Gypsum Energy Management Co.		
Opno:	329		
Dt approv:	06-SEP-85	Dt spud:	21-AUG-95
Dt comp:	25-AUG-01	Well typ:	Dry Hole
Dtd:	186		
Wl status:	Plugged and Abandoned	Town:	Pembroke
Field:	Indian Falls	Prodform:	Not Applicable
Xloc:	-78.38879		
Yloc:	43.02093		
Confid:	Well does not have confidential information.		
Wellst:	Dry Hole		
Quad:	Akron	Quadsec:	I
Deepestfor:	Not Applicable	Elevation:	850
Dt mod:	05-JAN-04	Site id:	NYOG70000038425

A3
NE
1/2 - 1 Mile

OIL_GAS **NYOG70000038426**

Api wellno:	31037195470000	Cnty:	Genesee
Hole:	19547	Sidetrck:	0
Completion:	0		
Well nm:	Thompson 1a		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	06-SEP-85	Dt spud:	06-NOV-85
Dt comp:	05-DEC-85	Well typ:	Gas Development
Dtd:	1000		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.38879		
Yloc:	43.02094		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	850
Dt mod:	05-JAN-04	Site id:	NYOG70000038426

4
ESE **OIL_GAS** **NYOG70000038374**
1/2 - 1 Mile

Api wellno:	31037196570000	Cnty:	Genesee
Hole:	19657	Sidetrck:	0
Completion:	0		
Well nm:	Sportster's Gun Club 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	22-APR-86	Dt spud:	16-MAY-86
Dt comp:	09-JUN-86	Well typ:	Gas Development
Dtd:	1027		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.38583		
Yloc:	43.01337		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	850
Dt mod:	05-JAN-04	Site id:	NYOG70000038374

5
NW **OIL_GAS** **NYOG70000038439**
1/2 - 1 Mile

Api wellno:	31037204970000	Cnty:	Genesee
Hole:	20497	Sidetrck:	0
Completion:	0		
Well nm:	Schafer 3		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	23-JUL-87	Dt spud:	29-JUL-87
Dt comp:	16-SEP-87	Well typ:	Gas Development
Dtd:	1030		
Wl status:	Plugged and Abandoned	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina

Xloc:	-78.4062		
Yloc:	43.02275		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well Plugged		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	860
Dt mod:	16-JAN-03	Site id:	NYOG70000038439

6
WNW **OIL_GAS** **NYOG70000038418**
1/2 - 1 Mile

Api wellno:	31037196900000	Cnty:	Genesee
Hole:	19690	Sidetrck:	0
Completion:	0		
Well nm:	Schafer, L. 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	17-JUL-86	Dt spud:	28-JUL-86
Dt comp:	22-AUG-86	Well typ:	Gas Development
Dtd:	1040		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.41137		
Yloc:	43.02019		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	879
Dt mod:	05-JAN-04	Site id:	NYOG70000038418

7
WSW **OIL_GAS** **NYOG70000038369**
1/2 - 1 Mile

Api wellno:	31037206960000	Cnty:	Genesee
Hole:	20696	Sidetrck:	0
Completion:	0		
Well nm:	Kokot, M. 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	12-APR-89	Dt spud:	12-MAY-89
Dt comp:	01-SEP-89	Well typ:	Gas Development
Dtd:	1037		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.41185		
Yloc:	43.01257		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	857
Dt mod:	05-JAN-04	Site id:	NYOG70000038369

Map ID
Direction
Distance

Database | EDR ID Number

8
NNE
1/2 - 1 Mile

OIL_GAS **NYOG70000038468**

Api wellno:	31037194930000	Cnty:	Genesee
Hole:	19493	Sidetrck:	0
Completion:	0		
Well nm:	Klotzbach, J. 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	09-JUL-85	Dt spud:	18-OCT-85
Dt comp:	15-NOV-85	Well typ:	Gas Development
Dtd:	985		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.39029		
Yloc:	43.0277		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	853
Dt mod:	05-JAN-04	Site id:	NYOG70000038468

9
ESE
1/2 - 1 Mile

OIL_GAS **NYOG70000038372**

Api wellno:	31037196930000	Cnty:	Genesee
Hole:	19693	Sidetrck:	0
Completion:	0		
Well nm:	Mileham, E. 1		
Coname:	United States Gypsum Co.		
Opno:	1527		
Dt approv:	06-AUG-86	Dt spud:	14-AUG-86
Dt comp:	04-SEP-86	Well typ:	Gas Development
Dtd:	1033		
Wl status:	Active	Town:	Pembroke
Field:	Indian Falls	Prodform:	Medina
Xloc:	-78.37868		
Yloc:	43.01312		
Confid:	Well does not have confidential information.		
Wellst:	Gas Well		
Quad:	Akron	Quadsec:	I
Deepestfor:	Queenston	Elevation:	849
Dt mod:	05-JAN-04	Site id:	NYOG70000038372

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: NY Radon

Radon Test Results

County	Town	Num Tests	Avg Result	Geo Mean	Max Result
GENESEE	ALABAMA	16	2.17	2.03	4.2
GENESEE	ALEXANDER	30	3.68	2.76	16
GENESEE	BATAVIA	292	8.82	3.61	322.7
GENESEE	BERGEN	33	10.89	5.07	122.6
GENESEE	BETHANY	26	8.86	3.68	95.2
GENESEE	BYRON	21	5.96	2.99	44.8
GENESEE	DARIEN	41	10.07	2.99	187.9
GENESEE	ELBA	24	2.88	2.08	9
GENESEE	LE ROY	63	6.64	3.63	47.6
GENESEE	OAKFIELD	42	3.81	2.77	17.2
GENESEE	PAVILION	28	3.84	2.61	19.2
GENESEE	PEMBROKE	58	7.25	2.49	136.1
GENESEE	STAFFORD	21	16.9	6.03	89.6

Federal EPA Radon Zone for GENESEE County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for GENESEE COUNTY, NY

Number of sites tested: 91

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	1.760 pCi/L	86%	14%	0%
Basement	2.400 pCi/L	68%	27%	4%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Freshwater Wetlands
Source: Department of Environmental Conservation
Telephone: 518-402-8961

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

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

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

New York Public Water Wells
Source: New York Department of Health
Telephone: 518-458-6731

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database
Department of Environmental Conservation
Telephone: 518-402-8072
These files contain records, in the database, of wells that have been drilled.

RADON

State Database: NY Radon
Source: Department of Health
Telephone: 518-402-7556
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX E

USER QUESTIONNAIRE

GZA MODIFIED USER QUESTIONNAIRE

Site Name: Former Farm, 1254 Indian Falls Road, Pembroke, New York

Title and Signature of Person Completing Questionnaire

_____

Date: _____

The following are a series of questions from ASTM 1527-13 that must be answered in order to qualify for Landowner Liability Protection under CERCLA. Please provide an answer to each question or attach pertinent information.

(1) Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law?

No Yes (Describe or attach information) Attachment No. _____

_____

_____

(2) Are you aware of any Activity and Use Limitations (AULs), such as engineering controls (e.g. engineered caps, foundations, liners, treatment methods, etc. in use to prevent contamination from migrating to surrounding areas), land use restrictions or institutional controls (e.g. administrative measures restricting groundwater use, construction, or property use) that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No Yes (Describe or attach information) Attachment No. _____

_____

_____

(3) Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No Yes (Describe or attach information) Attachment No. _____

_____

_____

(4) Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

No Yes (Describe or attach information) Attachment No. _____

_____

_____

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property?*

No Yes (Describe or attach information) Attachment No. _____

_____

_____

(5) Are you aware of commonly known or reasonable ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as User,

(a) Do you know the past uses of the property?

No Yes (Describe or attach information) Attachment No. _____

_____

(b) Do you know of specific chemicals that are present or once were present at the property? No Yes (Describe or attach information) Attachment No. _____

_____

(c) Do you know of spills or other chemical releases that have taken place at the property? No Yes (Describe or attach information) Attachment No. _____

_____

(d) Do you know of any environmental cleanups that have taken place at the property?

No Yes (Describe or attach information) Attachment No. _____

(6) As the User of the ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No Yes (Describe or attach information) Attachment No. _____

(7) ASTM identifies certain documents as "Helpful Documents" for the understanding of environmental conditions at the Site. Are you aware of any of the following documents; and if so, can they be made available?

No Yes (Describe or attach information) Attachment No. _____

Prior Environmental Assessments	Risk Assessments
Compliance Reports	Hazardous Waste Generation Notices
Environmental Permits	Notices from Environmental Agencies
Tank Registrations	Underground Injection System Registrations
Material Safety Data Sheets (MSDS)	Community Right to Know Plans
Safety or Spill Protection Plans	Hydrogeologic or Geotechnical Reports

(8) Do you know who the past owners of the property are and can you provide contact information?

No Yes (Describe or attach information) Attachment No. _____

(9) Do you have a complete site plan of the property that shows property boundaries and can you make it available?

No Yes (Describe or attach information) Attachment No. _____

APPENDIX F

QUALIFICATIONS

Thomas Bohlen

Assistant Project Manager

Education

B.A., 2009, Geology, State University of New York College at Buffalo

B.S., 2009, Earth Science Education, State University of New York College at Buffalo

Areas of Specialization

- Environmental Site Assessments
- Geotechnical Investigations
- Hydrologic Investigations
- CQA Monitoring and Testing
- Soil and Rock Classification

Experience:

Years with GZA: 8.0
Years with other firms: 3.0

Training

- Certified Operation of a Surface Moisture/Density Gauge (Troxler training)
- USDOT/IATA training on shipping and/or transportation of Hazardous materials
- OSHA 40 hour HAZWOPER training

Summary of Experience

Mr. Bohlen has been involved in a variety of environmental projects as a Project Geologist. Mr. Bohlen's range of responsibilities has included Phase I environmental site assessments; Phase II environmental site assessments; remedial investigations; geotechnical laboratory testing; geotechnical investigations; soil vapor testing; air sampling and soil and groundwater sampling. He has conducted numerous Environmental Site Assessment (Phase I and Phase II) reports and remedial investigation reports on residential, commercial and industrial properties. Recent relevant work experience includes the following.

Relevant Project Experience

Phase I and Phase II Environmental Site Assessments. Has performed numerous Phase I and Phase II ESA's throughout the Buffalo area and New York State. Clients have ranged from investors, legal professionals, and commercial banks to current property owners. Responsibilities have included budget preparation, field investigation activities, soil, groundwater, soil vapor and indoor air sampling, geophysical surveys, and report preparation. Recent relevant work experience includes the following.

National Grid - Former Power Substation/Crew Service Center, Tonawanda, New York - Completed a Phase I environmental site assessment at a vacant former power substation and crew service center. Historical usage at the property identified various solvents, oils, fuels, antifreeze, mineral oils with PCBs, and the potential presence of several on-Site USTs. Historical PCB-containing transformer storage and repair were also identified. Recommended soil and groundwater sampling/analysis to determine potential impact from historical usage. Work included site reconnaissance, historical review, and report preparation.

Automobile Dealership and Service Facility, Tonawanda, New York - Completed a Phase I and Limited Phase II environmental site assessment at an active automobile dealership. Historical usage at the property identified various solvents, oils, fuels, antifreeze, paints, an oil/water separator, and several on-Site ASTs. Work included site reconnaissance, historical review, soil/groundwater/subslab vapor sampling and report preparation. The limited Phase II ESA identified low level volatile organic compound (VOC) and semi-volatile organic compound (SVOC) detections in the soil and groundwater at the Site; and identified several VOCs within building. Based on these findings and concentrations, additional evaluation was not required.

Industrial/Office Building, Rochester, New York - Completed a Phase I environmental site assessment at a 78,000 square foot building formerly used for the manufacture and distribution of various vacuum pumps and components. Historical usage at the property identified various solvents, oils, and paints, the presence of three former underground storage tanks, and a vapor degreaser that used trichloroethane. Recommended soil and groundwater sampling/analysis to determine potential impact from historic usage. Work included site reconnaissance, historical review, and report preparation.

Industrial/Office Building, Lancaster, New York - Conducted a Phase I environmental site assessment at a facility specializing in the manufacture of quick-connect couplers used in automobile radiators and transmissions. Identified potential wetland areas, the chemicals used in the assembly process, and the hazardous and solid waste generated at the facility. Work included site reconnaissance, historical review, and report preparation.

Retail Paint Store/Vacant Automotive Facilities, Buffalo, New York – Conducted a Phase I environmental site assessment at a retail paint store and three vacant buildings. Historical usage of the property included automotive repair and detailing shops, a laundry machinery company, and a potential dry cleaner. Identified several environmental concerns including historical usage, potential underground storage tanks, and floor drains in the former automotive facilities. Recommended soil and groundwater sampling/analysis to determine potential impact from historic usage. Work included site reconnaissance, historical review, and report preparation.

Commercial Facility, Buffalo, New York – Completed a Phase I environmental site assessment at a retail plaza that consisted of sixteen commercial stores and a separate automotive repair facility. Identified several historical environmental concerns, the former presence of underground hydraulic lifts, and suspect asbestos containing materials. Recommended soil and groundwater sampling/analysis to determine potential impact from historic usage. Work included site reconnaissance, historical review, and report preparation.

Industrial/Office Building, Buffalo, New York – Conducted a Phase I environmental site assessment at a facility used for the development and manufacture of infection control and first aid products. Historical usage at the property included automotive repair and trucking facilities and the installation of four gasoline underground storage tanks. Identified the presence of suspect asbestos containing materials and potential residual groundwater contamination from adjoining properties. Recommended soil and groundwater sampling/analysis to determine potential impact from historic usage. Work included site reconnaissance, historical review, and report preparation.

Industrial Facility, Tonawanda, New York – Completed a Phase I environmental site assessment at a facility specializing in the manufacture of parts and accessories used for outdoor power equipment. Identified the recognized environmental concern of historical and current trichloroethane and trichloroethylene usage. Recommended soil and groundwater sampling/analysis to determine potential impact from historic usage. Work included site reconnaissance, historical review, and report preparation.

RESUME

Christopher Boron
Senior Project Manager

Education

B.S., 1995, Geology, State University of New York College at Fredonia

Areas of Specialization

- Remedial Investigation/ Feasibility Studies
- Environmental Site Assessment
- Hydrologic Investigations
- Field Work
- Mulit-media Sampling
- Landfill CQA/CQC

Summary of Experience

Mr. Boron's professional experience includes both environmental and geotechnical engineering projects. He has performed remedial investigations, feasibility studies, remediation of soil and groundwater, Phase I and II environmental site assessments, hydrologic assessments, along with solid waste facility construction management and construction quality assurance monitoring and testing. He is proficient in using the field gas chromatograph (GC) and has completed groundwater, soil, and soil gas surveys with the instrument. He is responsible for project management, client contact, proposal and budget preparation, management of field teams including GZA and subcontract personnel, project scheduling, and report preparation. Relevant project experience follows.

Relevant Project Experience

Confidential Client, Lockport, New York. A trichloroethylene (TCE) and tetrachloroethene (PCE) plume is migrating in bedrock groundwater from a former AST spill. Performed groundwater sampling and monitored groundwater contaminant conditions to assess natural attenuation parameters. Prepared Remedial Investigation and Feasibility Study (RI/FS) reports. The RI/FS Reports have been approved by NYSDEC. The Record of Decision (ROD) has been issued and the remedial alternative selected based on the FS is Monitored Natural Attenuation (MNA). Assessment of soil vapor intrusion of an on-site building is currently underway prior to implementing the ROD, which will begin in early 2006.

Contract to Closure, Remedial Activities, Commercial Facility, Rochester, New York – Soil and groundwater at two adjacent properties have been contaminated with petroleum from former gasoline stations which occupied the properties as far back as the early 1950's. The site owner signed a Stipulation Agreement with NYSDEC to remediate the Site, but had taken no action to remediate. Our client wants to develop the Site for commercial use as a credit union. GZA performed soil and groundwater sampling investigations, demolished Site buildings, prepared a NYSDEC approved work plan to remediate the soil and groundwater, removed soil impacted with free product, performed in-situ chemical oxidation injections to remediate Site groundwater to achieve NYSDEC inactive status. GZA prepared the Closure Report which summarizes Site activities, which is currently being reviewed by NYSDEC. Responsibilities included Site investigations, soil and groundwater sampling, work plan and budget preparation, remedial design and implementation, chemical injections, confirmatory sampling and closure report preparation.

Voluntary Cleanup - Commercial Facility, Hamburg, New York. Conducted a Phase II environmental site assessment at retail facility, which was occupied by a dry cleaner in one unit from mid 1950s to late 1990s. Identified tetrachloroethene (PCE) in various soil samples located beneath the building floor slab and in an alleyway behind the building. Concentrations of soil and groundwater behind the building were above NYSDEC regulatory standards. Completed an additional investigation to identify potential sources and extent of contamination. A source area was identified outside the building in the soil in the alleyway. Collected shallow and deep water samples, which identified shallow groundwater contamination, but confirmed clay confining layer. An Interim Remedial Measures (IRM) was completed which included soil removal and disposal and installation of sub-slab vapor mitigation system to prevent contaminated vapor intrusion into the building. Work included site reconnaissance, historical review, soil probes (exterior and interior), soil gas survey with gas chromatograph, interior ambient and sub-slab air sampling, monitoring well installation oversight, soil and groundwater

RESUME

Christopher Boron
Senior Project Manager

Experience:

Years with GZA: 12
Years with other firms: 0

Professional Affiliations

Buffalo Association of Professional Geologists, Director

Air and Waste Management Association of Western New York

sampling, IRM oversight and closure report preparation. NYSDEC is currently reviewing report and Site closure status is pending.

Confidential Client, Webster, New York – Groundwater at an active gasoline station has been contaminated with gasoline. The client has signed a Stipulation Agreement with NYSDEC to remediate the Site. A remedial investigation with a NYSDEC approved work plan to delineate the extent of the groundwater plume has been completed. Preparation of the Remedial Action Plan is currently underway. Responsibilities included client and NYSDEC contact, work plan and budget preparation, project staffing, and report preparation.

NYSDEC Superfund Standby Contract, New York State. Remedial Investigation/Feasibility Study (RI/FS) projects include management of field activities, assessment of soil and groundwater contamination both on and off-Site and report preparation for both RI and FS reports.

- **Remedial Investigation, Grove Cleaners, Hewlett, New York.** Groundwater at a former dry cleaners site contains chlorinated organic contamination. Performed a comprehensive field gas chromatograph field screening of subsurface soils and groundwater samples to delineate the source of contamination during the on-site characterization studies and groundwater samples during off-Site characterization. Conducted monitoring well assessment, development, groundwater sampling and was involved with hydrogeologic and analytical data interpretation and RI report preparation. The work was completed in accordance with regulatory-approved site- specific work plans.
- **Preliminary Site Assessments, New York, NYSDEC.** Performed PSAs at two sites near New York City. Work included subsurface investigation including soil and groundwater sampling, groundwater screening with a portable gas chromatograph, hydrogeologic evaluation, geochemical evaluation and preparation of hazardous ranking score (HRS). Analyzed potential risk associated with the sites, to evaluate whether the sites belong on the inactive hazardous waste registry; and wrote portions of the report.
- **Preliminary Site Assessment, Crusher Road Site, Bedford, New York.** The site groundwater is contaminated with PCE from an unknown source. Field studies identified the source of the PCE was due to unauthorized disposal at a former town dump, currently utilized as the town highway department, which impacted the subsurface soils and groundwater at the Site. Completed soil borings and groundwater sample collection, development of existing monitoring wells, and soil/groundwater analytical sampling to delineate the extent and origin of the contamination plume. Performed field screening with a portable gas chromatograph of subsurface soil and groundwater samples to delineate source of contamination during the on and off-site characterization studies.

Phase II Environmental Site Assessments. Have performed numerous Phase II ESA's throughout the Buffalo area and New York State. Clients have ranged from investors and commercial banks to current property owners. Responsibilities have included, project management, budget preparation, field investigation activities, soil, groundwater, soil vapor and indoor air sampling, geophysical surveys, and report preparation.

Bart A. Klettke P.E.

Associate Principal

District Office Manager

Education

B.S., 1984, Civil Engineering, Valparaiso University

PROFESSIONAL REGISTRATION

1992, Professional Engineer, New York, No. 069423

Areas of Specialization

- Solid Waste Design
- Civil Site Design
- Construction Administration

Experience:

Years with GZA: 20

Years with other firms: 3

Professional Affiliations

American Society of Civil Engineers - Buffalo Chapter

New York State Association for Solid Waste Management

Professional Development

- Completed Course by American Council of Engineering Companies of New York "Design of Drainage Geocomposites for Landfills" (2006)
- Presented "Turning a Brownfield into a Greenfield" regarding development of the Allied Waste Niagara Falls Landfill, April 2008, Niagara Frontier Section of Air & Waste Management Association

Summary of Experience

Mr. Klettke has over 20 years of professional experience. He has permitted, designed and managed the construction of solid waste management facilities. He is experienced in performing and supervising CQA monitoring programs, civil site plans, and geotechnical investigations. Relevant project experience follows.

Relevant Project Experience

- **Associate Principal, Solid Waste Disposal Area II, Phases C & D, AES Somerset, LLC, Barker, New York.** Designed a 14-acre ash monofill waste management facility and re-lining of 2 retention basins. Prepared contract documents and developed ACAD 3-dimensional surface models for construction layout of multiple layered landfill liner. Administered QA/QC program.
- **Associate Principal, Sanitary Landfill Area VIII, BFI Waste Systems of North America, Niagara Falls, New York.** Designed an 84-acre solid waste management facility including developing permit drawings and writing a design rationale report. Design required management of on-site miscellaneous fill soils to minimize relocation of soils and maximize available air space. Developed 3-D computer model data for multi-layered liner system for direct upload to enable contractor to grade layers using GPS technology. Currently administering QA/QC monitoring program for 17-acre Subarea B portion of landfill.
- **Sanitary Landfill Area V, Subarea C, BFI Waste Systems of North America, Niagara Falls, New York.** Designed a 10-acre solid waste management facility including developing construction drawings, and writing technical specifications and QA/QC plan. Drawings were developed as 3-dimensional ACAD files. Calculated earthwork and material volumes, using computer surface modeling program. Design required quantifying and managing different on-site industrial fill types for disposal or use as structural fill. Accurate pre-construction quantification and successful management of the varying fill types resulted in actual cell construction costs being less than budgeted costs.
- **Landfill Remediation Project, Town of Hamburg, New York.** Overall design responsibility for remedial closure of this solid waste management facility. Developed design plans to consolidate waste and re-grade existing landfill, and provide surface water drainage.
- **Chaffee Landfill, Waste Management of North America, Sardinia, New York.** Performed design modifications for the containment berms, site access roads and surface drainage structures for this solid waste management facility. Design modifications saved client 70,000 cubic yards of earth fill. Calculated survey control for construction layout. Calculated earthwork and air-space volumes, using computer surface modeling program.
- **McKenna Landfill Remedial Closure, Waste Management of North America, Albion, New York.** Developed construction drawings for remedial closure of this solid waste management facility. Calculated earthwork and construction material volumes using computer surface modeling program. Provided design interpretation, reviewed contractor submittals, reviewed payment quantities, and addressed concerns and questions by contractor. Monitored geosynthetic installations.

CANNONDESIGN

LARSEN ENGINEERS

FISHER ASSOCIATES
ENGINEERS & SURVEYORS

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

CostPro

Aqua Engineering, Inc.
Innovative Water Solutions

New

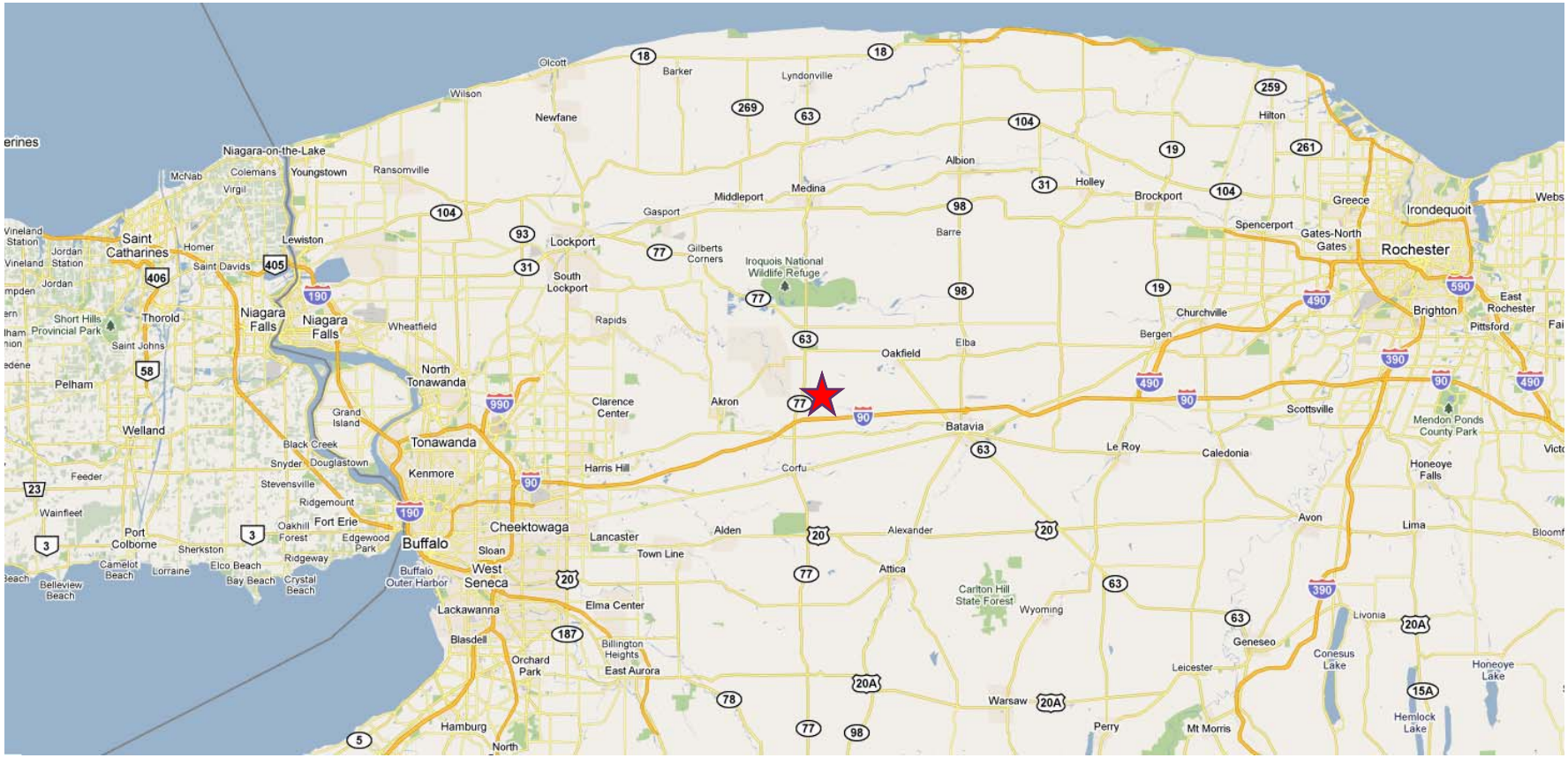
Agenda

Site Visit: 8:30 AM - 10:30 AM

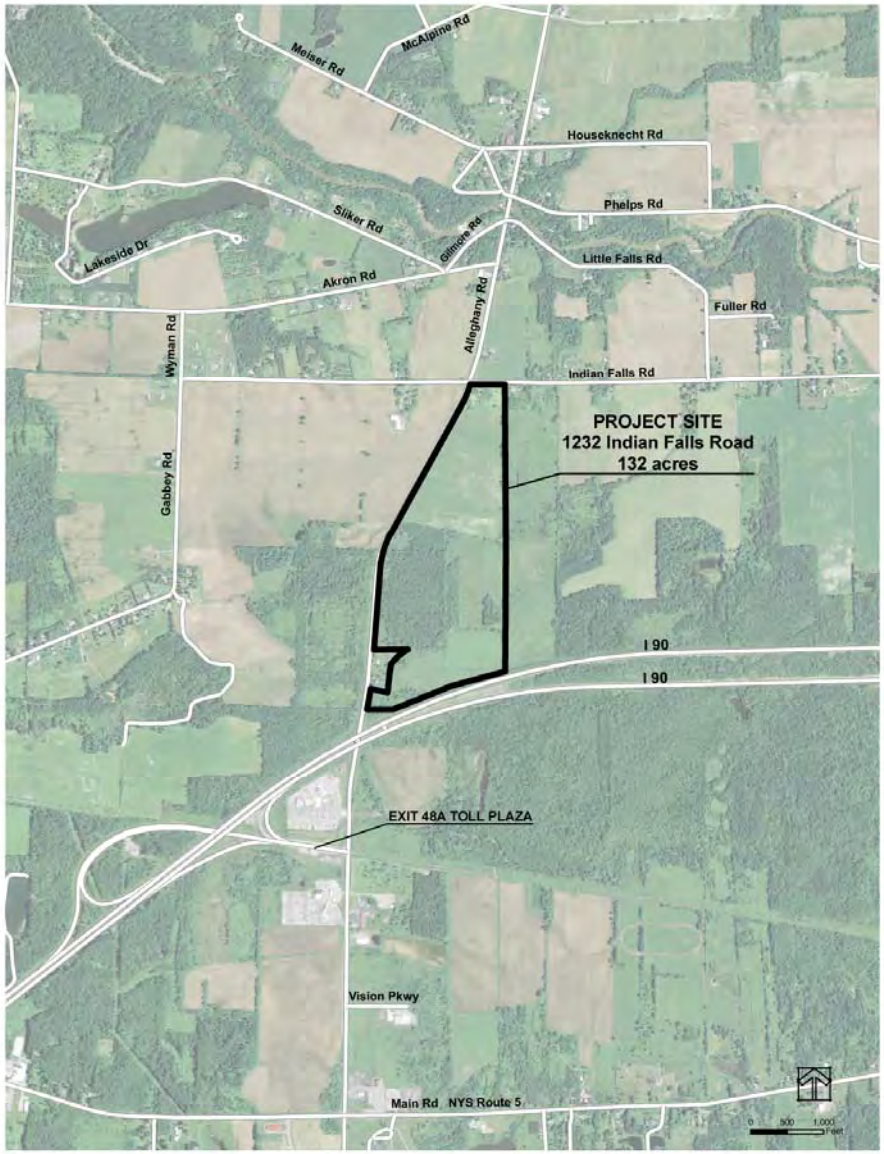
Meeting at Cannon Design's Grand Island Office: 11:30 AM – 5 PM

- Project Overview
- Detailed review of Project Scope /Program Elements
- Survey update
- Geotechnical Investigation update
- Traffic Analysis discussion
- Utilities Investigation
- Irrigation / Water Source discussion
- Permitting Analysis update
- Site Opportunity and Constraints
- Local vernacular / Materials discussion
- Sustainable Design discussion
- Alternative Energy discussion
- Project Labor Agreement Impact Study update
- Preliminary Plans / Ideas
- Schedule
- Issues / Q & A

Project Overview - Site Location



Project Overview - Site Vicinity



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Project Scope / Program Elements*

*Excerpt from the OMB A-11 Business Case Capital Investment Proposal Application by Bruce Borko August 2014

This project will consist of the construction of Phase I of the cemetery. The remainder of the site will be developed in future phased projects in accordance with the cemetery master plan. Those facilities necessary to maintain, operate, and provide burials for approximately ten years will comprise the Phase I construction. Approximately 45 acres of land will be consumed and 7,700 gravesites, including full-casket and cremain sites will be developed including the following elements and features:

- Interment Areas (Burial Sections, including Early Turn Over Area):
  - Casketed Remains:
    - Approximately 2,500 pre-placed crypt full casket gravesites including 800 as part of Early Turnover Phase (confirm); 3' x 8' plot size(confirm)
    - ~~Site evaluation/analysis for determination regarding the possible inclusion of approximately 200 above ground casket mausoleum spaces~~ (Deleted 3/2/15)
  - Oversized/ Private Vault Casket Burial Section; 4'x10' plot size (confirm):
    - Approximately 650 oversized pre-placed crypt full casket gravesites
    - Approximately 650 in-ground traditional full casket gravesites (to accommodate private vaults) with headstone support beam system
  - Cremated Remains:
    - Approximately 1,700 pre-placed urn crypts (Delete?) garden niche, or terrace sites with integral headstone support system, as applicable; 4'x4' plot size (confirm); Included as part of Early Turnover Phase (confirm)
    - Approximately 2,000 columbarium niches
    - Ossuary for cremated remains

Project Scope / Program Elements (continued)

- Administration/Public Information Center Building (approximately 5,200 gsf) with Electronic Gravesite Locator (kiosk), Public Restrooms, security system and associated parking
- Maintenance Complex (approximately 7,700 gsf) with Buildings, Service Yard, associated parking, and security system
- Honor Guard Building (approximately 1,200 gsf) with lounge/gun cleaning area, restrooms, rifle storage/safe area, and associated parking for 15 volunteers
- Memorial Walls (2)
- Committal Service Shelters (2)
- Memorial Walkway/Donations Area
- Entrance Area
- Access Roads
- Flag/Assembly Area
- Roadway System and Parking
- Spoils Area Containment Structure
- Site Furnishings, Receptacles, Signage
- Grading, Drainage
- Fencing and Landscaping, as required for this particular site
- Irrigation System, as required for this site
- Utility Distribution Systems, including off-site infrastructure, if necessary, to bring utilities to the site.

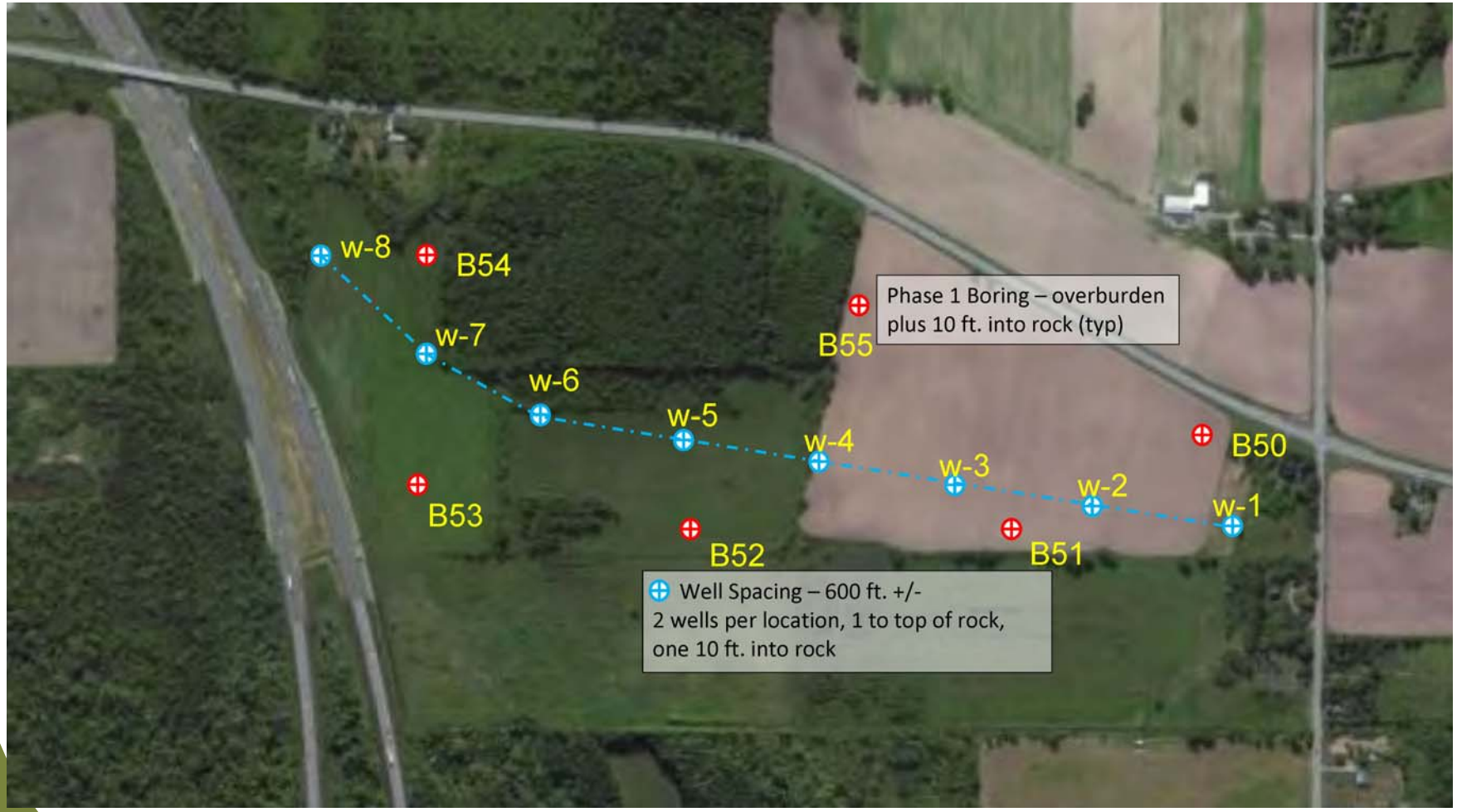
Project Scope / Program Elements (continued)

- Incorporate Guiding Principles for High Performance and Sustainable Buildings MOU and Renewable Energy Initiatives. LEED and Green Globe requirements may be used to improve sustainability and reduce energy usage
- Protected Habitat Preservation, Wetlands, and Mitigation
- Global Positioning System (GPS) Site Integration

Survey Update

- Topographic Survey progress continuing:
  - Road cross-sections have been completed
  - Working from north to south with ground shots and feature locations
- Having the wetland delineation completed during MP1 (by others) is critical.

Geotechnical Investigation Update
Boring & Piezometer Locations



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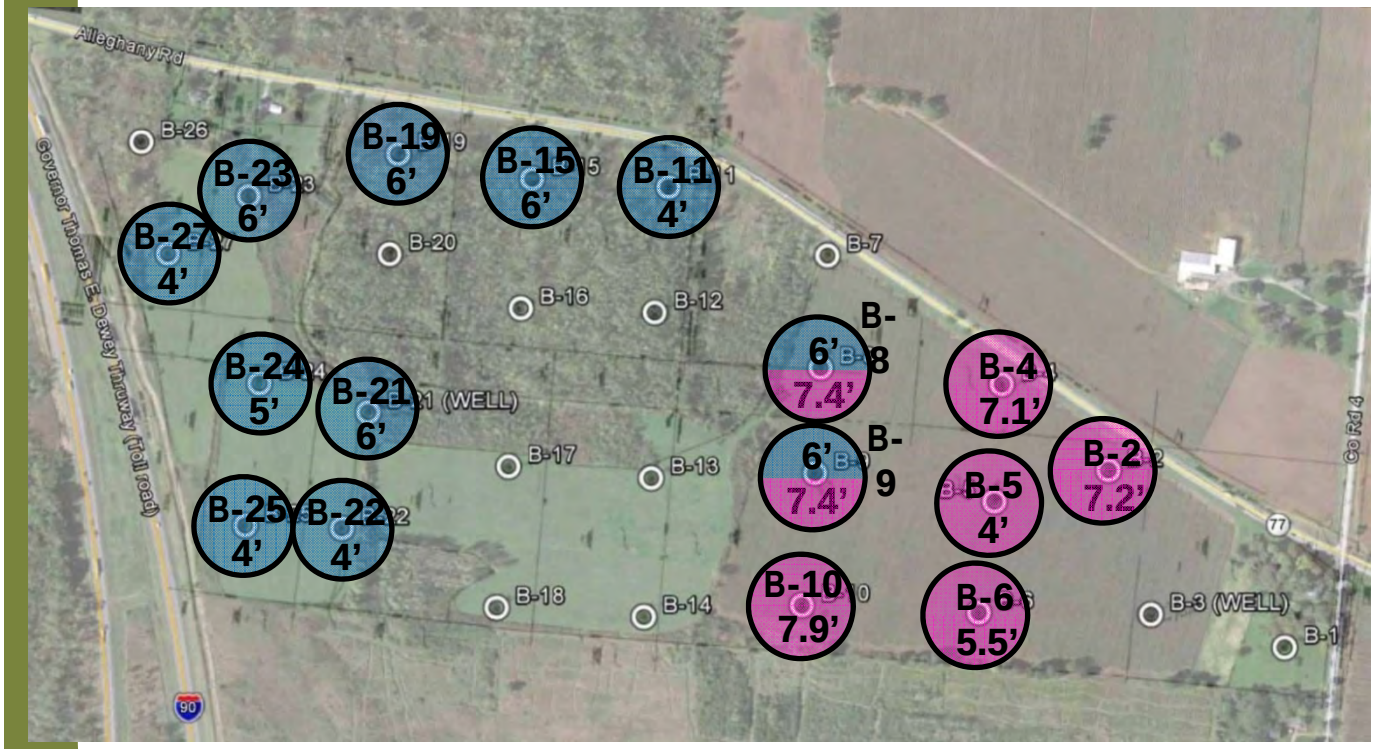
Geotechnical Investigation Previously Performed by Others*

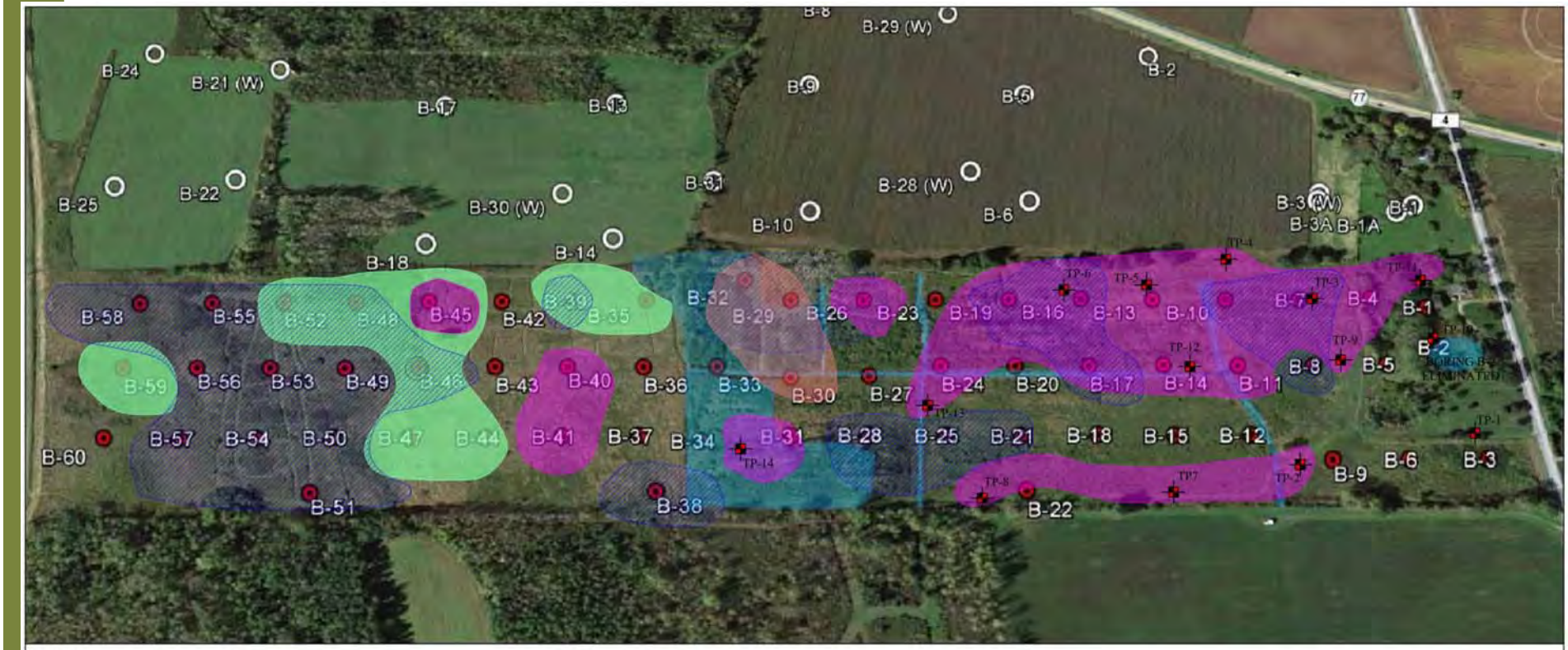


- Very Hard Moraine-Type Soil Deposits (Cobbles and Boulders) + Possibly Limestone Bedrock + Karst Conditions
- Groundwater at Shallow Depths or Standing on the Surface
- Highly Erosive Soils
- Unfavorable Soils for Establishing /Maintaining Landscaping
- Clayey + Silty-Clay Soils Anticipated (not acceptable as fill)

DEPTH TO HIGH GROUNDWATER	DEPTH TO AUGER REFUSAL

* Borings Performed During February 2013 by Empire GEO Services, Inc.

Geotechnical Investigation Previously Performed by Others



LEGEND:

- B-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING COMPLETED BY SJB SERVICES, INC. IN MAY 2014
- B-8 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING COMPLETED WITH GROUNDWATER OBSERVATION WELL COMPLETED BY SJB IN MAY 2014
- TP-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST PIT COMPLETED BY SJB IN MAY 2014
- B-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING COMPLETED BY SJB IN FEBRUARY 2013
- INDICATES APPROXIMATE LOCATIONS WITH 2 TO 4-INCHES OF STANDING WATER AT THE TIME OF SJB SERVICES, INC. INVESTIGATION
- INDICATES APPROXIMATE LOCATIONS WITH AT LEAST 12 TO 24-INCHES OF STANDING WATER AT THE TIME OF SJB SERVICES, INC. SITE LAYOUT
- INDICATES APPROXIMATE LOCATIONS WHERE FREESTANDING WATER WAS ENCOUNTERED OR DRILLER NOTED ENCOUNTERING WATER WITHIN A DEPTH OF 5 FEET
- INDICATES GENERAL AREAS WHERE COBBLES AND BOULDERS WERE ENCOUNTERED WITHIN DEPTHS OF 2 TO 10 FEET
- INDICATES GENERAL AREA WHERE LIMESTONE BEDROCK WAS ENCOUNTERED

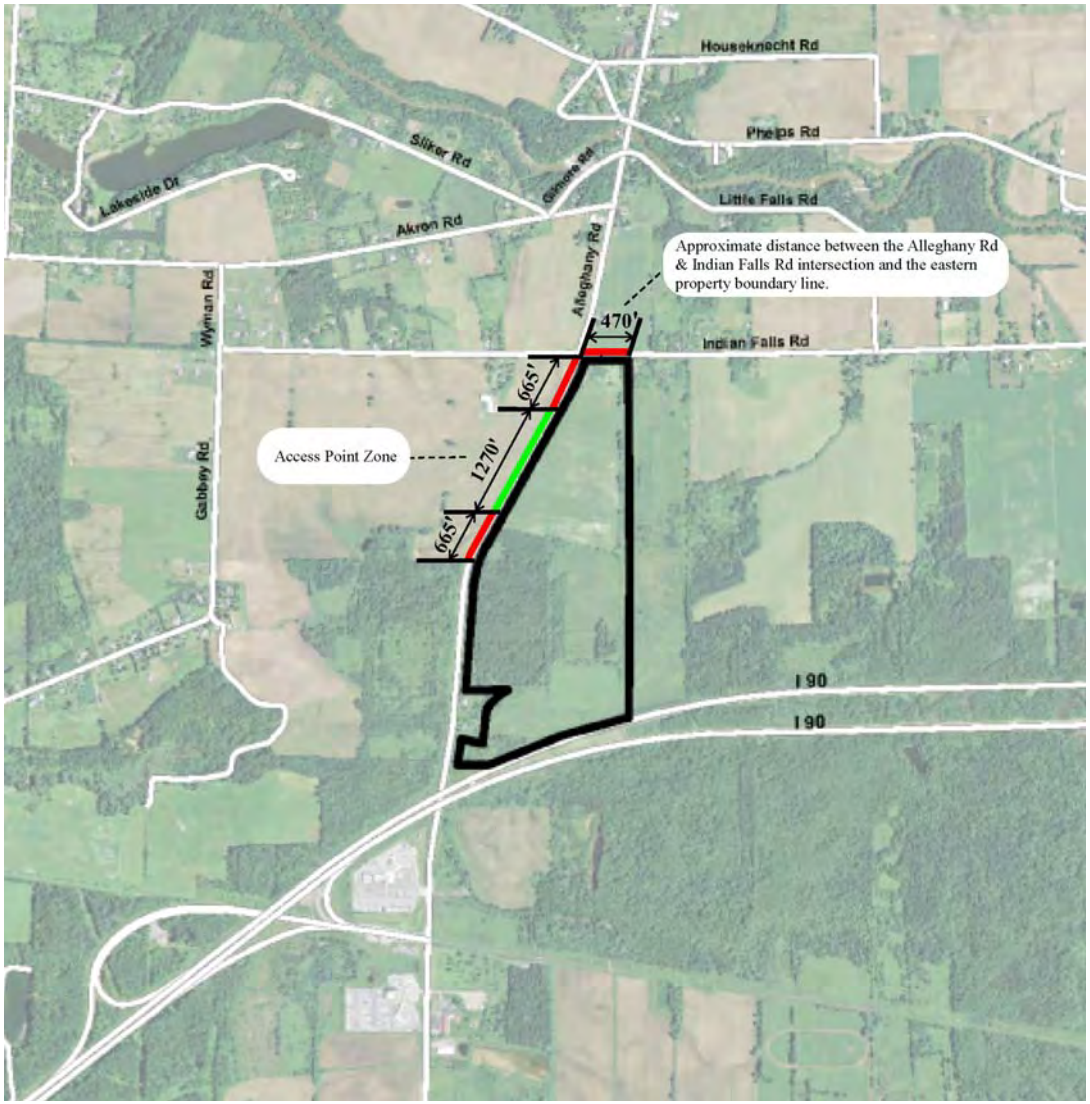
N

NOTE:

THE AREAS DEPICTED ON THE PLAN ARE BASED ON THE CONDITIONS ENCOUNTERED AT THE EXPLORATION LOCATIONS AND SHOULD BE CONSIDERED APPROXIMATE. THE CONDITIONS ARE EXPECTED TO VARY BETWEEN AND AWAY FROM THE DEPICTED ARES AND MAY NOT BE ISOLATED TO THE PARTICULAR AREA.

EMPIRE GEO SERVICES INC (a subsidiary of SJB Services, Inc.)	PROPOSED VETERANS AFFAIRS CEMETERY SITE HAEGER PARCEL INDIAN FALLS ROAD PEMBROKE, NEW YORK		
SUBSURFACE EXPLORATION PLAN	DR BY: WMA	SCALE: NTS	PROJ NO.: BE-14-054
	CHKD BY: TRS	DATE: 06/25/14	FIGURE NO: 2

Traffic Analysis Discussion - Sight Distance (Public Entrance)



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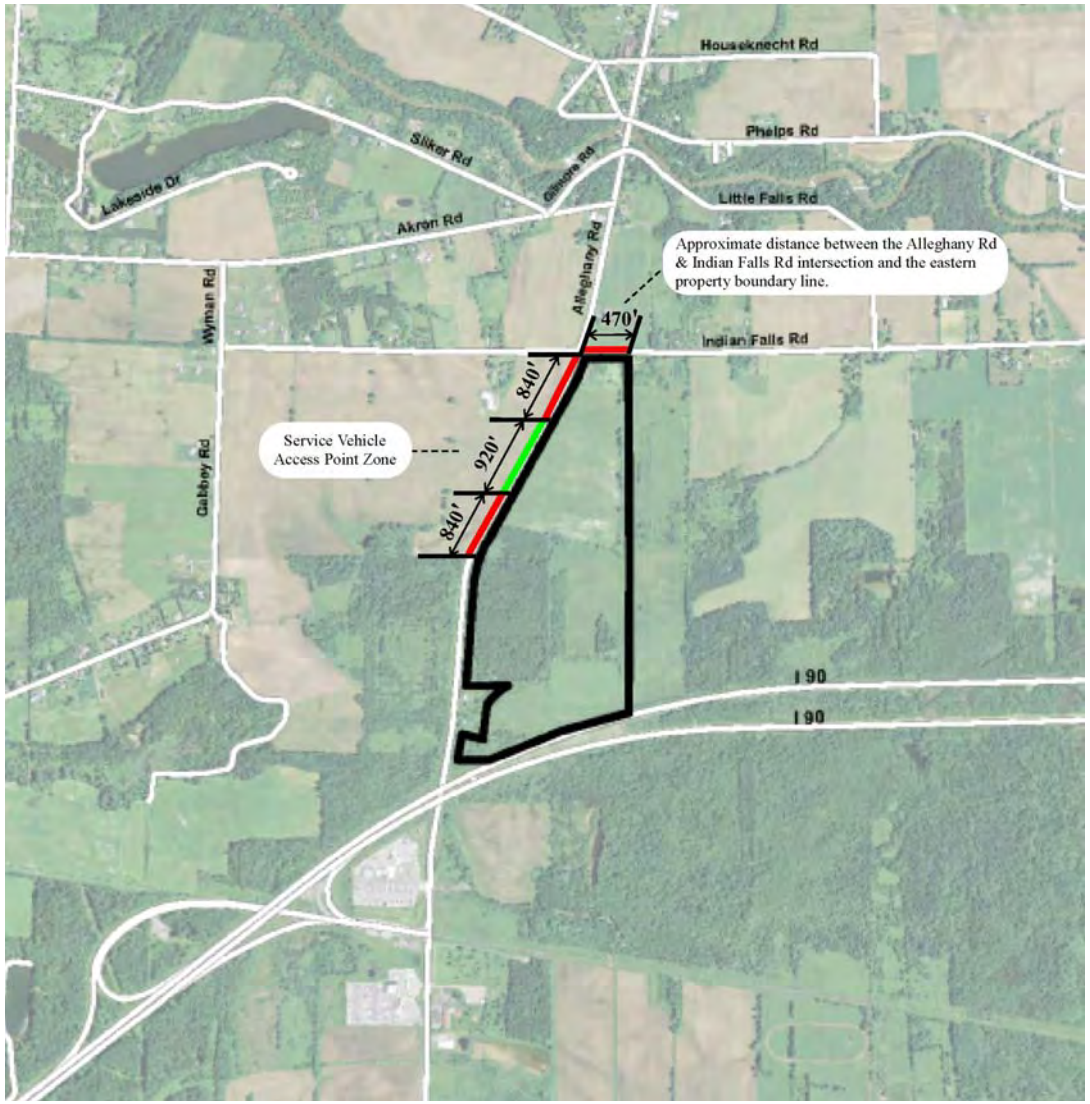
Traffic Analysis Discussion - Sight Distance (Service Entrance)



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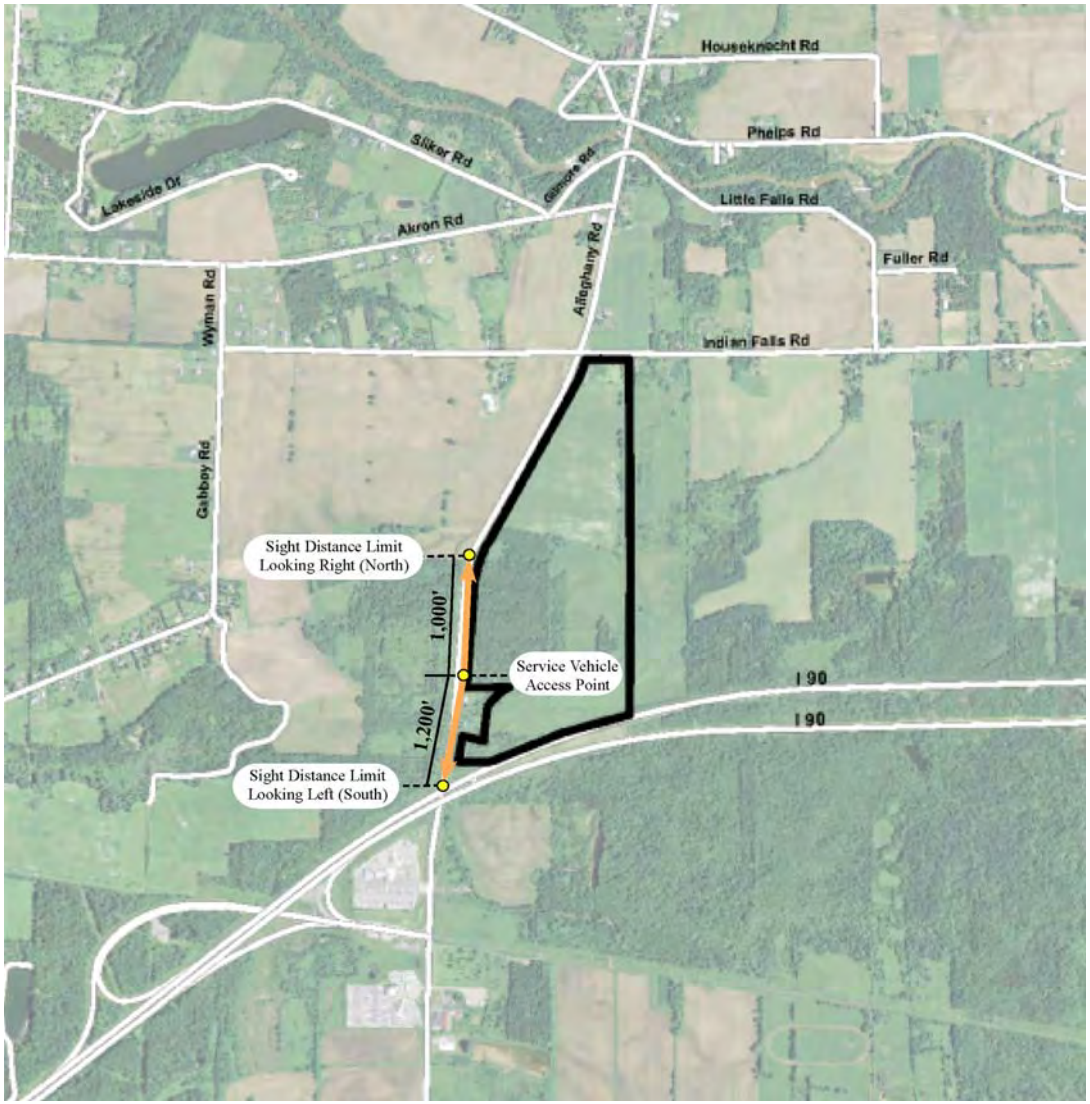
The LA GROUP

Traffic Analysis Discussion - Sight Distance* (Service Entrance)



* Observed Intersection Sight Distance

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ENGINEERS & SURVEYORS

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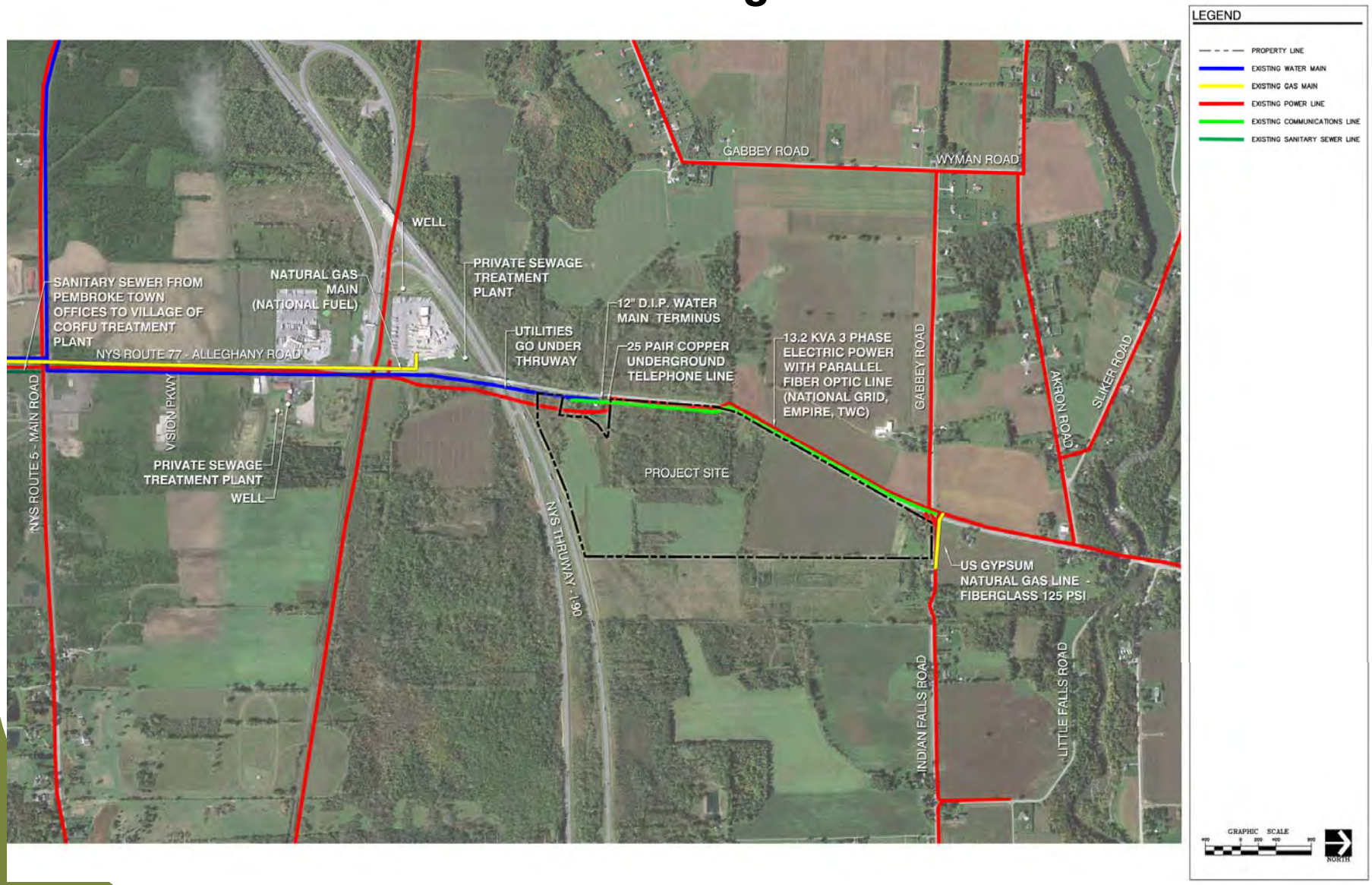
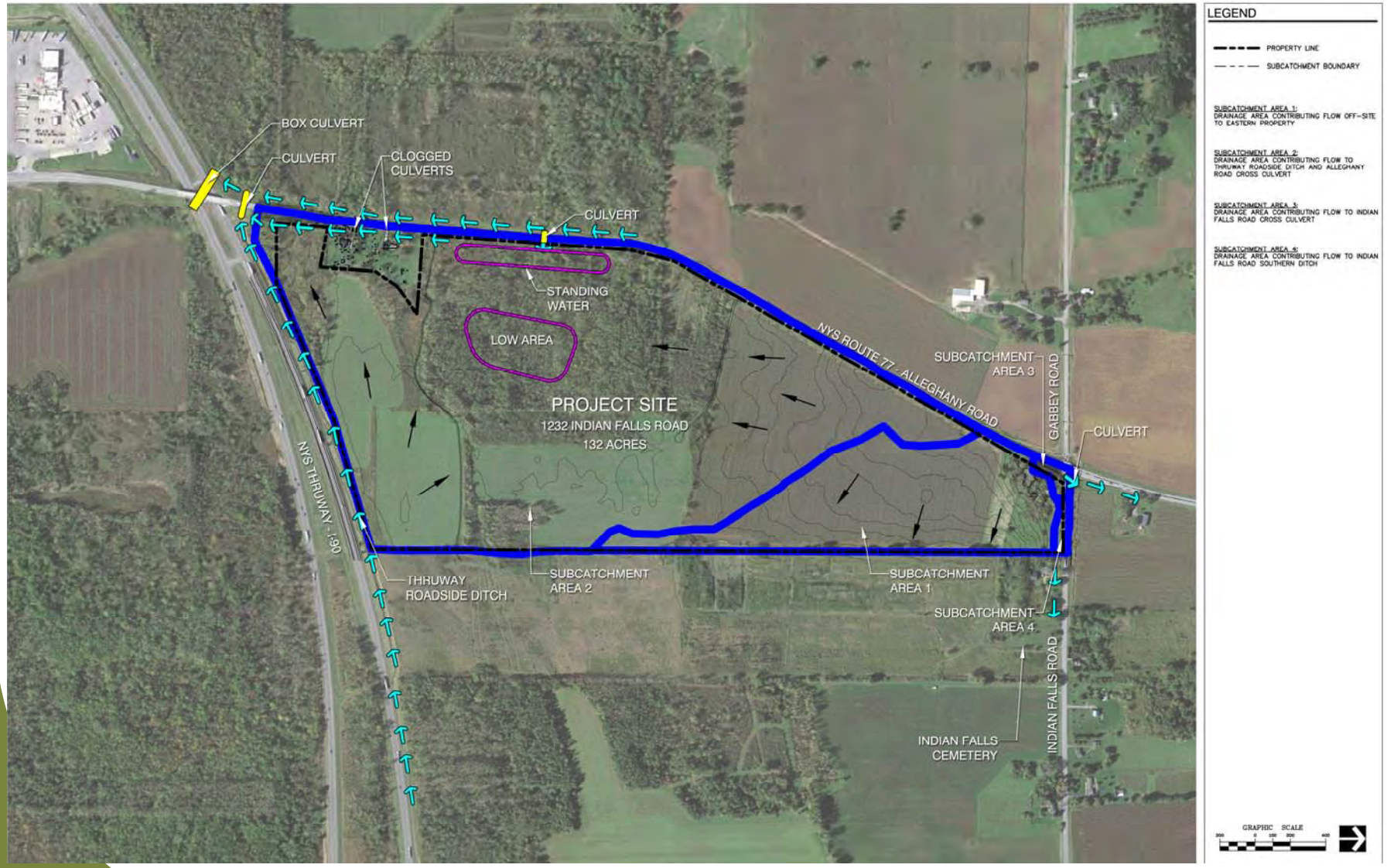
Utilities Investigation



The LA GROUP

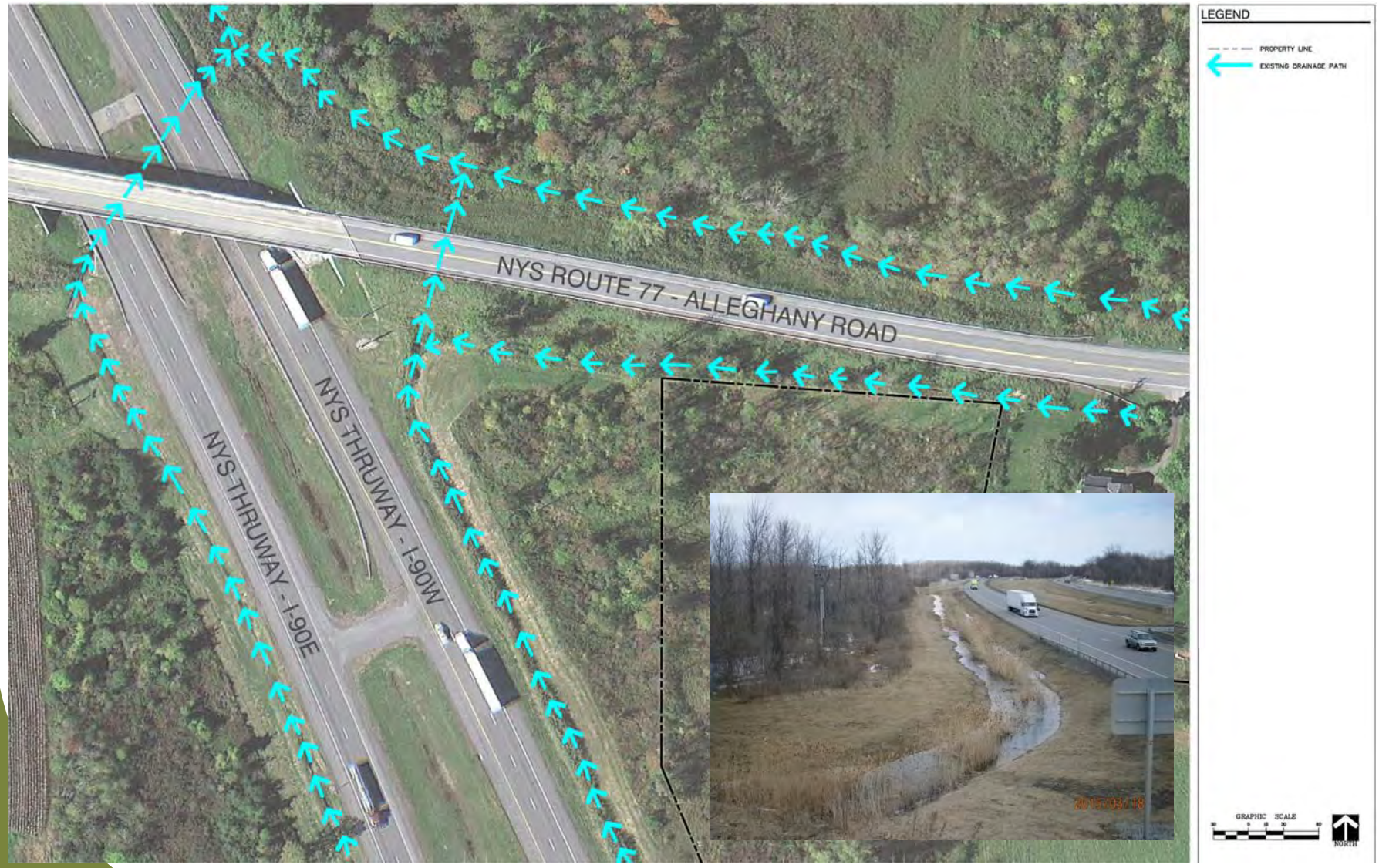
New Western New York National Cemetery

Stormwater Analysis

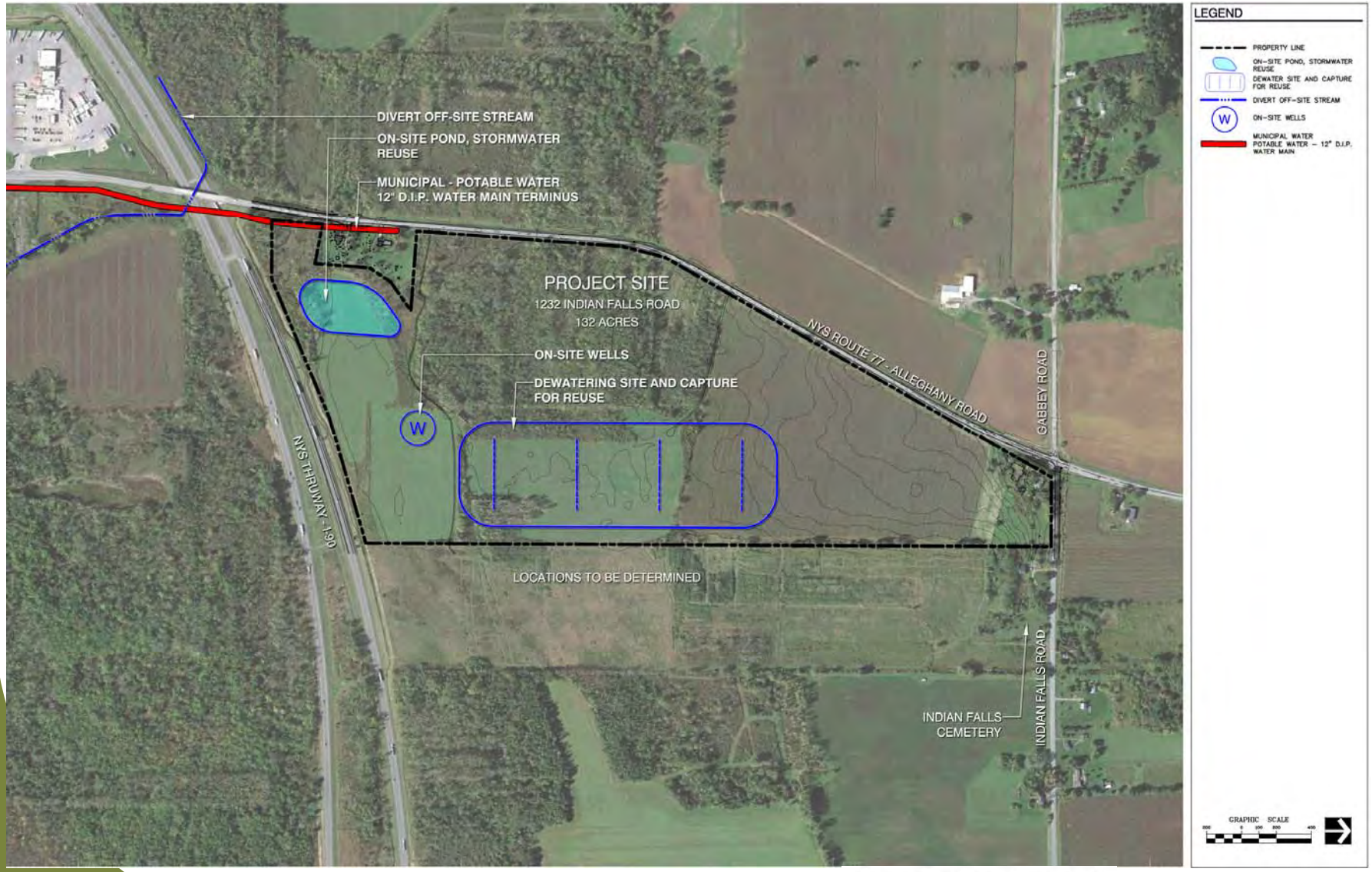


The LA GROUP

Stormwater Analysis



Irrigation Water Source Discussion



Aqua Engineering, Inc.
Innovative Water Solutions

The LA GROUP

Permitting Investigation Update

- Federal [1]
  - US Army Corps of Engineers
  - US Fish and Wildlife Service
  - Section 106 of the National Historic Preservation Act of 1996
  - US Department of Agriculture Natural Resources Conservation Service
- State
  - NYS Department of Transportation
  - NYS Thruway Authority
  - NYS Department of Environmental Conservation [2]
    - Wetlands
    - Water Quality Certificate
    - NY Natural Heritage Program
    - State Pollutant Discharge Elimination Permit
      - Construction Sediment and Erosion Control
      - Operational Stormwater Management
      - Wastewater? (Depends on Collection/Treatment/Disposal Method Employed)

[1] Federal permitting will be the responsibility of the IDIQ SEA preparer.

[2] NYSDEC Permits will be the responsibility of the IDIQ SEA preparer except for sediment and erosion control and stormwater management SPDES permitting, that will be the responsibility of the LA Group

Permitting Investigation Update (continued)

- Regional
  - None identified

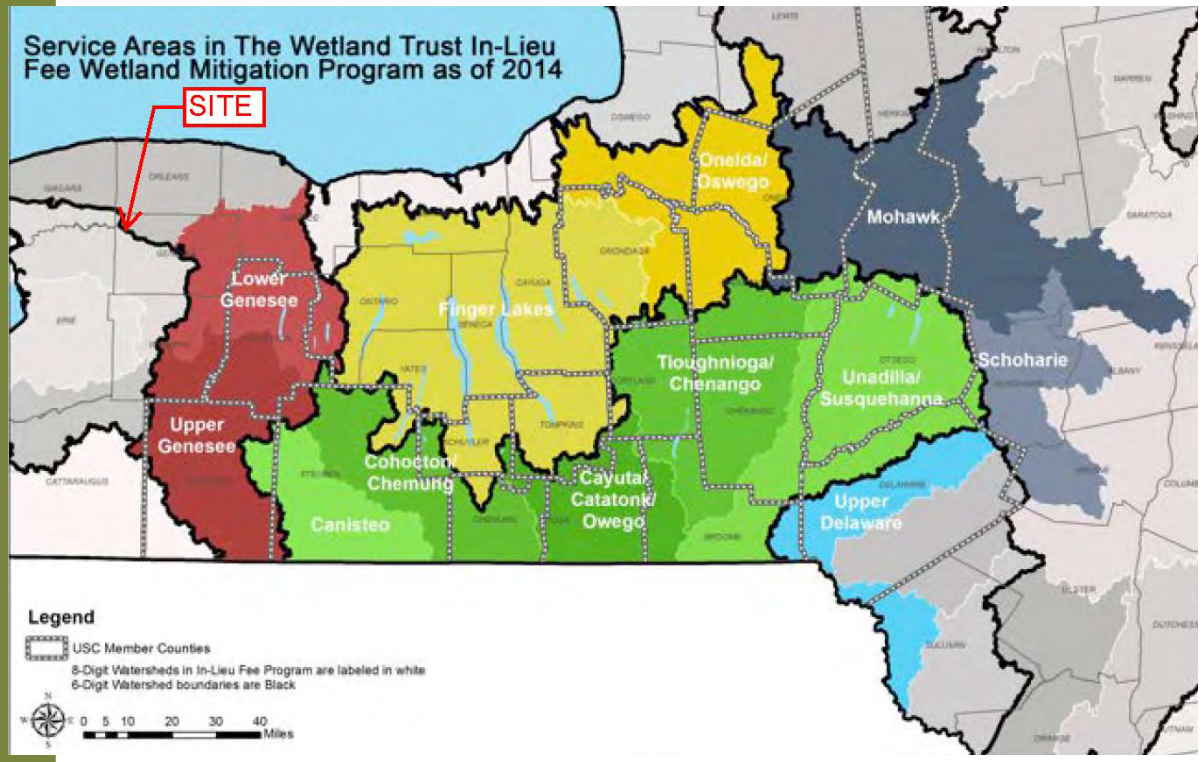
- County
  - Genesee County Highway Permit (Indian Falls Road)
  - Genesee County Driveway Permit

- Local
  - Stormwater – according to NYSDEC website (http://www.dec.ny.gov/chemical/92258.html) there are no MS4 communities in Genesee County. Therefore there are no local stormwater permitting requirements in addition to NY State requirements.
  - Potential Sewer District expansion and permitting and construction requirements to tie into a municipal sewer system, if it is extended from Route 5 to the Truck Stops on the southerly side of I-90.

Permitting Investigation Update (continued)

- Wetland Mitigation Bank Opportunity
  - Cornerstone Group (Chili/Rochester)
    - First Mitigation Bank Established in NY State
    - Privately Funded With First Credits Available in 2004
    - Total of 20 Credits (1 Acre per Credit) Available
    - Project is Outside of Service Area, Credits Have Been Sold Out
  - NYS Department of Transportation (Regional)
    - NYSDOT Region 4 (Rochester)
    - For NYSDOT projects only

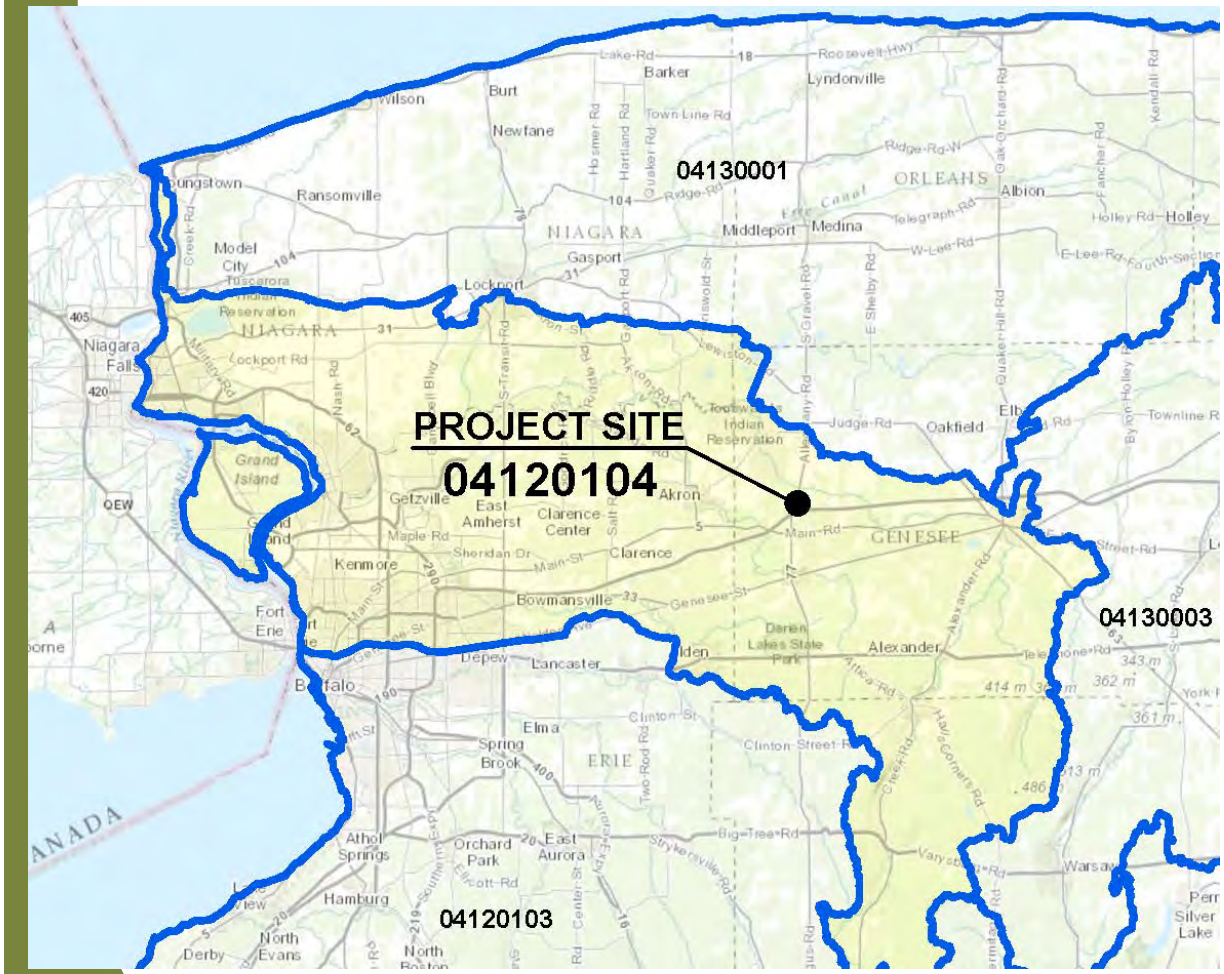
Permitting Investigation Update (continued)



Wetland Mitigation Bank Opportunity (Continued)

- <u>The Wetland Trust (Regional)</u>
  - Susquehanna Basin Headwater and Adjacent Basins In-Lieu Fee Wetland Mitigation Program.
  - Serves a large part of central and western NY State.
  - The project site is situated in the headwaters of the Niagara River drainage which is not part of the Service Area for this Program.

Permitting Investigation Update (continued)



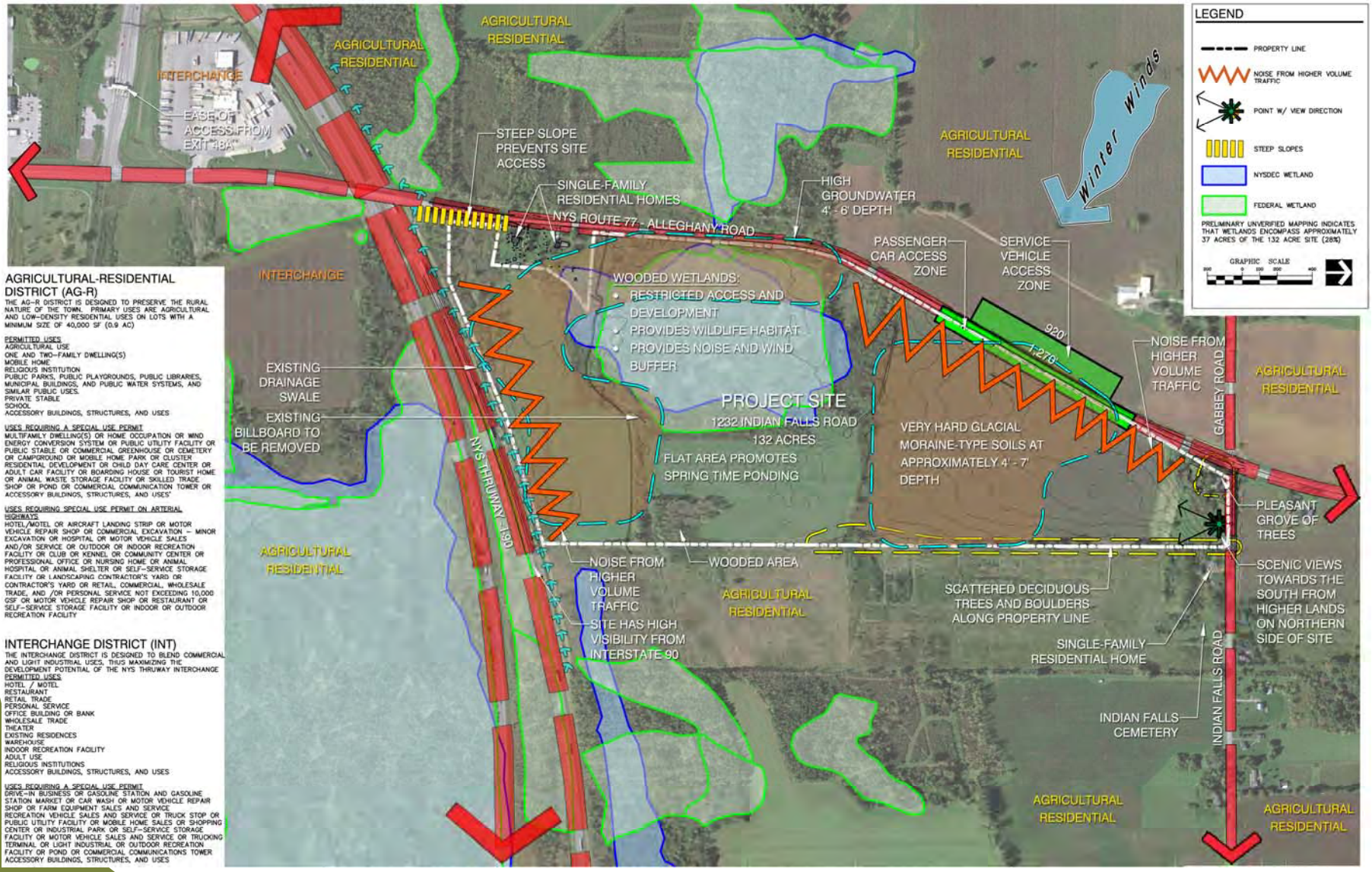
Wetland Mitigation Bank Opportunity (Continued)

- <u>Ducks Unlimited – New York In-Lieu Fee Program</u>
  - Program covers 10 Service Areas including Service Area 6 (HUC 04120104) that includes the project site
  - Pay into the Program to use an existing DU bank or have DU create off-site mitigation if a Bank has not yet been created in the Service Area

Permitting Investigation Update (continued)

- Wetland Mitigation Bank Opportunity
  - Ducks Unlimited – New York In-Lieu Fee Program (Continued)
    - Fifteen (15) advance credits available to start the Program in 2012
    - Per Credit (acre) Cost: $83,000 in 2012 (cost subject to annual change)
    - One-time fee payment – no buyer costs for design, construction, monitoring or maintenance
    - Credit Generation Rates for Different Types of Mitigation
      - Rehabilitation 3:1-10:1 (3-10 acres of mitigation credits needed per acre of impact)
      - Enhancement 3:1-10:1
      - Establishment (creation) 1:1
    - Rehabilitation by removing agricultural drains is common mitigation practice in western NY
    - "Pre-approved" by USACOE and NYSDEC as Program Interagency Review Team members
    - Participation in the Program does not absolve a participant from the hierarchy of (1) impact avoidance, (2) impact minimization and then (3) mitigation as per NYS Article 24, Section 404 of the Clean Water Act and Executive Order 11990

Site Opportunity & Constraints



Local vernacular / Materials Discussion
Arts & Crafts

Local vernacular / Materials Discussion
Bungalow

Local vernacular / Materials Discussion
Knee Braces

Local vernacular / Materials Discussion
Colonial

Local vernacular / Materials Discussion
Federal

Local vernacular / Materials Discussion
Georgian

Local vernacular / Materials Discussion
Greek

Local vernacular / Materials Discussion
Italianate

Local vernacular / Materials Discussion
Prarie

Local vernacular / Materials Discussion
Shingle

Local vernacular / Materials Discussion
Stick

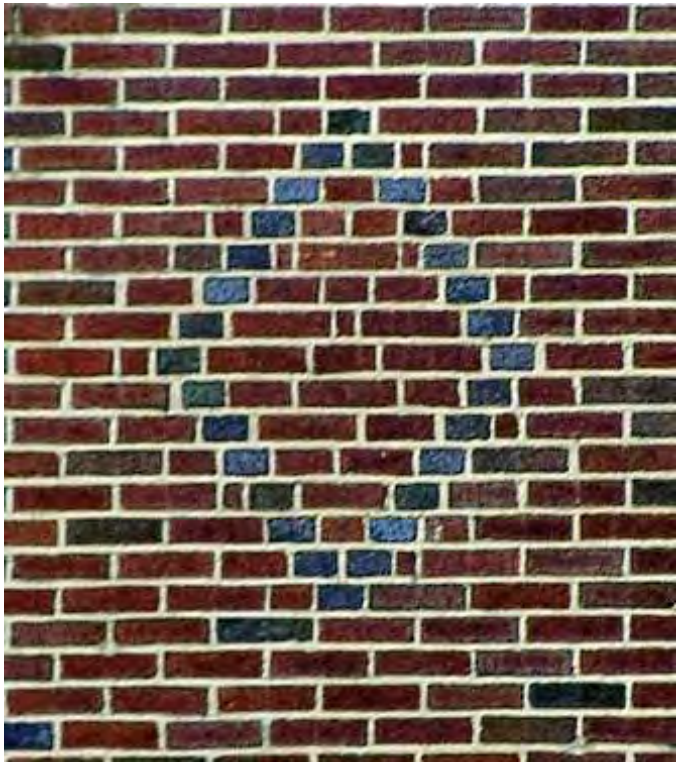
Local vernacular / Materials Discussion
Tutor

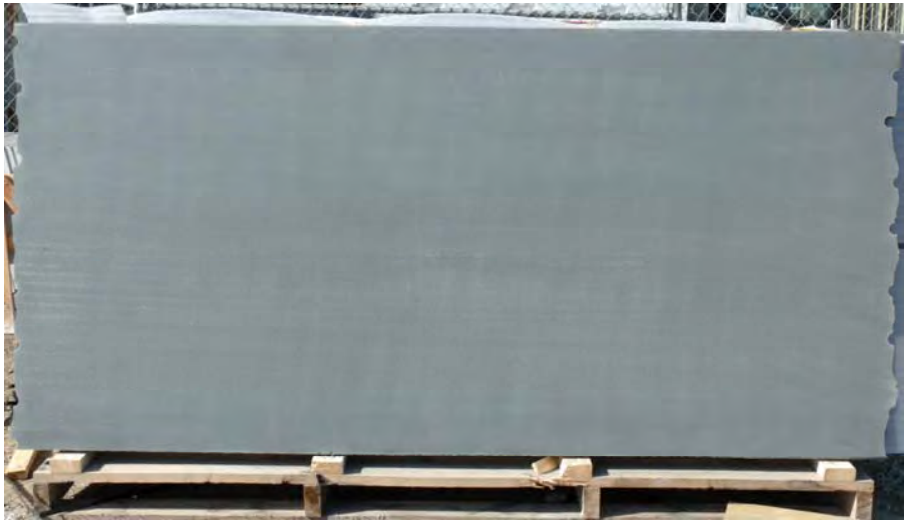
Local vernacular / Materials Discussion
Victorian

Local vernacular / Materials Discussion
Medina Sandstone

Local vernacular / Materials Discussion
Onondaga Limestone

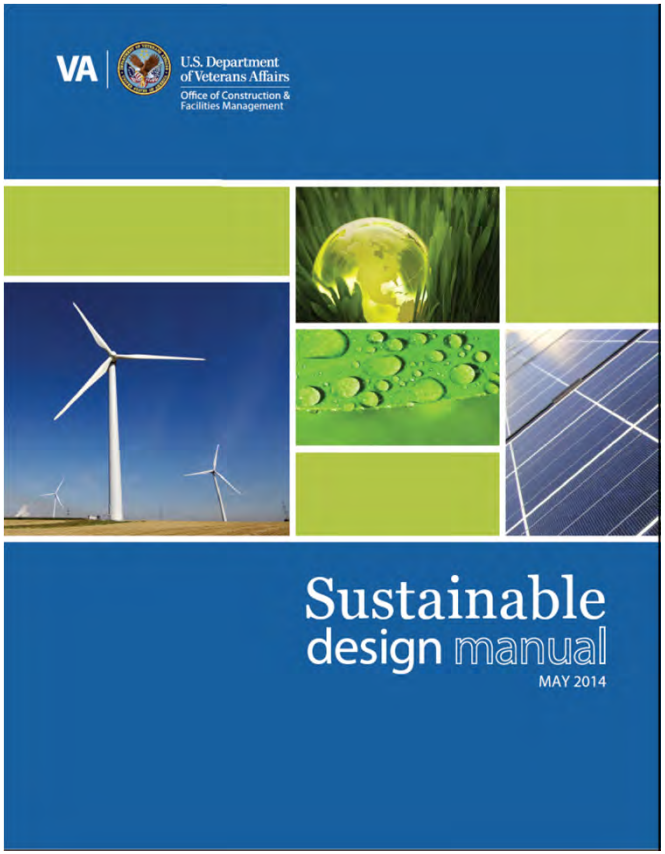
Local vernacular / Materials Discussion
Brick & Bluestone





Sustainable Design Discussion

- Sustainable Design Requirements
  - Green Building certification mandated for “major” projects.
  - LEED 2009 referenced and applicable until October 31, 2016



Sustainable Design Discussion

- Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles)
  - Enhanced Commissioning
  - 50% water reduction
  - 30% energy cost reduction
  - 7.5% renewable energy

GUIDING PRINCIPLES CHECKLIST

LEED 2009 for New Construction and Maior Renovations

Introduction:
The attached LEED 2009 for New Construction and Major Renovations (LEED-NC) points are mandatory for a project to be considered sustainable per the *Federal Guiding Principles for High Performance Sustainable Buildings*.

Application:

- *Major Construction and Renovation ($10 million or higher)*: checklist must be completed after the certification is awarded (post-construction). Certification by a third-party (LEED or Green Globes) is required.

Alternative Energy Discussion

- Goal – 7.5% on-site renewable energy or 15% off-site
- Options being considered:
  - Solar Electric PV
  - Wind Energy
  - Geothermal Heating and Cooling
  - Solar Domestic Hot Water

Project Labor Agreement Impact Study Update

- WNY regional demographics
- General economic conditions both nationally and regionally for the Batavia WNY region
- Labor employment conditions and wage rates, both nationally, but more focused regionally
- Review material commodities specifically; excavation (hauling, dumping and filling) asphalt, concrete and oil
- Who are the contractors expected to bid the work, including MBE, WBE & SDVOB(S)
- Current and future bidding conditions based upon recent and planned bidding activity

The review is of the construction macro and micro economic conditions that the VA will encounter in the WNY regional construction market

- The make-up of the local force:
  - Wage rates
  - Unionized vs. Merit Shop
  - Shortages

Project Labor Agreement Impact Study Update

- How will a Project Labor Agreement affect:
  - Wage rates
  - Bidding Conditions
  - On-Site Construction Conditions - the likelihood an organized labor stoppage/strike will occur.
  - Are there any applicable independent sources that have published a PLA Study.

What local bidding condition will be like, both now and in the future.

What the interest and availability of contractors accredited as MBE, WBE, and SDVOB(S)

How all of these factors will affect mark-ups related to:

- Indirect Construction Costs
- Profits/Margins
- Escalation, both on labor and materials

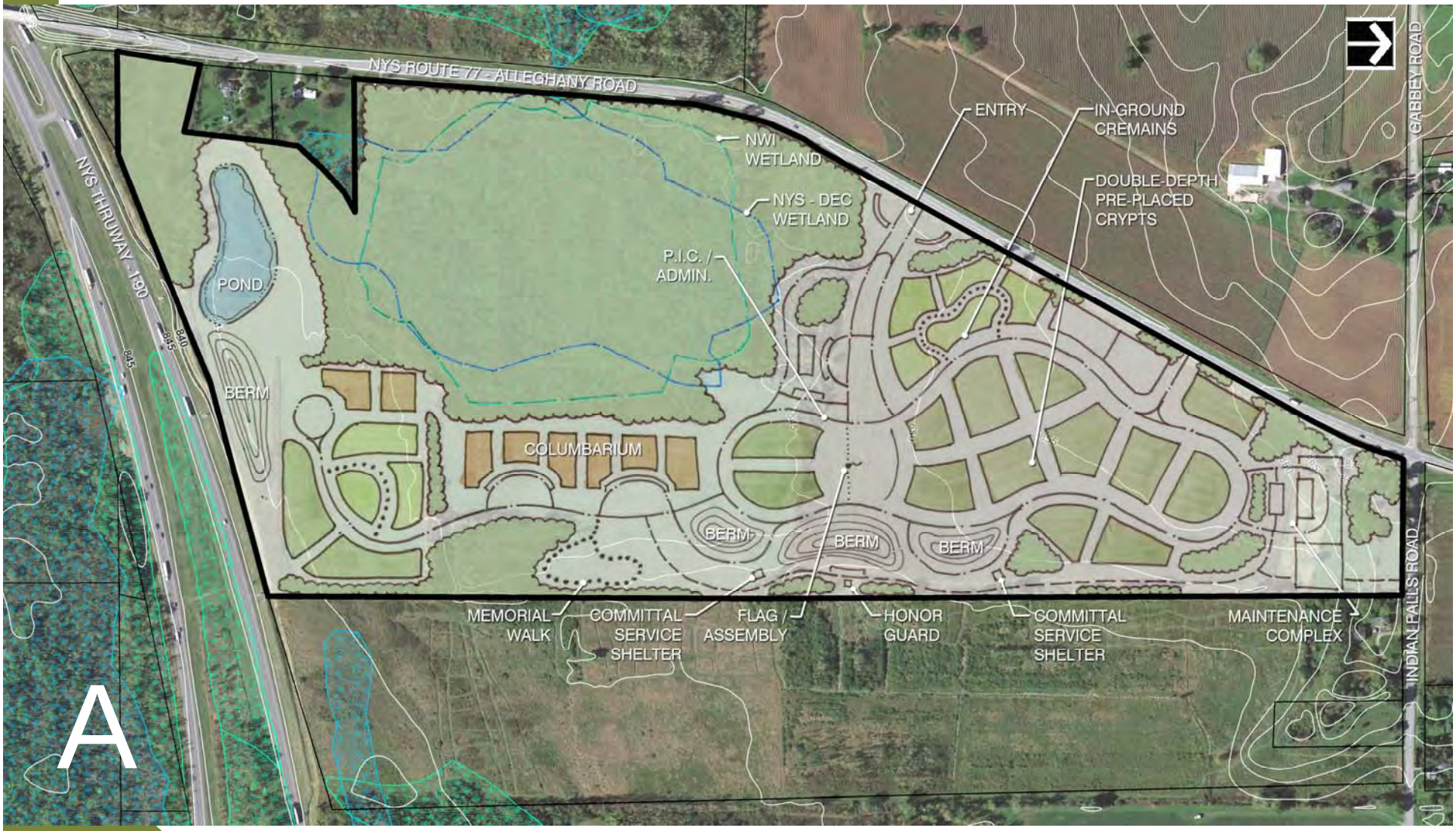
The sources of information are:

- Construction and economic websites
- Business and trade journals
- Subscriptions for market indices and construction activity
- Telephone conversations with local qualified contractors and trade unions

Preliminary Plans / Ideas

New Western New York National Cemetery

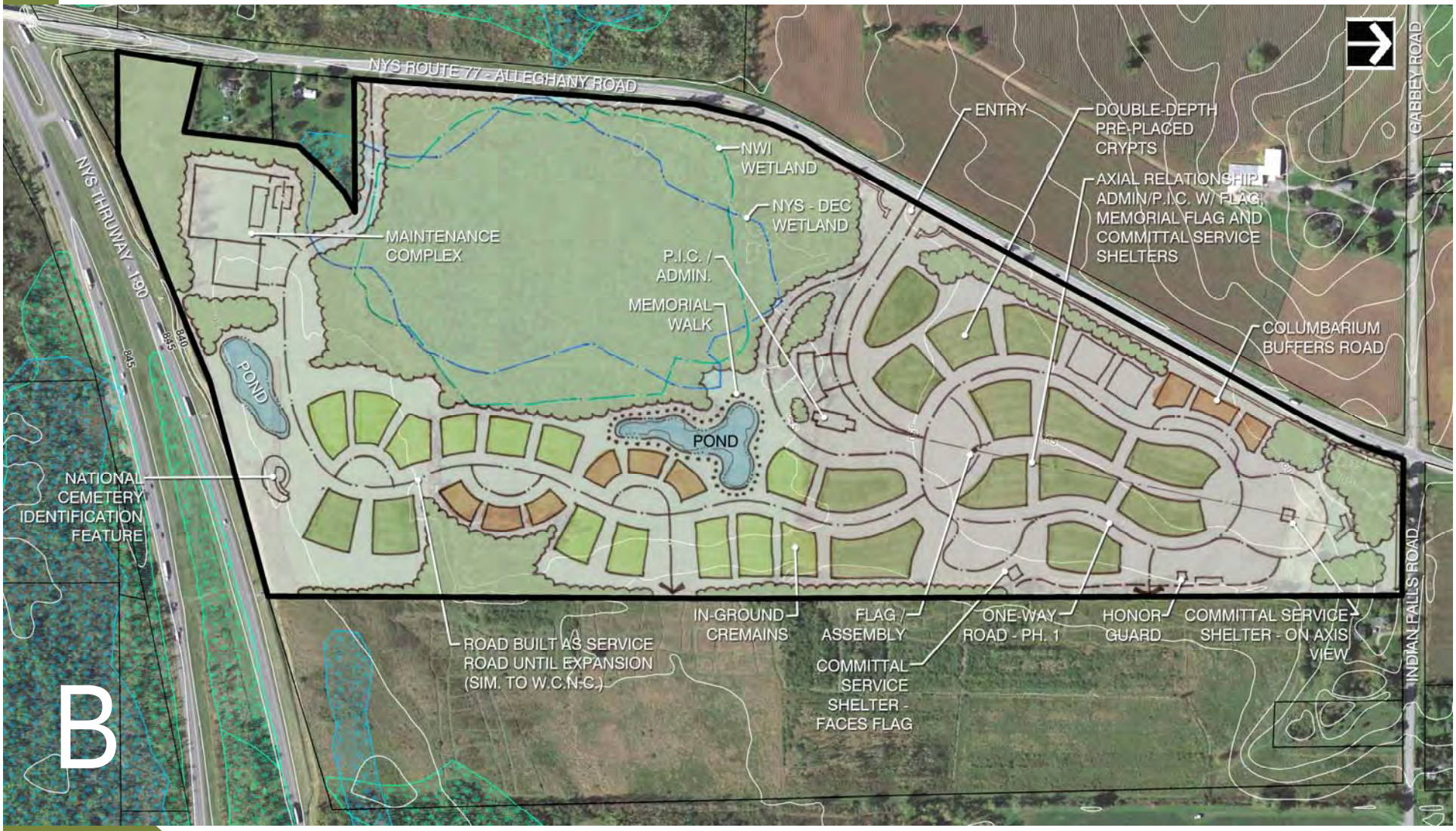
Preliminary Plans / Ideas



The LA GROUP

New Western New York National Cemetery

Preliminary Plans / Ideas



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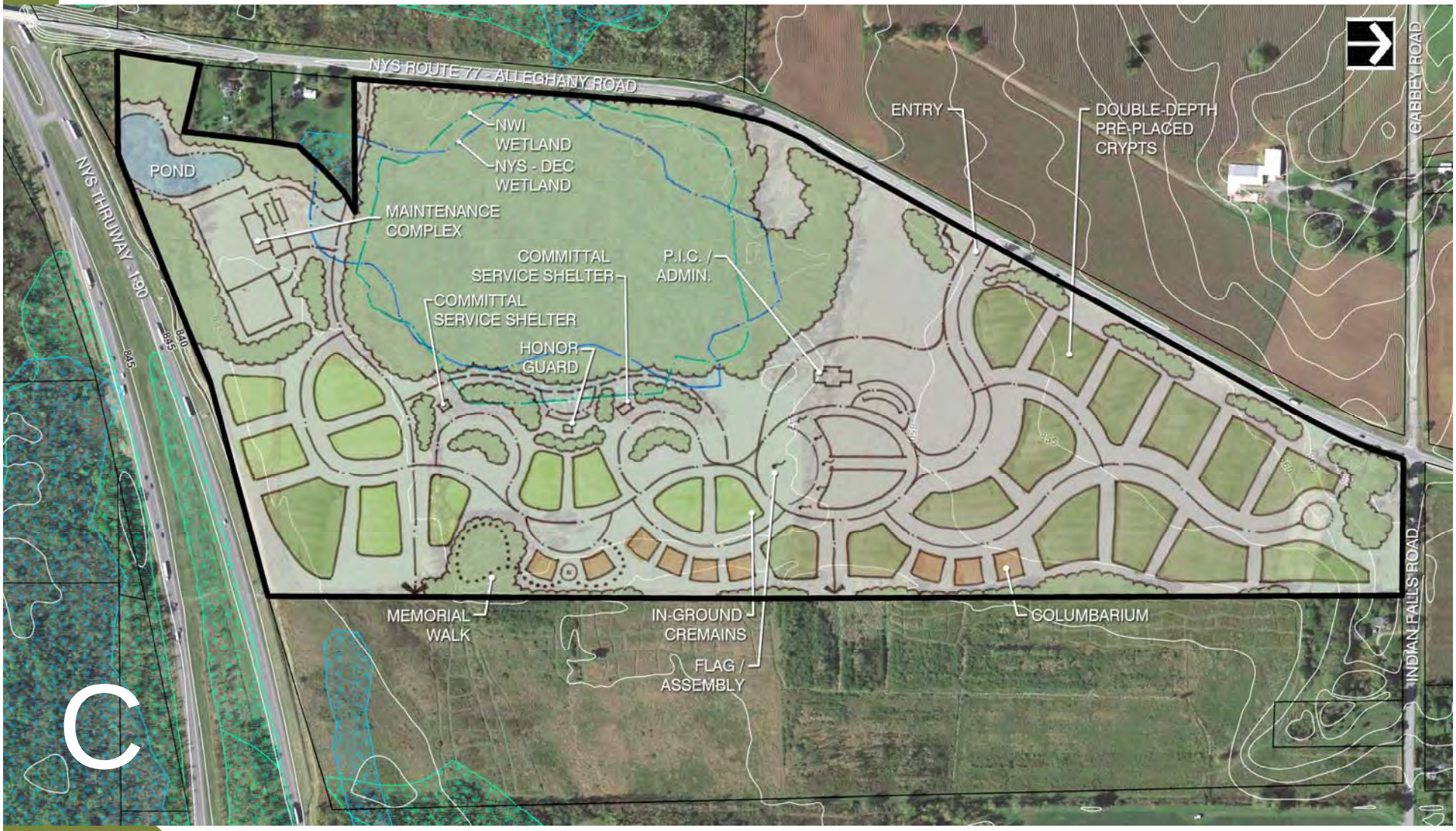
New Western New York National Cemetery

Preliminary Plans / Ideas



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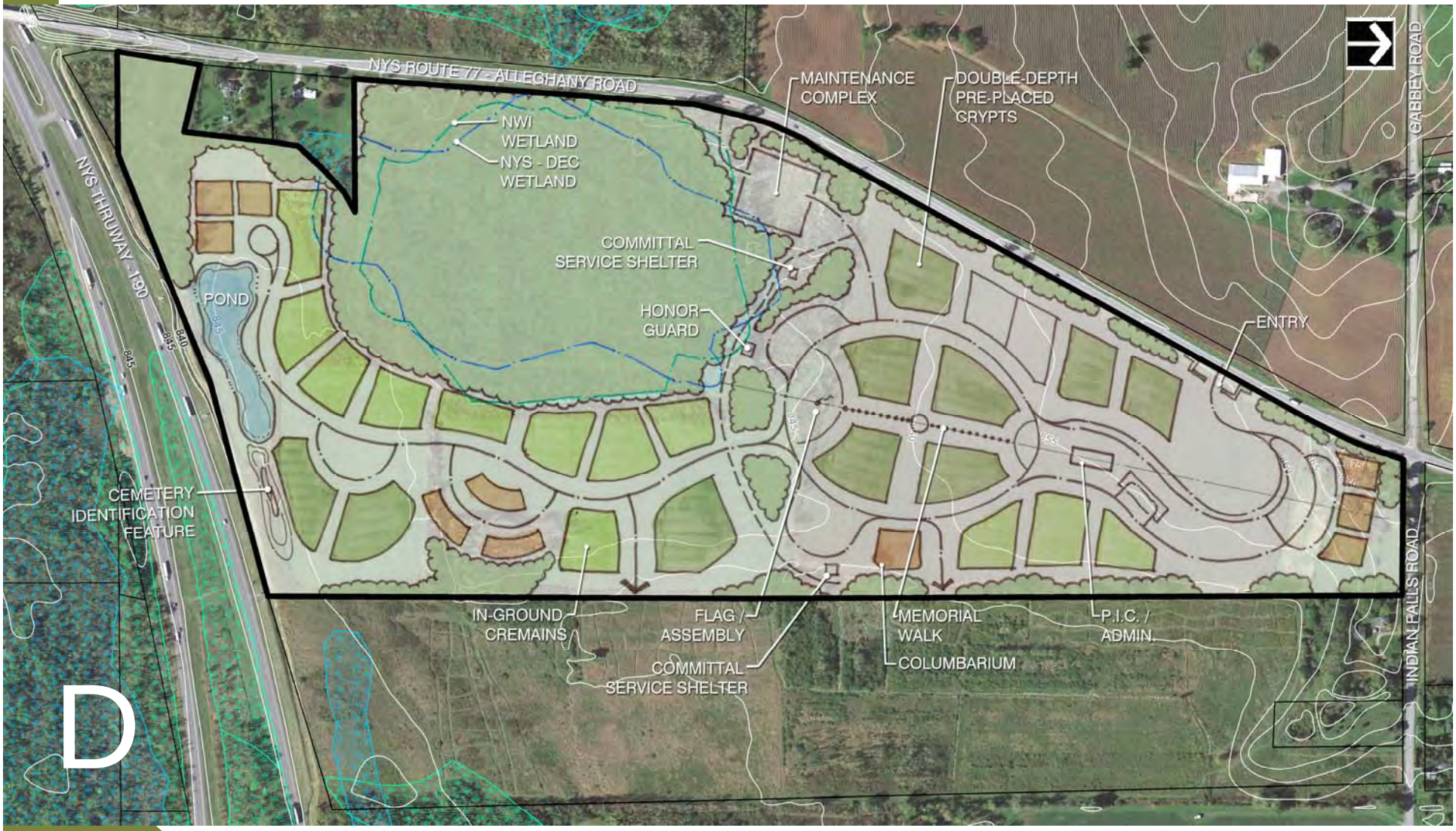
New Western New York National Cemetery

Preliminary Plans / Ideas



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Schedule

MP1 Design Workshop
Tuesday May 19th (all day) & May 20th if needed
Details to follow

MP2 Submission
June 3rd, 2015

MP3/S1 Submission
July 20th, 2015

MP4/S2 Submission
September 14th, 2015

MP5 & DD1 To Be Completed Concurrently

Bid Set Submission
June 30th, 2016

Issues / Q & A

The LA GROUP

Landscape Architecture & Engineering P.C.

People. Purpose. Place.

New

Western New York National Cemetery

Master Plan Basis for Design Report (MPI)

Town of Pembroke, Genesee County, New York

Prepared for

United States Department of Veterans Affairs

Office of Construction and Facilities Management
425 I Street, NW 6E505E
Washington DC, 20001

June 11, 2015

CONTRACT NUMBER: VA101-15-C-0011
OBLIGATION: 936X5002

Western New York National Cemetery

Town of Pembroke, Genesee County, New York

Master Plan Basis for Design Report (MPI)
Project Number: 936PC2002

Prepared for

United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW 6E505E
Washington DC, 20001

June 11, 2015

Prepared by

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

PROJECT MANAGEMENT/LA/CIVIL/
ENVIRONMENTAL/QC SITE

In Association with

CANNONDESIGN
2170 Whitehaven Road
Grand Island, NY 14072, (716) 774-3534

ARCHITECTUAL/INTERIOR/
MEP/HVAC/QC BUILDING

SCHAFER ENGINEERING ASSOCIATES
0005 State Street ◆ Schenectady, New York 12304
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Aqua Engineering, Inc.
Innovative Water Solutions
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Fort Collins, Colorado 80525
Phone (970) 229-9668
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LARSEN ENGINEERS
700 WEST METRO PARK, ROCHESTER, NEW YORK 14623-2658
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Suite 400
Cambridge, MA 02138.5758
p.617.576.5878
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COST ESTIMATING

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1.0 Introduction to the Project

The goal of the project is to establish a new national cemetery and to provide burial facilities for eligible veterans and their dependents in the Western New York area. The proposed cemetery will expand the United States Department of Veterans Affairs national cemetery system and provide service to a large veteran population currently not served by an open national cemetery.

1.1 Project Setting and Surrounding Land Uses

The project site is located in the Town of Pembroke, Genesee County in the western portion of New York State. The site is approximately 15 miles east of the City of Buffalo, 47 miles west of the City of Rochester, 10 miles west of the Town and Village of Batavia, and 3 miles north of the Village of Corfu.

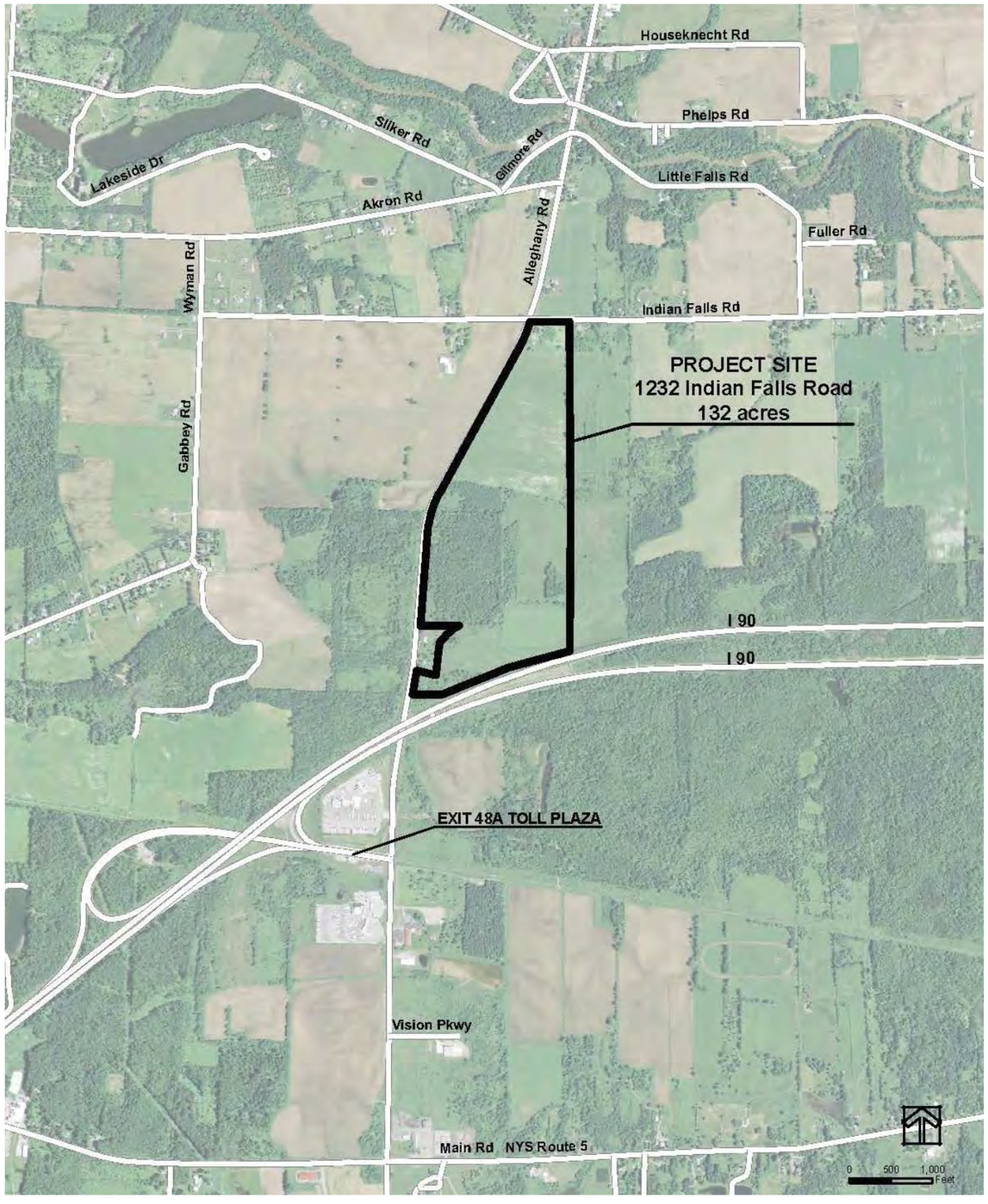
The +\- 132 acre site is southeast of the intersection of Indian Falls and Alleghany Roads. With the exception of commercial development at Exit 48A (just south of I-90), the surrounding lands are rural in character with agricultural and residential uses. The site is zoned under the Town of Pembroke zoning code as Agricultural Residential.

Project Setting

Vicinity Map

Site Character

Site Character



1.2 Project Development

The Department of Veterans Affairs (VA) has established an objective of making it easier for veterans and their families to receive benefits, meeting their expectations for facilities of quality and timeless character that are responsive to their needs. One method to ensure veterans needs are met has been to increase the percentage of veterans having access to a burial option in a veterans cemetery within a reasonable distance to their residence. This reasonable distance has been defined as within 75 miles of the place of residence. The VA also developed an unserved veteran population threshold for eligibility to establish a new national cemetery.

The U.S. Department of Veterans Affairs identified a need to establish a new national cemetery in the Western New York area in accordance with the Veterans' Benefits Act of 20010 (Public Law 111-275) based on the Rochester-Buffalo New York areas veteran population currently not served by an open national cemetery.

A master plan will be prepared which addresses development of the entire site, and design development will be accomplished focusing upon the first phase of construction. Construction of Phase I will be advanced with the remainder of the site developed into future phased projects in accordance with the master plan.

The VA program Guide (PG-18-15), Volume D), A/E Submission Instructions for National Cemetery Projects will be followed, as well as the NCA Facilities Design Guide.

1.3 Project Goals and Objectives

The project goals and objectives are to:

Create a cemetery that fulfils the National Cemetery Administration Mission Statement to "….honor(s) veterans with final resting places in national shrines and with lasting tributes that commemorate their service and sacrifice to our Nation".

- Provide a setting that supports dignified burials and provides a lasting national shrine.
- Respect the history of the area and the vernacular of the local setting.
- Conserve natural resources and respect the constraints and opportunities of the land's natural features.
- Respect contemporary principles in the fields of landscape architecture and architecture, specifically environmentally sensitive planning and design.

Site Character

2.0 Site Characteristics

2.1 Climate and Microclimate

The climate of the region typically includes cold snowy winters, rainy springs, and moderate sunny summer and fall seasons. Annual high average temperature occurs in July and August at 80-81 degrees F. Annual temperature lows average 17-18 degrees F. in January and February. The sites proximity to Lake Ontario and Lake Erie drives wind patterns and causes lake-effect snow resulting in an average annual snowfall of 74 inches Lake effect snowfall often results in narrow bands of unusually high amounts of snow. Average annual rainfall is 35.3 inches.

Due to the relatively flat topography and the open character, the majority of the site is windy and exposed. Winter winds come predominantly from the northwest and sweep across the site's northern half. Protected areas are found within and adjacent to the wooded areas. The project site is oriented with its long axis north-south and solar orientation will be a consideration in the placement and orientation of buildings, gathering areas and paved plazas.

Exposded, wind swept condition characteristic of site

2.2 Topography and Slopes

The topography of the site gradually slopes, from the north to the south, from an elevation of approximately 570 feet to 540 feet. While the relatively flat site provides minimal restrictions to site design due to grading and slope considerations, it does require special consideration for providing positive drainage. Consideration will also be needed in creating visual interest and variety.

2.3 Geology and Soils

The project site is located within the Central Lowland Physiographic Province. The area is underlain by Cambrian and Ordovician-aged sedimentary rocks, primarily carbonate rocks, sandstone and shale. The underlying rocks form a carbonate-rock aquifer that stretches from east to west across a two to three mile wide zone in Genesee County. While karst conditions have been identified in other portions of the county that overlie this aquifer, no sinkholes or swallets have been identified on the project site to date.

Per the US Department of Agriculture Survey, the project site includes several soil types, including: Canandaigua silt loam, Dunkirk silt loam, Galen very fine sandy loam, Halsey silt loam, Lamson very fine sandy loam, Lima silt loam, Niagara silt loam, Ontario loam, Ovid silt loam, Palmyra gravelly loam, Phelps gravelly loam, Romulus silt loam and Udorthents. The soils range from very poorly drained to well drained. In general, the soils are predominantly fine grained in nature and have a low permeability. See Soils Map, Figure 2.3.A.

Testing and geological evaluation was done as part of this project scope and was done to augment the information derived by previous geotechnical studies for the project. Key geological issues identified included high bedrock and high groundwater conditions. As with previous studies, the site was categorized into four zones, A through D for analysis. Zone D was not included within the studies as it is designated wetlands. See Figure 2.3.A, Soils Map for zone delineation.

- Zone A was explored as part of the preliminary investigation. Previous studies indicated approximately 14' of overburden, consisting of a heterogeneous mixture of sand, silt and clay, overlying weathered limestone bedrock. Limestone was encountered at elevation 847.

Flat topographhraphical condition characteristic of site

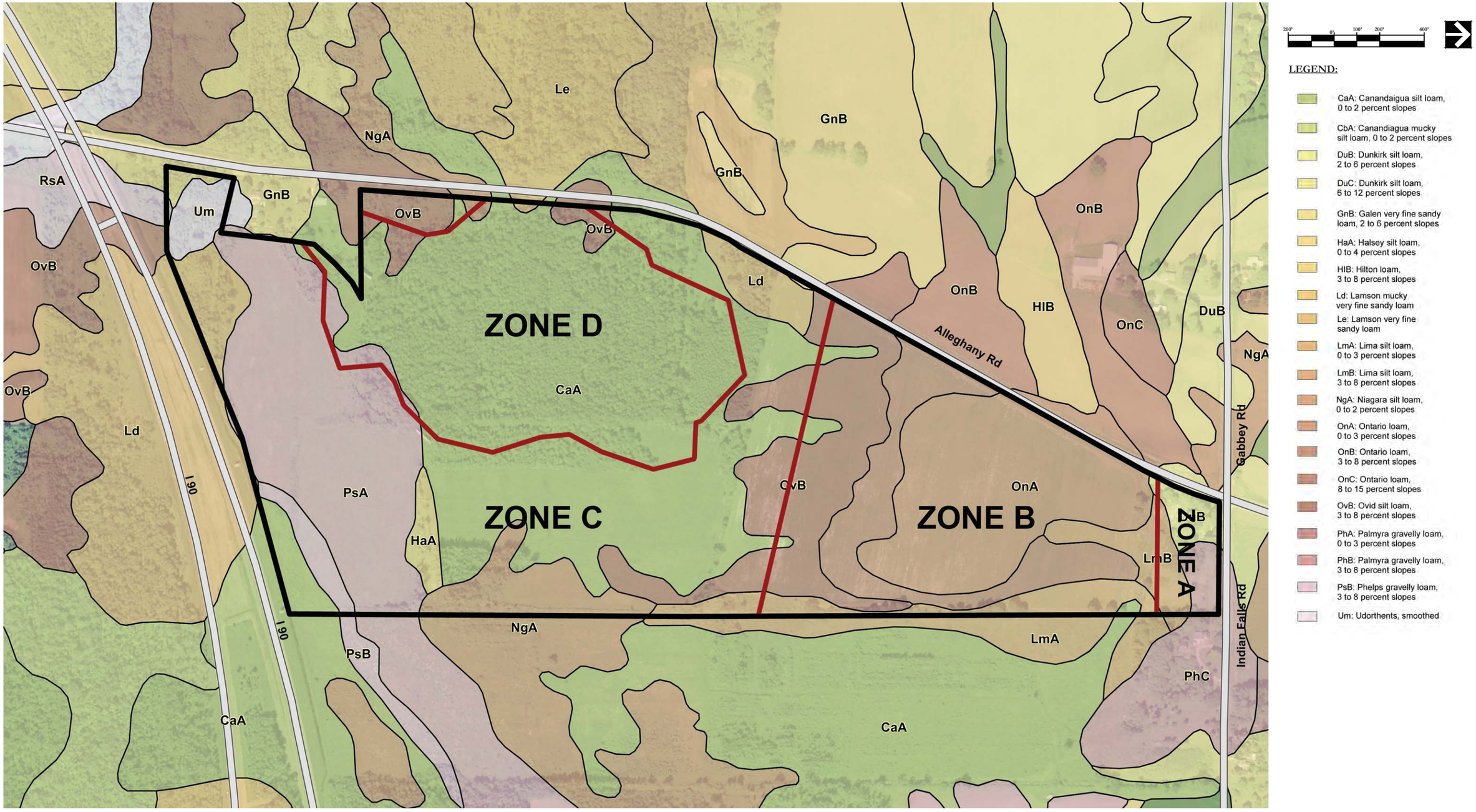


Figure 2.3.A | Soils Map

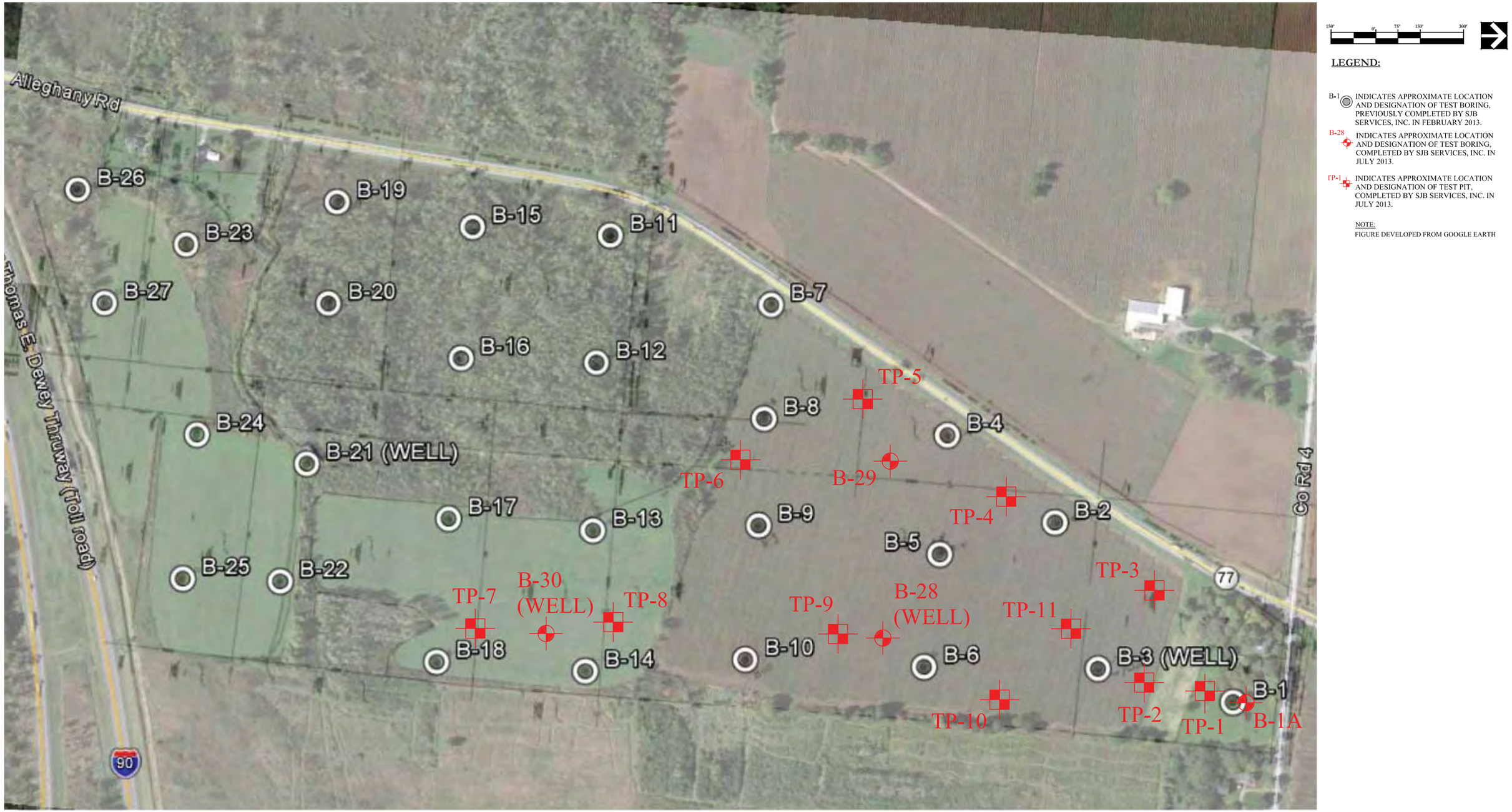


Figure 2.3.B | Prior Exploration Map

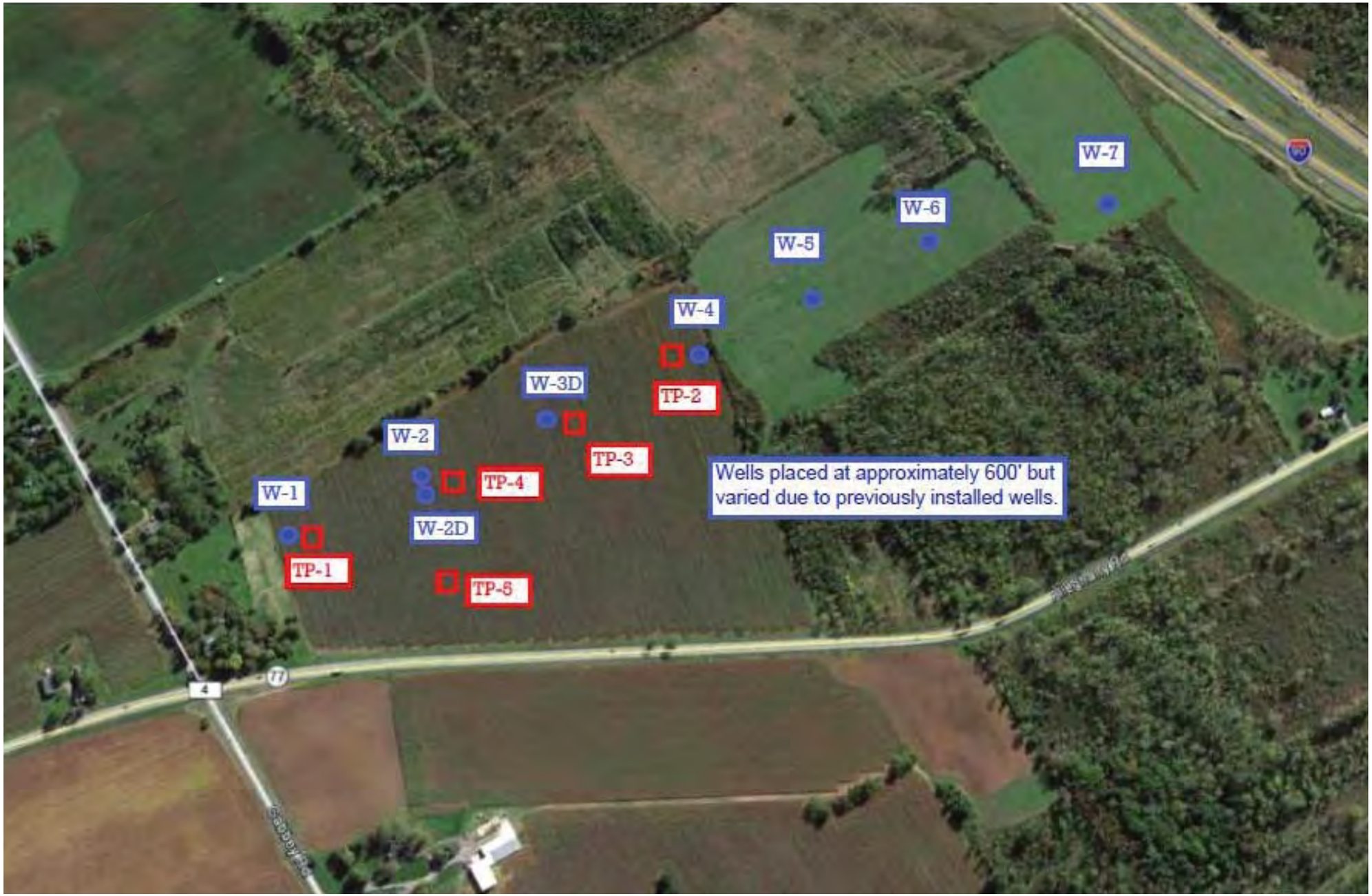


Figure 2.3.C | May 2015 Exploration Map

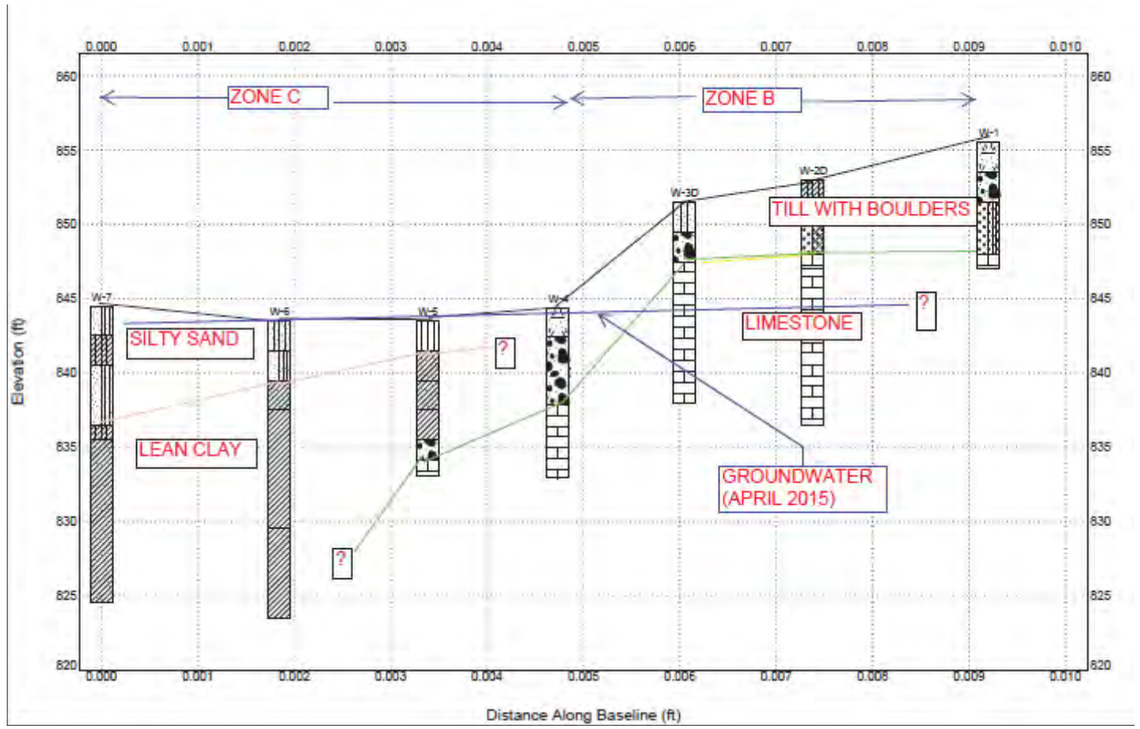


Figure 2.3.D | Geographic Profile

- Zone B subsurface conditions consist of approximately 3.5-7.5' of overburden overlying weathered limestone bedrock. The top of bedrock ranged between elevation 846 and elevation 848 in the majority of this area, dipping slightly to the south. The weathered limestone was generally hard and unrippable. The overburden generally consisted of a kame deposit containing a heterogeneous mix of sand, gravel, clay, cobbles and boulders. Very large boulders were noted.

- Zone C subsurface conditions explored in the May 2015 study found more favorable/less restrictive conditions than the prior study. The depth to bedrock appears to increase rapidly from north to south in this area and ranged from 9.5' to over 20'. Bedrock found ranged from elevation 838.5' to below elevation 824'. The soils in this area were predominantly clay, but large cobbles and boulders were also present which may have provided misleading information during the prior study.

- Zone D includes the wetlands and so no borings done in this area.

The shallow depth to bedrock and presence of solution-prone bedrock indicates that utilization of Zone B will require the installation of a low permeability liner to prevent infiltration and a drainage system to provide conveyance of accumulated water. Index testing of the clay encountered in Zone C suggests it may have a sufficiently low permeability to be utilized as a liner.

See Figures 2.3.B, Prior Exploration Map, Figure 2.3.C, May 2015 Exploration Location Plan and Figure 2.3.D, Geologic Profile.

The shallow depth to bedrock is a significant constraint in the placement of subsurface elements such as the pre-placed crypts, building and columbarium footings, etc. and in grading and earthwork design.

See Appendix A.1 "Geotechnical Investigation Report."

Per the USDA NRCS Web Soil Survey and as referenced in the 2014 Programmatic Environmental Assessment, the majority of the project site soils are characterized as prime farmland or farmland of statewide importance. Soils that are not within this classification are along the western-central boundary and the southwestern portion of the site. The site is not enrolled in a New York State Certified Agricultural District.

2.4 Subsurface Water Resources

The site is located over a carbonate-rock aquifer that stretches from east to west across a two to three mile wide zone in Genesee County.

Investigations done as part of the 2014 Preliminary Environmental Assessment included installation of monitoring wells as well as borings. The site was categorized into four zones, A through D. See Soils Map, Figure 2.3.A for zone delineation.

Testing and geological evaluation was done as part of this project scope. High groundwater levels were measured in both Zones B and C when piezometers were installed in late April, 2015. The ground water elevation was similar across the site at approximately elevation 843.5'. In Zone B groundwater was typically 5' – 7' below the ground surface and in Zone C groundwater within 1' of the surface. The data collected suggests a seasonal perched water condition. It is unknown if there is a hydraulic connection between Zones B and C at this point. Zone D includes the wetlands and data suggests this is a result of stormwater runoff accumulation, low infiltration rates and low volume outlet drainage.

Testing results from the monitoring wells showed high concentrations of iron and magnesium in the groundwater. Mineral content impacts the viability of water usage both for potable as well as irrigation use.

As with shallow bedrock, high groundwater presents challenges to the design of the majority of the cemetery components including building, columbarium and site wall footings, pavement design, and burial plot placement.

See Appendix A.4, "Irrigation Water Source Report" and Appendix A.1, "Geotechnical Investigation Report".

2.5 Surface Waters, Wetlands and Floodplain

A very small portion of the site drains to the north and is within the Tonawanda Creek watershed. The majority of the site drains to the south towards Murder Creek, a tributary of Tonawanda Creek. Tonawanda Creek is within the larger Niagara River/Lake Erie watershed.

The site does not contain any surface waters (lakes, ponds, rivers or streams). There is a stream just off of the site to the south that flows east to west and parallel to I-90 (NYS Thruway). This stream was observed to be two to five feet wide and generally less than one foot deep in the Spring of 2015. The stream flows through a vegetated channel and it is believed, but not confirmed, that the stream is intermittent and does not flow during the drier summer months.
Wetlands/Waters of the United States and New York wetlands were delineated on the site in April 2015 (NY wetlands not yet verfied by agencies). The central portion of the site contains a significant area of wetlands. The wetland complex, Wetland 2 includes most of the wooded area that extends eastward from Alleghany Road into the site. This wetland also includes some now-fallow, former agricultural field that currently supports wet meadow vegetation along with some shrub growth. Wetland

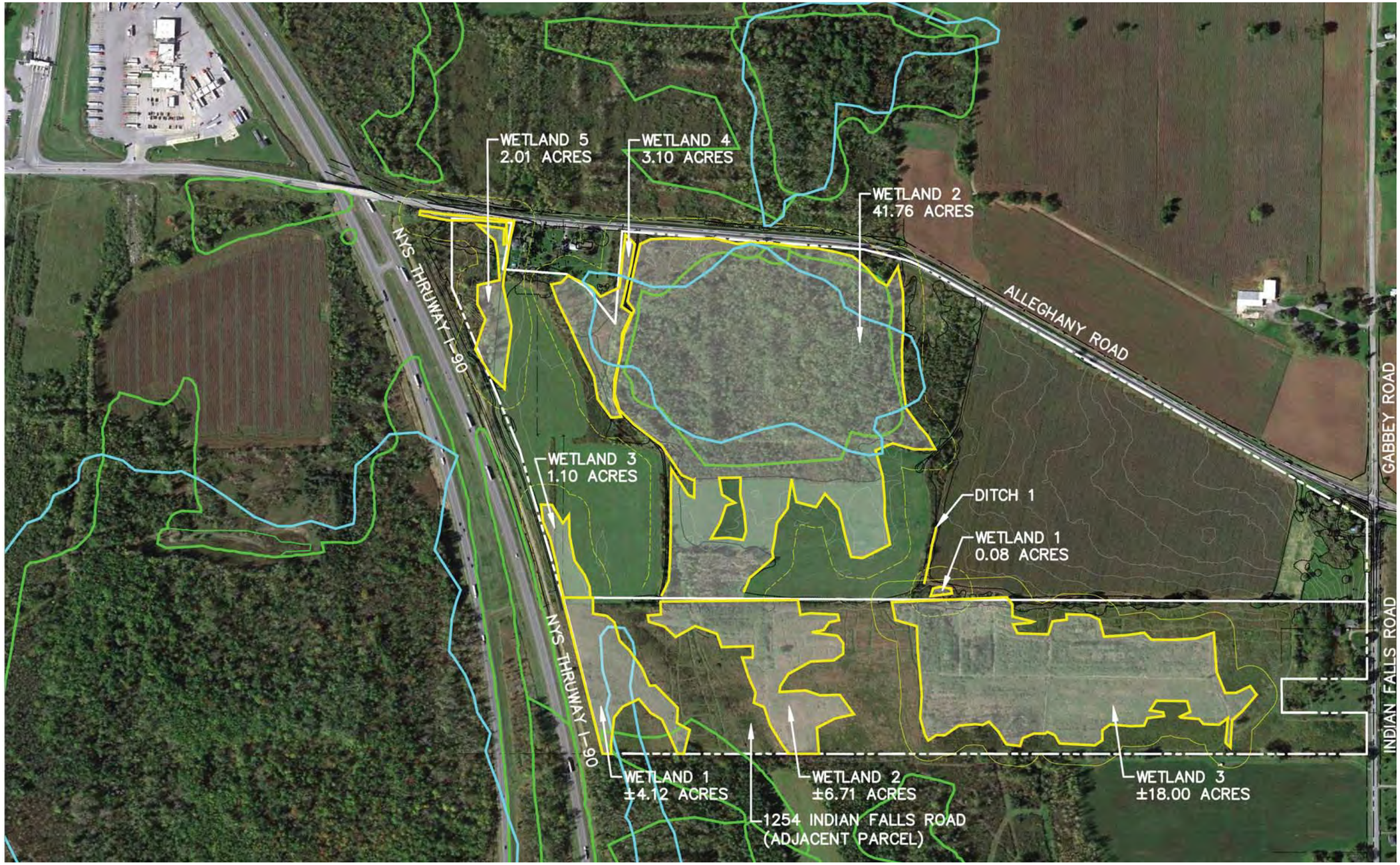


Figure 2.5.A | Wetland Map

2 covers approximately 41.8 acres of the site. Wetland 4 is adjacent to Wetland 2, separated by an existing work/farm road, and Wetland 4 covers approximately 3.1 acres. Wetland 2 and Wetland 4 drain towards the west via a culvert under Alleghany Road that connects to another large wetland complex on the west side of the road.

Wetland 1 (0.1 acre) and Wetland 3 (1.1 acres) are both located along the eastern site boundary and are parts of larger wetlands present on lands to the east. Wetland 1 is near the center of the site and Wetland 3 is in the southeast corner of the site. Wetland 5 is located in the southwest corner of the site, covers approximately 2.01 acres, and drains to the west to the roadside ditch along Alleghany Road and eventually into the stream off the site to the south. Total site wetlands are approximately 48 acres, accountaing for 36% of the site.

The project site is within the Federal Emergency Management Agency (FEMA) Zone C (Zone X Un-shaded Equivalent) designation as depicted on the FIRM Panel number 360283 0005C dated January 20, 1984. This zone includes areas above the 0.2% (500 year) annual chance flood and have minimal flood hazard risk. Accordingly, the site is outside the 100-year flood plain. See Appendix A.4, "Permitting Analysis". See Figure 2.5.A, Flood Map.

2.6 Biological Communities

Natural vegetation communities include wooded upland, wooded wetland, open wetland, cultivated (or recently cultivated) farmland and fallow land. The areas surrounding the project site include cultivated farmland to the northeast, north and northwest with the NYS Thruway bordering the southern end. Woodland areas are located to the south of the Thruway and to the southeast and southwest of the site. A grove of mature deciduous trees are located at the northwest corner of the site were originally around the farmhouse.

Woodland areas are predominantly deciduous and contain species tolerant of the wet conditions including maples, hickory, dogwood, walnut, cherry, oak and sassafras. Wooded areas are relatively young, established after the construction of the NY Thruway changed drainage patterns. Understory vegetation includes serviceberry, winterberry, viburnum and spicebush. Areas of open wetlands were at one time cultivated and are now reverting to successional growth. Plants include sedges, wood aster and dogwood.
Vegetation type contributes to habitat definition of an area and the ability to support wildlife. Proximity to the busy and noisy Thruway may limit extensive use of the site by wildlife. Expected wildlife include mammals such as deer, raccoon, foxes and skunk, migratory and song birds and amphibians and reptiles such as newts, frogs, salamanders and snakes.

Evaluation of the potential for threatened and endangered species was done as part of the Preliminary Environmental Assessment. The US Forest and Wildlife Service listed two threatened and one candidate species within Genesee County. Threatened species include the plant Houghton's goldenrod and the reptile, the bog turtle. The candidate reptile species, Eastern Massasauga Rattlesnake was also listed. No suitable habitat is present on the project site to support any of these species. The New York Heritage Program database for rare or State-listed animals and plants did identify one plant, Northern Wild Comfrey (Cynoglossum verginianum var. boreale) as a state listed endangered species located in the vicinity of the site. This siting was in June 1922 and due to the active agricultural use of the site and the gradual reforestation is unlikely to continue to occur.

Wetlands

Stream adjacent to NYS Thruwar

Figure 2.5.A, Flood Map

2.7 Cultural Resources

Evidence of the first people in Genesee County shows Paleo-Indian nomads arriving approximately 11,000 years ago. Based on several archeological excavations, the area attracted early inhabitants following animal herds through the ancient forests and Ice-Age tundra on the edge of Lake Tonawanda.

Prior to pioneer settlement and movement of Europeans from the east, all of Western New York was controlled by the Seneca, members of the Iroquois Confederacy or Six Nations. The Seneca are known as the "Keeper of the Western Door" as the westernmost of the Six Nations and are known in their language as O-non-dowa-gah or "Great Hill People". The Seneca in the Genesee Valley lived in villages comprised of longhouses located along riversides. The people relied heavily on agriculture for food and were also subsistence hunters and fishers. The Seneca were highly skilled in warfare, but also known for their skills in diplomacy. These skills resulted in the strategic alliance with the other members of the Great Confederacy. The traditional social unit of the Seneca is the clan. The two categories include the bird clan (deer, hawk, heron and snipe) and the animal clan (bear, wolf, beaver and turtle). The project site and surrounding areas had a history of use by the Seneca. The Big Tree Treaty of 1797 forced the Seneca onto reservations including the Tonawanda Indian Reservation.

As identified in the Programmatic Environmental Assessment, a Phase I Cultural Resource Investigation was conducted in 2012 followed by a Phase II Archeological Investigation in the spring of 2013 and a Phase III field investigation. Findings included prehistoric lithic artifacts (projectile points and point fragments) and black soil anomalies and charcoal suggesting hearth features. Findings were discussed with the New York State Historic Preservation Office and the Seneca Nation of Indians and a Memorandum of Agreement entered into by all parties agreeing that the research potential of the site had been achieved and no further investigation would be necessary. All artifacts found were provided to the Seneca Nation.

Contemporary members of the Seneca Nation are proud of their military service. **Native Americans have the highest proportion of military service in the United States of any ethnic segment of the population.** As cited on the Seneca Nation website, the estimated participation by Native Americans since World War I tops 200,000 including over 1,000 Seneca men and women.

2.8 Historic Context and Local Vernacular

To facilitate pioneers settling Western New York, investors divided the area into several land tracts. The Holland Land Company was the largest investor. Genesee County was created in 1802 and named from the Seneca word meaning "Beautiful Valley".

The diversity of soils and favorable climatic conditions for agriculture attracted the early settlers. Genesee County has a rich tradition in agriculture and has the highest percentage of classified farmland in New York State. Dairy farming was and continues to be the leading commodity in the county. The county also has a history of extraction and use of rich mineral deposits including gypsum, limestone, natural gas and salt.

The region immediately surrounding the site is rural in character and the project site has been used for farming starting in the 1880s. It was used as a dairy farm with milking operations from at least 1925 to at least 1949. The site was farmed up until purchase by the Department of Veterans Affairs. Visual elements typical of the area include farm building complexes, open fields edged with large deciduous trees or hedgerows, stone walls marking fields and property perimeters and silos. Indian Falls Cemetery is located to the north of the project site. First burials in this cemetery occurred in 1860 and it is also known as the "Old German Cemetery".

The project site is located in a rural area between the City of Buffalo and the City of Batavia. Many visitors and veterans will

Open Field Biological Community

Wooded Wetland Biological Community

Open Wetland Biological Community

Mature Deciduous Trees at North West Corner

Indian Falls Cemetery

Farming History in Genesee County

come from these urban areas and the history and vernacular of both the rural setting and the urban centers can inform the design of the cemetery.

The Village of Buffalo was originally surveyed and laid out for the Holland Land Company in 1804. The village grew slowly until the War of 1812 when it became a "Military Resort". Fighting between the British, French and Native Americans resulted in total destruction in December 1813. Rebuilding was slow due to lack of convenient transportation and connection to markets. Construction in 1819 of the Eric Canal, the "Grand Canal", made this connection and encouraged settlement. The Cities biggest growth occurred following completion of the canal and construction of Buffalo Harbor in Lake Erie and by 1832, Buffalo was the largest grain handling port in the world. The transfer of goods between the east and the west wasn't the only function of the canal and lake shipping. Passenger travel via boat was much faster than overland methods of transportation. The 1840's saw the beginning of a railroad boom and the start of the demise of shipping and transportation

Typical Rural Stone Wall

Material: Onondaga Sandstone

Albright Knox Museum - 1962 Wing

Greek Revival Style

Greek Style

Architectual Detail: Knee Braces

Klienhans Music Hall

Rural Farm Architecture

Prairie Style

Tudor Style

Arts and Crafts Style

Italianate Style

Colonial Style

Federal Style

Georgian Style

Stick Style

via canal. Primarily used by passengers, railroads also developed into a means of freight transport. The1800's through 1920's saw development of the city into an industrial hub. With the establishment of a university, hospitals, banks, churches and expansive homes for the nation's wealthiest businessmen, Buffalo was named the "Queen City".

Planned by Joseph Ellicott, the design of the cities expansion used a radial street design. Frederick Law Olmstead designed a vast network of parks and parkways with the concept of calming the residents of the busy city with islands of tranquility. Parkways with landscaped roundabouts and parks placed within the city fabric were constructed.

The City of Buffalo is home to many examples of late 19th and early 20th century architecture. Architects including Henry Hobson Richardson, Louis Sullivan, and Frank Lloyd Wright have created a rich architectural history.

Development of the area of Batavia was spurred in 1801 by Joseph Ellicottt of the Holland Land Company when he constructed a land office and mill at the intersection of two Seneca trails along the Tonawanda Creek. The area was incorporated as a Village in 1821 and then as a City in 1914. The surrounding areas are incorporated within the Town of Batavia and include Bushville, Daw's Corners, East Pembroke, West Batavia, Newkirk and Putnam Settlement. Batavia is the county seat. The mid 1800s-1920s were a bustling time for the city and saw the construction of schools, transportation networks, businesses and churches.

2.9 Views

The project site is currently quite open and the topographic change is gentle. Views are expansive due to this open nature and the surroundings are visible. Views within the site from the higher north toward the lower south are scenic. As one moves south through the site, views of the NYS Thruway become more noticeable and are not attractive. Alternatively, the open view from the Thruway into the site is a positive feature and opportunity for increased visibility of the cemetery by the general public. There are no strong focal features within the site or toward the surrounding lands and this must be created with the design of the cemetery. The stands of wooded areas block and filter views during the summer months.

View from Indian Falls Road

View from Alleghany Road

View from Alleghany Road

2.10 Access and Circulation

Alleghany Road/State Route 77 is a two-lane paved State Highway classified as a rural minor arterial roadway with a recently documented average daily traffic of 6,535 vehicles. No direct site access exists from the adjacent NYS Thruway, however the exit 48A toll plaza southwest of the project site provides access to Alleghany Road, just a short distance to the South. With the largest population centers in the cities of Buffalo and Rochester, it is anticipated the majority of visitors will use the NYS Thruway to access Alleghany Road and the site. As indicated in the attached Traffic Study, Alleghany Road and Indian Falls Road have been analyzed, and safe zones established for placement of cemetery access roads. Due to existing road configuration, verticle/horizontal geometry and travel speed, safety concerns are the primary factor in the design and placement of the main and service entries.

A possible access to the site from Indian Falls Road remains under consideration conceptually, if the parcel to the east is aquired. However, that access was part of the scope of the traffic study. Indian Falls Road/Genesee County Route 4 is a two-lane paved roadway classified as a rural minor collector east of Alleghany Road and as a local road west of Alleghany Road with recently documented average daily traffic of 931 vehicles See Figures 2.10.A, 2.10.B and 2.10C (See Appendices A-5, Traffic Study).

Looking South on Alleghany Road

Indian Falls Road looking west towards Alleghany Road Intersection

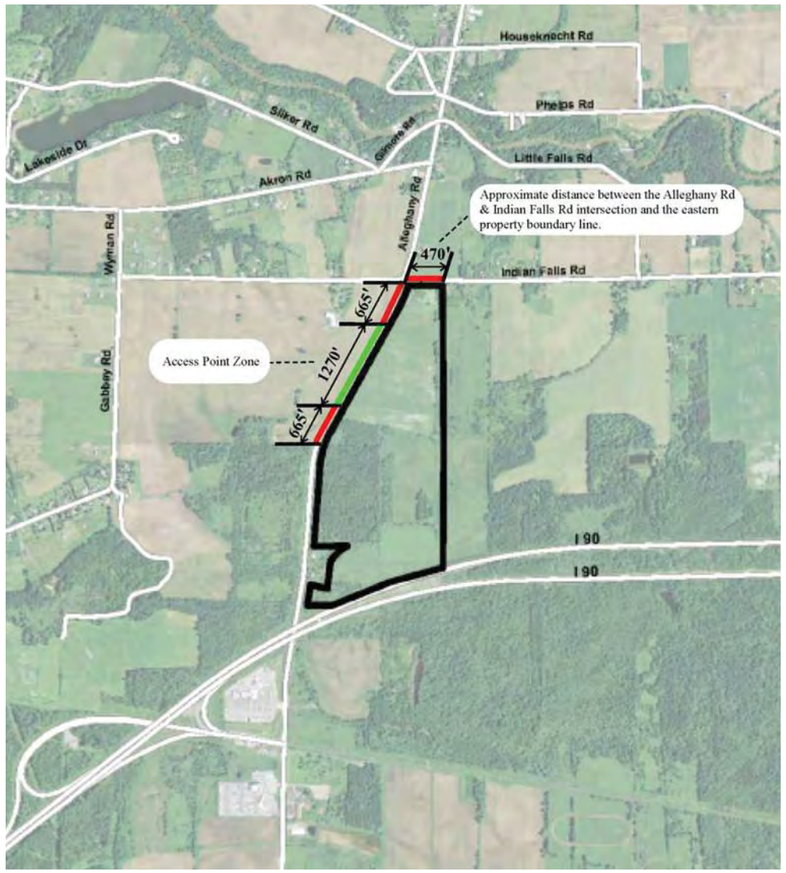


Figure 2.10.A | Passenger Vehicle Access Point Zone Map

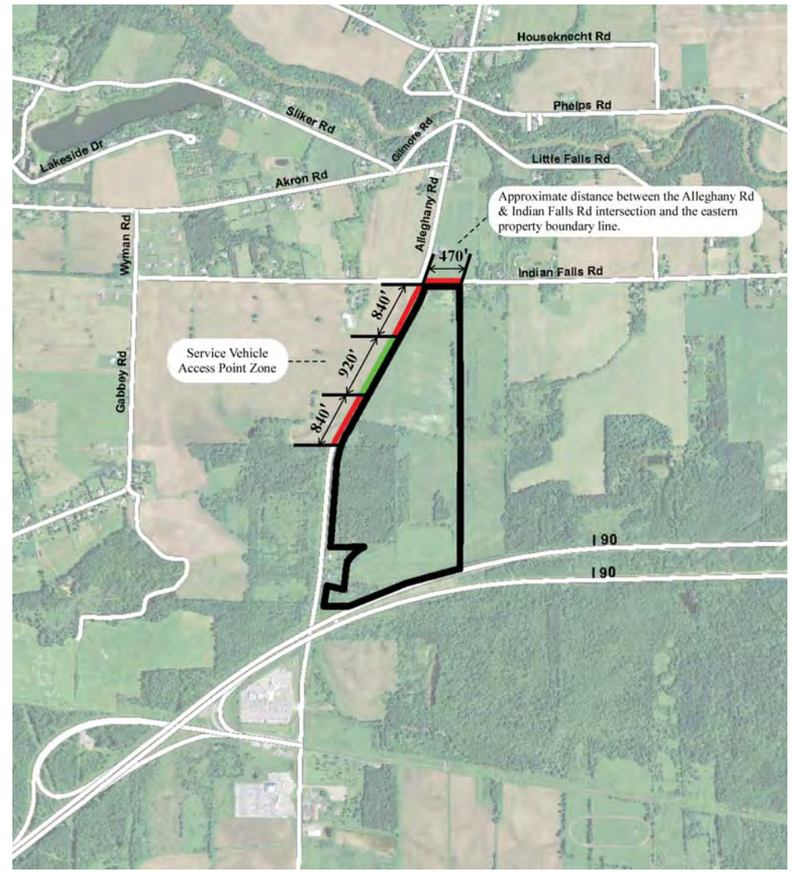


Figure 2.10.B | Service Vehicle Access Point Zone Map

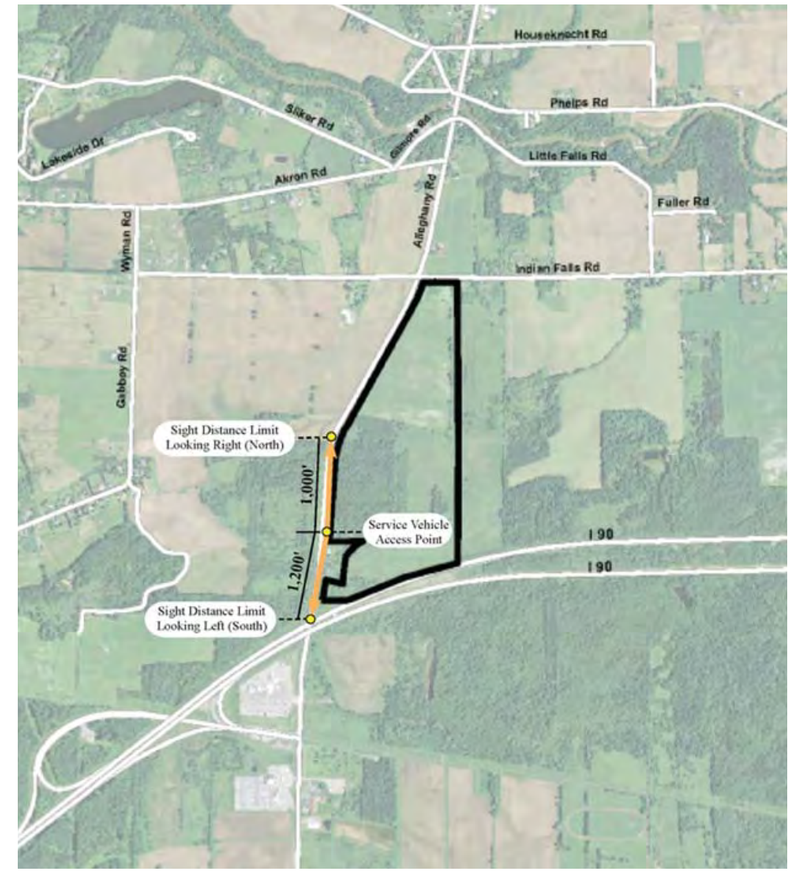


Figure 2.10.C | Service Vehicle Access Observed Intersection Sight Distance Map

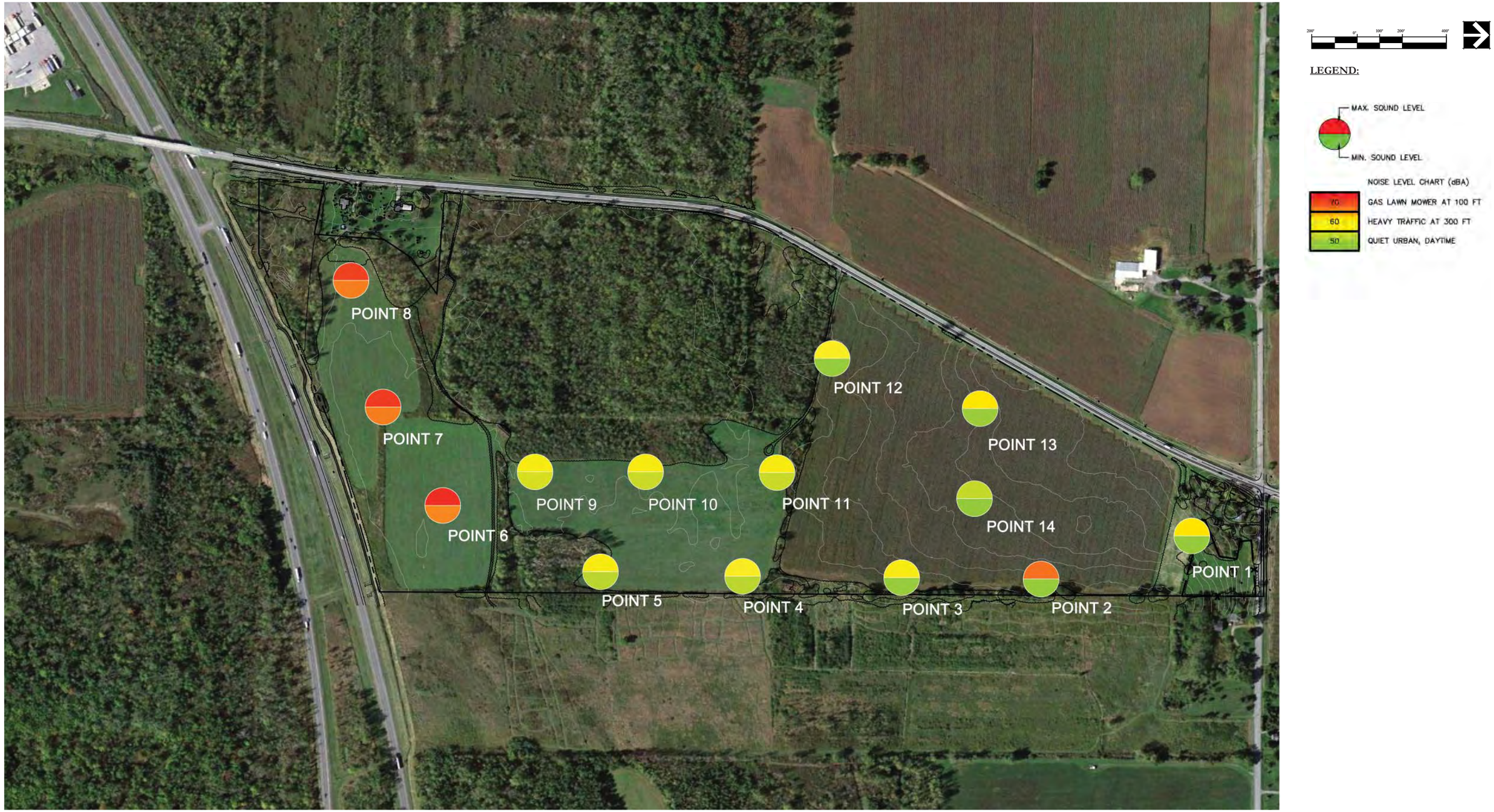
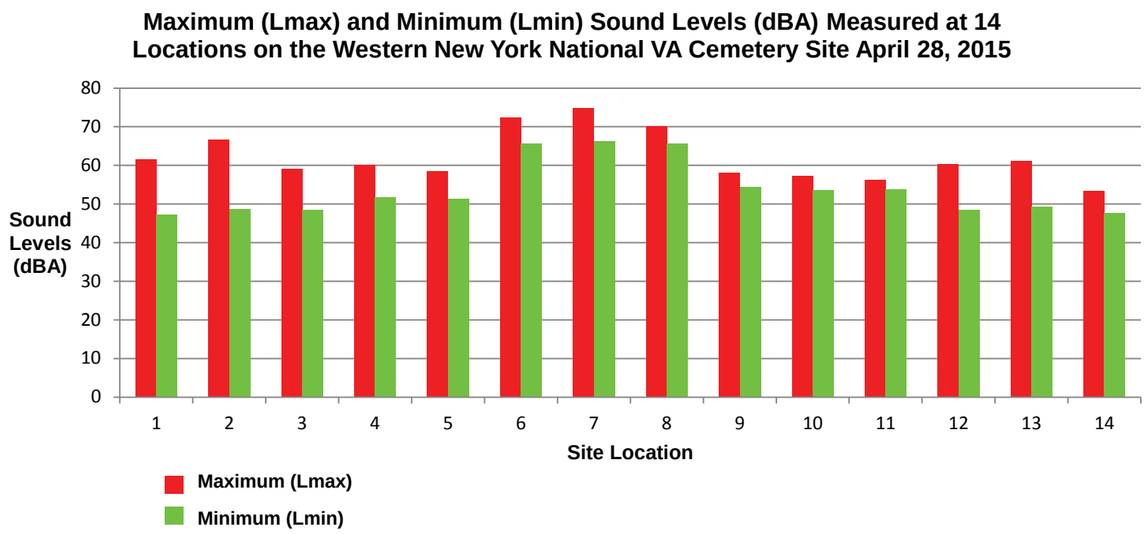


Figure 2.11.A | Sound Study Location Map

2.11 Noise

Assessment of existing sound levels was performed on April 27, 2015. Collection of data included recording the maximum (Lmax) and minimum (Lmin) sound levels within a 5 minute duration at 14 locations throughout the site. The sound levels were measured with a Quest Technologies 2200 Integrating Sound Level Meter equipped with a wind shield. Winds were generally 5 mph with gusts to 10 mph. As anticipated, sound levels were highest, approximately 72 dBA, in the southern end of the site adjacent to the NYS Thruway and lowest, approximately 50 dBA, in the middle portion of the site adjacent to the tree line.

See Figure 2.11.A, Sound Level Study Location Map.



2.12 Utilities

2.12.1 Sanitary Sewer Service

The closest municipal sewer system is operated by the Village of Corfu. The closest point of connection to the system is at the intersection of Rte.77 and Rte. 5 which is approximately 6,000 feet from the southwest corner of the site. Creation of a new sewer district would be required to serve the cemetery. The Corfu system is an activated sludge treatment plant. While the plant presently appears to have capacity to serve the cemetery, the present surplus capacity is at risk due to development potential for the industrial park where the new Cheese Factory is located and potential connection of the two truck stops on Rte.77 south of I-90.

Considerations for connection to the existing municipal system include cost due to the distance of the connection point and the possible requirement for off peak pumping due to plant capacity issues. There are also considerations for crossing the I-90 corridor. Current regulations from the Thruway Authority are that all crossing of the right of way for utilities must to be underground. This will require either a directional bore for the sewer force main, or jack and bore casing pipe with the sewer line inside the casing pipe. The specific requirements will be determined if it is decided that this is the prefered method. See Existing Utilities Map 2.12A.

2.12.2 Potable Water Service

Municipal water for potable use is available from the Monroe County Water Authority (MCWA) which has a 12" water main along the eastern side of Alleghany Road. It is fed from the south and crosses under I-90, across the southern portion of the project site that fronts Allegheny Road and terminates at the second residential property at 8331 Alleghany Road. This termination is approximately 100 feet from 8331 Alleghany Road's northern property line which abuts the project site. According to the MCWA, MCWA took over this line after it was constructed by the County. The water line was installed across the three parcels, including the current site of the cemetery now owned by the Department of Veterans Affairs, without additional easements. The crossing of the Thruway parcel was authorized by the New York State Thruway Authority Occupancy and Work Permit. Service taps are provided for the two residential lots but neither one of them has connected to the tap and rely on on-site wells for potable water. The 12" water line, once it passes the last customer on the south side of I-90, The TA Pembroke Truck Stop, is a dead end line with no customers. There is a fire hydrant on the residential lot at 8331 Alleghany Road, and the end of the line has a blow-off connection installed. Refer to Figure 2.12.A Existing Utilities Map.

2.12.3 Storm Sewer

Stormwater runoff discharges off-site at four locations. Approximately 109 acres of the site drains to the south and is captured within the wooded wetland area along Alleghany Road or in the roadside ditch along the NYS Thruway. Runoff captured in the wetland temporarily pools and ultimately discharges to the roadside ditch along Alleghany Road. A 24" culvert crosses Alleghany Road in the vicinity of the on-site wooded wetland. The culvert is sloped down to the east, towards the site. During a field walk it was observed that the outlet of the culvert was submerged and water was flowing west through the culvert. Water from the wetlands eventually discharges to the roadside ditch along Allegheny Road and flows south. The ditch enters two culverts under the residential properties driveways. Ponding of water was observed in the ditch along the residential properties. The roadside ditch eventually discharges to two 24" culverts located to the northeast of the Allegheny Road and I-90 crossing. The culverts convey runoff west across Alleghany Road into a stream channel. On-site runoff contributing to the roadside ditch along the NYS Thruway flows west along the Thruway and eventually discharges to the said twin culverts.

The second location of flow discharging off-site includes approximately 25 acres of the northeast portion of the site that drains via overland flow to the adjacent eastern property. The remaining two off-site flow locations are situated at the north end of the site, along Indian Falls Road. One area is located at the northwestern portion of the site where runoff enters a 16"

I-90 Noise Source

Storm Drainage Ditch along Alleghany Road

Stormwater Drainage Ditch along NYS Thruway

Culvert at the NYS Thruway

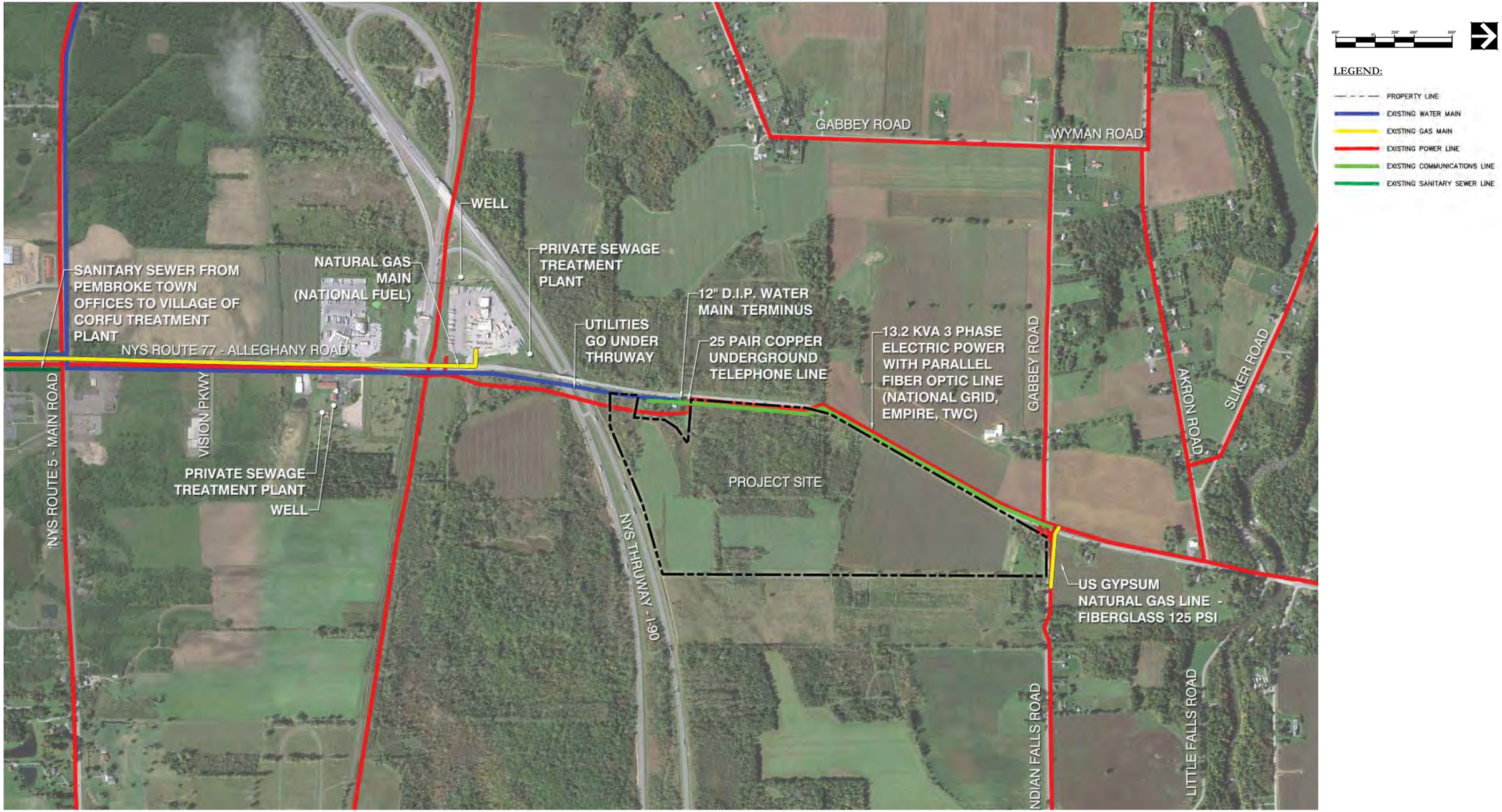


Figure 2.12.A | Existing Utilities Map

concrete pipe that conveys water north across Indian Falls Road. The last area is located at the northeastern portion of the site where runoff is captured in the Indian Falls Road ditch that flows east off the property. See Figure 2.12.B, Storm Water Drainage Map.

2.12.4 Electricity

Overhead powerlines are located along the easterly side of Alleghany Road. The line extends northernly to the wooded area along the cemetery property, then crosses Alleghany Road overhead at the center part of the property and proceeds up the Westerly side of Alleghany road. The power line includes 3 phase power 13.2KVA, and the power feed is adequate to meet the needs of the cemetery project. See Figure 2.12.A, Existing Utilities Map.

2.12.6 Natural Gas Service

Natural gas service, provided by National Fuel, is available approximately 750 feet south of I-90 along Allegany Road. Extension to the project site would be required. A private gas main, owned by US Gypsum, is located to the north of the site across Indian Falls Road. This line takes natural gas from US Gypsum wells to their plant in Oakwood. The gas main is rated for 125psi however the pressure in the line is between 60 and 65psi. US Gypsum, while not a utility company, does have the legal authority to provide service to others.

See Figure 2.12.A, Existing Utilities Map.

Electric Power Pole

2.12.5 Communication

Underground and overhead communication lines run along the easterly side of Alleghany Road (Figure 2.12.A) and include fiber optic cables and 25 pair copper line for telephone communications.

Buried fiber optic line is available and follows the overhead power lines. The fiber optic line is available for T-1 connection to the site. There is capacity in the telephone lines, which are run overhead, as currently only two customers are using the 25 pairs. See Figure 2.12.A, Existing Utilities Map.

2.13 Hazardous Materials

Hazardous and toxic materials are materials that pose a risk through either physical or chemical reactions to human health or the environment. The Phase I study done during the Preliminary Environmental Assessment identified no evidence of negative environmental impacts on the site and no recognized environmental conditions warranting further action or investigation.

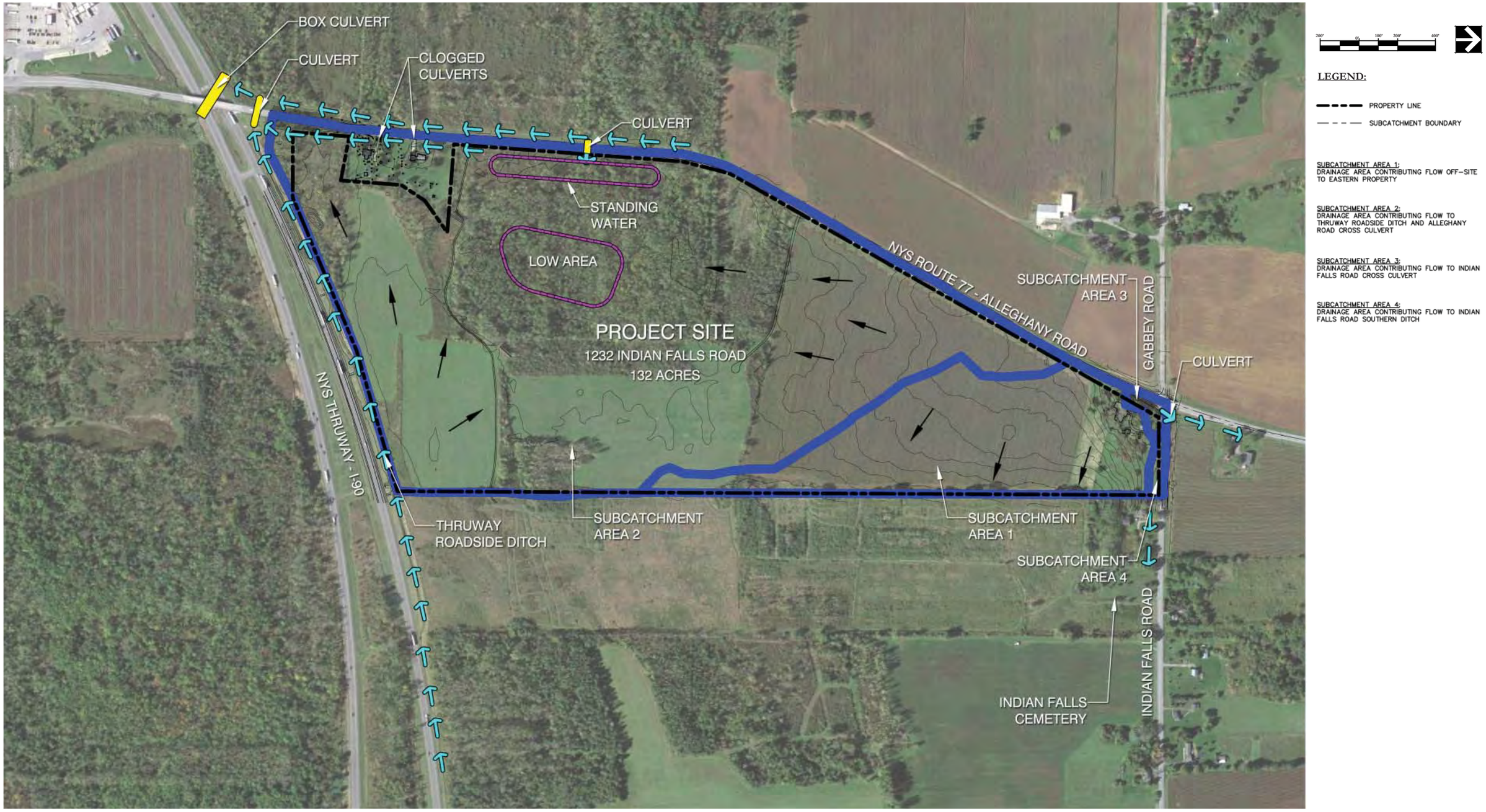


Figure 2.12.B | Stormwater Drainage Map

3.0 Summary of Opportunities and Constraints

The project site presents both constraints to development and opportunities for the creation of an attractive and functional cemetery. The site characteristics inform the design in terms of overall design concept, location and layout of elements, grading and drainage design and selection of materials.

The site is located in an attractive rural setting conducive to creation of a place of meditation, reflection and remembrance. The local character of both the rural and the urban environment offers a wealth of design inspiration in terms form and materials. The gentle topography, while a challenge to ensure positive storm drainage, allows opportunity for creative site design without the restrictions of steep slopes for roads, walkways and burial fields. Access from urban areas and population centers is aided by the proximity of the site to the NYS Thruway. Safety considerations on Alleghany Road and Indian Falls Road will guide placement of access points to the site.

The biggest challenge to site development will be the areas of shallow bedrock and high groundwater. Creativity and coordination of competing factors is essential to reach the goal of maximizing burial potential while minimizing costs and impact to environmental features. Due to the open nature of much of the site, design that mitigates negative factors of noise and wind is essential to creating a place of peace and comfort for visitors.

4.0 Design Program

Burial projections and assessment of staffing needs have been prepared for this project and used to develop the program requirements.

Fiscal Year	Projection of Veteran Deaths in Service Area[1]	Total Interments	Total Full Casket	Total Cremains	Total In-ground	Total Columbaria	Annual G/S Used	Cumulative Casket	Cumulative Cremain	Cumulative In-ground	Cumulative Columbaria	Cumulative Gravesites	Cumulative Interments
2012	5,401	0	0	0	0	0	0	0	0	0	0	0	0
2013	5,240	0	0	0	0	0	0	0	0	0	0	0	0
2014	5,079	0	0	0	0	0	0	0	0	0	0	0	0
2015	4,912	0	0	0	0	0	0	0	0	0	0	0	0
2016	4,745	247	103	144	144	0	220	99	121	121	0	220	247
2017	4,578	421	174	246	246	0	364	263	322	322	0	585	668
2018	4,415	398	176	223	133	90	351	421	515	428	87	936	1,066
2019	4,251	389	174	215	105	110	338	574	701	511	190	1,275	1,455
2020	4,092	380	169	211	102	109	326	720	880	590	290	1,600	1,835
2021	3,936	371	165	207	100	107	313	861	1,052	667	385	1,914	2,206
2022	3,788	365	160	205	97	107	301	997	1,218	741	477	2,215	2,571
2023	3,653	357	156	201	95	106	291	1,128	1,378	812	566	2,506	2,929
2024	3,523	348	153	195	93	102	280	1,254	1,532	881	652	2,786	3,276
2025	3,394	338	149	189	91	98	270	1,375	1,681	947	734	3,056	3,614
2026	3,268	328	145	183	89	95	260	1,492	1,824	1,010	813	3,316	3,943
2027	3,148	319	142	178	87	91	250	1,605	1,961	1,072	890	3,566	4,262
2028	3,034	311	138	173	85	88	241	1,714	2,094	1,131	964	3,808	4,573
2029	2,925	303	135	168	83	85	233	1,818	2,222	1,188	1,035	4,041	4,876

U.S. Department of Veterans Affairs Burial Projections

The project will consist of construction of Phase I of the cemetery. The remainder of the site will be developed in future phased projects in accordance with the cemetery master plan. Those facilities necessary to maintain, operate and provide burials for approximately ten years will comprise the Phase I construction.

Interment Areas

Phase 1A (Early Turn Over Phase):

- 600 pre-placed crypts, full casket gravesites; 3'x8' plot size
- 650 oversized pre-placed crypt full casket gravesites (4'x10' plot size) and 650 in-ground traditional full casket gravesites (to accommodate private vaults) with headstone support beam system (4'x10' plot size) in a combined section
- 850 in-ground cremation sites; 4'x4' plot size

Phase 1B:

- 1,900 pre-placed crypt full casket gravesites; 3'x8' plot size
- 850 in-ground cremation sites; 4'x4' plot size.
- 2,000 columbarium niches
- Ossuary for cremated remains
- Memorial Walls (2)

Buildings

- Administration/Public Information Center Building (approximately 5,200 gsf) with Electronic Gravesite Locator (kiosk), Public Restrooms, security system and associated parking
- Maintenance Complex (approximately 7,700 gsf) with Buildings, Service Yard, associated parking, and security system
- Honor Guard Building (approximately 1,200 gsf) with lounge/gun cleaning area, restrooms, rifle storage/safe area, and associated parking for 15 volunteers
- Committal Service Shelters (2)

Support Program Elements

- Memorial Walkway/Donations Area
- Entrance Area
- Access Roads
- Flag/Assembly Area
- Roadway System and Parking
- Spoils Area Containment Structure
- Site Furnishings, Receptacles, Signage
- Grading, Drainage
- Fencing and Landscaping, as required for this particular site
- Irrigation System, as required for this site
- Utility Distribution Systems, including off-site infrastructure, if necessary, to bring utilities to the site
- Incorporate Guiding Principles for High Performance and Sustainable Buildings MOU and Renewable Energy Initiatives. LEED and Green Globe requirements may be used to improve sustainability and reduce energy usage
- Protected Habitat Preservation, Wetlands, and Mitigation
- Global Positioning System (GPS) and Geographic Information System (GIS), fully integrated

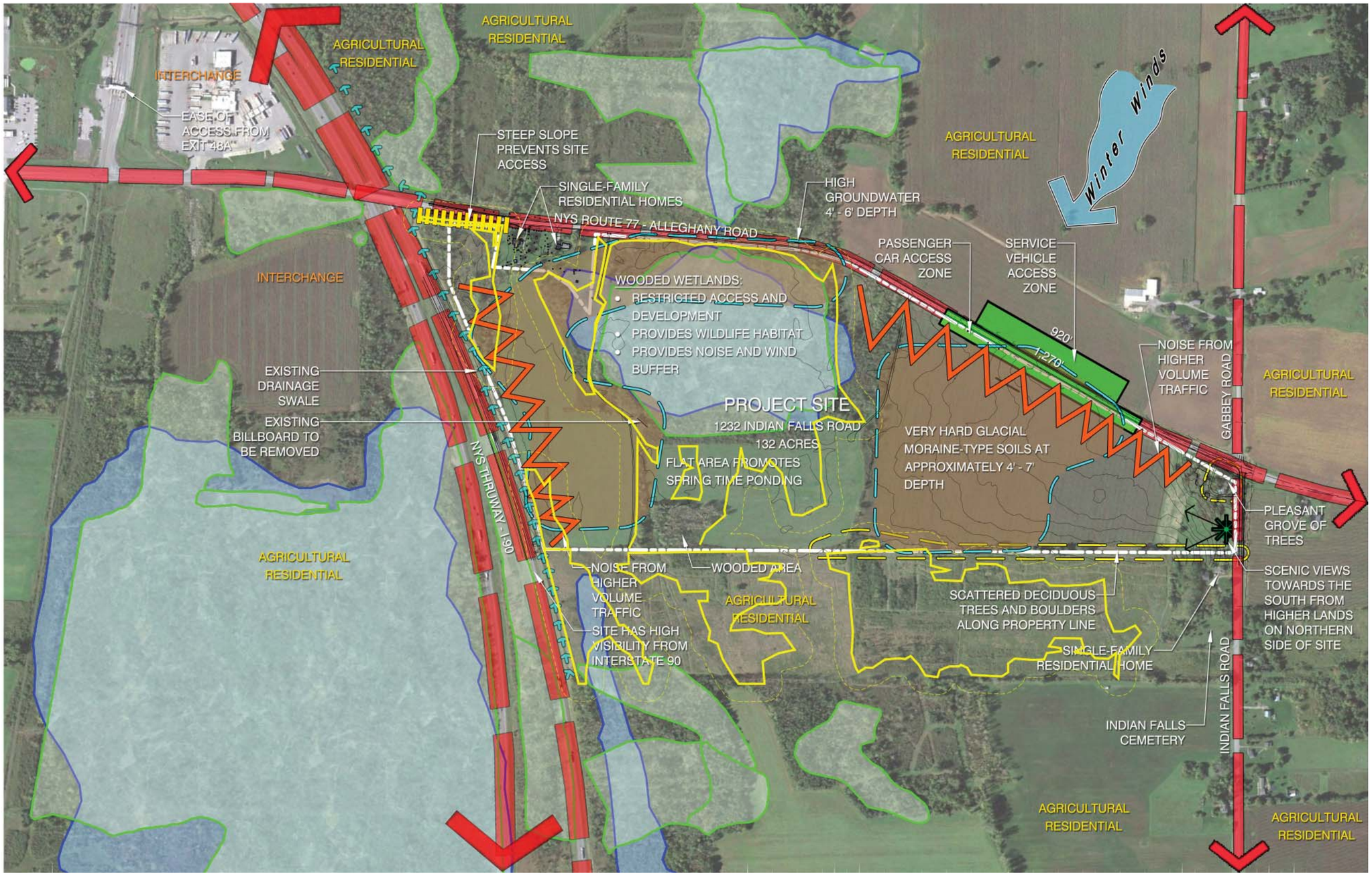


Figure 3.0.A | Site Opporunities and Constraints

5.0 Site Development Concepts

5.1 Concept A

Some of the driving factors which have guided the design of Concept A include:

- The arrival sequence as one enters the site from Alleghany Road is an important consideration of this concept. Turn lane improvements will likely be required for the main entrance which located near the middle of the site just beyond the wooded area. Upon passing through the entry wall visitors will be drawn to the Admin./PIC building. Once there, the view is directed to the north along an axial line directly to the US flag with a Committal Service Shelter as the terminus of the view as a strong focal point.

- The frontage along Alleghany Road and Indian Falls road will bordered with a wall or decorative fence signifying the importance of this site as a national shrine. Additional landscape buffer will be added along this very open frontage to assist in screening the noise and helping block the wind from the west/ northwest.

- Since a large portion of the site is not usable due to the extensive wetlands and hydric soil, full advantage is taken of the more buildable zones on the site for casket burial sites. These areas are roughly from the middle of the site to the north.

- The Assembly area is located immediately to the south of the northern-most Committal Service Shelter, which allows an efficient use of land while providing a pleasing view from the Assembly area to the US flag and to the south across the expanse of the cemetery.

- The same view will be emphasized from the northern Shelter, which will also be surrounded by trees for a private setting. The other Shelter is nearby and located off of the main loop road to the southeast. This is a quiet part of the site away from Alleghany Road and the Thruway. The Honor Guard building is located within close proximity to both Shelters.

- The road system is designed to be simple to follow and easily phased to allow for future expansion of phases.

- Columbaria are located in clusters off of the main loop road. The ossuary and Memorial Walls are located in a plaza adjacent to the Phase 1 columbarium.

- The memorial walkway is located in a convenient location near the Admin./PIC building in the wooded area near the entrance for a very peaceful setting which allows the preservation of the natural landscape.

- Most of the existing trees on the site will be preserved.

- The maintenance area, with its own access off of Alleghany Road, is located near the site's southwestern edge. Due to the close proximity of this area to the Thruway, this area is not as desirable for other cemetery uses and it will be hidden from the majority of the cemetery. A connector road for service vehicles would need to be built in Phase 1 to connect the maintenance area to the main loop road.

- Development for Phase 1 and the first several phases will have very minimal intrusion into the wetland.

- Future phases will be developed along a road to the south of the main loop road which will be sited to minimize impacts to the wetlands.

Concept A continued:

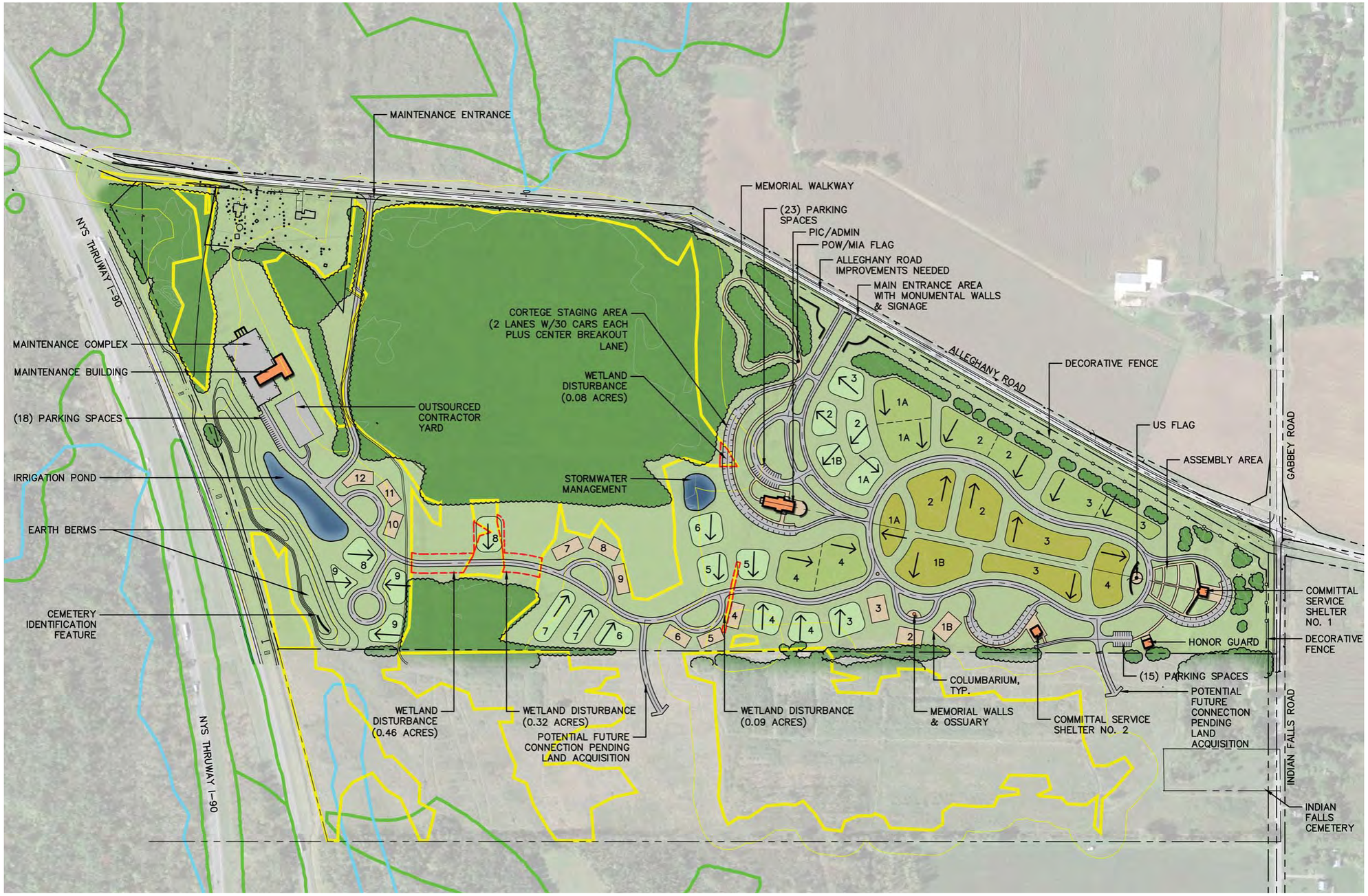
- Two potential access points are planned to access the adjacent lands to the east. Since a large amount of wetlands are present on the adjacent parcel, the points are located in areas that can access uplands.

- Several ponds are located throughout the site, which will allow for stormwater detention and a pond for irrigation water storage, will be developed near the site's southern edge.

- A large landscaped berm will be created adjacent to the Thruway to help provide a visual and noise buffer to cremation burials located in the site's southern portion.

- A cemetery identification feature will be located near the southeast corner of the site to provide identity to passers-by.

The overall burial yield shown in this concept is approximately 55,000 burial sites with capability of exceeding or decreasing that number, depending on the density desired, and burial type.



GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	TOTAL
1A	600	650/650	850	–	2,750
1B	1,900	–	850	2,000	4,750
2	2,500	650/650	1,700	2,000	7,500
3	2,500	650/650	1,700	2,000	7,500
4	1,250	650/650	1,700	2,000	6,250
5	–	–	1,700	2,000	3,700
6	–	–	1,700	2,000	3,700
7	–	–	1,700	2,000	3,700
8	–	–	1,700	2,000	3,700
9	–	–	1,700	2,000	3,700
10	–	–	–	2,000	2,000
11	–	–	–	2,000	2,000
12	–	–	–	2,000	2,000
T	8,750	5,200	15,300	24,000	53,250

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED PLOTS
IGC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL PLAQUES

WETLAND DISTURBANCE (APPROXIMATE ACRES)

PHASE	TOTAL
1	0.78 ACRES
FUTURE	0.17 ACRES
TOTAL	0.95 ACRES

Concept A Plan

Concept A continued:

GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	TOTAL
1A	600	650/650	850	2,000	4,750
1B	1,900	–	850	–	2,750
2	2,500	650/650	1,700	2,000	7,500
3	2,500	650/650	1,700	2,000	7,500
4	1,250	650/850	1,700	2,000	6,250
5	–	–	1,700	2,000	3,700
6	–	–	1,700	2,000	3,700
7	–	–	1,700	2,000	3,700
8	–	–	1,700	2,000	3,700
9	–	–	1,700	2,000	3,700
10	–	–	1,700	2,000	3,700
11	–	–	–	2,000	2,000
12	–	–	–	2,000	2,000
T	8,750	5,200	17,000	24,000	54,950

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED PLOTS
IGC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL PLAQUES

Concept A Phasing

5.2 Concept B

Some of the driving factors which have guided the design of Concept B include:

- The location of the main entrance and the sequence of arrival and direction of initial views are similar to Concept A, but the focus quickly shifts to the US flag which is located in a location central to the overall site. The Admin./PIC building aligns with the flag which reinforces this focus. The terminus of the view to the flag is a Committal Service Shelter immediately to the eastern edge in a quiet setting.

- The frontage along Alleghany Road and Indian Falls road will be bordered with a wall or decorative fence signifying the importance of this site as a national shrine. Additional landscape buffer will be added along this very open frontage to assist in screening the noise and helping block the wind from the west/ northwest.

- The first several phases of columbaria are located at the northern end of the main loop road allowing for a southern exposure. The ossuary and Memorial Walls are located in an adjacent plaza.

- A less formal road system allows for easy circulation and phasing of the cemetery.

- The second Committal Service Shelter is located off of the main loop road to the north. The Honor Guard building is located between the two Shelters for ease of access.

- The memorial walkway is located in the wooded area near the entrance, similar to Concept A.

- Since a large portion of the site is not usable due to the extensive wetlands and hydric soil, full advantage is taken of the more buildable zones on the site for casket burial sites. These areas are roughly from the middle of the site to the north.

- The Assembly area is adjacent to the US flag in the site's central location.

- The maintenance area in this concept is located at the site's northern edge. If the adjacent parcel becomes available, access into the maintenance area will be from Indian Falls Road. If the land is not available, access will be from Alleghany Road near the northern end onto the main loop road for a short distance before accessing into the yard.

- Future phases will be developed along a road to the south of the main loop road which will be sited to minimize impacts to the wetlands. Only the road crossing is impacting the wetlands in this concept.

- Two potential access points are planned to access the adjacent lands to the east. Since a large amount of wetlands are present on the adjacent parcel, the points are located in areas that can access uplands.

- A large landscaped berm will be created adjacent to the Thruway to help provide a visual and noise buffer to cremation burials located in the site's southern portion.

- A cemetery identification feature will be located near the southeast corner of the site to provide identity to passers-by.

- Several ponds are located throughout the site, which will allow for stormwater detention and irrigation water storage.

The overall burial yield shown in this concept is approximately 47,500 burial sites with capability of exceeding or decreasing that number depending on the type of burial.

LEGEND:

- PROPERTY LINE
- DRAINAGE SWALE ℄
- 6' DECORATIVE PERIMETER FENCE
- 8' CHAIN LINK FENCE
- 6' WILDLIFE FENCE
- NYS DEC WETLAND BOUNDARY
- ARMY CORPS WETLAND BOUNDARY
- FLAGGED WETLANDS (NOT VERIFIED)
- NYS DEC 100' WETLAND BUFFER
- PRE-PLACED CRYPT SECTIONS (3'X8' CASKET PLOTS)
- IN-GROUND CREMAIN SECTIONS (4'X4' CREMAIN PLOTS)
- PRIVATE VAULTS (4'X10') / OVERSIZED CASKET PLOTS (4'X10')
- COLUMBARIUM / MEMORIAL WALLS
- HEADSTONE FACE DIRECTION
- PROPOSED PLANTINGS

GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	TOTAL
1A	600	650/650	850	–	2,750
1B	1,900	–	850	2,000	4,750
2	2,500	650/650	1,700	2,000	7,500
3	2,500	650/650	1,700	2,000	7,500
4	2,000	650/650	1,700	2,000	7,000
5	–	–	1,700	2,000	3,700
6	–	–	1,700	2,000	3,700
7	–	–	1,700	2,000	3,700
8	–	–	850	2,000	2,850
9	–	–	–	2,000	2,000
10	–	–	–	2,000	2,000
T	9,500	5,200	12,750	20,000	47,450

ABBREVIATIONS:

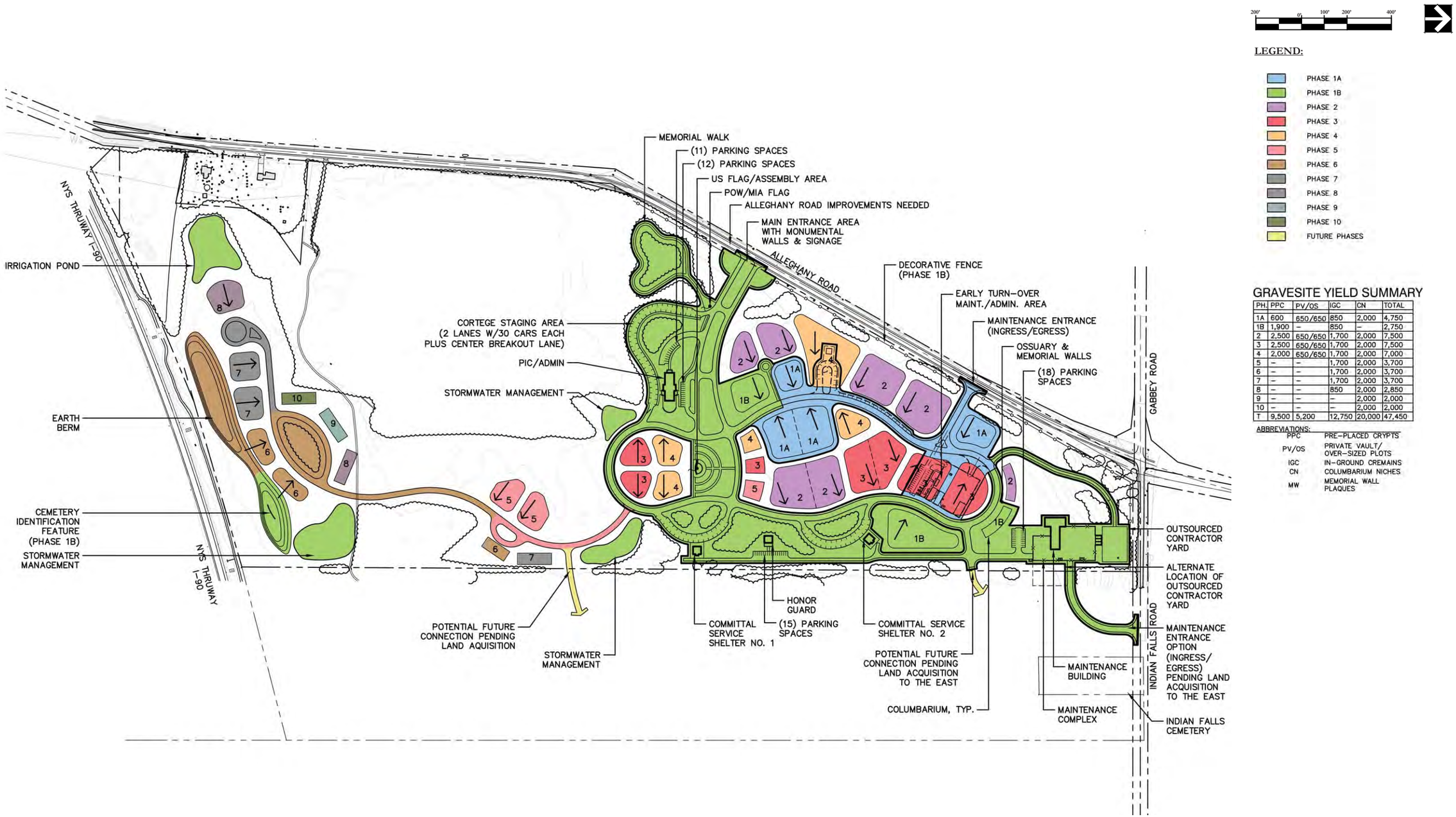
PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED PLOTS
IGC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL PLAQUES

WETLAND DISTURBANCE (APPROXIMATE ACRES)

PHASE	TOTAL
1	0.70 ACRES
FUTURE	0.03 ACRES
TOTAL	0.73 ACRES

Concept B Plan

Concept B continued:



Concept B Phasing

5.3 Concept C

Some of the driving factors which have guided the design of Concept C include:

The main entrance of the cemetery in Concept C is off of Indian Falls Road. This location is desirable due to lower speed and less traffic than Alleghany Road. For the purposes of this Concept is it is presumed that the adjacent parcel is acquired. As visitors proceeds north along Alleghany Road past the wooded area, a view to the prominent US flag is apparent. Turning onto Indian Falls Road, a cemetery identification feature is located at the intersection. Upon entering the cemetery, the large expanse of the pastoral setting provides the setting as one is directed to the Admin./PIC building and the US flag. From the vantage point of higher ground at the northern end of the site, a strong axial relationship to the US flag to the south of the building and a Committal Service Shelter as a focal point of the axis to the south. The Assembly area faces this view to the south.

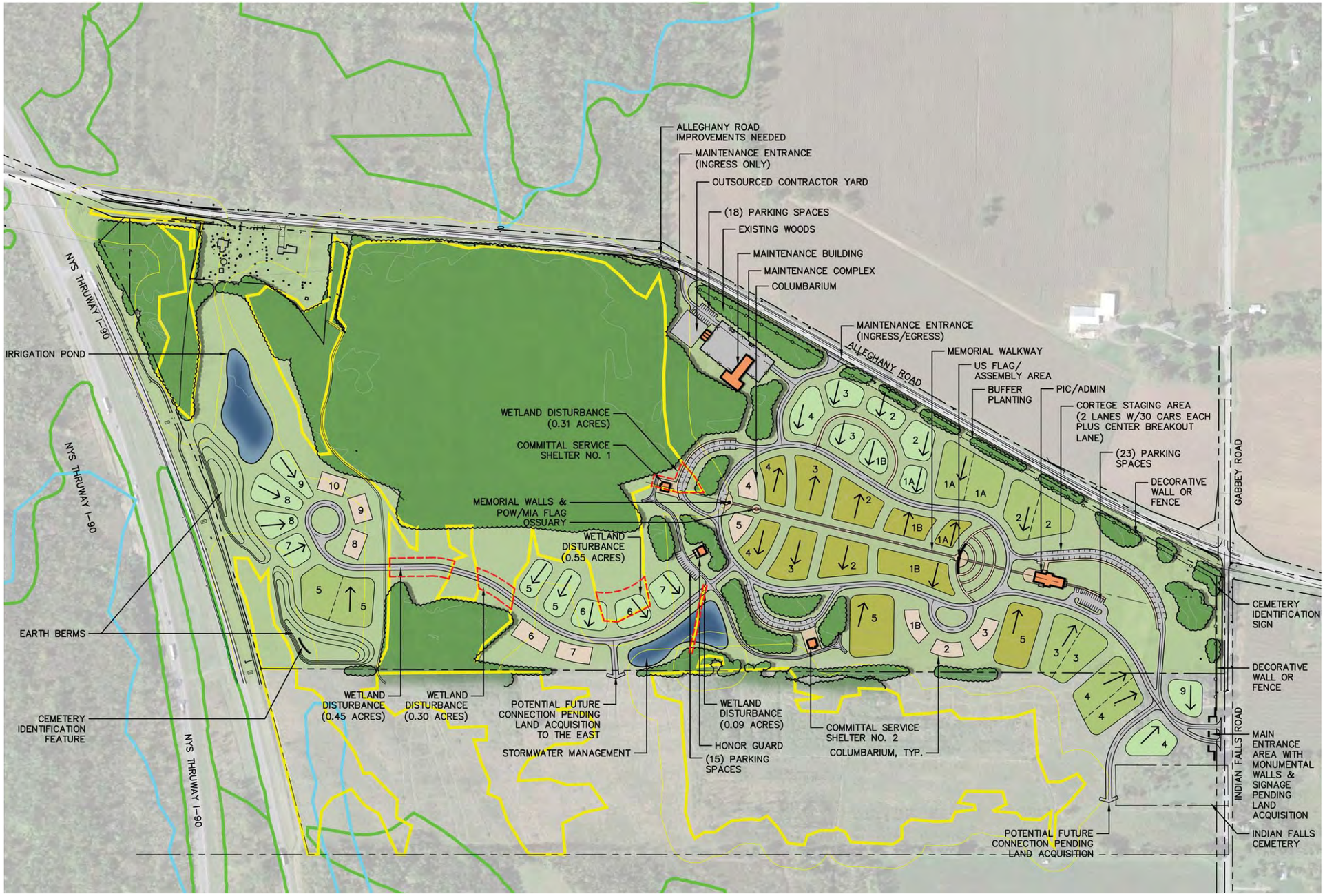
- An advantage of the location of the US flag in this concept is that it will be seen from a distance by travelers proceeding north on Alleghany Road.
- The road system is designed to be simple to follow and easily phased to allow for future expansion.
- The Committal Service Shelters in this concept are located off the main loop road near the center of the site, to make for a peaceful, quiet location. One Shelter forms the terminus of the view from the Admin./PIC building. The Honor Guard building is located nearby within easy access to both of the Shelters.
- This concept attempts to achieve maximum density by using the existing flood plain for future burial areas, pushing the limits further than the other concepts. Less open space is also shown between burial areas to achieve higher density.
- The ossuary, Memorial Walls, and memorial walk are located opposite from the Committal Service Shelter and along the axis between the two buildings and US flag which strengthens this relationship further.
- The maintenance area, with its own access, is located near the center of the site in the wooded area, with an ingress and egress which allow ease of truck access . Views into the maintenance area will be screened by existing vegetation and additional landscaping.
- Future development to the south of the wetlands includes a road which crosses the wetland in the same location as the other concepts to minimize disturbance, but uses a portion of the wetland area to increase burial yield for cremated remains.
- Stormwater detention and a pond for irrigation water storage will be developed near the site's southern edge.
- A large landscaped berm will be created adjacent to the Thruway to help provide a visual and noise buffer to cremation burials located in the site's southern portion.
- A cemetery identification feature will be located near the southeast corner of the site to provide identity to passers-by.

The overall burial yield shown in this concept is approximately 55,000 burial sites with the capability of increasing or decreasing that quantity based on burial type.

Concept C Alternative

An alternative to Concept C has been developed for consideration if the adjacent parcel is not acquired.

The entry boulevard and locations of Administration and ublic Information Center Building building would be revised; the other elements of the concept would remain the same.



200' 0' 100' 200' 400'

LEGEND:

- PROPERTY LINE
- DRAINAGE SWALE ℄
- 6' DECORATIVE PERIMETER FENCE
- 8' CHAIN LINK FENCE
- 6' WILDLIFE FENCE
- NYS DEC WETLAND BOUNDARY
- ARMY CORPS WETLAND BOUNDARY
- FLAGGED WETLANDS (NOT VERIFIED)
- NYS DEC 100' WETLAND BUFFER
- PRE-PLACED CRYPT SECTIONS (3'X8' CASKET PLOTS)
- IN-GROUND CREMAIN SECTIONS (4'X4' CREMAIN PLOTS)
- PRIVATE VAULTS (4'X10') / OVERSIZED CASKET PLOTS (4'X10')
- COLUMBARIUM / MEMORIAL WALLS
- HEADSTONE FACE DIRECTION
- PROPOSED PLANTINGS

GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	TOTAL
1A	600	650/650	850	–	2,750
1B	1,900	–	850	2,000	4,750
2	2,500	650/650	1,700	2,000	7,500
3	2,500	650/650	1,700	2,000	7,500
4	2,500	650/650	1,700	2,000	7,500
5	3,050	650/650	1,700	2,000	8,050
6	–	–	1,700	2,000	3,700
7	–	–	1,700	2,000	3,700
8	–	–	1,700	2,000	3,700
9	–	–	1,700	2,000	3,700
10	–	–	–	2,000	2,000
T	13,050	6,500	15,300	20,000	54,850

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED PLOTS
IGC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL PLAQUES

WETLAND DISTURBANCE (APPROXIMATE ACRES)

PHASE	TOTAL
1	0.31 ACRES
FUTURE	1.38 ACRES
TOTAL	1.69 ACRES

Concept C Plan

200' 0' 100' 200' 400'

LEGEND:

- PROPERTY LINE
- DRAINAGE SWALE ℄
- 6' DECORATIVE PERIMETER FENCE
- 8' CHAIN LINK FENCE
- 6' WILDLIFE FENCE
- NYS DEC WETLAND BOUNDARY
- ARMY CORPS WETLAND BOUNDARY
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GRAVESITE YIELD SUMMARY

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1B	1,900	–	850	2,000	4,750
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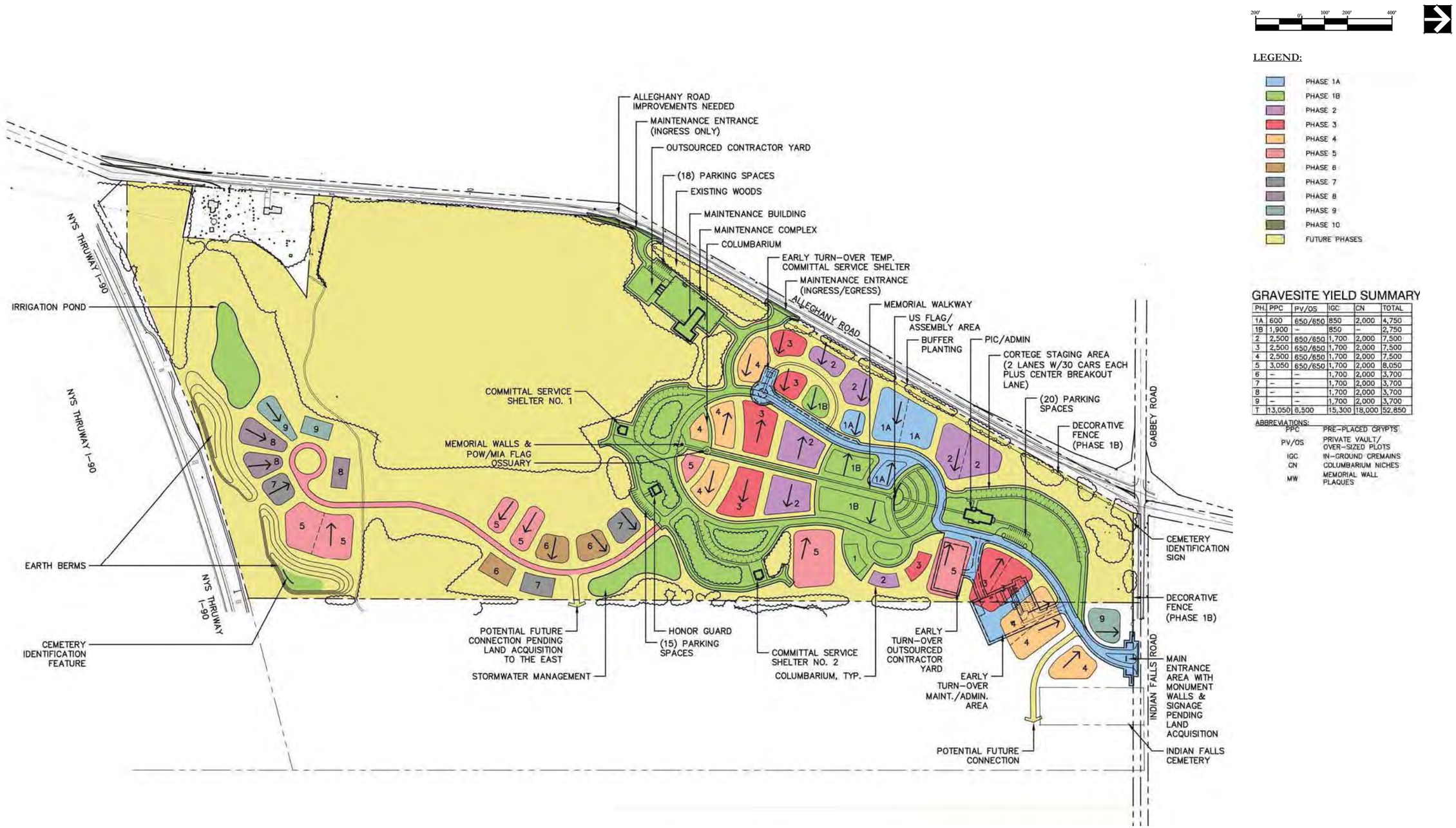
3	2,500	650/650	1,700	2,000	7,500
4	2,500	–	1,700	2,000	6,200
5	2,500	–	1,700	2,000	6,200
6	–	–	1,700	2,000	3,700
7	–	–	1,700	2,000	3,700
8	–	–	1,700	2,000	3,700
9	–	–	850	2,000	2,850
10	–	–	–	2,000	2,000
T	12,500	3,900	14,450	20,000	50,850

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED PLOTS
IGC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL PLAQUES

Concept C Plan Alternative



Concept C Phasing

6.0 Utility Concepts

6.1 Storm Drainage

Post-construction stormwater management is required to meet the "New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges form Construction Activity," dated January 29, 2015. The General Permit requires post-construction stormwater management practices meet the performance criteria in the "New York State Stormwater Management Design Manual," dated January 2015. The General Permit stipulates that post-construction stormwater management practices must be implemented to provide the following:

- Treatment of the Water Quality Volume (1" storm event)
- Provide reduction of the Water Quality Volume by application of Runoff Reduction techniques.
- Provide 24-hour extended detention of the post-developed 1-year, 24-hour storm event remaining after runoff reduction.
- Attenuation of the 10-year and 100-year, 24-hour storm event peak discharge rate to pre-development rates.

In order to accomplish the above mentioned requirements a variety of stormwater management devices and operational techniques can be constructed as part of the project to result in acceptable post-construction stormwater discharge performance. Post-construction stormwater treatment and runoff reduction techniques may include, but are not limited to, bioretention basins, porous pavement, sheet flow to riparian buffers, stormwater planters, and capturing and reusing stormwater runoff for irrigation. Stormwater runoff will also need to be attenuated on-site in order to meet pre-development flow rates. Attenuation of runoff will likely require the construction of one or more ponds that will allow the peak discharge rate to be controlled using a restricted outflow structure. Due to shallow depth to seasonal high groundwater and elevation of the discharge location, a pond located along the southern portion of the site would be required to be partially above grade. Culverts discharging to the pond would need to discharge above existing grade to prevent surcharging the closed drainage system during storm events. Proposed roads along the southern portion of the site would be required to be raised above existing grade to allow for stormwater to be collected and gravity flow to a pond with sufficient cover over the pipes. In this scenario, roads may need to be greater than four (4) feet above existing ground elevation along the southern portion of the site. See Drainage Profile, Figure 6.1.A.

Proposed crypt fields will require an adequate underdrainage system designed to keep water from reaching the inside of the lowest crypt in a specific field. This will maintain dry conditions inside of the crypts. The depths of the underdrains for individual crypt fields are tied to the discharge point for the pipe system to which the underdrains are connected, specifically the discharge elevation. The lowest elevation adjacent to the site is at the twin culverts that cross Alleghany Road, with their inverts at approximately 838.0'. The culverts are located within the I-90 right-of-way and would require an easement from the Thruway for construction and maintenance of any drain to outlet into the northside drainage ditch that flows to the twin culverts . The lowest ground elevation on-site is approximately 841.0'. The existing ground elevation at the center of the site, along the northern wetland boundary, is approximately 845.0'. A gravity pipe with minimum slope, 0.5%, can't be daylighted from this area to the twin culverts or an elevation of 841.0'. Therefore, crypt fields north of the wetland complex must surface discharge at the wetland elevation of 845.0'. This will require a minimum finished grade elevation above the crypt fields of 852.0'.

6.2 Sanitary Sewer

To provide sanitary sewer service for the project, three feasible options were identified and are presented here. The first two options collect, treat and dispose of the sanitary wastewater on the cemetery property either on the surface or underground. The third option is to collect and pump the wastewater to a municipal collection system. See Wastewater Disposal, Figure 6.2.A.

Option 1 - On-site subsurface disposal

An on-site wastewater treatment system (OWTS) with subsurface discharge is typically the best alternative for a site that is not serviced by a municipal system. This type of system requires very little maintenance and is the least complicated in terms of design and permitting. The system will be designed and constructed to comply with the requirements presented in New York State Department of Environmental Conservation's "Design Standards for Intermediate Sized Wastewater Treatment Systems March 5, 2014".

This type of system consists of a septic tank for primary settling and treatment, a dosing tank which could be a siphon or pump system, and a subsurface disposal system. The disposal system could be an absorption trench field, a raised trench system or mound system depending on the results of a soil and site evaluation. Reserve area(s) for the onsite disposal field or mound will need to be provided. These reserve areas are usually 100% the size of the constructed field.

To extend the life of onsite disposal fields, the use of aeration equipment and disposal of aerated effluent is an option that will be evaluated. To address the possibility of overloading the system on peak use days, an emergency overflow storage tank may be considered in the design.

Preliminary percolation tests completed at the northern end of the site resulted in rates of 18 minutes per inch, which is an acceptable rate for sewage disposal.

Option 2 - On-site treatment with surface water discharge

An on-site wastewater treatment system (OWTS) with surface discharge is typically more difficult to maintain and acquire permits for than the subsurface type.

Wastewater will likely need to be pumped to a small packaged wastewater treatment plant where secondary and possibly tertiary treatment will take place to satisfy surface water discharge standards. The level of treatment is dictated by the assimilative capacity of the receiving waters, an unknown at this time. If the receiving waters offer adequate assimilative capacity on an intermittent basis, controlled release systems will need to be incorporated into the design, adding to construction and maintenance costs.

This type of facility must be operated by a licensed treatment plant operator. The packaged plant will require constant monitoring and maintenance, and will need to be reconstructed or refurbished in time.

Option 3 – Pump to municipal system

This option will require onsite collection of the waste water to a central solids handling pump station. The raw wastewater would then be pumped from the site to a point where it connects with the existing municipal sewer system.

The nearest municipal system is the one owned by the Village of Corfu. The Corfu system treats wastewater from the Village and the Town of Pembroke. The nearest point of connection to the municipal sewer system is at the intersection of NYS Route 77 (Alleghany Road) and NYS Route 5 (Main Road) which is approximately 6,000 feet from the southwest corner of the site. Creation of a new sewer district would be required to serve the cemetery.

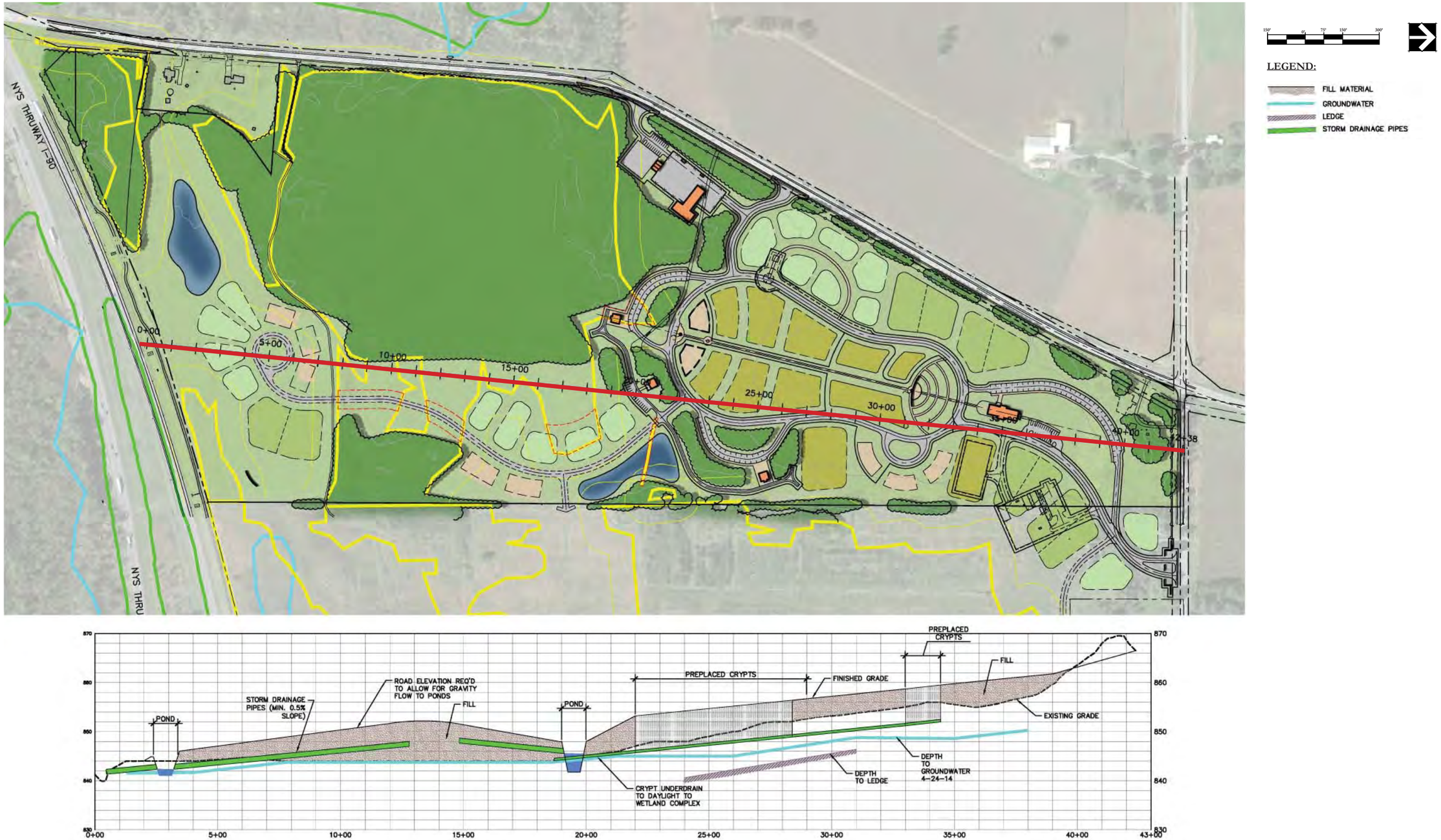


Figure 6.1.A | Drainage Profile

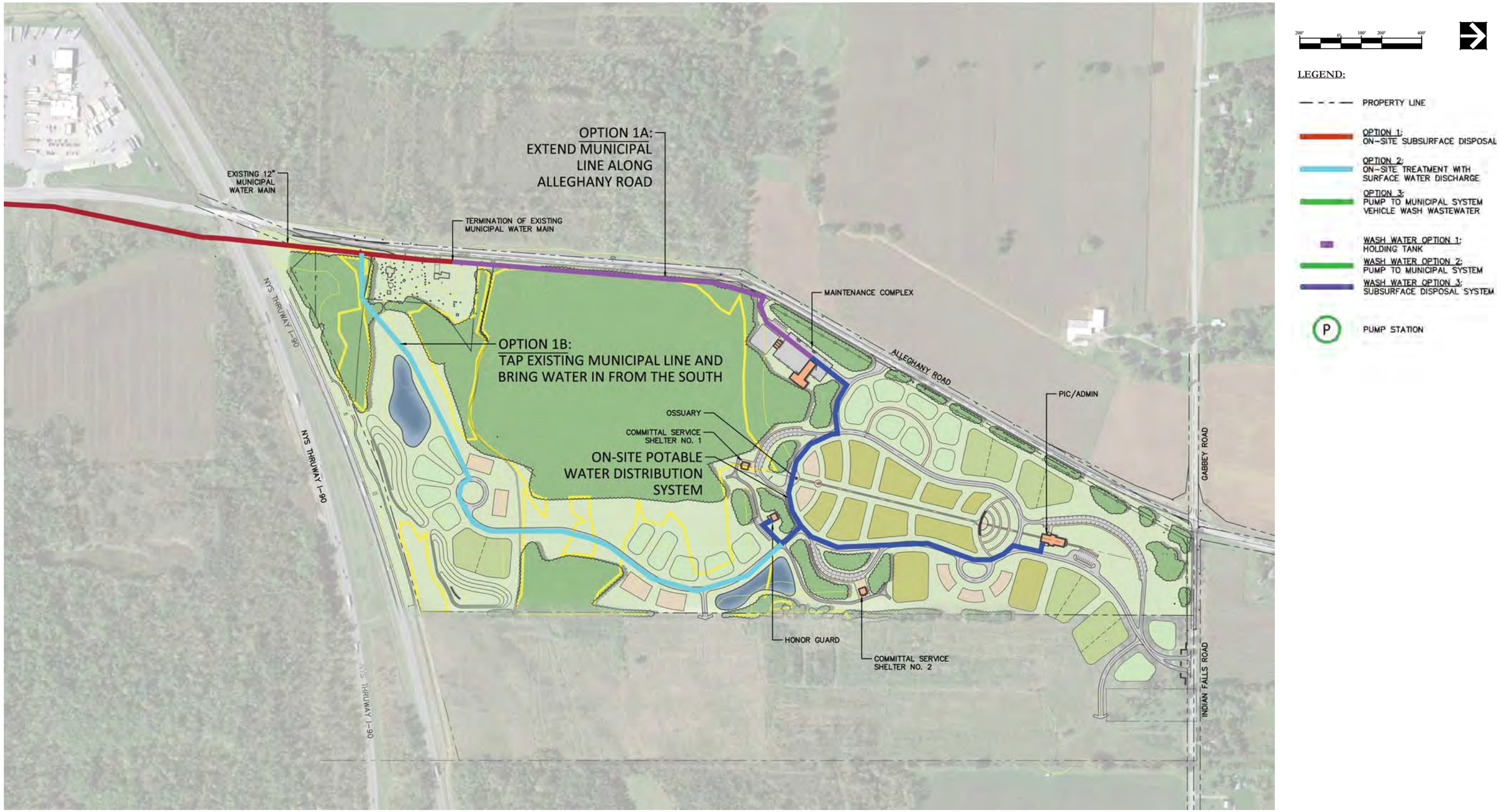


Figure 6.2.A | Waste Water Disposal Map

Pumping from the site at off peak hours may be necessary, or desired according to the plant operator. The present surplus capacity in the treatment plant is at risk due to development potential in the area. The rate that the pumps discharge to the municipal system can also be controlled with the use of variable frequency drive pump controls. The wastewater generated during peak flow periods may be temporarily stored in a holding tank and pumped at a desired time at a predetermined rate.

Pumping to the municipal system will require a pressure force main crossing the Interstate-90 (NYS Thruway) right-of-way. A force main installed under the Thruway will likely be done in a horizontal directional bore. The initial cost for this option is likely to be the highest of the three. A life cycle cost analysis of the alternatives will need to be done to know if there is financial justification for pursuing this option.

A letter to the Village of Corfu considering an option of connecting to their system may be needed early in the process. They will need information in the letter indicating timing for the connection, and initial and ultimate flows, and delivery systems, including off-peak pumping, etc. The letter should also ask for the procedures that are required to proceed with making such a connection and the potential timing for the process.

6.3 Vehicle Wash Wastewater

Wastewater from the maintenance facility vehicle wash area will need to be disposed of according to regulatory requirements for industrial wastewater.

Discharging vehicle wash wastewater to the municipal sanitary sewer will require a permit from the Village of Corfu and must adhere to pretreatment requirements (Oil/water separator). The Village will require bi-monthly sampling for biological oxygen demand (BOD), total suspended solids (TSS), ammonia and oil & grease.

The facility can discharge vehicle wash water to a holding tank to be removed from the site via a permitted hauler. This option does not require a permit and the use of detergents are allowed. Vehicle wash areas must be properly contained to prevent unauthorized discharge of wash water from reaching ground or surface water. The facility would need to have the storage tank pumped approximately once a month under average conditions.

Vehicle wash water can be discharged to a separate on-site sewage disposal system provided no detergents are used or other contaminants generated during the washing process. Since the on-site sewage disposal system would be less than 1,000 gallons per day, no permitting is required.

6.4 Potable Water Source

Option 1- Potable Water Via Municipal Source

Potable water is available from the Monroe County Water Authority (MCWA), as indicated in the site characteristics section of this report (Site Characteristics 2.0). The MCWA "Uniform Design and Construction Standards for Extending Water Distribution Systems" states that "water mains must be installed along the frontage length of at least one property line of the property to a point where the service line can be installed perpendicular to the building to be served." This would require the extension of the 12" water main along Alleghany Road from its termination point at the residential property located at 8331 Alleghany Road to be perpendicular with the furthest proposed building which will be serviced by potable water. Depending on the concept, this may require extending the water main all the way to Indian Falls Road, approximately 4,100 linear feet. An informal request to waive this requirement was sent to Heidi Young from MCWA on April 28, 2015 via email. Heidi indicated that she brought this to her superiors and that the limited information that was provided in the request does not warrant deviation from MCWA Rules or Design Standards. In the response Heidi recommended providing a site plan indicating lot lines, building footprints, etc. and MCWA will complete another review of the request. If extension of the water main is required the property owner at 8331 Alleghany Road would need to be approached to discuss allowing the extension of the line on their property as there is currently no easement over the line. According to MCWA requirement, the main extension should be located within the Alleghany Road right-of-way or MCWA may allow the main be constructed on cemetery property if a thirty (30) foot wide easement is granted to the MCWA. See Potable Water Figure 6.4.A.

Preliminary estimate for extending the 12" water main to the intersection of Alleghany Road and Indian Falls Road is approximately $450,000. This cost could be significantly higher depending upon requirement for dewatering or blasting of bedrock. This cost would be in addition to the other cost for constructing the water service connection(s) to the property. A fire flow test on the hydrant at 8331 Alleghany Road indicated a static pressure at the hydrant of 73 pounds per square inch (psi) with a residual pressure of 65 psi during the flow test. These results are only valid for the specific conditions that existed at the time of the flow test, but provide some indication as to the conditions that may be present at from this supply source. The published MCWA costs for all consumed potable water is $4.10/1000 gallons. There is also a daily meter charge (based on meter size) and a fire service fee per quarter (based on fire service size).

Potable water service is required for the Administration/Public Information Center Building Building, Honor Guard Building, and Maintenance Building. Backflow prevention may be required by MCWA at these building to isolate contaminants or pollutants in the distribution system that could backflow into the public water system.

Option 2 - Potable Water via On-Site Source

Potable water can also be provided by on-site drilled wells. Investigation of the surrounding area has identified the presence of groundwater wells drilled into the rock underlying the area. There are no identified groundwater aquifers in the area. Local well drillers to the area have indicated that water quality and quantity can vary greatly on the same property.

The highest flow rate from nearby rock wells was found on the property immediately south of the site, across the I-90 corridor. The well is indicated to have been pumped at 40 gallons per minute (gpm). There is no information available for this well on what flow rate can be pumped at a continuous basis, or "safe yield" rate. Residential wells installed within the area have an average yield between 5 gpm to 15 gpm. The cemetery will have an average potable water demand of 12 gpm. A storage tank may be required to meet peak demands, depending on the actual well yield results.

The rock well on the property immediately south of the site, across the I-90 corridor, also treats for iron and manganese. It is probable that water withdrawn from on-site drilled wells will require treatment of iron and manganese to drinking water standards.

If the cemetery regularly serves at least 25 of the same people, four hours or more per day, for four or more days per week, for 26 or more weeks per year, then the on-site wells would classify as a nontransient noncommunity public water system. The system would be required to meet New York State Department of Health (NYSDOH) Public Water System regulations that stipulate groundwater sources shall be at a minimum disinfected by chlorination or other microbial contaminant treatment acceptable to the State. To disinfect by chlorination a chlorine injection and contact tank would be required. Additionally, at a minimum, water must be tested quarterly for total coliform and E.coli.

NYSDOH requires potable water wells be located at least 200' from a septic system and cemetery burial plots. Also wells located near wetlands are subject to additional monitoring to determine if groundwater at the point of withdrawal is directly influenced by surface water and corresponding treatment requirements.

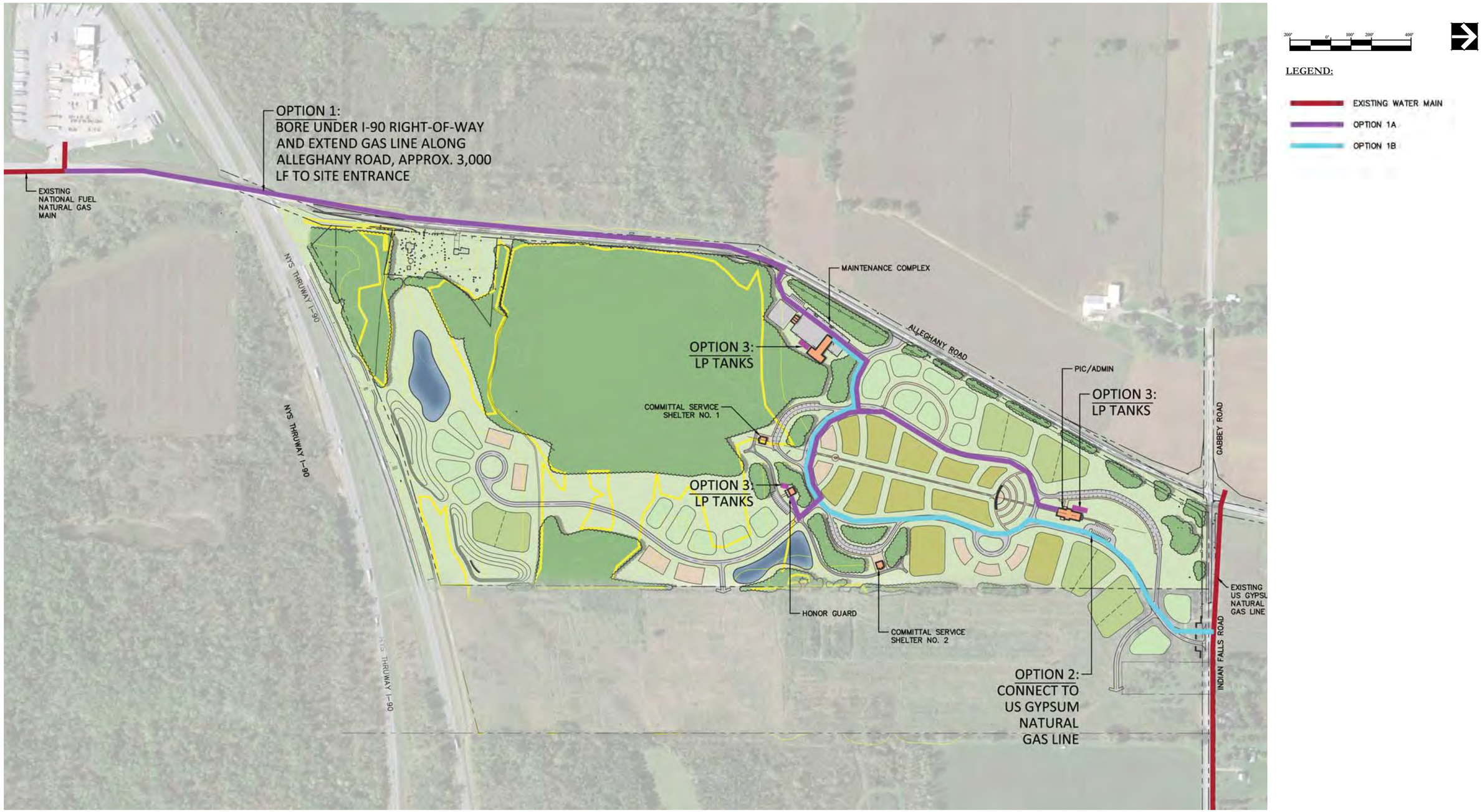


Figure 6.4.A | Potable Water Map

6.5 Fire Protection

The closest fire hydrant to the site is located at the second residential property at 8331 Alleghany Road. Water is supplied to the hydrant from the Monroe County Water Authority, MCWA. A fire flow test completed at this hydrant provided the following information:

- Static pressure in the main - 73 psi
- Residual Pressure during flow test - 65 psi
- Observed flow rate at observed flow - 1307 GPM
- Calculated flow at a 20 psi residual pressure - 3629 GPM
- Elevation at Flow Hydrant - 843'

These results are only valid for the specific conditions that existed at the time of the flow test, but provide some indication as to the conditions that may be present at from this supply source.

Sprinklers are not required for the project building types and classifications. If the 12" MCWA water main is extended along Alleghany Road a fire hydrant will need to be installed every 500-feet per MCWA requirements.

6.6 Irrigation System and Source

Options for the irrigation water source supply systems were assessed for the project site. Viability of each opportunity and its feasibility to achieve federally mandated sustainability and water conservation goals were evaluated. The intent of this study was to identify a water source for irrigation use that has the capacity to serve the entire cemetery at build-out and balances interests of water and energy sustainability, environmental and aesthetic issues.

Potential water sources scenarios evaluated include:

- Surface water ponds or streams: no ponds or streams exist on site. The closest surface water source is on the northwest side of the intersection of I-90 and Route 77.
- Municipal system: the Monroe County Water Authority, a public water purveyor has a 12-inch water main along the easterly side of Route 77 north of the Thruway.
- Ground water can be considered either from wells into the underlying bedrock or from saturated soil overburden on top of the bedrock. Wells for irrigation purposes would be dedicated only for irrigation and would be separate from building service wells.
- Harvested rainwater/stormwater: water can be collected from several types of sources including runoff from building roof systems as well as runoff from other site impervious surfaces and stored for irrigation use as needed.
- Combination of sources can be done to take advantages of the strengths of individual options and provide backup to cover weaknesses. Potential combination scenarios include:
    - Stormwater runoff with municipal sytem back-up
    - Stormwater runoff with treated groundwater (wells) back-up

The following issues impact the viability and consideration of each option listed above:

- Potential impact on existing wetlands
- High groundwater
- Quantity and quality of the groundwater
- Potential iron and manganese staining
- High energy usage for pump and water treatment systems
- Limited space for a pond
- Relatively low seasonal water requirement for irrigation

Study of the scenarios and the impacting issues resulted in the prioritization of the viability of the potential water sources from consideration, including:

- The off-site stream would require creation of legal right-of-ways, application for regulatory permits to divert the water and maintenance and operation of a pumping system. For these reasons, it has been eliminated as a viable water source for irrigation.
- For this particular site, it is understood that environmental issues and protection of existing wetlands are a high priority. Drawing irrigation water from groundwater sources may have a negative impact on the sites wetlands. The potential quality and quantity of water from groundwater is difficult to estimate and can vary throughout a site. Preliminary testing from monitoring wells indicates an extremely high level of iron and manganese which has potential for staining of headstones and pavements. For these reasons, use of irrigation wells drawing on groundwater is not a preferable option.
- Use of rainwater/stormwater runoff appears to be feasible, however the required size, location, construction and use of a stormwater runoff pond may will limit available space for burials. Use of storm water collection alone has been removed as a consideration.
- Use of a combination of rainwater, storm water and groundwater will require a water treatment system to reduce iron and manganese to acceptable levels. Maintenance of the system and provision for storage make this option less viable.

Based on the evaluation of options, and elimination of some scenarios, at this stage, it is recommended that potable water be used for irrigation. Use of potable water for irrigation meets maintenance goals of a simple system to operate and maintain. The Monroe County Water Authority has the capacity to provide sufficient water to the entire cemetery at build out. It is further recommended that an irrigation control system using a weather station and potentially soil moisture sensors be implemented to aggressively manage and minimize irrigation water use.

See Appendix A-4, Irrigation Water Sources Report

The following narrative conceptually describes the irrigation system. The concepts will be refined as the site plan is developed and the water source determined.

The overall goal is to provide an irrigation system that efficiently applies water; uses latest technology to design and manage; is cost effective to operate and maintain; and meets the intent of federally mandated water and energy conservation and sustainability programs.

The following narrative provides the design criteria for components of the proposed irrigation system. Please note that a description of an irrigation pump system is not included as the water source is unknown at this time.

Mainline Piping

There are two types of mainline pipe anticipated on this cemetery. Irrigation mainline (IR) will serve the automated irrigation system and the flower water station mainline (FWS) will serve the manually operated hydrants at each flower water station location.

IR piping is routed from the water source to the irrigated area by paralleling the back of the burial areas where possible. The mainline is installed on one side of the road and crosses under the road as needed to accommodate the irrigation system on the opposite side of the road. The mainline pipe crossing under the road is either direct bury or installed in a sleeve depending on the type of pipe used. The mainline installed along roadways is typically located 3- to 5-feet back of curb to avoid conflicts with street trees or 10-feet back of uncurbed road edge to avoid conflicts with street trees and automobile traffic.

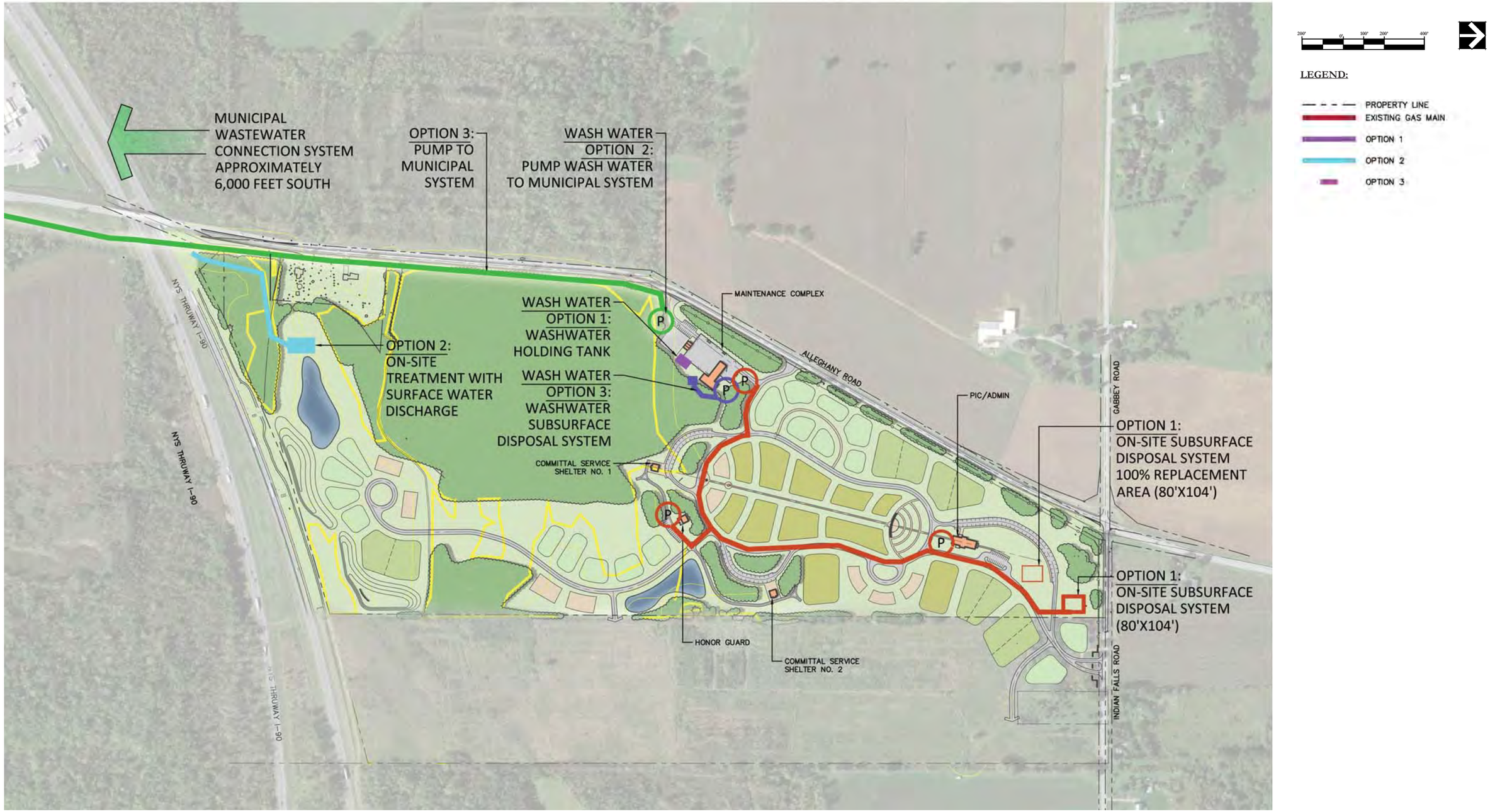


Figure 6.9.A | Fuel Service Gas Map

FWS piping is routed from the water source to the hydrants by paralleling roads. The mainline is installed on one side of the road and crosses under the road to connect to hydrants on the opposite of side the road. The mainline pipe crossing under the road is installed in a sleeve. FWS piping is typically located 2-feet back of curb. Where the FWS and IR piping are in the same area, a 1-foot separation is maintained. FWS is buried below frost depth.

IR pipe is designed in a looped configuration to minimize pipe sizing. IR pipe is sized based on a maximum pipe velocity of 4.5 FPS. IR pipe sizing uses a computerized hydraulic model to allow the pipe to be optimized based on an assumed operating scenario that reflects the proposed water window. FWS pipe will be sized 2" as it is difficult to anticipate the manual operating scenario.

Mainline Components

Anticipated mainline components include Flow Sensor Assembly, Isolation Gate Valve Assembly, Air Vacuum Relief Assembly, Flush Valve Assembly, Quick Coupling Valve Assembly, and FWS hydrants.

Flow Sensors (FS) are required to meet the Executive Order 13514 and other federal mandates pertaining to conservation of water for irrigation. A FS is strategically located on pipe going to burial sections so that it can monitor total irrigation volume used and high flow alarm condition which could indicate a catastrophic pipe break.

Isolation Gate Valve Assembly (IGV) allows sections of the mainline to be separated for maintenance purposes. Typical locations for IGV are prior to road crossings, mainline tees, and mainline pipe stub-outs for phased construction.

Air-Vacuum Relief Valve Assembly (AVR) allows air to exit and enter the system and are located at high points or stub-outs along the mainline pipe.

The Flush Valve Assembly (FVA) allows the mainline to achieve a high enough velocity to be properly flushed for either construction or maintenance purposes. It is sized to achieve a 2.5 FPS velocity in the mainline. FVA is so large quantities of water that are required for flushing do not damage the site.

Quick Coupling Valve Assembly (QCV) provides a connection for the manual watering or other maintenance operations. QCVs are spaced 150-feet on center in burial sections, columbarium, assembly area, administrative building and other areas where manual watering is required. This spacing assumes 100-foot hoses are used. FWS hydrants are selected to be ADA compliant, auto shut-off and potentially self draining.

Sprinklers

The cemetery will have an automated sprinkler installed in all areas disturbed by construction including current and future burial sections, committal service shelters, columbarium, assembly area, open space around buildings, cemetery entry, and roadway edges.

Sprinkler layout is designed to provide the efficient water application metrics. Efficiency metrics used for sprinkler layout are Distribution Uniformity (DU) and Scheduling Coefficient (SC). The higher the DU percentage, the greater the application efficiency. The closer the SC is to 1.0, the higher the application efficiency. Computer software developed by the Center for Irrigation Technology in Fresno, CA is used to select sprinkler layout based on the pressure, sprinkler, and nozzle combination. The goal is to use a sprinkler layout that has a DU of 80% or more and a SC of 1.2 or less for sprinklers from three different manufacturers.

Layout of sprinklers in the burial sections with upright monuments is coordinated to minimize interference between the irrigation spray and the monuments. The approach is to center sprinklers two rows or four adjacent to monuments. This approach allows the greatest distance from the sprinkler to the monuments. This ensures the majority of the spray shoots over the monuments due to the trajectory of the spray from the sprinkler but some spray will hit the adjacent monuments. The type of sprinkler to be used will be determined after the size and layout of burial sections is determined.

Remote Control Valves and Lateral Pipe

Remote Control Valves (RCV) that supply water to sprinklers are size based on friction loss through the valve. Friction loss through the valve must be 3.5 pound per square inch (PSI) or less. Pressure loss charts for RCVs are provided by the valve manufacturers.

Lateral pipe downstream of the RCV and between sprinklers is sized based on Irrigation Association Best Management Practices which states that the pressure at the most distant sprinkler from the RCV must be within 10% of the pressure at the closest sprinkler to the RCV.

Control System

A climate based, conventionally wired style irrigation control system conforming to the Irrigation Association (IA) Smart Water Application Technologies (SWAT) testing is anticipated. Conformance to SWAT testing certifies that through the use of state-of-the-art technologies a controller estimates or measures depletion of available plant soil moisture in order to operate an irrigation system, replenishing water as needed while minimizing excess water use. A smart controller, once properly programmed with site specific criteria, will make irrigation schedule adjustments, including run times and required cycles, throughout the irrigation season without human intervention.

Flow, rain and potentially freeze sensors may be used to automatically shut down operation of the irrigation system in the event of a recognized alarm condition such as an irrigation mainline pipe break, rain event and freezing temperatures.

Water management instrumentation such as an on-site weather station or soil moisture sensors may be used to help manage the operation of the irrigation system.

Evaluation of alternatives for irrigation water source supply systems has been prepared and is summarized in the Irrigation Source Study, Appendix A-4. The feasibility of each alternative to achieve federally mandated sustainability and water conservation goals is outlined along with consideration of the opportunities and constraints of each.

6.7 Electricity, Communications and Natural Gas Service

Three phase electricity is available from the overhead power lines along Alleghany Road, as described in the Site Characteristics portion of the report. Power from the overhead lines can be brought underground into the site and provided throughout the site as required. Depending on site amenities load requirements, an on-site transformer may be required.

Fiber optic and telephone communication is available off of Alleghany Road, as described in the Site Characteristics portion of the report. Communication lines can be brought underground into the site and provided to the Administration/Public Information Center Building Building, as required. It is recommended the lines be installed in a water tight conduit due to high groundwater.

Natural gas is available from Natural Fuel Gas Company or the private gas main owned by US Gypsum as described in the Site Characteristics portion of the report. US Gypsum will require an agreement addressing liability for service reliability. US Gypsum does not want to be held responsible to provide gas at all time in case of an emergency. Since US Gypsum is not a utility company there would be no control for the rate charged for gas, which may allow them to significantly increase the gas rate charge.

Gas service from Natural Fuel Gas Company would require extending the gas main along Alleghany Road approximately 750 linear feet to the southwestern portion of the site. The extension would require the line to be installed below Interstate 90, per New York State Thruway requirements. The cost of boring the gas line below I-90 is approximately $100,000, not including the remaining extension to the site.

Another source option is providing on-site liquid propane tank(s) for gas service. Propane could be provided by a vendor and potentially be above or below ground, depending on the location and depth to groundwater. Either a large single centralized tank could be provided to service the buildings or individual tanks could be provided adjacent to each building to limit service piping lengths.

7.0 Architectural Concepts

7.1 Architectural Planning Concepts

Three separate architectural planning concepts have been developed for each of the four independent buildings typologies programed for the cemetery. Buildings within the project program include the Administration Building/Public Information Center (PIC), Maintenance Building, Committal Service Shelters and Honor Guard Building. All options borrow architectural elements prominent in the building typologies found locally to the area.

Building programming concepts are broken down into three separate schemes for each of the building types that individually explore building grounding, roof design and massing in three dissimilar architectural vernacular schemes. Option 1 utilizes a continuous monolithic building grounding approach with flat roof concepts and a formal lineal massing approach. Option 2 utilizes an inboard gable and continuous grounding approach. The perimeter columns support a flat roof graduated by a gable roof over the majority of the facility. Massing is primarily defined by the steep gabled roof and perimeter overhang and columns. Option 3 utilizes prairie style elements in a modern format with exterior vertical column elements, low gable roof lines and continuous horizontal massing elements to emphasize the openness of the existing site and topography. Each of the building sizes are designed according to the standards of the National Cemetery Administration guidelines and previous recommended building templates. All facilities will be designed to be consistent with the required ADA guidelines.

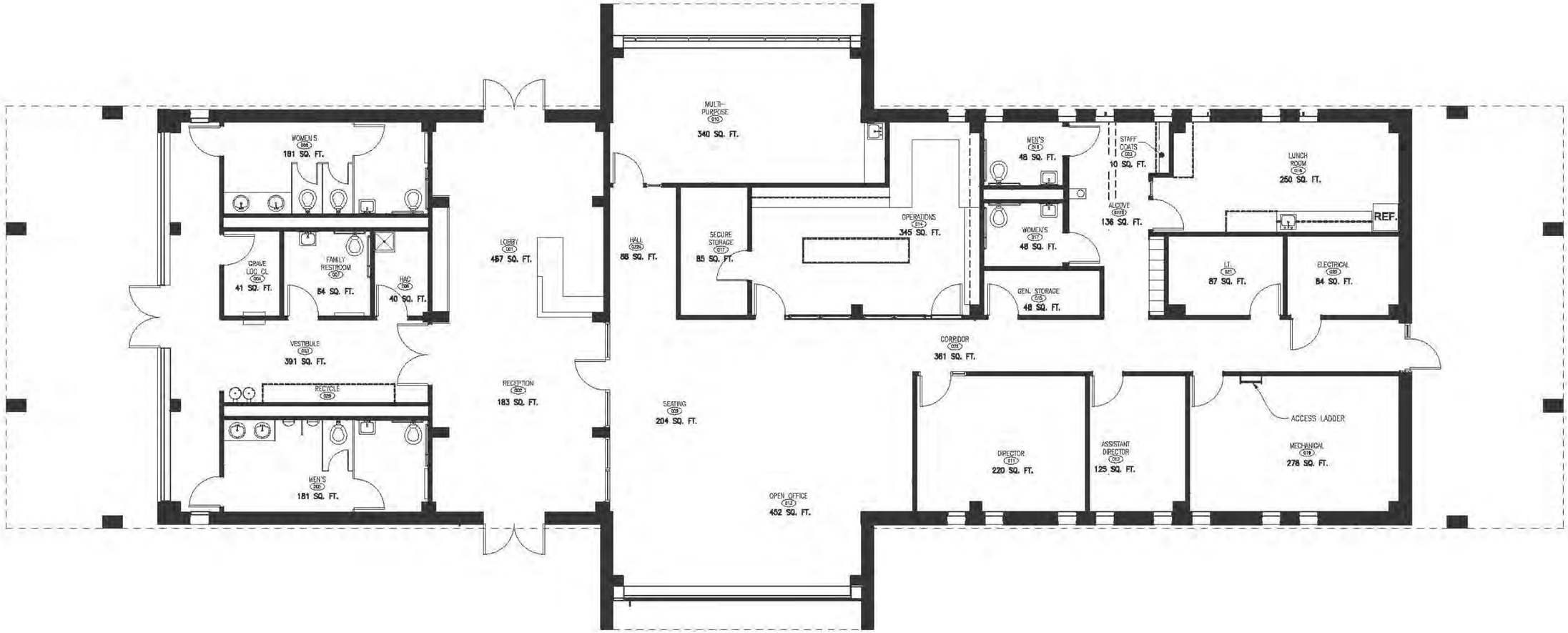
All new structures and concept options will carry the design language of the Administration Building/Public Information Center Building to each of the subsequent structures. Concepts considered in all options include durable maintenance free materials including masonry or stone to ground the building to the site, vertical elements to suggest a rhythm and order of procession around the buildings, roof configurations consisting of gable and flat options utilizing metal standing seam roof coverings and membrane roofing, punched window openings and large openings in-filled with aluminum storefront at exterior elevations. Concrete foundations and a steel framing system independent of the building structure will make up the typical structure along with cast-in-place concrete slab construction.

7.1.1 Administration Building Concept / Public Information Center (PIC)

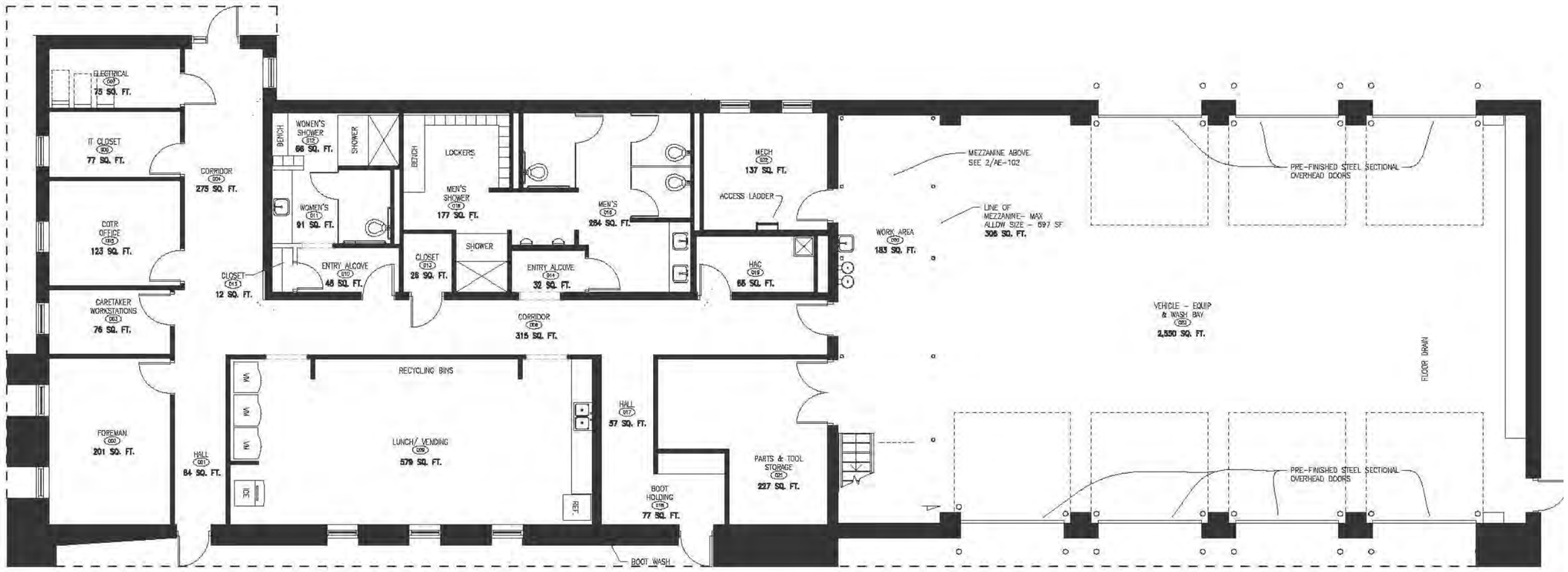
The Administration Building/ Public Information Center (PIC) consists of approximately 5,200 square feet and has an interior office area open plan to accommodate a waiting area and general office area with individual workstations. Public access to the toilet rooms is provided adjacent to the main lobby. The overall building layout provides a boundary between the office area and main lobby to limit public access to the work functions in the general office area. This facility will function as an information hub for all cemetery activities and act as an orientation point to all visitors.

7.1.2 Maintenance Building Program Concept

The Maintenance Building is approximately 7,700 square feet and houses facilities for building operations and grounds maintenance. The interior program includes a workshop for repairs, vehicle maintenance bays and storage parking, equipment and parts storage, locker rooms, multipurpose rooms, break room, office area and mechanical space. The building will be located in a manner not readily visible to the public and nearby the Administration Building/PIC.



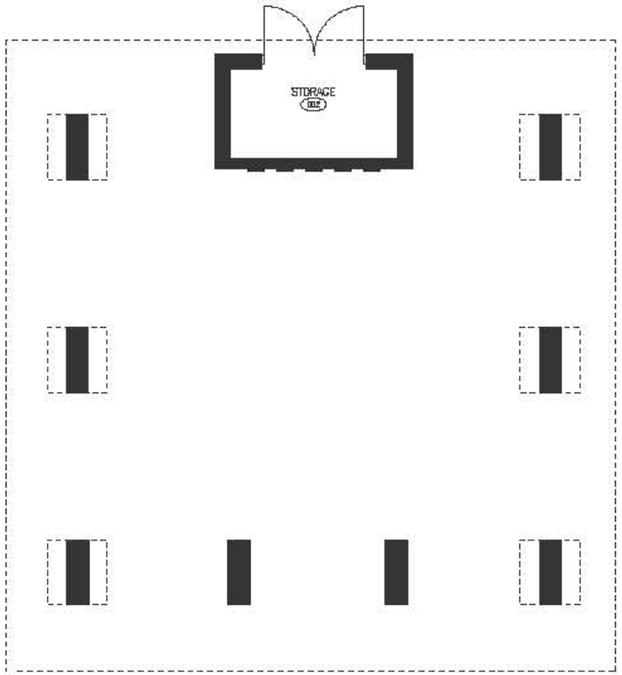
Administration Building / PIC Floor Plan Concept



Maintenance Building Floor Plan Concept

7.1.2 Committal Service Shelter Program Concept

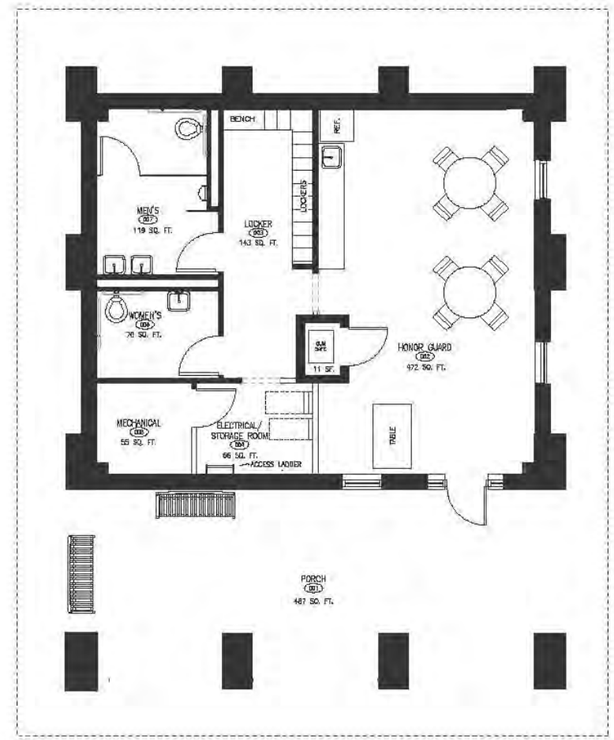
The Typical Committal Service Shelter footprint is approximately 900 square feet of roofed open-air pavilion with operable sliding safety glass panel doors. The shelter incorporates covered and uncovered paved areas for exterior standing room and an interior storage component of approximately 125 square feet and out board columns at a 10-foot minimum clear height.



Committal Service Shelter Floor Plan Concept

7.1.3 Honor Guard Program Concept

The Honor Guard footprint is approximately 1,200 square feet with an exterior covered porch area. The building footprint incorporates a lounge area for gun cleaning, restrooms, locker rooms, rifle storage/safe area, mechanical/electrical rooms, and on-site parking for 15.



Honor Guard Program Floor Plan Concept

7.2 Architectural Building Options

7.2.1 Administration Building \ Public Information Center (PIC) (Option 1 - Monolithic Style)

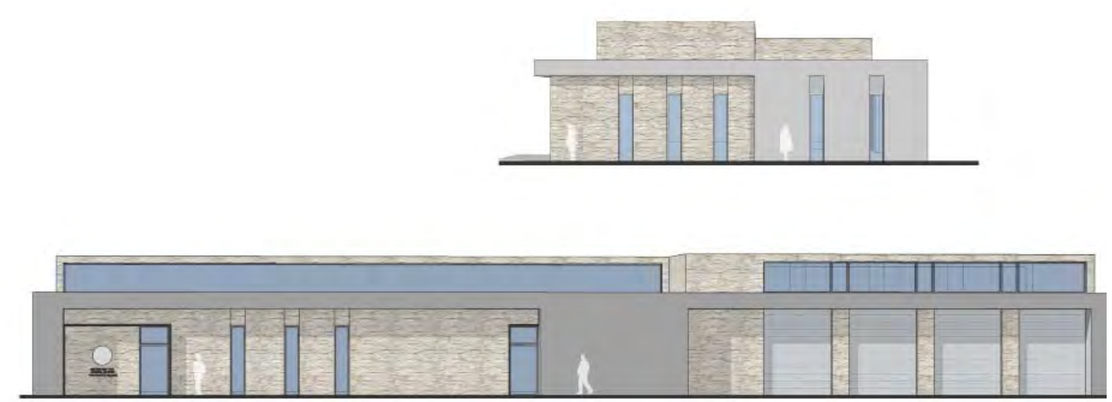
In this approach the volume of the building is read as one and incorporates monolithic building forms throughout the Administration/PIC Building to emphasize the continuous building grounding approach with flat roof concepts and a formal lineal massing. The exterior massing concept largely splits the building into two separate sections allowing for the long clearstory glazing expression. The roof separation relates directly to the interior building circulation corridors, gathering spaces, mechanical function and main access. Sun control will be achieved throughout the building with roof overhangs, reflective glazing and interior window treatments. Exterior finish materials implemented include finishes requiring little or no maintenance such as rough-cut stone, smooth metal panels, and a traditional aluminum storefront window and entrance systems with safety glazing.

Administration Building/Public Information Center (PIC) - Perspective

Administration Building / Public Information Center (PIC) - Elevations

7.2.2 Maintenance Building Program (Option 1)

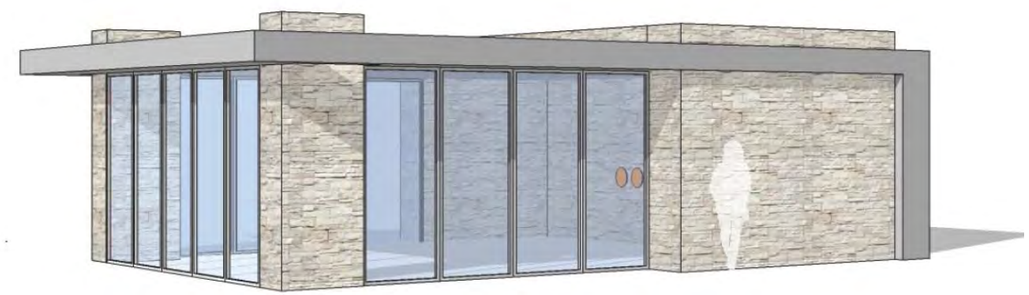
This location also incorporates monolithic building forms throughout the Administration/PIC building to emphasize the continuous building grounding approach with flat roof concepts. The exterior massing concept also splits the building into separate sections allowing for the long clearstory glazing expression. The roof separation relates directly to the interior building circulation corridors, garage work bays, gathering paces, mechanical function and main entry access. Sun control is also achieved throughout the building with roof overhangs, reflective glazing and interior window treatments. Exterior finish materials implemented include finishes requiring little or no maintenance such as rough-cut stone, smooth panels, overhead garage doors and a traditional aluminum storefront window and entrance systems with safety glazing.



Maintenance Building - Elevations

7.2.3 Committal Service Shelters (Option 1)

Committal Service Shelter Option 1 incorporates a more simplified monolithic building form than others emphasizing the continuous building grounding approach with columns and flat roof concepts and formal massing. Exterior massing is a simplified interpretation of the monolithic concept utilizing modern forms constructed of long lasting durable materials. The roof incorporates almost flat shed drainage concept with perimeter overhangs and single edge gutter system. Exterior finish materials also include provisions of low maintenance finishes such as rough-cut stone columns, metal panel fascia, maintenance free soffit system and aluminum and glass sliding panel storefront system with continuous self-cleaning safety glazing.



Commital Service Shelters - Perspective

Commital Service Shelters - Elevations

7.2.4 Honor Guard Building (Option 1)

Honor Guard Option 1 also incorporates the monolithic building forms throughout the facility emphasizing the continuous building grounding approach and a formal lineal massing system. The simple exterior massing concept is an expression of hierarchy between the interior building programs related to the exterior porch feature. Roof massing is flat and follows the same relationships of interior program versus the exterior porch with an internal slope stormwater drainage system. Exterior finish materials include low maintenance materials such as rough-cut stone, metal fascia and panel system, maintenance free soffit system and aluminum and glass storefront and window system with continuous self-cleaning safety glazing.

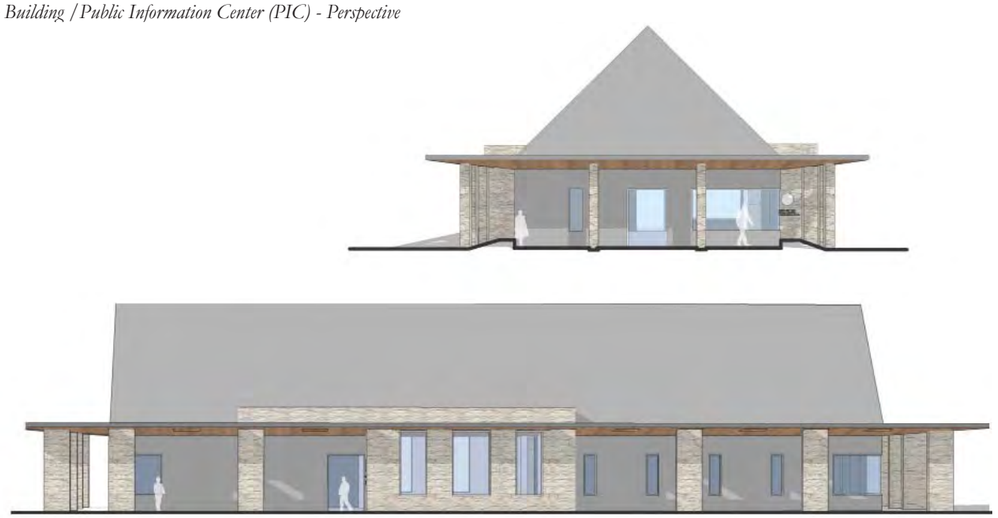
Honor Guard Building - Perspective

Honor Guard Building- Elevations

7.2.5 Administration Building / Public Information Center (PIC) (Option 2a - Gable)

This approach incorporates a large scale iconic gable volume to encompass the majority of the building massing; this also allows areas within the inner building program to take advantage of the taller ceiling height. The exterior building volume is comprised of a processional roof and pylon design which introduces a more intimate human scale around the perimeter of the building and its entry points. Sun control will be achieved throughout the building envelope with the continuous roof overhangs, reflective glazing and interior window treatments. Exterior finish materials employed include materials requiring little or no maintenance such as rough-cut stone columns, smooth metal panels and a traditional aluminum storefront window and entrance systems with safety glazing.

Administration Building / Public Information Center (PIC) - Perspective



Administration Building / Public Information Center (PIC) - Elevations

7.2.6 Maintenance Building Program Concept (Option 2a)

The Maintenance Building also incorporates a large scale iconic gable volume that encompasses the majority of the building massing; this allows areas within the inner building program and garage to take advantage of the taller interior ceiling height. The exterior building volume is then comprised with a processional roof and partial pylon design which introduces a intimate human scale around the perimeter. Building entry points are celebrated with larger vertical elements that place emphasize on points of entry. Sun control will also be achieved throught the building envelope with the contrinuous roof overhangs, reflective glazing and interior window treatments. Exterior finish materials employed included materials requiring little or no maintenance such as rough-cut stone columns, metal panels, standing seam metal roof and a traditional aluminum storefront window and entrance systems with safety glazing.

Maintenance Building - Perspective

Maintenance Building - Elevations

7.2.7 Committal Service Shelters (Option 2a)

Committal Service Shelter Option 2 incorporates a simplified massing approach without the gable roof form places more emphases on exterior columns and flat roof formal massing. The flat roof design concept incorporates an internal drainage concept with perimeter overhangs. Exterior finish materials also include low maintenance finishes such as rough-cut stone columns, metal panel fascia, maintenance free soffit system with aluminum and glass sliding panel storefront system with continuous self-cleaning safety glazing.

Commital Service Shelters - Perspective

Commital Service Shelters - Elevations

7.2.8 Honor Guard Building Program (Option 2a)

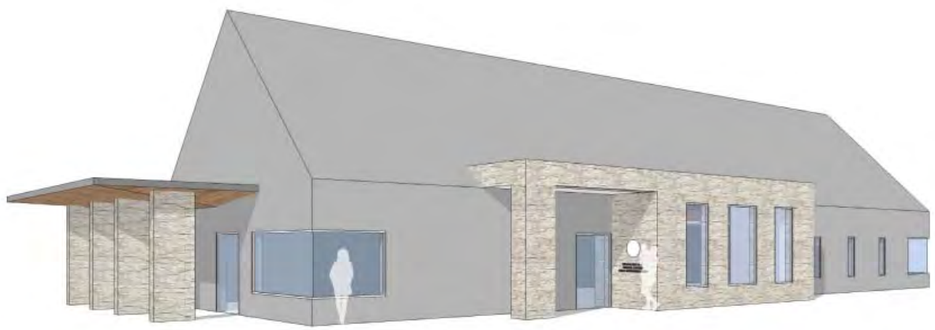
Honor Guard Option 2 similarly incorporates a simplified massing approach without the gable roof form places emphases on exterior columns and flat roof formal massing. The flat roof design concept incorporates a lower perimeter roof with overhangs and an elevated center roof that places emphasis on the center building core. Exterior finish materials correspondingly include low maintenance finishes such as rough-cut stone columns, metal panel fascia, and maintenance free soffit system with a glazed aluminum storefront system with continuous self-cleaning safety glazing.

Honor Guard Building - Perspective

Honor Guard Building- Elevations

7.2.9 Administration Building / Public Information Center (PIC) (Option 2b - Alternative Study)

This approach for each separate building is further study of the previous Option 2 which favors the more intimately scaled processional roof which is located on only one side of the typical buildings. By doing this the volume relationship of the gable and procession become much more visible while still providing covered entrances at all points of the building. Sun control will also be achieved throughout the building envelope with the partial overhangs, reflective glazing and interior window treatments. Exterior finish materials employed include materials requiring little or no maintenance such as rough-cut stone columns, metal panels, standing seam metal roof and a traditional aluminum storefront window and entrance systems with safety glazing



Administration Building / Public Information Center (PIC) - Perspective

Administration Building / Public Information Center (PIC) - Elevations

7.2.10 Administration Building / Public Information Center (PIC) (Option 3 - Prairie Style)

This option of the Administration Building/PIC focuses on the pediment and column relationships which both ground the building while embracing the entries and exterior building undulations. Larger expanses of glazed areas are introduced in desirable areas that also match the rhythm/proportioning of the exterior columns. Sun control is addressed throughout the building with smaller roof overhangs, reflective glazing and interior window treatments. Exterior finish materials implemented include finishes requiring little or no maintenance such as rough-cut stone, face brick, metal panels, maintenance free siding column wraps and a traditional aluminum storefront window and entrance systems with safety glazing.

Administration Building / Public Information Center (PIC) - Perspective

Administration Building / Public Information Center (PIC) - Elevations

7.2.11 Maintenance Building Program (Option 3)

The Maintenance Building Option 3 approach similarly focuses on the pediment and column relationships while embracing the entries and exterior building elevations. Glazed areas are likewise introduced in desirable areas and match the rhythm/ proportioning of the exterior columns. Sun control is addressed throughout the building with smaller roof overhangs, reflective glazing and interior window treatments. Exterior finish materials implemented include finishes requiring little or no maintenance such as rough-cut stone, face brick, metal panels, maintenance free siding for column wraps and a traditional aluminum storefront window and entrance systems with safety glazing.

Maintenance Building- Perspective

Maintenance Building - Elevations

7.2.12 Committal Service Shelters (Option 3)

Committal Service Shelter Option 3 incorporates a more simplified monolithic building form than the other building types of this option emphasizing the continuous building grounding approach with implied columns and flat roof concepts and formal massing. The flat roof design concept incorporates an internal drainage concept with minimal perimeter overhangs. Exterior finish materials also include low maintenance finishes such as rough-cut stone columns, metal panel fascia, maintenance free soffit system with aluminum and glass sliding panel storefront system with continuous self-cleaning safety glazing.

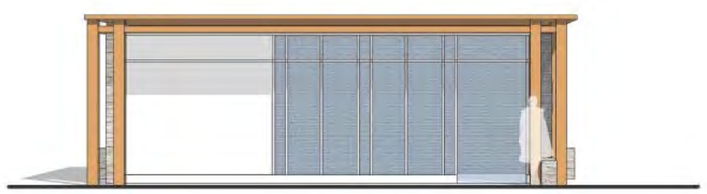
Commital Service Shelters - Perspective

Commital Service Shelters - Elevations

7.2.13 Honor Guard Building Program (Option 3)

Honor Guard Option 3 is similar to the Committal Service Shelter option which incorporates a simplified monolithic building form emphasizing the continuous building grounding approach with implied columns, flat roof concepts and formal massing. The flat roof design concept incorporates an internal drainage concept with minimal perimeter overhangs. Exterior finish materials also include low maintenance finishes such as rough-cut stone columns, brick, metal panel fascia, maintenance free soffit system with aluminum and glass storefront system and continuous self-cleaning safety glazing.

Honor Guard Building - Perspective



Honor Guard Building- Elevations

7.2.14 Materials Storage Shed / Bins Improvements

The Materials Storage Shed will be designed as an open air containment structure with a shed roof element; three sides will be enclosed to protect materials during inclement weather.

In keeping with the design concepts of the project and the site, a 4-foot tall cast-in-place concrete retention wall will surround three sides of the open structure. Metal panel siding will extend from the top of the cast-in-place walls to the underside of the structure and from column to column. The shed roof will consists of corrugated metal panel over structural metal girts and steel support system. Roof rainwater will be captured with a metal gutter system tied into the site stormwater management system. Horizontal wall panels are supported by a continuous horizontal girt system on all three building sides. Wall bracing will be applied to the three sided enclosure bin to stiffen the structure. The building will have an 18-foot high opening at the main entry and a minimum 10-foot height clearance at the lowest point inside the structure.

8.0 Electronic Safety and Security

The cemetery will include facilities, both enclosed and open-air structures, and utilities. Physical security of NCA facilities and utilities is important, but their unique nature and function make many physical security requirements less likely to be applicable in cemeteries than in those designated as "Life Safety Protected with Mission Critical Level Utility and System Redundancy/ Capacity".

The site is located in a rural area with a low level of nighttime ambient light. Cemeteries are only open to the public from 8:00 a.m. to 5:00 p.m. daily. Burials at national cemeteries do not normally occur on weekends or Federal holidays.

The following narrative indicates the applicable electronic safety and security.

8.1 Administration Building / Public Information Center / Public Restrooms

The Administration/ Public Information Center will serve as the central point for visitor contact. This building will house the offices, work spaces and personnel area for cemetery support staff who are involved in direct and indirect services to veterans, their families, and other cemetery visitors. A Public Information Center with cortege assembly area will provide the central point for vehicles in a funeral procession to assemble before proceeding to a Committal Service Shelter. The entrance boulevard will be an unlit divided road leading to the Public information Center. The Public Information Center can be occupied by cemetery personnel. Cemetery visitors will use the building to obtain gravesite locator information and use public rest rooms.

Glass: All new exterior glazing shall be laminated glass. For insulated glazing units (IGUs) the laminated glass will be only for the inner lite.

Surface parking: No unscreened vehicle shall be permitted to travel closer than 25 feet (7.6 m) to any side of the facility. This does not apply to NCA staff parking. No screened vehicle shall be permitted to travel within 5 feet (1.5 m) of the facility. These minimum standoff distances are to the edge of the curb line demarcating the internal roadways and parking. No facilities are designed at this site with parking in or under the facility. All parking is surface parking.

The physical access control system (PACS): PACS shall consist of all equipment and information required to verify, identity, and grant or deny access to individuals in accordance with HSPD-12. Equipment includes card readers and locks as well as servers and databases required for identity verification and equipment for communication between all components on the campus.

The intrusion detection system (IDS): IDS shall be used to provide an adequate level of protection for the interior of the facility. IDS shall consist of all equipment and information required to detect and annunciate potential unauthorized entry into a protected space through an accessible and man-passable opening. IDS sensors may include motion detection, glass break, door contacts, and other detection devices. Magnetic Contacts shall protect all man-passable openings in the building perimeter. Project shall terminate all IDS sensors on the PACS data gathering panel in the Administration Building. An arm/disarm keypad shall be provided in protected spaces.

Video Assessment and Surveillance (VASS): VASS shall be used to monitor building entrances, restricted areas, mission critical asset areas, and alarm conditions. VASS in the building includes cameras, monitors, controlling and recording equipment, and centralized management and operations of the campus system.

Sufficient lighting shall be provided for the operation of security systems. Such lighting shall be mounted on the building exterior (not on poles or fences).

Monitoring of the VASS will occur in the administration building. A networked video recorder with space for two weeks of continuous recording on uninterruptable power shall be installed in a locked secure location in the administration building. A video management system, VMS, shall be installed to manage recording and remote access of multiple cameras.

Electronic Personal Protection System (EPPS): Duress/panic alarms shall be provided at locations where there is considerable public contact, in isolated and pre-identified high-risk areas, such as the lobby reception desk, and isolated offices where VA personnel work. Upon activation, a silent alarm signal shall be sent to a centralized monitoring location capable of continuous operations. Duress alarm areas shall be covered by VASS cameras. Once the duress alarm has been activated the VASS shall monitor and record all events associated with the alarm. The IDS will provide monitoring of duress alarm.

8.2 Honor Guard Building

The Honor Guard Building weapon storage shall include a credential reader, motion detection, glass break sensors, door contacts, and fixed cameras with local recording and a video monitor. Entry to weapon storage requires a valid Federal Information Processing Standard (FIPS) Publication 201 compliant access card used in conjunction with a secondary form of authentication. Either a Personal Identification Number (PIN) known only to the card holder, or a biometric measurement, or both, shall be the secondary authenticator.

8.3 Maintenance Building / Storage Building

The Maintenance Building shall house the work shop, maintenance office, lunch room, vehicle and equipment maintenance area, storage areas, and the maintenance yard, for maintenance activities that occur out-of-doors. There is no visitor contact at the maintenance building.

The project shall provide security fencing at the maintenance yard adjacent to maintenance buildings. Security fencing shall be six feet high, black, vinyl-coated chain link. Sufficient lighting shall be provided for the operation of security systems. Such lighting shall be mounted on the building exterior (not on poles or fences).

Exterior intrusion detection systems shall be planned if it is determined space is lacking physical guard or police force presence. Exterior sensors shall only be used for perimeter protection of the area bordered by the fence. Exterior perimeter detection capability shall be applied to fenced areas around the building, and outside storage areas or enclosures, using volumetric sensors in addition to BMS on access gates. Design will address the use and necessity of fence mounted sensors, microwave sensors, or photoelectric beams.

Passive Infrared Motion Detectors will be located throughout the building interior. Magnetic door contacts shall be installed on exterior door frames. Intrusion detection is dependent upon staff activating and deactivating daily by keypad the same as the Administration Building/PIC.

The design, installation, and use of VASS cameras shall support the visual identification and surveillance of persons, vehicles, assets, incidents, and defined locations. All components of the system shall be monitored and controlled in the Administration Building/PIC. Camera mounts shall be installed on approved mounting surfaces structured for weight, wind load, and extreme weather conditions. Cameras and their mounts may share the same pole with lighting.

8.4 Commital Service Shelters

The cemetery will provide Committal Service Shelters for away-from-gravesite interment services. These services will be held in sheltered committal service areas with separate drives provided for access and parking for each committal service shelter. The Committal Service Shelters will not have Electronic Safety and Security (ESS) systems installed.

8.5 Site

Where site conditions allow, perimeter or boundary fencing may be provided beyond the entrance area, however this is a site specific decision for discussion with NCA. The entire cemetery may not be fenced when it is first established but rather fenced incrementally as it is developed. The discussion shall include methods of restricting vehicular access to the grounds after hours. Gates or chains may be used for this purpose. After normal hours the unlit entrance boulevard would be a risk for unwanted visitors to come in the cemetery.

A fixed video surveillance camera may be provided to record vehicles entering and exiting via the entrance boulevard. Because after sunset the site is very dark, visible light video images recorded at night may not be useful. Color shall be the primary mode, cameras shall then automatically switch to black and white when light levels drop below normal specifications . VASS shall be used for surveillance and documentation of defined exterior areas, such as, site and roadway access points, parking lots, and building perimeter, and interior areas from a centralized Security Control Center. Site and building exterior lighting shall be coordinated and installed in a manner that allows the VASS system to provide positive identification of a person, vehicle, incident, and location.

Water supply systems shall be monitored by fixed cameras with a local CCTV recording device.

9.0 Sustainability Goals and Strategy and Alternative Energy Options

Sustainability goals for this project are mandated by the U.S. Department of Veterans Affairs' "Sustainable Design Manual" published by the Office of Construction & Facilities Management, dated May 2014. Section 2.5.1 of the "Sustainable Design Manual" states that "in accordance with VA's Sustainable Buildings Program guidance, all projects must validate compliance with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles)."

The Guiding Principles require third-party green building certification for "major" projects, defined as $10 million or above. The design team also received direction from the Office of Construction & Facilities Management (CFM) regarding the extent of green building certification requirements. CFM advised that buildings with less than 5,000 square feet of conditioned floor area do not require green building certification. Therefore, only the Administration/PIC Building, which is greater than 5,000 square feet, will require certification. Smaller buildings, such as the Honor Guard and the conditioned space at the Maintenance Building, will be exempt from green building certification.

For the purposes of this report, the design team assumed that the US Green Building Council's LEED Green Building Rating System, LEED 2009 New Construction and Major Renovations will be utilized. Draft copies of the Guiding Principles checklist and LEED checklist are included in this report. The Guiding Principles checklist mandates many LEED prerequisites and credits that will also apply to LEED certification. The following mandatory requirements from the Guiding Principles and LEED checklist are noted:

- Stormwater Management – Quality and Quantity Control
- Irrigation – Reduce potable water requirement by 50%
- Energy Optimization – 30% minimum energy cost reduction over ASHRAE 90.1-2007 baseline
- On-site Renewable Energy – 7.5% minimum energy use by on-site renewable sources, unless deemed not life cycle cost effective
- Commissioning – third-party and enhanced commissioning scope required
- Construction Waste Management – 50% minimum diversion from landfill
- Recycled Materials – 10% minimum recycled content

The mandatory certification level for the Administration/PIC Building is LEED Silver. The draft LEED checklist suggests a path toward LEED Silver certification using mandatory requirements of the Guiding Principles and several other optional credits to reach 55 LEED points. Please note that the checklist has not been vetted against an actual design. As the project advances, the approach to LEED certification will be refined.

GUIDING PRINCIPLES CHECKLIST

LEED 2009 for New Construction and Major Renovations

Introduction:
The attached LEED 2009 for New Construction and Major Renovations (LEED-NC) points are mandatory for a project to be considered sustainable per the *Federal Guiding Principles for High Performance Sustainable Buildings*.

Application:
- *Major Construction and Renovation ($10 million or higher)*: checklist must be completed after the certification is awarded (post-construction). Certification by a third-party (LEED or Green Globes) is required.
- *Minor Construction and Renovation (less than $10 million)*: checklist must be completed after the certification is awarded (post-construction). Verification by a third-party (LEED, Green Globes, or Professional Engineer's stamp) is required.

Completion:
The checklist may be completed by the contracted project team, but must be verified by the VA Project Manager. The signed version must be retained in the project record.

Reporting:
A copy of this checklist, signed by the VA Project Manager, must be submitted to:
- *Major Construction:* Facilities Standards Service (OCFM), SustainableDesign@va.gov
- *Minor Construction:* VA Office of Asset Enterprise Management, GreenVA@va.gov

for annual reporting purposes. The checklist must be submitted not later than December 1 of the calendar year in which VA received the third-party certification.

VERIFICATION

I hereby verify that this project, New Western New York National Cemetery , meets all of the required LEED 2009 for New Construction and Major Renovations points (attached) and therefore complies with the *Federal Guiding Principles for High Performance Sustainable Buildings*.

PRINTED NAME: DATE

VA PROJECT MANAGER TITLE:

VA PROJECT MANAGER EMAIL:

VA PROJECT MANAGER PHONE NUMBER:

PROJECT TITLE: Administration Building

FACILITY NAME: New Western New York National Cemetery

LEED-NC Credit	Description	Guiding Principle
Sustainable Sites		
☒ Prerequisite 1	Construction Activity Pollution Prevention	IV.E
☒ Credit 6.1	Stormwater Design – Quantity Control	III.B.2
☒ Credit 6.2	Stormwater Design – Quality Control	III.B.2
Water Efficiency		
☒ Prerequisite 1	Water Use Reduction	III.A
☒ Credit 1	Water Efficient Landscaping (select one option below)	III.B.1
	☒ Reduce by 50% (minimum requirement)	
	☐ No Potable Water Use or Irrigation	
Energy and Atmosphere		
☒ Prerequisite 1	Fundamental Commissioning of Building Energy Systems	I.B
☒ Prerequisite 2	Minimum Energy Performance	II.A.1
☒ Prerequisite 3	Fundamental Refrigerant Management	V.E
☒ Credit 1	Optimize Energy Performance (select one option below)	II.A.2
	☐ Improve by 20% for Major Renovation **ONLY** (minimum requirement for major renovation)	
	☐ Improve by 22% for Major Renovation **ONLY**	
	☐ Improve by 24% for Major Renovation **ONLY**	
	☒ Improve by 30% NC (26% for Major Renovation) (minimum requirement for new construction)	
	☐ Improve by 32% NC (28% for Major Renovation)	
	☐ Improve by 34% NC (30% for Major Renovation)	
	☐ Improve by 36% NC (32% for Major Renovation)	
	☐ Improve by 38% NC (34% for Major Renovation)	
	☐ Improve by 40% NC (36% for Major Renovation)	
	☐ Improve by 42% NC (38% for Major Renovation)	
	☐ Improve by 44% NC (40% for Major Renovation)	
	☐ Improve by 46% NC (42% for Major Renovation)	
	☐ Improve by 48% NC (44% for Major Renovation)	
Energy and Atmosphere (continued)		
☒ Credit 2	On-Site Renewable Energy	II.B
	☒ 7.5% Renewable Energy (minimum requirement)	
	☐ 9% Renewable Energy	
	☐ 11% Renewable Energy	
	☐ 13% Renewable Energy	
	☐ Renewable Energy not Lifecycle Cost Effective	
☒ Credit 3	Enhanced Commissioning	I.B
☒ Credit 4	Enhanced Refrigerant Management	V.E
Materials and Resources		
☒ Prerequisite 1	Storage and Collection of Recyclables	V.D
☒ Credit 2	Construction Waste Management (select one option below)	V.D
	☒ 50% Recycled or Salvaged (minimum requirement)	
	☐ 75% Recycled or Salvaged	
☒ Credit 4	Recycled Content (select one option below)	V.A
	☒ 10% of Content (minimum requirement)	
	☐ 20% of Content	
☒ Credit 6	Rapidly Renewable Materials	V.B
☒ Credit 7	Certified Wood	V.B
Indoor Environmental Quality		
☒ Prerequisite 1	Minimum Indoor Air Quality Performance	IV.A
☒ Prerequisite 2	Environmental Tobacco Smoke Control	IV.F
☒ Credit 3.1	Construction IAQ Management Plan-During Construction	IV.E
☒ Credit 3.2	Construction IAQ Management Plan-Before Occupancy	IV.E
☒ Credit 4.1	Low-Emitting Materials-Adhesives and Sealants	IV.D
☒ Credit 4.2	Low-Emitting Materials-Paints and Coatings	IV.D
☒ Credit 4.3	Low-Emitting Materials-Flooring Systems	IV.D
☒ Credit 4.4	Low-Emitting Materials-Composite Wood & Agrifiber Products	IV.D
☒ Credit 6.1	Controllability of Systems-Lighting	IV.C
☒ Credit 7.1	Thermal Comfort-Design	IV.A
☒ Credit 8.1	Daylight and View-Daylight	IV.C

Department of Veterans Affairs Last Updated: May 11, 2015

LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: New Western New York National Cemetery (MP1 Submission)
Project Address: Pembroke, NY

Yes	?	No				
8	12	6	**SUSTAINABLE SITES**			**26 Points**
Y			Prereq 1	**Construction Activity Pollution Prevention**		**Required**
1			Credit 1	**Site Selection**		**1**
		5	Credit 2	**Development Density and Community Connectivity**		**5**
		1	Credit 3	**Brownfield Redevelopment**		**1**
	6		Credit 4.1	**Alternative Transportation** - Public Transportation Access		**6**
	1		Credit 4.2	**Alternative Transportation** - Bicycle Storage and Changing Rooms		**1**
	3		Credit 4.3	**Alternative Transportation** - Low-Emitting and Fuel-Efficient Vehicles		**3**
2			Credit 4.4	**Alternative Transportation** - Parking Capacity		**2**
	1		Credit 5.1	**Site Development** - Protect or Restore Habitat		**1**
1			Credit 5.2	**Site Development** - Maximize Open Space		**1**
1			Credit 6.1	**Stormwater Design** - Quantity Control		**1**
1			Credit 6.2	**Stormwater Design** - Quality Control		**1**
	1		Credit 7.1	**Heat Island Effect** - Nonroof		**1**
1			Credit 7.2	**Heat Island Effect** - Roof		**1**
1			Credit 8	**Light Pollution Reduction**		**1**
Yes	?	No				
4	6		**WATER EFFICIENCY**			**10 Points**
						4
Y			Prereq 1	**Water Use Reduction**		**Required**
2	2		Credit 1	**Water Efficient Landscaping**		**2 to 4**
				2	Reduce by 50%	2
					No Potable Water Use or Irrigation	4
	2		Credit 2	**Innovative Wastewater Technologies**		2
2	2		Credit 3	**Water Use Reduction**		**2 to 4**
				2	Reduce by 30%	2
					Reduce by 35%	3
					Reduce by 40%	4

21	14					
			ENERGY & ATMOSPHERE			**35 Points**
Y			Prereq 1	**Fundamental Commissioning of Building Energy Systems**		**Required**
Y			Prereq 2	**Minimum Energy Performance**		**Required**
Y			Prereq 3	**Fundamental Refrigerant Management**		**Required**
10	9		Credit 1	**Optimize Energy Performance**		**1 to 19**
					Improve by 12% for New Buildings or 8% for Existing Building Renovations	1
					Improve by 14% for New Buildings or 10% for Existing Building Renovations	2
					Improve by 16% for New Buildings or 12% for Existing Building Renovations	3
					Improve by 18% for New Buildings or 14% for Existing Building Renovations	4
					Improve by 20% for New Buildings or 16% for Existing Building Renovations	5
					Improve by 22% for New Buildings or 18% for Existing Building Renovations	6
					Improve by 24% for New Buildings or 20% for Existing Building Renovations	7
					Improve by 26% for New Buildings or 22% for Existing Building Renovations	8
					Improve by 28% for New Buildings or 24% for Existing Building Renovations	9
				10	Improve by 30% for New Buildings or 26% for Existing Building Renovations	10
					Improve by 32% for New Buildings or 28% for Existing Building Renovations	11
					Improve by 34% for New Buildings or 30% for Existing Building Renovations	12
					Improve by 36% for New Buildings or 32% for Existing Building Renovations	13
					Improve by 38% for New Buildings or 34% for Existing Building Renovations	14
					Improve by 40% for New Buildings or 36% for Existing Building Renovations	15
					Improve by 42% for New Buildings or 38% for Existing Building Renovations	16
					Improve by 44% for New Buildings or 40% for Existing Building Renovations	17
					Improve by 46% for New Buildings or 42% for Existing Building Renovations	18
					Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19
6	3		Credit 2	**On-Site Renewable Energy**		**1 to 7**
					1% Renewable Energy	1
					3% Renewable Energy	2
					5% Renewable Energy	3
				4	7% Renewable Energy	4
					9% Renewable Energy	5
					11% Renewable Energy	6
					13% Renewable Energy	7
2			Credit 3	**Enhanced Commissioning**		**2**
2			Credit 4	**Enhanced Refrigerant Management**		**2**
3			Credit 5	**Measurement and Verification**		**3**
	2		Credit 6	**Green Power**		**2**
Yes	?	No				
7	3	4	**MATERIALS & RESOURCES**			**14 Points**
Y			Prereq 1	**Storage and Collection of Recyclables**		**Required**

LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: New Western New York National Cemetery (MP1 Submission)
Project Address: Pembroke, NY

Yes	?	No				
		2	Credit 1.1	**Building Reuse** - Maintain Existing Walls, Floors and Roof		1 to 3
					Reuse 55%	1
					Reuse 75%	2
					Reuse 95%	3
		1	Credit 1.2	**Building Reuse** - Maintain Interior Nonstructural Elements		1
1	1		Credit 2	**Construction Waste Management**		1 to 2
					1 50% Recycled or Salvaged	1
					75% Recycled or Salvaged	2
	2		Credit 3	**Materials Reuse**		1 to 2
					Reuse 5%	1
					Reuse 10%	2
2			Credit 4	**Recycled Content**		1 to 2
					10% of Content	1
					2 20% of Content	2
2			Credit 5	**Regional Materials**		1 to 2
					10% of Materials	1
					2 20% of Materials	2
1			Credit 6	**Rapidly Renewable Materials**		1
1			Credit 7	**Certified Wood**		1

Yes	?	No		
12	3		**INDOOR ENVIRONMENTAL QUALITY**	**15 Points**
Y			Prereq 1	**Minimum Indoor Air Quality Performance** — Required
Y			Prereq 2	**Environmental Tobacco Smoke (ETS) Control** — Required
1			Credit 1	**Outdoor Air Delivery Monitoring** — 1
	1		Credit 2	**Increased Ventilation** — 1
1			Credit 3.1	**Construction Indoor Air Quality Management Plan** - During Construction — 1
1			Credit 3.2	**Construction Indoor Air Quality Management Plan** - Before Occupancy — 1
1			Credit 4.1	**Low-Emitting Materials** - Adhesives and Sealants — 1
1			Credit 4.2	**Low-Emitting Materials** - Paints and Coatings — 1
1			Credit 4.3	**Low-Emitting Materials** - Flooring Systems — 1
1			Credit 4.4	**Low-Emitting Materials** - Composite Wood and Agrifiber Products — 1
	1		Credit 5	**Indoor Chemical and Pollutant Source Control** — 1
1			Credit 6.1	**Controllability of Systems** - Lighting — 1
	1		Credit 6.2	**Controllability of Systems** - Thermal Comfort — 1
1			Credit 7.1	**Thermal Comfort** - Design — 1
1			Credit 7.2	**Thermal Comfort** - Verification — 1
1			Credit 8.1	**Daylight and Views** - Daylight — 1
1			Credit 8.2	**Daylight and Views** - Views — 1

Yes	?	No			
1	5		**INNOVATION IN DESIGN**		**6 Points**
	5		Credit 1	**Innovation in Design**	1 to 5
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation	1
				Innovation	1
1			Credit 2	**LEED® Accredited Professional**	1
2	1	1	**REGIONAL PRIORITY**		**4 Points**
2	1	1	Credit 1	**Regional Priority**	1 to 4
				1 EAc2 - On-Site Renewable Energy	1
				1 SSc6.2 - Stormwater Design - Quality Control	1
				WEc2 - Innovative Wastewater Technologies	1
					1
55	44	11	**PROJECT TOTALS (Certification Estimates)**		**110 Points**

Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points

10.0 References

Final Programmatic Environmental Assessment of the Proposed Site Selection, Construction, and Operations of the Western New York National Cemetery, prepared by TTL Associates, Inc. for the Department of Veterans Affairs, dated 9 May 2014.

NY Times Newspaper, published November 14, 2008, article titled "Saving Buffalo's Untold Beauty" by Nicolai Ouroussoff, website www.nytimes.com

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Appendices

Western New York National Cemetery

1232 Indian Falls Road, Pembroke, Genesee County, New York

Department of Veterans Affairs Project No. 936PC2002

MP-1 Submission

Prepared For:
United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E, Washington, DC
20001

Prepared by:

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

June 11, 2015

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Appendices

Western New York National Cemetery

1232 Indian Falls Road, Pembroke, Genesee County, New York

Department of Veterans Affairs Project No. 936PC2002

MP-1 Submission

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A-3 Permitting and Compliance Assessment
A-4 Irrigation Water Sources Report
A-5 Traffic Study
A-6 Local Market Survey
A-7 Opinion of Probable Construction Costs
A-8 Project Schedule

Prepared For:
United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E, Washington, DC
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People. Purpose. Place.

In Association with:

CANNONDESIGN
Aqua Engineering, Inc.
Innovative Water Solutions
FISHER ASSOCIATES
Engineers & Surveyors
CostPro

June 11, 2015

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Appendix A-1
Geotechnical Investigation Report

Western New York National Cemetery
MP-1 Submission

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GEOTECHNICAL INVESTIGATION REPORT

For the Proposed

Western New York National Cemetery
VA Project Number 936PC2002
1232 Indian Falls Road
Town of Pembroke
Genesee County, New York

Prepared For:

United States Department of Veterans Affairs
Office of Construction and Facilities Management
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June 1, 2015

FA Project No. 154013

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1.0 Executive Summary

Fisher Associates, P.E., L.S., L.A., D.P.C. (Fisher Associates) performed a geotechnical investigation at the proposed site of the Western New York National Cemetery, located at the southeast corner of Indian Falls Road and Allegany Road (NY Rte. 77). The purpose of this investigation was to augment the information derived by geotechnical studies performed by SJB Services, Inc. (May 2013 and August 2013) "SJB" and Tredo Engineers (August 22, 2013) "Tredo" for this site. The Tredo and SJB studies have divided the site into four zones, A through D (Figure 2; Site Development zones), for analysis. Zone D is not presently being considered as it designated as wetland. Key geotechnical issues identified by the earlier investigation included possible high bedrock and high groundwater conditions in Zones A, B and C.

The research and exploration performed for Phase I of this investigation indicate that:

- The site is located over a carbonate-rock aquifer that stretches from east to west across a two to three mile wide zone in Genesee County. Karst conditions (development of solution cavities in rock, that may result in sinkholes or swallets) have been identified in other portions of the county that overlie this aquifer, but no karst features have been identified on the project site to date.
- Zone A was not explored as part of this investigation. Previous studies indicate approximately 14 feet of overburden, consisting of a heterogeneous mixture of sand, silt, and clay, overlying weathered limestone bedrock. Limestone was encountered at approximately El. 847 feet.
- Subsurface conditions in Zone B consist of approximately 3.5 to 7.5 feet of overburden overlying weathered limestone bedrock. The top of bedrock ranged between El. 846 feet and El. 848 feet in the majority of this area, dipping slightly to the south. The overburden generally consisted of a kame deposit containing a heterogeneous mix of sand, gravel, clay, cobbles and boulders. The weathered limestone bedrock was generally hard and unrippable. Very large boulders were noted.
- Subsurface conditions in Zone C are more favorable then suggested by earlier studies. The depth to bedrock appears to increase rapidly from north to south in this area and ranged from 9.5 feet to over 20 feet in the borings advanced for this report (from approximately El. 838.5 feet to below El. 824 feet). The soils encountered in this area were predominantly clay, but large cobbles and boulder were also present which may have been previously interpreted as top of rock during earlier studies.
- High groundwater levels were measured in both Zones B and C when piezometers were installed in late April, 2015. The groundwater elevation was similar across the site (+/- El. 843.5 feet). In Zone B groundwater was typically 5 feet to 7 feet below the ground surface, and in Zone C groundwater was within one foot of the ground surface. However, the data collected suggests this is a seasonal perched water condition. Further tests will be performed in Phase II to determine whether there is a hydraulic connection between the limestone in Zone B and the overburden in Zone C.
- Currently available data suggests that the wetland area (Zone D) is the result of stormwater runoff accumulation, low infiltration rates, and low volume outlet drainage at Allegheny Road.
- The shallow depth to bedrock and presence of solution-prone bedrock indicates utilization of Zone B will require a low permeability liner to prevent infiltration and allow

a drainage system to provide conveyance of accumulated water. Index testing of the clay encountered in Zone C suggests it may have a sufficiently low permeability to be utilized as a liner for Zone B. Further investigation of bedrock depth and engineering characteristics of the clay in Zone C will be performed in Phase II to determine if it is a viable mining source and use of a liner system for Zone B.

Refer to subsequent sections of the report for more details regarding our design recommendations, along with earthwork construction considerations. Please note *italicized* words are further defined in Exhibit A - Terms & Definitions.

2.0 Introduction

The U.S. Department of Veterans Affairs (VA) proposes to build the Western New York National Cemetery on a 130+ acre site located in Pembroke, NY. Phase I of a four to five phase build-out of the project site involves the development of 45 acres of the site, which will include construction of cemetery facilities necessary to maintain, operate and provide burials for approximately 10 years. The project site is located along the eastern side of Alleghany Road (Route 77) between Indian Falls Road (to the north) and NY I-90 (to the south) in the town of Pembroke, NY.

The proposed cemetery will be owned and operated by the Department of Veterans Affairs. Development will include lawn crypts that will require burial depths of up to 8 feet, roadways, stormwater management systems, underground utilities, and support structures. Earthworks typically are performed as a mass excavation and fill procedure.

2.1 General

Fisher Associates, P.E., L.S., L.A., D.P.C. (Fisher Associates) performed a geotechnical investigation at the proposed site of the Western New York National Cemetery. The purpose of this investigation was to augment the information derived by geotechnical studies performed by SJB Services, Inc. (May 2013 and August 2013) and Tredo Engineers (August 22, 2013) for this site.

2.2 Previous Investigations

Subsurface investigation was previously performed at the site by SJB Services, Inc. (SJB) as part of the Conditions Assessment & Feasibility Report by Tredo Engineers (Tredo) published August 22, 2013. The subsurface data collected by SJB for these reports is included as Appendix A.

The United States Geologic Survey (USGS) performed a hydrogeologic assessment of the carbonate bedrock aquifer that underlies the site in 2010. Data generated for that study included geologic cross-sections, overburden thickness contour mapping, bedrock elevation contour mapping, and an inventory of karst features such as sinkholes and swallets throughout Genesee County. Appendix B includes report figures that present data applicable to the project site. Although this work was not specifically performed at the project site, and is therefore less accurate than site-specific exploration, it provides valuable insight into local subsurface conditions.

2.3 Site Description

The project site is an approximately 132 acre parcel located at the southeast intersection of Indian Falls Road and Alleghany Road in Genesee County (see Figure 1: Site Location Plan). The site is currently farmland, meadow, and low-lying wooded area. The site slopes gently to the south towards the New York State Thruway. Ground surface elevations range from approximately El. 861feet in the north to approximately El. 845 feet in the south.

The Tredo and SJB studies have divided the site into four zones, A through D (Figure 2; Site Development Zones), for analysis. Zones A, B and C are being considered for development and comprise a total of 86 acres. Zone D is a wetland area that is not currently being evaluated. Key geotechnical issues identified by the earlier investigation included possible high bedrock and high groundwater conditions in Zones A, B and C.

3.0 Local Geology and Hydrogeology

3.1 Regional Geologic Conditions

The site is located in a previously glaciated region of Upstate New York. The most recent glaciation occurred approximately 12,000 years ago, w**hen advancing** glaciers from the north **transported** soil and rock and then deposit**ed** material as they **retreated**.

Regional surficial geologic mapping indicates that site soils within the northern half of the site, approximately corresponding to Zones A and B, are derived from a till moraine deposit. Till moraine deposits typically contain a heterogeneous mixture of clay to large boulders but is more permeable and less dense than basal glacial till. The surficial geologic mapping indicates soil in the southern portion of the site, approximately corresponding to Zones C and D, are derived from a proglacial glaciolacustrine deposit of silt and clay.

Bedrock in the area consists of carbonate rock including the lower Devonian age Onondaga Limestone, **and** the Akron Dolostone and Bertie Formation **(Akron-Bertie Formation)**. The Akron-Bertie Formation is stratigraphically below, and outcrops north of, the Onondaga Formation. **It** contains thin seams of gypsum (three to five feet thick)**, and b**edrock typically dips to the south at approximately 40 to 50 feet per mile.

Carbonate bedrock is prone to chemical dissolution, and karst features have been mapped in the vicinity of the site by the U**nited States** Geologic Survey **(USGS)** (Reddy & Kappel, 2010). Karst features are the result of sinkholes and cavities formed in the carbonate bedrock. Sinkholes and cavities are more likely to form if the bedrock is at or near the ground surface, is overlain by a thin deposit of permeable soil, and receives large amounts of surface water flow. No karst features have been identified on the project site to date.

Figure 3 (USGS Carbonate Rock Aquifer & Karst Feature Map), Figure 4 (Bedrock Surface Contours Map) and Figure 5 (USGS Regional Geologic Section) present mapping excerpted from the previously noted USGS report. These figures illustrate overburden thickness, bedrock type and surface elevation, and typical geologic sections for the project area. Figure 5 provides information for Geological Section C-C, which is located in close proximity to the project site.

3.2 Regional Hydrogeologic Conditions

The USGS study indicates the carbonate bedrock underlying the site is an "extensive and high-yielding carbonate-rock aquifer that transmits water through solution-enlarged fractures, bedding planes, and other openings." The bedrock aquifer primarily receives water from areas where overlying soils are thin or permeable and the bedrock is highly weathered. Karst features, such as sinkholes and swallets, form preferential pathways into the aquifer and can result in large volumes of recharge during stormwater runoff events. Channels and cavities in the carbonate bedrock act like a pipeline and can convey the water long distances.

The USGS study suggests the major structural feature in the project area is the Clarendon-Linden Fault Complex which forms a southwest to northeast series of faults through the bedrock. These faults and the Onondaga Escarpment, which is located north of the site, are the major influence on groundwater flow patterns in the area. In general, true groundwater flows to the northwest towards Tonawanda Creek in the site vicinity.

4.0 Subsurface Exploration

4.1 Scope of Investigation

The subsurface exploration program performed for this study included seven test borings (with installation of monitoring wells) and five test pits. Test borings with wells, W-1 through W-5, Borings B-70 and B-71, and test pits TP-1 thru TP-5 were performed during the period of April 16, 2015 to April 21, 2015. The explorations were performed by Kenney Geotechnical Engineering Services PLLC (Kenney Geotechnical) of Syracuse, New York using a track-mounted rotary drill rig and mini-excavator. The test borings were advanced to depths ranging from 5 feet to 20 feet below the ground surface (bgs). Test pits were advanced to depths up to 8 feet.

The exploration locations were established in the field by Kenney Geotechnical personnel, who also provided utility clearances. The approximate exploration locations are illustrated on Figure 6 - Subsurface Exploration Location Plan. Kenney Geotechnical prepared subsurface test boring logs based on visual descriptions of recovered soil samples. The test boring and test pit logs are attached as Appendix B.

The test boring and well installation program performed varies from the initially-scoped program which included 8 wells along the center of the site for groundwater investigation and 6 borings around the perimeter of the site to assist in evaluating and verifying previous investigations. However, during well installation, we found suspected boulders which may have been construed as bedrock in previous investigations. Therefore, in lieu of the perimeter borings, we performed test pits to determine actual conditions on the northern part of the site. Results of this investigation support the change in approach for Phase 1, and will dictate the focus of the Phase 2 investigation borings.

4.2 Laboratory Testing

Laboratory testing was performed upon representative soil samples recovered during Standard Penetration Testing. Laboratory testing performed included natural moisture content, Atterberg limits determination, and grain size analyses. The testing was performed to confirm the visual soil classifications provided by Kenney Geotechnical. The testing was performed in accordance with ASTM standards, and the laboratory test results are contained in Appendix C - Laboratory Testing Results.

5.0 Summary of Subsurface Conditions

5.1 General

The generalized soil profile described below and shown in Figure 7 – Site Specific Geologic Profile, is intended to convey trends in subsurface conditions. The boundaries between the soil strata are approximate and are based on interpretations between widely spaced explorations. Actual soil transitions and conditions may vary between the subsurface exploration locations. See the attached exploration logs within Appendix C for more details regarding the subsurface conditions.

5.2 Zone A

Zone A was not explored as part of this investigation. Previous studies indicate approximately 14 feet of overburden, consisting of a heterogeneous mixture of sand, silt, and clay with occasional cobbles overlying weathered limestone bedrock. Limestone was encountered at approximately El. 847 feet. Groundwater was not encountered.

5.3 Zone B

Subsurface conditions encountered in Zone B consisted of approximately 3.5 to 7.5 feet of overburden overlying weathered limestone bedrock. The top of bedrock ranged between El. 846 feet and El. 848 feet in the majority of this area, dipping slightly to the south. The weathered limestone bedrock was generally hard and unrippable with a mini-excavator. The limestone was cored at a number of locations within Zone B using a diamond core barrel. Recovery percentages during coring ranged from 66% to 76%, and Rock Quality Designation (RQD) values ranged from 29% to 34%.

The overburden generally consisted of a heterogeneous mix of sand, gravel, silt, clay, cobbles and boulders. The quantity of cobbles and boulders generally increased with depth. Standard Penetration Testing "N" values also typically increased with depth, and typically exceeded 40 blows per foot below a depth a 4 feet. Test pits in this zone encountered boulders larger than 3 feet in diameter.

5.4 Zone C

Subsurface conditions in Zone C are more favorable then suggested by earlier studies, which indicated they were similar to those encountered in Zone B. The exploration performed for this study suggests the depth to bedrock increases rapidly from north to south in Zone C. At boring location W-4, performed at the northern end of Zone C, near the existing hedgerow that separates the cultivated farmland for the southern meadow, the subsurface conditions were found to consist of approximately 6 feet of very dense gravel with sand overlying weathered limestone at approximately El. 838.4 feet. At boring location W-5, approximately 600 feet south of W-4, the subsurface conditions encountered consisted of 8 feet of stiff to hard lean grey clay overlying approximately 1.4 feet of very dense sandy gravel underlain by limestone at a depth of 9.4 feet (approximately El. 834.1 feet).

Borings B-70 and B-71, which were advanced to the south of W-5, were advanced to a depth of 20 feet and did not encounter bedrock. These borings encountered similar subsurface conditions that consisted of four to eight feet of loose to medium dense silty sand overlying a stratum of stiff to hard lean clay. The lean clay extended to a depth of at least 20 feet (approximately El. 824 feet). Standard Penetration Testing "N" values in the lean clay stratum typically exceeded 20 blows per foot.

Note that our original investigation concept called for piezometers to be installed at locations B-70 and B-71 (initially designated W-6 and W-7) to evaluate possible groundwater communication between the overburden and limestone bedrock. However, given the lack of bedrock and thickness of the clay at these locations, it was our judgement that the proposed piezometers were not necessary, so therefore there were not installed during this phase of the investigation.

5.5 Groundwater

Groundwater levels measured in site piezometers during the performance of this subsurface investigation are summarized in Table 1 – Piezometer and Boring Water Level Readings:

Table 1 - Piezometer & Boring Water Level Readings

	Groundwater Depth (ft)		Groundwater Elevation (ft)	
Piezometer	**4/21/2015**	**5/2/2015**	**4/21/2015**	**5/2/2015**
W-1	6.5	DRY	849	DRY
W-2	DRY	9.5	DRY	843.5
W-3	4.8	5.6	846.7	845.9
W-4	0.8	1.3	843.6	843.1
W-5	0.3	1.1	843.2	842.4
B-70	0	NO READING	843.5	NO READING
B-71	0.6	NO READING	843.9	NO READING
B-3*	6.25	DRY	Unknown	Unknown
B-21*	NO READING	1.2	NO READING	Unknown
B-28*	5.5	7.9	845.6	843.2
B-30*	0	1	843.3	842.3

* from SJB report

The groundwater elevations were fairly consistent across much of the site (+/- El. 843.5 feet). The Phase II investigation will evaluate whether there is a hydraulic connection between the limestone bedrock in Zone B and the overburden in Zone C. Groundwater levels may be impacted by regional and local site considerations and may fluctuate over time. The fluctuations can be due to seasonal variations in precipitation and variations in soil conditions between explorations.

6.0 Geotechnical Analysis and Preliminary Recommendations

6.1 Geotechnical Analysis

Currently available subsurface information indicates:

- The site is underlain by limestone bedrock. Regional studies have indicated that karst features, including sinkholes, have formed in this rock although no such features have been identified on the project site. The studies indicate that sinkholes are more likely to form where the limestone outcrops are shallow and are overlain by permeable soil. The presence of low permeability soil, such as clay, over the limestone generally prevents the formation of sinkholes by reducing surface water infiltration.
- The limestone is located 3.5 feet to 7.5 feet below the ground surface in Zone B. The rock is unrippable and is overlain by till that is a mixture of soil types including large boulders. If this area is to be utilized as part of the cemetery, fill will be needed to attain a depth of 8 feet of cover over rock. To minimize the likelihood of rock dissolution and the formation of cavities, it would be prudent to place a low permeability liner over the shallow limestone bedrock as part of the fill placement.
- The depth to the limestone in Zone C appears to be greater than 9.5 feet. The overburden consists of 4 feet to 8 feet of permeable silty sand overlying a deep stratum of stiff lean clay.
- Perched groundwater appears to collect in the silty sand in Zone C from snowmelt and precipitation during the wetter seasons, and was at or near the ground surface at the time of the subsurface investigation. It appears that typical stormwater management drainage techniques will dewater the silty sand layer during development.

6.2 Preliminary Recommendations

Additional geotechnical investigation will be performed in Phase II in Zone C to correlate the findings of the previous investigations with the findings in this study regarding top of rock, the influence of the Karst geology at the site, and groundwater flows. Recommendations for Phase II study are presented in Section 7.0. The additional geotechnical investigation should focus on verifying the depth to bedrock and the characteristics of overburden in Zone C as well as collecting additional piezometer readings during the dryer seasons.

Based on the information provided to date on the project site requirements and goals for this Phase I investigation, the anticipated site development will entail:

- Stripping the organic layer from within the cemetery boundaries;
- Installing a perimeter stormwater management system to direct water away from the cemetery;
- Excavating to the weathered bedrock surface in Zone B, and installing a low permeability liner and an overlying drainage layer in preparation to receive the burial crypts;
- Installation of a subsurface seepage barrier between Zone D and Zone C to prevent the dewatering of Zone D and flow into Zone C from the wetland. The seepage barrier will need to extend into a low permeability stratum.
- Mining and stockpiling the silty sand layer from Zone C to use as crypt cover in Zones B and C.

- Installing a drainage layer over the existing low permeability clay in Zone C in preparation for the burial crypts.

Recommendations for Site-specific features include:

6.2.1 Crypt Base Preparation

The till and limestone in Zone B and stiff clay in Zone C are structurally capable of supporting the burial crypts. We recommend that:

- The exposed subgrade should be thoroughly *compacted/densified, proof rolled*, evaluated and prepared in accordance with our recommendations.
- A low permeability liner is installed below the crypts in Zone B. If a geosynthetic liner is utilized a cushion layer should be placed between subgrade and the geosynthetic liner. Any gravel, cobbles or boulders larger than 3 inches should be removed from the subgrade surface. The crypt system should be constructed over a minimum 12-inch thick layer of *Structural Fill* (i.e. Subbase Stone). This layer can also be used for drainage. A cushioning nonwoven geotextile should be installed between the low permeability liner and the structural fill to prevent damage to the low permeability liner during construction.
- Any deleterious materials, such as organics, soft soils, highly voided debris/rubble, existing structures, etc., which are present at the bottom of the subgrade excavation, should be further undercut, removed, and replaced with additional *Structural Fill* material.

The above subbase stone thickness is not designed for carrying construction vehicle loads. Therefore, it may be desirable for the Contractor to temporarily increase the Subbase thickness to provide a suitable working surface to stage the construction, carry construction vehicle loads and protect the underlying subgrades. This will be particularly important if construction proceeds during seasonally wet periods.

6.2.2 Structure Backfill

We recommend that structural elements are backfilled with *compacted structural fill* to provide support for the overlying pavements and other adjacent structures or facilities. In exterior areas where there are no overlying structures or facilities and uplift is not a concern, the backfill may consist of the *select granular fill* or s*tructural fill*. Backfill in these areas should be placed in *lifts* and *compacted*.

6.2.3 Lateral Earth Pressures and Subsurface Wall Drainage

The design of subsurface wall structures and earth retaining type walls should be based on lateral earth pressures generated by the earth backfill and any temporary or permanent surcharge loads, based on the following soil parameters. These parameters are based on the wall backfill, beyond the foundation drainage system, consisting of *Select Granular Fill* or *Structural Fill.* Subsurface walls that are designed for restrained or non-yielding conditions should be designed using "at rest" lateral earth pressures. Earth retaining walls, for which some limited movement is acceptable, can be designed on the basis of "active" lateral earth pressures. Recommended values are summarized in Table 2: Recommended Soil Parameters for Below Grade Wall Design.

Table 2: Recommended Soil Parameters for Below Grade Wall Design					
Coefficient of Passive Lateral Earth Pressure (Kp)	Coefficient of At-Rest Lateral Earth Pressure (Ko)	Coefficient of Active Lateral Earth Pressure (Ka)	Angle of Internal Friction	Total Unit Weight of Soil (pcf)	Submerged Unit Weight of Soil (pcf)
3.0	0.5	0.33	30°	130	68

Drains should be incorporated into the below grade wall design and any earth retaining walls, to relieve potential hydrostatic pressures. Water must not be allowed to collect against the backfilled wall unless the walls are designed for the additional hydrostatic pressure. The drainage system must be properly designed, installed and maintained for long-term performance. The design should include such features as clean-outs to properly maintain the system.

The drains should be installed at the proposed bearing elevations and the drainage system should drain to a sump(s) and pump system or a suitable gravity drainage system.

The drainage system should include a non-woven geotextile, selected considering drainage and filtration, installed around drainage stone surrounding a slotted under-drain pipe. The drainage stone should be sized in accordance with the pipe slotting or perforations. A crushed aggregate conforming to NYSDOT Standard Specifications Section 703-02, Size Designation No. 1 or No. 2 is generally acceptable. The drainage stone and surrounding geotextile should extend above the drainpipe a minimum of 2 feet.

6.2.4 Construction Dewatering Considerations

Construction dewatering will be required for surface water control and for excavations which encounter groundwater conditions. Surface water and groundwater should be diverted away from open excavations and prevented from accumulating on exposed subgrades.

Dewatering should be implemented in conjunction with excavation work such that the work generally proceeds in the dry. Excavation dewatering should be implemented sufficiently ahead of the excavation to maintain the groundwater levels at least 1 to 2 feet below the bottom of the excavation. If adequate dewatering is not completed, groundwater seepage and instability of the excavation bottom and sidewall could occur, particularly where the more permeable soil deposits are present. The amount of groundwater infiltration will depend on the soil condition encountered.

At a minimum the use of sump and pump methods of dewatering will be necessary to control groundwater, but more extensive methods may be necessary. Dewatering from the sumps should be commenced in advance of the excavation work to allow the groundwater to start to be drawn down. Dewatering sumps and wells should be designed to prevent the loss of fines from the soils. In addition, the selected dewatering system should be designed such that the resulting well drawdown does not adversely impact the adjacent utilities and structure foundations. Discharges from the dewatering system should be in accordance with permitted site storm-water management practices. Dewatering pumps should be operated on a continual basis, until the foundation is sufficiently and properly backfilled above the groundwater conditions.

6.2.5 Earthwork Construction Considerations

Based on the soils encountered in the subsurface explorations, exposed subgrade materials in Zone C will generally consist of silty sand, sandy silt, and silty clay soils. Due to the grain size and composition, these soils will be sensitive to disturbance and strength degradation in the presence of excess moisture. These soils will also be frost susceptible if left exposed to inclement weather conditions during construction.

We recommend that the site preparation work be performed during seasonally dry periods to *minimize potential for degradation of the subgrade soils* and undercuts which may become necessary to establish a stable base for construction. Excavation to the proposed subgrades should be performed using a method which reduces disturbance to the subgrade soils such as a backhoe equipped with a smooth blade bucket.

Site preparation for the slab-on-grade and pavement areas should include *densification*, *proper subgrade preparation, proof rolling* and all efforts should be made to *minimize the potential for degradation of the subgrade soils*.

Compacted Select Granular Fill may be used in general site grading operations and as backfill against exterior foundation walls. We do not recommend reuse of the *excavated soils* due the fine-grain nature of the soils. However these *excavated soils* may be considered for general site grading or trench backfilling in areas where overlying structures, pavement areas or other site facilities are not proposed, providing they are free of any organics, particles greater than 6-inch diameter, deleterious materials, and can be properly *compacted*.

6.2.6 Slope and Temporary Excavation Stability

Temporary excavation slopes must be evaluated by the Contractor's on-site Responsible Person. The site soils within the anticipated depth of excavation will be prone to erosion and softening during heavy precipitation. The Contractor must continually re-evaluate slopes to ensure safe conditions exist for on-site personnel. Consideration should be given to applying sheets of polyethylene to cuts slopes in soil to prevent washouts during rain events.

6.2.7 Seismic Site Classification

The subsurface conditions encountered and "N" values recorded during the subsurface investigation suggest that seismic **Site Class C** is appropriate for this site**.** The estimated design spectral response acceleration parameters are $\mathbf{S_{DS}}$ **= .169g** and $\mathbf{S_{D1}}$ **= .070g.** Liquefaction, surface rupture from faulting or lateral spreading is estimated to have a low probability of occurrence given the soil conditions encountered and typical regional seismicity**.**

7.0 Phase II Study

It appears that some of the rock elevations encountered in the borings previously performed in Zone C may have been interpreted to be limestone bedrock. Under the Phase II study, additional geotechnical investigation is warranted in Zone C of the Tredo/SJB investigations, based on the findings of this study. The additional geotechnical investigation should advance borings to a depth of 20 feet and should utilize downhole hammers, rock coring, or other drilling techniques to advance boreholes past large cobbles and boulders. If the clay is found to be prevalent throughout Zone C we recommend that its engineering characteristics, such as permeability and remolded undrained strength, are determined to facilitate design of site features such as the proposed hydraulic barrier to protect the wetland in Zone D and the low permeability liner to isolate carbonate bedrock in Zone B.

Additional piezometer measurements are also necessary to evaluate the possible hydraulic connection between the limestone in Zone B and the overburden in Zone C. The readings should be obtained at least monthly through the summer and fall to evaluate seasonal fluctuations.

8.0 Closing

Fisher Associates prepared this report to provide information about potential geotechnical design and construction considerations for the proposed cemetery. Test borings and test pits were made as part of this evaluation, and the recommendations provided herein are based on information available from the subsurface explorations. This report presents field observations, data collection and research, results, and professional opinions, and may be subject to modification if others develop subsequent information. The report has been prepared in accordance with generally accepted soil and foundation engineering practice, and no other warranty, expressed or implied, is made.

This report has been prepared for the specific and exclusive use of the United States Department of Veterans Affairs, and the design team for this project and site. The report and the findings in the report shall not, in whole or in part, be disseminated or conveyed to any other party, or used or relied upon by any other party, except for the specific purpose and to the specific parties alluded to above, without the prior written consent of Fisher Associates. Fisher Associates would be pleased to discuss the conditions associated with any such additional dissemination, use, or reliance by other parties.

These conclusions and recommendations do not reflect variations in subsurface conditions which could exist in unexplored areas of the site. Regardless of the thoroughness of a subsurface exploration, there is a possibility that conditions between test borings will differ from those at the boring locations, that the conditions are not anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, an experienced geotechnical engineer should evaluate earthwork and foundation construction to verify that the field conditions match those anticipated in design, as recommended above. In the event changes are made in the proposed constructions plans, the recommendations presented in this report shall be reviewed by the geotechnical engineer and the conclusions of this report modified or verified in writing.

EXHIBIT A

Terms and Definitions

Compacted: All fill beneath structural elements, slab-on-grade, pavement areas, and interior walls should be placed in *lifts* and compacted to 95% of maximum dry density as determined by modified proctor test (ASTM D-1557). For exterior areas with no overlying structures, 92% of maximum dry density as determined by modified proctor test (ASTM D-1557) may be used.

Densification - The subgrade densification/re-compaction should be performed prior to *proof-rolling*, under the observation of a qualified geotechnical engineer. We recommended that the exposed native soil subgrade surface be densified/re-compaction to a minimum of 95% of its maximum dry density, as determined by the modified proctor moisture-density relationship (ASTM D-1557) and meeting the above moisture requirements. This will require sampling of exposed subgrade soils, prior to commencing this work, and performing laboratory moisture-density relationship testing (ASTM D-1557) on the representative soils to establish proper control densities for the subgrade compaction. We recommend that the subgrades be compacted a minimum of ten (10) sets of overlapping passes of a vibratory compaction equipment weighing at least 10 to 15 tons.

Excavated soils - may be used for general site grading or trench backfilling in landscape areas, providing they are free of any organics, particles greater than 6-inch diameter, deleterious materials, and can be properly *compacted*. However, as previously noted, they are frost susceptible and sensitive to moisture and, therefore, may be difficult to place and compact. These soils may require drying, prior to placement, to adequately achieve the proper compaction and moisture requirements as noted above.

Lifts: Placement of fill should occur in nearly horizontal, uniform lifts not exceeding 9-inches in loose thickness and *compacted* with at least three (3) passes of suitable compaction equipment. Fill should also be placed in a stable well engineered condition and should not "pump" or show signs of movement or significant deflection (i.e. unstable conditions) as it is being constructed. All fill should be placed and *compacted* within ±2% of optimum moisture content, and the equipment used to compact the granular materials must be compatible with the material type and lift thickness. The loose lift thickness should be reduced to 6-in. in excavations where hand operated compaction equipment will be utilized.

Minimize Potential Degradation of the Subgrade Soils - Efforts should be made to maintain the subgrades in a dry and stable condition at all times, and traffic over exposed subgrades should be minimized to the extent practicable during construction. These efforts could include: installation of drainage swales and underdrains (i.e. "French drains") to intercept and divert surface runoff and perched groundwater away from the construction areas; sloping of the subgrade and "sealing" of the surface with a smooth drum roller to promote runoff; and restricting construction equipment traffic from traveling directly over the subgrade surfaces, especially when they are wet. Construction traffic over these subgrade soils, particularly when they are wet may cause the soils to become disturbed, destabilize, and rut/pump. Accordingly any areas that are disturbed should be undercut or over excavated and backfilled with *compacted structural fill*.

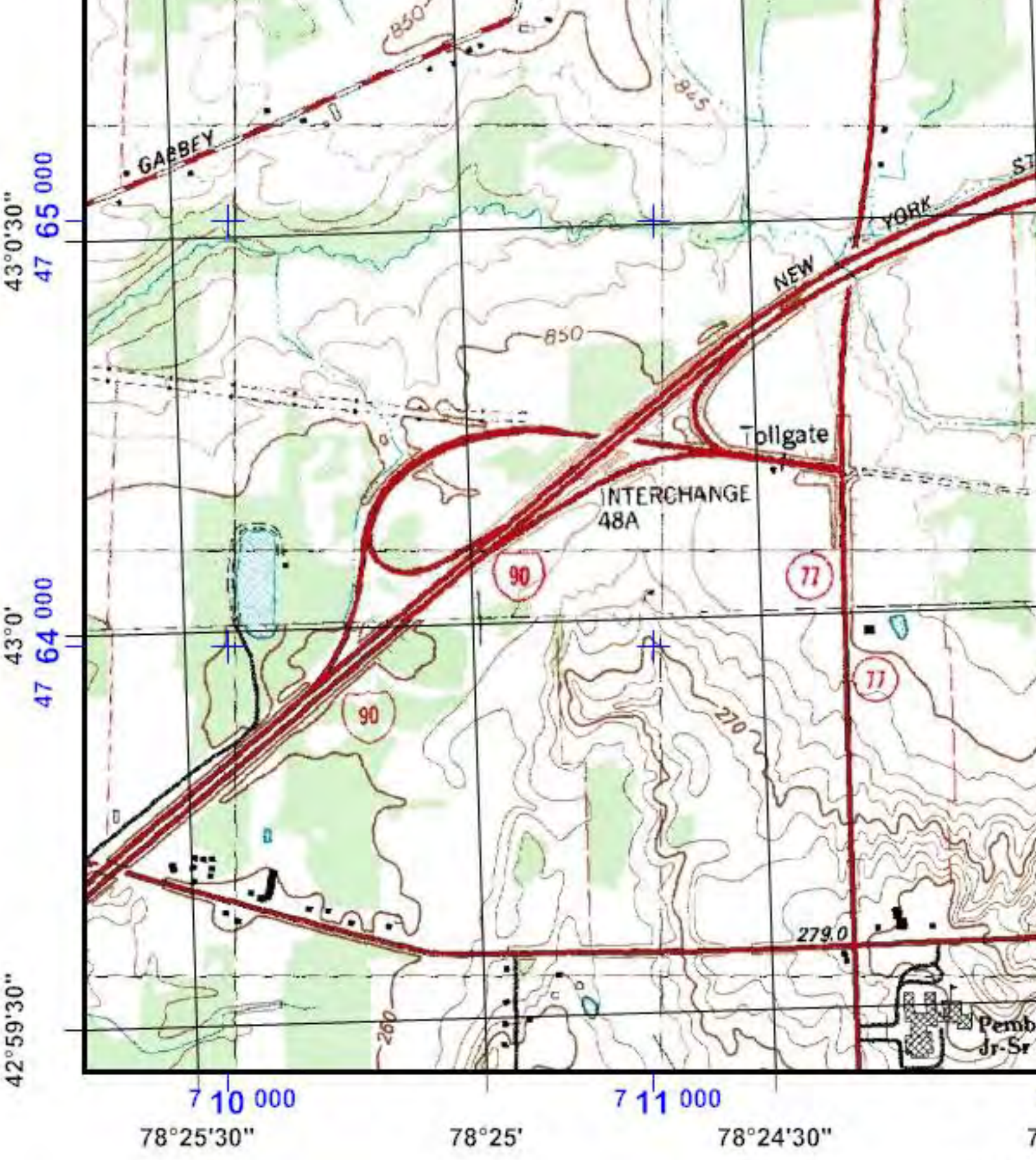
Proper Subgrade Preparation / Proof Rolling: Excavation and removal of all surface materials, topsoil, trees, and loose/soft or wet soils. The prepared subgrade surface should be visually observed, and all deleterious materials and organic matter, should be excavated and removed. The subgrade surface should be proof-rolled with at least three (3) sets of overlapping passes of a smooth-wheel vibratory compaction equipment weighing at least 10 to 15 tons, under the observation of a qualified geotechnical engineer.

Areas that are wet, unstable, or weave excessively during proof-rolling should be excavated and replaced with compacted *structural fill*. A suitable stabilization/separation geotextile, such as Mirafi 500X, should be placed between the soil subgrades and the overlying *structural fill* layer.

Select Granular Fill: Material meeting the requirements of New York State DOT, standard specification Item 203.07 - Select Granular Fill.

Structural Fill: Recommended to consist of Crusher Run Stone or Crushed Gravel and Sand mixture that is free of Clays, Organics, Snow, Ice and friable or deleterious particles. At minimum it should meet the following; New York State DOT specifications Item 304.12 Type 2 material.

FIGURES



1:24000 s

Universal Transverse Mercator (UTM) Projection Zone 17
North American Datum of 1983
1000 meter UTM / USNG / MGRS
Grid Zone Designation: 17T
100,000-m Squares:QH

0 0.2 0.4

0 0.2 0.4 0.6

FIGURE 2 – SITE DEVELOPMENT ZONES

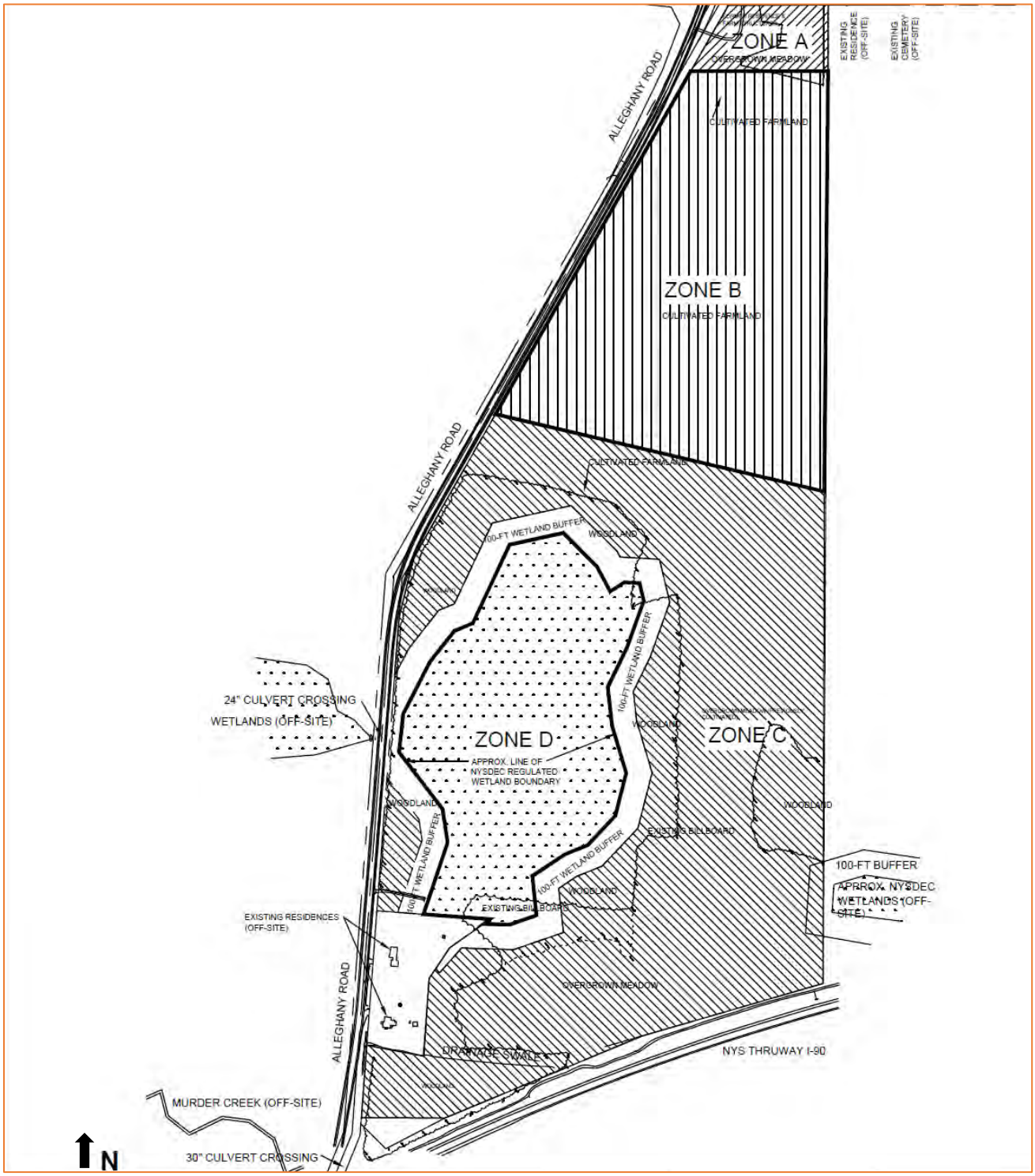
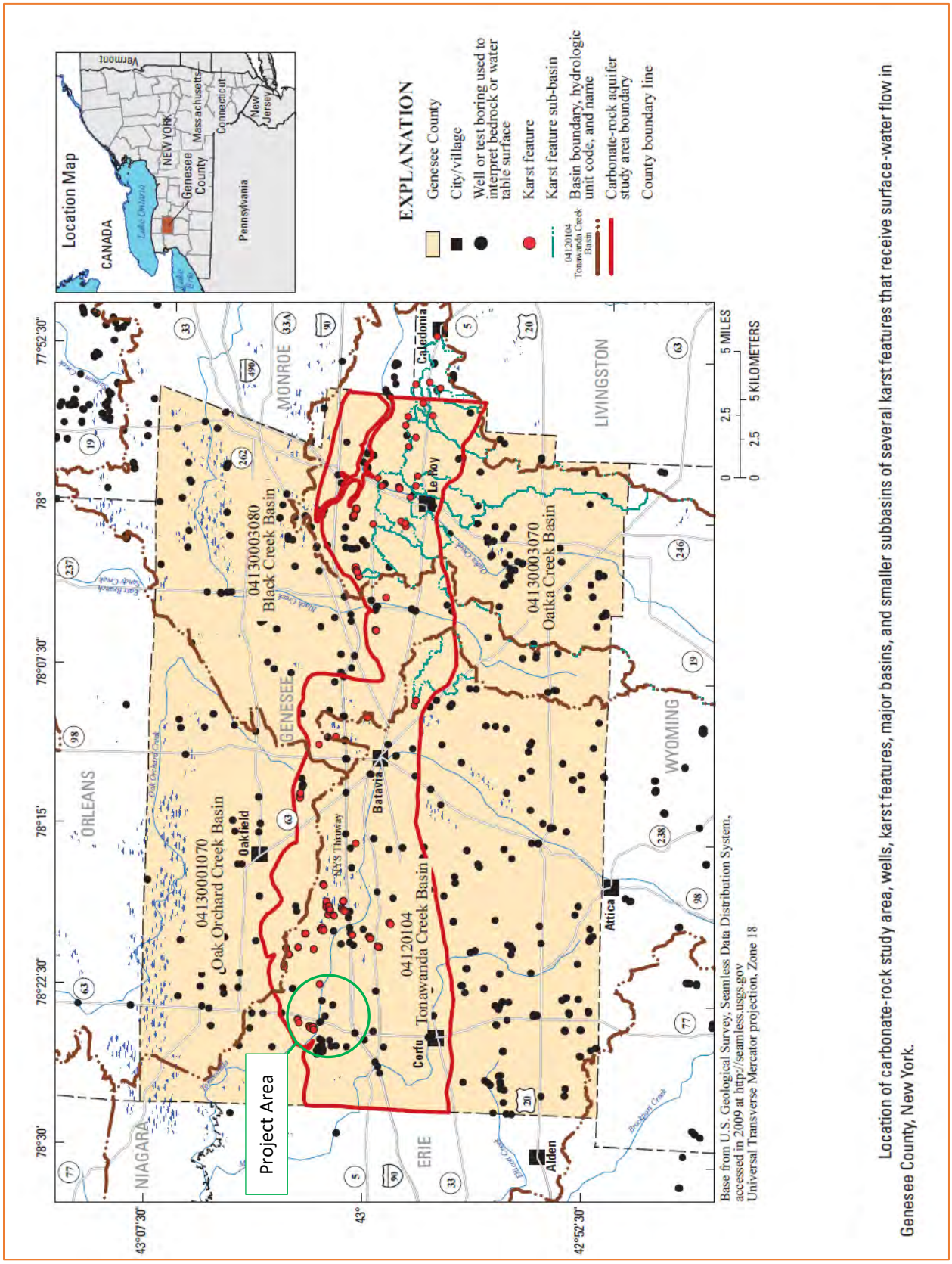
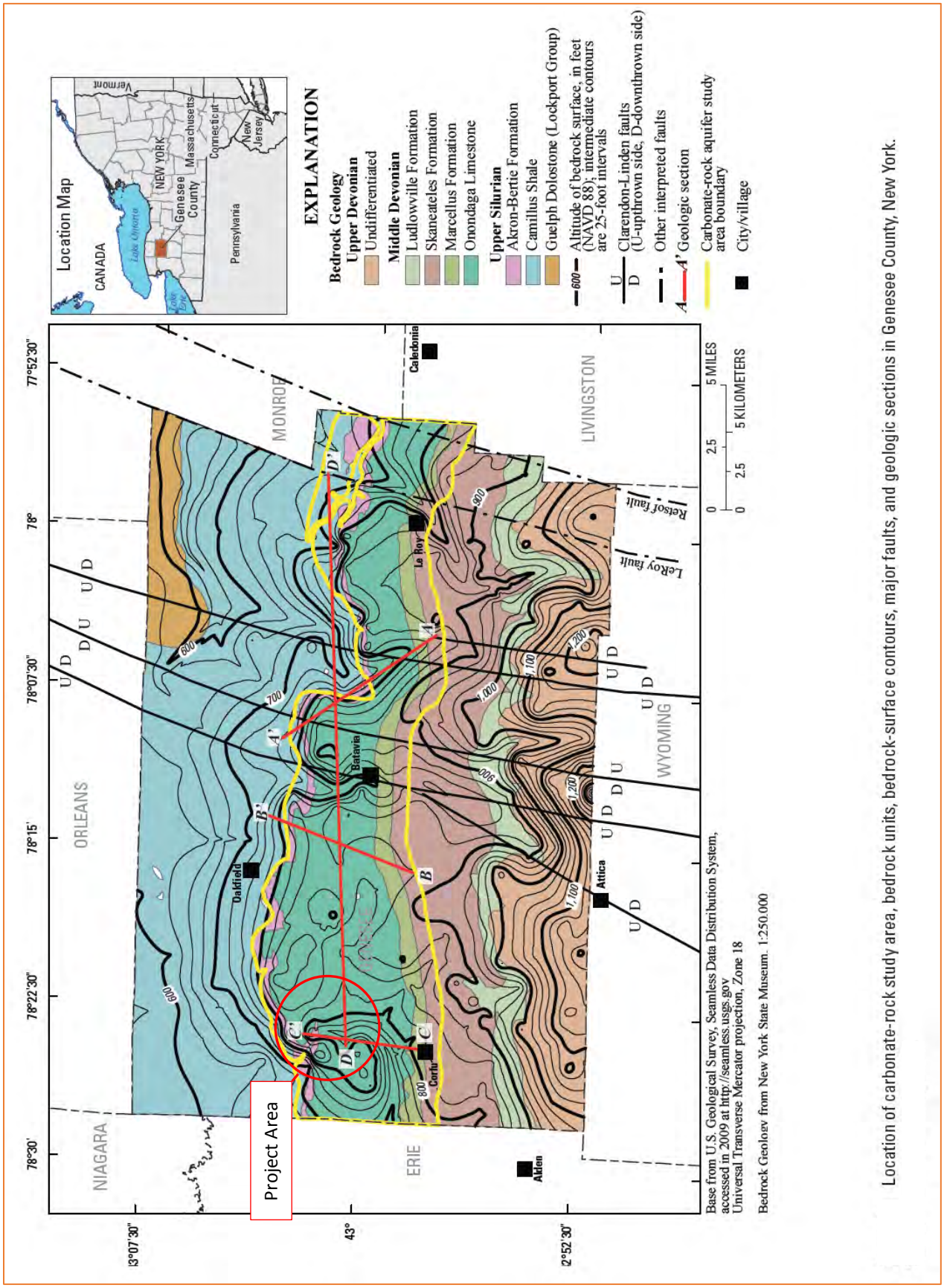


FIGURE 3 - USGS CARBONATE ROCK AQUIFER AND KARST FEATURE MAP



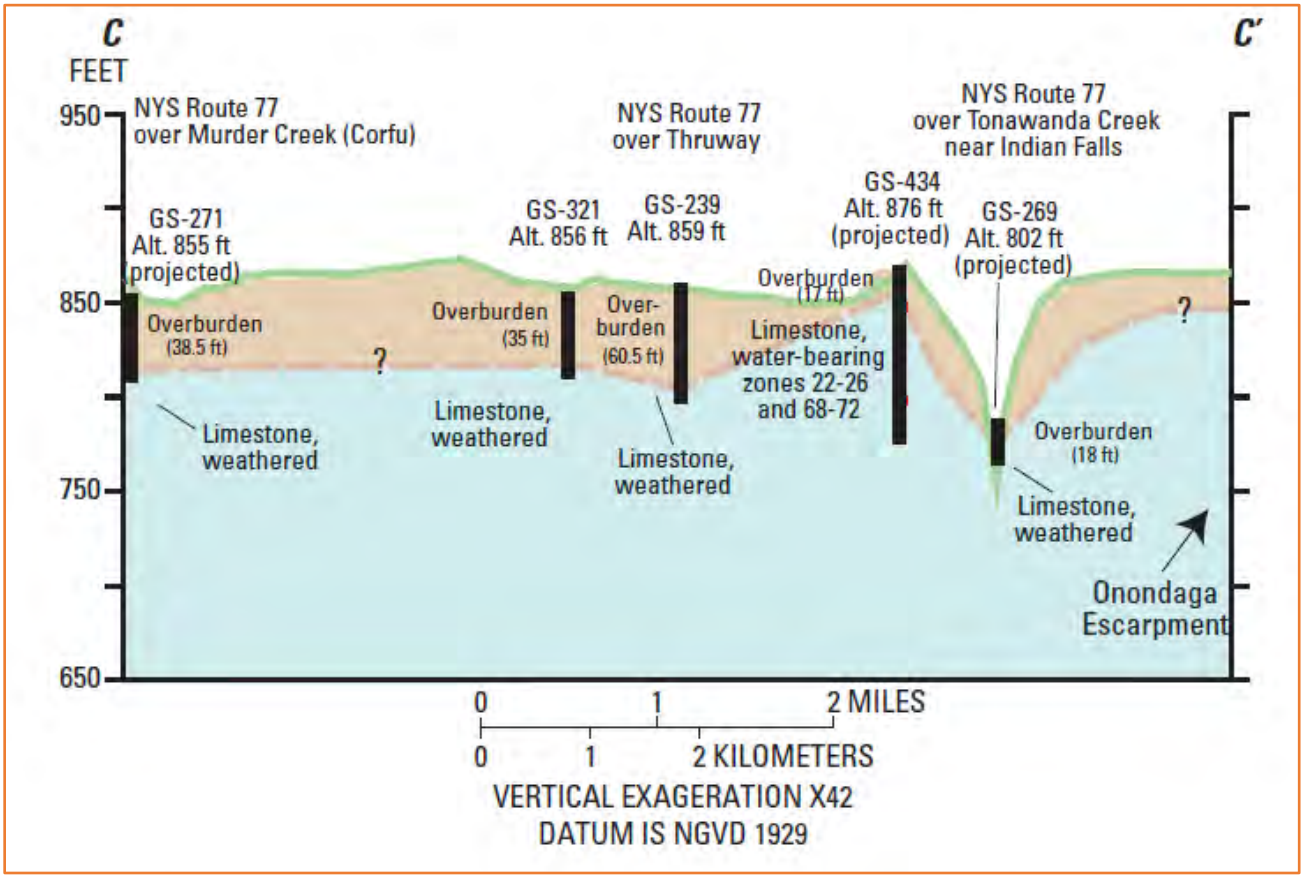
Location of carbonate-rock study area, wells, karst features, major basins, and smaller subbasins of several karst features that receive surface-water flow in Genesee County, New York.

FIGURE 4 - BEDROCK SURFACE CONTOURS MAP



Location of carbonate-rock study area, bedrock units, bedrock-surface contours, major faults, and geologic sections in Genesee County, New York.

FIGURE 5 - USGS REGIONAL GEOLOGIC SECTION NEAR SITE



Geologic section C-C' is located on the west side of Genesee County parallel to State Route 77. The line of section C-C' is shown in Figure 4.

FIGURE 6 - EXPLORATION LOCATION PLAN

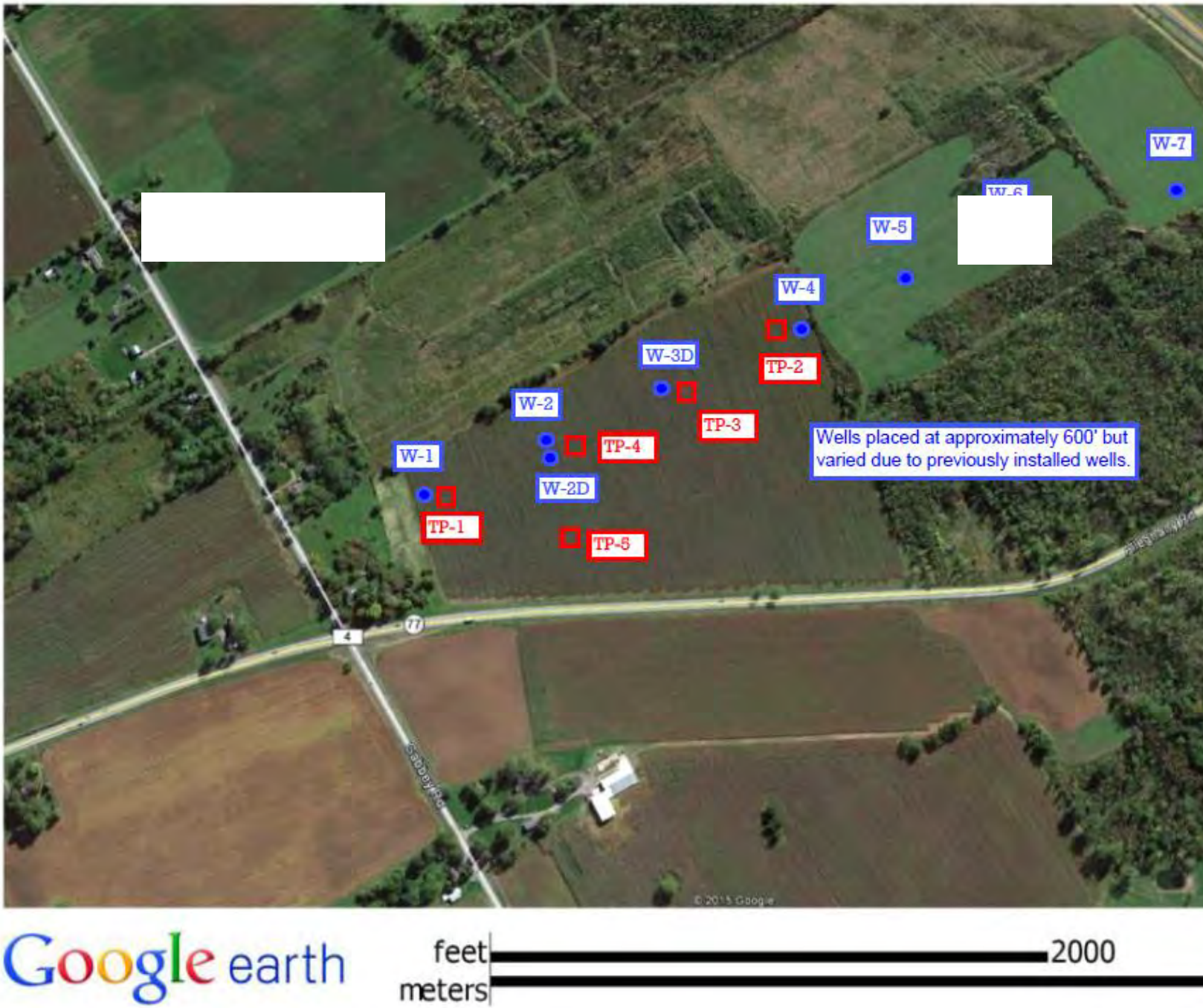
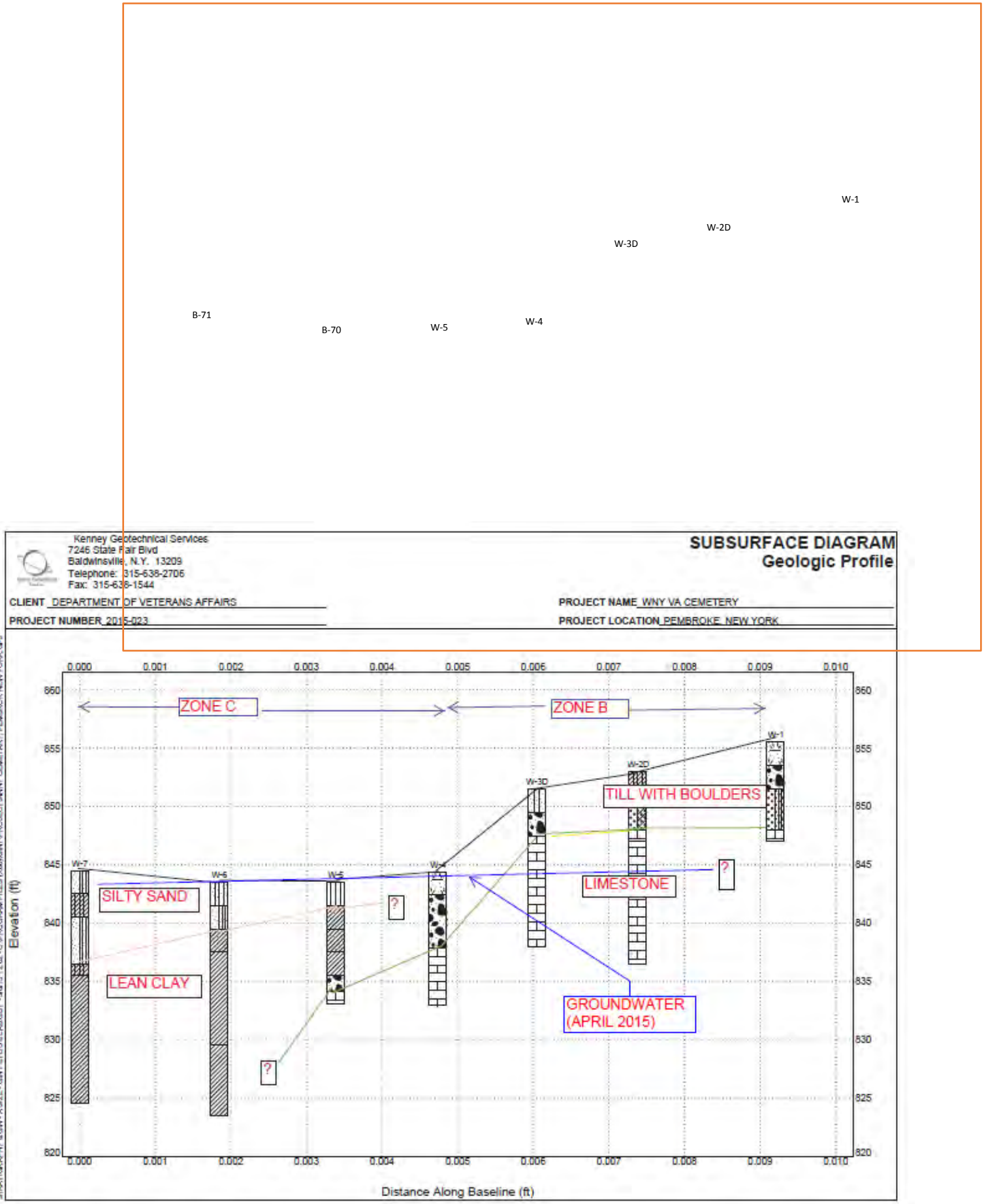
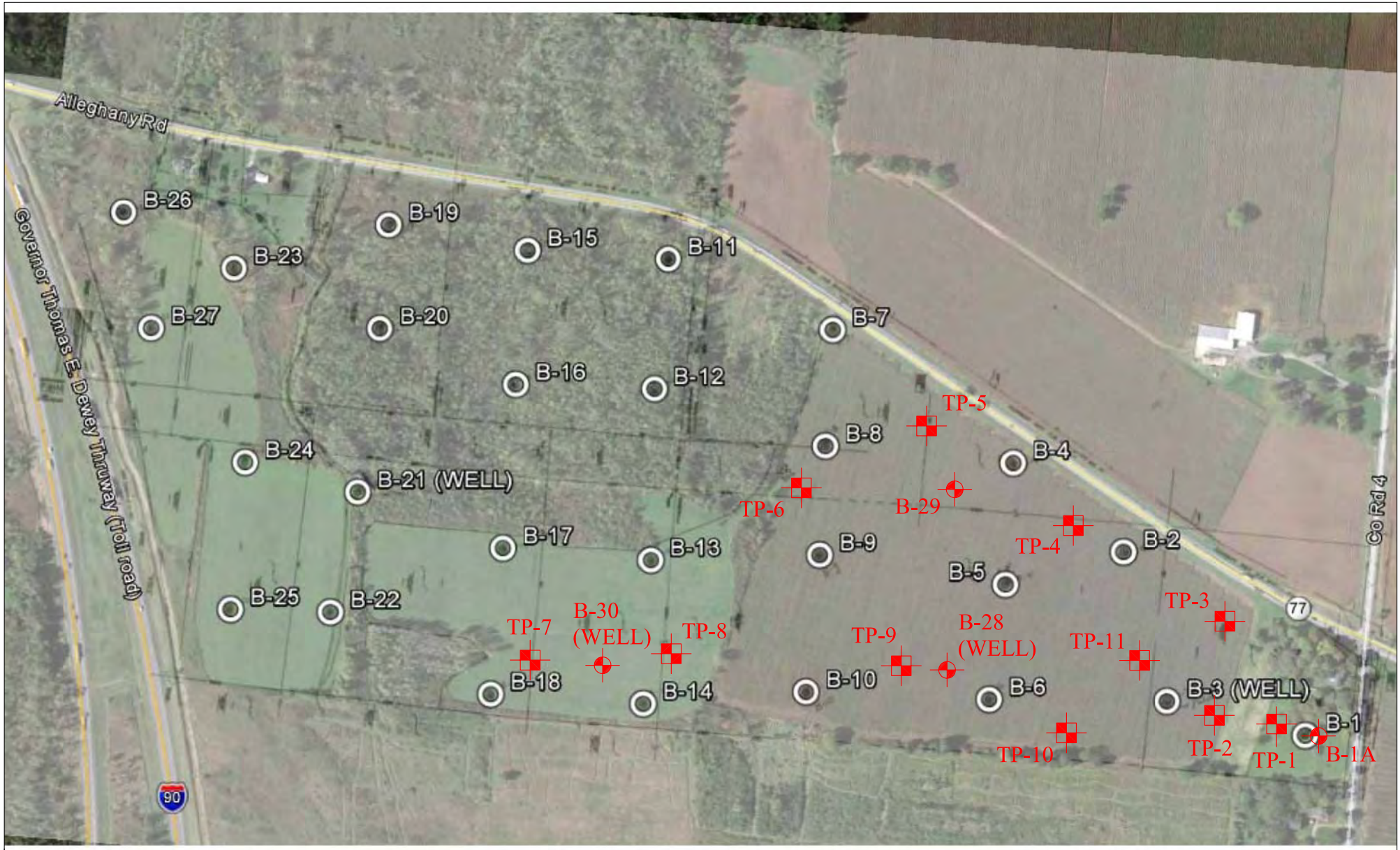


FIGURE 7 - SITE SPECIFIC GEOLOGIC PROFILE



APPENDIX A

Subsurface Data from Previous Investigations



LEGEND:

B-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING, PREVIOUSLY COMPLETED BY SJB SERVICES, INC. IN FEBRUARY 2013.

B-28 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING, COMPLETED BY SJB SERVICES, INC. IN JULY 2013.

TP-1 INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST PIT, COMPLETED BY SJB SERVICES, INC. IN JULY 2013.

N

NOTE:

FIGURE DEVELOPED FROM GOOGLE EARTH.

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

PROPOSED VETERANS AFFAIRS CEMETERY SITE
1232 INDIAN FALLS ROAD
TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

SUPPLEMENTAL SUBSURFACE EXPLORATION PLAN

DR BY: EDG	SCALE: NTS	PROJ NO.: BE-12-181-A
CHKD BY: WMA	DATE: 08/07/13	FIGURE NO: 1

DATE		SJB SERVICES, INC. SUBSURFACE LOG	HOLE NO. B-1
START	2/25/2013		SURF. ELEV
FINISH	2/25/2013		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 2" Topsoil
	1	1	1			Brown f-m SAND, some Clayey Silt, tr.gravel (moist, v.loose, SC-SM)	
		1	1		2		
	2	1	1			(moist-wet)	
		1	2		2		
5	3	1	3			Brown Clayey SILT, tr.sand (moist, medium, CL-ML)	
		4	3		7		
	4	2	4			Contains little f-c Sand, tr.gravel (ML)	
		4	3		8		
						Boring Complete at 8.0'	No free standing water reading obtained at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE: CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/28/2013	**SJB SERVICES, INC.**	HOLE NO. B-2
FINISH	2/28/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	2			TOPSOIL Orange-Brown FINE SAND, some Silt, tr.gravel (moist, v.loose, SM)	Driller notes approx. 8" Topsoil
		2	2		4		
	2	4	5			Brown Clayey SILT, little Fine Sand (moist, stiff, ML)	
		7	7		12		
5	3	18	35	50/0.4	REF	Brown f-m SAND and Clayey Silt (moist-wet, v.compact, SC-SM)	
	4	33	45	50/0.4	REF		
						Boring Complete with Sample Spoon Refusal at 7.2'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/28/2013	**SJB SERVICES, INC.**	HOLE NO. B-3
FINISH	2/28/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	2			TOPSOIL Brown f-c SAND, some Silt, little f-c Gravel (moist, v.loose, SM)	Driller notes approx. 8" Topsoil
		2	2		4		
	2	3	2				Poor Recovery Sample #2
		2	4		4		
5	3	4	6			Brown f-c SAND, some Clayey Silt, tr.gravel, tr.boulder fragments (moist, firm, SC-SM)	
		7	10		13		
	4	15	21			Brown f-c SAND, some Silt, tr.gravel (moist, compact, SM)	
		28	30		49		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							2" PVC ground water observation well installed at boring completion. Refer to installation log for details.
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE	
START	2/25/2013
FINISH	2/25/2013
SHEET	1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-4
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 6" Topsoil
	1	4	2			Brown Fine SAND, some Silt (moist, v.loose, SM)	
		2	3		4		REF = Sample Spoon Refusal
	2	7	6			Red-Brown Clayey SILT, tr.sand (moist, stiff, ML)	
		5	7		11		
5	3	22	30			Brown-Gray f-c SAND and Boulder fragments, little Silt (moist, v.compact, SM)	
		35	37		65		
	4	39	50	50/0.1	REF		
						Boring Complete with Sample Spoon Refusal at 7.1'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE		SJB SERVICES, INC. SUBSURFACE LOG	HOLE NO. B-5
START	2/25/2013		SURF. ELEV
FINISH	2/25/2013		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	2			TOPSOIL Brown Clayey SILT, tr.-little f-c Sand (moist, medium, ML)	Driller notes approx. 6" Topsoil
		3	5		5		REF = Sample Spoon Refusal
	2	26	50/0.4		REF	Brown-Gray Boulder fragments (moist)	No Recovery Sample #3
5	3	50/0.1			REF	Boring Complete with Auger Refusal at 4.0' and Sample Spoon Refusal at 4.1'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013	**SJB SERVICES, INC.**	HOLE NO. B-5A
FINISH	2/25/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Boring B-5A is a continuation of Boring B-5 - Driller notes moving 5' west and augering to 4'
	AUGER						
5	1	16	20			Brown f-c SAND, little-some Silt, tr.gravel (moist, compact, SM)	
		18	25		38		
	2	28	40	50/0.2	REF	Contains occasional Boulder fragments (v.compact)	REF = Sample Spoon Refusal
						Boring Complete with Sample Spoon Refusal at 7.2'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013	**SJB SERVICES, INC.**	HOLE NO. B-6
FINISH	2/25/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	4	11			TOPSOIL Red-Brown f-m SAND, some Silt, tr.gravel (moist, firm, SM)	Driller notes approx. 8" Topsoil
		15	7		26		REF = Sample Spoon Refusal
	2	16	35	50/0.2	REF	Brown f-c SAND, some Silt, little f-c Gravel, tr.boulder fragments (moist, v.compact, SM)	
5	3	50/0.2			REF	Boring Complete with Sample Spoon Refusal at 5.2' and Auger Refusal at 5.5'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013		
FINISH	2/25/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-7
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 8" Topsoil
	1	5	4			Brown SILT, little Fine Sand (moist, loose, ML)	
		4	5		8		
	2	4	6			Red-Brown Clayey SILT, little f-c Sand (moist, stiff, ML)	
		5	8		11		
5	3	12	15			Brown Fine SAND, some Silt, little f-c Gravel (moist, compact, SM)	
		19	26		34		
	4	30	31			Red-Brown Clayey SILT, tr.sand (moist, hard, ML)	
		45	48		76		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE: CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013	**SJB SERVICES, INC.**	HOLE NO. B-8
FINISH	2/25/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 8" Topsoil
	1	1	2			Brown Fine SAND and Silt (moist, v.loose, SM)	
		1	2		3		REF = Sample Spoon Refusal
	2	3	3			Brown Clayey SILT, little f-c Sand (moist, medium, ML)	
		5	7		8		
5	3	3	3			Red-Brown Silty CLAY, tr.sand (moist, medium, CL)	
		4	9		7		
	4	41	43	50/0.4	REF		No Recovery Sample #4
						Boring Complete with Sample Spoon Refusal at 7.4'	Free standing water recorded at 6.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013		
FINISH	2/25/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-9
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 6" Topsoil
	1	1	3			Brown Fine SAND, some-and Silt (moist, loose, SM)	
		2	3		5		
	2	6	9			(moist-wet, firm)	
		11	14		20		
5	3	3	3			Brown Clayey SILT, tr-little f-c Sand (moist-wet, medium, ML)	
		5	9		8		
	4	13	20	50/0.4	REF	Brown f-c GRAVEL and f-c Sand, little-some Silt, tr.boulder fragments (wet, v.compact, GM)	
						Boring Complete with Sample Spoon Refusal at 7.4'	Free standing water recorded at 6.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE		SJB SERVICES, INC. SUBSURFACE LOG	HOLE NO. B-10
START	2/25/2013		SURF. ELEV
FINISH	2/25/2013		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	3			TOPSOIL Brown f-m SAND, some Silt, tr.gravel (moist, loose, SM)	Driller notes approx. 7" Topsoil
		4	4		7		
	2	3	3			Brown Clayey SILT, some-and f-c Sand (moist, medium, ML)	
		5	5		8		
5	3	6	9			Brown-Gray f-c SAND, some Silt, tr.gravel (moist, firm, SM)	
		10	14		19		
	4	16	19			Contains some-and f-c Gravel (compact)	
		30	50/0.4		49		
						Boring Complete with Sample Spoon Refusal at 7.9'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE	
START	2/26/2013
FINISH	2/26/2013
SHEET	1 OF 1

SJB SERVICES, INC. SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-11
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD, PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 4" Topsoil
	1	1	2			Brown-Olive f-c SAND, some f-c Gravel, some Silt (moist, loose, SM)	
		3	5		5		
	2	2	2			Olive-Brown Clayey SILT, little Fine Sand (moist, medium, ML)	
		2	2		4		
5	3	4	3			Olive Fine SAND, and Silt (moist-wet, firm, SM)	
		8	14		11		
	4	8	10			Becomes Brown, Contains tr.gravel	
		10	16		20		
						Boring Complete at 8.0'	Free standing water recorded at 4.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE
START 2/26/2013
FINISH 2/26/2013
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-12
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 10" Topsoil
	1	1	1			Olive-Brown Clayey SILT, tr-little f-c Sand (moist, soft, ML)	
		2	4		3		
	2	3	5			Brown Fine SAND and Clayey Silt (moist, loose, SC-SM)	
		4	5		9		
5	3	4	12			Contains tr.gravel (firm)	
		15	22		27		
	4	20	27			Brown-Gray f-c SAND, some Silt, tr.-little Gravel (moist, v.compact, SM)	
		40	46		67		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/26/2013	**SJB SERVICES, INC.**	HOLE NO. B-13
FINISH	2/26/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD, PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 9" Topsoil
	1	1	1			Olive Silty CLAY, tr.sand (moist, soft, CL)	
		2	2		3		
	2	2	2			Becomes Brown, Contains little f-c Sand (medium)	
		2	3		4		
5	3	5	8			Brown Clayey SILT, tr-little f-c Sand (moist, hard, ML)	
		30	30		38		
	4	36	40			Contains some f-c Sand	
		44	46		84		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE: CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/25/2013		
FINISH	2/25/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-14
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 4" Topsoil
	1	1	2			Red-Brown Clayey SILT, tr.sand (moist, medium, ML)	
		3	4		5		
	2	14	10				Poor recovery sample #2
		12	15		22		
5	3	14	24			Red-Brown SILT, tr.sand, occasional clay partings and seams (moist, v.compact, ML)	
		41	49		65		
	4	39	41			Brown-Gray Clayey SILT, tr.sand, occasional clay partings (moist, hard, ML)	
		46	44		87		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE	
START	2/26/2013
FINISH	2/26/2013
SHEET	1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-15
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	1			TOPSOIL Gray Clayey SILT, little Fine Sand (moist, soft, ML)	Driller notes approx. 6" Topsoil
		2	2		3	Fine Sand (moist, v.soft, ML)	
	2	3	4			Brown f-m SAND, some Silt (moist-wet, loose, SM)	
		5	8		9		
5	3	8	15			Brown Fine SAND and Silt, tr.gravel (moist, compact, SM)	
		29	36		44		
	4	30	39			Gray f-m SAND and Silt, tr.gravel (moist, v.compact, SM)	
		42	50		81		
						Boring Complete at 8.0'	Free standing water recorded at 6.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/26/2013		
FINISH	2/26/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-16
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 4" Topsoil
	1	WOH/1.0				Orange-Brown Clayey SILT, tr.-little Fine Sand (moist, v.soft, ML)	
		2	3		2		WOH = Weight of Hammer and Rods
	2	3	3			Becomes Brown (medium)	
		4	7		7		
5	3	8	18			Contains some f-c Sand, tr.gravel (hard)	
		19	14		37		
	4	14	18			Contains tr.sand, tr.gravel	
		29	45		47		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/28/2013		
FINISH	2/28/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-17
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH/1.0				TOPSOIL Brown f-c SAND, some-and Clayey Silt, tr-little f-c Gravel (moist, v.loose, SC-SM)	Driller notes approx. 4" Topsoil
		1	2		1		
	2	3	3			Brown Clayey SILT, little f-c Sand (moist, medium, ML)	
		5	8		8		
5	3	7	10			Becomes Red-Brown (v.stiff)	
		15	18		25		
	4	29	33			Becomes Brown (hard)	
		38	40		71		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/28/2013		
FINISH	2/28/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-18
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	1			TOPSOIL Yellow-Brown mottled Clayey SILT, tr.sand (moist, soft, ML)	Driller notes approx. 6" Topsoil
		2	4		3		
	2	5	6			Becomes Brown, Contains occasional Clay partings (stiff)	
		9	10		15		
5	3	14	15			Brown f-c SAND and Clayey Silt, tr.gravel tr.boulder fragments (moist, compact, SC-SM)	
		16	19		31		
	4	12	27			Brown Clayey SILT, tr.sand (moist, hard, ML)	
		36	41		63		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE	
START	2/26/2013
FINISH	2/26/2013
SHEET	1 OF 1

SJB SERVICES, INC. SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-19
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL Orange-Brown and Gray Mottled Clayey SILT, tr.-little Fine Sand (moist, v.soft, ML)	Driller notes approx. 12" Topsoil WOH = Weight of Hammer and Rods
		1	1		2		
	2	1	1			Brown f-c SAND, some f-c Gravel, some Silt (wet, v.loose, SM)	
		1	2		2		
5	3	15	25			Brown-Gray Clayey SILT, little f-c Sand, tr.gravel (moist, hard, ML)	
		29	36		54		
	4	48	49			Becomes Brown	
		44	46		93		
						Boring Complete at 8.0'	Free standing water recorded at 6.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/26/2013		
FINISH	2/26/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-20
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181
LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH/1.0					Driller notes Ponded surface water at bore location.
		1	1		1		
	2	3	4			Brown Clayey SILT, tr.sand (moist, medium, ML)	No Recovery Sample #1
		4	6		8		WOH = Weight of Hammer and Rods
5	3	8	12			Brown-Gray Clayey SILT, little f-c Sand (moist-wet, v.stiff, CL-ML)	
		15	20		27		
	4	35	40			Brown-Gray Clayey SILT, little-some f-c Sand, tr.gravel (moist, hard, ML)	
		46	48		86		
						Boring Complete at 8.0'	No free standing water reading obtained at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013		
FINISH	2/27/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

SJB SERVICES, INC.

HOLE NO. B-21
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH/1.0				TOPSOIL Yellow-Brown f-c SAND, some Silt, little f-c Gravel (moist, v.loose, SM)	Driller notes approx. 8" Topsoil WOH = Weight of Hammer and Rods
		1	2		1		
	2	2	5			Brown-Gray f-c SAND, little Silt (wet, loose, SM)	
		5	6		10		
5	3	7	10			Gray SILT, tr.-little Fine Sand (moist-wet, firm, ML)	
		14	21		24		
	4	22	25			Brown-Gray Clayey SILT, little f-c Sand, tr.gravel (moist, hard, ML)	
		30	38		55		
						Boring Complete at 8.0'	Free standing water recorded at 6.0' at boring completion. 2" PVC groundwater observation well installed at boring completion. Refer to installation log for details.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

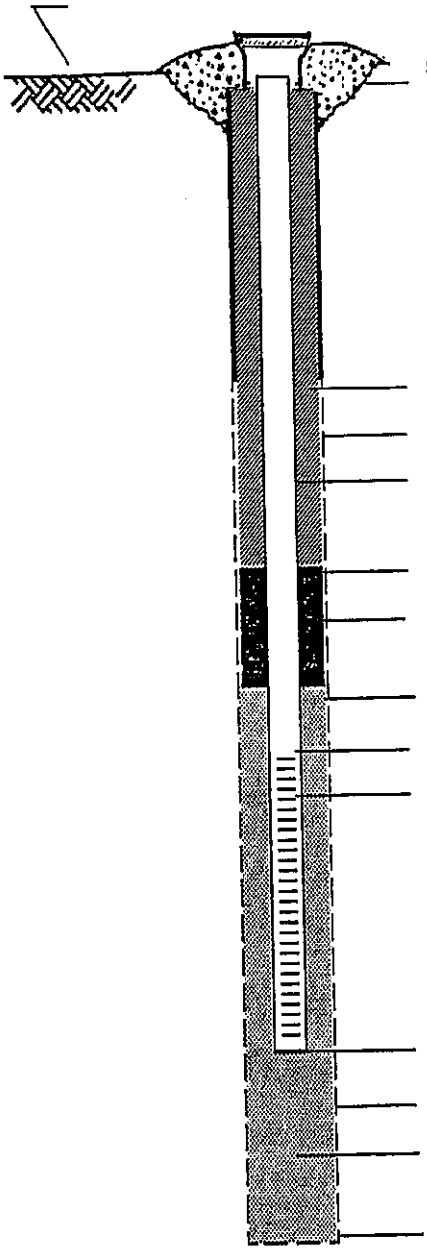
DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: PROPOSED VA CEMETERY	
PROJECT NUMBER: BE-12-181	DRILLING METHOD: ASTM-1586 USING HSF
WELL NUMBER: B-21	GEOLOGIST: -----
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 2/27/2013



STICK-UP: 2.2'

TYPE OF SURFACE SEAL: BENTONITE CHIPS

TYPE OF BACKFILL: BENTONITE CHIPS

BOREHOLE DIAMETER: +/- 8"

I.D. OF RISER PIPE: 2.0"

TYPE OF RISER PIPE: PVC

DEPTH OF SEAL: GRADE

TYPE OF SEAL: BENTONITE CHIPS

DEPTH OF SAND PACK: 2.0'

DEPTH OF TOP OF SCREEN: 3.0'

TYPE OF SCREEN: PVC

SLOT SIZE X LENGTH: .010 X 5.0'

I.D. OF SCREEN: 2.0"

TYPE OF SAND PACK: MORIE '0' FILTER SAND

DEPTH BOTTOM OF SCREEN: 8.0'

DEPTH BOTTOM OF SAND PACK: 8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: N/A

ELEVATION/ DEPTH OF HOLE: 8.0'

DATE			
START	2/27/2013	**SJB SERVICES, INC.**	HOLE NO. B-22
FINISH	2/27/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL Brown f-m SAND and Silty Clay, tr.gravel (moist-wet, v.loose, SC-SM)	Driller notes approx. 6" Topsoil WOH = Weight of Hammer and Rods
		1	2		2		
	2	3	5			Brown f-c SAND, some Silt (wet, firm, SM)	
		7	4		12		
5	3	3	4			Gray SILT, little Fine Sand (moist, firm, ML)	
		10	13		14		
	4	27	31			Contains tr. fine sand(v.compact)	
		35	49		66		
						Boring Complete at 8.0'	Free standing water recorded at 4.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013	**SJB SERVICES, INC.**	HOLE NO. B-23
FINISH	2/27/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL Black f-m SAND, some Silt, tr.gravel (moist-wet, v.loose, SM)	Driller notes approx. 8" Topsoil
		1	1		2		
	2	2	2			Brown Silty CLAY, tr.sand, occasional fine Sand lenses (moist, medium, CL)	
		3	5		5		
5	3	8	10			Red-Brown Clayey SILT, little f-c Sand (moist, v.stiff, ML)	
		12	14		22		
	4	23	25			Becomes Brown-Gray, Contains tr.sand (hard)	
		28	27		53		
						Boring Complete at 8.0'	Free standing water recorded at 6.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013	**SJB SERVICES, INC.**	HOLE NO. B-24
FINISH	2/27/2013	**SUBSURFACE LOG**	SURF. ELEV
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: 1232 INDIAN FALLS ROAD
PROJ. NO.: BE-12-181 PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL Brown f-c SAND, some Silt, tr.gravel (moist, v.loose, SM)	Driller notes approx. 4" Topsoil WOH = Weight of Hammer and Rods
		2	3		3		
	2	3	3			Brown Fine SAND, little-some Silt (wet, loose, SM)	
		4	6		7		
5	3	3	4			Brown f-c SAND, tr.silt (wet, loose, SW)	
		4	4		8		
	4	8	10			(firm)	
		12	18		22		
						Boring Complete at 8.0'	Free standing water recorded at 5.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013		
FINISH	2/27/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-25
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 6" Topsoil
	1	WOH	1			Black-Brown f-m SAND, some Silt (moist-wet, v.loose, SM)	
		1	1		2		WOH = Weight of Hammer and Rods
	2	2	4			Becomes Brown, Contains little Silt (loose)	
		4	7		8		
5	3	4	5			Contains tr. silt (firm)	
		7	9		12		
	4	20	25			(v.compact)	
		30	32		55		
						Boring Complete at 8.0'	Free standing water recorded at 4.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE: CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013		
FINISH	2/27/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-26
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL Olive-Brown Fine SAND and Clayey Silt (moist, v.loose, SC-SM)	Driller notes approx. 3" Topsoil WOH = Weight of Hammer and Rods
		1	2		2		
	2	3	4			Orange-Brown Fine SAND, some Silt (moist-wet, loose, SM)	
		5	5		9		
5	3	10	29			Red-Brown Clayey SILT, little f-c Sand, tr.gravel (moist, hard, ML)	
		40	45		69		
	4	15	20				
		36	48		56		
						Boring Complete at 8.0'	No free standing water encountered at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	2/27/2013		
FINISH	2/27/2013		
SHEET	1 OF 1		

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-27
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
PROJ. NO.: BE-12-181

LOCATION: 1232 INDIAN FALLS ROAD
PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						TOPSOIL	Driller notes approx. 3" Topsoil
	1	WOH/1.0				Brown Fine SAND, some Silt (moist-wet, v.loose, SM)	
		1	1		1		WOH = Weight of Hammer and Rods
	2	3	4			Contains little Silt (wet, loose)	
		5	5		9		
5	3	4	4			Brown-Gray Fine SAND, tr.silt, occasional Silt seams (wet, loose, SP)	
		5	7		9		
	4	6	8			(firm)	
		10	10		18		
						Boring Complete at 8.0'	Free standing water recorded at 4.0' at boring completion.
10							
15							
20							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-850

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE START 7/30/2013 FINISH 7/30/2013 SHEET 1 OF 1	**SJB SERVICES, INC.** **SUBSURFACE LOG**	HOLE NO. B-1A SURF. ELEV 861.1' G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: INDIAN FALLS ROAD
PROJ. NO.: BE-12-181A PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	1			TOPSOIL	Driller notes approx. 4" Topsoil
		2	3		3	Red-Brown f-c SAND, some-and Silt, tr.gravel (moist, v.loose, SM)	
	2	1	2				
		2	2		4	Brown Fine SAND, some Silt (moist, v.loose, SM)	
5	3	2	3				
		5	5		8	(loose)	
	4	4	7			Brown Clayey SILT, little f-c Sand, tr.gravel (moist, stiff, ML)	
		8	15		15		
	5	3	12			Brown SILT, tr.sand (moist, firm, ML)	
10		12	13		24		
	6	4	7			Brown f-c SAND, some f-c Gravel, little-some Silt (moist, firm, SM)	
		19	40		26		
	7	28	50/0.2		REF		REF = Sample Spoon Refusal
						Contains some-and Silt (v.compact)	
15	8	50/0.3			REF		
						Boring Complete with Sample Spoon Refusal at 14.3' and Auger Refusal at 14.5'	No free standing water encountered at boring completion.
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME 550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	7/30/2013	**SJB SERVICES, INC.**	HOLE NO. B-28
FINISH	7/30/2013	**SUBSURFACE LOG**	SURF. ELEV 851.1'
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: INDIAN FALLS ROAD
PROJ. NO.: BE-12-181A PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	2			Black-Brown Fine SAND and Silt (moist, loose, SM)	
		3	5		5		
	2	3	3				REF = Sample Spoon Refusal
		8	9		11	Becomes Brown (firm)	
5	3	8	50/0.2		REF	(v.compact)	NQ '2' Size Rock Core
						Gray LIMESTONE Rock, medium hard, sound, thinly bedded to bedded.	Run #1 5.5' - 10.5' REC = 86% RQD = 22%
10							
						Boring Complete at 10.5'	No free standing water encountered prior to coring.
15							
							2" PVC groundwater observation well installed at boring completion. Refer to installation log for details.
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

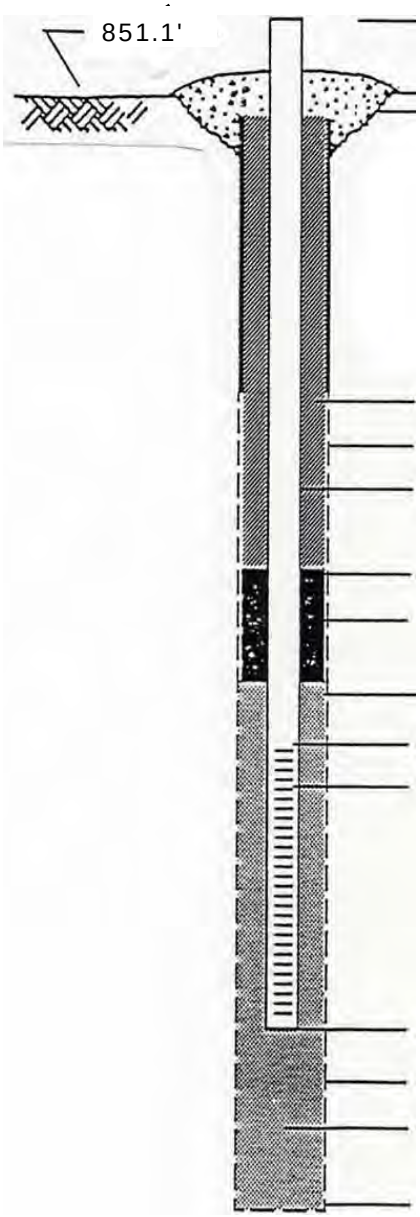
DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME 550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: PROPOSED VA CEMETERY	
PROJECT NUMBER: BE-12-181A	DRILLING METHOD: ASTM D-1586
WELL NUMBER: B-28	GEOLOGIST: ------
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 7/30/2013

GROUND ELEVATION



ELEVATION/TOP OF RISER PIPE:	853.4'
STICK- UP/ TOP OF RISER PIPE:	2.3'
TYPE OF SURFACE SEAL:	NONE
TYPE OF BACKFILL:	AUGER CUTTINGS
BOREHOLE DIAMETER:	± 8" (0'-5.5'), ± 3.7" (5.5' - 9.2')
I.D. OF RISER PIPE:	2.0"
TYPE OF RISER PIPE:	PVC
DEPTH OF SEAL:	2.5'
TYPE OF SEAL:	BENTONITE CHIPS
DEPTH OF SAND PACK:	4.5'
DEPTH OF TOP OF SCREEN:	5.5'
TYPE OF SCREEN:	PVC
SLOT SIZE X LENGTH:	.010 X 5.0'
I.D. OF SCREEN:	2.0"
TYPE OF SAND PACK:	MORIE "O" FILTER SAND
DEPTH BOTTOM OF SCREEN:	9.2'
DEPTH BOTTOM OF SAND PACK:	9.2'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	MORIE "O" FILTER SAND
ELEVATION/ DEPTH OF HOLE:	9.2'

Note:
Bottom of well measured in the field at approximately 9.2 feet below existing ground after installation.

DATE START 7/30/2013 FINISH 7/30/2013 SHEET 1 OF 1	**SJB SERVICES, INC.** **SUBSURFACE LOG**	HOLE NO. B-29 SURF. ELEV 851.1' G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE LOCATION: INDIAN FALLS ROAD
PROJ. NO.: BE-12-181A PEMBROKE, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	3	5			Red-Brown f-c SAND, some-and Silt, tr.gravel (moist,	
		4	3		9	loose, SM)	
	2	8	12			Brown-Gray f-c SAND, some Silt, little f-c Gravel	
		20	50/0.3		32	(moist, compact, SM)	
5	3	48	26				REF - Sample Spoon
		38	28		64		Refusal
	4	38	50/0.1		REF	(v.compact)	
						Boring Complete with Sample Spoon at 6.6' and Auger Refusal at 7.3'	No free standing water encountered at boring completion.
10							
15							
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME 550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE			
START	7/30/2013		
FINISH	7/30/2013		
SHEET	1	OF	1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-30
SURF. ELEV 843.3'
G.W. DEPTH See Notes

PROJECT: PROPOSED VA CEMETERY SITE
LOCATION: INDIAN FALLS ROAD
PEMBROKE, NEW YORK
PROJ. NO.: BE-12-181A

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	W0H/1.0				TOPSOIL	Driller notes approx. 6" Topsoil
		2	2		2	Olive-Brown Silty CLAY, tr.sand (moist, v.soft, CL)	
	2	2	2			Red-Brown Clayey SILT, little f-c Sand, tr.gravel	
		4	4		6	(moist, medium, ML)	W0H= Weight of Hammer and Rods
5	3	8	10			Gray f-c SAND, some Silt, tr.gravel (moist, firm, SM)	
		12	15		22		
	4	12	15				REF - Sample Spoon Refusal
		17	26		32	(moist-wet)	
	5	12	29	50/0.2	REF	(v.compact)	
10							
						Boring Complete with Sample Spoon Refusal at 8.2' and Auger Refusal at 9.5'	Free standing water recorded at 7.5' at boring completion.
15							2" PVC groundwater observation well installed at boring completion. Refer to installation log for details.
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK

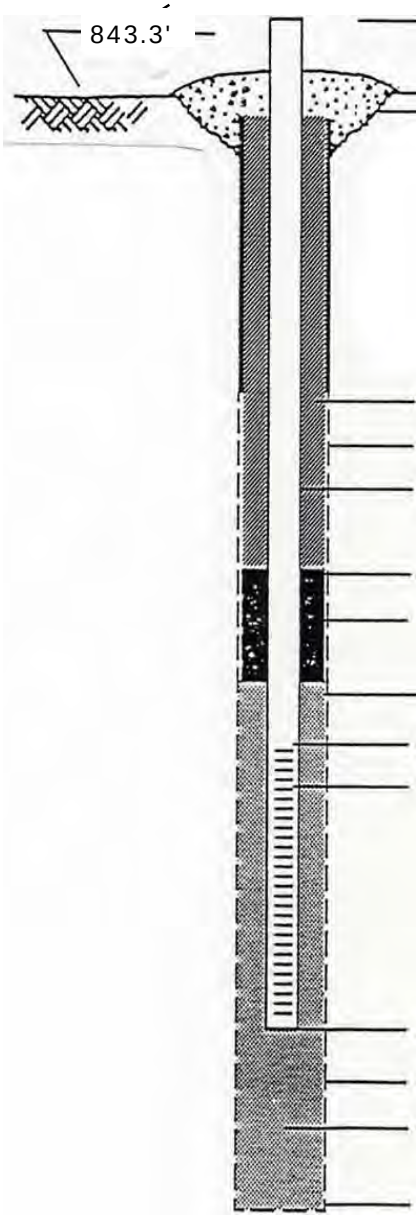
DRILL RIG TYPE : CME 550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: PROPOSED VA CEMETERY	
PROJECT NUMBER: BE-12-181A	DRILLING METHOD: ASTM D-1586
WELL NUMBER: B-30	GEOLOGIST: ------
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 7/30/2013

GROUND ELEVATION



ELEVATION/TOP OF RISER PIPE:	845.9'
STICK- UP/ TOP OF RISER PIPE:	2.6'
TYPE OF SURFACE SEAL:	NONE
TYPE OF BACKFILL:	AUGER CUTTINGS
BOREHOLE DIAMETER:	+/- 8"
I.D. OF RISER PIPE:	2.0"
TYPE OF RISER PIPE:	PVC
DEPTH OF SEAL:	1.2'
TYPE OF SEAL:	BENTONITE CHIPS
DEPTH OF SAND PACK:	3.2'
DEPTH OF TOP OF SCREEN:	4.2'
TYPE OF SCREEN:	PVC
SLOT SIZE X LENGTH:	.010 X 5.0'
I.D. OF SCREEN:	2.0"
TYPE OF SAND PACK:	MORIE "O" FILTER SAND
DEPTH BOTTOM OF SCREEN:	9.2'
DEPTH BOTTOM OF SAND PACK:	9.2'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	N/A
ELEVATION/ DEPTH OF HOLE:	9.2'

Note:
Bottom of well measured in the field at approximately 9.2 feet below existing ground after installation.

APPENDIX B

Subsurface Data from Current Investigation

Kenney Geotechnical Services
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

KEY TO SYMBOLS

CLIENT DEPARTMENT OF VETERANS AFFAIRS

PROJECT NAME WNY NATIONAL CEMETERY

PROJECT NUMBER 2015-023

PROJECT LOCATION PEMBROKE, NEW YORK

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

- CL: USCS Low Plasticity Clay
- CL-ML: USCS Low Plasticity Silty Clay
- CLS: USCS Low Plasticity Sandy Clay
- GWS: USCS Well-graded Sandy Gravel
- LIMESTONE: Limestone
- ML: USCS Silt
- MLS: USCS Sandy Silt
- SM: USCS Silty Sand
- SP-SM: USCS Poorly-graded Sand with Silt
- SW-SC: USCS Well-graded Sand with Clay
- SW-SM: USCS Well-graded Sand with Silt
- TOPSOIL: Topsoil

SAMPLER SYMBOLS

- Standard Penetration Test

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION

- Water Level at Time Drilling, or as Shown
- Water Level at End of Drilling, or as Shown
- Water Level After 24 Hours, or as Shown

KEY TO SYMBOLS - GINT STD US LAB.GDT - 5/12/15 09:32 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Project: WNY NATIONAL CEMETERY
Project Location: PEMBROKE, NEW YORK
Project Number: 2015-023

Key to Soil Symbols and Terms

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 4
Loose	15 to 35 %	4 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Descriptive Terms	Unconfined Compressive Strength kPa	SPT Blow Count
Very soft	< 25	< 2
Soft	25 to 50	2 to 4
Medium stiff	50 to 100	4 to 8
Stiff	100 to 200	8 to 15
Very stiff	200 to 400	15 to 30
Hard	> 400	> 30

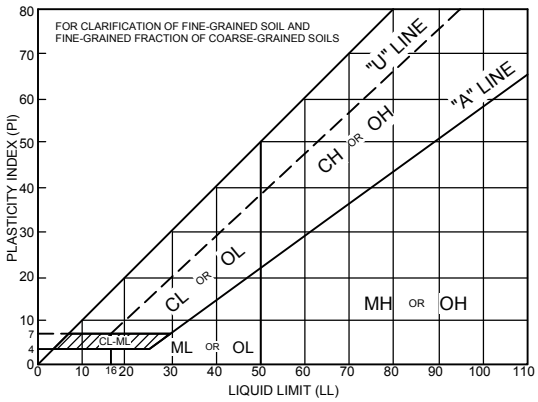
GENERAL NOTES

1. Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.

2. Surface elevations are based on topographic maps and estimated locations.

3. Descriptions on these boring logs apply only at the specific boring locations and at the time the borings were made. They are not guaranteed to be representative of subsurface conditions at other locations or times.

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria		
Coarse-Grained soils (More than half the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravel (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain size curve, Depending on percentage of fines (fraction smaller than No. 200 sieve) coarse-grained soils are classified as follows: Less than 5 percent..... GW, GP, SW, SP; More than 12 percent..... GM, GC, SM, SC; 6 to 12 percent..... Borderline case4s requiring dual symbols**	$C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW	
		Gravel with fines (Appreciable amount of fines)	GM* d / u	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-silt mixtures		Atterberg limits above "A" line or P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP	Poorly-graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM* d / u	Silty sands, sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits above "A" line or P.I. greater than 7	
Fine-Grained soils (More than half the material is smaller than No. 200 sieve size)	Silts and Clays (Liquid limit less than 60)		ML	Inorganic silts and very fine sands, rock floor, silty or clayey fine sands or clayey silts with slight plasticity			
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	Silts and Clays (Liquid limit greater than 60)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, organic silts			
			CH	Inorganic clays of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity, organic silts			
	Highly Organic Soils		Pt	Peat and other highly organic soils			



Plasticity Chart

Particle Size		
Sieve sizes	< #200	#200 to #40
		#40 to #10
		#10 to #4
mm	< 0.074	0.074 to 0.42
		0.42 to 2.00
		2.00 to 4.76

Material	
Silt or clay	
Sand	
Fine	
Medium	
Coarse	

Particle Size		
Sieve	#4 to 3/4 in.	3/4 in. to 3 in.
	3 in. to 12 in.	12 in. to 36 in.
mm	4.76 to 19.1	19.1 to 76.2
	76.2 to 304.8	304.8 to 914.4

Material	
Gravel	
Fine	
Coarse	
Cobble	
Boulders	

* Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg Limits: suffix d used when L.L. is 23 or less and the P.I. is 6 or less; the suffix is used when L.L. is greater than 26.

** Borderline classifications used for soils possessing characteristics of two groups are designated by combinations of groups symbols. For example; GW-GC, well-graded gravel-sand mixture with clay binder.

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TB-1 Sheet 1 of 1

SURFACE ELEVATION: 843.5

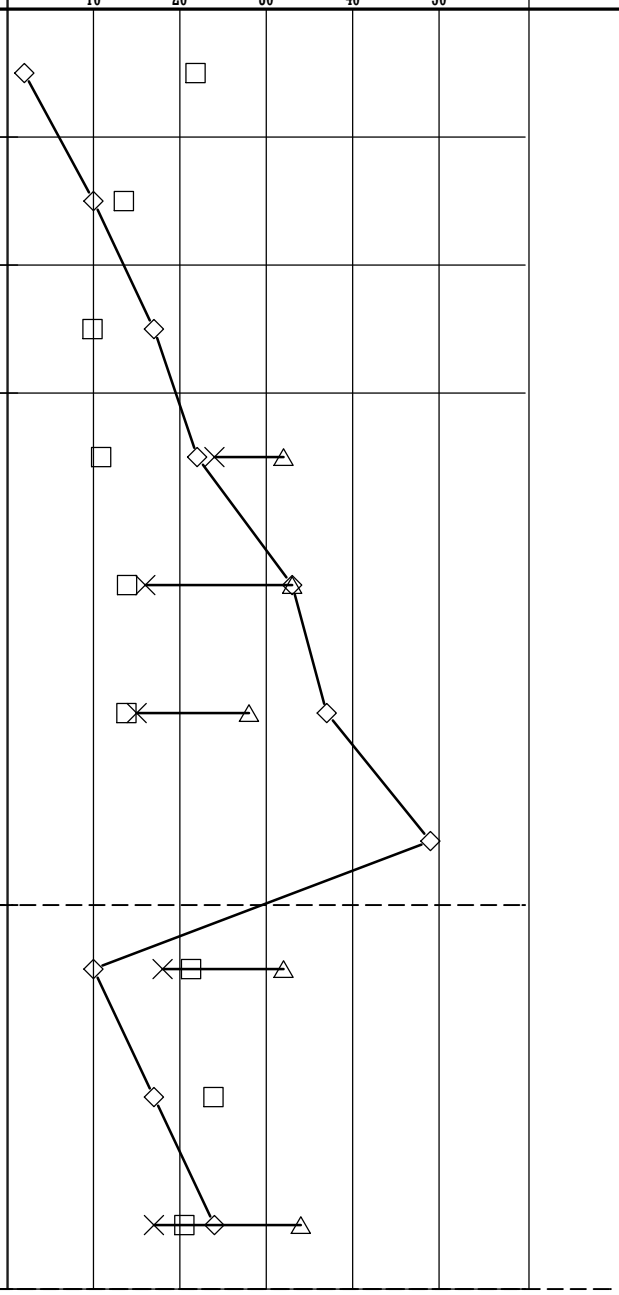
LATITUDE (degrees): 43.012095 | LONGITUDE (degrees): -78.399688

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
	1	LIGHT BROWN VERY SOFT SANDY SILT, MOIST, ORGANICS	
2.5	2	LIGHT BROWN LOOSE POORLY GRADED FINE SAND WITH SILT, MOIST	
5.0	3	RED BROWN STIFF SANDY LEAN CLAY WITH GRAVEL, MOIST	
7.5	4	DARK BROWN VERY STIFF TO HARD LEAN CLAY, MOIST	
WD	5		
10.0	6		
12.5	7		
15.0	8	GREY STIFF TO MEDIUM STIFF LEAN CLAY WITH INTERBEDDED FINE SAND, MOIST	
17.5	9		
	10		
20.0		End of Boring @ 20 feet	



⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/20/15	08:00	WD	10		8.5

BORING STARTED	4/20/15
BORING COMPLETED	4/20/15
DRILLER: KGES	RIG: 7822-DT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TB-2 Sheet 1 of 1

SURFACE ELEVATION: 844.5

LATITUDE (degrees): 43.010385 | LONGITUDE (degrees): -78.400505

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)
	1	BROWN VERY LOOSE WELL GRADED SAND WITH SILT AND GRAVEL, MOIST, ORGANICS
2.5	2	BROWN STIFF SILTY LEAN CLAY, MOIST, ORGANICS
5.0	3	GREY MEDIUM DENSE POORLY GRADED FINE SAND WITH SILT, MOIST
7.5	4	
	5	BROWN VERY STIFF SILTY LEAN CLAY, MOIST
10.0	6	BROWN VERY STIFF TO HARD SANDY LEAN CLAY WITH GRAVEL, MOIST
WD 12.5	7	
15.0	8	
17.5	9	
20.0	10	

End of Boring @ 20 feet

⊗ Calibrated Penetrometer Unconfined Compression

REMARKS

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/20/15	12:00	WD	20		12

BORING STARTED	4/20/15
BORING COMPLETED	4/20/15
DRILLER: KGES	RIG: 7822-DT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TP-1 Sheet 1 of 1

SURFACE ELEVATION: 855.5

LATITUDE (degrees): | LONGITUDE (degrees):

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
					DARK BROWN SANDY SILT, MOIST, ORGANICS	
2.5					BROWN SANDY GRAVEL WITH SILT AND COBLES, MOIST	
5.0					BROWN WELL GRADED SAND WITH SILT AND GRAVEL, MOIST TO WET	
7.5					LIMESTONE BEDROCK. UNRIPPABLE	
					End of Boring @ 8 feet	
10.0						
12.5						
15.0						
17.5						
20.0						

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/23/15	09:30				6.6

BORING STARTED: 4/23/15	
BORING COMPLETED: 4/23/15	
DRILLER: KGES	RIG: E42 BOBCAT
DRAWN BY: N. MOREHOUSE	APPROVED:

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TP-2 Sheet 1 of 1

SURFACE ELEVATION: 844.4

LATITUDE (degrees):

LONGITUDE (degrees):

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
					DARK BROWN SILTY SAND, MOIST, ORGANICS	
2.5					BROWN WELL GRADED SANDY GRAVEL WITH SILT AND COBBLES, MOIST	
5.0						
					LIMESTONE BEDROCK. UNRIPPABLE	
					End of Boring @ 6 feet	
7.5						
10.0						
12.5						
15.0						
17.5						
20.0						

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/23/15	10:30				5

BORING STARTED	4/23/15
BORING COMPLETED	4/23/15
DRILLER: KGES	RIG: E42 BOBCAT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TP-3 **Sheet 1 of 1**

SURFACE ELEVATION: 851.5

LATITUDE (degrees):

LONGITUDE (degrees):

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
					DARK BROWN SILTY SAND WITH GRAVEL, MOIST, ORGANICS	
2.5					BROWN SANDY GRAVEL WITH SILT AND COBBLES, MOIST	
5.0					LIMESTONE BEDROCK. UNRIPPABLE	
					End of Boring @ 5 feet	
7.5						
10.0						
12.5						
15.0						
17.5						
20.0						

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/23/15	11:30				DRY

BORING STARTED	4/23/15
BORING COMPLETED	4/23/15
DRILLER: KGES	RIG: E42 BOBCAT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TP-4 Sheet 1 of 1

SURFACE ELEVATION: 853.0

LATITUDE (degrees):

LONGITUDE (degrees):

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
					BROWN SILTY SAND WITH CLAY AND GRAVEL, MOIST, ORGANCIS	
2.5					BROWN WELL GRADED SAND WITH SILT AND GRAVEL, COBBLES, MOIST	
5.0					LIMESTONE BEDROCK. UNRIPPABLE	
					End of Boring @ 5 feet	
7.5						
10.0						
12.5						
15.0						
17.5						
20.0						

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/23/15	00:40				DRY

BORING STARTED	4/23/15
BORING COMPLETED	4/23/15
DRILLER: KGES	RIG: E42 BOBCAT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: TP-5 **Sheet 1 of 1**

SURFACE ELEVATION: 853.0

LATITUDE (degrees):

LONGITUDE (degrees):

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
					DARK BROWN SILTY SAND WITH GRAVEL, MOIST, ORGANICS. BOULDER ENCOUNTERED AT 1 FOOT, TEST PIT OFFEST APROX. 20' NORTH.	
					BROWN WELL GRADED SAND WITH SILT AND GRAVEL.	
2.5						
					LIMESTONE BEDROCK. UNRIPPABLE	
5.0						
					End of Boring @ 4.25 feet	
7.5						
10.0						
12.5						
15.0						
17.5						
20.0						

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER

BORING STARTED: 4/23/15	
BORING COMPLETED: 4/23/15	
DRILLER: KGES	RIG: E42 BOBCAT
DRAWN BY: N. MOREHOUSE	APPROVED:

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-1 Sheet 1 of 1

SURFACE ELEVATION: 855.5

LATITUDE (degrees): 43.019370 | LONGITUDE (degrees): -78.398509

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
1.0	1				DARK BROWN SOFT CLAYEY SILT WITH SAND, MOIST, ORGANICS	2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 848 TO EL. 853. RISER EXTENDS 3.1 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.
2.0					BROWN LOOSE SANDY GRAVEL WITH SILT AND CLAY, MOIST	
3.0	2					
4.0					LIGHT BROWN DENSE WELL GRADED SAND WITH SILT AND GRAVEL, MOIST	
5.0	3					
6.0						
WD	4					
7.0						
8.0					LIMESTONE BEDROCK	

End of Boring @ 7.5 feet

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/21/15	09:30	WD	7.5		6.5

BORING STARTED	4/21/15
BORING COMPLETED	4/21/15
DRILLER: KGES	RIG: D-25
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-2 Sheet 1 of 1

SURFACE ELEVATION: 853.0

LATITUDE (degrees): 43.017559 | LONGITUDE (degrees): -78.398759

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
1.0	1				BROWN MEDIUM STIFF SILTY LEAN CLAY WITH SAND AND GRAVEL	2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 848 TO EL. 850.5. RISER EXTENDS 2 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.
2.0					BROWN VERY DENSE WELL GRADED SAND WITH CLAY AND GRAVEL	
3.0	2					100
4.0	3					100
5.0					LIMESTONE BEDROCK	
6.0						

End of Boring @ 5 feet

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/16/15	11:30	WD	5		DRY

BORING STARTED	4/16/15
BORING COMPLETED	4/16/15
DRILLER: KGES	RIG: D-25
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-2D Sheet 1 of 1

SURFACE ELEVATION: 853.0

LATITUDE (degrees): 43.017559 | LONGITUDE (degrees): -78.398759

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	N VALUE	REMARKS
	1				BROWN MEDIUM STIFF SILTY LEAN CLAY WITH SAND AND GRAVEL		2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 836.5 TO EL. 841.5. RISER EXTENDS 2.0 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.
2.5	2				BROWN VERY DENSE WELL GRADED SAND WITH CLAY AND GRAVEL	100	
	3					100	
5.0					LIMESTONE BEDROCK, AIR HAMMERED TO 16.5'.		
7.5							
10.0							
12.5							
15.0							
					End of Boring @ 16.5 feet		
17.5							

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/16/15	08:30	WD	5		DRY

BORING STARTED	4/16/15
BORING COMPLETED	4/16/15
DRILLER: KGES	RIG: D-25
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-3D Sheet 1 of 1

SURFACE ELEVATION: 851.5

LATITUDE (degrees): 43.016239 | LONGITUDE (degrees): -78.398974

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
	1				BROWN LOOSE SILTY FINE SAND WITH GRAVEL, MOIST	2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 838 TO EL. 843. RISER EXTENDS 2.4 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.
2.5	2				BROWN MEDIUM DENSE SANDY GRAVEL WITH SILT AND CLAY, MOIST	
5.0					LIMESTONE BEDOROCK, ROCK CORED FROM 3.5 TO 8.5 FEET (72% RECOVERY, 34.2% RQD). ROCK CORED FROM 8.5 TO 10 FEET (66.6% RECOVERY, 30.5% RQD). AIR HAMMERED TO 13.5 FEET AND SET WELL.	
7.5						
10.0						
12.5						
15.0					End of Boring @ 13.5 feet	

⊗ Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/17/15	01:30	WD	5		DRY

BORING STARTED	4/17/15
BORING COMPLETED	4/20/15
DRILLER: KGES	RIG: D-25
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-4 Sheet 1 of 1

SURFACE ELEVATION: 844.4

LATITUDE (degrees): 43.014970 | LONGITUDE (degrees): -78.399295

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	SAMPLER TYPE	RECOVERY	GRAPHIC LOG	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)	REMARKS
	1				DARK BROWN STIFF CLAYEY SILT WITH FINE SAND, MOIST, ORGANICS	2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 837.9 TO EL. 842.9. RISER EXTENDS 3.2 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.
2.5	2				BROWN VERY DENSE WELL GRADED GRAVEL WITH SAND AND SILT, MOIST	100
WD						
5.0	3					100
7.5					LIMESTONE BEDOROCK, ROCK CORED FROM DEPTH OF 6.5' TO 11.5' (76% RECOVERY, 28.75% RQD).	
10.0						
					End of Boring @ 11.5 feet	
12.5						

Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/9/15	14:30	WD	6.5		4

BORING STARTED	4/9/15
BORING COMPLETED	4/9/15
DRILLER: KGES	RIG: 7822-DT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services

Job No. 2015-023

CLIENT: DEPARTMENT OF VETERANS AFFAIRS	PROJECT: WNY NATIONAL CEMETERY
ENGINEER: FISHER ASSOC.	LOCATION: PEMBROKE, NEW YORK

BORING NUMBER: W-5 Sheet 1 of 1

SURFACE ELEVATION: 843.5

LATITUDE (degrees): 43.013649 | LONGITUDE (degrees): -78.399580

Unconfined Compressive Strength, tons/ft.^{2}: 1 2 3 4 5

PL MC LL

N VALUE, blows/ft.: 10 20 30 40 50

DEPTH	SAMPLE NO.	DESCRIPTION OF MATERIALS (LABORATORY CLASSIFICATION)
		LIGHT BROWN VERY SOFT SILT WITH FINE SAND, MOIST
1.0	1	
2.0		BROWN STIFF SANDY LEAN CLAY WITH SILT AND GRAVEL, MOIST
3.0	2	
4.0		GREY-BROWN VERY STIFF SANDY LEAN CLAY WITH GRAVEL, MIOST
5.0	3	
6.0		GREY HARD LEAN CLAY, MOIST
7.0	4	
8.0		GREY VERY DENSE SANDY GRAVEL WITH SILT, WET
WD	5	
9.0		
		LIMESTONE BEDROCK.
10.0		

REMARKS: 2" PIEZOMETER INSTALLED IN COMPLETED BOREHOLE. 0.10 WELL SCREEN INSTALLED FROM EL. 834.1 TO EL. 839.1. RISER EXTENDS 1.5 FT. ABOVE GRADE. ANNULUS BACKFILLED WITH 0 SAND AROUND SCREEN. RISER ANNULUS BACKFILLED WITH BENTONITE.

100

End of Boring @ 9.4 feet

Calibrated Penetrometer Unconfined Compression

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED	CASING	CAVE-IN	WATER
4/20/15	12:00	WD	9.4		8.5

BORING STARTED	4/20/15
BORING COMPLETED	4/20/15
DRILLER: KGES	RIG: 7822-DT
DRAWN BY: N. MOREHOUSE	APPROVED

LOG A GNGN03 - LOG A GNGN03.GDT - 6/1/15 15:00 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

APPENDIX C

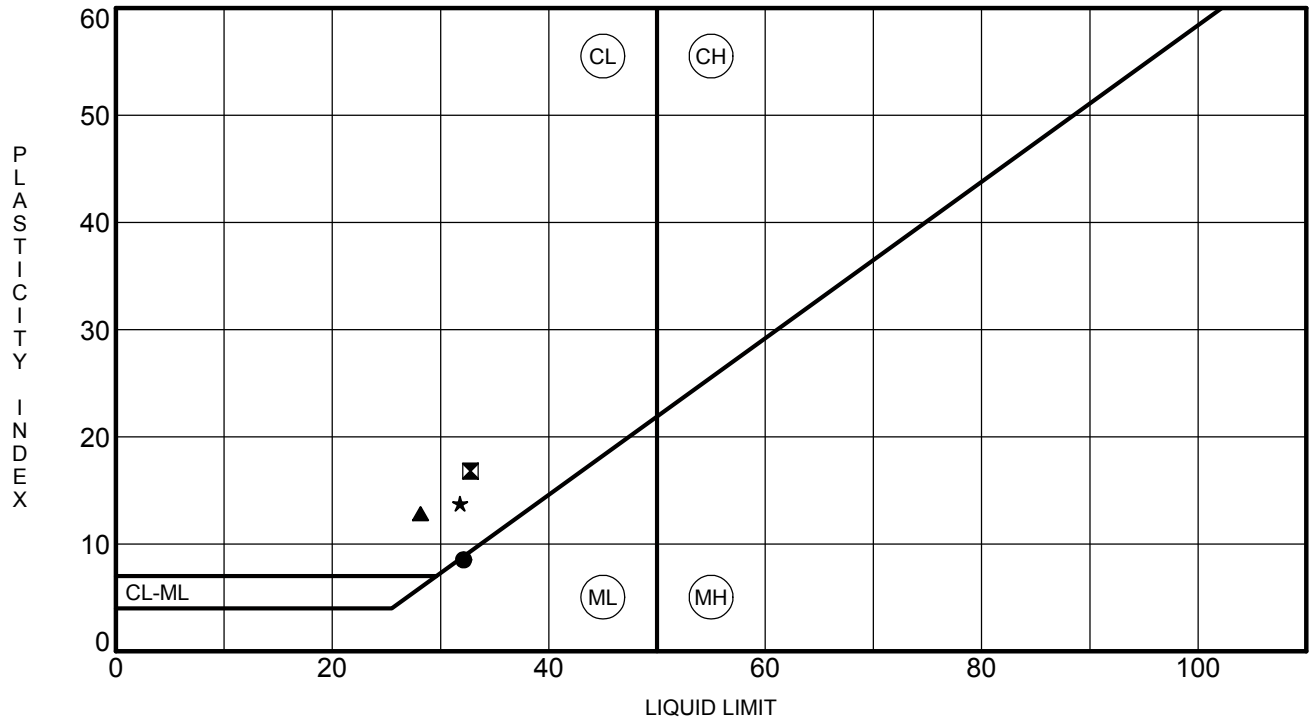
Laboratory Test Results

Kenney Geotechnical Services
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

ATTERBERG LIMITS' RESULTS

CLIENT DEPARTMENT OF VETERANS AFFAIRS **PROJECT NAME** WNY NATIONAL CEMETERY

PROJECT NUMBER 2015-023 **PROJECT LOCATION** PEMBROKE, NEW YORK



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**TB-1**	**7.0**	**32**	**24**	**8**		
⧗	**TB-1**	**9.0**	**33**	**16**	**17**		
▲	**TB-1**	**11.0**	**28**	**15**	**13**		
★	**TB-1**	**15.0**	**32**	**18**	**14**		

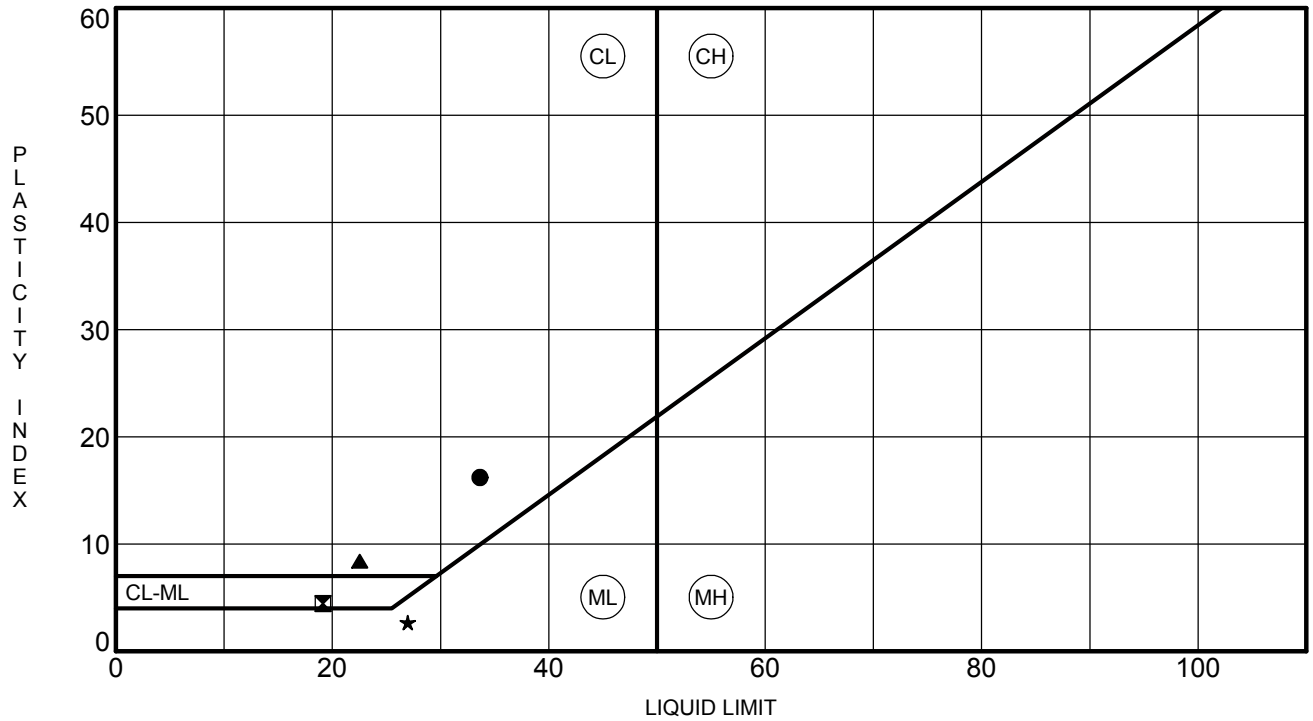
ATTERBERG LIMITS - GINT STD US LAB.GDT - 6/1/15 15:59 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

ATTERBERG LIMITS' RESULTS

CLIENT DEPARTMENT OF VETERANS AFFAIRS **PROJECT NAME** WNY NATIONAL CEMETERY

PROJECT NUMBER 2015-023 **PROJECT LOCATION** PEMBROKE, NEW YORK



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**TB-1**	**19.0**	**34**	**17**	**17**		
⊠	**TB-2**	**9.0**	**19**	**15**	**4**		
▲	**TB-2**	**13.0**	**23**	**14**	**9**		
★	**W-5**	**1.0**	**27**	**24**	**3**		

ATTERBERG LIMITS - GINT STD US LAB.GDT - 6/1/15 15:59 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

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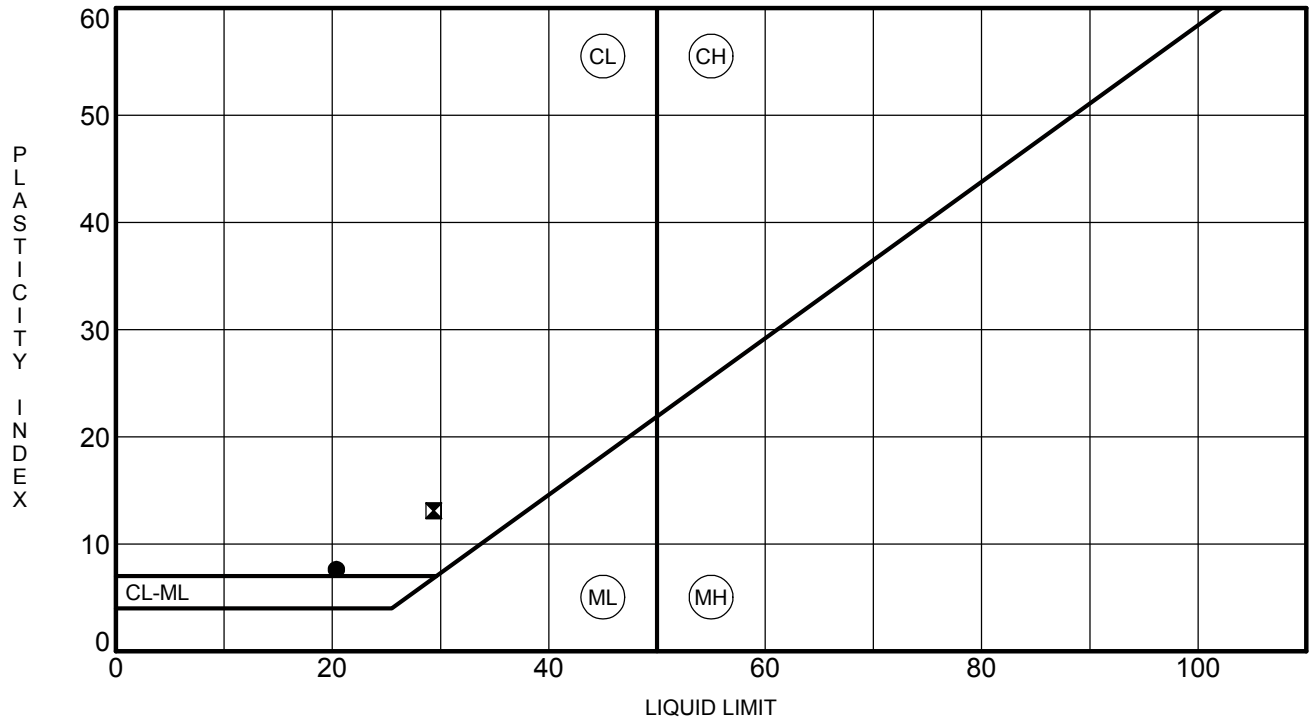
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

ATTERBERG LIMITS' RESULTS

CLIENT DEPARTMENT OF VETERANS AFFAIRS **PROJECT NAME** WNY NATIONAL CEMETERY

PROJECT NUMBER 2015-023 **PROJECT LOCATION** PEMBROKE, NEW YORK



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**W-5**	**3.0**	**20**	**13**	**7**	**53**	**SANDY SILTY CLAY with GRAVEL(CL-ML)**
⧗	**W-5**	**7.0**	**29**	**16**	**13**		

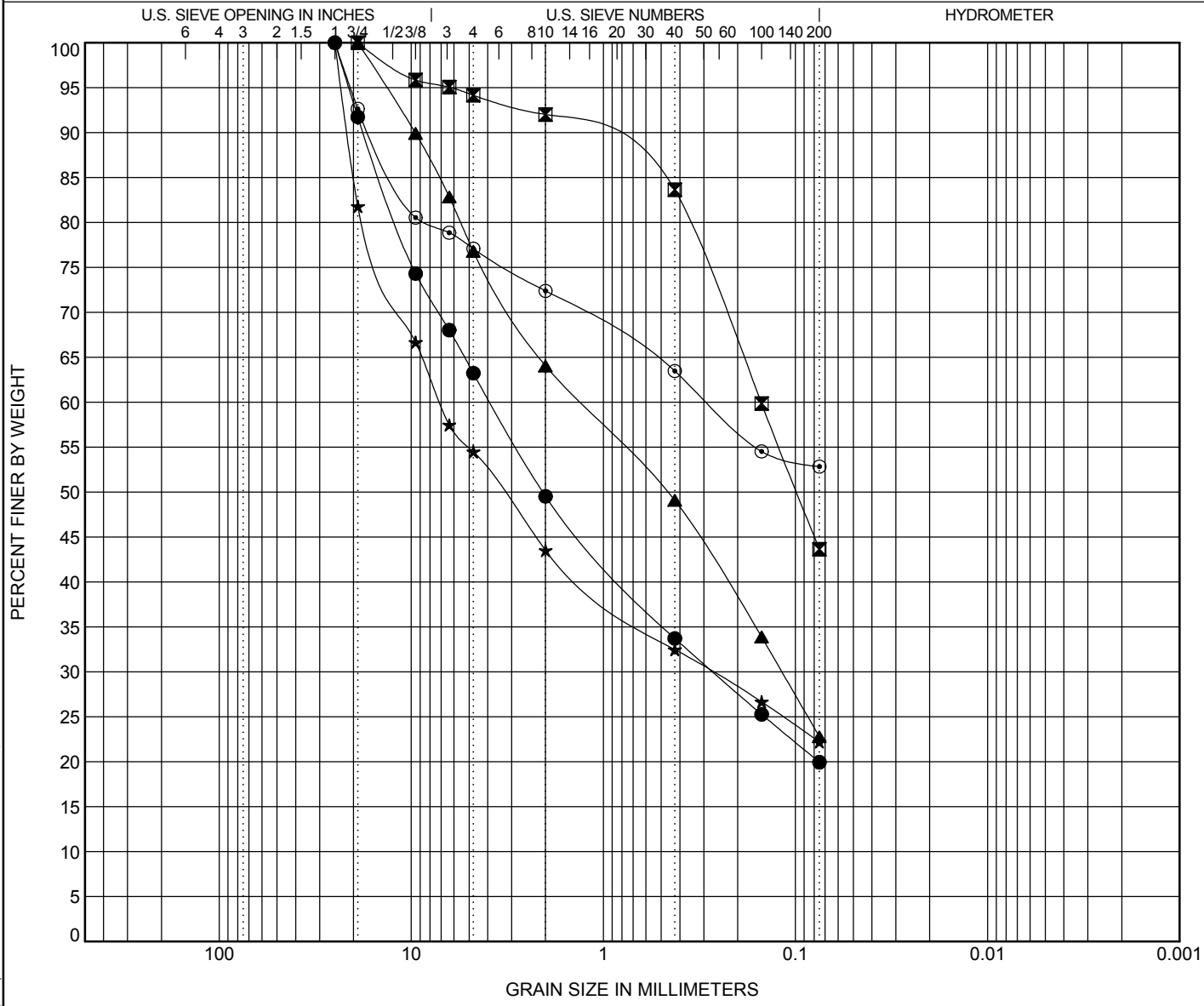
ATTERBERG LIMITS - GINT STD US LAB.GDT - 6/1/15 15:59 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

GRAIN SIZE DISTRIBUTION

CLIENT DEPARTMENT OF VETERANS AFFAIRS **PROJECT NAME** WNY VA CEMETERY

PROJECT NUMBER 2015-023 **PROJECT LOCATION** PEMBROKE, NEW YORK



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	W-1	6.5	SILTY SAND WITH GRAVEL (SM)					
⊠	W-2	1.0	CLAYEY SAND (SC)					
▲	W-2	3.0	SILTY SAND WITH GRAVEL (SM)					
★	W-4	5.0	SILTY GRAVEL WITH SAND (GM)					
⊙	W-5	3.0	**SANDY SILTY CLAY with GRAVEL(CL-ML)**	**20**	**13**	**7**		

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-1	6.5	25	3.874	0.269		36.8	43.3	19.9	
⊠	W-2	1.0	19	0.151			5.8	50.5	43.6	
▲	W-2	3.0	19	1.316	0.118		23.2	54.0	22.8	
★	W-4	5.0	25	7.095	0.273		45.5	32.3	22.2	
⊙	W-5	3.0	25	0.284			22.9	24.2	52.8	

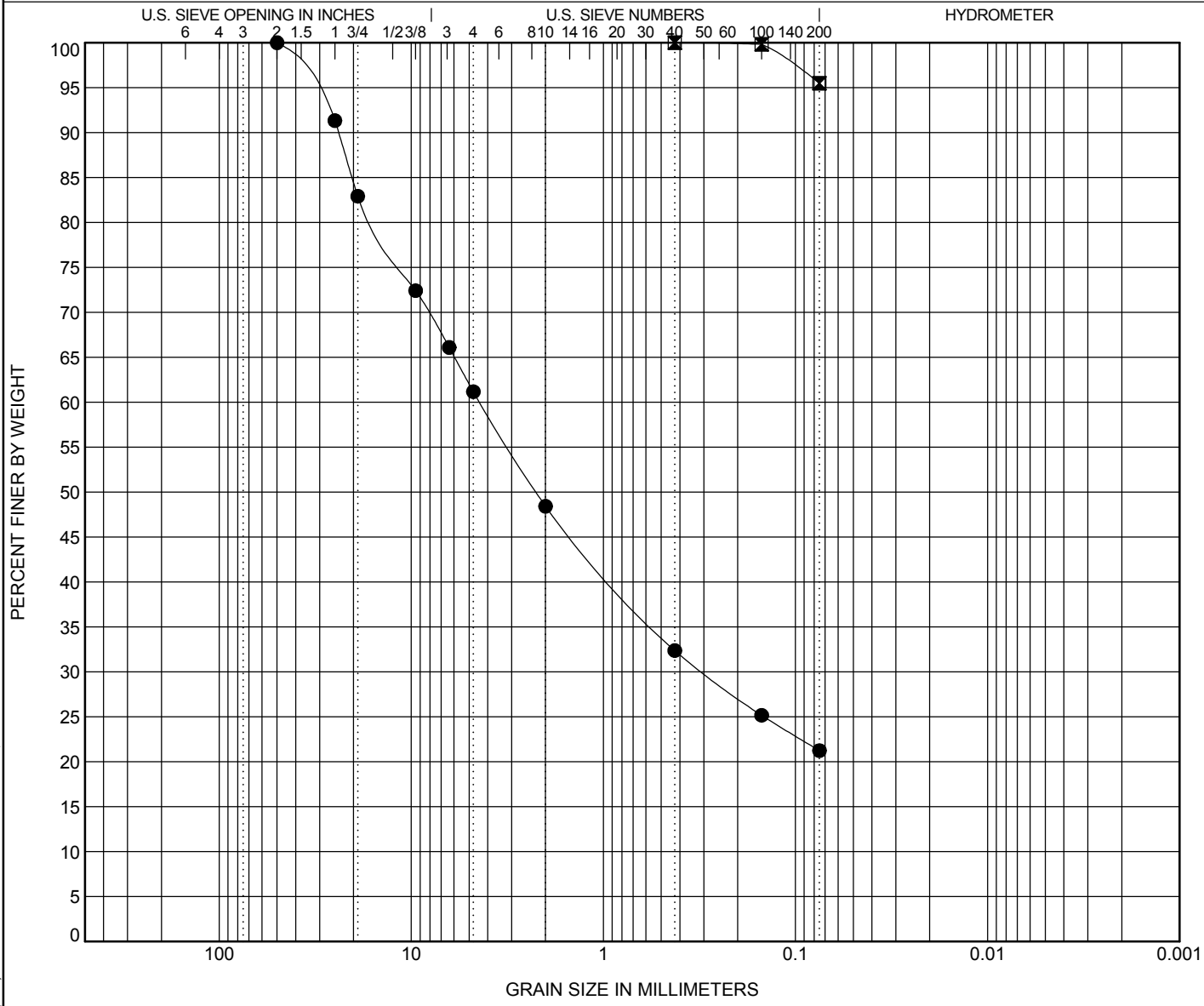
GRAIN SIZE - GINT STD US LAB.GDT - 5/7/15 14:21 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Kenney Geotechnical Services
7246 State Fair Blvd
Baldwinsville, N.Y. 13209
Telephone: 315-638-2706
Fax: 315-638-1544

GRAIN SIZE DISTRIBUTION

CLIENT DEPARTMENT OF VETERANS AFFAIRS **PROJECT NAME** WNY VA CEMETERY

PROJECT NUMBER 2015-023 **PROJECT LOCATION** PEMBROKE, NEW YORK



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● W-5	8.5	SILTY SAND WITH GRAVEL (SM)					
⊠ W-7	5.0	LEAN CLAY (CL)					

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● W-5	8.5	50	4.388	0.302		38.8	39.9	21.2	
⊠ W-7	5.0	0.425				0.0	4.5	95.5	

GRAIN SIZE - GINT STD US LAB.GDT - 5/7/15 14:21 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\WNY CEMETARY, PEMBROK NEW YORK.GPJ

Appendix A-2
Project Labor Agreement Study

Western New York National Cemetery
MP-1 Submission

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MP-1 Project Labor Agreement Study

WESTERN NEW YORK NATIONAL CEMETERY

May, 2015

The Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street NW, 6E505E
Washington, DC 20001

936PC2002

CANNONDESIGN

OBJECTIVE & SCOPE

This construction Project Labor Agreement (PLA) study was done to provide the Department of Veteran Affairs (VA) with a better understanding of regional construction conditions as related to the build of a major new national cemetery in Pembroke, Genesee County, New York. The following areas were examined:

- How a Project Labor Agreement will affect:
  - Wage rates
  - Bidding conditions
  - On-site construction conditions

PROJECT LABOR AGREEMENT EVALUATION

Because the Western New York National Cemetery estimated cost of construction exceeds $25 million, Executive Order B502 applies, allowing agencies to require Project Labor Agreements. The following decision matrix is intended to help the VA decide if a negotiated project labor agreement will aid in the construction labor logistics and possibly reduce construction costs.

Question	Low/Med/High	Comment-Conclusion
Is there a strong possibility of labor unrest/a strike that will cause a delay in the schedule?	Low	The local contractors we spoke with did not feel there was high probability of an organized construction workers strike of this project. When questioned, none of them could recall an organized worker strike, making the risk low but existent. Just last month the International Association of Machinists and Aerospace Workers returned to work after a four-month strike. The strike occurred at RHI Monofrax — a factory with strong federal ties for glass production used in nuclear waste cleanup. The strike took place in Falconer, NY, in neighboring Chautauqua County.
Does the majority of construction labor in the WNY region that would be working on the cemetery project belong to a union?	Med-Low	The WNY region is a northeast steel belt with a long tradition of organized labor. The mix of large, earth moving contractors with a bonding capacity substantial enough to do the project is 30% union and 70% non-union.
Do recent regional project labor agreement studies support the negotiation of a PLA?	Med	There have been a number of PLA impact studies performed with varying conclusions: • ***11/2009 – "The True Cost of The Washington Nationals Ballpark Project Labor Agreement" study by DC Progress.*** The study concluded that the project was $53.5 million over budget and local, small and disadvantaged business enterprises lost $19.25 million in contracts. Favorable to PLA Studies: • ***5/2011 - "Project Labor Agreements in New York State II: In the Public Interest, and of Proven Value" study by Fred Kilter of Cornell University's Industrial and Labor Relations School.*** The study concluded that in New York City, PLAs did not significantly increase cost. Instead it argued that not signing a PLA on major public new construction and renovation work is "penny-wise" and "pound-foolish." It was noted that through PLAs, agencies can ensure adequate skilled labor, mix of participation and supervision, preventing "cost over runs and a high number of change orders that would quickly erase presumed savings."
Will this project demand labor that exceeds the construction labor capacity of this market?	Low	Speaking with a number of local contractors confirmed that the region has a number of very qualified local contractors in all labor delivery models. The reason for the diversity and quality of construction workers is that WNY has a strong, union-based steel industry. As stated earlier in this report, while construction labor shortage does exist in the immediate market, we foresee the current boom only lasting through planned construction start of 9/16. We then expect construction work labor demands to level off.

CONCLUSION

If a Project Labor Agreement is provided for all trades we foresee a 10% premium over a Non-PLA due to a decrease in competition and selective less productive crews.

Appendix A-3
Permitting and Compliance Assessment

Western New York National Cemetery
MP-1 Submission

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Permitting and Compliance Assessment (DRAFT)

Western New York National Cemetery

1232 Indian Falls Road, Pembroke, Genesee County, New York

Department of Veterans Affairs Project No. 936PC2002

MP-1 Submission

Prepared For:
United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E, Washington, DC
20001

Prepared by:

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

June 11, 2015

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PERMITTING AND COMPLIANCE ASSESSMENT

The following is a description of the regulatory controls that are, or could be, applicable to the New Western New York National Cemetery. Pertinent regulatory controls exist at the Federal, State, and possibly County levels. At this time, no pertinent regional or local level approvals have been identified. Identification of applicable regulatory controls will become more definitive as the design process proceeds and specific jurisdictional activities are identified and quantified.

1. Federal

VA Directive 0057: *Environmental Management Program* establishes VA environmental policies. Its purpose is to set forth a comprehensive Department-wide environmental management policy to comply with Federal mandates and achieve internal goals. It is intended to provide direction to Administrations and staff offices developing and administering their specific environmental programs. The directive establishes policy in the areas of environmental compliance, green purchasing, chemicals management and pollution prevention, electronics stewardship, waste prevention and recycling and environmental management systems. It also includes reporting requirements and roles and responsibilities.

Executive Order (EO) 13423: *Strengthening Federal Environmental, Energy and Transportation* instructs Federal agencies to conduct their environmental, transportation and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient and sustainable manner.

National Environmental Policy Act (NEPA): NEPA (42 USC 4321-4370f) requires all Federal agencies to consider impacts to the natural and human environment. NEPA serves as the decision-making approach to identify and assess potential environmental impacts early in the decision making process.

A Programmatic Environmental Assessment (PEA) was prepared for the site selection of the Western New York National Cemetery (Final PEA; May 9, 2014). The PEA assessed three (3) sites in the Buffalo-Rochester area as well as a no-action alternative. A Finding of No Significant Impact (FONSI, undated) was issued for all three sites assessed in the PEA. The PEA stated that the VA will complete a subsequent, site specific, tiered SEA that analyzes the potential environmental effects of the construction and operation of the proposed National Cemetery at one of the Action Alternative Sites, which now has been identified as the 1232 Indian Falls Road Site, Site 1 in the PEA, or “the project site”.

Findings in the PEA regarding the project site include the following. These issues will be further evaluated in the SEA, the preparation of which is just beginning at this time.

- Potential impacts to cultural resources were identified. Subsequent to the PEA a Phase III cultural resources investigation was completed. See the section entitled “Section 106 of the National Historic Preservation Act” that follows.
- Potential impacts to Federally and State-regulated wetlands were identified. See the sections entitled Section “404 of the Clean Water Act” and “NYS Freshwater Wetlands Act” that follow.

- Potential less-than-significant adverse impacts were identified for the following resources; aesthetics, air quality, geology and soils, hydrology and water quality, wildlife and habitat, noise, land use, solid and hazardous materials, transportation and utilities.

Preparation of the SEA will include further consultation with appropriate Federal, State and local regulatory agencies as well as with federally recognized Native American Tribes identified as having ancestral ties to the western New York area.

Additionally, a Public Draft SEA will be made available for public review and comment. A Notice of Availability (NOA) will be published in a newspaper having circulation in the area of the project site. The NOA will provide locations, both physically and electronically, where the Public Draft PEA can be found and reviewed. Public comments will be taken into account when preparing the Final PEA.

Preparation of the Final PEA will be followed by either a FONSI or the preparation of an Environmental Impact Statement.

Section 106 of the National Historic Preservation Act requires that Federal agencies take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment.

A 2012 Phase I Cultural Resources Investigation identified 593 prehistoric lithic artifacts at the project site, primarily in the northern portion of the site. Black soil anomalies and charcoal were also identified in the northern portion of the site indicating the potential for possible subsurface historic hearth features. It was determined that additional archeological investigation was necessary to determine the significance of the cultural resources at this site and whether it was potentially eligible for inclusion in the National Registry of Historic Places (NRHP).

Field work for the Phase II Archeological investigation at the site occurred from April through June 2013. Rough counts indicated that approximately 6,000 lithic artifacts were recovered during Phase 2 shovel testing in close-interval grids around Phase 1 Investigation find spots. These artifacts included several projectile points or point fragments. Based on the Phase II findings, the site was determined to be eligible for inclusion on the NRHP.

A Phase III field investigation was conducted in August and September 2013 and included plowing, disking and inspecting the approximately 40 acre northern field and mechanically stripping the topsoil from a one acre area for further investigation. In total approximately 16,000 lithic artifacts were recovered and several prehistoric burn/thermal features were identified and investigated. The Phase III investigation included laboratory processing and analysis of all artifacts recovered during Phase II and Phase III investigations. The New York State Historic Preservation Office (SHPO) and Seneca Indian Nation agreed that upon completion of the reporting of the Phase III investigation, the research potential of the site will have been achieved and that no further investigation activities would be necessary.

VA entered into a Memorandum of Agreement with SHPO and the Seneca Nation for the ownership and curation of uncovered artifacts. All artifacts will be provided to the Seneca Nation as requested.

VA anticipates that through compliance with the National Historic Preservation Act (NHPA), as well as with consultation with SHPO and the Seneca Nation, potentially adverse impacts would be mitigated.

The VA currently has the Phase III report. Either the VA or the consultant preparing the SEA will satisfy the requirements of Section 106 of the National Historic Preservation Act as part of the SEA process.

Section 404 of the Clean Water Act: Establishes a program to regulate the discharge of dredge or fill material into waters of the US, including wetlands. The basic premise of the program is that no discharge of dredged or fill material may be permitted if a practicable, less-impacting alternative exists or if the nation's waters would be significantly degraded.

Waters of the US, including wetlands were not delineated as part of the preparation of the PEA, although the PEA did identify approximate locations and areas of areas of potential wetlands based on desktop sources (NWI mapping and NYSDEC freshwater wetlands mapping) and a site walkover.

Waters of the US, including wetlands were delineated in late April 2015.

The site does not contain any surface waters (lakes, ponds, rivers or streams). There is a stream just off of the site to the south that flows east to west and parallel to I-90 (NYS Thruway). This stream was observed to be two to five feet wide and generally less than one foot deep in the spring of 2015. The stream flows through a vegetated channel and it is believed, but not confirmed at this time, that the stream is intermittent and does not flow during the drier summer months.

The central portion of the site contains a significant area of wetlands. The wetland complex, Wetland 2 on Figure 1, includes most of the wooded area that extends eastward from Alleghany Road into the site. This corresponds to the wetland area identified in the PEA. This wetland also includes a significant area of now-fallow, former agricultural field that currently supports wet meadow vegetation along with some shrub growth. This part of Wetland 2, which was not identified in the PEA, occupies a substantial area that was previously assumed to be developable uplands. Wetland 2 covers approximately 41.8 acres of the site.

Wetland 4 is adjacent to Wetland 2, separated by an existing work/farm road, and Wetland 4 covers approximately 3.1 acres. Wetland 2 and Wetland 4 drain towards the west via a culvert under Alleghany Road that connects to another large wetland complex on the west side of the road.

Wetland 1 (0.1 acre) and Wetland 3 (1.1 acres) are both located along the eastern site boundary and are parts of larger wetlands present on lands to the east. Wetland 1 is near the center of the site and Wetland 3 is in the southeast corner of the site (see Figure 1). Wetland 5 is located in the southwest corner of the site, covers approximately 2.01 acres, and drains to the west to the roadside ditch along Alleghany Road and eventually into the stream off the site to the south.

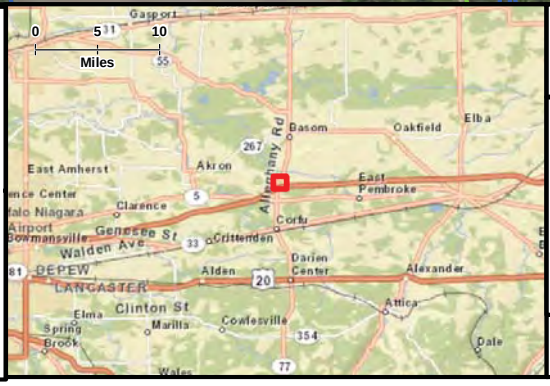
Inspections and confirmations of the delineated wetland boundaries by the US Army Corps of Engineers and the NYS Department of Environmental Conservation are pending at this time. Jurisdictional determinations providing confirmation of the extent of jurisdictional

Legend

- Delineated Ditch*
- Wetland Continuation Line
- Field Delineated Wetland*
- NYSDEC Wetlands
- NWI Wetlands
- Site Location

** Field Data Collection Information:*
- *Data Collected on 4/28/2015 & 4/29/2105*
- *Boundary coordinates were collected using a Trimble GeoXH with ESRI's ArcPad*
- *Data was Post-Processed using Trimble's GeoPathfinder Office*

FIGURE 1



WETLAND & STREAM DELINEATION
PROPOSED CEMETERY LOCATION
VETERANS ADMINISTRATION
PEMBROKE, NY

Notes:
Wetland 1 - 0.08 Acres
Wetland 2 - 41.76 Acres
Wetland 3 - 1.1 Acres
Wetland 4 - 3.1 Acres
Wetland 5 - 2.01 Acres
Ditch 1 - 284 Feet

Sources:
Aerial Photo: ESRI, DigitalGlobe

400 0 400 Feet

AECOM

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wetlands/waters of the US will be requested from these agencies following their on-site inspections.

Wetland mitigation bank availability was investigated at the request of the VA. It was found that Ducks Unlimited administers a New York In-Lieu Fee Program that covers 10 Service Areas including Service Area 6 (HUC 04120104) that includes the project site.

Participants pay into the Program to use an existing DU bank or have DU create off-site mitigation if a Bank has not yet been created in the Service Area. Fifteen (15) advance credits were available to start the Program in 2012, and, to date, only a few credits have been used according to Ducks Unlimited (Peter Wyckoff personal communication with LA Group May 6, 2015). The per credit (acre) cost is $83,000. Participation is a one-time fee payment – there are no buyer costs for design, construction, monitoring or maintenance.

The mitigation credit ratio for rehabilitation/restoration (and for enhancement) is 3:1-10:1 (3-10 acres of mitigation credits needed per acre of impact). The ratio for establishment (creation) is 1:1.

According to Ducks Unlimited, construction of the mitigation bank has not yet started in this Service Area, and construction may occur within the next year or two. It is believed that restoration, and not creation, will eventually occur in this Service Area.

Preliminarily, Ducks Unlimited thought the mitigation ratio for the project could be towards the low end of the 3:1 to 10:1 range for restoration, possible even as low as 2:1.

Participation in the Program does not absolve a participant from the hierarchy of (1) impact avoidance, (2) impact minimization and then (3) mitigation as per NYS Article 24, Section 404 of the Clean Water Act and Executive Order 11990.

<u>Endangered Species Act Section 7 Consultation:</u> The Endangered Species Act (ESA) directs all Federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the Act. Section 7 of the Act, called "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species.

Under Section 7, Federal agencies must consult with the US Fish and Wildlife Service (USFWS) when any action the agency carries out, funds, or authorizes (such as through a permit) *may* affect a listed endangered or threatened species. This process usually begins as informal consultation. Informal consultation occurred during the preparation of the PEA.

Three species were identified from a search of the USWS website. One threatened plant species (Houghton's goldenrod, *Solidago houghtonii*), one threatened reptile species (Bog Turtle, *Clemmys muhlenbergi*) and one candidate reptile species (Eastern Massauga Rattlesnake, *Sistrurus catenatus*) were identified in Genesee County.

The PEA discussed the likelihood of these species occurring on the site and concluded that the species are unlikely to occur. As part of the SEA, it should be confirmed that these species do not occur on the site. USFWS should then be notified that the species do not occur, and correspondence from USWS should be obtained documenting that Section 7 consultation requirements have been met.

Subsequent to the preparation of the PEA, USFWS listed the northern long eared bat (*Myotis septentrionalis*) as a threatened species effective May 4, 2015. USFWS Section 7 consultation as part of the SEA should include consultation regarding this newly listed species.

Farmland Preservation Policy Act (FFPA): Prime and unique farmlands are regulated in accordance with the FFPA to ensure preservation of agricultural lands that are of statewide and local importance. The PEA reported that, according to the USDA NRCS Web Soil Survey, approximately 120 acres (91%) of the project site soils are characterized as prime farmland or farmland of statewide importance. Soils that are not prime farmland are limited to the western-central boundary and the southwestern portion of the site. The PEA did not include a completed Farmland Conversion Impact Rating (Form AD-1006). As part of the SEA a completed Form AD-1006 should be submitted to the local USDA NRCS office for review and scoring.

2. State of New York

Permits and approvals may be required from the following New York State agencies; NYS Department of Environmental Conservation (NYSDEC), the Historic Preservation Office of NYS Office of Parks Recreation and Historic Preservation (SHPO), NYS Department of Transportation (NYSDOT) and the New York State Thruway Authority.

NYS Freshwater Wetlands Act: Activities in and around wetlands are regulated by NYSDEC under Article 24 of NYS Environmental Conservation Law (ECL). Wetlands in NY State are classified based upon the benefits they provide and the benefits depend on many factors that include vegetative cover, ecological associations, special features (if any), hydrological pollution control features, and their distribution and location. Class I wetlands provide the most benefits and Class IV wetlands provide the least benefits. The State-regulated wetland on the project site, wetland AK-14, is a Class III wetland. “Class III wetlands supply wetland benefits, the loss of which is acceptable only after the exercise of caution and discernment. A permit shall be issued only if it is determined that the proposed activity satisfies an economic or social need that outweighs the loss of or detriment to the benefit(s) of the Class III wetland” (6NYCRR §663.5).

NYSDEC regulates activities within wetlands and also regulates activities within a 100 feet wetland adjacent area (aka wetland buffer). Regulated activities include, but are not limited to draining, dredging or excavation; dumping, filling or depositing fill of any kind; erecting any structures or roads; any form of pollution; and any other activity which substantially impairs any of the functions served or benefits provided by the wetland. These activities are subject to regulation whether or not they occur upon the wetland itself, if they impinge or otherwise substantially affect the wetland or are located in the adjacent area (6NYCRR §663.2).

Wetlands on the project site were described previously in the section above titled “Section 404 of the Clean Water Act”. A total of 5 wetland areas were delineated on the project site in late April 2015. It is possible that not all of these wetlands will be under the jurisdiction of NYSDEC. Wetland 2 will be a State-jurisdictional wetland. It is likely that the nearby, nearly contiguous, Wetland 4 will also be State-jurisdictional. Wetland 3 may be State-jurisdictional. State wetland AK-15 is mapped on the adjacent parcel to the east. If Wetland 3 on the project site is contiguous with wetland AK-15, then Wetland 3 will be State-jurisdictional. Wetland 1 may not be State-jurisdictional since there is no mapped State wetland in the area. Similarly, Wetland 5

may not be State-jurisdictional. NYSDEC will make their jurisdictional determination after they perform their site visit to confirm the accuracy of the wetland delineation.

It is recommended that a pre-application conference be scheduled with NYSDEC after NYSDEC issues its jurisdictional determination and after a preferred Master Plan has been developed to the point of being able to estimate the types and quantities of impacts to State-regulated wetlands and wetland adjacent area.

Water Quality Certification: In accordance with Section 401 of the Clean Water Act, applicants for a Federal license or permit, including but not limited to the construction or operation of facilities that may result in any discharge of the waters of the United States, including wetlands, are required to apply for and obtain a Water Quality Certification from NYSDEC indicating that the proposed activity will not violate water quality standards.

Water Quality Certification is required for placing fill or undertaking activities resulting in a discharge to waters of the US where, for example, a permit is required from the US Army Corps of Engineers under Section 404 of the Clean Water Act.

An exception from the requirement to obtain an individual Water Quality Certification is for certain activities deemed to have an insignificant effect on water quality, which have been issued a US Army Corps of Engineers Nationwide 404 Permit and for which NYSDEC has correspondingly issued a blanket statewide Water Quality Certification.

NY Natural Heritage Program Consultation: The NY Natural Heritage Program (NYNHP), administered by NYSDEC, is New York State's equivalent to the US Fish and Wildlife Service and their Section 7 consultation process described above.

The PEA reported that a July 2012 search of the NYNHP database identified one plant, the Northern Wild Comfrey (*Cynoglossum verginianum var. boreale*) as a State-listed endangered species. Reconnaissance of the project site identified potential suitable habitat for this species (rich woods and thickets) in the southwestern part of the project site. The PEA goes on to state that because this area was active agricultural land from at least the 1930s to the 1960s and has gradually been reforested since the 1960s, that this decreases the likelihood that the Northern Wild Comfrey would occur at site.

As part of the SEA, another inquiry should be made to NYNHP. The July 2, 2012 letter from NYNHP contained in the PEA states, "Our databases are continually growing as records are added and updated. If this project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information". Also, the northern long eared bat has been listed as a State-threatened species subsequent to the PEA being prepared, and any issues pertaining to this species should be addressed in the SEA as well.

Stormwater Management (construction) : NYSDEC's General Permit GP-0-15-002 is the SPDES general permit for stormwater discharges from construction activity issued pursuant to Article 17, Titles 7 and 8 and Article 70 of the ECL. All construction activities that will require soil disturbance of more than one acre must obtain coverage under this general permit. The owner or operator of a construction activity cannot disturb more than 5 acres of soil at any one time with first obtaining additional authorization from NYSDEC.

Coverage under the General Permit is obtained by submitting a Notice of Intent form that contains a certification that sediment and erosion control plans and an accompanying Stormwater Pollution Prevention Plan (SWPPP) document have been prepared in accordance with the General Permit requirements and in accordance with NYSDEC's New York State Standards and Specifications for Erosion and Sediment Control.

Stormwater Management (operation): Operational phase stormwater management must be designed in accordance with NYSDEC's 2015 New York State Stormwater Management Design Manual. The SWPPP referenced above will need to include a stormwater management design report with supporting calculations showing how design standards will be met. These design standards include selection of proper stormwater management practices based on site conditions and site development plans, attenuating peak storm discharges so as not to exceed pre-development rates at project site design points, proper implementation of green infrastructure practices to reduce runoff volumes, and meeting or exceeding minimum runoff reduction volume requirements.

Wastewater Collection and Disposal**:** NYSDEC requires that a SPDES permit be obtained for a private, commercial or institutional on-site discharge of primarily domestic sewage that exceeds 1,000 gallons per day (gpd) for an on-site, in-ground wastewater disposal system. Current wastewater flow estimate for the project is 2,025 gpd. A SPDES permit will be required if one centralized system treats the entire 2,025 gpd. If there are multiple separate disposal systems that each treat less than 1,000 gpd, then no permit for wastewater disposal will be required.

NY State Historic Preservation Office (SHPO): The procedures for administering the NYSDEC regulatory permits described above are standardized in the Uniform Procedures Act, Article 70 of the ECL. The Act provides time frames and procedures for filing and reviewing applications, providing public notice, holding public hearings and reaching final decisions. Within the Uniform Procedures Act there is a requirement that SHPO be consulted for projects that are funded, licensed or approved by State or Federal agencies. Under Section 106 of the National Historic Preservation Act (see above) and Section 14.09 of the New York State Historic Preservation Act, the SHPO's role in the review process is to ensure that effects or impacts on eligible or listed properties are considered and avoided or mitigated during the project planning process. See the section titled Section 106 of the National Historic Preservation Act above for more detail regarding the SHPO review and approval process.

New York State Department of Transportation: Work within the right of way of Alleghany Road (NYS Route 77) will require a Highway Work Permit from NYSDOT. The use of New York State highway right of way must be carried out and completed in accordance with terms and conditions of a highway work permit issued by the Commissioner of Transportation or their duly assigned agent, in accordance with New York State Highway Law, Article 3, Section 52. This is to ensure that work done on the right of way, and the finished projects meet the standards and policies of public safety, highway laws and regulations, preservation and function of the highway, and that the work is in the best interests of the traveling public as well as the owner of the project.

Anyone who plans to do work on any part of the state highway system, its properties or right of way, must obtain a permit. Some typical examples of this work would be permanent or temporary driveway installations and related improvements, drainage work, slope work, sign installations, erecting banners across a state highway, land development, landscaping and

plantings, and the various activities of utility companies in maintaining and installing lines and equipment on the right of way.

The application and review process for a commercial driveway/access permit generally consists of three steps. An initial proposal review is undertaken to determine the concept and scope of a proposed project to determine what access options are possible and if a Traffic Impact Study is required, and to resolve any other questions on the application process before developing detailed construction plans. The next step in the process is a comprehensive review of the proposed project and detailed construction plans. The last step involves a review of the final plan set and other submission information, as well as any additional documentation required, provision of insurance documentation, performance security and payment of permit fees.

New York State Thruway Authority: The Thruway Authority can issue two types of permits – occupancy permits and work permits.

Occupancy Permits are a revocable instrument that authorizes the use of a site specific identified portion of Thruway Authority property. Various uses for which Occupancy Permits are issued include, but are not limited to, utility facilities, parking, landscaping, gardening, signage, storage, and access. The rights granted under the Occupancy Permit are non-exclusive. An Occupancy Permit instrument is not a lease, but is merely a permit to use, and therefore a landlord-tenant relationship is not thereby created.

Work Permits are a revocable instrument that authorizes construction, maintenance, inspection, survey, or other type of work or short term activity on a site specific identified portion of Thruway Authority property. Work Permits are required for all work conducted on Authority Property under an Occupancy Permit. Work Permits may not be required when activities are regulated by a contract or agreement, depending upon the terms contained therein. Except under very limited circumstances, an Occupancy Permit must be in place before a Work Permit will be issued.

The Authority may require a separate Work Permit each time the Premises are entered for the purpose of maintaining facilities authorized under an Occupancy Permit, lease or grant of easement. The Permittee' s contractors and/or subcontractors, if any, may be required to each individually obtain the necessary Work Permit prior to entering the Premises.

Annual Work Permits are Division specific instruments that may be issued where an occupant of Authority Property has an on-going requirement to maintain facilities authorized under an Occupancy Permit, lease or grant of easement (e.g., snow removal, waste disposal, tree trimming, etc.). The work authorized by a Permit shall be performed in a professional manner to the satisfaction of the Authority. All work by or for a Permittee shall be done at no expense to the Authority.

3. Regional

There are no known regional permitting agencies that have permitting jurisdiction over activities that may occur on the project site.

4. Genesee County

If a driveway into the site from Indian Falls Road (Genesee County Route 4) is proposed, then it will be necessary to obtain a Genesee County Right-of-Way Permit and a Genesee County Driveway Permit from the Genesee County Highway Department. Culvert installation is required for all driveways that access County roads.

5. Local Approvals

No local permits or approvals appear to be needed. The site is not located within a designated municipal separate storm sewer (MS4) area, so there are no local approvals required for stormwater management.

Appendix A-4
Irrigation Water Sources Report

Western New York National Cemetery
MP-1 Submission

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Irrigation Water Source Report

Western New York National Cemetery

1232 Indian Falls Road, Pembroke, Genesee County, New York

Department of Veterans Affairs Project No. 936PC2002

MP-1 Submission

Prepared For:
United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E, Washington, DC
20001

Prepared by:

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

In Association With:

Aqua Engineering, Inc.
Innovative Water Solutions

June 11, 2015

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Irrigation Water Sources Report

1.01 Introduction

This report has been prepared relative to the construction of the New National Cemetery for Western New York. Work to prepare this report is in compliance with the regulations and program requirements of the NCA. This report evaluates alternative irrigation water source supply systems and their feasibility to achieve federally mandated sustainability and water conservation goals as part of the design for this new National Cemetery.

The site for the new cemetery is located on 132 acres acquired as several contiguous parcels of land. There are wetlands on the property and portions of the site are periodically subject in inundation with water standing on the surface. The standing water is not from flooding, but from frozen ground conditions, high groundwater levels, and rainwater and snow melt after the winter. The existing wetlands and the observed seasonal standing water conditions, limit the developable area on the site. Utility systems may need to cross the wetlands, as well as potentially site road(s) depending upon the project development scheme. If such wetland disturbances are incorporated into the project, they will first have to be justified, and then likely mitigated as part of the project. The creation of new wetlands on the site, where they don't presently exist, to offset the disturbance to the existing wetland is being investigated as part of the project.

Based on the results of the field wetland mapping provided on 4/30/15 it appears that approximately 84 acres are developable. The acreage appears to have the capacity to provide 40 to 50 years of burials depending upon the types of burials being provided. The intent of this study is to identify a water source for irrigation use that has the capacity to serve the entire cemetery at build-out. This study addresses the present 132 acres but does not give consideration to the two adjoining properties to the east that are being considered for acquisition by the NCA.

Preliminary master plan layouts were used to generate an approximate irrigated acreage for evaluation in this report.

1.02 Identification of Potential Water Sources

Surveys that have been performed on the site, over the last year, have not identified any existing surface water ponds or streams on the property. The closest surface water is on the northwest side of the intersection of I-90 and Route 77. There is a stream in this area that is fed by the 6’ x 10’ box culvert that flows under I-90. This stream receives discharge from the two package sewage treatment plants for the truck stops on the south side of the Thruway. There is flow year round in this stream as a result of these treatment plant discharges. It would be possible to create a diversion structure in this stream, and a pumping system and pipe water to the Cemetery property for use as an irrigation water source. However, the uncertainties in obtaining all the right-of-way, and regulatory permits required to create and operate such a diversion system to create a source for irrigation water are too great. Therefore, surface water is not available for irrigation.

A high water table and wetlands have been observed on site, specifically toward the southern portion of the site. Standing water was observed on the southern portion of the site, and water levels in monitoring wells were observed at the surface. The purpose of this report is to identify and evaluate all of the potential irrigation water sources within, or proximate to the site that have been identified for consideration as irrigation water, either alone, or in combination with other sources. They are further identified in this section and more detailed discussion follows in other sections of the report:

1.02.1 Potable Water

Potable water will be considered as water from a municipal or public water supply system that delivers all of its water in compliance with the State Standards for Potable drinking water. Potable

water sources are required to be disinfected. This means that the water being delivered to the Cemetery is likely to have a chlorine residual in the water. The water is also required to meet or exceed primary drinking water standards for the constituents contained in the water. The secondary drinking water standards are standards that do not impact the safety of the water for human consumption. Secondary drinking water standards are for constituents like Iron and Manganese that can impact the use of the water because of staining of fixtures as well as laundry. Generally potable water that has been processed through a treatment plant from a surface water source, not a groundwater source, is less likely to contain levels for Iron and Manganese that will cause staining. Even though water is deemed potable, it still may contain high levels of constituents like Iron and Manganese that can cause staining on any surfaces that are wetted with the irrigation water. For this site, the only potable water source, from a public water purveyor, is the water from the Monroe County Water Authority (MCWA). Refer to Section 1.05 of this report for information regarding Iron and Manganese levels from this potable water source.

1.02.2 Groundwater (from wells into the underlying bedrock)

Individual wells can be constructed by drilling and setting a casing into the rock and extending the bore hole further into the rock. In this area, there are no aquifers where there are quantities of water trapped in sands and gravels below the ground. The groundwater wells in this area are all wells drilled into the bedrock. The water for these types of wells comes from fissures in the bedrock where water has moved over time and is generally recharged from water that continues to migrate down through shallow layers of the soil, or through Karsts and enter the fissures. These kinds of wells vary significantly from location to location regarding the quantity of water that can be pumped as well as the quality of the water from the well. Two wells drilled the same depth, but only a few feet apart can have totally different production pumping rates as well a totally different water quality conditions, just because of the nature of bedrock wells for this area.

1.02.3 Groundwater (from saturated soil overburden on top of the bedrock)

The soil on the southern portion of the site is saturated with water to the surface during portions of the year. The soil is approximately 20 feet thick along the southern boundary of the site. It is possible to construct horizontal groundwater capture systems in this overburden. The quantity of water available from this source will be controlled by where the water in the soil comes from. The two sources are from the surface migrating downward within the soil profile until it hits the bedrock, or it can be coming up into the soil from below where the fissures in the rock contain water that is under hydrostatic pressure above the level of the top of the bedrock.

The potential quantity of water from this source is extremely difficult to estimate because this is not the normal method of extracting groundwater. In addition to the quantity issues, total volume as well as flow rates, the water quality from this source is of concern.

Lastly, using this water would likely have an adverse impact on the water level in the soil, which would have an adverse impact on the wetlands in the immediate area.

1.02.4 Harvested Rainwater

Harvested rainwater can be collected from several types of sources. Runoff from building roof systems as well as runoff from other site impervious surfaces, are two of the main sources for rainwater harvesting. Each of the sources for harvested rainwater will require that the water be collected in a storage system. A typical system could include collection devices with initial treatment to remove unwanted items like trash, leaves dirt and sand. The water would then flow into a storage element, (i.e. a below ground non-metallic storage tank). Stormwater in the storage facility would likely be connected to a wet well of some type that would house a pump system, with two pumps functioning in a lead lag operation. The pump would operate with variable frequency drives (VFD's) to be able to maintain the pressure in the irrigation system, to which they are connected, regardless of the flow required. The pump system will have to be operated in coordination with the irrigation

system demand, through a control system that will regulate the pumps to provide adequate flow and pressure in the part of the irrigation system being served.

The alternative scenario is to include a connection from the available potable water system that will add water to the storage tank based upon the available water in the storage tank and the operational conditions for the irrigation system. The goal for the use of the harvested rainwater system will be to maximize its use as one of the primary irrigation water sources. The use of the potable water source will be the secondary irrigation water source for this system. A secondary irrigation source is needed due to the potential limitations for the rainwater harvesting system. If the storage system provided is not large enough to hold the total volume of water required for the irrigation season, there is no guarantee that the additional stormwater can be captured, after the irrigation season has started. Even if some additional water is harvested, from rain events during the irrigation season, there is no guarantee that any additional collected volume will be adequate to supplement the volume already collected to meet the additional future irrigation requirements in the irrigation season. The make-up water from the potable water system is therefore recommended.

NOTE: It is implicit in the general knowledge of weather for this location, that there is sufficient surplus rainfall at this location to provide adequate water for irrigation during dry periods. The problem is capturing the water when it is available and storing it until it is needed. Developing such a system will require extremely large storage facilities. The physical grading and layout of this site, as well as the high groundwater, and costs associated with creating such large storage systems are costly.

1.02.5 Stormwater Runoff

The use of stormwater as an irrigation water source is based upon the premise that when stormwater runoff is available, it is not needed for irrigation. Therefore stormwater runoff water needs to be captured, and stored, with treatment being provided before it is used for irrigation. Treatment can be designed to occur before or after the water goes into storage.

During high intensity rain events and long duration events, the surface topsoil conditions become saturated and water begins to runoff. This stormwater runoff typically sheet flows over the land and reaches a barrier, either due to grading, or physical obstruction. The stormwater system for the project will be designed and constructed to control this runoff flow, as well as the runoff and flows from impervious areas including roads, walks, plazas, etc. The stormwater runoff, depending upon the time of the year, and time since last rain event, may contain sands, salt, dirt, and general debris from vehicles driving on the roads. The stormwater system is designed to treat stormwater to the first flush conditions, which is typically for the first inch of rainfall. After the first flush, the quality of the stormwater improves and is more suitable for capture and storage for later use as irrigation water.

The use of stormwater runoff as an irrigation water source, if the roof runoff is not connected to the stormwater system, has the same issues as harvested rainwater. In addition, there is the added issue of water quality concerns for the stormwater, especially for the portion collected from the roadways. Roads that are salted in the winter create the most common water quality degradation issues, related to using the water for irrigation. The applied salt gets dissolved in the stormwater and is difficult to remove. The NCA has operational parameters that limit or restrict the use of typical road salt in Cemeteries. In order to realistically consider stormwater runoff as a viable source of irrigation water for this project, the issue of salting procedures within the Cemetery has to be factored into the evaluation of this source. Some runoff water, collected from impervious surfaces in the developed site, may have to be collected as part of the required compliance with the discharge requirements for the Stormwater Regulations. Refer to Section 1.03.5 of this report for details. If this specific runoff volume collection, from impervious surfaces, is required to achieve compliance with this element of the Stormwater Regulations, the collected volume will have to be used as irrigation water. Therefore, the regulation or elimination of salting activities on impervious surfaces will be required.

From the perspective of collection and use of stormwater as a source of water for irrigation, not allowing the application of typical roadway salts to impervious surfaces within the Cemetery is the easiest way to eliminate this contamination issue from this irrigation water source. At this site location, some form of treatment for prevention and melting of icing conditions is going to be necessary for safety of the public as well as the Cemetery staff. To complete the evaluation of the use of stormwater runoff as an irrigation water source, the operational procedures for ice prevention and melting are going to have to be developed. Based upon these operational procedures, the construction and operational procedures for the irrigation source stormwater collection system will have to be developed. The control of the stormwater collected from impervious areas, where the stormwater is being collected for use as a source of water for irrigation, must also be developed so that the water quality for the stormwater when it is used for irrigation contain constituents that are at acceptable levels for irrigation.

There are several options for handling stormwater runoff that can be included in the project construction along with operational procedures for the system. The result of each of the options needs to be that the collected and treated stormwater, when it is used for irrigation water, does not contain water quality constituents that are unacceptable for irrigation.

First option is to not use the contaminants (standard road salts - sodium chloride). There are alternative ice melt products that can be used, each is more expensive that the sodium chloride but does not cause the same constituents. The alternative products shall be approved for application to lawns and plants, without causing harm.

The second option is to construct and then operate a stormwater collection system that can be regulated as to when stormwater is collected and allowed to flow into the storage for future irrigation. If the stormwater collection system can be operated so stormwater only goes into the storage system when the sodium chloride has been flushed out of the stormwater system, then the collected water should be suitable for irrigation.

The final option is to create an operational system that allows the sodium chloride constituent levels to be lowered to acceptable levels for irrigation by the use of dilution. This option will require construction of very large ponds to achieve the desired dilution. Large ponds on this site, are problematic because of the grading issues, especially when trying to operate the ponds by gravity flow.

1.02.6 Combinations of Available Water Supply Sources

1.02.6.1 Harvested Stormwater and Rainwater

These two sources, once the water quality issues for the stormwater source have been dealt with, can be mixed together and handled as one source. This will require that they be put into the designed storage until such time as it is needed for irrigation. The water collected from these two sources, if centralized rather than in small individual system at multiple locations around the site, will most likely require some of the collected water to be pumped to get it into the storage system and then pumped when being delivered into the irrigation system. A centralized storage system, with the stored water above the ground surface and with an overall pump system to deliver the stored water into the irrigation system, can be created in an isolated part of the site, and would be used to pressurize the entire irrigation system for service around the site from one source location.

1.02.6.2 Potable Water, Harvested Roof Rainwater and Stormwater

The combination of these sources is most likely to be as indicated above, with the addition of the potable water source to fill the storage system if there isn't enough water from the other two sources, or if the storage system was not installed large enough to hold all of the needed water for the irrigation season. The addition of the potable water to the other two combined systems will require an approved service connection, valving, metering, backflow protection, piping and a means for

controlling the start and stop of the delivery of potable water into the storage system. This will likely be by the use of water level measuring equipment and a control system.

1.02.6.3 Potable Water and Groundwater

A combined source system using groundwater from well(s) and supplemented by Potable Water is one of the options for the project irrigation water source of supply. The Groundwater component of this source is going to require a water treatment system to remove or reduce Iron and Manganese concentrations to acceptable levels. The water treatment requirement for the groundwater will significantly impact the way a combined system is configured. It is possible to have the groundwater treated in a pressurized system and directly discharge into the irrigation system at the operating pressure for the irrigation system.

This method will require that the pumps for each well be higher horsepower, or the individual wells can pump into a manifold that takes the water through the treatment plant and then the pressure will be increased with an inline booster pump with VFD. The alternative is to pump the well(s) through the treatment plant and into above ground storage. The treated water in the storage tank will be used for irrigation with booster pump(s) to increase the pressure and regulate the flow to match the irrigation system requirements. With the system having a storage tank, it must be large enough to allow the groundwater to be pumped at the maximum rate for this source, and the potable water source will supplement the flow rate and pressure into the irrigation system to meet the flow and demand requirement for the irrigation system as it is operating.

In order for this kind of system to work, there needs to be sufficient storage capacity to allow the treated groundwater source to be pumped into the storage system, and create sufficient volume so the required delivery rate into the irrigation system can be met. The potable water source will supplement the groundwater source for irrigation. This can occur in several types of scenarios, that integrate the potable water with the treated groundwater, either physically, before entering the irrigation system, or by just operating the two sources so the combined flow are pressure are as required for the irrigation system as it is being operated.

1.02.6.4 Potable Water and Harvested Rainwater, Stormwater and Groundwater

If the project design incorporates all of the available system, and required treatment systems, it is possible to use them all to fill a centralized storage system, and then control the sequence and rate at which they contribute to the storage based upon the levels in the storage system. As long as the sources have been treated so the Iron and Manganese levels are acceptable and won't cause staining, they can all be used to the extent at which they are available and to the extent to which storage facilities are to be constructed. Rainwater and stormwater harvesting generally occur prior to the irrigation season. Some supplemental water can be obtained during the season, but it creates a condition where regulating the water in the storage system needs to be coordinated with the possible weather events. This kind of harvesting doesn't work perfectly, with rain events occurring on weekends, etc. The stormwater and rainwater harvesting sources do not generally occur when the peak irrigation system is in operation and are therefore generally only viable to the extent to which they can be stored. The ground water source and the potable water source are generally available at any time, assuming that the rate of ground water extraction does not exceed the safe yield for the wells.

This combined water source system, which will use the various sources differently depending upon many factors, is possible but goes against one of the primary directives for any of the system to be operated at the Cemetery, and that is to keep things simple, uncomplicated and automatic, if at all possible.

1.03 Evaluation of Potential Water Sources

1.03.1 Potable Water

There is only one public water purveyor near the project site that can provide potable water. This purveyor is the Monroe County Water Authority (MCWA). Their facilities can provide water for potable water use as well as for irrigation water, from the same potable water source.

The MCWA has a 12-inch potable water main, installed in 2002 along the easterly side of Route 77 north of the Thruway. Based upon the information we have received from several sources, this 12" water line is located on and crosses the Cemetery property through the finger of land at the southwest corner of the Cemetery, where the property abuts the Route 77 ROW and is southerly of the two houses located along the east side of Route 77.

The water line appears to be approximately 10-20 feet onto the Cemetery property and is generally running south to north parallel to the road. No easement for the water line installation has thus far been found for the water line crossing of the Cemetery property, or for the residential lots northerly of the Cemetery property. The 12-inch water main was apparently installed by the Genesee County Water before it was taken over by the MCWA.

Refer to the potable water portion the utility system report for additional information on potential cost implications of the potential 12" water main extension.

The operational characteristics for the MCWA 12" water main have been indicated through the results of a fire flow test on the hydrant in the yard of 8331 Alleghany Road. These results are only valid for the specific conditions that existed at the time of the flow test, but provide some indication as to the conditions that may be present at, at least some of the time, from this supply source. The key information from the fire flow test is as follows:

Static pressure in the main - 73 psi
Residual Pressure during flow test - 65 psi
Observed flow rate at observed flow - 1307 GPM
Calculated flow at a 20 psi residual pressure - 3629 GPM
Elevation at Flow Hydrant - 843'

With these test results in mind, the assumption is that the MCWA 12" water line has adequate flow capacity to serve the peak flow rate required to serve the master plan estimated 43 acres of irrigated area for the project.

The available pressure indicated is not adequate to run the irrigation system directly, so preliminary calculations indicate that two 10HP inline booster pumps, alternating use, and variable frequency drives (VFD's) should be all that is required to produce the required flow and pressure for the irrigation system operation. These calculations will be verified during the actual design process.

The published MCWA costs for all consumed potable water is $4.10/1000 gallons. There is also a daily meter charge (based on meter size) and a fire service fee per quarter (based on fire service size).

The preliminary estimates for water use for irrigation purposes are in the order of magnitude of 7,200,000 gallons per irrigation season. This equates to approximate annual cost for irrigation water alone of just over $29K. A conservative budgetary estimate is between $35-40K for water purchased from MCWA.

1.03.2 Groundwater (from rock wells)

There is groundwater beneath the site. Investigation of the surrounding area has identified the presence of groundwater wells drilled into the rock underlying the area. There are no identified groundwater aquifers in the area so water extracted from the ground using vertical wells into the rock have their source of water being from the fissures in the rock. Because of the nature of rock wells, conditions vary greatly from location to location and water quantity and quality from wells only 30 feet apart can be significantly different.

When evaluating rock wells as a source of water, there are two main issues that must be addressed. First is the rate of flow from a well or series of wells and the maximum continuous pumping interval which equates to quantity of water that is needed. The second issue is the quality of the pumped groundwater, which will impact whether treatment of the groundwater is needed before it can be used for irrigation.

Rock wells like those that will be constructed for this project may not have recharge characteristics like aquifer wells, and pumping continuously for long durations is an operational characteristic that likely be non-existent or severely limited in these types of wells. Review of well logs, from wells in the area, and discussion with local well drillers, has provided some indication as the potential rate of flow that can be generated from rock wells in the area of the site, especially toward the southern property line.

The highest flow rate from nearby rock wells was found in a well immediately south of the site, across the I-90 corridor. The well is indicated to have been pumped at 40 GPM. Because this well was used for a commercial facility, there was not a need to pump the well at this rate for long time periods. Unfortunately, there is no information available as to what flow rate this well can be pumped at on a continuous basis. The “safe yield” for a well is the continuous flow rate that can be pumped from the well while producing a stabilized drawdown level in the well. The reason the “safe yield” is so important for groundwater wells, that might be used for irrigation at this facility, is because preliminary evaluations indicate that during the peak irrigation season, the wells will have to be run continuously to produce a sufficient quantity of water to meet the system demand.

Based upon the preliminary information on the nearby wells a reasonable assumption, when considering developing groundwater from rock wells as the primary source for irrigation water, is that it will be required to construct an estimated 5-15 wells to achieve the required 200 GPM flow rate from a series of rock wells to function as the ground water source system. The actual number of wells could be even higher, and there is no guarantee that the required flow rate to produce all of the irrigation water from these wells can even be achieved within the Cemetery property.

The second criteria relevant to the use of groundwater, is the quality of the water. Irrigation water does not have to meet potable drinking water standards. However, there are constituents found in groundwater, whose high concentration levels, will make its use not possible in a National Cemetery without first treating the water. Facilities at the Cemetery like headstones, markers and infrastructure improvements being constructed above the surface, that will be wetted during the irrigation system operations, may be subject to staining from the water quality constituents.

The two main constituents in the ground water that cause staining are Iron and Manganese. Since staining is not acceptable when there are other alternative sources for irrigation, the only way to allow use of groundwater with high Iron and Manganese levels is if the water is treated to lower the levels to acceptable concentrations before it is applied through the irrigation system. The maximum concentration levels for Iron and Manganese are identified later on in the report.

Groundwater extracted from sources below the site will require some form of treatment to reduce the Iron and Manganese constituent levels to values in the delivered water that are at or below the levels acceptable without causing staining. This has been verified through actual onsite well water quality tests from wells adjoining the Cemetery property. In addition, we received additional verification

through discussion with the local Culligan Water Treatment System supplier, that has 25 years of experience with groundwater in this area.

There are several ways for treating water to reduce undesirable levels of Iron and/or Manganese. The methods all involve some form of oxidation and/or precipitation and the use of filtration and/or settling of the oxidized-precipitated constituents to achieve removal. The method most suitable depends upon several factors including the level of the Iron and Manganese to be removed, the flow rate needing treatment, the pH of the water, as well as temperature.

Treatment for Iron and Manganese Removal can be accomplished by construction and operation of an onsite treatment plant, or by installation and operation of manufactured treatment system components that will be periodically be removed by the treatment supplier and replaced with fresh units, and the ones that have been used will be removed and regenerated at offsite locations. The removal and replacement process will have to occur over the life of the groundwater sources and will impact the operational costs for the facility at a much higher level that if there is a treatment plant constructed as part of the construction cost for the project with the operational costs for the plant being the only cost associated with the ongoing operational budget for the Cemetery.

Treatment of groundwater using an onsite treatment plant, as indicated above, with the groundwater assumed to being the only available source of water, creates the worst case design scenario. In this scenario, the treated groundwater has to be used to provide the water for irrigation as well as for providing water for backwash of filters, when that activity is part of the treatment plant operation. This creates a situation where the rate at which the ground water wells are being pumped is not the rate at which irrigation water is being created. To provide a fully functional irrigation water supply source using treated groundwater will require a treatment system that can handle the flow from the wells and provide sequential backwashing of the filters, using previously treated water, that will have to be put into a storage system, either with the treated irrigation water, or as a separate storage to be used for backwashing. In addition, the treatment system will have to include one or more backwash settling tanks where the backwashed products can be allowed to settle, and the supernatant water be drawn off.

There are two most likely scenarios regarding the use of treated groundwater to create the required volume of water for irrigation during the irrigation season. The first is to extract, treat and store irrigation water at a continuous rate of 200 GPM from the wells and put it into a storage system for use when needed and pump the water from storage into the irrigation system to satisfy the flow and pressure requirements. With this kind of a system, the higher peak flow rates (estimated at a conservative rate of 500 GPM to satisfy the peak irrigation system requirements) will be met by the booster pumps. The estimated rate at which the water will need to be extracted from the wells is 200 GPM. This is less than half of the estimated peak flow rate that is required to be delivered to the irrigation system. With the peak rate of delivery being provided over an 8 hour irrigation cycle, it will require that the 200 GPM flow rate from the well sources occur 24 hours a day throughout the irrigation season to create a sufficient volume of water to be pumped at 500 GPM during the 8 hour irrigation cycle. Refer to the Section 1.04 Irrigation Water Requirements in this report for details related to these various rates.

If the storage reservoir for handling the treated irrigation water is large enough, it can be filled using the treated groundwater starting immediately after freezing temperatures have abated and can run all the way through the completion of the irrigation season.

Storage for treated groundwater can be in above ground facilities. The location for storage and booster pumping system, as well as the water quality treatment system is best suited to be in the southern portion of the site, outside of identified wetland areas, and constructed above the seasonal groundwater elevation. This kind of a system can be adapted and downsized to any level based upon the total safe yield that created by the rock well(s) that are constructed.

The second scenario, though mathematically possible, is highly unlikely. It requires that multiple wells be constructed within the Cemetery property that will produce a safe yield of a combined production rate of 500 GPM or more. If this were possible, then each well will be constructed to have its own pump system, a control system, and be piped to the central treatment location. The treatment plant will have to be fully automated and will have to have a backwash disposal system, which could require holding tanks to collect and settle out the backwash precipitate and flocculent. The supernatant from the backwash tanks could be drawn off and put back into the irrigation water delivery system, which would require additional pumping and controls. The backwash tanks will periodically have to have the sludge pumped out and disposed of properly.

The biggest problem with this irrigation water source scenario, is the uncertainty of developing such a groundwater supply within the site, and the complications for operating such a system. In addition, the design for such a system, the treatment facility as well as the storage system is directly related to the safe yield capacity from the constructed well(s). The water quality for the wells also impacts the water quality treatment system.

If development of groundwater as a source for irrigation water is desired, regardless of it being cost effective compared to the public water supply as the irrigation source, the design for most of the infrastructure would have to wait until after well(s) are drilled, developed and test pumped and water quality results obtained. Creation of infrastructure improvements that will produce a viable irrigation water source using groundwater will require that separate construction contract be developed, bid and awarded and well(s) constructed, developed and tested before the infrastructure improvements required to create the operational irrigation water source can be designed and incorporated into the main design-bid-build construction contract for the Cemetery

A very rough estimated cost for such a system is $500-900K.

Because of the uncertainty for developing either groundwater source systems at the estimated continuous pumping rates required to make this a permanent long term source for irrigation water, as well as the complicated system operation and costs, this alternative is not feasible or recommended as a primary or sole irrigation water supply source for this project.

1.03.3 Groundwater (from soil overlying the bedrock)

The geotechnical investigations that have been conducted, thus far for this site, show that there is soil overburden on top of rock throughout the entire site. The depth of the overburden varies generally with depth to bedrock being shallow toward the northern portion of the site, and being deeper (slightly in excess of 20 feet) at the southern edge of the site. Monitoring wells have been installed throughout the site as part of this geotechnical investigation. The depth to groundwater in the overburden is one of the critical factors to consider when evaluating the perched water in the soil overburden as a potential source for irrigation water. Physical observations and well as level reading is more that one of the monitoring wells clearly show that the overburden in the southern part of the site is fully saturated, and at times, water stands on the surface.

On April 24, 2015, depths from surface to groundwater were measured in new on-site observation wells in the southern portion of the site. The depth to groundwater ranged from 0’ to 6-’6”. For more detailed information, please see the Geotechnical Investigation report. Additionally, from a site assessment report completed by Empire Geo Services dated June 27, 2014, it appears that ground water fluctuates seasonally. In May 2014 groundwater depths ranged from 0- to 1.2-feet and in June 2014 the depths ranged from 2.4-6.7-feet. The saturated conditions of the soil are one of the factors that contribute to the creation of wetlands that has occurred on the site.

It is possible, from an engineering perspective to construct horizontal well fields in this saturated soil, all above the bedrock. The information that has been provided during the preliminary investigation of the shallow groundwater as a possible irrigation water source points to two significant problems with developing this water as an irrigation water source. The first reason against developing this as a

water supply source is that the Iron and Manganese levels are 4-7 times the acceptable levels that won't cause staining.

Results of several water quality tests have been reviewed. The first is a water quality test from a ground water test well located at the southwest corner of the site was completed on April 14, 2015 by Paradigm Environmental Services, Inc. in Rochester, NY. The test shows a pH of 7.11, an iron level of 2.1 mg/L, a manganese level of 0.104 mg/L and an electrical conductivity of 394 umho/cm. Results from an outside source from a well on the south side of I-90 showed a hardness for 239 mg/L, iron of 1.5 mg/L, pH of 7.7, total dissolved solids of 400 mg/L and a slight sulfur odor.

The second reason against developing this as a source of water for irrigation, is that extraction of this water from the soil will likely alter the wetlands that are identified on the site, and this would not be acceptable to the DEC or ACOE without wetland mitigation.

Because of these two critical issues and the difficulties there will be to even attempt to obtain approval for such an action, and most importantly, the limitation on the amount of water that might be extracted in the first place, makes this source unsuitable and it therefore removed from further consideration.

1.03.4 Harvested Roof Runoff Water

This potential source for irrigation water is from the capture of rain water from roof runoff from the buildings being constructed on the site.

There are some inherent problems with the use of this as an irrigation water source. All of the water collected from the roof runoff needs to put into some kind of storage system and that storage system needs to have an overflow that discharges to the surface or enters a stormwater collection system.

The amount of surface area from which roof runoff can be collected is relatively small as compared to the total needs for the irrigation system. Even if all of the roof runoff is collected and put into a storage system, it will have to be supplemented by stormwater runoff, or potable water to meet the overall irrigation water demands.

If we assume that the total surface area for the roof areas and paved areas around the buildings is 30,000 square feet and that the total rainfall that can be collected and stored is about 24". This is based upon weather records in Batavia where rainfall amounts were indicated. This generated volume of water equates to only about 4% of the total irrigation water volume requirement. Even though it is a small volume as compared to the total requirement for the irrigation season, this volume can be used toward the reduction of stormwater runoff from the site as part of the compliance with the Stormwater Regulations for the post development conditions. The volume reduction for the stormwater is based upon individual storm events. The water harvesting of roof runoff will only create stormwater volume reduction, when the receiving storage reservoir(s) have capacity to store runoff from each rain event where runoff of generated from the impervious surfaces within the project. Capturing the roof runoff alone may not be sufficient to produce the total required discharge volume reduction.

Relying on the roof runoff from the two main building complexes may not make sense when only being considered as separate irrigation water source systems. Factoring into the design decision process, that this kind of a system can achieve only a portion of the required volume reduction for stormwater discharge makes this kind of system worth considering, but there will need to be modifications made to achieve the desired stormwater volume reduction.

Since the two largest building areas are going to be remote from each other, it would likely require two storage/pumping systems to collect distribute the water from the respective areas into localized irrigation zones. During the irrigation season, these localized storage systems would typically run out of water and would require supplemental water supply connected to the storage reservoirs. These

isolated storage systems could be supplemented with potable water or from stormwater runoff if it is collected in a large centralized stormwater pond. Depending upon the configuration of any large volume stormwater pond, the supplemental flow into the roof runoff storage tanks will likely have to be pumped into the irrigation stormwater irrigation pond, following storm events, to accumulate a sufficient volume of captured roof runoff for use as irrigation water, and meeting the required discharge volume reduction for the stormwater management regulations. The roof runoff captured in the local tank can be used to irrigate a local portion of the irrigation system, or pump water into the larger irrigation water storage reservoir.

This type of a system for achieving a partial source for irrigation water is possible. The cost for providing and operating such a system will be higher than using the available potable water source option. Even though the costs for such a system are high, when directly compared to the use of the potable water supply source, the secondary advantages of providing reduction in the runoff volume for the stormwater system, and factoring in alternatives for achieving that performance, make this kind of system more cost effective when compared directly with the potable water source option.

Further clarification of the stormwater system impacts and potential cost benefits for using this type of system as part of achieving stormwater compliance cannot be determined at this point. This will be evaluated further as more information regarding proposed stormwater system improvements are developed for the new impervious areas being created.

Capturing roof runoff and using it as irrigation water provides some of the stormwater discharge volume reduction, which is required as part of the Stormwater Regulations. While this relatively small volume reduction is beneficial in the overall stormwater design, it will not be capable of fully reducing the required reduction volume due to the limited size of this type of impervious area. Provisions will have to be made to create acceptable system elements that will create the additional reduction volume on-site to be in compliance with the Stormwater Regulations.

A rainwater harvesting system could be implemented at the Maintenance Building complex, or the Administration/PIC building, or both, with collected rainwater functioning as irrigation water for small areas proximate to these respective buildings. There may be some LEED points created as a result of such a system. The development and use of such a system, at one or more building locations, will produce a more complex operational irrigation system, that not be a more costly, when compared to the use of potable water for irrigation.

A more realistic scenario, is to collect the roof runoff, and put into the storm drain system, and then collect both and pump the combined water into a centralized storage system. See the discussion on Stormwater Runoff for a more detailed description of how this system would operate.

1.03.5 Stormwater Runoff

Rainfall, which produces the stormwater runoff, is also the natural source for irrigation. If rainfall were uniformly distributed and occurred at adequate rates and amounts throughout the growing season then irrigation wouldn't be necessary. The use of stormwater as an irrigation source is intended to shift the application of rainwater from when it occurs naturally to periods when it is needed. This is accomplished by capturing the stormwater runoff when it occurs, and storing it until when it is needed during the growing season. There is sufficient rainfall at the project site to satisfy the requirements for growing plants and lawn throughout the growing season. Unfortunately the rainfall does not always occur exactly when water is needed by plants and lawn. Therefore irrigation is required.

The use of captured and treated stormwater runoff, as an irrigation source, can by designed as the sole source of water for irrigation, or in combination with other sources, like the potable water source. Determining the amount of stormwater to be captured, treated and stored, for use as irrigation water, needs to be determined as part of the evaluation of this source as one of the alternatives for the irrigation source of supply.

Stormwater runoff from this project has to meet the current NYS DEC Stormwater SPDES General Permit for Stormwater Discharges from Construction Activities. To achieve required water quality discharge conditions; limitations to the peak discharge flow rates and total discharge volume reductions are required. The stormwater system for the project will require Construction, operation and maintenance of specific facilities that are designed to achieve stormwater discharge conditions that meet these three criteria.

The use of stormwater for irrigation, by storing the collected stormwater for use at a later time, is one method of achieving compliance with one of the stormwater discharge requirements for this project. The reduction in total volume of runoff discharge for a specific design storm, is one of the discharge requirements of the Stormwater Regulations. Stormwater captured as runoff from impervious areas (building roofs and hardscape) and held in a storage system, for subsequent use as irrigation water source, can be used to show compliance with the Stormwater Regulations by demonstrating that the required total volume discharge reduction has been achieved by converting stormwater (that will normally runoff from the site) has been converted and used as an irrigation water source. This procedure is acceptable when the irrigation water is applied without causing runoff, by controlling the application rate and duration to allow the water to soak into the ground. The volume used for this purpose does not leave the site, and is therefore acceptable as stormwater volume reduction. Capture of some stormwater, and collecting it in a pond, reservoir or storage tank system would be the source of water to be used for irrigation.

The quantity of stormwater that is collected and stored for future use for irrigation can be any volume from the minimum volume required to demonstrate compliance with the stormwater regulations up to a volume that will satisfy all of the irrigation water requirements for the entire growing season.

The minimum storage volume that must be provided by a stormwater capture system, and used for irrigation at a later time, is approximately 25,000 cubic feet of water (187,000 gallons). The preliminary estimate for captured stormwater volume needed to supply irrigation for the 43 irrigated acres at full build out, for the entire growing season, as the sole source for irrigation water, is 962,500 cubic feet (7.2 million gallons) of water. The use of captured stormwater as described above, will be required if no other alternatives for reducing the discharge volume for stormwater are implemented.

The existing site conditions create limitations for developing storage of stormwater collected by gravity flow. Any stormwater pond that is created will have to be elevated so there can be an overflow from the pond. Pond overflow will either be into the wetland in the middle of the site, or into the Thruway northside drainage ditch. This will require a pipe with invert into the northside thruway drainage ditch that is no lower than 839.5 feet, based upon preliminary information. With this as the overflow elevation, any pipe entering the pond will have to have an invert higher than this elevation, otherwise water will back up into the pipe. If an elevation for the pipe entering the pond, located adjoining the Thruway drainage ditch, and outside of the identified wetlands, is assumed to be 840 feet elevation, it would only be installed at a depth of about 4” below the existing finished grade, if installed flat. With minimal pitch the storm drain pipe would reach an elevation of about 845.5 feet (1800’ @ 0.50% slope) where the flat portion of the site starts at the north end of the mid-site wetlands. The stormwater pipe would have to be buried to keep from freezing, which could be achieved by creating an elevated roadway on top of the pipe. Any stormwater pipes that flow into this pipe will have to be higher in elevation. This means that only stormwater from the higher elevations of the site can be directed by gravity into a stormwater pond located at the southern part of the Cemetery where it abuts the Thruway..

The alternative to this scenario, for creating pond(s) that can collect stormwater by gravity flow will be to create the pond(s) closer to the northerly end of the mid-site wetlands, with the pond(s) being partially elevated above the existing grades. The overflow from pond(s) in this area, would be discharged directly into the adjoining wetlands. Stormwater from the remaining portions of the site will have to be at elevations that will discharge directly onto the existing grades that feed the wetlands. Any ponds to be created in this area as part of the stormwater system, will have to be excavated and installed so the bottoms are below the existing grade. Because of the high seasonal

groundwater levels, where groundwater reaches the existing surface grades, pond construction will be difficult and expensive as the ponds will have to be water tight and designed to resist flotation.

The water tight construction serves two functions. First is to keep the groundwater from filling the pond from below, which eliminates the available pond volume, and secondly, keeping the groundwater out, keeps the water from being contaminated with high Iron and Manganese levels, which would make the water not useable for irrigation.

Because of the limitations for developing the site (site grading, wetlands and buffers, seasonal high water), there is no way to achieve the almost 1 million cubic feet of storage without partially elevating the storage above the existing grades. An order of magnitude calculation to indicate scale for the largest pond that would be created to allow for full storage of the water required for irrigation for the season would be a pond 10 feet deep, 200 feet wide and 500 feet long. The pond could be created with the top edge of the pond a couple of feet above finished grade at the north edge of the mid-site wetlands. A pond that displaces 10 feet of water will experience flotation forces of 624 lbs/square foot. To offset this uplift force would require a dead load equivalent weight of concrete that was 4.2 feet thick if the pond does not have any top and is not buried. The practical reality is that creation of large stormwater ponds that collect water by gravity flow (will require them to be constructed below grade) is not feasible for this site.

The other possible method of creating an irrigation water supply source using stormwater is to collect the stormwater and pump it into some form of elevated storage system where the stored water will be above the finished grade. One example of this is described herein below to provide order of magnitude comparison for such a system, if the goal is to provide the total irrigation water source for the season from captured stormwater.

An order of magnitude for providing elevated storage would be to create three steel storage tanks 20-30 feet high with diameters of 120-140 feet. With an estimated cost for constructing these tanks at an assumed $0.75/gallon, for just the storage tanks installed this would cost $5.4 million dollars. If we assume that the life expectancy for these tanks is 40 years, before re-coating is required, then the average cost per 1000 gallons of water would be $18.75/1000 gallons. This factor alone makes the cost for this source more than 4.5 times higher than the potable water source costs. If the life for the tanks, before refurbishing is taken to be 80 years then the cost is still more than double that for the municipal water source. Because the stormwater will have to be collected, treated and pumped into the tanks and this equipment will all also have to be replaced, as well as there likely being wetland mitigation costs, it is intuitive that the municipal water source is significantly more cost effective.

Since some form of stormwater pond system is going to be needed, to achieve attenuation of the post development peak discharge rate to the pre-development peak discharge rate for specific storm events, this creates the opportunity to use the captured stormwater to achieve the discharge volume reduction for impervious surfaces, by making some of the captured stormwater into a source of water for irrigation. For every additional gallon of stormwater captured and put into storage for use as irrigation water, above the minimum required volume for stormwater discharge requirements, there is going to be an incremental added cost (for construction and operations) that will be higher than the incremental costs associated with taking that same amount of water from the public water source.

Capture of the previously described 25,000 cu. ft. of stormwater from the roadway system, which is needed to achieve the required reduction in discharge water volume, will have to have some water quality treatment to remove sediment, oil and grease, before the collected water is put into storage. With this site, one of the major issues is where to locate any such water storage systems, and how the storage is to be constructed. In addition, the overall size for the storage system is of significance because of the potential for disturbance of wetlands in the process.

The feasible location for this stormwater pond, if is required and being fed by gravity flow from the stormwater system, is at the northerly end of the identified mid-site wetlands where the pond can be

constructed on the ground surface, so flotation is not an issue. A rough size for such a pond is 140'x 60' with a useable water depth of 3 feet. This would be between 1/4 and 1/3 acre of disturbance. Any surface storage system that is created for stormwater is going to have to be constructed with an overflow system. Shallow pond(s), as described above, near the northern part of the mid-site wetlands will have overflows that discharge into the wetlands.

The above identified pond(s) would be constructed to satisfy the volume reduction required by the Stormwater Regulations, and will have to become part of the irrigation supply source system. There is likely to be at least one additional pond required to capture stormwater to reduce the peak rate of discharge from the site, for specific design storms, to the pre-development peak flow rates. The location for this additional pond system is a function of the actual project site design. The location and construction for the pond(s) may cause disturbance of the wetlands, loss of burial areas, limited capture of stormwater from the higher parts of the stormwater system, or pumping of the stormwater to be able to fill pond(s) with adequate capacity to achieve the desired peak flow rate dischage attenuation.

Whatever volume is required to achieve compliance with the stormwater discharge requirements will have to be constructed somewhere on the site. As such, this pond(s) will contain stormwater that can be used as irrigation water. If used, as such, it will contribute to the 50% reduction of potable water use for irrigation that has been mandated.

The major issues related to constructing stormwater ponds at the southern portion of the site are as follows:

- Location for the pond(s) both for permanent and construction purposes, where disturbance to wetlands does not occur.
- Limited time interval for construction, in the driest part of the summer, when the ground water levels are the lowest.
- Difficulty and expense to create a below ground storage system, that will last “forever”, be maintainable and not leak allowing ground water from outside the pond(s) from entering the groundwater has high Iron and Manganese levels and if allowed to mix with the water in the storage reservoir will likely contaminate the water making it unusable due to the potential for staining. These issues make it necessary to develop storage that is above the seasonal high groundwater level.
- The pond(s) will need to have an overflow system. The only place where the overflow(s) can discharge is into the adjoining Thruway ditch. The water level in the Thruway ditch fluctuates during the year and is controlled by the elevation of the two 24” culverts that outlet the ditch crossing the Route 77 ROW and discharging on the easterly side of the ROW. The culverts discharge into a stream that flows southerly for about 200 feet and then connects with the stream that flows out of the 6’ x 10’ concrete box culvert that crosses under the Thruway. The stream from the twin culverts to the intersection with the flow from the box culverts is heavily vegetated and needs to be regularly maintained. The stream entering the culverts on the easterly side of Route 77 also needs regular maintenance, especially the portion that heads northerly along the easterly side and outside of the Route 77 ROW. This maintenance activity may be difficult to achieve because the respective agencies (Thruway Authority and NYSDOT) have stated that they can’t perform maintenance unless the ditches are within their ROW.
- The entire area around the northside of the Thruway and the intersection with Route 77 is pretty flat. According to the Thruway Engineer it has always been a problem to get drainage to flow away from this area. He indicated that anything the VA can do to facilitate access to the downstream water courses that carry water away from the outlet from the 6’ x 10’ box culvert will be greatly appreciated. Presently, they have no ability to perform any stream maintenance downstream as everything is on private property. Any downstream blockages in the stream flow cause water to back up into the area of the box culvert and also through the twin culverts crossing Route 77. Without maintenance for the water courses in and from the Thruway ditch along the south part of the VA property, there will be limitations on the elevation for any overflow pipe from a storm water pond in the southern

portion of the site. Creation of above ground pond(s) greatly alleviates the issue of discharge into the Thruway ditch, however there will likely still need to be a permit obtained to allow construction of the overflow into the ditch.

If gravity flow from the higher areas in the stormwater system does not work, or doesn't produce the desired results for the peak discharge attenuation the last resort alternative is to construct above grade pond(s) and collect stormwater from various locations around the site and pump the water into a storage reservoir(s). The foundation for the reservoir will have to be protected from the impacts of the seasonal high water levels at the location for the reservoir(s) as well as from damage from frost heaving.

Since the stormwater for this scenario will be collected and pumped into the storage reservoir (to be used for irrigation water), the option to construct the reservoir on a foundation that is constructed when the seasonal water is at its lowest levels and making sure that the bottom of the reservoir is above the level of the seasonally high ground water, will allow for the best longevity for such a reservoir system.

Above ground reservoirs or storage tanks can be constructed for harvesting stormwater when runoff occurs for use during the irrigation season when rainfall is not occurring. A pumped stormwater system will allow the collection of available runoff water that does not have Iron or Manganese, as does the groundwater, and will not require the use of potable water from the municipal water source system as a primary source of water for irrigation.

1.04 Irrigation Water Requirement

The site master plan presents a phased development. However, water use will be presented in this report based on estimated project build-out conditions. It is estimated that approximately 43 acres will be permanently irrigated at site build-out. Phase 1 is estimated to include 10.2 acres, Phases 2 and 3 include a total of 10.6 acres and future phases include 22.2 acres.

Monthly average potential evapotranspiration (PET) data is available for Buffalo and Rochester. The years in the analysis are 1975-2004. For the growing season of April through October, PET for Rochester is 20.22-inches and for Buffalo is19.42-inches. For the irrigation water requirement analysis, PET for Rochester will be used. PET for July is 4.17-inches so the daily peak season water use is estimated to be 0.13-inches. This value will be used to calculate the size of the water source and is not discounted to give consideration to crop coefficient or aggressive water management.

Historical average annual precipitation for the growing season from Batavia records is 23.5-inches. Average monthly precipitation exceeds average monthly PET in the months of April, September and October.

To calculate peak season and annual water use, the following assumptions are used:

- Kentucky Blue grass is used has a crop coefficient of 80%
- Irrigation operational efficiency of 75%
- Effective precipitation of 50%

With the above assumptions, very little irrigation is required in April and September and no irrigation is required in October. Water use on a per irrigated acre basis has been determined herein below.

Based on the MP1 concepts, it is estimated that at build-out, the irrigated acreage is approximately 43 acres. This implies that the peak season water use is 157,000 gallons per day and the water source would need a capacity of 500 gallons per minute (GPM) to irrigate the site in an 8 hour watering window. To achieve a delivery rate of 500GPM to the irrigation system any source of supply will have to deliver water at a minimum rate of 200 GPM (24 hours a day during the irrigation season). Annual water use is approximately 7.2 million gallons (MG) assuming 50% effective rainfall to 15 MG assuming 25% effective rainfall.

The 500 GPM flow water is the equivalent of a 6-inch municipal water tap.

If an on-site pond is used, it needs to be located so it does not interfere with existing wetlands and proposed burial sections. Size would be 0.3 to 0.5 surface acres and needs to lined to keep groundwater from entering the pond.

1.05 Water Quality

During the natural water cycle, metals such as iron, manganese and calcium are naturally absorbed into water. In groundwater these minerals are in a dissolved and stable state but when the water is pumped to the surface and exposed to oxygen, these minerals become unstable. When exposed to dissolved oxygen, clear dissolved ferrous iron (Fe+2) will convert to insoluble ferric iron (Fe+3). Ferric iron causes brownish red discoloration in water and creates staining problems. Manganese is similar to iron but causes black staining.

The EPA has established limits for iron and manganese based on aesthetic concerns. EPA Water Quality Guidelines show that iron levels between 0.3-1.0 mg/L “will cause some staining”, and that a manganese level less than 0.05 mg/L will have no adverse effects. These are the levels that must be met for water being used at the Cemetery, to prevent staining. The water from the MCWA, which in our area will come from the Erie County Water Authority (which is part of the MCWA) has acceptable levels of Iron and Manganese. The published water quality test reports from the MCWA for the provider in our area was reviewed and the low levels of Iron and Manganese (to not cause staining) were verified.

As described above, water quality tests of the groundwater showed iron levels between 1.5 to 2.1 mg/L and manganese level of 0.104 mg/L. These results show that there is a potential of iron and manganese staining. This is a particular concern for all of the constructed improvements within the Cemetery that may be hit by irrigation water at one time or the other during the Cemetery operations. Highly visible elements like headstones, flush markers, columbarium walls and memorial walls are most significant as they represent the individual veteran. Designing an irrigation water supply source where staining of these elements does not occur, should be of highest priority.

Iron and manganese can be oxidized and removed by precipitation from water using atmospheric oxygen. It takes 0.14 mg/L of dissolved oxygen to oxidize 1 mg/L of iron. One method is to inject air into stored water using venturi-type injectors then allow sufficient time for the oxidation to take place and the metals to settle out. Water temperature and pH will influence how much time is needed for the reaction to reach completion. On-site ponds are typically aerated to eliminate algae. Systems are designed to turn-over the volume of water in the pond four to six times per day. This aeration could help reduce iron and manganese staining in water with low content levels. However, with the level of iron being reported, it may not eliminate the staining potential.

A second method of removing iron and manganese is an active treatment method wherein the iron and manganese are oxidized using chlorine then the water is run through a potassium permanganate media filter which causes the iron and manganese to precipitate out during the normal filtration process. For this process, the pH needs to be over 7.0 and preferably over 7.5 to assure full precipitation of the iron and manganese. Periodically, the media filter must be backwashed. The rusty water is typically discharged into a dry well, septic tank or sewer. The discharge of iron and/or manganese typically does not have groundwater pollution consequences. The cost of this type of treatment system is approximately $130,000 to treat 60 GPM. Additionally, there are ongoing expenses for chlorine and changing out the media filter.

1.06 Water Source Scenarios

When giving considerations to sustainability, potential impact on existing wetlands, staining due to water quality, providing a source that is simple to use and maintain, construction and operational

costs, there is no one water source that meets all the criteria. Below are scenarios for the irrigation water source with benefits and drawbacks to the use of each.

Potable Water

The potable water source will likely require a booster pump to provide sufficient pressure for irrigation.

Benefits: Water is readily available adjacent to the property; no water quality issues; source is easy to implement and maintain; MCWA has excess capacity and may be willing to a long term reduce the cost for the VA; use has no impact on the existing wetlands

Drawbacks – Use of potable water does not meet VA sustainability goals; cost of water and electricity for pumping

Groundwater
Harvested Stormwater with Potable Backup Option 1

It is likely that a pond will be required for stormwater quality management. In this scenario, stormwater runoff is captured in a pond then used for irrigation. When the water level in the pond gets below a predetermined level, potable water is added to the pond to provide sufficient water for irrigation. The potable water will fill the pond to a level such that some freeboard remains to capture water from a storm event.

Benefits: Use of stormwater reduces the amount of potable water used; helps meet state regulations for stormwater management; readily available; no quality issues; is be implemented; one pumping system to maintain

Drawbacks: High groundwater could make installation of a pond difficult or costly; need to keep stormwater separate from groundwater due to water quality concerns; potential impact on existing wetlands; energy sustainability concerns relative to putting pressurized water into a pond and losing the available pressure; capacity of on-site pond may be limited due to site constraints

Harvested Stormwater with Potable Backup Option 2

In this scenario, when the stormwater captured in the pond gets low, potable water is fed directly into the irrigation system instead of into the pond.

Benefits: Use of stormwater reduces the amount of potable water used; helps meet state regulations for stormwater management; utilizes the available pressure in the potable system so reduces energy costs; readily available; no water quality issues

Cons – Requires multiple pumping systems to install and maintain; may require a manual system to change between water sources to meet health code; high groundwater makes installation of a pond difficult or costly; need to keep stormwater separate from groundwater due to water quality concerns; potential impact on existing wetlands; capacity of on-site pond may be limited due to site constraints

Harvested Stormwater with Treated Groundwater

Stormwater runoff is captured in a pond and used for irrigation. When the water level in the pond gets to a predetermined level, groundwater is pumped, treated to remove iron and manganese then put in the pond to provide sufficient water for irrigation. The treated groundwater will fill the pond to a level such that some freeboard remains to capture water from a storm event

Benefits – Meets water sustainability goals

Drawbacks – Use of groundwater may not be allowed due to impact on existing wetlands; cost to implement and maintain multiple pumping systems and water treatment system; does not meet energy sustainability goals due to pumping and treatment systems; potential for staining if groundwater treatment is not properly maintained or fails; high groundwater makes installation of a pond difficult and costly; available quantity of groundwater is not yet known

1.07 Summary and Recommendations

Identification of an irrigation water source for the New National Cemetery for Western New York sits at a complex intersection of water and energy sustainability, environmental and aesthetic issues. The goal is to find a source that achieves federally mandated sustainability and water conservation goals.

Potential water sources scenarios are:

- Potable water
- Stormwater runoff with potable back-up
- Stormwater runoff with treated groundwater back-up

Issues that have been identified in this study include:

- Potential impact on existing wetlands
- High groundwater
- Quantity and quality of the groundwater
- Potential iron and manganese staining
- High energy usage for pump and water treatment systems
- Limited space for a pond
- Relatively low seasonal water requirement for irrigation

For this particular site, it is understood that environmental issues and protection of existing wetlands takes presence over water sustainability. Therefore, use of groundwater is not a feasible option.

Use of stormwater runoff appears to be possible. However, at this point in time, it is unknown how groundwater and wetlands might limit the size, location, construction and use of a stormwater runoff pond.

At the Master Plan 1 design stage, it is recommended that potable water be used for irrigation. It is further recommended that an irrigation control system using a weather station and potentially soil moisture sensors be implemented to aggressively manage and minimize irrigation water use. On an annual basis, precipitation exceeds evapotranspiration. The irrigation system must be managed to take advantage of the available precipitation.

Use of potable water for irrigation meets a maintenance goal of a simple system to operate and maintain. MCWA has the capacity to provide sufficient water to the entire cemetery at build out and appears to be willing to enter into a long term contract with the VA regarding the cost of water and quantity of water to be provided.

Appendix A-5
Traffic Study

Western New York National Cemetery
MP-1 Submission

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Western New York National Cemetery
Traffic Study

Town of Pembroke, Genesee County
New York

Prepared for:

Department of Veterans Affairs
Office of Construction & Facilities Management
Washington DC 20001

May 11, 2015

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EXECUTIVE SUMMARY

This Traffic Study was conducted for the Western New York National Cemetery project located in the southeast corner of the intersection of Alleghany Road (Route77) and Indian Falls Road in Pembroke, NY. The primary focus of this study was to:

- Assess the potential effects of the Cemetery's generated vehicular traffic, from daily/routine operations, on the adjacent roadway network.
- Provide guidance on access point locations, geometry and controls.
- Offer guidance on potential speed control measures for Alleghany Road in the vicinity of the project site.
- Provide a general documentation and understanding of how traffic associated with larger funeral processions and special events may be managed.

To establish traffic flow patterns and characteristics within the study area, seven days of vehicular traffic volumes, speeds and classification data was collected on Route 77 south of Indian Falls Road and on Indian Falls Road east of Route 77 during a typical week in April 2015. Additionally, intersection turning movement counts were conducted at Route 77/Indian Falls Road during intersection weekday morning and evening peak periods. The traffic count data confirmed field observations that motorists on Route 77 traveled at or above the posted speed limit of 55 MPH. Acceptable capacity and operations were observed at the intersection of Route 77/Indian Falls Road, which was substantiated by the intersection counts and existing conditions operations capacity analysis modeling.

It is anticipated that daily/routine operations trip generation rates will peak for the Cemetery when burial rates are estimated to peak in 2017. After 2017, burial rates are expected to remain steady then begin a slow decline over the next 20 years. Therefore, to provide a conservative assessment it was assumed that 2017 would represent the future conditions year in this study.

Based on discussions with NYSDOT, no specifically approved developments or roadway improvements/modifications were identified within the immediate area surrounding the project site. Therefore, to account for ambient traffic volume growth from undocumented sources, current counts conducted in March 2015 were compared to historic data to develop a general straight line growth rate of 1.5% per year for a total of 3.0% traffic volume growth, from 2015 to 2017. With the application of this traffic volume growth rate, minimal degradation in roadway or intersection operations was predicted.

Guidance on potential access point locations was facilitated by sight distance evaluations, which was used to identify sections (access zones) of Route 77 where public and service entrances should be located. Additionally, a sight distance evaluation was conducted for a specific spot-location on Route 77 at the southern end of the project site were a dirt access-way already exists for a billboard sign located along the Thruway.

The Cemetery's peak traffic generation correlates with burial services hours, which occur on a weekday between 9:00 AM and 3:00 PM. Based on traffic generation at other National Cemeteries, the Trip generation for this project assumed two corteges of 15 vehicles each may arrive at the Cemetery between 8:00 and 9:00 AM and

two corteges of 15 vehicles each may leave the cemetery between 3:00 and 4:00 PM, since two committal services areas will be provided on site. Additionally, to provide a conservative assessment, it was assumed all seven employees arrive at 8:00 AM and leave at 4:00 PM along with an estimated number of visitors. This resulted in the following trip generation:

Morning Trip Generation 8:00-9:00 AM		
Trip Generator	Enter	Exit
Employee	7	0
Cortage	30	0
Visitor	10	5
Total	47	5

Afternoon Trip Generation 3:00-4:00 PM		
Trip Generator	Enter	Exit
Employee	0	7
Cortage	30	30
Visitor	10	20
Total	40	57

The estimated trip generation for the Cemetery was distributed onto the adjacent roadway network at the proposed public access point, and generally assumed that approximately 75% of the trips to the Cemetery would arrive from and return to points south of the site; with the remaining 25% of the trips to the Cemetery arriving from and returning to points north of the site. This distribution pattern assumed the Cemetery to be a destination type of land use and a majority of the traffic would arrive and leave the study area using the Thruway, I-90.

Operational analysis for proposed conditions, which included the Cemetery trips distributed onto the study area, was initially conducted assuming conventional types of roadway geometry for the public access point and the intersection of Route 77/Indian Falls Road. Both sets of analysis indicated that each intersection is predicted to operate acceptably, Level of Service results of 'c' or better. It is anticipated that the service access point for the Cemetery will accommodate less than 10 trips during either of the two analysis periods on a typical day without funerals. Given the very low traffic volumes and sporadic use of the service access, a detailed capacity analysis was not conducted; however, acceptable levels of operations are expected.

Under the conventional geometry scenario, no geometric improvements or changes to intersection controls were identified for the intersection of Route 77/ Indian Falls Road. For the public access point the operational capacity analysis assumed the Cemetery's public access would be stop sign controlled and have one lane entering and one lane exiting the site with no auxiliary turn lanes on Alleghany Road at the public access point.

A qualitative review of traffic signal warrants determined neither intersection is an appropriate candidate for traffic signal control.

As indicated by the operational analysis, left and right turn lanes on Route 77 at the public access point are not required to accommodate the Cemetery's typical operations. However, a review of the left and right turn lane warrant indicates the addition of a right turn lane should be considered based on traffic volumes alone. Additionally, given the 55-60 MPH travel speeds on Route 77 coupled with the predominant driver types associated with the Cemetery (older, unfamiliar with the area, and potentially preoccupied by their visit), it is recommended left and right turn lanes be provided on Rout 77 at the public access point to reduce the potential for accidents. To identify a best-fit set of turn lane geometrics that will accommodate the Cemetery's functions and activities it is recommended as part of the detailed design process for the access points that follow on discussions with NYSDOT be conducted to properly vet and account for physical constraints, adjacent intersection encroachment and right-of-way impacts.

An alternative geometric option assessed for the public access point/Route 77 and Route 77/Indian Falls Road intersections was a one-lane roundabout, which is predicted to provide acceptable operations, Level of Service 'a' for both locations. It was included in this study for consideration as, primarily, a potential speed mitigation option as well as a feature that may assist with transforming the traveling characteristics of Route 77. Should the roundabout option deserve further consideration, it is recommended an engineering feasibility assessment be conducted to determine specific roundabout geometry and related right-of-way impacts.

The Hamlet of Indian Falls located north of the study area has a posted speed limit of 40 MPH on Route 77. As part of the field investigation efforts with NYSDOT, it was noted that an extension of the 40 PMH speed limit in a southerly direction on Route 77, past the project site, is not expected to have an appreciable impact on actual travel speeds and is therefore not recommended. However, additional design considerations and travel speed countermeasures to improve safety and reduced speeds on Route 77 could include:

- Roadway restriping
- Speed limit pavement legend
- Speed feedback signs
- Speed activated feedback warning signs

A more comprehensive list of speed countermeasures is included in the appendix of the report for reference and consideration with New York State Department of Transportation.

Finally, although the average funeral procession (which occurs on a weekday between 9:00 AM and 3:00 PM) is approximately 15 vehicles there are sporadic occasions when funeral procession lengths can be considerably longer. These are typically associated with the death of an active duty person or someone who has been killed-in-action. For such occurrences, the Cemetery Director and the Department of Veterans Affairs (VA) has specific procedures and protocols in place to accommodate the higher traffic loads, which include the involvement of the VA Police as well as coordination with local authorities. On Memorial and Veterans Days a majority of the parking for related holiday ceremonies may be located offsite in designated remote parking lots and shuttle service for visitors to and from the Cemetery and the parking lots will be provided. Additionally, the VA Police

will be present at the Cemetery to control traffic. On other less busy holiday weekends when Cemetery traffic volumes may be elevated, but not to the point that may be experienced on Memorial or Veterans Day, coordination with local authorities will occur and an increased presence will be requested.

I. Introduction

The U.S. Department of Veterans Affairs (VA) proposes to build the Western New York National Cemetery on a 130+ acre site located in Pembroke, NY. Phase I of a four to five phase build-out of the project site involves the development of 45 acres of the site, which will include construction of cemetery facilities necessary to maintain, operate and provide burials for approximately 10 years.

The purpose of this traffic assessment is to:

- Assess the effects of the Cemetery's generated vehicular traffic, from daily/routine operations, on the adjacent roadway network.
- Provide guidance on access point locations, geometry and controls.
- Offer guidance on potential speed control measures for Alleghany Road in the vicinity of the project site.
- Provide a general documentation and understanding of how traffic associated with larger funeral processions and special events may be managed.

The project site is located along the eastern side of Alleghany Road (Route 77) between Indian Falls Road (to the north) and NY I-90 (to the south) in the town of Pembroke, NY. The study area encompasses the segments of Route 77 and Indian Falls Road adjacent to the project site and the intersection of Route 77/Indian Falls Road. The land uses bordering the project site are active agricultural land with undeveloped woodland/wetland area and a few residential properties. **Figure 1** provides a project location map. **Figure 2** identifies the proposed project area.

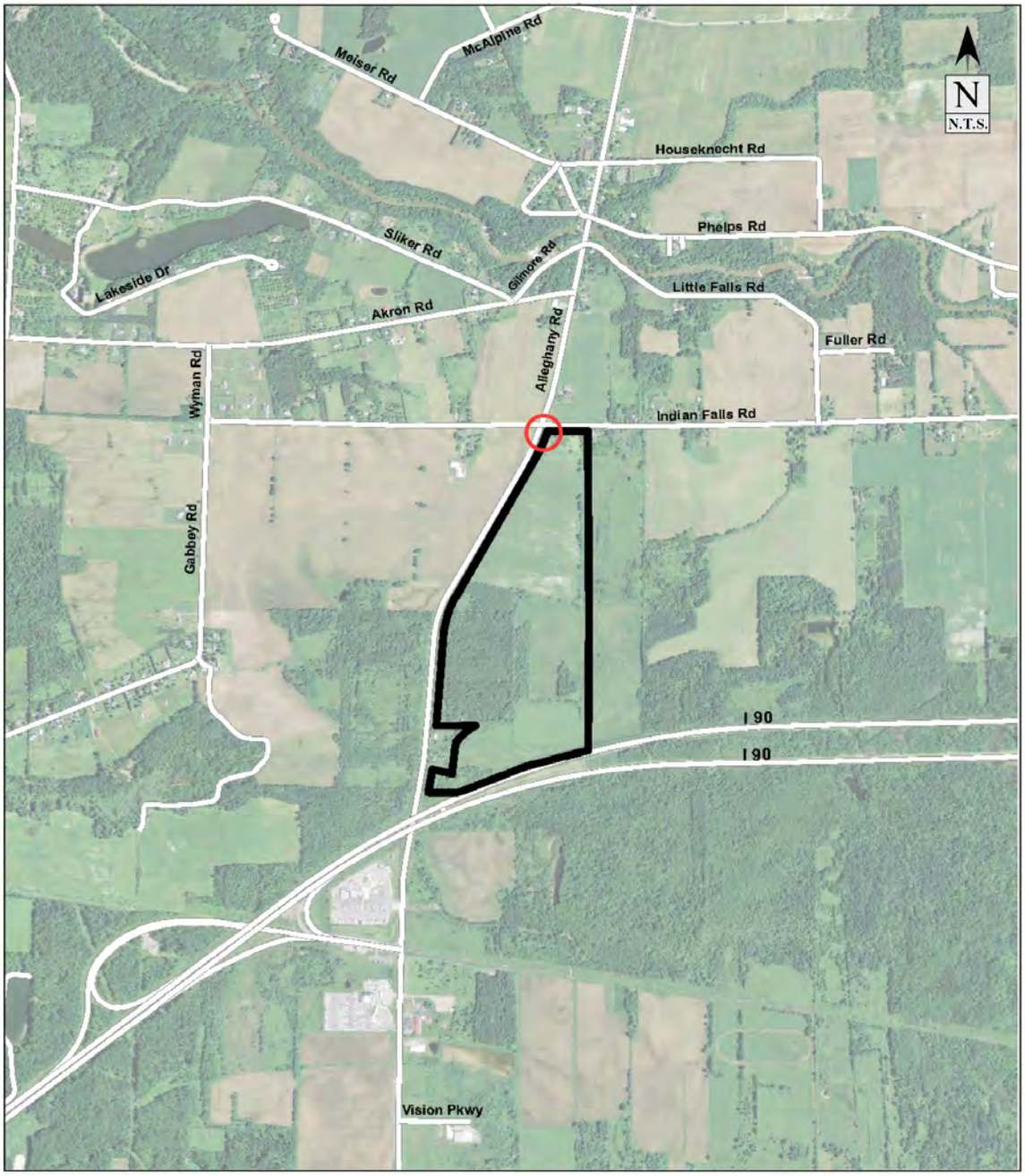
The following sections of the report document analysis procedures, technical assumptions, and vehicular operations, conclusions and recommendations.

KEY

★ = Project Location

Western New York National Cemetery
NY Route 77 & Indian Falls Road
Project Location Map

Figure 1



KEY

= Project Property Boundary Line

= Study Intersection

FISHERASSOCIATES

Western New York National Cemetery
NY Route 77 & Indian Falls Road
Proposed Project Area

Figure 2

II. Data Collection and Field Observations

Intersection turning movement counts (TMC) were collected for the intersection of Route 77/Indian Falls Road on Thursday April 16, 2015. The turning movement count data's primary purpose was to form the basis for the morning study period and afternoon study period operational assessments. Existing conditions volume data for the intersection of Route 77/Indian Falls Road is provided on **Figures 3 and 4** in the Existing Conditions section of this report. The actual intersection turning movement count data is provided in the **Appendix** of this study.

To confirm roadway character, motorist behaviors and to validate the TMC data, Automated Traffic Recorders (ATR's) collected continuous traffic volume, speed and classification data on Route 77 south of Indian Falls Road and on Indian Falls Road east of Route 77, from April 15, 2015 to April 22, 2015. **Table 1** below summarizes the weekday ADT, 85% speed and heavy vehicle percentage data collected by the ATRs. The ATR count data is provided in the **Appendix** of this study.

Table 1

ATR Data

Route	Route 77: South of Indian Falls Road	Indian Falls Road: East of Route 77
Weekday ADT	6,535	931
85% Speed	59 MPH	45 MPH
Heavy Vehicle %	9%	7%

Additionally, to establish potential access point locations, sight distance evaluations were conducted for Route 77 and Indian Falls Road within the study area on April 7, 2015 and April 16, 2015. The criteria utilized for the sight distance evaluation, the evaluation process and findings are explained in the Future Conditions section of this study.

Field observations noted good levels of operation at the study intersection as well as for Route 77 and Indian Falls roadway segments. Motorists appeared to be traveling at or above the posted 55 MPH speed limit on Route 77. On both days of observation police were present on Route 77 monitoring traffic and stopping vehicles.

III. Existing Conditions

This section of the study describes the current transportation network included in this assessment and documents the transportation network, capacity analysis methodology and current network operations.

A. Description of Transportation Network

Route 77– Route 77, also known as Alleghany Road, within the study limits, is a north-south travel route with one travel lane in each direction. The travel lanes are approximately 12' wide. Route 77 is classified by NYSDOT as a rural minor arterial roadway. The posted speed limit is 55 MPH within the study limits. ATR counts documented a weekday ADT of 6,535 for Route 77.

Route 77
Southbound

Indian Falls Road – Indian Falls Road, within the study area, is an east-west travel route with one travel lane in each direction. The travel lanes are approximately 11' wide. Indian Falls Road to the east of Alleghany Road is classified by NYSDOT as a rural minor collector roadway and to the west of Route 77 is classified as a local road. The posted speed limit is 55 MPH within the study limits. ATR counts documented a weekday ADT of 931 for Indian Falls Road.

.

Indian Falls Road
Westbound

Route 77 & Indian Falls Road Intersection – The Route 77 and Indian Falls Road intersection is a four-legged intersection with one lane entering from each approach. It is stop sign controlled on Indian Falls Road's eastbound and westbound approaches.

Route 77/Indian Falls Road Intersection
Westbound Approach

NYS Interstate 90 (I-90) Exit 48-Pembroke - I-90 is an east-west toll road with two lanes in each direction that stretches across Upstate New York. The I-90 Exit 48-Pembroke access is located off Route 77 approximately 1/3 mile south of the southern Site boundary. Although it is not included in the study area, it's proximity to the project site is notable, as a significant percentage of traffic to and from the National Cemetery is expected to take advantage and use of I-90.

B. Capacity Analysis Methodology

Intersection capacity analysis was conducted using Synchro, Version 8.0 software[1]. The program is based on methods presented in the 2010 Highway Capacity Manual[2] that describes the levels of operation of intersections controlled by signals and regulated by stop signs.

Using an analytical approach, a Level of Service is determined for traffic travelling through an intersection. The Level of Service is defined or quantified in terms of average delay experienced by motorists, which is equated to the letters 'a' to 'f' for stop sign controlled intersections. The following provides delay descriptions for each level of service:

Stop Sign Controlled Intersections

a 10 seconds or less
b 10.1 to 15 seconds
c 15.1 to 25 seconds
d 25.2 to 35 seconds
e 35.1 to 50 seconds
f Greater than 50 seconds

From experience, a Level of Service 'd' for a stop controlled intersection is generally considered to be the threshold of acceptable operations in a rural setting.

C. Establishment of Study Time Period and Operational Analysis

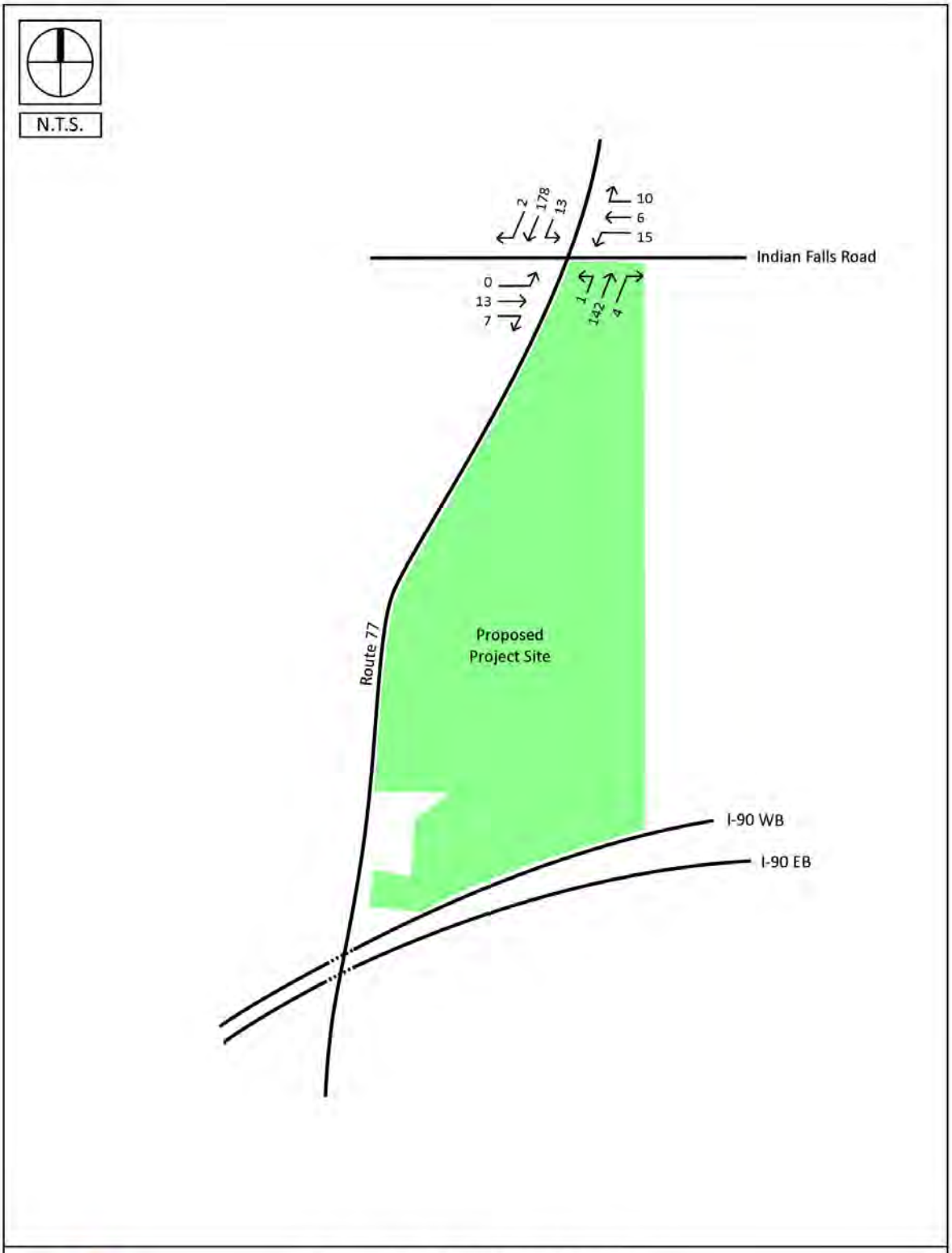
The Western New York National Cemetery operations and functions will be in accordance with the operations for all other National Cemeteries and will closely replicate the operations of Indiantown Gap National Cemetery in Annville, PA. Based on the operations at Indiantown Gap and through discussions with the project team, weekday morning and afternoon study periods were determined for analysis purposes. Specific operational details include:

- **Employees** arrive between 7:30-8:00 AM, begin work promptly at 8:00 AM and conclude the work day by 4:30 PM.
- **Funeral services** occur between 9:00 AM and 3:00 PM, primarily Tuesday thru Thursday, taking place promptly on the hour/half hour as scheduled throughout the day.
- **Funeral corteges** begin to arrive between 8:00-9:00 AM for 9:00 AM services. In the afternoon the last services end at 3:00 PM with attendee departures after 3:00PM.
- **Visitors** may pay their respects and tour the the Cemetery from dawn until dusk.

Based on the Cemetery operations, a morning study period of 8:00-9:00 AM was a chosen for operational capacity analysis to capture the peak traffic generating morning period of the cemetery. Similarly, an afternoon study period of 3:00-4:00 PM was chosen for operational capacity analysis to capture the peak afternoon traffic generating period of the Cemetery.

Existing conditions traffic volume data for the morning and afternoon study periods were obtained from turning movement counts collected April 16, 2015 for the intersection of Route 77/Indian Falls Road and depicted on **Figure 3** and **Figure 4,** respectively. Existing conditions capacity analysis indicate a Level of Service (LOS) ‘c ‘ or better, for all movements within the study intersection, for both time periods, which confirmed field observations.

Capacity analysis summary reports for Existing Conditions are provided in the **Appendix** of this report.



Western New York National Cemetery
Existing Conditions (2015) Traffic Volumes
Morning Study Period

Figure 3

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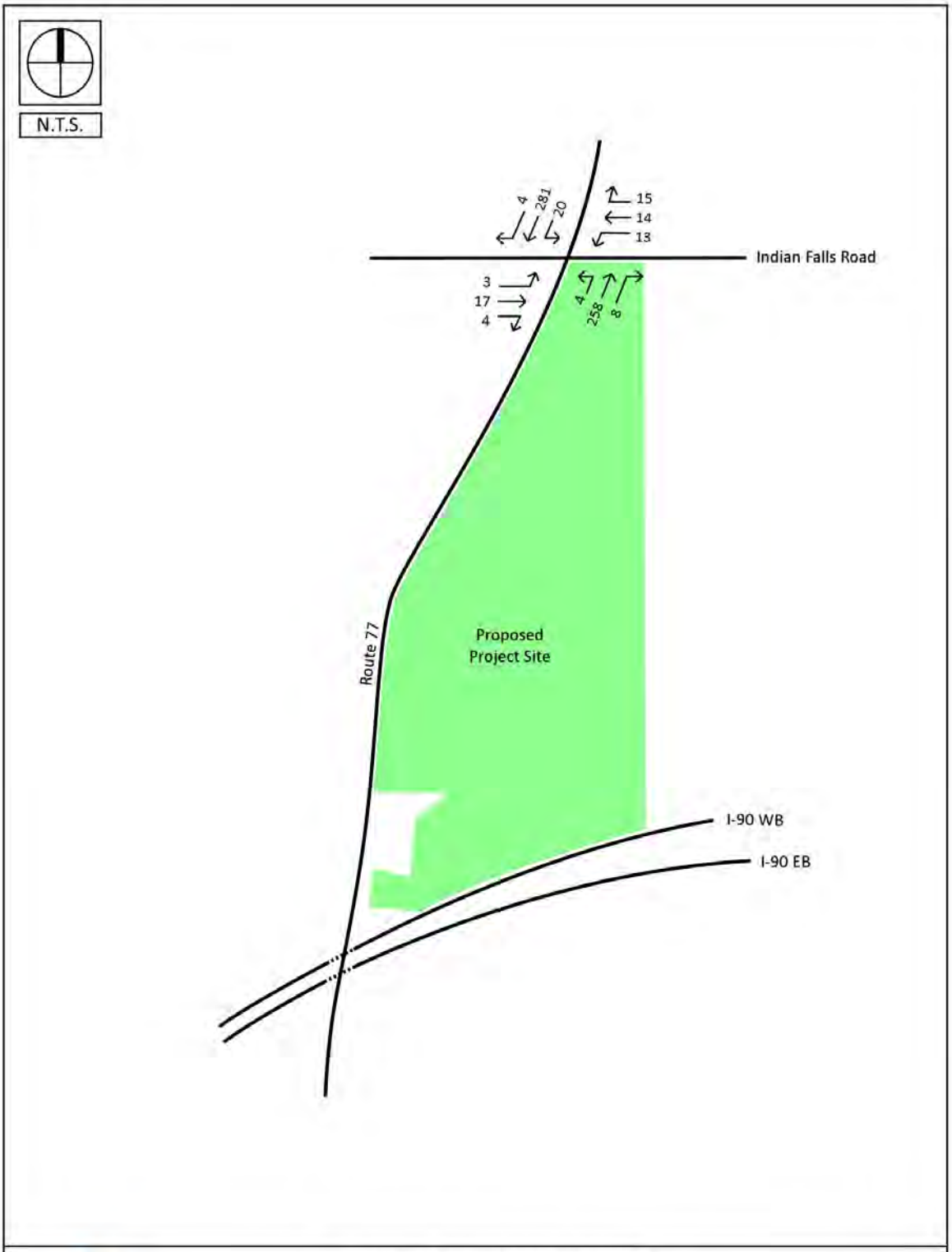

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Western New York National Cemetery
Existing Conditions (2015) Traffic Volumes
Evening Study Period

Figure 4

IV. Background Conditions

This section of the study establishes the base conditions upon which the Cemetery generated traffic will be added to assess proposed (future) conditions and operations.

A. Background Growth

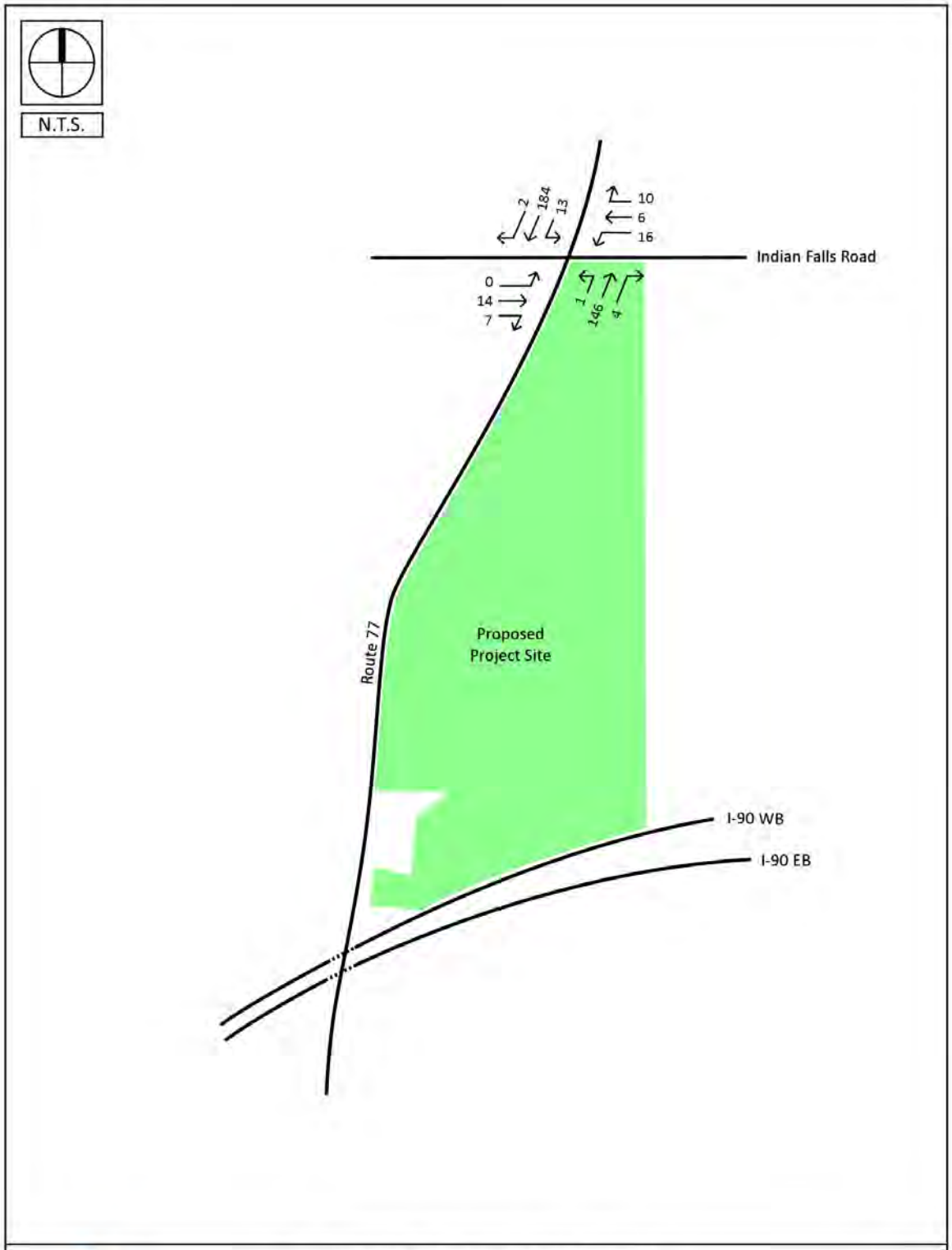
It is anticipated that the National Cemetery will be operational in 2016. However, projected internment rate data provided by the VA identifies 2017 as the year that projected internment rates are expected to be at their highest level of 421. Additionally, the data shows that internment rates are expected to consistently decline in the subsequent 20 years. Therefore, to provide a conservative assessment, background conditions were established for the year 2017.

Based on discussions with NYSDOT, no specifically approved developments or roadway improvements/modifications were identified within the immediate area surrounding the project site. Hence, current Route 77 ADT from April 2015 ATR count data was compared against historic ADT data to develop a straight-line nominal growth rate of 1.5% per year to account for ambient traffic volume growth. As a result, a total of 3% traffic volume growth for 2015 to 2017 was applied to the 2015 Existing Conditions traffic volumes to establish 2017 Background Conditions traffic volumes.

Figure 5 and Figure 6 depict morning and afternoon Background Conditions traffic volumes respectively.

B. Background Operations & Capacity Analysis

The background conditions capacity analysis indicates a Level of Service of 'c' or better for all movements within the study intersection, for both time periods. These results are indicative of a roadway network that is projected to operate without significant capacity constraints well into the immediate future. Capacity analysis summary reports for background conditions are provided in the **Appendix** of this report.



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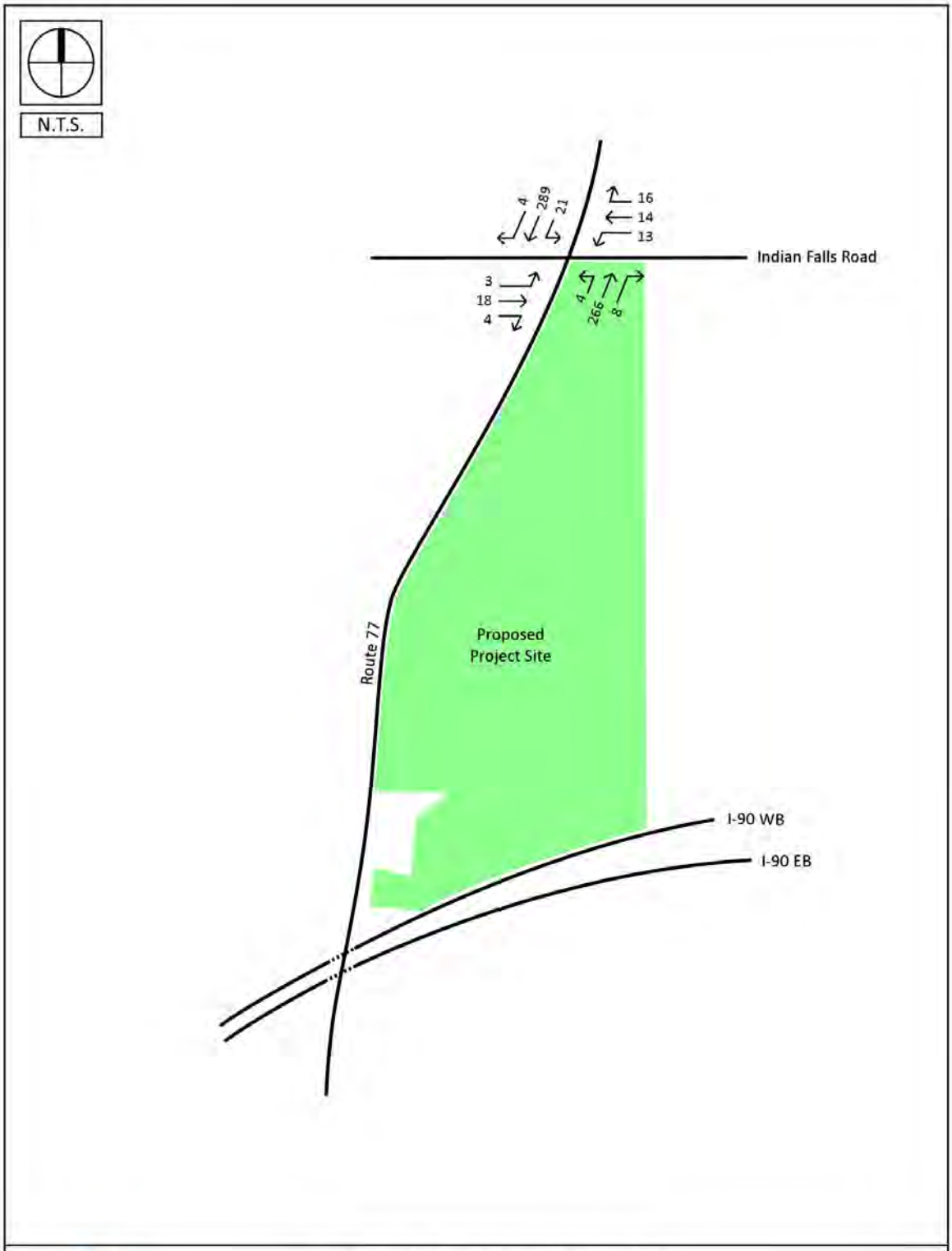
Western New York National Cemetery
Background Conditions (2017) Traffic Volumes
Morning Study Period

Figure 5



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Western New York National Cemetery
Background Conditions (2017) Traffic Volumes
Evening Study Period

Figure 6

V. Future Conditions

Under future conditions the study will provide guidance on:

- Access point locations.
- Access point geometry and control recommendations
- Potential speed control measures for Route77 in the vicinity of the project site.

Additionally, a general understanding will be provided on how traffic associated with larger funeral processions and special events may be managed by the VA and in cooperation with the local jurisdictions and authorities.

A. Access Point Sight Distance Evaluation

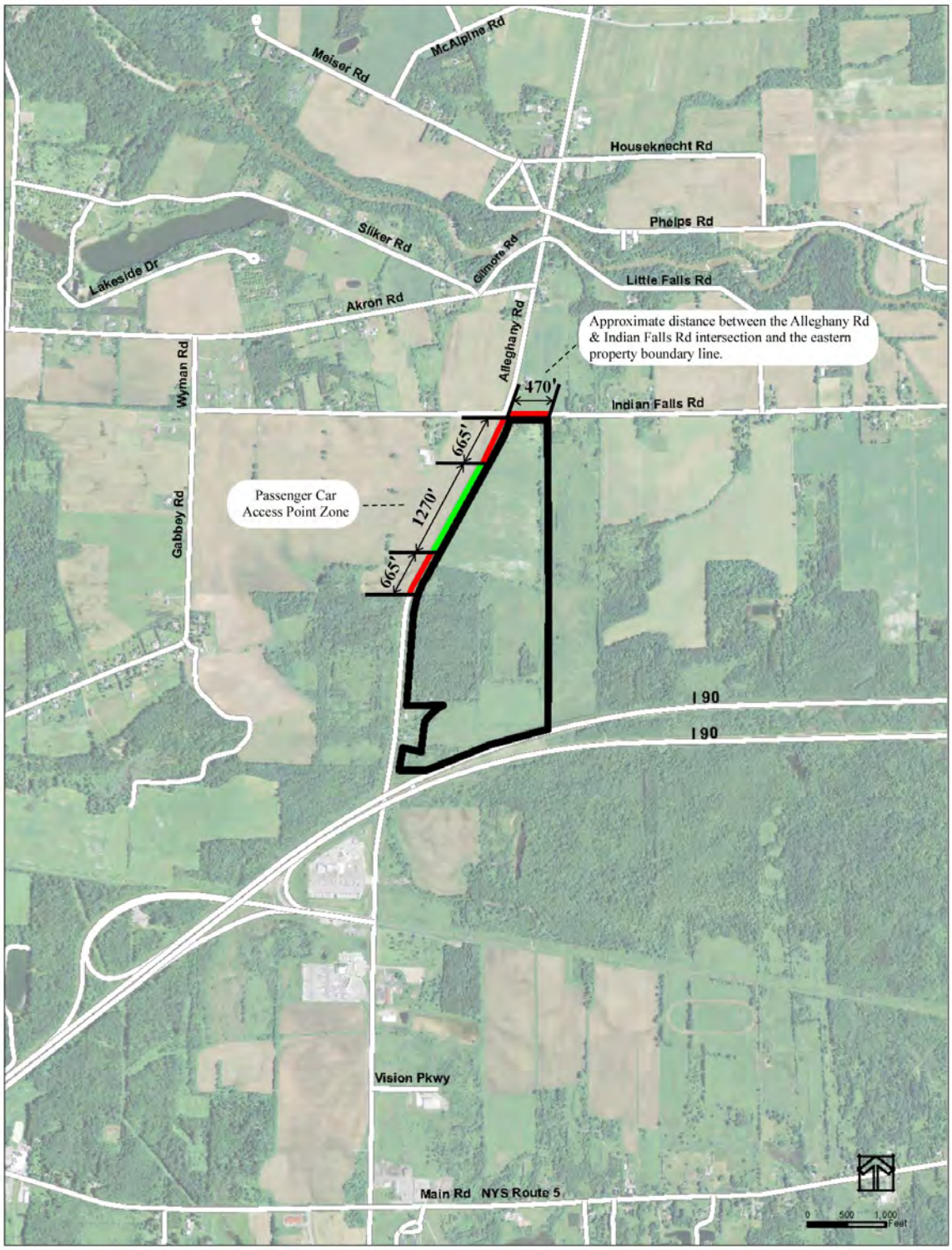
To identify an appropriate zone in which to locate public and service access points, a sight distance evaluation was conducted along the project's property fronting Route 77. Criterion for conducting this evaluation was obtained from ASSHTO's A Policy on Geometric Design of Highways and Streets[3], FHWA's Access Management in the Vicinity of Intersections[4] and NYSDOT's Highway Design Manual[5].

Additionally, based on field observations and project team discussions, it was assumed that:

- Access would be limited to Route 77 at the northern end of the project site
- Access from the project onto Route 77 would not occur within the wooded/wetland area.
- The horizontal curve on Alleghany Road was the sight constraint to the south.
- The intersection of Route 77 and Indian Falls Road was the sight (crest of vertical curve) constraint to the north.
- The estimated functional area of the Route 77 and Indian Falls Road intersection was used to determine the intersection separation constraint.
- The primary vehicle type using the public access point would be a passenger vehicle (car, suv or light truck).
- The primary vehicle type using the service access point would be a utility/maintenance vehicle (heavy duty truck, box truck or single unit truck).

Based on this evaluation, a public access zone of approximately 1,270 feet and a service access zone of approximately 920 feet were identified along Route 77 at the northern end of the project site. **See Figures 7 and 8**.

Additionally, sight distance measurements for a specific service access point were documented at the southern end of the project site. This specific service access point is located in the vicinity of a dirt road/access-way for a billboard sign located along the Thruway. At this specific location, the observed intersection sight distance was greater than the desired intersection and stopping sight distance that was established for determining the service access point zone at the northern end of the project site. **See Figure 9**. A detailed access point sight distance evaluation analysis and support material is contained in the **Appendix** of this report.



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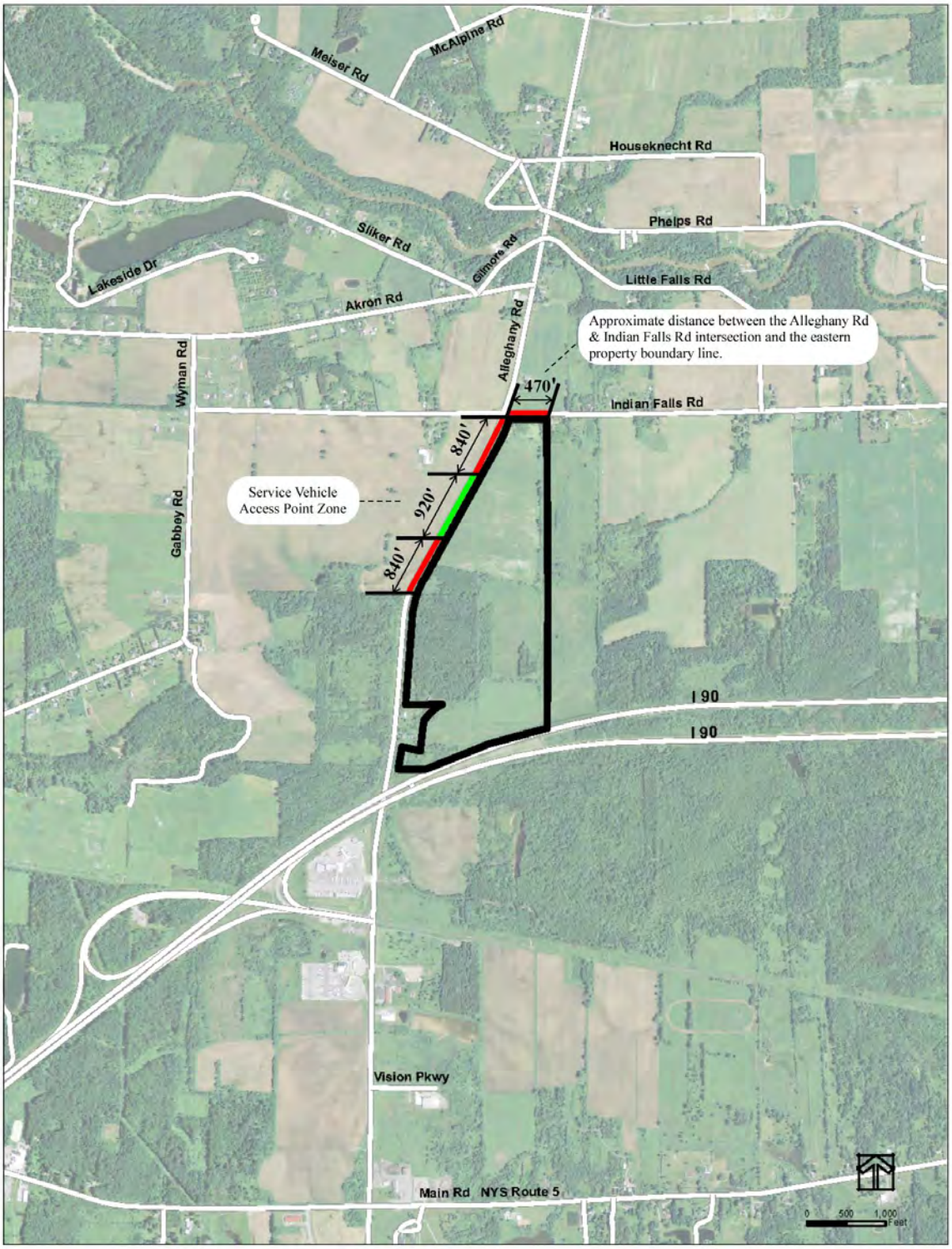
Western New York National Cemetery
Route 77 & Indian Falls Road
Passenger Car Access Point Zone Map

Figure 7



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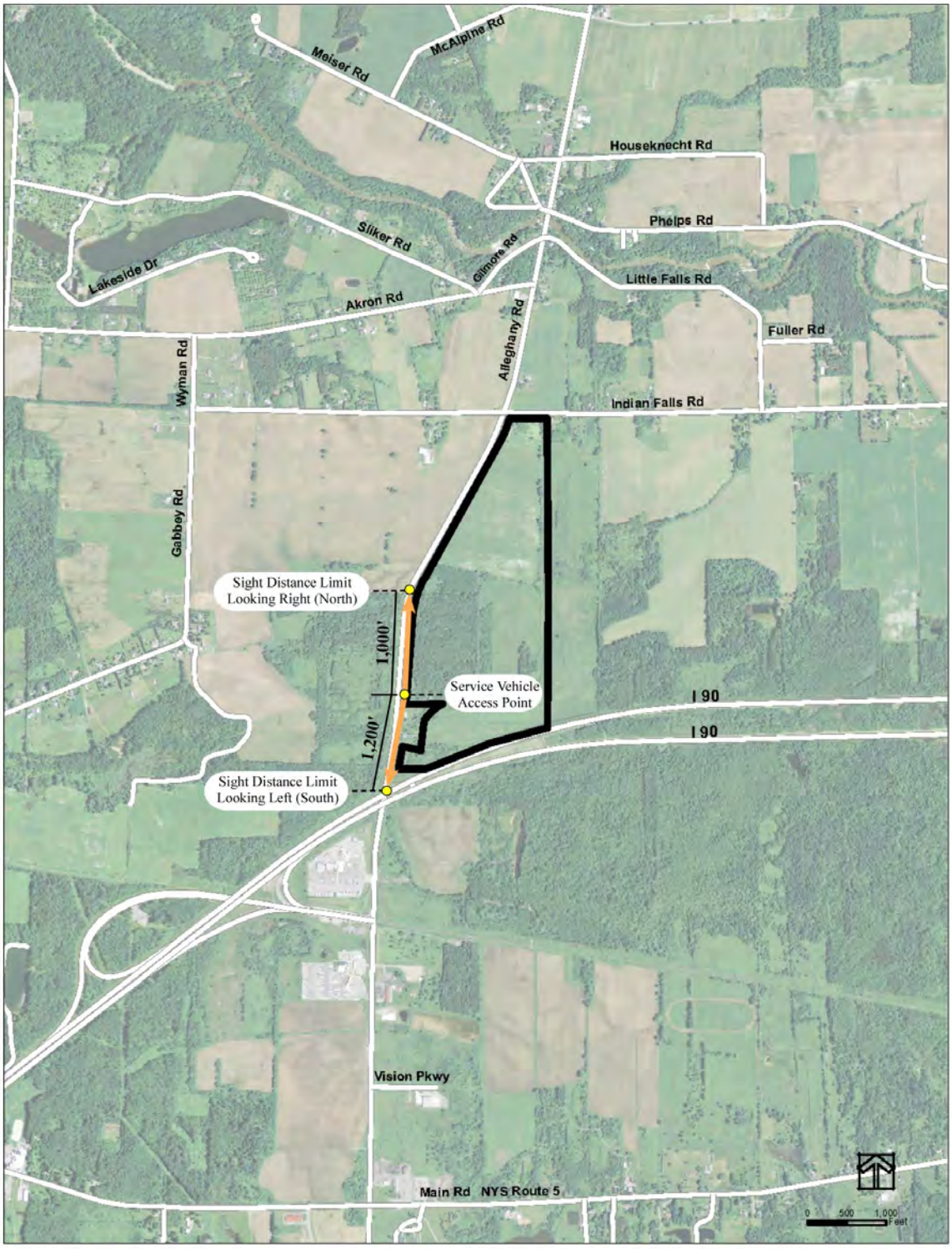
Western New York National Cemetery
Route 77 & Indian Falls Road
Service Vehicle Access Point Zone Map

Figure 8



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Western New York National Cemetery
Route 77 & Indian Falls Road
Service Vehicle Access - Observed Intersection Sight Distance

Figure 9

B. Trip Generation

Site specific trip data for this project was provided by the VA based on their extensive experience with development of similar national cemetery projects and historical knowledge of national cemetery operations.

The national cemetery is expected to have seven (7) employees that are expected to arrive by 8:00 AM and depart by 4:30 PM. On a typical day 3-4 (maximum 6) funeral services will be provided that will generally occur between the hours of 9:00 AM and 3:00 PM, Tuesday thru Thursday. Based on the understanding of existing operations at Indiantown Gap National Cemetery and program information provided by the VA, the average funeral cortege consists of 15 vehicles with the potential of 2 funeral services occurring at the same time. The cemetery site will be designed with an onsite vehicle staging area to accommodate 2 average corteges (30 vehicles). It is anticipated standard-practice escort services will provide sufficient traffic control assistance for these types of daily events.

Trip generation estimates are conservatively based on the assumption that 7 employees and 2 overlapping committal services with corteges of 15 vehicles each will all arrive between 8:00 – 9:00 AM and depart between 3:00-4:00 PM.

Approximately 150 visitors, 2 persons per vehicle, are expected at the cemetery on an average day amounting to 75 vehicle trips. It is assumed that up to 20% (15) of visitors may arrive and depart during the morning study period and up to 40% (30) of visitors may arrive and depart during the afternoon study period.

Table 2 below provides morning and afternoon study period trip generation summary based on the above estimates and assumptions.

Table 2
Summary of Trip Generation

Morning Trip Generation 8:00-9:00 AM		
Trip Generator	Enter	Exit
Employee	7	0
Cortage	30	0
Visitor	10	5
Total	47	5
Afternoon Trip Generation 3:00-4:00 PM		
Trip Generator	Enter	Exit
Employee	0	7
Cortage	30	30
Visitor	10	20
Total	40	57

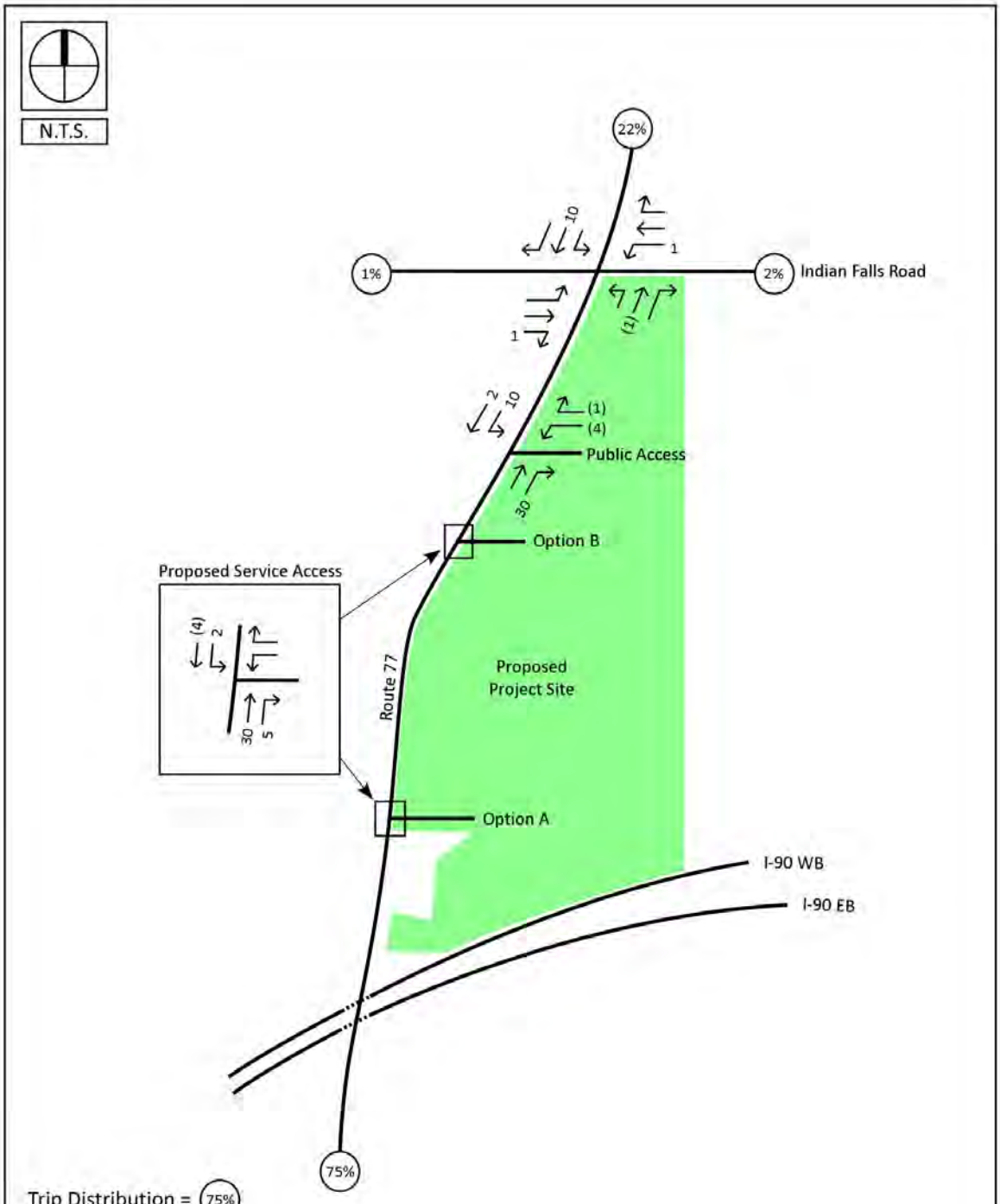
C. Trip Distribution

Approximately 1/3rd of mile south of Cemetery site is NYS I-90 Exit 48-Pembroke access is located on Route 77. NYS I-90 is an east-west toll road that stretches across Upstate New York and is expected it will serve a significant percentage of the traffic destined for the Cemetery.

Hence, it is was estimated that 75% of Cemetery trips traveling from and returning to south of the site are expected to travel I-90 Exit-48, and 25% of Cemetery trips travelling from and returning to north of the site are expected to travel through the intersection of Route 77/Indian Falls Road.

Cemetery trips arriving from and returning to north of the site via the Route 77/Indian Falls Road intersection were distributed based on turning movement count volume data collected April 16, 2015. Trips entering and exiting the project site were distributed based on their trip generator categorization (employee, visitor, and cortege) to determine the appropriate trip across the access point distributions.

Morning and afternoon trip distributions in the form of entering and exiting percentages along with actual new trips are provided in **Figure 10** and **Figure 11,** respectively.



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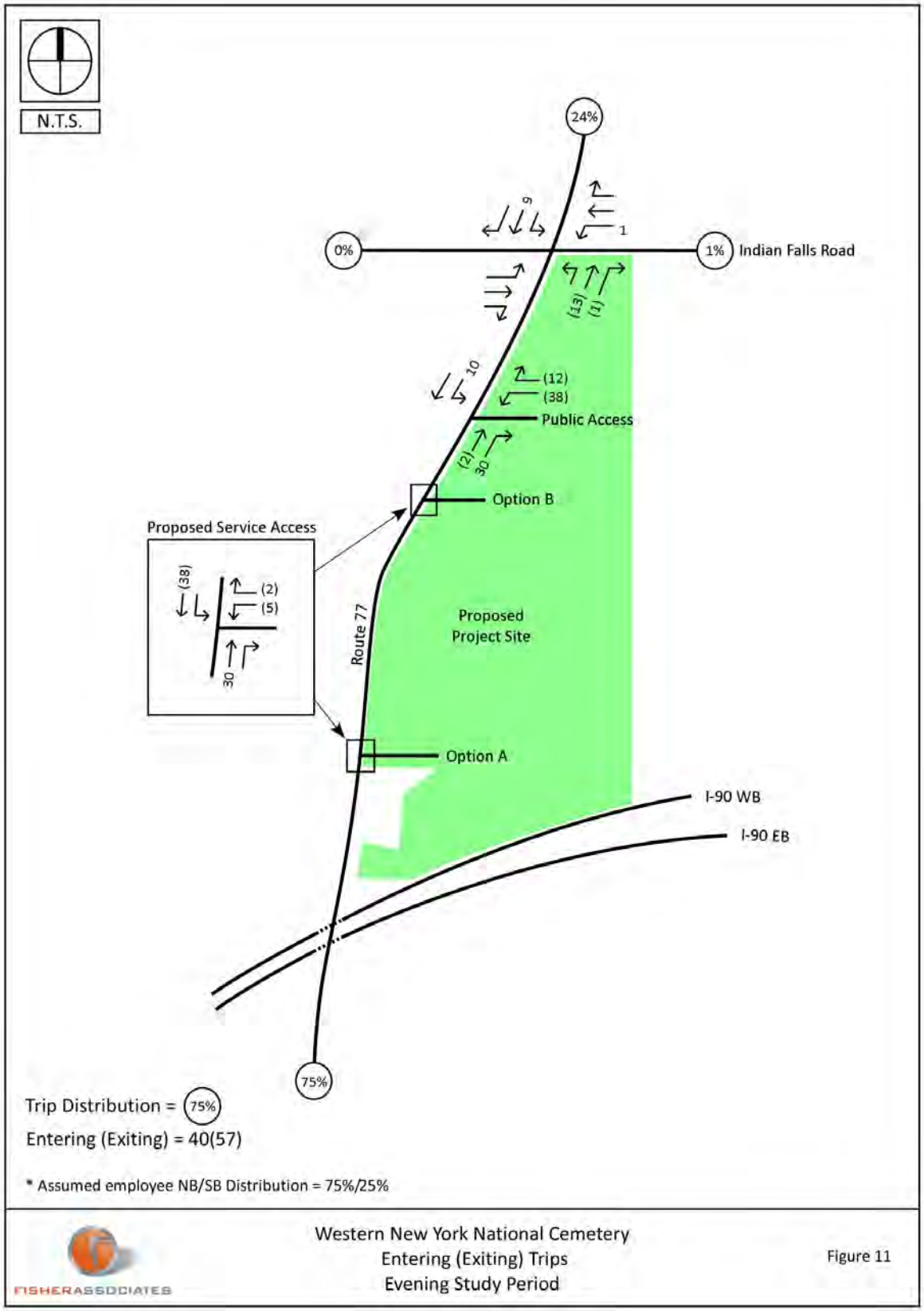
Western New York National Cemetery
Entering (Exiting) Trips
Morning Study Period

Figure 10


N.T.S.
24%
0%
1%
Indian Falls Road
9
1
(13)
(1)
10
(12)
(38)
Public Access
(2)
30
Option B
Proposed Service Access
(38)
(2)
(5)
30
Route 77
Proposed
Project Site
Option A
I-90 WB
I-90 EB
75%
Trip Distribution = 75%
Entering (Exiting) = 40(57)
* Assumed employee NB/SB Distribution = 75%/25%
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Western New York National Cemetery
Entering (Exiting) Trips
Evening Study Period
Figure 11

D. Cemetery Related Operations & Capacity Analysis

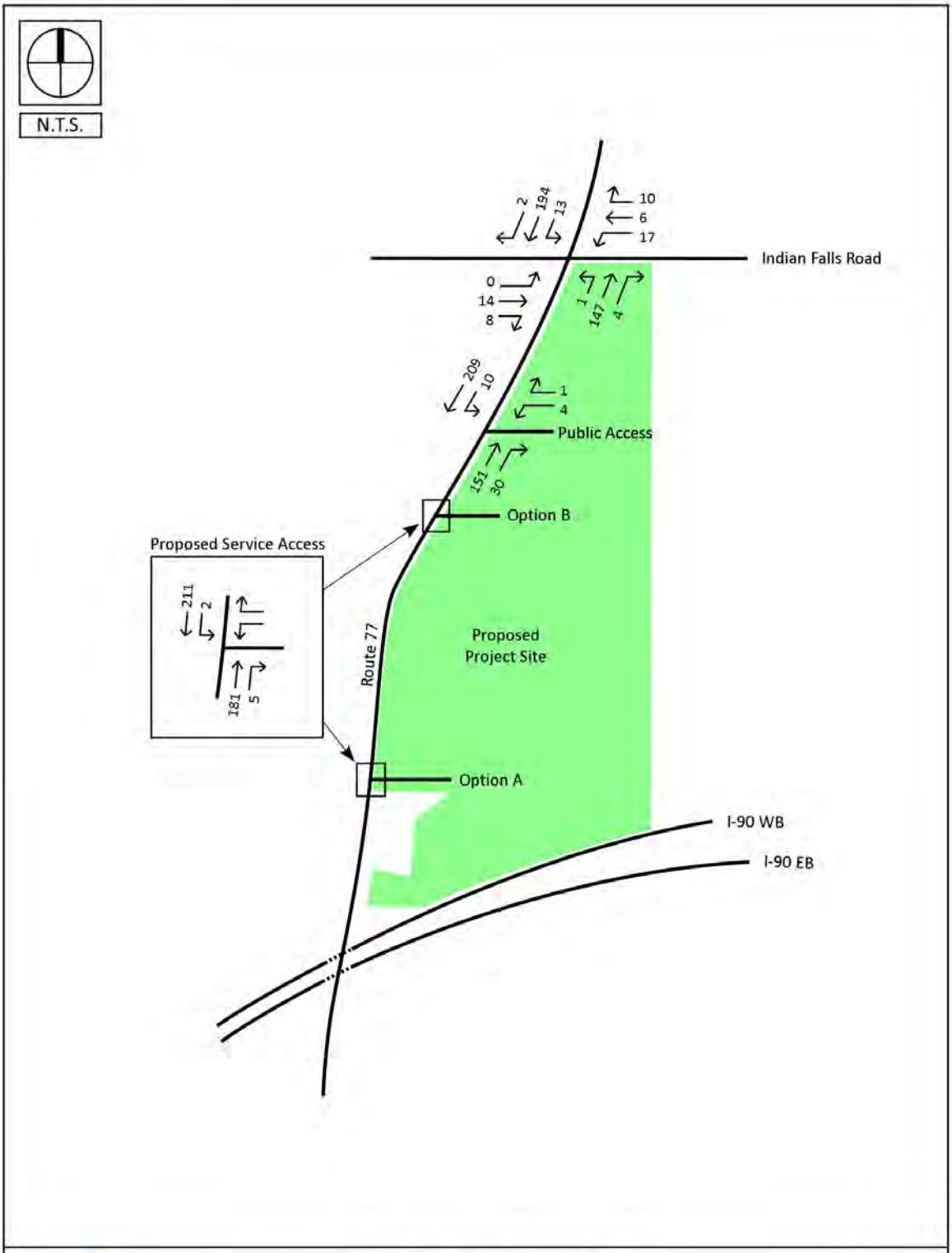
To conduct operational capacity analysis for the intersection of Route77/Indian Falls Road and the Route 77/Public Assess point, the Cemetery's trip generation was applied to background conditions traffic volumes. Future Conditions morning and afternoon traffic volumes are provided in **Figures 12 and 13** respectively.

Initially, based on the projected future traffic volumes, the operational capacity analysis assumed the Cemetery's public access would be stop controlled on the Cemetery approach with one lane exiting and one lane entering the property with no left or right turn lanes on Route 77.

Although two locations were identified on Route 77 for a possible service access point, *Option A* - south of the horizontal curve on Route 77, and *Option B* - north of the horizontal curve on Route 77 within the public access zone, a preferred service access location remained under evaluation at the time of this study. *Option A* and *Option B* are both graphically depicted in the traffic volume figures along with the service access trips. It is anticipated that the service access will serve less than 10 vehicles during either of the two study periods on a typical day. Therefore, due to these minimal traffic volumes, the service access point is expected to operate acceptably.

Results of the capacity analysis indicate that all movements within the study intersections are expected to operate at a Level of Service 'c' or better during both analysis hours. Capacity analysis summary reports for proposed conditions are provided in the appendix of this report.

The 2009 edition of the Manual of Uniform Traffic Control Devices (MUTCD) Chapter 4C[6] provides nine signal warrants to evaluate the need for a traffic signal at an intersection. A qualitative review of signal warrants indicated signal control is not applicable at the Route 77/Indian Falls Road intersection or the Route 77/Public Access intersection, which is further supported by the acceptable level of service 'c' or better for side street stop control.



Western New York National Cemetery
Future Conditions (2017) Traffic Volumes
Morning Study Period

Figure 12

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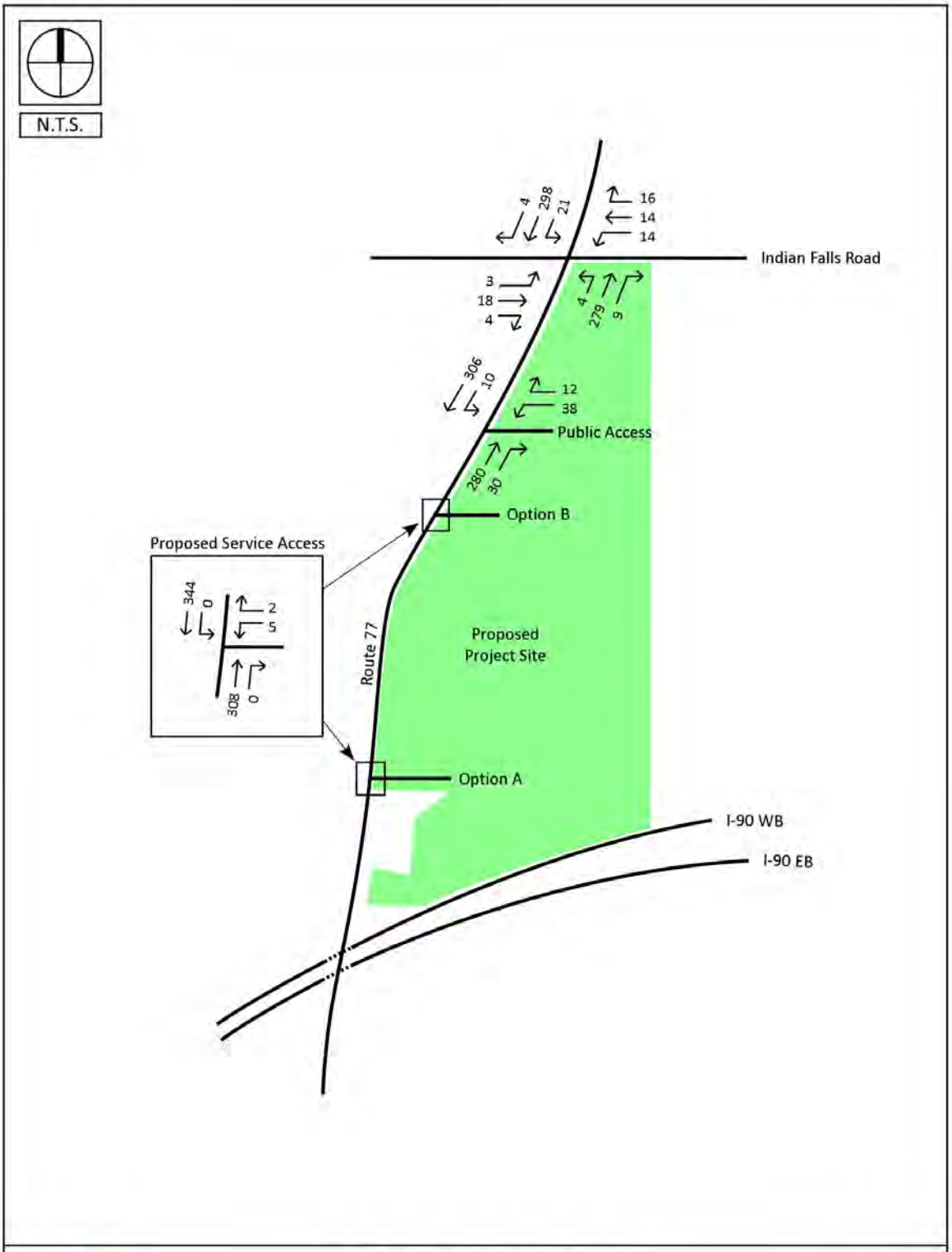

Western New York National Cemetery
Future Conditions (2017) Traffic Volumes
Evening Study Period

Figure 13

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E. Turn Lane Evaluation – Safety Considerations

As indicated by the operational analysis, left and right turn lanes at the public access point on Route 77 are not necessary to achieve acceptable Levels of Service for the proposed traffic demands related to the more routine/typical weekday Cemetery activities associated with visitors, burial corteges and staffing. A review of the left and right turn lane warrants, contained in the appendix, does indicate the addition of a right turn lane should be considered based on traffic volumes alone. Additionally, given the higher travel speeds on Route 77 coupled with the predominant driver types connected with the Cemetery (older, unfamiliar with the area, and potentially preoccupied by their visit), it is recommended left and right turn lanes be provided on Route 77 at the public access point to reduce the potential for accidents. Given the low traffic volumes at the service entrance and assumed access point operations, it is anticipated left and/or right turn lanes are not warranted.

For the public access point, a review of ASSHTO's Policy on Geometric Design of Highway's and Streets[3] as well as Chapter Five from the NYSDOT Highway Design Manual[5] noted the desirable full deceleration length is 605 feet for a roadway travel speed of 60 MPH. If it is assumed that traffic entering the turn lane has already begun its deceleration by 10 MPH, then the desirable full deceleration length is 425 feet for a roadway travel speed of 50 MPH. These full deceleration lengths are in addition to vehicle storage lengths based on potential vehicle queuing. Since the operational capacity analysis for the public access point did not predict the need for turn lanes to satisfy a capacity constraint, a nominal vehicle queue length of two passenger cars was assumed. This queue length was then correlated to a lane storage length of approximately 75' at the public access point.

These turn lane geometries are provided for guidance purposes. It is recommended, as part of the detailed design process for the access points, that follow up discussions with NYSDOT occur to identify a best-fit set of turn lane geometrics to account for the physical constraints of the roadway network and desirable conditions to accommodate the Cemetery's functions and activities. Capacity analysis summary reports for turn lane evaluation are provided in the **Appendix** of this report.

F. Roundabout Evaluation

Capacity analysis was conducted for roundabouts at the Public access point and Route 77/Indian Falls intersection. Although roundabouts are not necessary to achieve acceptable Levels of Service for the proposed traffic demands related to the more routine/typical weekday Cemetery activities, it is included in this study as an option that may mitigate travel speed and may assist with changing the travelling characteristics of Route 77 within the vicinity of the Cemetery.

Results of the capacity analysis conducted for roundabout evaluation indicate that the study intersections are expected to operate at a Level of Service 'a' during both analysis hours. Capacity analysis summary reports for roundabout evaluation are provided in the **Appendix** of this report.

Should the roundabout option be pursued further, it is recommended an engineering feasibility assessment be conducted to determine specific roundabout geometry and related right-of-way impacts.

G. Rural Road Travel Speed Countermeasures

The Hamlet of Indian Falls located north of the study area has a posted speed limit of 40 MPH on Route 77. As part of the field investigation efforts with NYSDOT, it was noted that an extension of the 40 PMH speed limit in a southerly direction on Route 77, past the project site, is not expected to have an appreciable impact on actual travel speeds and is therefore not recommended. However, additional design considerations and travel speed countermeasures to improve safety and reduced speeds on Route 77 could include:

- Roadway restriping
- Speed limit pavement legend
- Speed feedback signs
- Speed activated feedback warning signs

A more comprehensive list of speed countermeasures provided by the Federal Highway Administration (FHWA) is included in the **Appendix** of the report for reference and consideration with New York State Department of Transportation.

H. Cemetery Events and Special Occasions

Capacity analysis results indicate that the Cemetery operations throughout a typical day will have minimal operational impact on the surrounding roadway network during the study hours. However, there are occasions when funeral processions may be larger than the average 15-vehicle cortege. These typically occur when a funeral service is for an active duty service member who was killed-in-action. To accommodate the expected traffic volumes, the Cemetery Director and the VA have specific procedures and protocols in place, which include coordination with VA police and local municipalities to provide appropriate traffic controls and safety as the procession travels the roadways.

For Memorial Day and Veteran's Day ceremonies the Cemetery can experience an increase visitor demand and attendance. It is acknowledged for these events coordinated traffic control may be necessary and the will work with local authorities on appropriate temporary measures to facilitate these events. Also, because parking within the national cemetery is limited, on such occasions, off-site parking may be arranged with a shuttle service. During busy holidays like Christmas week and Mother's Day weekend when increased visitor volumes occur throughout the day, unlike a scheduled event when visitors arrive at the same time, cemetery staff may coordinate with local authorities to request an increased police presence in the area.

VI. Conclusions

In Summary, the following transportation related recommendations and considerations are provided to accommodate the traffic generation for the Western New York National Cemetery:

- The public access point should be located within the 1270 feet public access zone.
- The service access point should be located either within 920 feet service access zone or located in the vicinity of a dirt road/access-way for a billboard sign located along the Thruway.
- No geometric improvement or modifications to intersection controls were identified for the intersection of Route 77/Indian Falls Road.
- Acceptable levels of service are predicted for the public access point with the Cemetery approach being stop sign controlled with one lane exiting and one lane entering.
- It is recommended left and right turn lanes be provided at the public access point to reduce the potential for accidents. As part of the detailed design process for the access points, follow up discussions with NYSDOT should occur to identify a best-fit set of turn lane geometrics to account for the physical constraints of the roadway network and desirable conditions to accommodate the Cemetery's functions and activities.
- Application of a roundabout at either the public access point or the intersection of Route 77/Indian Falls Road may mitigate travel speed and may assist with changing the travelling characteristics of Route 77 within the vicinity of the Cemetery. Further consideration of this option warrants an engineering feasibility assessment be conducted to determine specific roundabout geometry and related right-of-way impacts.
- Other treatments may be considered in an effort to control travel speeds within the study area, For example, but not limited to:
    - Roadway restriping
    - Speed limit pavement legend
    - Speed feedback signs
    - Advance warning signs

References:

1. Trafficware, Synchro 8 Software.
2. Transportation Research Board. Highway Capacity Manual, Washington, DC, 2010.
3. ASSHTO. A Policy on Geometric Design of Highways and Streets.
4. FHWA. Access Management in the Vicinity of Intersections.
5. NYSDOT. Highway Design Manual.
6. Federal Highway Administration. 2009 Manual on Uniform Traffic Control Devices (MUTCD).
7. Federal Highway Administration. New York State Supplemental to the MUTCD.

APPENDIX

Western New York National Cemetery Traffic Study

Town of Pembroke, Genesee County
New York

Prepared for:

Department of Veterans Affairs
Office of Construction & Facilities Management
Washington DC 20001

May 11, 2015

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Fisher Associates Project Number: 154013

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APPENDIX

Western New York National Cemetery
Traffic Study

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C. INTERSECTION CAPACITY ANALYSIS
D. SIGHT DISTANCE EVALUATIONS
E. ENGINEERING COUNTERMEASURES FOR REDUCING SPEEDS

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A. TURNING MOVEMENT COUNTS

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Western New York National Cemetery
Existing Conditions
Morning Analysis Hour

Location: Pembroke, NY
Intersection: Rt 77/Indian Falls Road
Date: Thurday, April 16th, 2015
Counter: MIO TW

File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 1

Groups Printed- Cars - Buses - Trucks - Pedestrians

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	62	0	0	63	6	2	1	0	9	2	49	1	0	52	0	3	2	0	5	129
07:15 AM	4	74	0	0	78	10	2	2	0	14	0	39	1	0	40	0	1	4	0	5	137
07:30 AM	7	74	1	0	82	6	4	2	0	12	1	35	2	0	38	1	4	5	0	10	142
07:45 AM	6	67	1	0	74	4	0	2	0	6	1	38	1	0	40	0	2	2	0	4	124
Total	18	277	2	0	297	26	8	7	0	41	4	161	5	0	170	1	10	13	0	24	532
08:00 AM	5	52	1	0	58	3	1	4	0	8	0	25	0	0	25	0	3	2	0	5	96
08:15 AM	2	61	0	0	63	6	1	0	0	7	1	39	1	0	41	0	3	3	0	6	117
08:30 AM	1	36	1	0	38	3	3	1	0	7	0	40	1	0	41	0	5	1	0	6	92
08:45 AM	5	29	0	0	34	3	1	5	0	9	0	38	2	0	40	0	2	1	0	3	86
Total	13	178	2	0	193	15	6	10	0	31	1	142	4	0	147	0	13	7	0	20	391
09:00 AM	5	34	0	0	39	1	1	3	0	5	2	35	3	0	40	0	1	0	0	1	85
09:15 AM	0	36	0	0	36	2	3	2	0	7	0	29	3	0	32	0	1	1	0	2	77
09:30 AM	3	30	0	0	33	3	0	2	0	5	0	43	0	0	43	0	1	0	0	1	82
09:45 AM	2	53	0	0	55	2	0	5	0	7	0	42	2	0	44	0	0	1	0	1	107
Total	10	153	0	0	163	8	4	12	0	24	2	149	8	0	159	0	3	2	0	5	351
10:00 AM	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	3	63	0	0	66	1	2	2	0	5	1	50	1	0	52	1	0	1	0	2	125
11:15 AM	3	52	0	0	55	2	5	2	0	9	0	44	0	0	44	0	2	4	0	6	114
11:30 AM	5	42	0	0	47	1	3	1	0	5	1	45	1	0	47	1	3	0	0	4	103
11:45 AM	4	59	0	0	63	2	3	3	0	8	0	48	0	0	48	0	1	2	0	3	122
Total	15	216	0	0	231	6	13	8	0	27	2	187	2	0	191	2	6	7	0	15	464
12:00 PM	6	42	0	0	48	3	1	2	0	6	0	48	1	0	49	0	1	0	0	1	104
12:15 PM	8	50	1	0	59	3	3	2	0	8	2	55	2	0	59	1	1	0	0	2	128
12:30 PM	3	62	1	0	66	1	0	1	0	2	3	45	0	0	48	0	0	1	0	1	117
12:45 PM	1	41	0	0	42	2	1	2	0	5	3	61	1	0	65	2	3	2	0	7	119
Total	18	195	2	0	215	9	5	7	0	21	8	209	4	0	221	3	5	3	0	11	468
01:00 PM	4	45	0	0	49	2	2	0	0	4	2	39	1	0	42	1	2	0	0	3	98
01:15 PM	5	58	1	0	64	3	1	3	0	7	1	49	0	0	50	0	1	0	0	1	122
01:30 PM	7	53	1	0	61	0	2	4	0	6	3	49	1	0	53	2	1	2	0	5	125
01:45 PM	4	57	0	0	61	3	2	7	0	12	1	40	3	0	44	0	3	2	0	5	122
Total	20	213	2	0	235	8	7	14	0	29	7	177	5	0	189	3	7	4	0	14	467
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	6	57	1	0	64	1	6	5	0	12	0	69	2	0	71	0	8	1	0	9	156
03:15 PM	3	78	1	0	82	3	3	3	0	9	1	60	2	0	63	1	2	0	0	3	157
03:30 PM	6	68	0	0	74	5	5	4	0	14	2	58	2	0	62	1	2	1	0	4	154
03:45 PM	5	78	2	0	85	4	0	3	0	7	1	71	2	0	74	1	5	2	0	8	174
Total	20	281	4	0	305	13	14	15	0	42	4	258	8	0	270	3	17	4	0	24	641
04:00 PM	3	81	0	0	84	1	3	4	0	8	1	73	5	0	79	0	3	4	0	7	178
04:15 PM	6	75	1	0	82	3	5	7	0	15	1	76	7	0	84	0	3	1	0	4	185

Western New York National Cemetery
Existing Conditions
Morning Analysis Hour

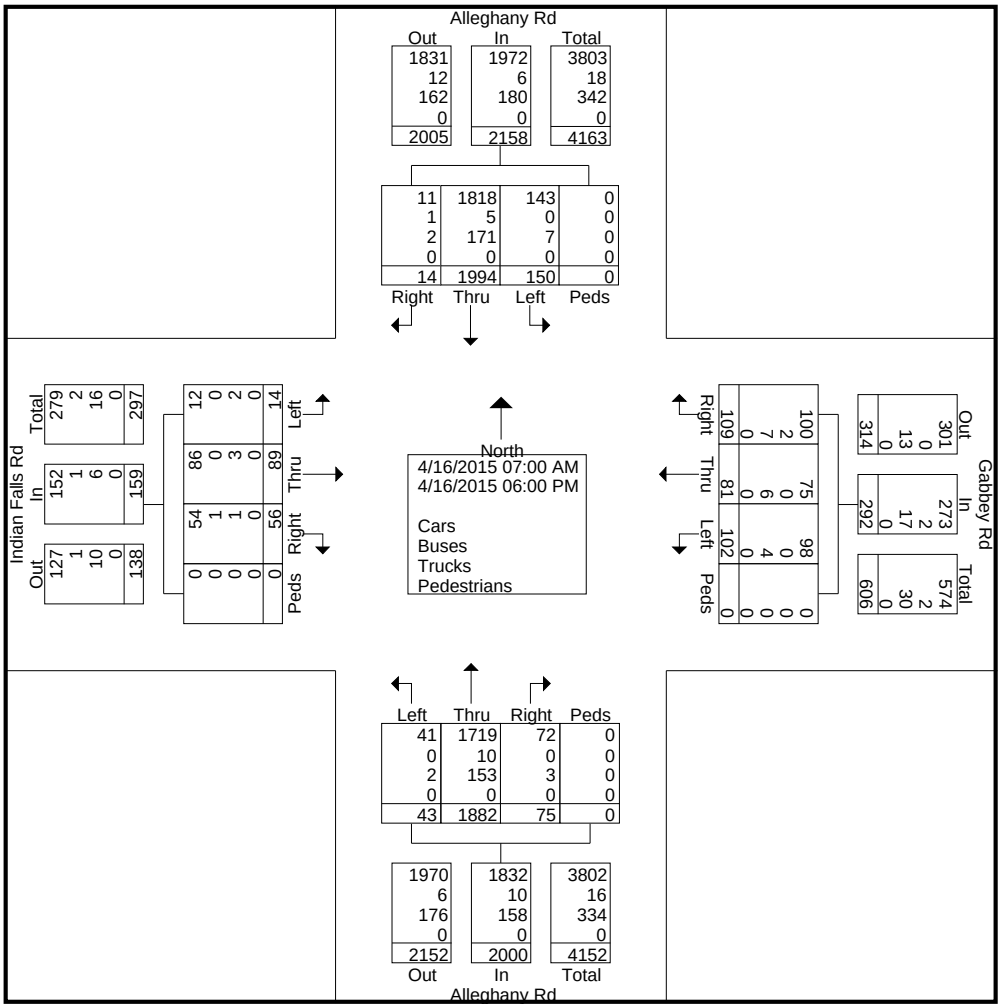
File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 2

Groups Printed- Cars - Buses - Trucks - Pedestrians

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	7	65	0	0	72	4	1	4	0	9	0	90	5	0	95	0	2	1	0	3	179
04:45 PM	5	49	1	0	55	2	3	6	0	11	3	66	7	0	76	0	5	1	0	6	148
Total	21	270	2	0	293	10	12	21	0	43	5	305	24	0	334	0	13	7	0	20	690
05:00 PM	5	46	0	0	51	2	1	1	0	4	1	78	5	0	84	0	2	1	0	3	142
05:15 PM	1	52	0	0	53	1	5	7	0	13	4	78	2	0	84	0	6	4	0	10	160
05:30 PM	6	67	0	0	73	2	2	4	0	8	3	70	5	0	78	2	5	2	0	9	168
05:45 PM	3	46	0	0	49	2	4	3	0	9	2	68	3	0	73	0	2	2	0	4	135
Total	15	211	0	0	226	7	12	15	0	34	10	294	15	0	319	2	15	9	0	26	605
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	150	1994	14	0	2158	102	81	109	0	292	43	1882	75	0	2000	14	89	56	0	159	4609
Apprch %	7	92.4	0.6	0		34.9	27.7	37.3	0		2.2	94.1	3.8	0		8.8	56	35.2	0		
Total %	3.3	43.3	0.3	0	46.8	2.2	1.8	2.4	0	6.3	0.9	40.8	1.6	0	43.4	0.3	1.9	1.2	0	3.4	
Cars	143	1818										1719									
% Cars	95.3	91.2	78.6	0	91.4	96.1	92.6	91.7	0	93.5	95.3	91.3	96	0	91.6	85.7	96.6	96.4	0	95.6	91.8
Buses	0	5	1	0	6	0	0	2	0	2	0	10	0	0	10	0	0	1	0	1	19
% Buses	0	0.3	7.1	0	0.3	0	0	1.8	0	0.7	0	0.5	0	0	0.5	0	0	1.8	0	0.6	0.4
Trucks	7	171	2	0	180	4	6	7	0	17	2	153	3	0	158	2	3	1	0	6	361
% Trucks	4.7	8.6	14.3	0	8.3	3.9	7.4	6.4	0	5.8	4.7	8.1	4	0	7.9	14.3	3.4	1.8	0	3.8	7.8
Pedestrians																					
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Western New York National Cemetery
Existing Conditions
Morning Analysis Hour

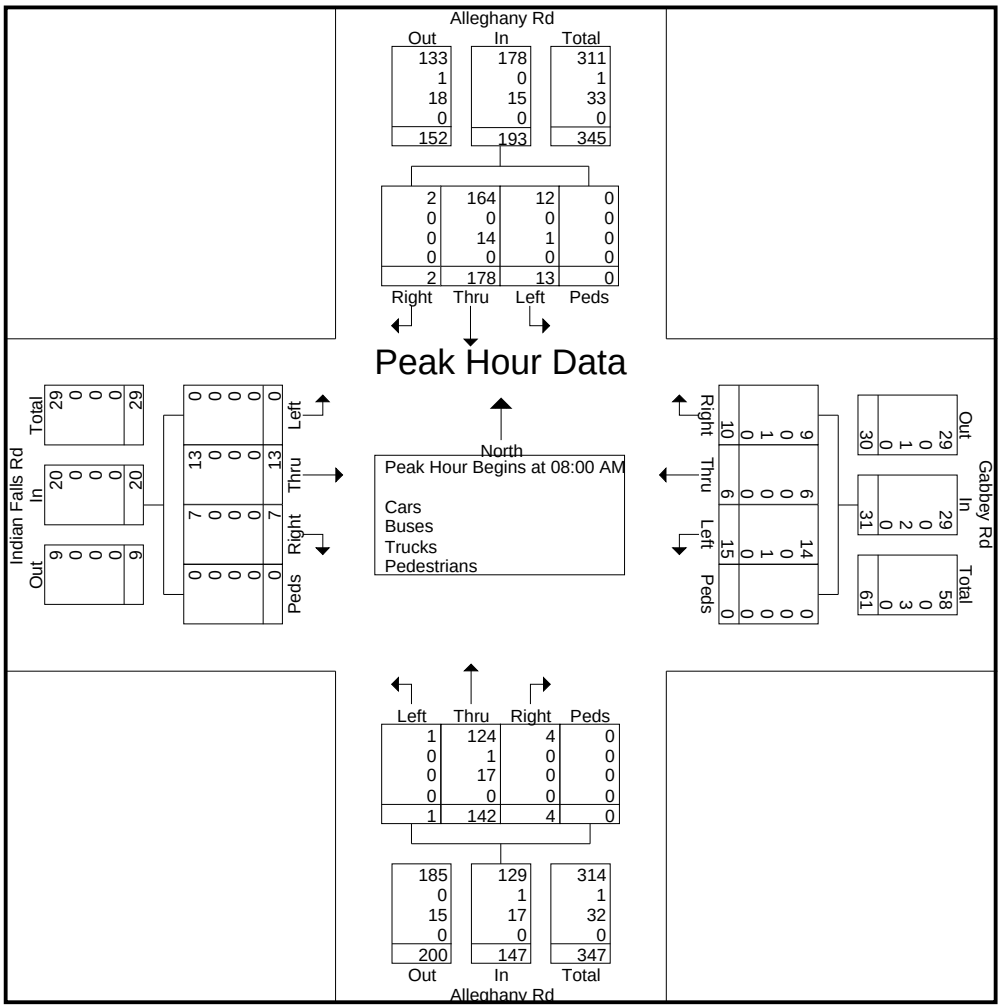
File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 3



Western New York National Cemetery
Existing Conditions
Morning Analysis Hour

File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 4

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	5	52	1	0	58	3	1	4	0	8	0	25	0	0	25	0	3	2	0	5	96
08:15 AM	2	61	0	0	63	6	1	0	0	7	1	39	1	0	41	0	3	3	0	6	117
08:30 AM	1	36	1	0	38	3	3	1	0	7	0	40	1	0	41	0	5	1	0	6	92
08:45 AM	5	29	0	0	34	3	1	5	0	9	0	38	2	0	40	0	2	1	0	3	86
Total Volume	13	178	2	0	193	15	6	10	0	31	1	142	4	0	147	0	13	7	0	20	391
% App. Total	6.7	92.2	1	0		48.4	19.4	32.3	0		0.7	96.6	2.7	0		0	65	35	0		
PHF	.650	.730	.500	.000	.766	.625	.500	.500	.000	.861	.250	.888	.500	.000	.896	.000	.650	.583	.000	.833	.835
Cars	12	164	2	0	178	14	6	9	0	29	1	124	4	0	129	0	13	7	0	20	356
% Cars	92.3	92.1	100	0	92.2	93.3	100	90.0	0	93.5	100	87.3	100	0	87.8	0	100	100	0	100	91.0
Buses	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0.3
Trucks	1	14	0	0	15	1	0	1	0	2	0	17	0	0	17	0	0	0	0	0	34
% Trucks	7.7	7.9	0	0	7.8	6.7	0	10.0	0	6.5	0	12.0	0	0	11.6	0	0	0	0	0	8.7
Pedestrians																					
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Western New York National Cemetery
Existing Conditions
Afternoon Analysis Hour

Location: Pembroke, NY
Intersection: Rt 77/Indian Falls Road
Date: Thurday, April 16th, 2015
Counter: MIO TW

File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 1

Groups Printed- Cars - Buses - Trucks - Pedestrians

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	62	0	0	63	6	2	1	0	9	2	49	1	0	52	0	3	2	0	5	129
07:15 AM	4	74	0	0	78	10	2	2	0	14	0	39	1	0	40	0	1	4	0	5	137
07:30 AM	7	74	1	0	82	6	4	2	0	12	1	35	2	0	38	1	4	5	0	10	142
07:45 AM	6	67	1	0	74	4	0	2	0	6	1	38	1	0	40	0	2	2	0	4	124
Total	18	277	2	0	297	26	8	7	0	41	4	161	5	0	170	1	10	13	0	24	532
08:00 AM	5	52	1	0	58	3	1	4	0	8	0	25	0	0	25	0	3	2	0	5	96
08:15 AM	2	61	0	0	63	6	1	0	0	7	1	39	1	0	41	0	3	3	0	6	117
08:30 AM	1	36	1	0	38	3	3	1	0	7	0	40	1	0	41	0	5	1	0	6	92
08:45 AM	5	29	0	0	34	3	1	5	0	9	0	38	2	0	40	0	2	1	0	3	86
Total	13	178	2	0	193	15	6	10	0	31	1	142	4	0	147	0	13	7	0	20	391
09:00 AM	5	34	0	0	39	1	1	3	0	5	2	35	3	0	40	0	1	0	0	1	85
09:15 AM	0	36	0	0	36	2	3	2	0	7	0	29	3	0	32	0	1	1	0	2	77
09:30 AM	3	30	0	0	33	3	0	2	0	5	0	43	0	0	43	0	1	0	0	1	82
09:45 AM	2	53	0	0	55	2	0	5	0	7	0	42	2	0	44	0	0	1	0	1	107
Total	10	153	0	0	163	8	4	12	0	24	2	149	8	0	159	0	3	2	0	5	351
10:00 AM	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	3	63	0	0	66	1	2	2	0	5	1	50	1	0	52	1	0	1	0	2	125
11:15 AM	3	52	0	0	55	2	5	2	0	9	0	44	0	0	44	0	2	4	0	6	114
11:30 AM	5	42	0	0	47	1	3	1	0	5	1	45	1	0	47	1	3	0	0	4	103
11:45 AM	4	59	0	0	63	2	3	3	0	8	0	48	0	0	48	0	1	2	0	3	122
Total	15	216	0	0	231	6	13	8	0	27	2	187	2	0	191	2	6	7	0	15	464
12:00 PM	6	42	0	0	48	3	1	2	0	6	0	48	1	0	49	0	1	0	0	1	104
12:15 PM	8	50	1	0	59	3	3	2	0	8	2	55	2	0	59	1	1	0	0	2	128
12:30 PM	3	62	1	0	66	1	0	1	0	2	3	45	0	0	48	0	0	1	0	1	117
12:45 PM	1	41	0	0	42	2	1	2	0	5	3	61	1	0	65	2	3	2	0	7	119
Total	18	195	2	0	215	9	5	7	0	21	8	209	4	0	221	3	5	3	0	11	468
01:00 PM	4	45	0	0	49	2	2	0	0	4	2	39	1	0	42	1	2	0	0	3	98
01:15 PM	5	58	1	0	64	3	1	3	0	7	1	49	0	0	50	0	1	0	0	1	122
01:30 PM	7	53	1	0	61	0	2	4	0	6	3	49	1	0	53	2	1	2	0	5	125
01:45 PM	4	57	0	0	61	3	2	7	0	12	1	40	3	0	44	0	3	2	0	5	122
Total	20	213	2	0	235	8	7	14	0	29	7	177	5	0	189	3	7	4	0	14	467
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	6	57	1	0	64	1	6	5	0	12	0	69	2	0	71	0	8	1	0	9	156
03:15 PM	3	78	1	0	82	3	3	3	0	9	1	60	2	0	63	1	2	0	0	3	157
03:30 PM	6	68	0	0	74	5	5	4	0	14	2	58	2	0	62	1	2	1	0	4	154
03:45 PM	5	78	2	0	85	4	0	3	0	7	1	71	2	0	74	1	5	2	0	8	174
Total	20	281	4	0	305	13	14	15	0	42	4	258	8	0	270	3	17	4	0	24	641
04:00 PM	3	81	0	0	84	1	3	4	0	8	1	73	5	0	79	0	3	4	0	7	178
04:15 PM	6	75	1	0	82	3	5	7	0	15	1	76	7	0	84	0	3	1	0	4	185

Western New York National Cemetery
Existing Conditions
Afternoon Analysis Hour

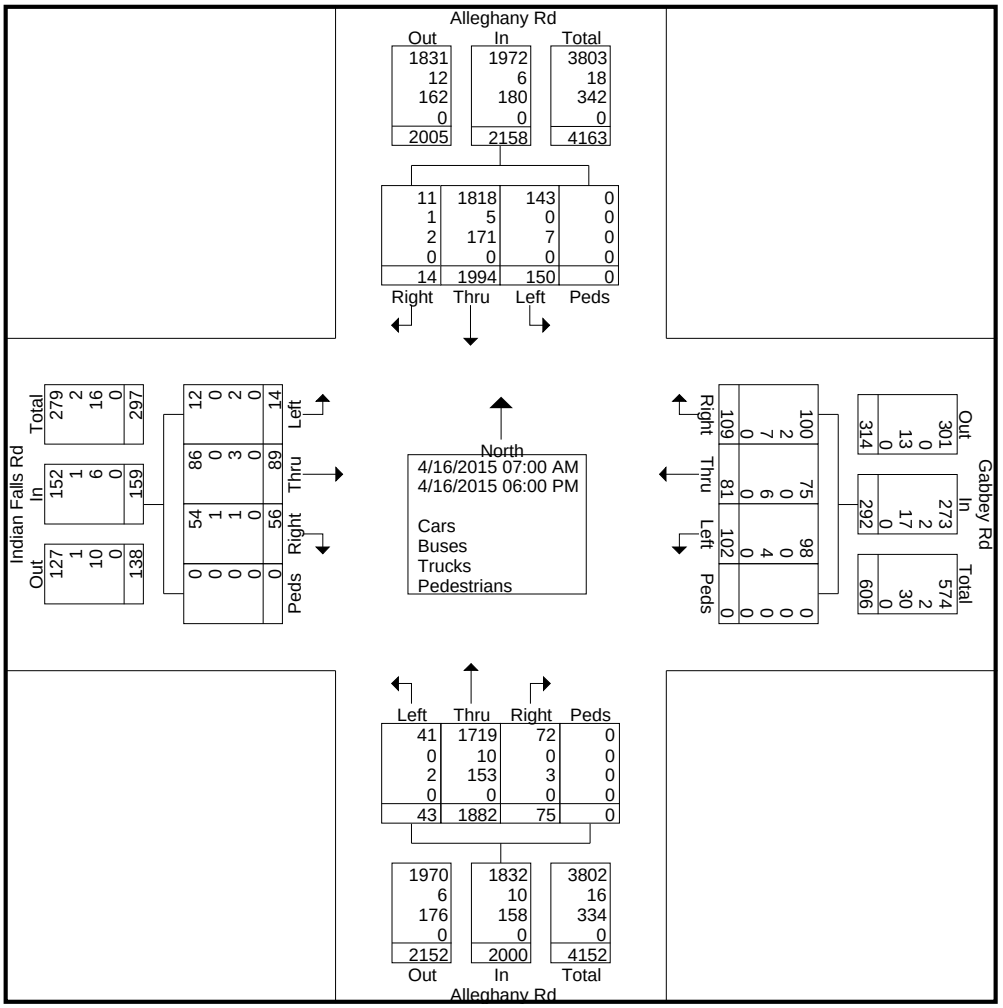
File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 2

Groups Printed- Cars - Buses - Trucks - Pedestrians

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	7	65	0	0	72	4	1	4	0	9	0	90	5	0	95	0	2	1	0	3	179
04:45 PM	5	49	1	0	55	2	3	6	0	11	3	66	7	0	76	0	5	1	0	6	148
Total	21	270	2	0	293	10	12	21	0	43	5	305	24	0	334	0	13	7	0	20	690
05:00 PM	5	46	0	0	51	2	1	1	0	4	1	78	5	0	84	0	2	1	0	3	142
05:15 PM	1	52	0	0	53	1	5	7	0	13	4	78	2	0	84	0	6	4	0	10	160
05:30 PM	6	67	0	0	73	2	2	4	0	8	3	70	5	0	78	2	5	2	0	9	168
05:45 PM	3	46	0	0	49	2	4	3	0	9	2	68	3	0	73	0	2	2	0	4	135
Total	15	211	0	0	226	7	12	15	0	34	10	294	15	0	319	2	15	9	0	26	605
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	150	1994	14	0	2158	102	81	109	0	292	43	1882	75	0	2000	14	89	56	0	159	4609
Apprch %	7	92.4	0.6	0		34.9	27.7	37.3	0		2.2	94.1	3.8	0		8.8	56	35.2	0		
Total %	3.3	43.3	0.3	0	46.8	2.2	1.8	2.4	0	6.3	0.9	40.8	1.6	0	43.4	0.3	1.9	1.2	0	3.4	
Cars	143	1818										1719									
% Cars	95.3	91.2	78.6	0	91.4	96.1	92.6	91.7	0	93.5	95.3	91.3	96	0	91.6	85.7	96.6	96.4	0	95.6	91.8
Buses	0	5	1	0	6	0	0	2	0	2	0	10	0	0	10	0	0	1	0	1	19
% Buses	0	0.3	7.1	0	0.3	0	0	1.8	0	0.7	0	0.5	0	0	0.5	0	0	1.8	0	0.6	0.4
Trucks	7	171	2	0	180	4	6	7	0	17	2	153	3	0	158	2	3	1	0	6	361
% Trucks	4.7	8.6	14.3	0	8.3	3.9	7.4	6.4	0	5.8	4.7	8.1	4	0	7.9	14.3	3.4	1.8	0	3.8	7.8
Pedestrians																					
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Western New York National Cemetery
Existing Conditions
Afternoon Analysis Hour

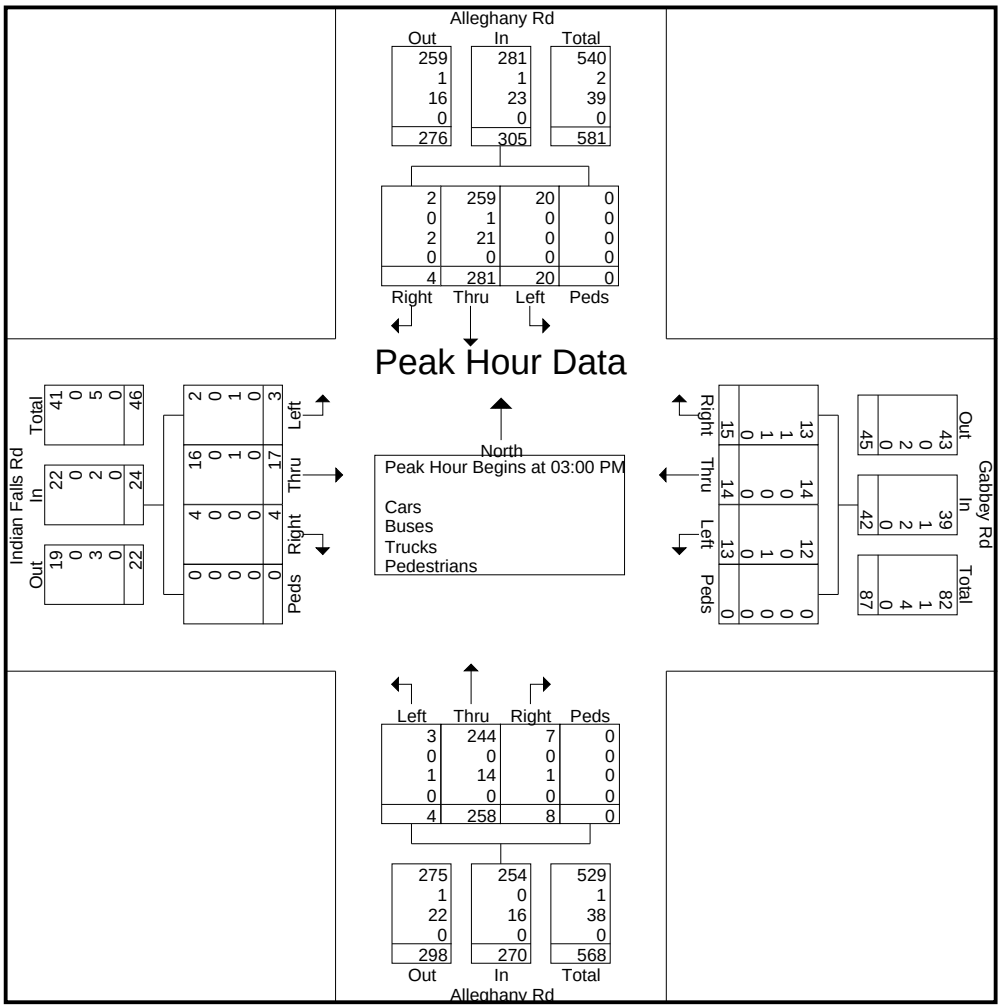
File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 3



Western New York National Cemetery
Existing Conditions
Afternoon Analysis Hour

File Name : Rt 77 at Indian Falls Wday
Site Code : 01
Start Date : 4/16/2015
Page No : 4

	Alleghany Rd Southbound					Gabbey Rd Westbound					Alleghany Rd Northbound					Indian Falls Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	6	57	1	0	64	1	6	5	0	12	0	69	2	0	71	0	8	1	0	9	156
03:15 PM	3	78	1	0	82	3	3	3	0	9	1	60	2	0	63	1	2	0	0	3	157
03:30 PM	6	68	0	0	74	5	5	4	0	14	2	58	2	0	62	1	2	1	0	4	154
03:45 PM	5	78	2	0	85	4	0	3	0	7	1	71	2	0	74	1	5	2	0	8	174
Total Volume	20	281	4	0	305	13	14	15	0	42	4	258	8	0	270	3	17	4	0	24	641
% App. Total	6.6	92.1	1.3	0		31	33.3	35.7	0		1.5	95.6	3	0		12.5	70.8	16.7	0		
PHF	.833	.901	.500	.000	.897	.650	.583	.750	.000	.750	.500	.908	1.000	.000	.912	.750	.531	.500	.000	.667	.921
Cars	20	259	2	0	281	12	14	13	0	39	3	244	7	0	254	2	16	4	0	22	596
% Cars	100	92.2	50.0	0	92.1	92.3	100	86.7	0	92.9	75.0	94.6	87.5	0	94.1	66.7	94.1	100	0	91.7	93.0
Buses	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
% Buses	0	0.4	0	0	0.3	0	0	6.7	0	2.4	0	0	0	0	0	0	0	0	0	0	0.3
Trucks	0	21	2	0	23	1	0	1	0	2	1	14	1	0	16	1	1	0	0	2	43
% Trucks	0	7.5	50.0	0	7.5	7.7	0	6.7	0	4.8	25.0	5.4	12.5	0	5.9	33.3	5.9	0	0	8.3	6.7
Pedestrians																					
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



B. ATR DATA – SUMMARY SPREADSHEETS

ROUTE 77
INDIAN FALLS ROAD

© Fisher Associates, P.E., L.S., P.C. - 2015

ROUTE 77

© Fisher Associates, P.E., L.S., P.C. - 2015

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Start	13-Apr-15		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb
12:00 AM	*	*	*	*	*	*	31	18	22	13	48	30	42	30	36	23
01:00	*	*	*	*	*	*	12	2	24	4	37	18	42	15	29	10
02:00	*	*	*	*	*	*	14	8	12	11	9	17	15	16	12	13
03:00	*	*	*	*	*	*	11	18	3	20	11	14	11	23	9	19
04:00	*	*	*	*	*	*	10	29	11	33	14	15	9	7	11	21
05:00	*	*	*	*	*	*	56	90	64	95	26	43	30	21	44	62
06:00	*	*	*	*	*	*	123	211	138	194	75	86	42	47	94	134
07:00	*	*	*	*	*	*	172	**314**	167	**298**	83	148	50	90	118	212
08:00	*	*	*	*	*	*	148	203	143	236	166	231	120	152	144	206
09:00	*	*	*	*	*	*	155	164	161	189	218	231	196	173	182	189
10:00	*	*	*	*	*	*	176	179	191	217	267	266	237	**274**	218	234
11:00	*	*	*	*	**198**	**187**	**191**	227	**215**	262	**278**	**328**	**253**	257	**227**	**252**
12:00 PM	*	*	*	*	211	219	217	208	229	254	291	**328**	**312**	**317**	252	265
01:00	*	*	*	*	194	191	187	226	257	236	**337**	317	293	277	254	249
02:00	*	*	*	*	176	210	229	217	231	257	286	304	281	300	241	258
03:00	*	*	*	*	241	249	265	**296**	335	300	295	255	256	278	278	276
04:00	*	*	*	*	**319**	**268**	**329**	289	**390**	308	271	275	253	260	**312**	**280**
05:00	*	*	*	*	288	205	314	230	357	**319**	271	214	209	212	288	236
06:00	*	*	*	*	216	167	266	171	278	255	209	179	165	148	227	184
07:00	*	*	*	*	170	116	158	124	195	200	154	127	160	140	167	141
08:00	*	*	*	*	133	85	138	91	147	124	124	106	123	102	133	102
09:00	*	*	*	*	73	80	84	71	118	120	151	99	99	69	105	88
10:00	*	*	*	*	61	48	66	36	86	89	93	80	60	28	73	56
11:00	*	*	*	*	37	46	35	55	69	54	73	62	26	41	48	52
Lane	0	0	0	0	2317	2071	3387	3477	3843	4088	3787	3773	3284	3277	3502	3562
Day	0		0		4388		6864		7931		7560		6561		7064	
AM Peak	-	-	-	-	11:00	11:00	11:00	07:00	11:00	07:00	11:00	11:00	11:00	10:00	11:00	11:00
Vol.	-	-	-	-	198	187	191	314	215	298	278	328	253	274	227	252
PM Peak	-	-	-	-	16:00	16:00	16:00	15:00	16:00	17:00	13:00	12:00	12:00	12:00	16:00	16:00
Vol.	-	-	-	-	319	268	329	296	390	319	337	328	312	317	312	280

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Start	20-Apr-15		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb	Nb	Sb
12:00 AM	14	8	24	15	22	20	*	*	*	*	*	*	*	*	20	14
01:00	13	8	24	10	15	5	*	*	*	*	*	*	*	*	17	8
02:00	7	4	13	3	19	5	*	*	*	*	*	*	*	*	13	4
03:00	10	6	6	17	5	15	*	*	*	*	*	*	*	*	7	13
04:00	10	31	12	33	15	28	*	*	*	*	*	*	*	*	12	31
05:00	56	96	52	103	56	90	*	*	*	*	*	*	*	*	55	96
06:00	113	216	131	219	128	222	*	*	*	*	*	*	*	*	124	219
07:00	147	**304**	161	**316**	140	**302**	*	*	*	*	*	*	*	*	**149**	**307**
08:00	122	184	141	177	152	180	*	*	*	*	*	*	*	*	138	180
09:00	119	135	136	148	**153**	173	*	*	*	*	*	*	*	*	136	152
10:00	150	150	163	165	21	22	*	*	*	*	*	*	*	*	111	112
11:00	**193**	198	**185**	191	0	0	*	*	*	*	*	*	*	*	126	130
12:00 PM	199	195	185	192	**2**	**1**	*	*	*	*	*	*	*	*	129	129
01:00	193	193	204	208	1	0	*	*	*	*	*	*	*	*	133	134
02:00	214	190	233	235	1	1	*	*	*	*	*	*	*	*	149	142
03:00	205	242	265	**252**	*	*	*	*	*	*	*	*	*	*	235	247
04:00	**314**	**247**	275	249	*	*	*	*	*	*	*	*	*	*	**294**	**248**
05:00	272	200	**290**	248	*	*	*	*	*	*	*	*	*	*	281	224
06:00	166	132	203	175	*	*	*	*	*	*	*	*	*	*	184	154
07:00	111	88	131	106	*	*	*	*	*	*	*	*	*	*	121	97
08:00	92	71	96	115	*	*	*	*	*	*	*	*	*	*	94	93
09:00	66	40	87	57	*	*	*	*	*	*	*	*	*	*	76	48
10:00	33	35	59	32	*	*	*	*	*	*	*	*	*	*	46	34
11:00	35	42	41	46	*	*	*	*	*	*	*	*	*	*	38	44
Lane	2854	3015	3117	3312	730	1064	0	0	0	0	0	0	0	0	2688	2860
Day	5869		6429		1794		0		0		0		0		5548	
AM Peak	11:00	07:00	11:00	07:00	09:00	07:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	193	304	185	316	153	302	-	-	-	-	-	-	-	-	149	307
PM Peak	16:00	16:00	17:00	15:00	12:00	12:00	-	-	-	-	-	-	-	-	16:00	16:00
Vol.	314	247	290	252	2	1	-	-	-	-	-	-	-	-	294	248

Comb. Total	5869	6429	6182	6864	7931	7560	6561	12612

ADT ADT 6,535 AADT 6,535

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	**1**	**114**	**55**	**2**	**10**	**2**	0	**1**	**12**	0	0	0	0	**197**
12 PM	0	143	37	4	**13**	1	**1**	2	6	**3**	0	0	0	210
13:00	0	139	31	3	8	1	0	1	**8**	2	0	0	0	193
14:00	**4**	117	36	3	6	0	0	**4**	3	2	0	0	0	175
15:00	1	171	50	**5**	8	0	0	1	4	0	0	0	0	240
16:00	1	**224**	**74**	4	7	0	1	1	6	0	0	0	0	**318**
17:00	1	214	57	0	10	**2**	0	0	3	1	0	0	0	288
18:00	0	167	40	0	7	0	0	0	2	0	0	0	0	216
19:00	1	129	32	0	2	0	0	0	5	0	0	0	0	169
20:00	0	100	29	1	0	0	0	1	2	0	0	0	0	133
21:00	0	60	9	0	2	1	0	0	1	0	0	0	0	73
22:00	0	52	8	0	0	0	0	0	0	1	0	0	0	61
23:00	0	31	5	0	0	0	0	0	1	0	0	0	0	37
Day Total	9	1661	463	22	73	7	2	11	53	9	0	0	0	2310
Percent	0.4%	71.9%	20.0%	1.0%	3.2%	0.3%	0.1%	0.5%	2.3%	0.4%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	11:00	11:00	11:00		11:00	11:00					11:00
Vol.	1	114	55	2	10	2		1	12					197
PM Peak	14:00	16:00	16:00	15:00	12:00	17:00	12:00	14:00	13:00	12:00				16:00
Vol.	4	224	74	5	13	2	1	4	8	3				318

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/16/15	0	19	9	0	2	0	0	0	1	0	0	0	0	31
01:00	0	7	1	0	1	0	0	0	3	0	0	0	0	12
02:00	0	9	3	1	0	0	0	0	0	1	0	0	0	14
03:00	0	5	1	1	0	0	0	0	2	2	0	0	0	11
04:00	0	6	2	1	0	0	0	0	1	0	0	0	0	10
05:00	1	31	12	1	4	0	0	2	3	2	0	0	0	56
06:00	0	70	24	**5**	8	1	0	**4**	9	0	0	**2**	0	123
07:00	0	113	**36**	2	7	1	0	3	6	**3**	0	0	0	171
08:00	1	94	31	3	8	2	0	2	5	1	0	0	0	147
09:00	1	95	25	4	9	0	0	2	**18**	1	0	0	0	155
10:00	**2**	116	35	2	4	**5**	0	2	9	0	0	0	0	175
11:00	2	**127**	32	2	**10**	3	**1**	3	10	1	0	0	0	**191**
12 PM	3	138	49	4	9	1	0	**4**	9	0	0	0	0	217
13:00	4	132	35	0	4	1	0	2	6	**3**	0	0	0	187
14:00	3	150	43	**6**	10	**3**	0	2	**10**	1	0	0	0	228
15:00	**5**	172	65	1	**11**	1	0	1	8	0	0	0	0	264
16:00	3	221	**82**	1	10	3	0	2	4	1	0	0	0	**327**
17:00	1	**230**	69	1	9	1	0	1	1	0	0	0	0	313
18:00	0	208	45	0	9	0	0	0	4	0	0	0	0	266
19:00	0	116	30	1	7	0	0	0	3	0	0	0	0	157
20:00	0	110	25	0	1	0	0	0	2	0	0	0	0	138
21:00	0	63	20	0	0	0	0	0	1	0	0	0	0	84
22:00	1	53	6	0	1	1	0	0	4	0	0	0	0	66
23:00	0	24	8	0	0	0	0	0	3	0	0	0	0	35
Day Total	27	2309	688	36	124	23	1	30	122	16	0	2	0	3378
Percent	0.8%	68.4%	20.4%	1.1%	3.7%	0.7%	0.0%	0.9%	3.6%	0.5%	0.0%	0.1%	0.0%	
AM Peak	10:00	11:00	07:00	06:00	11:00	10:00	11:00	06:00	09:00	07:00		06:00		11:00
Vol.	2	127	36	5	10	5	1	4	18	3		2		191
PM Peak	15:00	17:00	16:00	14:00	15:00	14:00		12:00	14:00	13:00				16:00
Vol.	5	230	82	6	11	3		4	10	3				327

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/17/15	0	13	7	0	0	0	0	0	2	0	0	0	0	22
01:00	**1**	16	7	0	0	0	0	0	0	0	0	0	0	24
02:00	1	6	2	1	0	0	0	0	0	2	0	0	0	12
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	6	1	1	1	0	0	0	2	0	0	0	0	11
05:00	1	40	10	2	5	1	0	**3**	2	0	0	0	0	64
06:00	1	80	31	**6**	3	3	0	1	9	**4**	0	0	0	138
07:00	1	107	29	2	**13**	3	0	3	9	0	0	0	0	167
08:00	0	90	33	0	8	0	0	1	9	2	0	0	0	143
09:00	0	99	38	4	5	0	0	1	**11**	3	0	0	0	161
10:00	0	120	44	2	11	0	0	1	11	1	0	0	0	190
11:00	1	**135**	**50**	3	9	**4**	0	2	9	1	0	0	0	**214**
12 PM	0	156	52	1	10	0	0	2	7	0	0	0	0	228
13:00	3	169	54	3	11	3	0	1	**10**	**2**	0	0	0	256
14:00	1	156	48	**4**	12	3	0	0	5	1	0	0	0	230
15:00	2	232	79	2	8	2	0	2	7	0	0	0	0	334
16:00	3	**279**	**85**	3	7	**4**	0	0	8	0	0	0	0	**389**
17:00	2	265	64	0	**18**	3	0	**3**	1	0	0	0	0	356
18:00	**4**	221	38	0	11	1	0	1	2	0	0	0	0	278
19:00	1	153	32	1	3	0	0	1	3	0	0	0	0	194
20:00	0	106	32	0	3	0	0	0	4	1	0	0	0	146
21:00	1	91	19	0	2	0	0	0	4	0	0	0	0	117
22:00	0	68	15	0	3	0	0	0	0	0	0	0	0	86
23:00	0	58	8	0	1	0	0	0	1	0	0	0	0	68
Day Total	23	2668	779	35	144	27	0	22	116	17	0	0	0	3831
Percent	0.6%	69.6%	20.3%	0.9%	3.8%	0.7%	0.0%	0.6%	3.0%	0.4%	0.0%	0.0%	0.0%	
AM Peak	01:00	11:00	11:00	06:00	07:00	11:00		05:00	09:00	06:00				11:00
Vol.	1	135	50	6	13	4		3	11	4				214
PM Peak	18:00	16:00	16:00	14:00	17:00	16:00		17:00	13:00	13:00				16:00
Vol.	4	279	85	4	18	4		3	10	2				389

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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/18/15	0	34	9	0	3	0	0	1	1	0	0	0	0	48
01:00	1	31	5	0	0	0	0	0	0	0	0	0	0	37
02:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
03:00	0	7	3	0	0	0	0	0	1	0	0	0	0	11
04:00	0	8	4	0	1	1	0	0	0	0	0	0	0	14
05:00	0	18	4	0	4	0	0	0	0	0	0	0	0	26
06:00	0	53	14	1	3	0	0	0	**4**	0	0	0	0	75
07:00	0	54	23	0	3	1	0	1	1	0	0	0	0	83
08:00	2	116	39	**2**	6	0	0	0	0	0	0	0	0	165
09:00	0	164	46	0	5	**2**	0	0	1	0	0	0	0	218
10:00	2	202	45	0	**12**	0	0	**3**	0	**2**	0	0	0	266
11:00	**4**	**211**	**52**	1	6	0	0	2	1	0	0	0	0	**277**
12 PM	2	222	55	0	8	0	0	1	2	0	0	0	0	290
13:00	**16**	**253**	**58**	1	4	0	0	**3**	1	0	0	0	0	**336**
14:00	6	225	42	**3**	5	0	0	1	**3**	0	0	0	0	285
15:00	8	223	55	1	6	0	0	1	1	0	0	0	0	295
16:00	8	205	44	0	**10**	0	0	1	3	0	0	0	0	271
17:00	5	207	44	1	7	0	0	3	3	0	0	0	0	270
18:00	1	161	41	0	3	0	0	1	0	**2**	0	0	0	209
19:00	3	125	22	0	3	0	0	1	0	0	0	0	0	154
20:00	0	101	19	0	3	0	0	1	0	0	0	0	0	124
21:00	0	115	33	0	2	0	0	0	0	0	0	0	0	150
22:00	1	76	16	0	0	0	0	0	0	0	0	0	0	93
23:00	0	61	10	0	2	0	0	0	0	0	0	0	0	73
Day Total	59	2878	686	10	96	4	0	20	22	4	0	0	0	3779
Percent	1.6%	76.2%	18.2%	0.3%	2.5%	0.1%	0.0%	0.5%	0.6%	0.1%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	08:00	10:00	09:00		10:00	06:00	10:00				11:00
Vol.	4	211	52	2	12	2		3	4	2				277
PM Peak	13:00	13:00	13:00	14:00	16:00			13:00	14:00	18:00				13:00
Vol.	16	253	58	3	10			3	3	2				336

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
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Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/19/15	0	33	8	0	1	0	0	0	0	0	0	0	0	42
01:00	0	19	11	0	**9**	**3**	0	0	0	0	0	0	0	42
02:00	0	10	4	0	1	0	0	0	0	0	0	0	0	15
03:00	0	8	2	0	0	0	0	0	**1**	0	0	0	0	11
04:00	0	6	2	0	0	0	0	0	1	0	0	0	0	9
05:00	0	23	6	0	0	0	0	1	0	0	0	0	0	30
06:00	0	34	6	0	1	0	0	1	0	0	0	0	0	42
07:00	0	39	9	0	2	0	0	0	0	0	0	0	0	50
08:00	0	85	23	0	6	1	0	**2**	0	**2**	0	0	0	119
09:00	0	148	41	0	5	0	0	1	1	0	0	0	0	196
10:00	**4**	186	35	0	6	2	0	2	1	0	0	0	0	236
11:00	3	**194**	**43**	**1**	9	0	0	2	0	0	0	0	0	**252**
12 PM	2	**240**	60	0	7	**1**	0	2	0	0	0	0	0	**312**
13:00	4	214	**63**	0	**10**	0	0	1	0	0	0	0	0	292
14:00	**15**	211	44	0	4	0	0	**6**	0	0	0	0	0	280
15:00	14	201	34	0	5	0	0	0	1	0	0	0	0	255
16:00	7	198	41	0	4	0	0	0	**2**	0	0	0	0	252
17:00	2	155	47	**2**	2	0	0	0	1	0	0	0	0	209
18:00	0	126	31	2	4	0	0	1	1	0	0	0	0	165
19:00	1	115	36	0	4	0	0	1	2	**1**	0	0	0	160
20:00	0	92	25	0	4	0	0	1	1	0	0	0	0	123
21:00	0	78	18	0	0	1	0	1	1	0	0	0	0	99
22:00	0	44	11	1	2	0	0	2	0	0	0	0	0	60
23:00	0	19	5	0	0	0	0	0	2	0	0	0	0	26
Day Total	52	2478	605	6	86	8	0	24	15	3	0	0	0	3277
Percent	1.6%	75.6%	18.5%	0.2%	2.6%	0.2%	0.0%	0.7%	0.5%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00	11:00	01:00	01:00		08:00	03:00	08:00				11:00
Vol.	4	194	43	1	9	3		2	1	2				252
PM Peak	14:00	12:00	13:00	17:00	13:00	12:00		14:00	16:00	19:00				12:00
Vol.	15	240	63	2	10	1		6	2	1				312

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/20/15	0	10	3	0	1	0	0	0	0	0	0	0	0	14
01:00	0	8	3	1	0	0	0	0	1	0	0	0	0	13
02:00	0	2	1	1	1	0	0	0	0	**2**	0	0	0	7
03:00	0	7	1	0	0	0	0	0	1	1	0	0	0	10
04:00	0	7	1	1	0	0	0	0	1	0	0	0	0	10
05:00	0	29	16	0	5	1	0	1	4	0	0	0	0	56
06:00	0	71	27	4	4	1	0	0	5	1	0	0	0	113
07:00	**1**	101	21	4	5	**4**	**1**	0	9	0	0	0	0	146
08:00	0	73	29	2	**9**	1	0	1	4	1	0	0	**1**	121
09:00	0	72	21	4	7	2	0	1	11	0	0	0	0	118
10:00	0	88	31	**5**	7	0	0	**2**	**14**	2	0	0	0	149
11:00	0	**126**	**43**	2	9	2	1	1	8	0	0	0	0	**192**
12 PM	1	131	37	**5**	13	2	0	1	7	1	0	0	0	198
13:00	0	130	33	4	**14**	1	0	**4**	6	0	0	0	0	192
14:00	0	146	52	4	3	0	0	3	5	1	0	0	0	214
15:00	1	132	42	0	10	0	0	4	**13**	**2**	0	0	0	204
16:00	**2**	**213**	**73**	4	13	**4**	0	0	5	0	0	0	0	**314**
17:00	0	209	49	0	6	1	0	2	2	2	0	0	0	271
18:00	0	125	28	0	7	0	0	2	3	0	0	0	0	165
19:00	0	92	14	0	0	1	0	0	4	0	0	0	0	111
20:00	0	70	17	0	3	0	0	0	1	0	0	0	0	91
21:00	0	57	8	0	0	0	0	0	1	0	0	0	0	66
22:00	0	26	5	0	1	0	0	0	0	1	0	0	0	33
23:00	0	28	4	0	1	0	0	0	2	0	0	0	0	35
Day Total	5	1953	559	41	119	20	2	22	107	14	0	0	1	2843
Percent	0.2%	68.7%	19.7%	1.4%	4.2%	0.7%	0.1%	0.8%	3.8%	0.5%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	11:00	10:00	08:00	07:00	07:00	10:00	10:00	02:00			08:00	11:00
Vol.	1	126	43	5	9	4	1	2	14	2			1	192
PM Peak	16:00	16:00	16:00	12:00	13:00	16:00		13:00	15:00	15:00				16:00
Vol.	2	213	73	5	14	4		4	13	2				314

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/21/15	0	17	6	0	1	0	0	0	0	0	0	0	0	24
01:00	0	12	7	0	2	0	0	1	2	0	0	0	0	24
02:00	0	9	1	1	0	0	0	0	0	**2**	0	0	0	13
03:00	0	3	1	1	0	0	0	0	0	1	0	0	0	6
04:00	0	9	1	0	0	0	0	0	2	0	0	0	0	12
05:00	0	27	13	1	4	0	0	1	5	1	0	0	0	52
06:00	0	79	36	4	3	1	0	**3**	5	0	0	0	0	131
07:00	0	112	28	**5**	4	**2**	0	2	6	1	0	0	0	160
08:00	0	87	34	2	7	0	0	2	9	0	0	0	0	141
09:00	0	81	33	5	5	1	0	3	7	1	0	0	0	136
10:00	0	99	39	4	**8**	0	0	3	**10**	0	0	0	0	163
11:00	0	**122**	**45**	1	5	2	0	0	8	1	0	0	0	**184**
12 PM	0	116	40	5	9	0	0	1	**12**	1	0	0	0	184
13:00	**1**	140	43	2	8	**2**	0	1	7	0	0	0	0	204
14:00	0	153	45	**7**	9	2	0	**3**	10	**2**	0	**1**	0	232
15:00	0	182	**62**	2	10	0	0	2	4	2	0	0	0	264
16:00	1	199	62	1	6	2	0	0	3	1	0	0	0	275
17:00	0	**219**	56	1	**12**	2	0	0	0	0	0	0	0	**290**
18:00	0	163	35	0	2	0	0	1	1	1	0	0	0	203
19:00	0	106	17	1	3	0	0	0	4	0	0	0	0	131
20:00	1	77	14	0	1	1	0	0	2	0	0	0	0	96
21:00	0	68	16	0	3	0	0	0	0	0	0	0	0	87
22:00	0	51	6	0	1	0	0	0	1	0	0	0	0	59
23:00	0	30	6	1	1	0	0	0	3	0	0	0	0	41
Day Total	3	2161	646	44	104	15	0	23	101	14	0	1	0	3112
Percent	0.1%	69.4%	20.8%	1.4%	3.3%	0.5%	0.0%	0.7%	3.2%	0.4%	0.0%	0.0%	0.0%	
AM Peak		11:00	11:00	07:00	10:00	07:00		06:00	10:00	02:00				11:00
Vol.		122	45	5	8	2		3	10	2				184
PM Peak	13:00	17:00	15:00	14:00	17:00	13:00		14:00	12:00	14:00		14:00		17:00
Vol.	1	219	62	7	12	2		3	12	2		1		290

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/22/15	0	18	3	0	1	0	0	0	0	0	0	0	0	22
01:00	0	5	6	0	2	0	0	0	2	0	0	0	0	15
02:00	0	11	3	1	0	0	0	0	1	**3**	0	0	0	19
03:00	0	3	1	0	0	0	0	0	0	1	0	0	0	5
04:00	0	10	3	0	1	0	0	0	1	0	0	0	0	15
05:00	**1**	35	11	0	3	1	0	**2**	3	0	0	0	0	56
06:00	1	80	27	**5**	2	1	0	2	7	2	0	0	0	127
07:00	0	92	25	4	6	1	0	1	**10**	1	0	0	0	140
08:00	0	88	**30**	5	**15**	**2**	0	2	8	1	0	0	0	151
09:00	1	**96**	29	4	11	2	0	0	10	0	0	0	0	**153**
10:00	1	14	2	1	1	1	0	0	0	1	0	0	0	21
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
13:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	4	454	140	20	42	8	0	7	42	9	0	0	0	726
Percent	0.6%	62.5%	19.3%	2.8%	5.8%	1.1%	0.0%	1.0%	5.8%	1.2%	0.0%	0.0%	0.0%	
AM Peak	05:00	09:00	08:00	06:00	08:00	08:00		05:00	07:00	02:00				09:00
Vol.	1	96	30	5	15	2		2	10	3				153
PM Peak		12:00												12:00
Vol.		1												1
Grand Total	182	16562	4566	214	788	112	5	159	578	86	0	3	1	23256
Percent	0.8%	71.2%	19.6%	0.9%	3.4%	0.5%	0.0%	0.7%	2.5%	0.4%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	**2**	**128**	**35**	**2**	**7**	**3**	0	**2**	**7**	0	0	0	0	**186**
12 PM	2	146	33	2	**15**	1	0	3	**14**	2	0	0	0	218
13:00	1	121	38	4	9	**4**	0	2	11	0	0	0	0	190
14:00	2	150	32	5	6	0	0	**4**	8	**3**	0	0	0	210
15:00	**3**	169	48	**7**	6	2	0	2	11	1	0	0	0	249
16:00	3	**197**	**55**	2	7	1	0	1	1	0	0	0	0	**267**
17:00	2	140	46	1	9	0	0	2	3	1	0	0	0	204
18:00	0	124	32	0	5	2	0	0	3	1	0	0	0	167
19:00	0	89	17	1	3	0	0	1	3	1	0	0	0	115
20:00	0	62	14	2	1	0	0	0	5	1	0	0	0	85
21:00	0	62	12	0	2	2	0	0	2	0	0	0	0	80
22:00	0	38	9	0	0	0	0	0	1	0	0	0	0	48
23:00	0	38	8	0	0	0	0	0	0	0	0	0	0	46
Day Total	15	1464	379	26	70	15	0	17	69	10	0	0	0	2065
Percent	0.7%	70.9%	18.4%	1.3%	3.4%	0.7%	0.0%	0.8%	3.3%	0.5%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	11:00	11:00	11:00		11:00	11:00					11:00
Vol.	2	128	35	2	7	3		2	7					186
PM Peak	15:00	16:00	16:00	15:00	12:00	13:00		14:00	12:00	14:00				16:00
Vol.	3	197	55	7	15	4		4	14	3				267

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/16/15	0	11	4	0	0	1	0	0	2	0	0	0	0	18
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	6	0	0	0	0	0	0	2	0	0	0	0	8
03:00	0	13	2	0	1	1	0	0	1	0	0	0	0	18
04:00	0	21	5	1	1	0	0	0	1	0	0	0	0	29
05:00	2	46	30	0	4	2	0	0	6	0	0	0	0	90
06:00	0	142	49	**2**	10	1	0	1	5	0	0	0	0	210
07:00	1	**239**	46	1	**18**	2	0	**3**	3	1	0	0	0	**314**
08:00	1	145	37	2	5	1	0	2	8	**2**	0	0	0	203
09:00	**5**	107	30	2	5	1	0	1	**13**	0	0	0	0	164
10:00	2	124	30	2	8	**3**	0	1	6	2	0	0	0	178
11:00	1	141	**51**	2	12	2	**1**	2	13	2	0	0	0	227
12 PM	**6**	144	39	4	6	2	0	2	4	0	0	0	0	207
13:00	6	148	41	**6**	4	1	0	2	**17**	**1**	0	0	0	226
14:00	5	146	41	1	9	**4**	0	3	8	0	0	0	0	217
15:00	2	**206**	**62**	4	7	1	0	**4**	10	0	0	0	0	**296**
16:00	1	197	61	1	**18**	2	0	2	6	0	0	0	0	288
17:00	0	156	49	0	11	2	0	2	8	1	0	0	0	229
18:00	1	133	27	1	4	0	0	0	4	1	0	0	0	171
19:00	1	87	29	1	2	0	0	0	3	1	0	0	0	124
20:00	0	71	14	0	2	0	0	1	2	1	0	0	0	91
21:00	0	60	9	0	0	0	0	0	1	1	0	0	0	71
22:00	0	25	10	0	0	0	0	0	1	0	0	0	0	36
23:00	0	47	6	0	1	0	0	0	1	0	0	0	0	55
Day Total	34	2417	672	30	128	26	1	26	125	13	0	0	0	3472
Percent	1.0%	69.6%	19.4%	0.9%	3.7%	0.7%	0.0%	0.7%	3.6%	0.4%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	11:00	06:00	07:00	10:00	11:00	07:00	09:00	08:00				07:00
Vol.	5	239	51	2	18	3	1	3	13	2				314
PM Peak	12:00	15:00	15:00	13:00	16:00	14:00		15:00	13:00	13:00				15:00
Vol.	6	206	62	6	18	4		4	17	1				296

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/17/15	0	8	4	0	0	0	0	0	1	0	0	0	0	13
01:00	0	3	0	0	0	0	0	0	1	0	0	0	0	4
02:00	0	6	2	0	0	0	0	0	3	0	0	0	0	11
03:00	0	11	5	0	2	0	0	0	2	0	0	0	0	20
04:00	0	24	5	1	3	0	0	0	0	0	0	0	0	33
05:00	**2**	59	25	1	1	3	0	0	4	0	0	0	0	95
06:00	1	127	53	**2**	4	2	0	0	4	1	0	0	0	194
07:00	0	**221**	**58**	2	9	1	0	1	5	0	0	0	0	**297**
08:00	0	175	36	1	7	3	0	2	10	**2**	0	0	0	236
09:00	0	124	36	2	**12**	1	0	**5**	7	2	0	0	0	189
10:00	2	137	54	1	6	3	0	1	11	1	0	0	0	216
11:00	1	176	53	0	12	**4**	**1**	0	**14**	0	0	0	0	261
12 PM	0	169	51	1	**14**	1	0	2	14	**1**	0	0	0	253
13:00	**3**	155	53	3	9	1	0	3	8	0	0	0	0	235
14:00	3	171	51	3	11	0	0	4	11	1	0	**1**	0	256
15:00	1	206	**59**	**5**	11	0	0	2	**15**	0	0	0	0	299
16:00	1	229	49	2	12	**3**	0	1	10	0	0	0	0	307
17:00	3	**242**	49	1	9	0	0	**7**	7	0	0	0	0	**318**
18:00	2	197	38	0	6	0	0	4	7	1	0	0	0	255
19:00	2	156	32	1	3	2	0	1	2	0	0	0	0	199
20:00	1	95	20	0	5	0	0	1	1	0	0	0	0	123
21:00	0	88	25	1	4	0	0	0	1	0	0	0	0	119
22:00	0	65	16	0	2	0	0	3	3	0	0	0	0	89
23:00	2	39	11	0	0	0	0	0	2	0	0	0	0	54
Day Total	24	2883	785	27	142	24	1	37	143	9	0	1	0	4076
Percent	0.6%	70.7%	19.3%	0.7%	3.5%	0.6%	0.0%	0.9%	3.5%	0.2%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00	06:00	09:00	11:00	11:00	09:00	11:00	08:00				07:00
Vol.	2	221	58	2	12	4	1	5	14	2				297
PM Peak	13:00	17:00	15:00	15:00	12:00	16:00		17:00	15:00	12:00		14:00		17:00
Vol.	3	242	59	5	14	3		7	15	1		1		318

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/18/15	0	27	3	0	0	0	0	0	0	0	0	0	0	30
01:00	0	13	3	0	2	0	0	0	0	0	0	0	0	18
02:00	0	13	3	0	0	0	0	0	1	0	0	0	0	17
03:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
04:00	1	9	2	0	1	**2**	0	0	0	0	0	0	0	15
05:00	0	23	14	1	3	1	0	1	0	0	0	0	0	43
06:00	0	61	20	0	4	0	0	1	0	0	0	0	0	86
07:00	1	104	34	1	6	0	0	1	1	0	0	0	0	148
08:00	0	162	50	**2**	**8**	2	0	**4**	**3**	0	0	0	0	231
09:00	2	169	50	2	4	2	0	1	1	0	0	0	0	231
10:00	1	196	**55**	1	8	0	0	2	2	0	0	0	0	265
11:00	**4**	**264**	46	2	6	1	0	4	0	0	0	0	0	**327**
12 PM	8	**267**	47	0	4	0	0	**1**	0	0	0	0	0	**327**
13:00	**10**	232	**61**	1	**9**	**1**	0	1	1	0	0	0	0	316
14:00	5	230	56	**2**	8	0	0	1	1	**1**	0	0	0	304
15:00	7	203	37	0	4	1	0	0	**3**	0	0	0	0	255
16:00	4	224	39	0	7	0	0	0	0	0	0	0	0	274
17:00	4	168	34	0	6	0	0	0	1	0	0	0	0	213
18:00	1	145	25	0	4	0	0	1	2	1	0	0	0	179
19:00	6	104	14	0	2	0	0	1	0	0	0	0	0	127
20:00	0	88	15	1	1	0	0	0	0	1	0	0	0	106
21:00	3	78	14	0	4	0	0	0	0	0	0	0	0	99
22:00	0	72	7	0	1	0	0	0	0	0	0	0	0	80
23:00	0	53	9	0	0	0	0	0	0	0	0	0	0	62
Day Total	57	2915	642	13	92	10	0	19	16	3	0	0	0	3767
Percent	1.5%	77.4%	17.0%	0.3%	2.4%	0.3%	0.0%	0.5%	0.4%	0.1%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00	08:00	08:00	04:00		08:00	08:00					11:00
Vol.	4	264	55	2	8	2		4	3					327
PM Peak	13:00	12:00	13:00	14:00	13:00	13:00		12:00	15:00	14:00				12:00
Vol.	10	267	61	2	9	1		1	3	1				327

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/19/15	1	22	5	0	1	1	0	0	0	0	0	0	0	30
01:00	0	8	4	0	2	0	0	0	1	0	0	0	0	15
02:00	0	8	4	0	3	0	0	0	0	**1**	0	0	0	16
03:00	0	9	6	0	5	**3**	0	0	0	0	0	0	0	23
04:00	0	3	2	0	1	0	0	0	1	0	0	0	0	7
05:00	0	12	9	0	0	0	0	0	0	0	0	0	0	21
06:00	0	36	11	0	0	0	0	0	0	0	0	0	0	47
07:00	1	62	20	0	**6**	0	0	1	0	0	0	0	0	90
08:00	0	114	33	0	1	0	0	**2**	2	0	0	0	0	152
09:00	0	128	37	0	5	1	0	0	2	0	0	0	0	173
10:00	0	**224**	**40**	**1**	4	1	0	1	2	0	0	0	0	**273**
11:00	**5**	211	34	0	4	0	0	0	**3**	0	0	0	0	257
12 PM	7	230	**65**	**2**	**9**	1	0	**1**	1	0	0	0	0	**316**
13:00	7	224	40	0	4	0	0	0	1	0	0	0	0	276
14:00	8	**234**	53	0	4	0	0	0	1	0	0	0	0	300
15:00	**12**	216	44	0	4	0	0	0	1	0	0	0	0	277
16:00	6	212	35	0	3	1	0	1	0	**1**	0	0	0	259
17:00	2	155	42	2	8	0	0	0	**3**	0	0	0	0	212
18:00	4	109	28	0	5	0	0	0	1	0	0	0	0	147
19:00	2	110	23	1	0	**2**	0	0	2	0	0	0	0	140
20:00	0	84	15	0	0	0	0	1	2	0	0	0	0	102
21:00	0	59	8	0	2	0	0	0	0	0	0	0	0	69
22:00	0	20	8	0	0	0	0	0	0	0	0	0	0	28
23:00	0	34	6	0	1	0	0	0	0	0	0	0	0	41
Day Total	55	2524	572	6	72	10	0	7	23	2	0	0	0	3271
Percent	1.7%	77.2%	17.5%	0.2%	2.2%	0.3%	0.0%	0.2%	0.7%	0.1%	0.0%	0.0%	0.0%	
AM Peak	11:00	10:00	10:00	10:00	07:00	03:00		08:00	11:00	02:00				10:00
Vol.	5	224	40	1	6	3		2	3	1				273
PM Peak	15:00	14:00	12:00	12:00	12:00	19:00		12:00	17:00	16:00				12:00
Vol.	12	234	65	2	9	2		1	3	1				316

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/20/15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
01:00	0	7	0	0	0	1	0	0	0	0	0	0	0	8
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
04:00	0	22	8	0	1	0	0	0	0	0	0	0	0	31
05:00	**1**	54	35	2	2	2	0	0	0	0	0	0	0	96
06:00	1	141	**50**	3	**12**	1	0	**2**	6	0	0	0	0	216
07:00	0	**232**	49	1	6	**3**	0	2	9	1	0	0	0	**303**
08:00	0	137	27	3	8	1	0	1	7	0	0	0	0	184
09:00	0	84	29	**4**	4	1	0	1	10	1	0	0	0	134
10:00	1	91	27	1	10	2	**1**	2	**11**	**3**	0	0	0	149
11:00	0	122	50	2	11	1	0	1	8	2	0	0	0	197
12 PM	0	139	32	2	6	1	0	**6**	8	1	0	0	0	195
13:00	**2**	122	35	**4**	9	1	**1**	2	13	**4**	0	0	0	193
14:00	1	128	38	0	6	2	0	1	13	1	0	0	0	190
15:00	1	158	45	4	10	**3**	0	4	**15**	1	0	0	0	241
16:00	0	**159**	**55**	3	**14**	0	0	5	11	0	0	0	0	**247**
17:00	0	142	40	2	6	2	0	1	7	0	0	0	0	200
18:00	0	95	24	1	4	0	0	4	4	0	0	0	0	132
19:00	0	69	17	0	0	1	0	0	1	0	0	0	0	88
20:00	0	49	13	0	1	0	0	0	7	1	0	0	0	71
21:00	0	33	5	0	1	0	0	0	0	0	0	0	0	39
22:00	0	25	6	0	1	0	0	0	3	0	0	0	0	35
23:00	0	33	8	0	0	0	0	0	1	0	0	0	0	42
Day Total	7	2056	597	32	112	22	2	32	134	15	0	0	0	3009
Percent	0.2%	68.3%	19.8%	1.1%	3.7%	0.7%	0.1%	1.1%	4.5%	0.5%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	06:00	09:00	06:00	07:00	10:00	06:00	10:00	10:00				07:00
Vol.	1	232	50	4	12	3	1	2	11	3				303
PM Peak	13:00	16:00	16:00	13:00	16:00	15:00	13:00	12:00	15:00	13:00				16:00
Vol.	2	159	55	4	14	3	1	6	15	4				247

Tri-State Traffic Data, Inc.
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(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/21/15	0	10	1	0	2	0	0	1	1	0	0	0	0	15
01:00	0	5	0	0	1	0	0	0	4	0	0	0	0	10
02:00	0	1	0	0	0	0	0	1	1	0	0	0	0	3
03:00	0	13	2	0	0	0	0	0	1	1	0	0	0	17
04:00	0	24	7	0	0	0	0	1	1	0	0	0	0	33
05:00	**1**	53	38	1	3	2	0	1	4	0	0	0	0	103
06:00	0	142	**57**	1	**10**	**3**	0	1	4	0	0	0	0	218
07:00	0	**239**	53	4	6	1	0	1	9	**2**	0	0	0	**315**
08:00	0	121	35	1	6	2	0	**4**	8	0	0	0	0	177
09:00	0	97	43	0	2	1	0	2	3	0	0	0	0	148
10:00	1	102	36	**5**	9	1	**1**	0	8	1	0	0	0	164
11:00	1	123	39	1	10	1	0	1	**13**	2	0	0	0	191
12 PM	0	118	47	**5**	11	1	0	0	**10**	0	0	0	0	192
13:00	1	**144**	45	2	4	**3**	0	1	6	1	0	0	0	207
14:00	1	55	111	5	45	3	0	4	9	1	0	0	0	234
15:00	1	83	116	4	39	1	0	3	3	1	0	0	0	**251**
16:00	1	85	113	2	38	1	0	**7**	2	0	0	0	0	249
17:00	0	67	**118**	1	**53**	0	0	1	5	**2**	0	0	0	247
18:00	0	25	116	2	28	1	0	1	1	1	0	0	0	175
19:00	**2**	15	72	1	13	1	0	0	1	1	0	0	0	106
20:00	1	10	86	1	13	0	0	2	1	1	0	0	0	115
21:00	0	3	41	1	12	0	0	0	0	0	0	0	0	57
22:00	0	2	28	0	2	0	0	0	0	0	0	0	0	32
23:00	0	1	39	0	6	0	0	0	0	0	0	0	0	46
Day Total	10	1538	1243	37	313	22	1	32	95	14	0	0	0	3305
Percent	0.3%	46.5%	37.6%	1.1%	9.5%	0.7%	0.0%	1.0%	2.9%	0.4%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	06:00	10:00	06:00	06:00	10:00	08:00	11:00	07:00				07:00
Vol.	1	239	57	5	10	3	1	4	13	2				315
PM Peak	19:00	13:00	17:00	12:00	17:00	13:00		16:00	12:00	17:00				15:00
Vol.	2	144	118	5	53	3		7	10	2				251

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/22/15	**1**	0	14	0	3	1	0	0	1	0	0	0	0	20
01:00	0	1	3	0	1	0	0	0	0	0	0	0	0	5
02:00	0	0	4	0	0	0	0	0	1	0	0	0	0	5
03:00	0	1	8	0	2	0	0	0	3	1	0	0	0	15
04:00	0	1	16	1	8	0	0	0	0	2	0	0	0	28
05:00	1	3	56	1	27	1	0	1	0	0	0	0	0	90
06:00	1	6	139	2	**66**	1	0	2	4	0	0	0	0	221
07:00	1	8	**212**	3	61	**3**	0	**6**	**5**	2	0	0	0	**301**
08:00	1	12	110	5	42	2	**1**	1	2	**3**	0	0	0	179
09:00	0	**14**	114	**7**	33	1	0	0	3	1	0	0	0	173
10:00	0	8	9	0	1	0	0	0	4	0	0	0	0	22
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	5	55	685	19	244	9	1	10	23	9	0	0	0	1060
Percent	0.5%	5.2%	64.6%	1.8%	23.0%	0.8%	0.1%	0.9%	2.2%	0.8%	0.0%	0.0%	0.0%	
AM Peak	00:00	09:00	07:00	09:00	06:00	07:00	08:00	07:00	07:00	08:00				07:00
Vol.	1	14	212	7	66	3	1	6	5	3				301
PM Peak		12:00												12:00
Vol.		1												1
Grand Total	207	15852	5575	190	1173	138	6	180	628	75	0	1	0	24025
Percent	0.9%	66.0%	23.2%	0.8%	4.9%	0.6%	0.0%	0.7%	2.6%	0.3%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	**7**	0	0	0	0	0	**2**	**23**	**66**	**81**	**17**	**2**	0	0	**198**	51-60	147
12 PM	5	0	0	**1**	0	**7**	**7**	12	83	74	18	3	**1**	0	211	51-60	157
13:00	**8**	0	0	1	0	0	2	23	58	73	27	2	0	0	194	51-60	131
14:00	2	0	0	0	0	0	1	7	51	80	32	3	0	0	176	51-60	131
15:00	5	0	0	0	0	0	2	**24**	**84**	75	46	5	0	0	241	51-60	159
16:00	7	0	0	0	0	0	0	9	83	**168**	**49**	3	0	0	**319**	51-60	251
17:00	4	0	0	0	0	0	0	15	80	135	48	**6**	0	0	288	51-60	215
18:00	3	0	0	0	0	0	0	6	53	113	35	6	0	0	216	51-60	166
19:00	2	0	0	0	0	0	1	7	58	74	25	3	0	0	170	51-60	132
20:00	0	0	0	0	0	1	4	23	52	43	10	0	0	0	133	51-60	95
21:00	3	0	0	0	0	1	3	12	24	25	4	0	1	0	73	51-60	49
22:00	1	0	0	0	0	0	1	5	20	23	7	4	0	0	61	51-60	43
23:00	0	0	0	0	0	0	0	3	11	17	6	0	0	0	37	51-60	28
Total	47	0	0	2	0	9	23	169	723	981	324	37	2	0	2317		
Percent	2.0%	0.0%	0.0%	0.1%	0.0%	0.4%	1.0%	7.3%	31.2%	42.3%	14.0%	1.6%	0.1%	0.0%			
AM Peak	11:00						11:00	11:00	11:00	11:00	11:00	11:00			11:00		
Vol.	7						2	23	66	81	17	2			198		
PM Peak	13:00			12:00		12:00	12:00	15:00	15:00	16:00	16:00	17:00	12:00		16:00		
Vol.	8			1		7	7	24	84	168	49	6	1		319		

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/16/15	0	0	0	0	0	0	2	2	10	13	4	0	0	0	31	51-60	23
01:00	0	0	0	0	0	0	3	1	4	3	1	0	0	0	12	50-59	7
02:00	0	0	0	0	0	0	1	1	4	8	0	0	0	0	14	51-60	12
03:00	0	0	0	0	0	1	1	1	2	3	2	1	0	0	11	56-65	5
04:00	0	0	0	0	0	0	2	3	3	2	0	0	0	0	10	46-55	6
05:00	1	0	0	0	0	0	0	6	15	22	8	3	**1**	0	56	51-60	37
06:00	1	0	0	0	0	0	2	10	42	48	18	2	0	0	123	51-60	90
07:00	**10**	0	0	0	0	1	1	13	43	**69**	29	**6**	0	0	172	51-60	112
08:00	2	0	0	0	0	0	0	18	53	54	20	1	0	0	148	51-60	107
09:00	3	0	**1**	0	0	0	3	16	62	45	21	4	0	0	155	51-60	107
10:00	7	0	0	0	**1**	**4**	**10**	**28**	61	47	18	0	0	0	176	51-60	108
11:00	2	0	0	0	0	0	0	17	**75**	62	**33**	2	0	0	**191**	51-60	137
12 PM	4	0	0	0	0	0	5	21	78	81	23	5	0	0	217	51-60	159
13:00	4	0	0	0	0	0	0	14	53	73	39	3	0	**1**	187	51-60	126
14:00	10	0	0	0	0	0	1	9	62	106	37	4	0	0	229	51-60	168
15:00	7	0	0	0	0	0	0	12	88	126	29	3	0	0	265	51-60	214
16:00	**11**	0	0	0	0	1	5	18	**125**	126	40	3	0	0	**329**	51-60	251
17:00	7	0	0	0	0	0	7	18	99	**142**	38	3	0	0	314	51-60	241
18:00	4	0	0	0	0	0	4	18	72	115	**46**	**6**	**1**	0	266	51-60	187
19:00	2	0	0	0	0	0	3	8	42	76	24	3	0	0	158	51-60	118
20:00	0	0	0	0	0	1	1	20	39	59	16	2	0	0	138	51-60	98
21:00	0	0	0	0	0	0	4	**22**	29	23	5	1	0	0	84	51-60	52
22:00	0	0	0	0	0	**4**	**8**	15	22	14	2	1	0	0	66	46-55	37
23:00	0	0	0	0	0	0	1	9	10	11	4	0	0	0	35	51-60	21
Total	75	0	1	0	1	12	64	300	1093	1328	457	53	2	1	3387		
Percent	2.2%	0.0%	0.0%	0.0%	0.0%	0.4%	1.9%	8.9%	32.3%	39.2%	13.5%	1.6%	0.1%	0.0%			
AM Peak	07:00		09:00		10:00	10:00	10:00	10:00	11:00	07:00	11:00	07:00	05:00		11:00		
Vol.	10		1		1	4	10	28	75	69	33	6	1		191		
PM Peak	16:00					22:00	22:00	21:00	16:00	17:00	18:00	18:00	18:00	13:00	16:00		
Vol.	11					4	8	22	125	142	46	6	1	1	329		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/17/15	0	0	0	0	0	0	0	1	8	7	4	2	0	0	22	51-60	15
01:00	0	0	0	0	0	0	3	3	7	6	3	2	0	0	24	51-60	13
02:00	0	0	0	0	0	0	0	2	5	5	0	0	0	0	12	51-60	10
03:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	50-59	3
04:00	0	0	0	0	0	1	1	0	5	2	2	0	0	0	11	51-60	7
05:00	0	0	0	0	0	**4**	3	15	23	15	4	0	0	0	64	51-60	38
06:00	1	0	0	0	6	0	9	17	46	38	19	2	0	0	138	51-60	84
07:00	3	0	0	0	0	0	10	19	55	**57**	20	**3**	0	0	167	51-60	112
08:00	4	0	0	0	0	0	2	14	44	56	22	1	0	0	143	51-60	100
09:00	1	0	0	0	**8**	3	7	25	41	53	20	3	0	0	161	51-60	94
10:00	2	0	0	0	0	3	16	**48**	**75**	40	7	0	0	0	191	46-55	123
11:00	**7**	0	0	0	0	3	**24**	41	67	49	**24**	0	0	0	**215**	51-60	116
12 PM	6	0	0	0	0	0	5	**30**	94	73	20	1	0	0	229	51-60	167
13:00	8	0	0	0	0	0	2	14	84	112	32	5	0	0	257	51-60	196
14:00	5	0	0	0	0	0	1	11	60	115	34	5	0	0	231	51-60	175
15:00	9	0	0	0	0	0	8	10	**111**	133	59	4	1	0	335	51-60	244
16:00	**16**	0	0	0	0	0	2	16	93	185	69	7	1	**1**	**390**	51-60	278
17:00	5	0	0	0	0	0	0	1	64	**197**	**81**	8	1	0	357	56-65	278
18:00	4	0	0	0	0	0	1	5	50	131	69	**14**	**3**	1	278	56-65	200
19:00	2	0	0	0	0	0	2	8	49	93	38	3	0	0	195	51-60	142
20:00	2	0	0	0	0	0	**10**	21	60	46	8	0	0	0	147	51-60	106
21:00	2	0	0	0	0	0	9	18	45	38	6	0	0	0	118	51-60	83
22:00	1	0	0	0	0	0	0	8	39	31	1	6	0	0	86	51-60	70
23:00	2	0	0	0	0	0	4	8	30	20	5	0	0	0	69	51-60	50
Total	80	0	0	0	14	14	119	335	1156	1504	547	66	6	2	3843		
Percent	2.1%	0.0%	0.0%	0.0%	0.4%	0.4%	3.1%	8.7%	30.1%	39.1%	14.2%	1.7%	0.2%	0.1%			
AM Peak	11:00				09:00	05:00	11:00	10:00	10:00	07:00	11:00	07:00			11:00		
Vol.	7				8	4	24	48	75	57	24	3			215		
PM Peak	16:00						20:00	12:00	15:00	17:00	17:00	18:00	18:00	16:00	16:00		
Vol.	16						10	30	111	197	81	14	3	1	390		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/18/15	1	0	0	0	0	**2**	3	5	14	21	2	0	0	0	48	51-60	35
01:00	0	0	0	**1**	0	0	3	5	11	12	3	2	0	0	37	51-60	23
02:00	0	0	0	0	0	0	0	2	2	3	1	1	0	0	9	51-60	5
03:00	0	0	0	0	0	0	1	1	3	4	2	0	0	0	11	51-60	7
04:00	0	0	0	0	0	2	0	0	4	4	3	1	0	0	14	51-60	8
05:00	0	0	0	0	0	0	0	2	10	13	0	1	0	0	26	51-60	23
06:00	1	0	0	0	0	0	0	5	18	33	16	2	0	0	75	51-60	51
07:00	0	0	0	0	0	0	0	5	18	48	8	3	**1**	0	83	51-60	66
08:00	5	0	**1**	0	0	0	0	9	33	82	31	**4**	1	0	166	51-60	115
09:00	1	0	0	1	0	1	**6**	**13**	56	99	**37**	4	0	0	218	51-60	155
10:00	7	0	0	0	0	1	0	6	71	**143**	37	2	0	0	267	51-60	214
11:00	**15**	0	0	0	0	0	0	9	**86**	129	36	2	1	0	**278**	51-60	215
12 PM	8	0	0	0	0	0	0	13	88	144	34	4	0	0	291	51-60	232
13:00	**11**	0	0	0	0	0	4	27	**128**	132	29	6	0	0	**337**	51-60	260
14:00	8	0	0	0	0	0	4	9	81	**146**	30	4	**3**	**1**	286	51-60	227
15:00	4	0	0	0	0	0	3	19	84	132	**49**	4	0	0	295	51-60	216
16:00	2	0	0	0	0	0	0	25	73	124	40	**7**	0	0	271	51-60	197
17:00	10	0	0	0	0	0	0	16	70	123	47	5	0	0	271	51-60	193
18:00	2	0	0	0	**1**	0	3	10	64	90	31	7	1	0	209	51-60	154
19:00	1	0	0	0	0	0	1	9	33	73	31	4	2	0	154	51-60	106
20:00	1	0	0	0	0	0	3	11	41	44	22	1	1	0	124	51-60	85
21:00	2	0	0	0	0	1	**5**	**30**	55	51	6	1	0	0	151	51-60	106
22:00	0	0	0	0	0	1	4	13	29	38	5	2	0	1	93	51-60	67
23:00	1	0	0	0	0	**3**	1	6	26	29	6	1	0	0	73	51-60	55
Total	80	0	1	2	1	11	41	250	1098	1717	506	68	10	2	3787		
Percent	2.1%	0.0%	0.0%	0.1%	0.0%	0.3%	1.1%	6.6%	29.0%	45.3%	13.4%	1.8%	0.3%	0.1%			
AM Peak	11:00		08:00	01:00		00:00	09:00	09:00	11:00	10:00	09:00	08:00	07:00		11:00		
Vol.	15		1	1		2	6	13	86	143	37	4	1		278		
PM Peak	13:00				18:00	23:00	21:00	21:00	13:00	14:00	15:00	16:00	14:00	14:00	13:00		
Vol.	11				1	3	5	30	128	146	49	7	3	1	337		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/19/15	0	0	0	0	0	**1**	3	5	14	15	4	0	0	0	42	51-60	29
01:00	0	0	0	**1**	0	0	4	5	13	14	2	3	0	0	42	51-60	27
02:00	0	0	0	0	0	0	1	5	5	3	1	0	0	0	15	46-55	10
03:00	0	0	0	0	0	0	0	2	6	3	0	0	0	0	11	49-58	9
04:00	0	0	0	0	0	0	0	3	3	3	0	0	0	0	9	46-55	6
05:00	1	0	0	0	0	0	1	4	7	9	5	3	0	0	30	51-60	16
06:00	0	0	0	0	0	0	1	3	13	17	6	2	0	0	42	51-60	30
07:00	0	0	0	0	0	0	0	5	10	28	6	0	0	**1**	50	51-60	38
08:00	5	0	0	0	0	0	2	7	37	47	20	1	0	1	120	51-60	84
09:00	3	0	0	0	0	1	0	17	75	74	**23**	3	0	0	196	51-60	149
10:00	**7**	0	0	0	0	0	3	25	86	92	21	2	**1**	0	237	51-60	178
11:00	7	0	0	0	0	0	**5**	**26**	**96**	**99**	14	**5**	1	0	**253**	51-60	195
12 PM	**13**	0	0	0	**1**	**6**	**7**	**44**	97	**120**	20	**4**	0	0	**312**	51-60	217
13:00	8	0	0	0	0	0	3	20	118	116	26	1	1	0	293	51-60	234
14:00	7	0	0	0	0	0	7	35	**123**	95	13	1	0	0	281	51-60	218
15:00	3	0	0	0	0	0	0	21	82	114	**32**	4	0	0	256	51-60	196
16:00	5	0	0	0	0	0	4	27	87	104	25	1	0	0	253	51-60	191
17:00	3	0	0	0	0	1	7	7	70	92	26	3	0	0	209	51-60	162
18:00	1	0	0	0	0	0	0	5	56	78	24	1	0	0	165	51-60	134
19:00	1	0	0	0	0	0	1	14	44	82	16	2	0	0	160	51-60	126
20:00	0	0	0	0	1	0	2	18	59	35	6	0	**2**	0	123	51-60	94
21:00	0	0	0	0	0	1	0	9	50	33	5	1	0	0	99	51-60	83
22:00	0	0	0	0	1	1	1	8	19	26	3	1	0	0	60	51-60	45
23:00	1	0	0	0	0	0	0	6	8	10	0	1	0	0	26	51-60	18
Total	65	0	0	1	3	11	52	321	1178	1309	298	39	5	2	3284		
Percent	2.0%	0.0%	0.0%	0.0%	0.1%	0.3%	1.6%	9.8%	35.9%	39.9%	9.1%	1.2%	0.2%	0.1%			
AM Peak	10:00			01:00		00:00	11:00	11:00	11:00	11:00	09:00	11:00	10:00	07:00	11:00		
Vol.	7			1		1	5	26	96	99	23	5	1	1	253		
PM Peak	12:00				12:00	12:00	12:00	12:00	14:00	12:00	15:00	12:00	20:00		12:00		
Vol.	13				1	6	7	44	123	120	32	4	2		312		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/20/15	0	0	0	0	0	**1**	1	2	6	3	0	1	0	0	14	49-58	9
01:00	0	0	0	0	0	0	0	3	4	5	0	1	0	0	13	51-60	9
02:00	0	0	0	0	0	0	0	1	3	2	1	0	0	0	7	51-60	5
03:00	0	0	0	0	0	0	1	4	1	4	0	0	0	0	10	50-59	5
04:00	0	0	0	0	0	0	1	3	4	1	1	0	0	0	10	46-55	7
05:00	0	0	0	0	0	0	1	12	20	19	4	0	0	0	56	51-60	39
06:00	1	0	0	0	0	0	**4**	3	32	58	12	**3**	0	0	113	51-60	90
07:00	**12**	0	0	0	0	0	1	12	32	62	25	3	0	0	147	51-60	94
08:00	2	0	0	0	0	0	2	9	41	51	15	2	0	0	122	51-60	92
09:00	2	0	0	0	0	1	4	**13**	28	55	13	3	0	0	119	51-60	83
10:00	5	0	0	0	0	0	4	9	55	60	17	0	0	0	150	51-60	115
11:00	5	0	0	0	0	0	3	7	**63**	**88**	**27**	0	0	0	**193**	51-60	151
12 PM	2	0	0	0	0	0	2	21	71	74	26	3	0	0	199	51-60	145
13:00	4	0	0	0	0	0	6	22	53	87	18	3	0	0	193	51-60	140
14:00	3	0	0	0	0	2	1	20	58	100	28	1	1	0	214	51-60	158
15:00	**8**	0	0	0	0	0	0	17	60	94	23	2	1	0	205	51-60	154
16:00	4	0	0	0	**1**	**3**	**12**	**55**	**108**	108	22	1	0	0	**314**	51-60	216
17:00	7	0	0	0	0	0	0	7	74	**139**	**38**	**5**	**2**	0	272	51-60	213
18:00	2	0	0	0	0	0	0	8	61	69	24	2	0	0	166	51-60	130
19:00	1	0	0	0	0	0	2	9	41	42	14	2	0	0	111	51-60	83
20:00	2	0	0	0	0	0	2	15	29	36	8	0	0	0	92	51-60	65
21:00	1	0	0	0	0	0	1	17	16	23	6	2	0	0	66	51-60	39
22:00	0	0	0	0	0	0	3	2	10	13	5	0	0	0	33	51-60	23
23:00	0	0	0	0	0	0	0	5	13	14	3	0	0	0	35	51-60	27
Total	61	0	0	0	1	7	51	276	883	1207	330	34	4	0	2854		
Percent	2.1%	0.0%	0.0%	0.0%	0.0%	0.2%	1.8%	9.7%	30.9%	42.3%	11.6%	1.2%	0.1%	0.0%			
AM Peak	07:00					00:00	06:00	09:00	11:00	11:00	11:00	06:00			11:00		
Vol.	12					1	4	13	63	88	27	3			193		
PM Peak	15:00				16:00	16:00	16:00	16:00	16:00	17:00	17:00	17:00	17:00		16:00		
Vol.	8				1	3	12	55	108	139	38	5	2		314		

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
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Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/21/15	0	0	0	0	0	0	2	2	1	12	6	0	**1**	0	24	56-65	18
01:00	0	0	0	0	0	0	1	5	9	6	3	0	0	0	24	49-58	15
02:00	0	0	0	0	0	0	0	1	3	8	1	0	0	0	13	51-60	11
03:00	0	0	0	0	0	0	0	2	2	2	0	0	0	0	6	45-54	4
04:00	0	0	0	0	0	0	0	1	3	6	2	0	0	0	12	51-60	9
05:00	0	0	0	0	0	0	2	5	14	21	6	4	0	0	52	51-60	35
06:00	4	0	0	0	0	0	1	14	31	55	22	3	1	0	131	51-60	86
07:00	**7**	0	0	0	0	0	1	7	45	71	25	**5**	0	0	161	51-60	116
08:00	3	0	0	0	0	**1**	**8**	13	42	51	20	3	0	0	141	51-60	93
09:00	4	0	0	0	0	0	4	15	33	61	15	4	0	0	136	51-60	94
10:00	3	0	0	0	0	0	5	**23**	47	52	**28**	4	1	0	163	51-60	99
11:00	5	0	0	0	0	0	2	13	**61**	**78**	23	3	0	0	**185**	51-60	139
12 PM	2	0	0	0	0	0	1	6	55	92	23	5	**1**	0	185	51-60	147
13:00	4	0	0	0	0	1	**17**	**15**	55	75	33	4	0	0	204	51-60	130
14:00	6	0	0	0	0	0	1	12	78	93	39	3	1	0	233	51-60	171
15:00	10	0	0	0	0	1	1	4	**81**	113	46	9	0	0	265	51-60	194
16:00	4	0	0	0	**1**	1	6	14	73	111	58	7	0	0	275	51-60	184
17:00	**13**	0	0	0	0	0	0	7	47	**134**	**78**	**10**	0	**1**	**290**	56-65	212
18:00	4	0	0	0	0	0	5	3	55	88	44	4	0	0	203	51-60	143
19:00	1	0	0	0	0	0	0	5	35	60	21	8	1	0	131	51-60	95
20:00	0	0	0	0	0	**3**	2	7	37	33	12	2	0	0	96	51-60	70
21:00	1	0	0	0	0	1	2	8	32	30	11	2	0	0	87	51-60	62
22:00	0	0	0	0	0	1	0	12	17	23	3	2	1	0	59	51-60	40
23:00	0	0	0	0	0	1	2	4	11	19	3	1	0	0	41	51-60	30
Total	71	0	0	0	1	10	63	198	867	1294	522	83	7	1	3117		
Percent	2.3%	0.0%	0.0%	0.0%	0.0%	0.3%	2.0%	6.4%	27.8%	41.5%	16.7%	2.7%	0.2%	0.0%			
AM Peak	07:00					08:00	08:00	10:00	11:00	11:00	10:00	07:00	00:00		11:00		
Vol.	7					1	8	23	61	78	28	5	1		185		
PM Peak	17:00				16:00	20:00	13:00	13:00	15:00	17:00	17:00	17:00	12:00	17:00	17:00		
Vol.	13				1	3	17	15	81	134	78	10	1	1	290		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Nb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/22/15	1	0	0	0	0	0	1	4	3	10	3	0	0	0	22	56-65	13
01:00	0	0	0	0	0	0	1	2	6	5	1	0	0	0	15	51-60	11
02:00	0	0	0	0	0	0	0	6	5	5	3	0	0	0	19	46-55	11
03:00	0	0	0	0	0	0	1	0	1	2	1	0	0	0	5	56-65	3
04:00	0	0	0	0	0	0	1	1	6	7	0	0	0	0	15	51-60	13
05:00	0	0	**1**	**1**	0	0	1	10	18	19	6	0	0	0	56	51-60	37
06:00	**5**	0	0	0	0	0	**2**	13	43	42	**18**	**5**	0	0	128	51-60	85
07:00	4	0	0	0	0	0	0	11	34	**70**	17	3	**1**	0	140	51-60	104
08:00	5	0	0	0	0	0	2	**31**	42	59	12	1	0	0	152	51-60	101
09:00	2	0	0	0	0	0	2	20	**52**	60	12	5	0	0	**153**	51-60	112
10:00	1	0	0	0	0	**1**	2	7	6	4	0	0	0	0	21	46-55	13
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
12 PM	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	8-17	1
13:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	21	0	1	1	0	1	13	105	216	283	73	14	1	0	729		
Percent	2.9%	0.0%	0.1%	0.1%	0.0%	0.1%	1.8%	14.4%	29.6%	38.8%	10.0%	1.9%	0.1%	0.0%			
AM Peak	06:00		05:00	05:00		10:00	06:00	08:00	09:00	07:00	06:00	06:00	07:00		09:00		
Vol.	5		1	1		1	2	31	52	70	18	5	1		153		
PM Peak	12:00														12:00		
Vol.	2														2		
Total	500	0	3	6	21	75	426	1954	7214	9623	3057	394	37	8	23318		
Percent	2.1%	0.0%	0.0%	0.0%	0.1%	0.3%	1.8%	8.4%	30.9%	41.3%	13.1%	1.7%	0.2%	0.0%			

15th Percentile :	50 MPH
50th Percentile :	55 MPH
85th Percentile :	59 MPH
95th Percentile :	63 MPH

Stats

10 MPH Pace Speed :	51-60 MPH
Number in Pace :	16837
Percent in Pace :	72.2%
Number of Vehicles > 55 MPH :	13119
Percent of Vehicles > 55 MPH :	56.3%
Mean Speed(Average) :	55 MPH

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	**5**	0	0	0	0	0	**3**	**21**	**57**	**82**	**18**	**1**	0	0	**187**	51-60	139
12 PM	7	0	0	0	0	**2**	2	24	84	79	19	2	0	0	219	51-60	163
13:00	6	0	**1**	0	**3**	2	**7**	19	88	53	9	2	1	0	191	51-60	141
14:00	1	0	0	0	0	0	5	**40**	67	71	21	3	2	0	210	51-60	138
15:00	4	0	0	0	0	1	4	25	**93**	96	20	4	0	**2**	249	51-60	189
16:00	5	0	0	0	0	2	1	26	78	**108**	**40**	7	1	0	**268**	51-60	186
17:00	**8**	0	0	0	0	1	4	14	52	97	21	**8**	0	0	205	51-60	149
18:00	3	0	0	0	0	0	3	13	41	65	33	6	**3**	0	167	51-60	106
19:00	2	0	0	0	0	0	1	15	46	39	11	0	1	1	116	51-60	85
20:00	0	0	0	0	0	1	4	21	36	19	3	1	0	0	85	46-55	57
21:00	1	0	0	0	0	0	4	18	29	19	7	1	1	0	80	51-60	48
22:00	1	0	0	0	0	0	3	11	14	15	2	2	0	0	48	51-60	29
23:00	0	0	0	0	0	1	0	2	15	21	6	0	1	0	46	51-60	36
Total	43	0	1	0	3	10	41	249	700	764	210	37	10	3	2071		
Percent	2.1%	0.0%	0.0%	0.0%	0.1%	0.5%	2.0%	12.0%	33.8%	36.9%	10.1%	1.8%	0.5%	0.1%			
AM Peak	11:00						11:00	11:00	11:00	11:00	11:00	11:00			11:00		
Vol.	5						3	21	57	82	18	1			187		
PM Peak	17:00		13:00		13:00	12:00	13:00	14:00	15:00	16:00	16:00	17:00	18:00	15:00	16:00		
Vol.	8		1		3	2	7	40	93	108	40	8	3	2	268		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/16/15	0	0	0	0	0	0	2	5	6	2	2	0	**1**	0	18	46-55	11
01:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	40-49	2
02:00	0	0	0	0	0	1	0	1	1	3	1	0	1	0	8	56-65	4
03:00	0	0	0	0	0	0	0	1	4	7	4	2	0	0	18	56-65	11
04:00	0	0	0	0	0	0	0	2	16	7	3	1	0	0	29	51-60	23
05:00	0	0	0	0	1	1	2	7	23	48	5	**3**	0	0	90	51-60	71
06:00	2	0	0	0	0	0	2	13	56	101	33	3	0	**1**	211	51-60	157
07:00	4	0	0	0	0	1	9	28	**97**	**133**	**40**	2	0	0	**314**	51-60	230
08:00	4	0	0	0	2	0	6	26	71	73	21	0	0	0	203	51-60	144
09:00	4	0	0	0	0	3	8	36	65	44	4	0	0	0	164	51-60	109
10:00	**9**	0	**1**	**2**	**3**	3	9	41	58	45	6	1	0	1	179	51-60	103
11:00	3	0	0	0	1	**9**	**20**	**55**	71	61	7	0	0	0	227	51-60	132
12 PM	5	0	0	0	0	0	7	34	92	54	11	**3**	0	**2**	208	51-60	146
13:00	1	0	0	0	0	0	6	36	95	76	11	1	0	0	226	51-60	171
14:00	4	0	0	0	0	1	8	**38**	77	74	13	1	**1**	0	217	51-60	151
15:00	4	0	0	0	0	0	7	34	**119**	108	21	3	0	0	**296**	51-60	227
16:00	**8**	0	0	0	0	**5**	0	29	97	**121**	**25**	3	0	1	289	51-60	218
17:00	5	0	0	0	0	2	**14**	30	93	67	18	0	1	0	230	51-60	160
18:00	1	0	0	0	0	0	2	27	74	47	17	3	0	0	171	51-60	121
19:00	3	0	0	0	0	1	6	18	39	39	16	2	0	0	124	51-60	78
20:00	1	0	0	0	0	0	5	19	36	26	3	1	0	0	91	51-60	62
21:00	0	0	0	0	0	0	8	21	25	15	2	0	0	0	71	46-55	46
22:00	0	0	0	0	0	1	3	4	17	10	1	0	0	0	36	51-60	27
23:00	0	0	0	0	0	0	1	10	24	17	3	0	0	0	55	51-60	41
Total	58	0	1	2	7	28	125	517	1256	1178	267	29	4	5	3477		
Percent	1.7%	0.0%	0.0%	0.1%	0.2%	0.8%	3.6%	14.9%	36.1%	33.9%	7.7%	0.8%	0.1%	0.1%			
AM Peak	10:00		10:00	10:00	10:00	11:00	11:00	11:00	07:00	07:00	07:00	05:00	00:00	06:00	07:00		
Vol.	9		1	2	3	9	20	55	97	133	40	3	1	1	314		
PM Peak	16:00					16:00	17:00	14:00	15:00	16:00	16:00	12:00	14:00	12:00	15:00		
Vol.	8					5	14	38	119	121	25	3	1	2	296		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/17/15	0	0	0	0	0	0	0	4	2	3	4	0	0	0	13	55-64	7
01:00	0	0	0	0	0	1	0	1	1	1	0	0	0	0	4	44-53	2
02:00	0	0	0	0	0	0	2	5	2	1	1	0	0	0	11	46-55	7
03:00	1	0	0	0	0	1	1	5	5	7	0	0	0	0	20	50-59	12
04:00	0	0	0	0	0	0	3	7	15	6	2	0	0	0	33	46-55	22
05:00	0	0	0	0	2	3	8	20	33	22	7	0	0	0	95	50-59	55
06:00	3	0	0	0	1	1	5	26	67	73	16	1	**1**	0	194	51-60	140
07:00	6	0	0	0	0	0	5	56	**125**	**86**	**19**	1	0	0	**298**	51-60	211
08:00	4	0	0	0	0	1	8	36	95	77	12	**2**	1	0	236	51-60	172
09:00	**7**	**1**	**3**	3	4	7	6	32	80	43	3	0	0	0	189	51-60	123
10:00	4	1	0	**6**	**13**	**18**	25	29	80	38	2	1	0	0	217	51-60	118
11:00	5	0	0	0	6	11	**32**	**79**	92	34	2	1	0	0	262	46-55	171
12 PM	5	0	0	0	0	**4**	9	**51**	120	57	5	3	0	0	254	51-60	177
13:00	6	0	0	0	0	0	**14**	36	104	69	6	1	0	0	236	51-60	173
14:00	6	0	0	0	0	0	7	44	110	75	15	0	0	0	257	51-60	185
15:00	2	0	0	0	0	0	2	34	125	100	**33**	**4**	0	0	300	51-60	225
16:00	5	0	0	0	0	4	14	49	**135**	82	18	1	0	0	308	51-60	217
17:00	**11**	0	0	0	**1**	2	4	47	116	**107**	27	4	0	0	**319**	51-60	223
18:00	3	0	0	0	0	0	10	40	96	90	14	2	0	0	255	51-60	186
19:00	2	0	0	0	0	0	13	38	93	49	5	0	0	0	200	51-60	142
20:00	2	0	0	0	0	0	9	33	48	30	2	0	0	0	124	46-55	81
21:00	2	0	0	0	0	1	7	40	52	13	2	2	0	**1**	120	46-55	92
22:00	0	0	0	0	0	0	4	24	38	21	2	0	0	0	89	46-55	62
23:00	0	0	0	0	0	0	3	9	21	16	4	1	0	0	54	51-60	37
Total	74	2	3	9	27	54	191	745	1655	1100	201	24	2	1	4088		
Percent	1.8%	0.0%	0.1%	0.2%	0.7%	1.3%	4.7%	18.2%	40.5%	26.9%	4.9%	0.6%	0.0%	0.0%			
AM Peak	09:00	09:00	09:00	10:00	10:00	10:00	11:00	11:00	07:00	07:00	07:00	08:00	06:00		07:00		
Vol.	7	1	3	6	13	18	32	79	125	86	19	2	1		298		
PM Peak	17:00				17:00	12:00	13:00	12:00	16:00	17:00	15:00	15:00		21:00	17:00		
Vol.	11				1	4	14	51	135	107	33	4		1	319		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/18/15	1	0	0	0	0	0	5	6	10	7	1	0	0	0	30	49-58	17
01:00	0	0	0	0	0	0	2	4	5	6	1	0	0	0	18	50-59	11
02:00	0	0	0	0	0	1	1	0	8	6	1	0	0	0	17	51-60	14
03:00	0	0	0	0	0	0	2	2	2	6	1	1	0	0	14	51-60	8
04:00	0	0	0	0	**2**	0	0	5	3	2	3	0	0	0	15	46-55	8
05:00	0	0	0	0	1	0	1	9	13	13	4	1	0	**1**	43	51-60	26
06:00	0	0	0	0	0	0	2	7	25	30	15	**6**	**1**	0	86	51-60	55
07:00	1	0	0	0	0	0	2	12	50	62	**19**	2	0	0	148	51-60	112
08:00	4	0	0	0	0	0	8	24	82	97	14	1	1	0	231	51-60	179
09:00	3	0	**1**	0	0	**2**	7	45	104	55	13	1	0	0	231	51-60	159
10:00	6	0	0	0	0	0	**9**	**48**	96	96	11	0	0	0	266	51-60	192
11:00	**10**	0	0	0	0	0	4	39	**135**	**118**	19	3	0	0	**328**	51-60	253
12 PM	6	0	0	0	0	0	**6**	**51**	119	121	21	3	**1**	0	**328**	51-60	240
13:00	**7**	0	0	0	0	**2**	3	39	**130**	107	29	0	0	0	317	51-60	237
14:00	3	0	0	0	**1**	0	2	26	103	**127**	**36**	5	1	0	304	51-60	230
15:00	3	**1**	0	0	0	0	4	19	95	103	29	0	1	0	255	51-60	198
16:00	6	0	0	0	0	0	6	34	101	98	21	**8**	1	0	275	51-60	199
17:00	6	0	0	0	0	0	0	20	74	77	31	5	1	0	214	51-60	151
18:00	3	0	0	0	0	0	1	17	57	75	21	4	0	**1**	179	51-60	132
19:00	0	0	0	0	0	1	0	19	35	47	20	5	0	0	127	51-60	82
20:00	1	0	0	0	0	1	4	23	37	29	9	1	1	0	106	51-60	66
21:00	0	0	0	0	0	0	3	23	42	23	7	0	0	1	99	46-55	65
22:00	0	0	0	0	0	0	2	16	23	29	9	1	0	0	80	51-60	52
23:00	2	0	0	0	0	0	4	6	14	24	10	1	1	0	62	51-60	38
Total	62	1	1	0	4	7	78	494	1363	1358	345	48	9	3	3773		
Percent	1.6%	0.0%	0.0%	0.0%	0.1%	0.2%	2.1%	13.1%	36.1%	36.0%	9.1%	1.3%	0.2%	0.1%			
AM Peak	11:00		09:00		04:00	09:00	10:00	10:00	11:00	11:00	07:00	06:00	06:00	05:00	11:00		
Vol.	10		1		2	2	9	48	135	118	19	6	1	1	328		
PM Peak	13:00	15:00			14:00	13:00	12:00	12:00	13:00	14:00	14:00	16:00	12:00	18:00	12:00		
Vol.	7	1			1	2	6	51	130	127	36	8	1	1	328		

Tri-State Traffic Data, Inc.
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Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
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Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/19/15	1	0	0	0	0	**3**	2	2	12	7	3	0	0	0	30	51-60	19
01:00	0	0	**1**	0	0	1	2	3	4	2	2	0	0	0	15	46-55	7
02:00	0	0	0	0	**2**	2	2	2	4	4	0	0	0	0	16	50-59	8
03:00	0	0	0	0	0	1	0	7	6	8	0	1	0	0	23	49-58	14
04:00	0	0	0	0	0	0	2	0	1	3	1	0	0	0	7	56-65	4
05:00	1	0	0	0	0	0	1	0	8	8	3	0	0	0	21	51-60	16
06:00	0	0	0	0	0	0	1	1	13	20	5	7	0	0	47	51-60	33
07:00	0	0	0	0	0	1	3	7	16	32	21	**9**	**1**	0	90	56-65	53
08:00	3	0	0	0	0	0	1	7	50	69	19	3	0	0	152	51-60	119
09:00	1	0	0	0	0	2	4	15	63	70	17	0	0	**1**	173	51-60	133
10:00	**5**	0	0	0	0	0	**8**	27	87	**113**	**33**	0	1	0	**274**	51-60	200
11:00	2	0	1	0	0	2	4	**28**	**100**	100	18	1	1	0	257	51-60	200
12 PM	**6**	0	0	0	0	0	**10**	**35**	123	110	28	**5**	0	0	**317**	51-60	233
13:00	6	0	0	0	0	0	1	34	110	103	19	3	0	**1**	277	51-60	213
14:00	3	0	0	0	0	0	6	25	**150**	92	21	3	0	0	300	51-60	242
15:00	1	0	0	0	0	0	3	32	87	**111**	**39**	3	**2**	0	278	51-60	198
16:00	5	0	0	0	0	0	5	30	97	95	24	4	0	0	260	51-60	192
17:00	4	0	0	0	0	0	3	23	77	70	31	3	0	1	212	51-60	147
18:00	2	0	0	0	0	0	2	23	49	56	14	2	0	0	148	51-60	105
19:00	1	0	0	0	0	0	6	9	36	59	26	3	0	0	140	51-60	95
20:00	0	0	0	0	0	0	3	19	34	38	4	4	0	0	102	51-60	72
21:00	1	0	0	0	0	0	3	6	28	21	10	0	0	0	69	51-60	49
22:00	0	0	0	0	0	0	0	7	10	5	5	1	0	0	28	46-55	17
23:00	1	0	0	0	0	0	0	6	13	14	6	1	0	0	41	51-60	27
Total	43	0	2	0	2	12	72	348	1178	1210	349	53	5	3	3277		
Percent	1.3%	0.0%	0.1%	0.0%	0.1%	0.4%	2.2%	10.6%	35.9%	36.9%	10.6%	1.6%	0.2%	0.1%			
AM Peak	10:00		01:00		02:00	00:00	10:00	11:00	11:00	10:00	10:00	07:00	07:00	09:00	10:00		
Vol.	5		1		2	3	8	28	100	113	33	9	1	1	274		
PM Peak	12:00						12:00	12:00	14:00	15:00	15:00	12:00	15:00	13:00	12:00		
Vol.	6						10	35	150	111	39	5	2	1	317		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/20/15	0	0	0	0	0	0	0	3	3	1	0	1	0	0	8	46-55	6
01:00	0	0	**1**	0	0	0	1	1	3	1	1	0	0	0	8	51-60	4
02:00	0	0	0	0	0	0	0	1	1	1	1	0	0	0	4	44-53	2
03:00	0	0	0	0	0	0	1	0	1	3	1	0	0	0	6	56-65	4
04:00	0	0	0	0	0	0	2	5	9	10	2	1	**1**	**1**	31	51-60	19
05:00	0	0	0	0	0	2	3	10	37	30	12	1	1	0	96	51-60	67
06:00	0	0	0	0	**2**	1	7	30	72	80	21	1	1	1	216	51-60	152
07:00	5	0	0	0	0	1	4	44	**102**	**112**	**35**	1	0	0	**304**	51-60	214
08:00	1	0	0	0	0	0	4	32	72	61	11	**2**	1	0	184	51-60	133
09:00	**6**	0	0	0	0	1	1	15	68	37	7	0	0	0	135	51-60	105
10:00	2	0	0	0	0	**3**	**9**	24	61	39	9	2	0	1	150	51-60	100
11:00	2	0	0	0	0	0	5	**48**	85	50	6	2	0	0	198	51-60	135
12 PM	1	0	0	0	0	0	5	26	87	66	10	0	0	0	195	51-60	153
13:00	4	0	0	0	0	4	11	22	75	60	15	2	0	0	193	51-60	135
14:00	1	0	0	0	0	3	2	32	75	62	13	2	0	0	190	51-60	137
15:00	**8**	0	0	0	**2**	1	10	30	**96**	**74**	**18**	**3**	0	0	242	51-60	170
16:00	4	0	0	**1**	1	**10**	**38**	**61**	74	51	6	1	0	0	**247**	46-55	135
17:00	4	0	0	0	0	2	4	43	77	63	6	1	0	0	200	51-60	140
18:00	1	0	0	0	0	2	3	19	54	43	10	0	0	0	132	51-60	97
19:00	1	0	0	0	0	1	2	20	33	23	7	1	0	0	88	51-60	56
20:00	1	0	0	0	0	0	6	19	34	11	0	0	0	0	71	46-55	53
21:00	2	0	0	0	0	0	5	13	13	4	3	0	0	0	40	46-55	26
22:00	0	0	0	0	0	0	5	8	15	5	1	1	0	0	35	46-55	23
23:00	0	0	0	0	0	0	1	6	10	12	10	2	**1**	0	42	51-60	22
Total	43	0	1	1	5	31	129	512	1157	899	205	24	5	3	3015		
Percent	1.4%	0.0%	0.0%	0.0%	0.2%	1.0%	4.3%	17.0%	38.4%	29.8%	6.8%	0.8%	0.2%	0.1%			
AM Peak	09:00		01:00		06:00	10:00	10:00	11:00	07:00	07:00	07:00	08:00	04:00	04:00	07:00		
Vol.	6		1		2	3	9	48	102	112	35	2	1	1	304		
PM Peak	15:00			16:00	15:00	16:00	16:00	16:00	15:00	15:00	15:00	15:00	23:00		16:00		
Vol.	8			1	2	10	38	61	96	74	18	3	1		247		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/21/15	0	0	0	0	0	0	2	2	5	5	1	0	0	0	15	51-60	10
01:00	0	0	0	0	0	0	1	4	3	2	0	0	0	0	10	46-55	7
02:00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3	44-53	2
03:00	0	0	0	0	0	0	0	5	3	8	1	0	0	0	17	51-60	11
04:00	0	0	0	0	0	0	1	3	10	11	7	0	1	0	33	51-60	21
05:00	0	0	0	0	0	0	2	10	36	41	10	2	**2**	0	103	51-60	77
06:00	2	0	0	0	0	2	3	23	66	95	**25**	**3**	0	0	219	51-60	161
07:00	**6**	0	0	0	0	2	9	**48**	**121**	**113**	16	1	0	0	**316**	51-60	234
08:00	1	0	0	0	0	4	9	33	74	45	10	1	0	0	177	51-60	119
09:00	1	0	0	0	0	1	3	27	71	43	2	0	0	0	148	51-60	114
10:00	1	0	0	0	**6**	**13**	**10**	38	66	25	5	1	0	0	165	46-55	104
11:00	3	0	0	0	4	8	8	46	59	47	13	3	0	0	191	49-58	106
12 PM	1	0	0	0	0	0	2	46	**84**	45	14	0	0	0	192	46-55	130
13:00	**10**	0	0	0	**4**	**5**	**11**	**74**	67	31	4	0	0	2	208	46-55	141
14:00	7	**1**	0	**1**	2	0	4	18	57	59	47	27	8	4	235	51-60	116
15:00	7	0	0	0	0	1	4	19	42	**85**	57	27	8	2	**252**	56-65	142
16:00	4	0	0	0	0	0	4	21	43	61	73	36	6	1	249	56-65	134
17:00	5	0	**1**	0	0	0	1	11	25	58	**81**	**49**	14	3	248	56-65	139
18:00	4	0	0	0	0	0	0	4	10	25	57	49	**19**	**7**	175	61-70	106
19:00	3	0	0	0	0	0	0	3	3	18	27	29	16	7	106	61-70	56
20:00	3	0	0	0	0	2	0	1	9	28	35	26	8	3	115	56-65	63
21:00	0	0	1	0	0	0	1	1	3	16	12	15	5	3	57	56-65	28
22:00	0	0	0	0	0	0	0	0	1	4	8	8	7	4	32	61-70	16
23:00	0	0	0	0	0	0	0	2	1	10	5	8	14	6	46	66-75	22
Total	58	1	2	1	16	38	75	440	860	876	510	285	108	42	3312		
Percent	1.8%	0.0%	0.1%	0.0%	0.5%	1.1%	2.3%	13.3%	26.0%	26.4%	15.4%	8.6%	3.3%	1.3%			
AM Peak	07:00				10:00	10:00	10:00	07:00	07:00	07:00	06:00	06:00	05:00		07:00		
Vol.	6				6	13	10	48	121	113	25	3	2		316		
PM Peak	13:00	14:00	17:00	14:00	13:00	13:00	13:00	13:00	12:00	15:00	17:00	17:00	18:00	18:00	15:00		
Vol.	10	1	1	1	4	5	11	74	84	85	81	49	19	7	252		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 794' South of Indian Falls Road
Technician: MM

Site Code: 01
Station ID:

Latitude: 0' 0.0000 Undefined

Sb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/22/15	0	0	0	0	0	0	0	0	1	4	4	5	4	2	20	66-75	9
01:00	0	0	0	0	0	0	1	0	0	0	3	1	0	0	5	61-70	4
02:00	0	0	0	0	0	0	0	0	0	2	1	1	0	1	5	54-63	3
03:00	0	0	0	0	0	0	0	0	3	2	3	2	4	1	15	66-75	6
04:00	0	0	0	0	0	0	0	0	4	7	4	6	4	3	28	56-65	11
05:00	1	0	0	0	**2**	0	0	0	6	7	22	24	17	11	90	61-70	46
06:00	5	0	0	**1**	0	0	**2**	1	8	14	32	64	62	**33**	222	66-75	126
07:00	2	0	0	0	0	**2**	0	0	5	**28**	**83**	**88**	**71**	23	**302**	61-70	171
08:00	**8**	**1**	0	0	0	0	0	**4**	**14**	23	42	47	29	12	180	61-70	89
09:00	2	0	0	0	1	0	0	2	13	27	49	52	17	10	173	61-70	101
10:00	0	0	0	0	0	0	0	0	5	6	9	2	0	0	22	56-65	15
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
12 PM	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	*	1
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	19	1	0	1	3	2	3	7	59	120	252	292	208	96	1063		
Percent	1.8%	0.1%	0.0%	0.1%	0.3%	0.2%	0.3%	0.7%	5.6%	11.3%	23.7%	27.5%	19.6%	9.0%			
AM Peak	08:00	08:00		06:00	05:00	07:00	06:00	08:00	08:00	07:00	07:00	07:00	07:00	06:00	07:00		
Vol.	8	1		1	2	2	2	4	14	28	83	88	71	33	302		
PM Peak	12:00														12:00		
Vol.	1														1		
Total	400	5	11	14	67	182	714	3312	8228	7505	2339	792	351	156	24076		
Percent	1.7%	0.0%	0.0%	0.1%	0.3%	0.8%	3.0%	13.8%	34.2%	31.2%	9.7%	3.3%	1.5%	0.6%			

15th Percentile :	48 MPH
50th Percentile :	54 MPH
85th Percentile :	59 MPH
95th Percentile :	64 MPH

Stats

10 MPH Pace Speed :	51-60 MPH
Number in Pace :	15733
Percent in Pace :	65.8%
Number of Vehicles > 55 MPH :	11143
Percent of Vehicles > 55 MPH :	46.6%
Mean Speed(Average) :	54 MPH

INDIAN FALLS ROAD

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Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Start	13-Apr-15		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb
12:00 AM	*	*	*	*	*	*	2	1	6	1	6	3	2	3	4	2
01:00	*	*	*	*	*	*	2	1	2	2	2	2	6	16	3	5
02:00	*	*	*	*	*	*	0	0	0	0	3	0	8	8	3	2
03:00	*	*	*	*	*	*	1	1	1	1	3	2	11	4	4	2
04:00	*	*	*	*	*	*	2	4	0	7	0	0	1	0	1	3
05:00	*	*	*	*	*	*	11	15	8	12	5	7	3	3	7	9
06:00	*	*	*	*	*	*	20	33	21	31	11	16	6	2	14	20
07:00	*	*	*	*	*	*	**34**	**41**	**29**	**42**	17	18	10	12	22	28
08:00	*	*	*	*	*	*	30	31	23	20	25	17	16	22	24	22
09:00	*	*	*	*	*	*	20	25	18	21	38	26	22	33	24	26
10:00	*	*	*	*	*	*	21	21	20	26	**46**	43	**27**	**37**	**28**	**32**
11:00	*	*	*	*	*	*	23	29	29	20	37	**50**	24	29	28	32
12:00 PM	*	*	*	*	30	27	27	18	20	46	36	**43**	**47**	**56**	32	**38**
01:00	*	*	*	*	26	32	32	31	34	24	**38**	39	43	33	35	32
02:00	*	*	*	*	23	25	26	29	38	32	33	30	41	28	32	29
03:00	*	*	*	*	43	32	45	41	**55**	**48**	37	34	34	37	**43**	38
04:00	*	*	*	*	**47**	**40**	**56**	**44**	53	46	30	32	23	28	42	38
05:00	*	*	*	*	42	34	46	36	35	46	25	27	28	27	35	34
06:00	*	*	*	*	28	34	38	35	23	34	33	24	21	28	29	31
07:00	*	*	*	*	29	14	20	26	23	32	19	26	27	23	24	24
08:00	*	*	*	*	26	20	28	18	25	16	16	19	19	8	23	16
09:00	*	*	*	*	17	17	11	11	16	17	12	12	9	7	13	13
10:00	*	*	*	*	9	7	8	11	16	9	7	10	4	3	9	8
11:00	*	*	*	*	1	4	2	5	11	10	6	4	4	7	5	6
Lane	0	0	0	0	321	286	505	507	506	543	485	484	436	454	484	490
Day	0		0		607		1012		1049		969		890		974	
AM Peak	-	-	-	-	-	-	07:00	07:00	07:00	07:00	10:00	11:00	10:00	10:00	10:00	10:00
Vol.	-	-	-	-	-	-	34	41	29	42	46	50	27	37	28	32
PM Peak	-	-	-	-	16:00	16:00	16:00	16:00	15:00	15:00	13:00	12:00	12:00	12:00	15:00	12:00
Vol.	-	-	-	-	47	40	56	44	55	48	38	43	47	56	43	38

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Start	20-Apr-15		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb	Eb	Wb
12:00 AM	2	0	1	2	3	1	*	*	*	*	*	*	*	*	2	1
01:00	2	1	4	1	0	2	*	*	*	*	*	*	*	*	2	1
02:00	0	0	0	0	1	1	*	*	*	*	*	*	*	*	0	0
03:00	0	1	2	2	4	2	*	*	*	*	*	*	*	*	2	2
04:00	2	3	0	1	0	3	*	*	*	*	*	*	*	*	1	2
05:00	14	20	11	15	11	13	*	*	*	*	*	*	*	*	12	16
06:00	20	29	26	**35**	24	36	*	*	*	*	*	*	*	*	23	33
07:00	25	**46**	**37**	30	**25**	32	*	*	*	*	*	*	*	*	**29**	**36**
08:00	29	23	36	27	23	**37**	*	*	*	*	*	*	*	*	29	29
09:00	20	23	28	32	19	19	*	*	*	*	*	*	*	*	22	25
10:00	25	26	26	32	11	18	*	*	*	*	*	*	*	*	21	25
11:00	**36**	31	31	20	0	0	*	*	*	*	*	*	*	*	22	17
12:00 PM	20	26	25	26	**1**	0	*	*	*	*	*	*	*	*	15	17
01:00	18	24	21	31	1	0	*	*	*	*	*	*	*	*	13	18
02:00	36	28	30	31	0	0	*	*	*	*	*	*	*	*	22	20
03:00	29	27	**47**	35	0	**1**	*	*	*	*	*	*	*	*	25	21
04:00	**62**	**43**	40	**50**	*	*	*	*	*	*	*	*	*	*	**51**	**46**
05:00	44	36	32	50	*	*	*	*	*	*	*	*	*	*	38	43
06:00	28	29	24	33	*	*	*	*	*	*	*	*	*	*	26	31
07:00	23	16	33	24	*	*	*	*	*	*	*	*	*	*	28	20
08:00	9	12	16	16	*	*	*	*	*	*	*	*	*	*	12	14
09:00	13	11	15	8	*	*	*	*	*	*	*	*	*	*	14	10
10:00	5	6	8	4	*	*	*	*	*	*	*	*	*	*	6	5
11:00	3	4	3	4	*	*	*	*	*	*	*	*	*	*	3	4
Lane	465	465	496	509	123	165	0	0	0	0	0	0	0	0	418	436
Day	930		1005		288		0		0		0		0		854	
AM Peak	11:00	07:00	07:00	06:00	07:00	08:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	36	46	37	35	25	37	-	-	-	-	-	-	-	-	29	36
PM Peak	16:00	16:00	15:00	16:00	12:00	15:00	-	-	-	-	-	-	-	-	16:00	16:00
Vol.	62	43	47	50	1	1	-	-	-	-	-	-	-	-	51	46

Comb. Total	930	1005	895	1012	1049	969	890	1828

ADT ADT 931 AADT 931

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	15	**12**	0	**3**	0	0	0	0	0	0	0	0	30
13:00	0	19	5	**1**	1	0	0	0	0	0	0	0	0	26
14:00	0	16	6	1	0	0	0	0	0	0	0	0	0	23
15:00	1	26	12	1	1	**1**	0	0	**1**	0	0	0	0	43
16:00	0	**34**	12	0	1	0	0	0	0	0	0	0	0	**47**
17:00	**2**	27	11	0	0	1	0	0	1	0	0	0	0	42
18:00	0	22	5	0	1	0	0	0	0	0	0	0	0	28
19:00	0	23	6	0	0	0	0	0	0	0	0	0	0	29
20:00	1	19	4	0	1	1	0	0	0	0	0	0	0	26
21:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
22:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	4	223	78	3	8	3	0	0	2	0	0	0	0	321
Percent	1.2%	69.5%	24.3%	0.9%	2.5%	0.9%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.														
PM Peak	17:00	16:00	12:00	13:00	12:00	15:00			15:00					16:00
Vol.	2	34	12	1	3	1			1					47

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/16/15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
06:00	0	12	5	**1**	0	**1**	0	**1**	0	0	0	0	0	20
07:00	1	**21**	9	1	2	0	0	0	0	0	0	0	0	**34**
08:00	0	21	6	0	2	1	0	0	0	0	0	0	0	30
09:00	0	15	3	0	1	0	0	0	**1**	0	0	0	0	20
10:00	0	12	5	0	**3**	1	0	0	0	0	0	0	0	21
11:00	**2**	11	**10**	0	0	0	0	0	0	0	0	0	0	23
12 PM	0	17	6	1	**3**	0	0	0	0	0	0	0	0	27
13:00	0	19	8	1	3	0	0	**1**	0	0	0	0	0	32
14:00	0	18	4	**2**	2	0	0	0	0	0	0	0	0	26
15:00	0	36	7	1	1	0	0	0	0	0	0	0	0	45
16:00	0	**40**	14	0	2	0	0	0	0	0	0	0	0	**56**
17:00	**1**	26	**17**	0	1	**1**	0	0	0	0	0	0	0	46
18:00	1	25	8	0	3	1	0	0	0	0	0	0	0	38
19:00	0	15	5	0	0	0	0	0	0	0	0	0	0	20
20:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
21:00	0	6	5	0	0	0	0	0	0	0	0	0	0	11
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Day Total	5	338	124	7	23	5	0	2	1	0	0	0	0	505
Percent	1.0%	66.9%	24.6%	1.4%	4.6%	1.0%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	11:00	06:00	10:00	06:00		06:00	09:00					07:00
Vol.	2	21	10	1	3	1		1	1					34
PM Peak	17:00	16:00	17:00	14:00	12:00	17:00		13:00						16:00
Vol.	1	40	17	2	3	1		1						56

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/17/15	0	3	3	0	0	0	0	0	0	0	0	0	0	6
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	4	3	0	1	0	0	0	0	0	0	0	0	8
06:00	0	12	7	**1**	1	0	0	0	0	0	0	0	0	21
07:00	0	**20**	5	1	**2**	**1**	0	0	0	0	0	0	0	**29**
08:00	0	13	**9**	1	0	0	0	0	0	0	0	0	0	23
09:00	0	10	6	0	2	0	0	0	0	0	0	0	0	18
10:00	1	10	6	0	2	1	0	0	0	0	0	0	0	20
11:00	**2**	18	5	1	2	1	0	0	0	0	0	0	0	29
12 PM	0	12	4	0	3	**1**	0	0	0	0	0	0	0	20
13:00	0	27	7	0	0	0	0	0	0	0	0	0	0	34
14:00	0	28	7	**2**	1	0	0	0	0	0	0	0	0	38
15:00	0	**38**	**17**	0	0	0	0	0	0	0	0	0	0	**55**
16:00	0	36	11	0	**5**	0	0	0	**1**	0	0	0	0	53
17:00	0	24	10	0	1	0	0	0	0	0	0	0	0	35
18:00	0	15	7	0	1	0	0	0	0	0	0	0	0	23
19:00	**1**	14	6	0	1	1	0	0	0	0	0	0	0	23
20:00	0	16	7	0	2	0	0	0	0	0	0	0	0	25
21:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
22:00	0	10	5	1	0	0	0	0	0	0	0	0	0	16
23:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
Day Total	4	332	133	7	24	5	0	0	1	0	0	0	0	506
Percent	0.8%	65.6%	26.3%	1.4%	4.7%	1.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	08:00	06:00	07:00	07:00								07:00
Vol.	2	20	9	1	2	1								29
PM Peak	19:00	15:00	15:00	14:00	16:00	12:00			16:00					15:00
Vol.	1	38	17	2	5	1			1					55

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/18/15	0	4	2	0	0	0	0	0	0	0	0	0	0	6
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
06:00	0	5	6	0	0	0	0	0	0	0	0	0	0	11
07:00	0	11	5	0	1	0	0	0	0	0	0	0	0	17
08:00	**2**	14	9	0	0	0	0	0	0	0	0	0	0	25
09:00	0	26	10	0	1	**1**	0	0	0	0	0	0	0	38
10:00	1	**32**	10	**1**	1	0	0	0	**1**	0	0	0	0	**46**
11:00	0	22	**13**	0	**2**	0	0	0	0	0	0	0	0	37
12 PM	0	20	**12**	0	**4**	0	0	0	0	0	0	0	0	36
13:00	1	23	12	0	1	0	0	**1**	0	0	0	0	0	**38**
14:00	1	20	10	**1**	1	0	0	0	0	0	0	0	0	33
15:00	1	**31**	4	0	1	0	0	0	0	0	0	0	0	37
16:00	**2**	19	6	0	2	0	0	1	0	0	0	0	0	30
17:00	0	20	4	0	1	0	0	0	0	0	0	0	0	25
18:00	0	24	9	0	0	0	0	0	0	0	0	0	0	33
19:00	0	17	2	0	0	0	0	0	0	0	0	0	0	19
20:00	0	11	5	0	0	0	0	0	0	0	0	0	0	16
21:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
22:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
Day Total	8	332	123	2	16	1	0	2	1	0	0	0	0	485
Percent	1.6%	68.5%	25.4%	0.4%	3.3%	0.2%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	10:00	11:00	10:00	11:00	09:00			10:00					10:00
Vol.	2	32	13	1	2	1			1					46
PM Peak	16:00	15:00	12:00	14:00	12:00			13:00						13:00
Vol.	2	31	12	1	4			1						38

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04/19/15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
02:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
03:00	0	5	3	0	**3**	0	0	0	0	0	0	0	0	11
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	1	4	0	1	0	0	0	0	0	0	0	0	6
07:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
08:00	**1**	10	3	0	1	0	0	**1**	0	0	0	0	0	16
09:00	0	13	**8**	0	1	0	0	0	0	0	0	0	0	22
10:00	1	**20**	6	0	0	0	0	0	0	0	0	0	0	**27**
11:00	1	17	4	0	2	0	0	0	0	0	0	0	0	24
12 PM	0	**36**	**11**	0	0	0	0	0	0	0	0	0	0	**47**
13:00	0	29	11	0	**3**	0	0	0	0	0	0	0	0	43
14:00	0	31	10	0	0	0	0	0	0	0	0	0	0	41
15:00	**3**	22	9	0	0	0	0	0	0	0	0	0	0	34
16:00	0	17	6	0	0	0	0	0	0	0	0	0	0	23
17:00	2	20	5	0	1	0	0	0	0	0	0	0	0	28
18:00	0	16	3	0	2	0	0	0	0	0	0	0	0	21
19:00	0	17	9	0	0	0	0	**1**	0	0	0	0	0	27
20:00	0	14	4	**1**	0	0	0	0	0	0	0	0	0	19
21:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
Day Total	8	306	104	1	15	0	0	2	0	0	0	0	0	436
Percent	1.8%	70.2%	23.9%	0.2%	3.4%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	10:00	09:00		03:00			08:00						10:00
Vol.	1	20	8		3			1						27
PM Peak	15:00	12:00	12:00	20:00	13:00			19:00						12:00
Vol.	3	36	11	1	3			1						47

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/20/15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	8	4	0	1	1	0	0	0	0	0	0	0	14
06:00	0	13	6	**1**	0	0	0	0	0	0	0	0	0	20
07:00	0	17	5	1	0	0	0	**2**	0	0	0	0	0	25
08:00	0	19	**10**	0	0	0	0	0	0	0	0	0	0	29
09:00	0	9	8	0	2	1	0	0	0	0	0	0	0	20
10:00	0	11	7	1	3	**2**	0	1	0	0	0	0	0	25
11:00	0	**23**	5	0	**6**	1	0	1	0	0	0	0	0	**36**
12 PM	0	10	8	0	2	0	0	0	0	0	0	0	0	20
13:00	0	9	4	0	**3**	**1**	0	0	**1**	0	0	0	0	18
14:00	0	26	9	**1**	0	0	0	0	0	0	0	0	0	36
15:00	0	22	7	0	0	0	0	0	0	0	0	0	0	29
16:00	0	**41**	**17**	1	2	1	0	0	0	0	0	0	0	**62**
17:00	0	27	13	0	3	0	0	**1**	0	0	0	0	0	44
18:00	0	16	10	0	2	0	0	0	0	0	0	0	0	28
19:00	0	18	5	0	0	0	0	0	0	0	0	0	0	23
20:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
21:00	0	9	4	0	0	0	0	0	0	0	0	0	0	13
22:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Day Total	0	291	132	5	24	7	0	5	1	0	0	0	0	465
Percent	0.0%	62.6%	28.4%	1.1%	5.2%	1.5%	0.0%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00	06:00	11:00	10:00		07:00						11:00
Vol.		23	10	1	6	2		2						36
PM Peak		16:00	16:00	14:00	13:00	13:00		17:00	13:00					16:00
Vol.		41	17	1	3	1		1	1					62

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/21/15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	3	6	1	1	0	0	0	0	0	0	0	0	11
06:00	0	18	5	**2**	0	**1**	0	0	0	0	0	0	0	26
07:00	0	21	**13**	0	**3**	0	0	0	0	0	0	0	0	**37**
08:00	0	**24**	11	1	0	0	0	0	0	0	0	0	0	36
09:00	0	14	11	1	2	0	0	0	0	0	0	0	0	28
10:00	0	14	8	1	3	0	0	0	0	0	0	0	0	26
11:00	**1**	13	13	0	3	0	0	0	**1**	0	0	0	0	31
12 PM	0	12	11	0	**2**	0	0	0	0	0	0	0	0	25
13:00	0	13	6	0	2	0	0	0	0	0	0	0	0	21
14:00	0	20	6	**1**	0	**1**	0	**2**	0	0	0	0	0	30
15:00	0	**25**	**18**	1	2	1	0	0	0	0	0	0	0	**47**
16:00	0	21	16	0	2	1	0	0	0	0	0	0	0	40
17:00	0	20	10	0	2	0	0	0	0	0	0	0	0	32
18:00	0	20	4	0	0	0	0	0	0	0	0	0	0	24
19:00	**2**	20	9	0	2	0	0	0	0	0	0	0	0	33
20:00	0	8	8	0	0	0	0	0	0	0	0	0	0	16
21:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Day Total	3	292	162	8	24	4	0	2	1	0	0	0	0	496
Percent	0.6%	58.9%	32.7%	1.6%	4.8%	0.8%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	07:00	06:00	07:00	06:00			11:00					07:00
Vol.	1	24	13	2	3	1			1					37
PM Peak	19:00	15:00	15:00	14:00	12:00	14:00		14:00						15:00
Vol.	2	25	18	1	2	1		2						47

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/22/15	0	2	1	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	6	3	1	0	**1**	0	0	0	0	0	0	0	11
06:00	0	**14**	**9**	1	0	0	0	0	0	0	0	0	0	24
07:00	0	14	6	1	**3**	0	0	**1**	0	0	0	0	0	**25**
08:00	0	13	7	0	2	1	0	0	0	0	0	0	0	23
09:00	0	12	2	**3**	1	0	0	1	0	0	0	0	0	19
10:00	0	6	5	0	0	0	0	0	0	0	0	0	0	11
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
13:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	0	71	36	6	6	2	0	2	0	0	0	0	0	123
Percent	0.0%	57.7%	29.3%	4.9%	4.9%	1.6%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		06:00	06:00	09:00	07:00	05:00		07:00						07:00
Vol.		14	9	3	3	1		1						25
PM Peak		12:00												12:00
Vol.		1												1
Grand Total	32	2185	892	39	140	27	0	15	7	0	0	0	0	3337
Percent	1.0%	65.5%	26.7%	1.2%	4.2%	0.8%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	18	6	1	1	1	0	0	0	0	0	0	0	27
13:00	0	14	12	**2**	2	**2**	0	0	0	0	0	0	0	32
14:00	0	16	7	0	0	0	0	**1**	**1**	0	0	0	0	25
15:00	0	14	**14**	1	1	2	0	0	0	0	0	0	0	32
16:00	**1**	**28**	7	0	**3**	1	0	0	0	0	0	0	0	**40**
17:00	0	24	9	0	1	0	0	0	0	0	0	0	0	34
18:00	0	25	9	0	0	0	0	0	0	0	0	0	0	34
19:00	0	11	2	0	0	0	0	0	1	0	0	0	0	14
20:00	0	14	6	0	0	0	0	0	0	0	0	0	0	20
21:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
22:00	1	4	1	0	0	1	0	0	0	0	0	0	0	7
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	2	185	77	4	8	7	0	1	2	0	0	0	0	286
Percent	0.7%	64.7%	26.9%	1.4%	2.8%	2.4%	0.0%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.														
PM Peak Vol.	16:00 1	16:00 28	15:00 14	13:00 2	16:00 3	13:00 2		14:00 1	14:00 1					16:00 40

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/16/15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
05:00	**1**	10	2	0	1	1	0	0	0	0	0	0	0	15
06:00	0	23	7	0	3	0	0	0	0	0	0	0	0	33
07:00	0	**29**	8	0	2	**2**	0	0	0	0	0	0	0	**41**
08:00	0	18	**9**	0	2	1	0	0	**1**	0	0	0	0	31
09:00	0	15	6	0	**4**	0	0	0	0	0	0	0	0	25
10:00	0	13	6	0	2	0	0	0	0	0	0	0	0	21
11:00	0	16	9	**1**	1	1	0	0	1	0	0	0	0	29
12 PM	0	11	4	0	2	1	0	0	0	0	0	0	0	18
13:00	**1**	18	9	0	0	**3**	0	0	0	0	0	0	0	31
14:00	0	19	7	**1**	2	0	0	0	0	0	0	0	0	29
15:00	0	24	**13**	1	2	1	0	0	0	0	0	0	0	41
16:00	0	**30**	10	0	**4**	0	0	0	0	0	0	0	0	**44**
17:00	0	27	7	0	2	0	0	0	0	0	0	0	0	36
18:00	0	24	9	0	1	1	0	0	0	0	0	0	0	35
19:00	0	17	7	0	2	0	0	0	0	0	0	0	0	26
20:00	0	13	5	0	0	0	0	0	0	0	0	0	0	18
21:00	0	7	3	0	1	0	0	0	0	0	0	0	0	11
22:00	1	4	5	0	0	1	0	0	0	0	0	0	0	11
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
Day Total	3	325	131	3	31	12	0	0	2	0	0	0	0	507
Percent	0.6%	64.1%	25.8%	0.6%	6.1%	2.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	08:00	11:00	09:00	07:00			08:00					07:00
Vol.	1	29	9	1	4	2			1					41
PM Peak	13:00	16:00	15:00	14:00	16:00	13:00								16:00
Vol.	1	30	13	1	4	3								44

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/17/15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	**1**	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
05:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12
06:00	**1**	20	5	0	**4**	**1**	0	0	0	0	0	0	0	31
07:00	0	**30**	9	0	3	0	0	0	0	0	0	0	0	**42**
08:00	0	13	6	0	1	0	0	0	0	0	0	0	0	20
09:00	0	14	4	0	3	0	0	0	0	0	0	0	0	21
10:00	0	10	**12**	0	2	1	0	0	1	0	0	0	0	26
11:00	0	14	4	0	1	1	0	0	0	0	0	0	0	20
12 PM	0	27	15	0	3	**1**	0	0	0	0	0	0	0	46
13:00	0	15	6	**1**	2	0	0	0	0	0	0	0	0	24
14:00	0	22	8	1	1	0	0	0	0	0	0	0	0	32
15:00	0	24	**21**	1	1	1	0	0	0	0	0	0	0	**48**
16:00	0	**32**	13	0	0	0	0	0	**1**	0	0	0	0	46
17:00	0	32	10	0	**4**	0	0	0	0	0	0	0	0	46
18:00	**1**	22	9	0	2	0	0	0	0	0	0	0	0	34
19:00	0	19	10	0	3	0	0	0	0	0	0	0	0	32
20:00	1	12	3	0	0	0	0	0	0	0	0	0	0	16
21:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
22:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
23:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
Day Total	3	349	149	3	31	5	0	0	3	0	0	0	0	543
Percent	0.6%	64.3%	27.4%	0.6%	5.7%	0.9%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	10:00		06:00	06:00			01:00					07:00
Vol.	1	30	12		4	1			1					42
PM Peak	18:00	16:00	15:00	13:00	17:00	12:00			16:00					15:00
Vol.	1	32	21	1	4	1			1					48

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/18/15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
06:00	0	10	4	0	2	0	0	0	0	0	0	0	0	16
07:00	0	13	4	0	1	0	0	0	0	0	0	0	0	18
08:00	**1**	11	3	0	0	0	0	**2**	0	0	0	0	0	17
09:00	0	12	12	0	1	**1**	0	0	0	0	0	0	0	26
10:00	0	22	**18**	0	**3**	0	0	0	0	0	0	0	0	43
11:00	0	**33**	14	0	2	1	0	0	0	0	0	0	0	**50**
12 PM	1	**30**	**10**	0	2	0	0	0	0	0	0	0	0	**43**
13:00	**2**	26	9	0	0	**2**	0	0	0	0	0	0	0	39
14:00	2	19	6	0	**3**	0	0	0	0	0	0	0	0	30
15:00	1	25	7	0	1	0	0	0	0	0	0	0	0	34
16:00	1	25	6	0	0	0	0	0	0	0	0	0	0	32
17:00	1	18	7	0	1	0	0	0	0	0	0	0	0	27
18:00	0	16	8	0	0	0	0	0	0	0	0	0	0	24
19:00	2	19	5	0	0	0	0	0	0	0	0	0	0	26
20:00	0	14	2	**1**	2	0	0	0	0	0	0	0	0	19
21:00	0	8	3	0	1	0	0	0	0	0	0	0	0	12
22:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	11	323	123	1	20	4	0	2	0	0	0	0	0	484
Percent	2.3%	66.7%	25.4%	0.2%	4.1%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	10:00		10:00	09:00		08:00						11:00
Vol.	1	33	18		3	1		2						50
PM Peak	13:00	12:00	12:00	20:00	14:00	13:00								12:00
Vol.	2	30	10	1	3	2								43

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/19/15	0	2	0	0	0	0	0	0	**1**	0	0	0	0	3
01:00	0	10	5	0	1	0	0	0	0	0	0	0	0	16
02:00	0	2	4	0	1	0	0	0	0	**1**	0	0	0	8
03:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	**1**	6	4	0	1	0	0	0	0	0	0	0	0	12
08:00	1	15	4	**1**	0	**1**	0	0	0	0	0	0	0	22
09:00	1	22	7	0	**2**	0	0	**1**	0	0	0	0	0	33
10:00	0	**29**	7	0	1	0	0	0	0	0	0	0	0	**37**
11:00	0	18	**10**	0	1	0	0	0	0	0	0	0	0	29
12 PM	**4**	**39**	**13**	0	0	0	0	0	0	0	0	0	0	**56**
13:00	2	22	9	0	0	0	0	0	0	0	0	0	0	33
14:00	1	24	3	0	0	0	0	0	0	0	0	0	0	28
15:00	4	22	11	0	0	0	0	0	0	0	0	0	0	37
16:00	0	20	8	0	0	0	0	0	0	0	0	0	0	28
17:00	1	16	10	0	0	0	0	0	0	0	0	0	0	27
18:00	0	20	7	0	0	0	0	**1**	0	0	0	0	0	28
19:00	0	17	5	0	0	0	0	0	**1**	0	0	0	0	23
20:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
21:00	0	5	1	0	**1**	0	0	0	0	0	0	0	0	7
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
Day Total	15	311	113	1	8	1	0	2	2	1	0	0	0	454
Percent	3.3%	68.5%	24.9%	0.2%	1.8%	0.2%	0.0%	0.4%	0.4%	0.2%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00	11:00	08:00	09:00	08:00		09:00	00:00	02:00				10:00
Vol.	1	29	10	1	2	1		1	1	1				37
PM Peak	12:00	12:00	12:00		21:00			18:00	19:00					12:00
Vol.	4	39	13		1			1	1					56

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/20/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	**1**	10	7	0	1	**1**	0	0	0	0	0	0	0	20
06:00	0	20	7	0	2	0	0	0	0	0	0	0	0	29
07:00	0	**29**	**14**	0	1	1	0	**1**	0	0	0	0	0	**46**
08:00	0	12	7	0	3	1	0	0	0	0	0	0	0	23
09:00	0	17	4	0	1	1	0	0	0	0	0	0	0	23
10:00	0	15	8	0	2	1	0	0	0	0	0	0	0	26
11:00	0	11	14	0	**5**	0	0	0	**1**	0	0	0	0	31
12 PM	0	11	8	0	3	**2**	0	**2**	0	0	0	0	0	26
13:00	0	15	6	**1**	1	1	0	0	0	0	0	0	0	24
14:00	0	18	8	0	2	0	0	0	0	0	0	0	0	28
15:00	0	15	9	1	1	0	0	0	0	**1**	0	0	0	27
16:00	0	24	**13**	0	**4**	1	0	1	0	0	0	0	0	**43**
17:00	0	**26**	8	0	2	0	0	0	0	0	0	0	0	36
18:00	0	21	6	0	0	1	0	0	**1**	0	0	0	0	29
19:00	0	12	4	0	0	0	0	0	0	0	0	0	0	16
20:00	0	6	6	0	0	0	0	0	0	0	0	0	0	12
21:00	0	5	4	0	2	0	0	0	0	0	0	0	0	11
22:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
Day Total	1	277	138	2	30	10	0	4	2	1	0	0	0	465
Percent	0.2%	59.6%	29.7%	0.4%	6.5%	2.2%	0.0%	0.9%	0.4%	0.2%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00		11:00	05:00		07:00	11:00					07:00
Vol.	1	29	14		5	1		1	1					46
PM Peak		17:00	16:00	13:00	16:00	12:00		12:00	18:00	15:00				16:00
Vol.		26	13	1	4	2		2	1	1				43

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/21/15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	9	5	0	0	0	0	0	**1**	0	0	0	0	15
06:00	0	23	8	0	**3**	0	0	**1**	0	0	0	0	0	**35**
07:00	0	**24**	5	**1**	0	0	0	0	0	0	0	0	0	30
08:00	0	16	6	0	2	**2**	0	1	0	0	0	0	0	27
09:00	0	19	**10**	0	2	1	0	0	0	0	0	0	0	32
10:00	**1**	19	10	0	2	0	0	0	0	0	0	0	0	32
11:00	0	11	6	0	3	0	0	0	0	0	0	0	0	20
12 PM	0	11	7	0	3	**5**	0	0	0	0	0	0	0	26
13:00	0	19	8	**1**	3	0	0	0	0	0	0	0	0	31
14:00	**1**	15	13	0	0	2	0	0	0	0	0	0	0	31
15:00	0	19	12	1	2	0	0	**1**	0	0	0	0	0	35
16:00	0	26	**22**	0	2	0	0	0	0	0	0	0	0	**50**
17:00	0	**33**	12	0	**4**	1	0	0	0	0	0	0	0	50
18:00	0	21	11	0	1	0	0	0	0	0	0	0	0	33
19:00	1	18	4	0	1	0	0	0	0	0	0	0	0	24
20:00	0	11	5	0	0	0	0	0	0	0	0	0	0	16
21:00	0	3	5	0	0	0	0	0	0	0	0	0	0	8
22:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
23:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Day Total	3	305	154	3	29	11	0	3	1	0	0	0	0	509
Percent	0.6%	59.9%	30.3%	0.6%	5.7%	2.2%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	09:00	07:00	06:00	08:00		06:00	05:00					06:00
Vol.	1	24	10	1	3	2		1	1					35
PM Peak	14:00	17:00	16:00	13:00	17:00	12:00		15:00						16:00
Vol.	1	33	22	1	4	5		1						50

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Alleghany Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code: 02
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/22/15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	0	7	5	0	1	0	0	0	0	0	0	0	0	13
06:00	0	23	10	0	2	0	0	0	**1**	0	0	0	0	36
07:00	0	**25**	6	0	0	0	0	**1**	0	0	0	0	0	32
08:00	0	17	**13**	**1**	**5**	0	0	1	0	0	0	0	0	**37**
09:00	0	12	3	1	2	**1**	0	0	0	0	0	0	0	19
10:00	0	15	2	0	0	1	0	0	0	0	0	0	0	18
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	0	105	42	2	10	2	0	2	1	0	0	0	0	164
Percent	0.0%	64.0%	25.6%	1.2%	6.1%	1.2%	0.0%	1.2%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00	08:00	08:00	09:00		07:00	06:00					08:00
Vol.		25	13	1	5	1		1	1					37
PM Peak														
Vol.														
Grand Total	38	2180	927	19	167	52	0	14	13	2	0	0	0	3412
Percent	1.1%	63.9%	27.2%	0.6%	4.9%	1.5%	0.0%	0.4%	0.4%	0.1%	0.0%	0.0%	0.0%	

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	0	0	1	2	**18**	8	1	0	0	0	0	0	0	30	36-45	26
13:00	0	0	0	1	6	10	6	2	1	0	0	0	0	0	26	31-40	16
14:00	0	0	0	1	2	10	9	1	0	0	0	0	0	0	23	36-45	19
15:00	0	0	0	**4**	5	11	**19**	3	1	0	0	0	0	0	43	36-45	30
16:00	**1**	0	0	2	**9**	13	13	**7**	**2**	0	0	0	0	0	**47**	36-45	26
17:00	0	0	**1**	2	3	17	12	5	2	0	0	0	0	0	42	36-45	29
18:00	0	0	0	0	5	3	16	4	0	0	0	0	0	0	28	39-48	20
19:00	0	0	0	0	4	14	11	0	0	0	0	0	0	0	29	36-45	25
20:00	0	0	0	4	3	11	5	2	0	**1**	0	0	0	0	26	35-44	16
21:00	0	0	0	0	4	9	2	0	2	0	0	0	0	0	17	31-40	13
22:00	0	0	0	0	1	6	2	0	0	0	0	0	0	0	9	36-45	8
23:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34-43	1
Total	1	0	1	15	44	122	104	25	8	1	0	0	0	0	321		
Percent	0.3%	0.0%	0.3%	4.7%	13.7%	38.0%	32.4%	7.8%	2.5%	0.3%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	16:00 1		17:00 1	15:00 4	16:00 9	12:00 18	15:00 19	16:00 7	16:00 2	20:00 1					16:00 47		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/16/15	0	0	**1**	0	0	0	1	0	0	0	0	0	0	0	2	14-23	1
01:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	24-33	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
04:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	29-38	2
05:00	0	0	0	1	2	4	3	1	0	0	0	0	0	0	11	34-43	7
06:00	0	0	0	0	5	10	5	0	0	0	0	0	0	0	20	31-40	15
07:00	0	0	0	2	3	12	**13**	**3**	0	**1**	0	0	0	0	**34**	36-45	25
08:00	0	0	0	1	7	**14**	6	1	0	1	0	0	0	0	30	31-40	21
09:00	0	0	1	0	**8**	6	2	3	0	0	0	0	0	0	20	31-40	14
10:00	0	0	0	**3**	5	9	2	2	0	0	0	0	0	0	21	31-40	14
11:00	0	0	0	3	7	5	6	2	0	0	0	0	0	0	23	30-39	12
12 PM	0	0	0	1	6	7	10	3	0	0	0	0	0	0	27	36-45	17
13:00	**1**	0	0	1	4	11	12	3	0	0	0	0	0	0	32	36-45	23
14:00	0	0	0	0	1	11	10	3	1	0	0	0	0	0	26	36-45	21
15:00	0	0	0	0	6	18	15	**4**	**2**	0	0	0	0	0	45	36-45	33
16:00	1	0	0	1	6	18	**26**	4	0	0	0	0	0	0	**56**	36-45	44
17:00	1	0	**1**	1	6	**21**	13	3	0	0	0	0	0	0	46	36-45	34
18:00	0	0	0	**2**	6	10	16	3	1	0	0	0	0	0	38	36-45	26
19:00	0	0	0	0	0	12	7	1	0	0	0	0	0	0	20	36-45	19
20:00	0	0	0	0	**9**	8	10	1	0	0	0	0	0	0	28	34-43	18
21:00	0	0	0	0	3	2	3	3	0	0	0	0	0	0	11	39-48	6
22:00	0	0	0	0	0	4	3	0	0	**1**	0	0	0	0	8	36-45	7
23:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	29-38	2
Total	3	0	3	17	87	184	164	40	4	3	0	0	0	0	505		
Percent	0.6%	0.0%	0.6%	3.4%	17.2%	36.4%	32.5%	7.9%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%			
AM Peak			00:00	10:00	09:00	08:00	07:00	07:00		07:00					07:00		
Vol.			1	3	8	14	13	3		1					34		
PM Peak	13:00		17:00	18:00	20:00	17:00	16:00	15:00	15:00	22:00					16:00		
Vol.	1		1	2	9	21	26	4	2	1					56		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/17/15	0	0	0	0	2	4	0	0	0	0	0	0	0	0	6	31-40	6
01:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	14-23	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	3	2	1	**1**	0	0	0	0	0	0	8	31-40	5
06:00	0	0	0	1	3	7	9	1	0	0	0	0	0	0	21	36-45	16
07:00	0	0	1	1	4	11	**11**	0	**1**	0	0	0	0	0	**29**	36-45	22
08:00	0	0	0	1	4	**12**	5	1	0	0	0	0	0	0	23	34-43	17
09:00	0	0	0	0	3	10	5	0	0	0	0	0	0	0	18	35-44	15
10:00	0	0	**2**	1	4	7	6	0	0	0	0	0	0	0	20	35-44	13
11:00	0	0	2	**4**	**5**	10	6	1	1	0	0	0	0	0	29	34-43	16
12 PM	0	0	**3**	0	2	7	7	1	0	0	0	0	0	0	20	36-45	14
13:00	0	**1**	0	0	5	15	9	2	**2**	0	0	0	0	0	34	36-45	24
14:00	0	0	0	1	5	13	9	**9**	1	0	0	0	0	0	38	36-45	22
15:00	**1**	0	1	**2**	4	**18**	**25**	3	1	0	0	0	0	0	**55**	36-45	43
16:00	0	0	1	1	**6**	13	24	7	1	0	0	0	0	0	53	36-45	37
17:00	0	0	0	1	1	11	17	4	0	**1**	0	0	0	0	35	36-45	28
18:00	0	0	1	1	3	12	3	3	0	0	0	0	0	0	23	31-40	15
19:00	1	0	1	2	0	12	5	2	0	0	0	0	0	0	23	36-45	17
20:00	0	0	0	0	6	13	5	1	0	0	0	0	0	0	25	31-40	19
21:00	0	0	0	0	2	7	6	1	0	0	0	0	0	0	16	36-45	13
22:00	0	0	0	2	2	8	3	1	0	0	0	0	0	0	16	36-45	11
23:00	0	0	0	0	1	3	7	0	0	0	0	0	0	0	11	36-45	10
Total	2	1	14	18	65	197	163	38	7	1	0	0	0	0	506		
Percent	0.4%	0.2%	2.8%	3.6%	12.8%	38.9%	32.2%	7.5%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak			10:00	11:00	11:00	08:00	07:00	05:00	07:00						07:00		
Vol.			2	4	5	12	11	1	1						29		
PM Peak	15:00	13:00	12:00	15:00	16:00	15:00	15:00	14:00	13:00	17:00					15:00		
Vol.	1	1	3	2	6	18	25	9	2	1					55		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/18/15	0	0	0	0	2	0	4	0	0	0	0	0	0	0	6	35-44	4
01:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	29-38	1
02:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	34-43	3
03:00	**2**	0	0	0	0	0	1	0	0	0	0	0	0	0	3	8-17	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	0	0	1	1	1	2	0	0	0	0	0	0	5	39-48	3
06:00	0	0	0	0	3	6	2	0	0	0	0	0	0	0	11	31-40	9
07:00	0	0	0	0	3	6	6	2	0	0	0	0	0	0	17	36-45	12
08:00	0	**1**	0	0	4	9	8	3	0	0	0	0	0	0	25	36-45	17
09:00	0	0	0	**3**	2	13	**13**	**6**	0	0	**1**	0	0	0	38	36-45	26
10:00	0	0	0	3	**5**	**22**	11	5	0	0	0	0	0	0	**46**	36-45	33
11:00	0	0	**1**	0	2	15	13	6	0	0	0	0	0	0	37	36-45	28
12 PM	0	0	0	0	**5**	14	13	3	1	0	0	0	0	0	36	36-45	27
13:00	0	0	0	0	5	11	**20**	2	0	0	0	0	0	0	**38**	36-45	31
14:00	**1**	0	0	0	4	**15**	9	2	**2**	0	0	0	0	0	33	36-45	24
15:00	0	**1**	0	0	4	13	15	**4**	0	0	0	0	0	0	37	36-45	28
16:00	0	0	0	0	4	11	10	3	1	**1**	0	0	0	0	30	36-45	21
17:00	0	0	0	0	5	9	10	1	0	0	0	0	0	0	25	36-45	19
18:00	0	0	0	**3**	4	14	9	2	1	0	0	0	0	0	33	36-45	23
19:00	0	0	0	0	1	9	8	1	0	0	0	0	0	0	19	36-45	17
20:00	0	0	0	0	2	6	6	2	0	0	0	0	0	0	16	36-45	12
21:00	0	0	0	1	2	5	3	1	0	0	0	0	0	0	12	34-43	8
22:00	0	0	0	0	1	5	1	0	0	0	0	0	0	0	7	31-40	6
23:00	0	0	0	0	0	2	3	1	0	0	0	0	0	0	6	36-45	5
Total	3	2	1	10	59	189	167	47	5	1	1	0	0	0	485		
Percent	0.6%	0.4%	0.2%	2.1%	12.2%	39.0%	34.4%	9.7%	1.0%	0.2%	0.2%	0.0%	0.0%	0.0%			
AM Peak	03:00	08:00	11:00	09:00	10:00	10:00	09:00	09:00			09:00				10:00		
Vol.	2	1	1	3	5	22	13	6			1				46		
PM Peak	14:00	15:00		18:00	12:00	14:00	13:00	15:00	14:00	16:00					13:00		
Vol.	1	1		3	5	15	20	4	2	1					38		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/19/15	0	0	0	0	1	0	0	**1**	0	0	0	0	0	0	2	24-33	1
01:00	0	**1**	0	0	1	1	3	0	0	0	0	0	0	0	6	35-44	4
02:00	0	1	0	0	1	4	1	1	0	0	0	0	0	0	8	34-43	5
03:00	0	0	0	1	**5**	2	3	0	0	0	0	0	0	0	11	29-38	7
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
05:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	35-44	3
06:00	0	0	0	1	2	1	1	1	0	0	0	0	0	0	6	31-40	3
07:00	0	0	0	0	0	8	2	0	0	0	0	0	0	0	10	35-44	10
08:00	0	0	0	0	4	9	3	0	0	0	0	0	0	0	16	31-40	13
09:00	0	0	0	0	3	11	7	1	0	0	0	0	0	0	22	36-45	18
10:00	0	0	0	**2**	2	**15**	6	1	**1**	0	0	0	0	0	**27**	36-45	21
11:00	0	0	0	0	5	10	**8**	1	0	0	0	0	0	0	24	36-45	18
12 PM	**3**	0	0	2	4	**21**	**17**	0	0	0	0	0	0	0	**47**	36-45	38
13:00	3	0	0	1	**7**	16	15	1	0	0	0	0	0	0	43	36-45	31
14:00	2	0	0	1	7	15	13	**3**	0	0	0	0	0	0	41	36-45	28
15:00	1	0	0	1	6	17	6	1	**2**	0	0	0	0	0	34	31-40	23
16:00	0	0	0	0	4	10	8	1	0	0	0	0	0	0	23	36-45	18
17:00	1	0	**1**	0	6	12	7	0	0	**1**	0	0	0	0	28	34-43	19
18:00	0	0	0	0	3	13	5	0	0	0	0	0	0	0	21	35-44	18
19:00	0	0	0	0	6	11	7	3	0	0	0	0	0	0	27	34-43	18
20:00	0	0	0	**3**	4	6	4	2	0	0	0	0	0	0	19	36-45	10
21:00	0	0	1	0	3	5	0	0	0	0	0	0	0	0	9	31-40	8
22:00	0	0	0	0	1	0	3	0	0	0	0	0	0	0	4	35-44	3
23:00	0	0	0	0	0	1	3	0	0	0	0	0	0	0	4	36-45	4
Total	10	2	2	12	75	190	124	17	3	1	0	0	0	0	436		
Percent	2.3%	0.5%	0.5%	2.8%	17.2%	43.6%	28.4%	3.9%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak		01:00		10:00	03:00	10:00	11:00	00:00	10:00						10:00		
Vol.		1		2	5	15	8	1	1						27		
PM Peak	12:00		17:00	20:00	13:00	12:00	12:00	14:00	15:00	17:00					12:00		
Vol.	3		1	3	7	21	17	3	2	1					47		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/20/15	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	29-38	2
01:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	39-48	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	25-34	2
05:00	0	0	**1**	1	3	4	3	**2**	0	0	0	0	0	0	14	31-40	7
06:00	0	0	0	1	2	5	**11**	1	0	0	0	0	0	0	20	36-45	16
07:00	**1**	0	1	1	3	7	9	2	**1**	0	0	0	0	0	25	36-45	16
08:00	0	0	0	1	6	11	11	0	0	0	0	0	0	0	29	36-45	22
09:00	0	0	0	0	5	11	4	0	0	0	0	0	0	0	20	31-40	16
10:00	0	0	1	1	**7**	9	6	1	0	0	0	0	0	0	25	31-40	16
11:00	0	0	1	**4**	6	**14**	9	2	0	0	0	0	0	0	**36**	36-45	23
12 PM	0	0	0	0	6	7	4	**3**	0	0	0	0	0	0	20	31-40	13
13:00	0	0	0	**1**	5	4	4	3	0	**1**	0	0	0	0	18	31-40	9
14:00	0	0	0	1	5	14	12	3	0	1	0	0	0	0	36	36-45	26
15:00	0	0	0	1	5	10	11	2	0	0	0	0	0	0	29	36-45	21
16:00	0	0	0	1	**11**	**33**	**14**	3	0	0	0	0	0	0	**62**	36-45	47
17:00	**1**	0	0	1	5	20	14	3	0	0	0	0	0	0	44	36-45	34
18:00	0	0	0	0	2	11	12	3	0	0	0	0	0	0	28	36-45	23
19:00	0	0	0	1	5	9	8	0	0	0	0	0	0	0	23	36-45	17
20:00	0	0	0	0	2	6	1	0	0	0	0	0	0	0	9	31-40	8
21:00	0	0	0	1	2	6	3	1	0	0	0	0	0	0	13	34-43	9
22:00	0	0	0	0	1	4	0	0	0	0	0	0	0	0	5	31-40	5
23:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	34-43	3
Total	2	0	4	16	84	188	138	30	1	2	0	0	0	0	465		
Percent	0.4%	0.0%	0.9%	3.4%	18.1%	40.4%	29.7%	6.5%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00		05:00	11:00	10:00	11:00	06:00	05:00	07:00						11:00		
Vol.	1		1	4	7	14	11	2	1						36		
PM Peak	17:00			13:00	16:00	16:00	16:00	12:00		13:00					16:00		
Vol.	1			1	11	33	14	3		1					62		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/21/15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
01:00	0	0	0	1	1	1	0	0	0	0	**1**	0	0	0	4	24-33	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	30-39	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	0	1	5	2	2	0	**1**	0	0	0	0	0	11	31-40	7
06:00	0	0	1	1	5	10	8	1	0	0	0	0	0	0	26	36-45	18
07:00	0	0	0	0	4	10	**17**	**6**	0	0	0	0	0	0	**37**	36-45	27
08:00	1	0	2	0	6	**16**	10	1	0	0	0	0	0	0	36	36-45	26
09:00	0	**2**	1	**8**	**7**	8	1	1	0	0	0	0	0	0	28	26-35	15
10:00	**3**	2	**6**	3	2	8	2	0	0	0	0	0	0	0	26	31-40	10
11:00	1	0	0	3	5	9	11	2	0	0	0	0	0	0	31	36-45	20
12 PM	0	0	0	1	4	11	8	1	0	0	0	0	0	0	25	36-45	19
13:00	0	0	**1**	0	3	10	7	0	0	0	0	0	0	0	21	36-45	17
14:00	**1**	0	0	**2**	3	15	7	1	**1**	0	0	0	0	0	30	36-45	22
15:00	0	0	0	1	4	19	**21**	2	0	0	0	0	0	0	**47**	36-45	40
16:00	0	0	0	1	2	**20**	15	1	1	0	0	0	0	0	40	36-45	35
17:00	0	0	0	0	**5**	12	14	1	0	0	0	0	0	0	32	36-45	26
18:00	0	0	0	0	0	11	8	**5**	0	0	0	0	0	0	24	36-45	19
19:00	0	0	0	2	2	10	16	3	0	0	0	0	0	0	33	36-45	26
20:00	0	0	0	1	3	10	2	0	0	0	0	0	0	0	16	31-40	13
21:00	0	0	0	0	0	6	7	2	0	0	0	0	0	0	15	36-45	13
22:00	0	0	0	0	1	5	2	0	0	0	0	0	0	0	8	36-45	7
23:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	34-43	3
Total	6	4	11	25	62	198	159	27	3	0	1	0	0	0	496		
Percent	1.2%	0.8%	2.2%	5.0%	12.5%	39.9%	32.1%	5.4%	0.6%	0.0%	0.2%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	10:00	09:00	09:00	08:00	07:00	07:00	05:00		01:00				07:00		
Vol.	3	2	6	8	7	16	17	6	1		1				37		
PM Peak	14:00		13:00	14:00	17:00	16:00	15:00	18:00	14:00						15:00		
Vol.	1		1	2	5	20	21	5	1						47		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Eb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/22/15	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3	34-43	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34-43	1
03:00	0	0	0	0	2	1	1	0	0	0	0	0	0	0	4	29-38	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	**1**	1	3	2	3	1	0	0	0	0	0	0	11	29-38	5
06:00	0	0	0	0	**4**	9	**10**	1	0	0	0	0	0	0	24	36-45	19
07:00	0	0	0	0	4	11	7	**3**	0	0	0	0	0	0	**25**	36-45	18
08:00	0	0	0	**2**	3	**12**	4	2	0	0	0	0	0	0	23	36-45	16
09:00	0	0	0	2	3	4	8	2	0	0	0	0	0	0	19	36-45	12
10:00	**2**	0	0	0	3	3	3	0	0	0	0	0	0	0	11	31-40	6
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
12 PM	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	*	1
13:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	4	0	1	5	22	44	38	9	0	0	0	0	0	0	123		
Percent	3.3%	0.0%	0.8%	4.1%	17.9%	35.8%	30.9%	7.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00		05:00	08:00	06:00	08:00	06:00	07:00							07:00		
Vol.	2		1	2	4	12	10	3							25		
PM Peak	12:00														12:00		
Vol.	1														1		
Total	31	9	37	118	498	1312	1057	233	31	9	2	0	0	0	3337		
Percent	0.9%	0.3%	1.1%	3.5%	14.9%	39.3%	31.7%	7.0%	0.9%	0.3%	0.1%	0.0%	0.0%	0.0%			

15th Percentile :	33 MPH
50th Percentile :	38 MPH
85th Percentile :	43 MPH
95th Percentile :	47 MPH

Stats

10 MPH Pace Speed :	36-45 MPH
Number in Pace :	2369
Percent in Pace :	71.0%
Number of Vehicles > 40 MPH :	1332
Percent of Vehicles > 40 MPH :	39.9%
Mean Speed(Average) :	39 MPH

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/15/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	0	0	1	4	7	13	2	0	0	0	0	0	0	27	36-45	20
13:00	0	0	**2**	0	**8**	**12**	9	1	0	0	0	0	0	0	32	34-43	21
14:00	0	0	0	**2**	1	7	11	2	**2**	0	0	0	0	0	25	36-45	18
15:00	0	0	0	2	2	9	12	7	0	0	0	0	0	0	32	36-45	21
16:00	**1**	0	0	1	2	7	**15**	**14**	0	0	0	0	0	0	**40**	41-50	29
17:00	0	0	0	0	6	5	12	9	2	0	0	0	0	0	34	41-50	21
18:00	0	0	0	0	3	12	10	8	1	0	0	0	0	0	34	36-45	22
19:00	0	0	0	1	1	4	6	2	0	0	0	0	0	0	14	36-45	10
20:00	0	0	0	0	0	8	9	3	0	0	0	0	0	0	20	36-45	17
21:00	0	0	0	0	5	6	3	3	0	0	0	0	0	0	17	31-40	11
22:00	0	0	0	1	4	0	2	0	0	0	0	0	0	0	7	26-35	5
23:00	0	0	0	0	0	2	0	1	1	0	0	0	0	0	4	30-39	2
Total	1	0	2	8	36	79	102	52	6	0	0	0	0	0	286		
Percent	0.3%	0.0%	0.7%	2.8%	12.6%	27.6%	35.7%	18.2%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	16:00 1		13:00 2	14:00 2	13:00 8	13:00 12	16:00 15	16:00 14	14:00 2						16:00 40		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/16/15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	39-48	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34-43	1
04:00	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4	39-48	3
05:00	0	0	0	2	2	5	4	2	0	0	0	0	0	0	15	36-45	9
06:00	0	0	0	0	5	4	14	**7**	**3**	0	0	0	0	0	33	41-50	21
07:00	0	0	0	1	3	**13**	**17**	6	0	**1**	0	0	0	0	**41**	36-45	30
08:00	0	0	1	2	3	8	10	6	1	0	0	0	0	0	31	36-45	18
09:00	0	0	0	0	5	6	13	1	0	0	0	0	0	0	25	36-45	19
10:00	0	0	0	**3**	3	7	5	3	0	0	0	0	0	0	21	35-44	12
11:00	0	0	**2**	2	**7**	6	10	2	0	0	0	0	0	0	29	36-45	16
12 PM	0	0	0	0	7	3	5	2	1	0	0	0	0	0	18	31-40	10
13:00	**1**	0	0	**3**	5	10	11	1	0	0	0	0	0	0	31	36-45	21
14:00	0	0	0	1	3	11	6	**6**	**2**	0	0	0	0	0	29	36-45	17
15:00	0	0	0	1	**8**	10	17	5	0	0	0	0	0	0	41	36-45	27
16:00	0	**1**	0	1	6	13	**18**	5	0	0	0	0	0	0	**44**	36-45	31
17:00	1	0	0	1	3	14	13	4	0	0	0	0	0	0	36	36-45	27
18:00	0	0	0	1	7	**20**	6	1	0	0	0	0	0	0	35	31-40	27
19:00	0	0	0	2	4	10	6	4	0	0	0	0	0	0	26	35-44	16
20:00	0	0	0	0	2	10	5	1	0	0	0	0	0	0	18	36-45	15
21:00	0	0	0	0	4	2	5	0	0	0	0	0	0	0	11	34-43	7
22:00	0	0	**2**	0	2	4	1	2	0	0	0	0	0	0	11	31-40	6
23:00	0	0	0	0	0	3	1	0	0	**1**	0	0	0	0	5	36-45	4
Total	2	1	5	21	79	160	169	61	7	2	0	0	0	0	507		
Percent	0.4%	0.2%	1.0%	4.1%	15.6%	31.6%	33.3%	12.0%	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%			
AM Peak			11:00	10:00	11:00	07:00	07:00	06:00	06:00	07:00					07:00		
Vol.			2	3	7	13	17	7	3	1					41		
PM Peak	13:00	16:00	22:00	13:00	15:00	18:00	16:00	14:00	14:00	23:00					16:00		
Vol.	1	1	2	3	8	20	18	6	2	1					44		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/17/15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
01:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	34-43	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
04:00	0	0	0	0	2	2	2	1	0	0	0	0	0	0	7	36-45	4
05:00	0	0	0	0	3	3	4	1	**1**	0	0	0	0	0	12	36-45	7
06:00	0	0	0	1	5	8	**15**	2	0	0	0	0	0	0	31	36-45	23
07:00	0	0	0	1	**7**	**15**	6	**13**	0	0	0	0	0	0	**42**	31-40	22
08:00	0	0	0	2	2	8	5	3	0	0	0	0	0	0	20	36-45	13
09:00	0	0	0	1	2	8	7	2	1	0	0	0	0	0	21	36-45	15
10:00	0	0	**1**	**3**	3	10	7	2	0	0	0	0	0	0	26	36-45	17
11:00	0	**1**	1	2	4	7	5	0	0	0	0	0	0	0	20	34-43	12
12 PM	0	0	**1**	3	**9**	**17**	12	3	**1**	0	0	0	0	0	46	36-45	29
13:00	0	**1**	1	**4**	4	6	7	1	0	0	0	0	0	0	24	36-45	13
14:00	0	0	0	2	1	17	8	3	0	0	**1**	0	0	0	32	36-45	25
15:00	0	0	1	3	8	13	**20**	2	1	0	0	0	0	0	**48**	36-45	33
16:00	**1**	0	0	2	5	14	14	**10**	0	0	0	0	0	0	46	36-45	28
17:00	0	0	0	0	3	15	19	8	1	0	0	0	0	0	46	36-45	34
18:00	0	0	0	1	5	11	15	2	0	0	0	0	0	0	34	36-45	26
19:00	0	0	0	3	5	14	6	3	1	0	0	0	0	0	32	34-43	20
20:00	0	0	0	2	3	4	6	1	0	0	0	0	0	0	16	36-45	10
21:00	0	0	1	0	0	7	8	1	0	0	0	0	0	0	17	36-45	15
22:00	0	0	0	1	0	4	4	0	0	0	0	0	0	0	9	36-45	8
23:00	0	0	0	1	1	2	5	0	0	**1**	0	0	0	0	10	36-45	7
Total	1	2	6	32	72	188	176	58	6	1	1	0	0	0	543		
Percent	0.2%	0.4%	1.1%	5.9%	13.3%	34.6%	32.4%	10.7%	1.1%	0.2%	0.2%	0.0%	0.0%	0.0%			
AM Peak		11:00	10:00	10:00	07:00	07:00	06:00	07:00	05:00						07:00		
Vol.		1	1	3	7	15	15	13	1						42		
PM Peak	16:00	13:00	12:00	13:00	12:00	12:00	15:00	16:00	12:00	23:00	14:00				15:00		
Vol.	1	1	1	4	9	17	20	10	1	1	1				48		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/18/15	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	35-44	3
01:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	44-53	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	34-43	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	**1**	0	1	0	2	1	1	1	0	0	0	0	0	7	36-45	3
06:00	0	0	0	0	2	8	4	2	0	0	0	0	0	0	16	36-45	12
07:00	0	0	0	0	1	4	7	**5**	1	0	0	0	0	0	18	39-48	12
08:00	**1**	0	0	0	3	5	7	0	1	0	0	0	0	0	17	36-45	12
09:00	0	0	0	1	2	11	6	5	1	0	0	0	0	0	26	36-45	17
10:00	0	0	0	**3**	**7**	16	11	4	**2**	0	0	0	0	0	43	36-45	27
11:00	0	0	0	1	7	**23**	**14**	4	1	0	0	0	0	0	**50**	36-45	37
12 PM	0	0	**2**	2	3	**16**	14	**5**	1	0	0	0	0	0	**43**	36-45	30
13:00	0	0	0	2	**7**	10	**15**	3	**2**	0	0	0	0	0	39	36-45	25
14:00	**1**	0	0	2	6	9	11	0	1	0	0	0	0	0	30	36-45	20
15:00	0	0	1	**3**	4	12	9	4	1	0	0	0	0	0	34	36-45	21
16:00	0	**1**	0	1	3	12	10	5	0	0	0	0	0	0	32	36-45	22
17:00	0	0	0	2	2	7	8	5	2	**1**	0	0	0	0	27	36-45	15
18:00	0	0	0	0	1	6	13	2	1	0	**1**	0	0	0	24	36-45	19
19:00	0	0	0	1	6	11	5	3	0	0	0	0	0	0	26	31-40	17
20:00	0	0	0	1	3	5	9	1	0	0	0	0	0	0	19	36-45	14
21:00	0	0	0	1	4	5	1	0	1	0	0	0	0	0	12	31-40	9
22:00	0	0	0	0	0	3	5	1	1	0	0	0	0	0	10	36-45	8
23:00	0	0	1	0	0	1	0	1	0	1	0	0	0	0	4	14-23	1
Total	2	2	4	21	61	168	153	52	18	2	1	0	0	0	484		
Percent	0.4%	0.4%	0.8%	4.3%	12.6%	34.7%	31.6%	10.7%	3.7%	0.4%	0.2%	0.0%	0.0%	0.0%			
AM Peak	08:00	05:00		10:00	10:00	11:00	11:00	07:00	10:00						11:00		
Vol.	1	1		3	7	23	14	5	2						50		
PM Peak	14:00	16:00	12:00	15:00	13:00	12:00	13:00	12:00	13:00	17:00	18:00				12:00		
Vol.	1	1	2	3	7	16	15	5	2	1	1				43		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/19/15	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3	34-43	2
01:00	0	0	**1**	1	0	4	6	2	1	0	**1**	0	0	0	16	36-45	10
02:00	0	0	1	1	3	3	0	0	0	0	0	0	0	0	8	31-40	6
03:00	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4	39-48	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3	30-39	3
06:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	40-49	2
07:00	0	0	0	0	2	1	6	3	0	0	0	0	0	0	12	40-49	9
08:00	0	0	1	1	1	5	11	3	0	0	0	0	0	0	22	36-45	16
09:00	0	0	0	0	**4**	**13**	9	5	**2**	0	0	0	0	0	33	36-45	22
10:00	0	0	1	1	2	12	**15**	**6**	0	0	0	0	0	0	**37**	36-45	27
11:00	0	0	0	**3**	2	10	9	4	1	0	0	0	0	0	29	36-45	19
12 PM	**1**	**1**	0	0	**10**	**22**	**15**	4	**3**	0	0	0	0	0	**56**	36-45	37
13:00	1	0	0	**2**	5	8	9	**8**	0	0	0	0	0	0	33	41-50	17
14:00	1	0	0	0	6	7	9	4	1	0	0	0	0	0	28	36-45	16
15:00	1	0	0	2	6	12	13	3	0	0	0	0	0	0	37	36-45	25
16:00	0	0	0	0	5	8	9	5	1	0	0	0	0	0	28	36-45	17
17:00	1	0	0	0	5	8	6	5	2	0	0	0	0	0	27	34-43	14
18:00	0	0	0	1	3	15	7	2	0	0	0	0	0	0	28	36-45	22
19:00	0	0	0	2	8	10	2	1	0	0	0	0	0	0	23	31-40	18
20:00	0	0	0	1	0	2	4	0	0	**1**	0	0	0	0	8	36-45	6
21:00	0	0	0	0	0	3	3	1	0	0	0	0	0	0	7	36-45	6
22:00	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3	34-43	2
23:00	0	0	0	0	1	3	2	1	0	0	0	0	0	0	7	36-45	5
Total	5	1	4	15	64	151	138	63	11	1	1	0	0	0	454		
Percent	1.1%	0.2%	0.9%	3.3%	14.1%	33.3%	30.4%	13.9%	2.4%	0.2%	0.2%	0.0%	0.0%	0.0%			
AM Peak			01:00	11:00	09:00	09:00	10:00	10:00	09:00		01:00				10:00		
Vol.			1	3	4	13	15	6	2		1				37		
PM Peak	12:00	12:00		13:00	12:00	12:00	12:00	13:00	12:00	20:00					12:00		
Vol.	1	1		2	10	22	15	8	3	1					56		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/20/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34-43	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	24-33	1
04:00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	36-45	3
05:00	0	0	**1**	0	5	2	4	**5**	**3**	0	0	0	0	0	20	41-50	9
06:00	0	0	0	0	2	9	14	4	0	0	0	0	0	0	29	36-45	23
07:00	**1**	0	0	0	**9**	10	**19**	5	2	0	0	0	0	0	**46**	36-45	29
08:00	0	0	0	3	3	7	8	2	0	0	0	0	0	0	23	36-45	15
09:00	0	0	0	**4**	3	7	6	2	1	0	0	0	0	0	23	36-45	13
10:00	0	0	0	0	8	11	6	1	0	0	0	0	0	0	26	31-40	19
11:00	0	0	0	2	4	**12**	12	1	0	0	0	0	0	0	31	36-45	24
12 PM	0	0	0	**4**	4	5	8	3	**2**	0	0	0	0	0	26	36-45	13
13:00	0	0	0	1	3	11	5	4	0	0	0	0	0	0	24	36-45	16
14:00	0	0	**1**	3	5	8	7	3	1	0	0	0	0	0	28	35-44	15
15:00	0	0	0	2	4	6	10	5	0	0	0	0	0	0	27	36-45	16
16:00	**1**	0	1	1	**7**	**20**	12	1	0	0	0	0	0	0	**43**	36-45	32
17:00	1	0	0	0	1	8	**16**	**9**	1	0	0	0	0	0	36	39-48	25
18:00	0	0	0	2	5	10	9	3	0	0	0	0	0	0	29	36-45	19
19:00	0	0	0	0	5	5	5	1	0	0	0	0	0	0	16	36-45	10
20:00	0	0	0	1	1	6	3	1	0	0	0	0	0	0	12	35-44	9
21:00	0	0	0	0	1	3	7	0	0	0	0	0	0	0	11	36-45	10
22:00	0	0	0	0	1	2	2	1	0	0	0	0	0	0	6	36-45	4
23:00	0	0	0	0	0	3	1	0	0	0	0	0	0	0	4	34-43	4
Total	3	0	3	23	72	145	158	51	10	0	0	0	0	0	465		
Percent	0.6%	0.0%	0.6%	4.9%	15.5%	31.2%	34.0%	11.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00		05:00	09:00	07:00	11:00	07:00	05:00	05:00						07:00		
Vol.	1		1	4	9	12	19	5	3						46		
PM Peak	16:00		14:00	12:00	16:00	16:00	17:00	17:00	12:00						16:00		
Vol.	1		1	4	7	20	16	9	2						43		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/21/15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	35-44	2
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	39-48	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	24-33	1
04:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34-43	1
05:00	0	0	0	0	2	1	8	4	0	0	0	0	0	0	15	41-50	12
06:00	0	0	0	0	2	**17**	**12**	3	1	0	0	0	0	0	**35**	36-45	29
07:00	0	0	1	2	1	11	8	**6**	1	0	0	0	0	0	30	36-45	19
08:00	0	0	2	6	5	5	4	2	**3**	0	0	0	0	0	27	26-35	11
09:00	0	**1**	1	**11**	**13**	3	1	2	0	0	0	0	0	0	32	26-35	24
10:00	**1**	0	**3**	2	7	12	6	1	0	0	0	0	0	0	32	31-40	19
11:00	0	0	0	0	4	5	5	5	1	0	0	0	0	0	20	34-43	10
12 PM	1	0	0	**3**	2	8	8	3	0	**1**	0	0	0	0	26	36-45	16
13:00	0	0	0	1	3	**16**	9	2	0	0	0	0	0	0	31	36-45	25
14:00	1	0	**1**	3	3	13	6	3	**1**	0	0	0	0	0	31	36-45	19
15:00	0	0	0	2	4	16	10	3	0	0	0	0	0	0	35	36-45	26
16:00	0	0	0	2	7	13	18	**10**	0	0	0	0	0	0	**50**	36-45	31
17:00	**2**	0	0	3	**8**	10	**21**	5	1	0	0	0	0	0	50	36-45	31
18:00	0	0	0	0	2	14	9	7	0	1	0	0	0	0	33	36-45	23
19:00	0	0	0	0	5	6	8	5	0	0	0	0	0	0	24	36-45	14
20:00	0	0	0	0	6	5	4	1	0	0	0	0	0	0	16	31-40	11
21:00	0	0	0	1	1	1	2	2	1	0	0	0	0	0	8	39-48	4
22:00	0	0	0	0	1	3	0	0	0	0	0	0	0	0	4	31-40	4
23:00	0	0	0	0	0	3	0	0	0	0	**1**	0	0	0	4	31-40	3
Total	5	1	8	36	77	162	143	65	9	2	1	0	0	0	509		
Percent	1.0%	0.2%	1.6%	7.1%	15.1%	31.8%	28.1%	12.8%	1.8%	0.4%	0.2%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	10:00	09:00	09:00	06:00	06:00	07:00	08:00						06:00		
Vol.	1	1	3	11	13	17	12	6	3						35		
PM Peak	17:00		14:00	12:00	17:00	13:00	17:00	16:00	14:00	12:00	23:00				16:00		
Vol.	2		1	3	8	16	21	10	1	1	1				50		

Tri-State Traffic Data, Inc.
TSTData.com
(610) 466-1469

Location: Pembroke, NY
Road: Indian Falls Road
Segment: 389' East of Alleghany Road
Technician: MM

Site Code:
Station ID:

Latitude: 0' 0.0000 Undefined

Wb

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
04/22/15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
01:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	29-38	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29-38	1
03:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	35-44	2
04:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	35-44	3
05:00	0	0	0	0	3	1	6	2	0	**1**	0	0	0	0	13	41-50	8
06:00	0	0	0	0	4	**17**	10	5	0	0	0	0	0	0	36	36-45	27
07:00	0	0	0	**3**	4	10	6	**9**	0	0	0	0	0	0	32	35-44	16
08:00	0	0	0	1	4	10	**12**	8	**2**	0	0	0	0	0	**37**	36-45	22
09:00	0	0	**2**	0	**7**	1	5	3	1	0	0	0	0	0	19	29-38	8
10:00	**1**	0	1	2	2	7	3	2	0	0	0	0	0	0	18	36-45	10
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	1	0	3	6	24	50	46	30	3	1	0	0	0	0	164		
Percent	0.6%	0.0%	1.8%	3.7%	14.6%	30.5%	28.0%	18.3%	1.8%	0.6%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00		09:00	07:00	09:00	06:00	08:00	07:00	08:00	05:00					08:00		
Vol.	1		2	3	7	17	12	9	2	1					37		
PM Peak																	
Vol.																	
Total	20	7	35	162	485	1103	1085	432	70	9	4	0	0	0	3412		
Percent	0.6%	0.2%	1.0%	4.7%	14.2%	32.3%	31.8%	12.7%	2.1%	0.3%	0.1%	0.0%	0.0%	0.0%			

15th Percentile :	32 MPH
50th Percentile :	39 MPH
85th Percentile :	45 MPH
95th Percentile :	48 MPH

Stats

10 MPH Pace Speed :	36-45 MPH
Number in Pace :	2188
Percent in Pace :	64.1%
Number of Vehicles > 40 MPH :	1600
Percent of Vehicles > 40 MPH :	46.9%
Mean Speed(Average) :	40 MPH

C. INTERSECTION CAPACITY ANALYSIS

EXISTING CONDITIONS
BACKGROUND CONDTITIONS
FUTURE CONDITIONS
LEFT TURN LANE EVALUATION
ROUNDABOUT EVALUATION

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EXISTING CONDITIONS

Morning Study Period
Afternoon Study Period

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Morning Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	13	7	15	6	10	1	142	4	13	178	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.86	0.86	0.86	0.90	0.90	0.90	0.77	0.77	0.77
Hourly flow rate (vph)	0	16	8	17	7	12	1	158	4	17	231	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	444	431	232	445	430	160	234			162		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	444	431	232	445	430	160	234			162		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	100	97	99	96	99	99	100			99		
cM capacity (veh/h)	510	514	812	493	514	865	1346			1381		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	36	163	251
Volume Left	0	17	1	17
Volume Right	8	12	4	3
cSH	589	578	1346	1381
Volume to Capacity	0.04	0.06	0.00	0.01
Queue Length 95th (ft)	3	5	0	1
Control Delay (s)	11.4	11.6	0.1	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	11.4	11.6	0.1	0.6
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

Afternoon Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	17	4	13	14	15	4	258	8	20	281	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	4	25	6	17	19	20	4	284	9	22	312	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	685	660	314	674	658	288	317			292		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	685	660	314	674	658	288	317			292		
tC, single (s)	7.4	6.6	6.2	7.2	6.5	6.3	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.1	3.3	3.6	4.0	3.4	2.4			2.2		
p0 queue free %	98	93	99	95	95	97	100			98		
cM capacity (veh/h)	298	370	731	333	379	724	1124			1281		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	36	56	297	339
Volume Left	4	17	4	22
Volume Right	6	20	9	4
cSH	390	434	1124	1281
Volume to Capacity	0.09	0.13	0.00	0.02
Queue Length 95th (ft)	8	11	0	1
Control Delay (s)	15.2	14.5	0.2	0.7
Lane LOS	C	B	A	A
Approach Delay (s)	15.2	14.5	0.2	0.7
Approach LOS	C	B		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

BACKGROUND CONDITIONS

Morning Study Period
Afternoon Study Period

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Morning Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	14	7	16	6	10	1	146	4	13	184	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.86	0.86	0.86	0.90	0.90	0.90	0.77	0.77	0.77
Hourly flow rate (vph)	0	17	8	19	7	12	1	162	4	17	239	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	456	443	240	458	442	164	242			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	456	443	240	458	442	164	242			167		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	100	97	99	96	99	99	100			99		
cM capacity (veh/h)	501	505	804	482	506	860	1337			1376		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	37	168	258
Volume Left	0	19	1	17
Volume Right	8	12	4	3
cSH	577	565	1337	1376
Volume to Capacity	0.04	0.07	0.00	0.01
Queue Length 95th (ft)	3	5	0	1
Control Delay (s)	11.5	11.8	0.1	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	11.5	11.8	0.1	0.6
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Afternoon Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	18	4	13	14	16	4	266	8	21	289	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	4	27	6	17	19	21	4	292	9	23	321	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	706	680	323	695	678	297	326			301		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	706	680	323	695	678	297	326			301		
tC, single (s)	7.4	6.6	6.2	7.2	6.5	6.3	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.1	3.3	3.6	4.0	3.4	2.4			2.2		
p0 queue free %	98	93	99	95	95	97	100			98		
cM capacity (veh/h)	287	360	722	321	368	715	1116			1271		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	37	57	305	349
Volume Left	4	17	4	23
Volume Right	6	21	9	4
cSH	379	426	1116	1271
Volume to Capacity	0.10	0.13	0.00	0.02
Queue Length 95th (ft)	8	12	0	1
Control Delay (s)	15.5	14.8	0.2	0.7
Lane LOS	C	B	A	A
Approach Delay (s)	15.5	14.8	0.2	0.7
Approach LOS	C	B		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

FUTURE CONDITIONS

Morning Study Period
Afternoon Study Period

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Morning Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	14	8	17	6	10	1	147	4	13	194	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.86	0.86	0.86	0.90	0.90	0.90	0.77	0.77	0.77
Hourly flow rate (vph)	0	17	10	20	7	12	1	163	4	17	252	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	470	457	253	473	456	166	255			168		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	470	457	253	473	456	166	255			168		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	100	97	99	96	99	99	100			99		
cM capacity (veh/h)	490	496	790	470	497	858	1322			1374		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	38	169	271
Volume Left	0	20	1	17
Volume Right	10	12	4	3
cSH	574	551	1322	1374
Volume to Capacity	0.05	0.07	0.00	0.01
Queue Length 95th (ft)	4	6	0	1
Control Delay (s)	11.6	12.0	0.1	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	11.6	12.0	0.1	0.6
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	1	151	30	10	209
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.92
Hourly flow rate (vph)	4	1	164	120	11	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	473	224			284	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	473	224			284	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			99	
cM capacity (veh/h)	545	815			1278	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	5	284	238
Volume Left	4	0	11
Volume Right	1	120	0
cSH	584	1700	1278
Volume to Capacity	0.01	0.17	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	11.2	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	11.2	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Afternoon Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	18	4	14	14	16	4	279	9	21	298	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	4	27	6	19	19	21	4	307	10	23	331	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	731	705	333	720	703	312	336			316		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	731	705	333	720	703	312	336			316		
tC, single (s)	7.4	6.6	6.2	7.2	6.5	6.3	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.1	3.3	3.6	4.0	3.4	2.4			2.2		
p0 queue free %	98	92	99	94	95	97	100			98		
cM capacity (veh/h)	275	348	713	308	356	702	1106			1255		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	37	59	321	359
Volume Left	4	19	4	23
Volume Right	6	21	10	4
cSH	366	409	1106	1255
Volume to Capacity	0.10	0.14	0.00	0.02
Queue Length 95th (ft)	8	12	0	1
Control Delay (s)	15.9	15.3	0.2	0.7
Lane LOS	C	C	A	A
Approach Delay (s)	15.9	15.3	0.2	0.7
Approach LOS	C	C		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	38	12	280	30	10	306
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.92
Hourly flow rate (vph)	41	13	304	120	11	333
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	719	364			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719	364			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	98			99	
cM capacity (veh/h)	392	681			1135	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	424	343
Volume Left	41	0	11
Volume Right	13	120	0
cSH	436	1700	1135
Volume to Capacity	0.12	0.25	0.01
Queue Length 95th (ft)	11	0	1
Control Delay (s)	14.4	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	14.4	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

LEFT TURN LANE EVALUATION

Morning Study Period
Afternoon Study Period

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Morning Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	14	8	17	6	10	1	147	4	13	194	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.86	0.86	0.86	0.90	0.90	0.90	0.77	0.77	0.77
Hourly flow rate (vph)	0	17	10	20	7	12	1	163	4	17	252	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	470	457	253	473	456	166	255			168		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	470	457	253	473	456	166	255			168		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	100	97	99	96	99	99	100			99		
cM capacity (veh/h)	490	496	790	470	497	858	1322			1374		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	38	169	271
Volume Left	0	20	1	17
Volume Right	10	12	4	3
cSH	574	551	1322	1374
Volume to Capacity	0.05	0.07	0.00	0.01
Queue Length 95th (ft)	4	6	0	1
Control Delay (s)	11.6	12.0	0.1	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	11.6	12.0	0.1	0.6
Approach LOS	B	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	1	151	30	10	209
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.92
Hourly flow rate (vph)	4	1	164	120	11	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	413	164			284	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	413	164			284	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			99	
cM capacity (veh/h)	590	880			1278	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	5	164	120	11	227
Volume Left	4	0	0	11	0
Volume Right	1	0	120	0	0
cSH	632	1700	1700	1278	1700
Volume to Capacity	0.01	0.10	0.07	0.01	0.13
Queue Length 95th (ft)	1	0	0	1	0
Control Delay (s)	10.7	0.0	0.0	7.8	0.0
Lane LOS	B			A	
Approach Delay (s)	10.7	0.0		0.4	
Approach LOS	B				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		

Afternoon Study Period

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	18	4	14	14	16	4	279	9	21	298	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90
Hourly flow rate (vph)	4	27	6	19	19	21	4	307	10	23	331	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	731	705	333	720	703	312	336			316		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	731	705	333	720	703	312	336			316		
tC, single (s)	7.4	6.6	6.2	7.2	6.5	6.3	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.1	3.3	3.6	4.0	3.4	2.4			2.2		
p0 queue free %	98	92	99	94	95	97	100			98		
cM capacity (veh/h)	275	348	713	308	356	702	1106			1255		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	37	59	321	359
Volume Left	4	19	4	23
Volume Right	6	21	10	4
cSH	366	409	1106	1255
Volume to Capacity	0.10	0.14	0.00	0.02
Queue Length 95th (ft)	8	12	0	1
Control Delay (s)	15.9	15.3	0.2	0.7
Lane LOS	C	C	A	A
Approach Delay (s)	15.9	15.3	0.2	0.7
Approach LOS	C	C		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	38	12	280	30	10	306
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.92
Hourly flow rate (vph)	41	13	304	120	11	333
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	659	304			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	659	304			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	98			99	
cM capacity (veh/h)	425	735			1135	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	54	304	120	11	333
Volume Left	41	0	0	11	0
Volume Right	13	0	120	0	0
cSH	473	1700	1700	1135	1700
Volume to Capacity	0.12	0.18	0.07	0.01	0.20
Queue Length 95th (ft)	10	0	0	1	0
Control Delay (s)	13.6	0.0	0.0	8.2	0.0
Lane LOS	B			A	
Approach Delay (s)	13.6	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

ROUNDABOUT EVALUATION

Morning Study Period
Afternoon Study Period

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Morning Study Period

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Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	5	284	238
Demand Flow Rate, veh/h	5	289	243
Vehicles Circulating, veh/h	167	11	4
Vehicles Exiting, veh/h	133	236	168
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.8	5.7	5.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	5	289	243
Cap Entry Lane, veh/h	956	1118	1125
Entry HV Adj Factor	1.000	0.982	0.981
Flow Entry, veh/h	5	284	238
Cap Entry, veh/h	956	1097	1104
V/C Ratio	0.005	0.259	0.216
Control Delay, s/veh	3.8	5.7	5.2
LOS	A	A	A
95th %tile Queue, veh	0	1	1

Intersection	
Intersection Delay, s/veh	5.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	27	39	168	272
Demand Flow Rate, veh/h	27	41	188	293
Vehicles Circulating, veh/h	311	184	35	29
Vehicles Exiting, veh/h	11	39	303	196
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	4.4	5.3	6.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	27	41	188	293
Cap Entry Lane, veh/h	828	940	1091	1098
Entry HV Adj Factor	1.000	0.951	0.896	0.928
Flow Entry, veh/h	27	39	168	272
Cap Entry, veh/h	828	894	977	1018
V/C Ratio	0.033	0.044	0.172	0.267
Control Delay, s/veh	4.7	4.4	5.3	6.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

Afternoon Study Period

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Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	37	59	321	358
Demand Flow Rate, veh/h	40	64	338	386
Vehicles Circulating, veh/h	401	332	57	45
Vehicles Exiting, veh/h	30	63	384	351
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	5.6	6.8	7.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	40	64	338	386
Cap Entry Lane, veh/h	757	811	1067	1080
Entry HV Adj Factor	0.934	0.922	0.949	0.926
Flow Entry, veh/h	37	59	321	358
Cap Entry, veh/h	707	747	1013	1001
V/C Ratio	0.053	0.079	0.317	0.357
Control Delay, s/veh	5.6	5.6	6.8	7.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	2

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	54	424	344
Demand Flow Rate, veh/h	55	432	351
Vehicles Circulating, veh/h	310	11	42
Vehicles Exiting, veh/h	133	382	323
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	7.3	6.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	55	432	351
Cap Entry Lane, veh/h	829	1118	1083
Entry HV Adj Factor	0.982	0.981	0.981
Flow Entry, veh/h	54	424	344
Cap Entry, veh/h	814	1097	1063
V/C Ratio	0.066	0.387	0.324
Control Delay, s/veh	5.1	7.3	6.6
LOS	A	A	A
95th %tile Queue, veh	0	2	1

D. SIGHT DISTANCE EVALUATIONS

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MEMO

To:	Darrell Meehl, RLA, ASLA	Date:	April 10, 2015
Company:	The LA Group	Phone #:	518-587-8100
Address:	40 Long Alley Saratoga Springs, NY 12866		
From:	Keith Mortimer	CC:	file
Subject:	WNY National Cemetery - Main (Public) Access Point - Sight Distance Evaluation (Passenger Car)		

Comments:

We have conducted a sight distance investigation at the proposed Western NY National Cemetery site and have identified an access point zone along the east side of Route 77 in which a main (public) access points to the site can be located that meets established intersection spacing and sight distance criteria for a passenger car. The investigation also determined that there are no recommended locations for access points on Indian Falls Road.

The findings of this investigation are considered close approximations based on direct field observation measurements. Measurements were not obtained through the use of a survey crew and survey instruments.

The attached figure summarizes the access point zone. The following portions of this memo provide an overview of the process used to determine the access point zone along the east side of Route 77.

Sight Distance & Intersection Spacing Criteria

Research was conducted to determine the adjacent roadway network characteristics and sight distance requirements prior to the field investigation using the following sources:

- Roadway Speeds: Speed data from NYSDOT's Traffic Data Viewer
- Minimum Stopping and Intersection Sight Distances:
  - AASHTO – A Policy on Geometric Design of Highways and Streets, 2011
  - NYSDOT – Highway Design Manual Appendix 5C, Intersection Sight Distance Charts
- Functional Area of an Intersection (minimum distance from other intersections):
  - FHWA - Access Management in the Vicinity of Intersections
  - AASHTO – A Policy on Geometric Design of Highways and Streets

From these sources the following criteria was identified for use in the determination of the access point zone for a passenger car:

- Assumed grades of -3% to +3%
- 85th Percentile Speed (Route 77*): ~60 mph
- Stopping Sight Distance: 570 feet
- Intersection Sight Distance:
    - Left turn from driveway: 665 feet - both directions
    - Right turn from driveway: 575 feet – one direction
- Minimum Distance from an Intersection: 605 feet

*Speed data for Indian Falls Road was unavailable

Access Point Zone Determination

An on-site sight distance investigation was conducted on Tuesday April 7th, 2015 to identify a zone in which access points meet the above criteria. The following procedure was used in the field to identify the zone:

1. Sight constraints included horizontal and vertical curves, and existing intersections.
2. At these constraint locations distances from the above criteria were measured.
3. Sight distances were verified at the measured distances utilizing methodology from AASHTO:
    a. Stopping Sight Distance:
        i. Height of Drivers Eye: 3.5 feet
        ii. Height of Object: 2.0 feet
    b. Intersection Sight Distance:
        i. Height of Drivers Eye: 3.5 feet
        ii. Height of Object: 2.0 feet
        iii. Distance from Curb: 10.0 feet

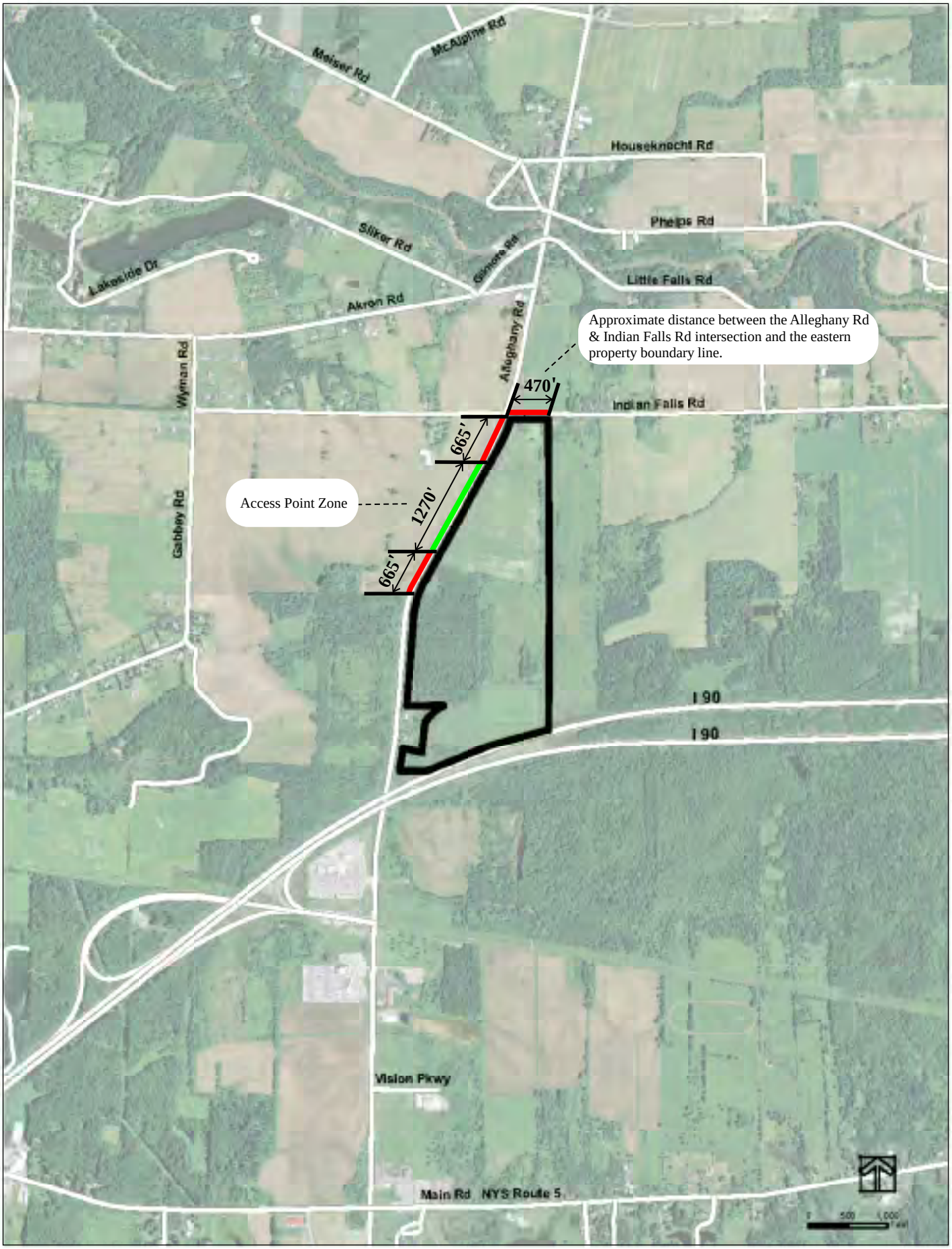
The attached figure shows the estimated limits of the access point zone for a public access point as identified in the site investigation.

Observations

The following observations were made in the determination of an access point zone during the field investigation:

- Access from Route 77 would not occur in wood/wet land areas.
- On Route 77, the horizontal curve to south was the sight constraint at the southern end of the project site.
- On Route 77, the Route 77/Indian Falls Road intersection was the constraint at the northern end of the project site;
    - Sight Constraint – intersection located on crest of a hill.
    - Intersection Spacing Constraint- Functional Area of Intersection.
- No locations were identified for access points on Indian Falls Road due to the proximity of the Route 77/Indian Falls Road intersection to the west and a vertical curve blind-spot to the east that did not meet sight distance criteria

End of Memo



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Western New York National Cemetery
Allegheny Road & Indian Falls Road
Access Zone Map

Figure 1
4/10/15

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MEMO

To:	Darrell Meehl, RLA, ASLA	Date:	April 13, 2015
Company:	The LA Group	Phone #:	518-587-8100
Address:	40 Long Alley Saratoga Springs, NY 12866		
From:	Keith Mortimer	CC:	file
Subject:	WNY National Cemetery - Service Access Point - Sight Distance Evaluation (Single-Unit Truck)		

Comments:

We have conducted a sight distance investigation at the proposed Western NY National Cemetery site and have identified an access point zone along the east side of Route 77 in which a service access point to the site can be located that meets established intersection spacing and sight distance criteria for a single-unit truck. The investigation also determined that there are no recommended locations for access points on Indian Falls Road.

The findings of this investigation are considered close approximations based on direct field observation measurements. Measurements were not obtained through the use of a survey crew and survey instruments.

The attached figure summarizes the service access point zone. The following portions of this memo provide an overview of the process used to determine the access point zone along the east side of Route 77.

Sight Distance & Intersection Spacing Criteria

Research was conducted to determine the adjacent roadway network characteristics and sight distance requirements prior to the field investigation using the following sources:

- Roadway Speeds: Speed data from NYSDOT's Traffic Data Viewer
- Minimum Stopping and Intersection Sight Distances:
  - AASHTO – A Policy on Geometric Design of Highways and Streets, 2011
  - NYSDOT – Highway Design Manual Appendix 5C, Intersection Sight Distance Charts
- Functional Area of an Intersection (minimum distance from other intersections):
  - FHWA - Access Management in the Vicinity of Intersections
  - AASHTO – A Policy on Geometric Design of Highways and Streets

From these sources the following criteria was identified for use in the determination of the access point zone for a single-unit truck:

- Assumed grades of -3% to +3%
- 85th Percentile Speed (Route 77*): ~60 mph
- Stopping Sight Distance: 570 feet
- Intersection Sight Distance:
    - Left turn from driveway: 840 feet - both directions
    - Right turn from driveway: 750 feet – one direction
- Minimum Distance from an Intersection: 605 feet

*Speed data for Indian Falls Road was unavailable

Access Point Zone Determination

An on-site sight distance investigation was conducted on Tuesday April 7th, 2015 to identify a zone in which access points meet the above criteria. The following procedure was used in the field to identify the zone:

1. Sight constraints included horizontal and vertical curves, and existing intersections.
2. At these constraint locations distances from the above criteria were measured.
3. Sight distances were verified at the measured distances utilizing methodology from AASHTO:
    a. Stopping Sight Distance:
        i. Height of Drivers Eye: 3.5 feet*
        ii. Height of Object: 2.0 feet
    b. Intersection Sight Distance:
        i. Height of Drivers Eye: 3.5 feet*
        ii. Height of Object: 2.0 feet
        iii. Distance from Curb: 10.0 feet

* AASHTO states that for large trucks, the driver's eye height ranges from 3.5 feet to 7.9 feet. To account for lower trucks a conservative value of 3.5 feet was used for the height of driver's eye.

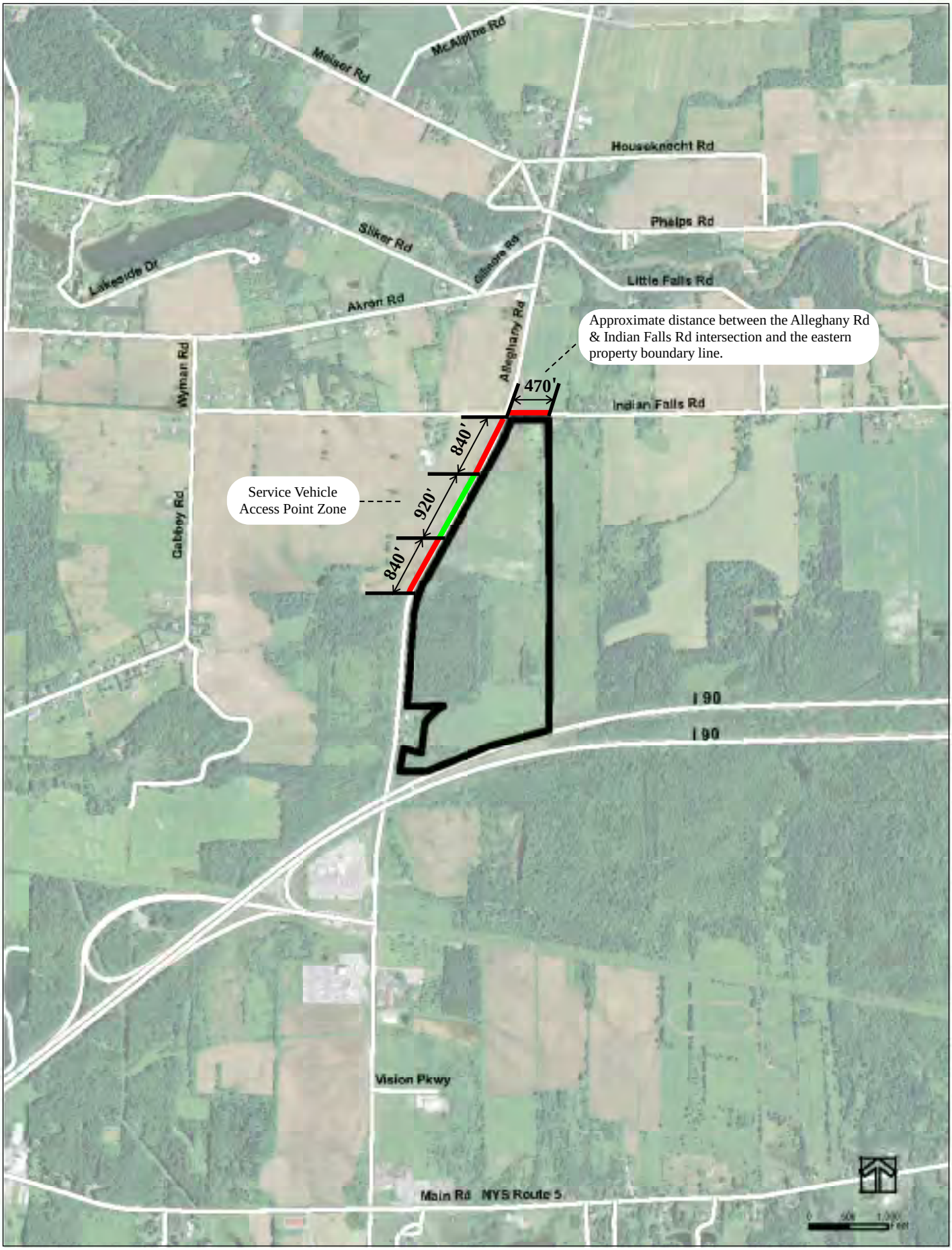
The attached **Figure 2** depicts the estimated limits of the access point zone for a service access point as identified in the site investigation.

Observations

The following observations were made in the determination of an access point zone during the field investigation:

- Access from Route 77 would not occur in wood/wet land areas.
- On Route 77, the horizontal curve to south was the sight constraint at the southern end of the project site.
- On Route 77, the Route 77/Indian Falls Road intersection was the constraint at the northern end of the project site;
    - Sight Constraint – intersection located on crest of a hill.
    - Intersection Spacing Constraint- Functional Area of Intersection.
- No locations were identified for access points on Indian Falls Road due to the proximity of the Route 77/Indian Falls Road intersection to the west and a vertical curve blind-spot to the east that did not meet sight distance criteria

End of Memo



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Western New York National Cemetery
Allegheny Road & Indian Falls Road
Service Vehicle Access Point Zone Map

Figure 2
4/13/15

E. ENGINEERING COUNTERMEASURES FOR REDUCING SPEEDS

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Engineering Countermeasures for Reducing Speeds: A Desktop Reference of Potential Effectiveness

May 2009

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
GEOMETRIC FEATURES											
Speed Hump -rounded raised area across the road, typically 12 to 14 feet in length and 3 to 4 inches high	Urban	Local Street	1 (1999)	178		48 to 11544	46 to 11043	35 (4)	27 (4)	-8 (3)	-22% (9%)
		Local Street	2 (2005)	7		400 to 4362	401 to 3384	32 (3)	26 (2)	-6 (2)	-20% (6%)
		Local Street	4 (2000)	4		475 to 1506	433 to 1343	36 (2)	31 (2)	-5 (1)	-15% (3%)
Speed Cushion -speed hump typically 6 to 7 feet wide that allows most emergency vehicles to straddle the hump.	Urban		1 (1999)	1		3323	2321	35 (-)	28 (-)	-7 (-)	-20% (-)
			2 (2005)	2		1042 to 1556	693 to 1563	31 to 37	26 to 30	-5 to -7	-16% to 19%
Speed Table -a long speed hump typically 22 feet in length with a flat section in the middle and ramps on the ends	Urban		1 (1999)	72		198 to 14500	242 to 14400	37 (3)	31 (3)	-6 (3)	-16% (9%)
	Rural	Small town	3 (2008)	2	12 month	1480		33 (1)	29 (2)	-4 (1)	-14% (3%)
		Residential Streets	18 (2003)	19		198 to 2102	364 to 2061	38 (n/a)	29 (n/a)	-9 (n/a)	-24% (n/a)
Raised Intersection -a raised plateau, with ramps on all approaches, where roads intersect	Urban		1 (1999)	2				37 (1)	38 (4)	1 (4)	3% (11%)
	Urban	Local Street	5 (2004)	1				30 (-)	30 (-)	0 (-)	0% (-)
Choker -mid-block curb extensions that narrow a road by extending the sidewalk or widening the planting strip	Urban		1 (1999)	4		770 to 6150	331 to 5040	34 (2)	30 (2)	-4 (1)	-3% (3%)
	Urban	Residential Area	51 (1977)	6				30 (4) 95%tile	29 (3) 95%tile	-1 (2) 95%tile	-3% (7%) 95%tile

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
Neckdown -intersection curb extensions that narrow a road by extending the width of a sidewalk	Urban		1 (1999)	3		2800 to 8110	4660 to 5660	29 (9)	30 (3)	1 (7)	3% (30%)
	Urban	Local Street	5 (2004)	2				28 (3)	31 (4)	3 (7)	12% (27%)
Chicane -curb extensions that alternate from one side of the street to the other, forming S-shaped curves.	Urban		1 (1999)	2		1380 to 3200	790 to 2400	33 (4)	27 (4)	-6 (1)	-16% (4%)
			4 (2000)	4	at least 4 years	1380 to 1965	790 to 1993	31 (6)	22 (4)	-9 (4)	-29% (8%)
	Urban	School Zone	42 (1998)	1		8000		31 (-)	28 (-)	-3 (-)	-10% (-)
Lateral Shift -curb extension that shifts travel lanes to one side of road for extended distance and then back to the other side	Urban	Local Street	5 (2004)	1				36 (-)	33 (-)	-3 (-)	-8% (-)
	Rural	At City Limits	19 (1999)	5				44 (4)	33 (4)	-11 (7)	-25% (9%)
Center Island -a raised island along the centerline of a street that narrows the travel lanes	Urban		1 (1999)	1		3500	2800	33 (-)	29 (-)	-4 (-)	-12% (-)
Traffic Circle -circular, raised island placed within the middle of an intersection	Urban		1 (1999)	45		240 to 10910	269 to 8280	34 (5)	30 (4)	-4 (3)	-11% (9%)
Roundabout -large, raised, circular islands at the middle of major intersections, around which all oncoming vehicles must travel until reaching their destination street, where they then turn off.		Transition from High to Low Speed	36 (2005)	1				48 (-)	28 (-)	-20 (-)	-42% (-)
	Suburban	Y Intersection of two-lane roads	37 (2005)	1				32 (-)	24 (-)	-8 (-)	-25% (-)
	Urban		38 (2004)	1				47 (-)	33 (-)	-14 (-)	-30% (-)
	Urban & Rural	Intersection entry	54 (2007)	55					20 (4)		
SURFACE TREATMENTS AND MARKINGS											
Transverse Rumble Strips -raised or grooved patterns installed on the roadway travel lane or shoulder pavements, perpendicular to the direction of travel.	Rural	Posted Speed Limit=70mph	17 (2007)	3	5 months					-0.6 (0.4)	
	Rural	Intersection	23 (2003)	11	At least 1 month					-1 to -2	

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
Converging Chevron Marking Pattern -a type of transverse pavement markings forming chevron shape to create the illusion of traveling faster as well as the impression of narrower lanes.	Rural	Main Roads	3 (2008)	2	12 months	2300		36 (1)	33 (1)	-3 (2)	-7% (6%)
		Double S-Curve On A Two- Lane Roadway	7 (2006)	1	15 months			37 (-)	33 (-)	-4 (-)	-11% (-)
	Urban	Exit Ramps	12 (2003)	1	20 months			70 (-)	53 (-)	-17 (-)	-24% (-)
		Community Collector Street	13 (2001)	1	2 years			41 (-)	39 (-)	-2 (-)	-5% (-)
		Freeway-to-Freeway Connector Curve	48 (2008)	1	6 months	18000		53.4 (-)	52.8 (-)	-0.6 (-)	-1% (-)
Transverse Markings -a series of white lines placed across the center of the lane and spaced progressively closer to create the illusion of traveling faster	Rural	Horizontal Curves	20 (2005)	3	5 days			49 (3)	50 (3)	0.2 (1.7)	0.3% (3%)
	Rural	Interstate Work Zone	46 (2001)	1		18000		68 (-)	67 (-)	-1 (-)	-1% (-)
Optical Speed Bars -a series of white rectangular markings typically 1 foot wide placed just inside both edges of the lane and spaced progressively closer to create the illusion of traveling faster as well as the impression of narrower lane.	Rural	Main Roads	3 (2008)	1	12 months			46 (-)	45 (-)	-1 (-)	-2% (-)
	Rural	Main Roads	3 (2008)	2	3 months	1000		47 (8)	46 (-)	-1 (0)	-2% (0)
	Rural	Curve	11 (2004)	3				37 (6)	36 (10)	-1 (4)	-2% (8%)
	Rural	Two-Lane Highway; Tourist Traffic	45 (2009)	1	3 months			71 (-)	66 (-)	-5 (-)	-7% (-)
	Rural	Freeway Curves	53 (2008)	1	6 months	63,072	57,948	61 (-)	60 (-)	-1 (-)	-2% (-)
Speed Limit Pavement Legend	Rural	Main Roads	3 (2008)	4	12 months			34 (3)	33 (2)	-1 (1)	-1% (4%)
Enhanced Speed Limit Legend with Colored Surfacing	Rural	Main Roads	3 (2008)	3	12 months	1000		46 (6)	44 (6)	-2 (2)	-4% (4%)
In-Roadway Warning Lights	Urban	Residential Area; Pedestrian Crossing	15 (2000)	2	1 month	30,000		46 (0)	39 (1)	-7 (1)	-15% (1%)
		School Zone	33		1 year			58 (-)	53 (-)	-5 (-)	-9% (-)
	Urban	Central Business District; Pedestrian Crossing	34 (2004)	1	2 weeks	25,000		21 (-)	22 (-)	1 (-)	5% (-)
		Freeway Off-Ramp	39 (2008)	1	14 months			57 (-)	53 (-)	-4 (-)	-7% (-)
Delineator Post	Rural	Horizontal Curves	20 (2005)	3	5 days			49 (3)	50 (3)	0.5 (0.4)	1% (1%)

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
"Slow" Pavement Legend	Rural	Main Roads	3 (2008)	3	9 months	2940		40 (6)	41 (8)	1 (2)	1% (4%)
	Suburban	Curve on Two-Lane Road	47 (1998)	1	2 weeks	5000		39 (-)	37 (-)	-2 (-)	-5% (-)
SIGNS											
Speed Feedback Sign -sign that dynamically displays speed of passing vehicles with the message "YOUR SPEED XX"	Rural	Main Roads	3 (2008)	1	3 months	2870		37 (-)	30 (-)	-7 (-)	-19% (-)
		15mph School Zone	8 (2002)	1				48 (-)	15 (-)	-33 (-)	-69% (-)
		School Zone	8 (2002)	1				32 (-)	25 (-)	-7 (-)	-22% (-)
		School Zone	14 (2005)	1	2 to 4 months			50 (-)	42 (-)	-8 (-)	-16% (-)
		Advance of School Zone	14 (2005)	2	2 to 4 months			57 (6)	56 (7)	-1 (1)	-2% (3%)
		Advance of Signalized Intersection	14 (2005)	2	2 to 4 months			57 (10)	56 (12)	-1 (2)	-3% (4%)
		Non-freeway	9 (2005)	20	6 to 39 months			35 (3)	32 (2)	-3 (2)	-7% (4%)
		Collector Street/Residential Cross Street	10 (2007)	6	3 years			37 (2)	33 (1)	-4 (2)	-11% (4%)
		School Zone	26 (2006)	8	6 months			25 (2)	24 (2)	-1 (2)	-5% (7%)
	Rural	Work Zone on Interstate Highway	27 (2001)	3	5 weeks	38000		65 (2)	60 (2)	-5 (1)	-8% (1%)
		School Zone	28 (2003)	2	2 months	8000 to 9200		30 (5)	28 (4)	-2 (1)	-7% (1%)
		School Zone	28 (2003)	2	2 months	11800 to 29200		43 (1)	34 (0)	-9 (1)	-22% (1%)
		Two-Lane Collector Arterial, Near to School Zone	29 (2005)	4	7 months	1486 to 2794	1270 to 2533	34 (2)	32 (3)	-2 (1)	-3% (4%)
	Rural	Interstate Highway Work Zone	32 (2006)	1	1 week			65 (-)	63 (-)	-2 (-)	-3% (-)

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
Speed Activated Warning Sign -sign that displays warning messages to speeding drivers		Posted Speed Limit=50/55mph	17 (2007)	4	at least 3 months					-1.4 (0.1)	
		Work Zone at State Route	25 (2007)	3		122 to 250				-1 to -6.5	
		Multilane US Highway	25 (2007)	1						-1.6 to -4.7	
		Multilane Interstate	25 (2007)	2						-3.0 to -11.2	
	Urban	U.S. Highway Work Zone	32 (2006)	1	1 week			67 (-) PC; 65 (-) Truck	64 (-) PC; 63 (-) Truck	-3 (-) PC; -2 (-) Truck	-4% (-) PC; -3% (-) Truck
	Urban & Rural	Work Zone	35 (2007)	2				54 (4)	49 (6)	-5 (3)	-10% (5%)
	Rural	Four-Lane Divided Highway	43 (1999)	1		7000		73 (-)	69 (-)	-4 (-)	-5% (-)
		Curve on Interstate Freeway	44 (2003)	1		65000		63 (-)	62 (-)	-1 (-)	-2% (-)
Speed Activated Speed Limit Reminder Sign		Major Road	6 (2005)	1				42 (-)	37 (-)	-5 (-)	-12% (-)
		School Zone	24 (2001)	1	2 months			43 (-)	37 (-)	-6 (-)	-14% (-)
Variable Speed Limit Sign	Rural	Finland, weather-controlled	31 (1999)	3						-4.7 to -8	
	Rural	Freeway	40 (2005)	2				82 (1)	77 (6)	-5 (5)	-6% (6%)
Lower Speed Limit by 15+ mi/h	Urban & Rural	2 lane roads	21 (1997)	9	12-24 months			49 (5)	49 (4)	-0.1 (1)	-0.1% (3%)
Lower Speed Limit by 10 mi/h	Urban & Rural	2 & 4 lane roads	21 (1997)	34	12-24 months			50 (5)	50 (5)	-0.1 (1)	-0.6% (2%)
Lower Speed Limit by 5 mi/h	Urban & Rural	2 lane roads	21 (1997)	14	12-24 months			51 (6)	50 (6)	-0.3 (1)	-0.1% (2%)
Red Border Speed Limit Sign	Rural	Two-Lane highway	30 (2007)	3	8 to 14 months					-3 (4)	
One-Direction Large Arrow (W1-6) sign	Rural	Horizontal Curves	20 (2005)	1	5 days			47 (-)	47 (-)	0 (-)	0% (-)

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
Add Flashers to Existing Curve Warning Sign	Rural	Horizontal Curves	20 (2005)	2	5 days			51 (2)	52 (3)	1 (1)	1% (1%)
Add Flags to Existing Curve Warning Sign	Rural	Horizontal Curves	20 (2005)	3	5 days			49 (3)	49 (3)	-0.3 (1.3)	-0.6% (3%)
Combinational Horizontal Alignment/Advisory Speed Sign	Rural	Horizontal Curves	20 (2005)	3	5 days			49 (3)	50 (2)	0.2 (1)	0.4% (2%)
Chevron Sign	Rural	Horizontal Curves	20 (2005)	1	5 days			52 (-)	52 (-)	0 (-)	0% (-)
NARROWING											
Add Shoulder Markings to narrow lane	Rural	Two-Lane Road Through Small Town	3 (2008)	2	12 months			33 (2)	33 (1)	0.5 (1)	2% (2%)
	Urban	Freeway Exit Ramp	49 (2000)	4	2 weeks			38 (10)	37 (9)	-1 (1)	-2% (2%)
Add Center Line and Edge Line	Rural	Main Roads	3 (2008)	2	12 months			34 (1)	35 (1)	1 (1)	2% (2%)
	Urban	Residential Area	50 (1984)	2	2 weeks			34 (2) Mean	34 (1) Mean	0 (0) Mean	1% (1%) Mean speed
	Rural	Two-Lane Road Day	52 (2006)	3				63 (2)	64 (3)	1 (4)	2% (7%)
	Rural	Two-Lane Road Night	52 (2006)	3				66 (4)	65 (3)	-1 (0)	-1% (0)
Longitudinal Rumble Strips -raised or grooved patterns installed on both inside edges of normal travel lane to narrow effective width	Rural	Rural High Speed Intersections on Two-lane Roadways	16 (2008)	9	at least 3 months					-4.5 (0.25)	
Road Diet -restripe road to reduce the number of lanes from 4 to 3	Urban	Arterial road	41 (1999)	1		24,000		51 (-)	47 (-)	-4 (-)	-8% (-)
Tubular Chanelizers -three foot high tubes used to create island in center of road	Rural	Main Roads	3 (2008)	3	12 months	2060		40 (5)	39 (4)	-1 (1)	-2% (2%)

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
ACCESS CONTROLS											
Half Closure -Physical blockage of one direction of traffic for a short distance on a two-way street	Urban		1 (1999)	11		220 to 9540	151 to 9180	30 (4)	24 (5)	-6 (4)	-20% (12%)
Diagonal Diverter -a barrier placed diagonally across a four-legged intersection, preventing through movement	Urban		1 (1999)	7		474 to 2057	177 to 574	28 (5)	27 (5)	-1 (5)	-5% (17%)
Full Closure -physical street closure resulting in a dead-end	Urban		1 (1999)	2		1540 to 1980	850 to 1080	18 (3)	15 (3)	-3 (0)	-17% (3%)
COMBINATION MEASURES											
Gateway Treatment -the combined use of signs, textured pavements, name plates, monuments, landscaping, and/or others placed at the entrance to a neighborhood that helps to communicate a sense of neighborhood identity	Rural	Main Roads	3 (2008)	3	12 months			46 (6)	44 (6)	-2 (2)	-5% (4%)
	Urban		5 (2004)	1	9 months			30 (-)	28 (-)	-2 (-)	-7% (-)
Speed Hump + Speed Table	Urban		1 (1999)	4				36 (3)	29 (2)	-7 (4)	-17% (9%)
Speed Hump + Choker	Urban		1 (1999)	2		2456 to 3685	2593 to 2931	38 (2)	25 (0)	-13 (2)	-33% (3%)
Speed Table + Choker	Urban		1 (1999)	3				33 (1)	29 (1)	-4 (1)	-12% (3%)
Speed Table + Center Island	Urban		1 (1999)	2		6500 to 8440	6400 to 6780	37 (1)	29 (1)	-8 (3)	-22% (6%)
Half Closure + Median Barrier (-Median barriers are raised islands located along the centerline of a street and continuing through an intersection so as to block through movement at a cross street.)	Urban		1 (1999)	2		10160 to 10320	1120 to 2120	38 (2)	32 (4)	-6 (3)	-17% (8%)

Countermeasure	Area	Road Environment	Reference # (Year)	Sample Size (# of Sites)	After Measurement	Average Daily Volumes		85th Percentile Speeds			
						Before (veh)	After (veh)	Before (mph)	After (mph)	Change (mph)	%Change
Transverse Bar + Speed Feedback Sign	Rural	Main Roads	3 (2008)	3	12 months	830 to 1680		47 (6)	43 (8)	-4 (3)	-8% (8%)
Speed Hump + Traffic Circle + Gateway Treatment			2 (2005)	2		2017 to 4213	1857 to 4635	32 (1)	25 (3)	-7 (2)	-22% (6%)
Textured Pavement + Neckdown + Pavement Marking			2 (2005)			3722 to 3792	3603	31 (-)	31 (-)	0 (-)	0% (-)
Edge Marking + Speed Limit Marking	Rural	Main Roads	3 (2008)	4	12 months			34 (3)	33 (2)	-1 (1)	-1% (4%)
Rubber Pedestrian Island + In-Roadway Yield to Pedestrian Crossing Sign (R1-6) (-Removable rubber curbing used to create island and concentrate pedestrian crossings at crosswalk.)	Rural Resort Area	High pedestrian crossing	22 (2002)	2	2 weeks			44 (2)	38 (1)	-6 (3)	-14% (6%)

Notes:

1) *Reference table only includes U.S. studies, except where no U.S. studies on a treatment exist, then international studies are used.*

2) *Measures within parentheses in the "85%th Speeds" columns represent the standard deviations from the average values.*

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Appendix A-6
Local Market Survey

Western New York National Cemetery
MP-1 Submission

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WESTERN NEW YORK NATIONAL CEMETERY

1232 Indian Falls Road, Pembroke
Genesee County, New York

VA Project Number: 936PC2002

Local Market Survey
MP-1 Submission

Prepared For:

United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E
Washington, DC 20001

Prepared By:

COSTPRO, INC.

119 Mount Auburn Street, Suite 400
Cambridge, MA 02138
☏ (617) 576-5878

May 19, 2015

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SUMMARY

The project is in its initial stages. The Market Survey is continuous and ongoing through completion of design. The survey will be expanded as design progresses and material selections and specifications become more definitive, Results of this initial survey are encouraging and bode well for the project.

Recent and future bidding conditions look promising. A fairly robust current market should retain a good pool of workers for our project to draw upon. With a good number of current projects finishing as ours starts there should be no shortage of either manpower or materials. There are also very low chances of labor disputes and strikes.

The "hunger factor" for the project even this far ahead is also good. We already have expressions of interest in bidding from major construction firms. The level of interest is genuine and most market survey contactees are very helpful and forthcoming.

Cost escalation is present but not excessive. The rate of increase of both materials and labor is close to historic norms.

Construction financing is readily available to local contractors and subcontractors at normal market rates.

A Project Labor Agreement study by Cannon Design is attached in appendix. They project a 10% premium if this is pursued. Current and projected labor relations and availability would not appear to justify the additional expense.

RECENT AND EXPECTED FUTURE BIDDING CONDITIONS

After several years of growth in demand, contractors are confident about the immediate future. Most plan to expand payroll in 2015. If their predictions come true, industry employment could expand in 2015 by the most in a decade. Contractors predict demand to grow or remain stable in virtually every market segment. They are ready to purchase and lease new equipment in modest amounts. 60 percent of AGC annual outlook survey respondents expect the construction market to grow again this year. An additional 21 percent expect it to continue growing in 2016.

Within the public sector, contractors are most optimistic about the outlook for water and sewer construction, with a net positive outlook of 24 percent. More contractors expect the highway market to expand than expect it to shrink, with a net positive reading of 16 percent. Similarly, the net positive outlook for higher education construction is 15 percent and 13 percent for the "Other Transportation" segment that includes transit and airport construction as well as rail and other private transportation projects. While less enthusiastic than with other segments, contractors also have a net positive outlook for K-12 school construction (8 percent) and the public building segment (5 percent). All these public-sector segments rely on local and state funding for at least a portion of funding.

Contractors, however, are significantly less optimistic about direct federal construction with a net negative reading of 16 percent for this construction segment.

Contractors' market expectations are, at best, slightly more optimistic than they were a year ago reflecting growing optimism in improving state and local government finances.

Source Data: Associated General Contractors of America 2015 Business Outlook

The national outlook reflected above holds true for Genesee County. Our own survey received very similar results.

LABOR

Contractors surveyed claim a number of significant challenges. Foremost is a growing shortage of qualified craft workers. They blame the apparent poor quality of local craft worker training programs. Contractors also continue to be squeezed by rising health care costs. Many worry about the impact a host of new federal regulatory measures will have on their operations.
Source Data: Associated General Contractors of America 2015 Business Outlook

While skilled workers are required for some trades, particularly in the construction of the buildings on the site, the majority of the work in this project is sitework. The above will be true only if the market overheats. We do not see this occurring in Genesee County. We expect a sufficient pool of workers to be available to service the needs of this project during construction.

Interviewed Tammy Marino from the Department of Labor about labor supply and strike possibilities, availability of skilled labor covering all major sub trades and the labor cost difference between closed shop and open shop competition within Genesee County. Tammy said strikes are rare so does not see that as an issue. As far as the availability of skilled labor Tammy sees no shortage. For the closed shop and open shop labor cost, Tammy said there is no difference between the two.
Source Data: NYS Department of Labor

Employment Genesee County NY

April 2014	494.6
May2014	496.2
June 2014	500.00
July 2014	495.3
Aug 2014	492.8
Sept 2014	492.1
Oct 2014	497.6
Nov 2014	493.4
Dec 2014	488.9
Jan 2015	486.5
Feb 2015	487.1
Mar 2015	492.0

Unemployment rate Genesee County NY

Year 2014	Genesee County	New York	National
Jan	7.2%	7.3%	6.6%
Feb	7.5%	7.7%	6.7%
Mar	6.8%	7.2%	6.7%
April	5.4%	6.1%	6.3%
May	5.0%	6.4%	6.3%
June	4.8%	6.5%	6.1%

July	5.1%	6.7%	6.2%
Aug	4.8%	6.1%	6.1%
Sept	4.8%	5.6%	5.9%
Oct	5.0%	5.7%	5.8%
Nov	5.4%	5.8%	5.8%
Dec	5.6%	5.7%	5.8%
Year 2015			
Jan	6.8%	6.5%	5.7%
Feb	6.6%	6.4%	
Mar	6.0%	5.8%	

Source Data: Genesee County Economic Development Center

<u>The following prevailing wage rates apply to this project:</u>

General Decision Number: NY150029 03/06/2015 NY29

Superseded General Decision Number: NY20140029

State: New York

Construction Types: Building, Heavy and Highway

County: Genesee County in New York.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories), HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	01/09/2015
2	03/06/2015

ASBE0004-002 05/01/2015

TOWNSHIPS OF ALABAMA, ALEXANDER DARIEN, OAKFIELD AND PEMBROKE

Rates Fringes

ASBESTOS WORKER/HEAT & FROST INSULATOR (Includes application of all insulating materials; protective covering and finishes to all types of mechanical systems.

Also the application of fire stooping material openings and penetrations in walls, floors ceilings, curtain walls and all lead abatement)..... $ 31.10 19.79

HAZARDOUS MATERIAL HANDLER

Duties limited to preparation, wetting, stripping, removal, scrapping, vacuuming, bagging, and disposing of all insulation materials whether they contain asbestos or not, from mechanical systems

$ 18.72 9.95

ASBE0026-002 06/01/2014

TOWNSHIPS OF BATAVIA, BERGEN, BETHANY, BYRON, ELBA, LEROY, PAVILLION, AND STAFFORD including THE CITY OF BATAVIA

Rates Fringes

ASBESTOS WORKER/HEAT & FROST INSULATOR
(Includes application of all insulating materials; protective covering and finishes to all types of mechanical systems. Also the application of fire stooping material openings and penetrations in walls, floors, ceilings, curtain walls and all lead abatement)

$ 27.36 19.86

HAZARDOUS MATERIAL HANDLER

Duties limited to preparation; wetting; stripping; removal; scrapping, vacuuming; bagging; and disposing of all insulation materials whether they contain asbestos or not, from mechanical systems

$ 18.72 9.95

BRNY0003-007 07/01/2014

ROCHESTER CHAPTER

	Rates	Fringes
BRICKLAYER BUILDING CONSTRUCTION BRICKLAYERS, CEMENT MASON, STONE MASONS, PLASTERER, POINTER/CAULKER/CLEANER	$ 28.12	20.29
MARBLE, TILE & TERRAZZO FINISHERS	$ 24.36	15.39
MARBLE, TILE & TERRAZZO WORKERS	$ 29.12	20.10
CEMENT MASON/CONCRETE FINISHER HEAVY/HIGHWAY CONSTRUCTION CEMENT MASONS	$ 29.60	18.81

CARP0276-017 07/01/2014

	Rates	Fringes
CARPENTER	$ 30.40	23.36
MILLWRIGHT	$ 30.40	23.36

ELEC0041-009 04/01/2014

ALABAMA, ALEXANDER, DARIEN, ELBA, OAKFIELD, PEMBROKE AND THAT

PORTION OF BATAVIA AND ELBA WHICH ARE WEST OF LITTLE TONAWANDA

CREEK, TONAWANDA CREEK, THE CITY OF BATAVIA (STATE AND HIGHWAY

98 NORTH OF THE CITY OF BATAVIA:

	Rates	Fringes
CABLE SPLICER	$ 36.73	3%+22.29

ELECTRICIAN	$ 33.39	3%+22.29

ELEC0041-010 05/26/2014

TOWNSHIPS OF ALABAMA, ALEXANDER, DARIEN, ELBA, OAKFIELD, PEMBROKE and that protion of BATAVIA and ELBA which are west of LITTLE TONAWANDA CREEK, TONAWANDA CREEK, THE CITY OF BATAVIA (State and Highway 98 North of the City of BATAVIA)

	Rates	Fringes
Communications System		
CABLE	$ 9.00	10.66+a
INSTALLER	$ 16.50	15.39+a
MASTER TECHNICIAN	$ 25.20	15.65+a
SOUND WIREMAN	$ 20.40	15.50+a

Work covers low voltage construction, installation, maintenance, and removal of tele data facilities (voice, data and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX fiber optic cable and equipment, railroad communications, micro waves, V-Sat, bypass, CATV, WAN (wide area networks); LAN (local area networks) and ISDN (integrated systems digital network). Also, installation of sound systems, nurses call systems, intercom systems, staff registry/locating/signaling systems, antenna systems and associated devices; installation of security systems and apparatus, and cabling from VDT's to computers. This work does not apply to new construction, or to the installation of raceway systems and boxes for the above work.

FOOTNOTE:

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day, Christmas Day.

ELEC0086-005 05/26/2014

REMAINDER OF COUNTY

	Rates	Fringes
ELECTRICIAN	$ 31.75	5.25%+19.92

ELEC1249-003 05/05/2014

	Rates	Fringes
ELECTRICIAN (LINE CONSTRUCTION: LIGHTING AND TRAFFIC SIGNAL Including any and all Fiber Optic Cable necessary for Traffic Signal Systems, Traffic Monitoring systems and Road Weather information systems)		
Flagman	$ 24.07	7%+19.75+a
Ground man (Truck Driver)	$ 32.10	7%+19.75+a
Ground man Truck Driver		
(Tractor trailer unit)	$ 34.10	7%+19.75+a
Lineman & Technician	$ 40.12	7%+19.75+a
Mechanic	$ 32.10	7%+19.75+a

FOOTNOTE:

a. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, plus President's Day, Good Friday, Decoration Day, Election Day for the President of the United States and Election Day for the Governor of the State of New York, provided the employee works the day before or the day after the holiday.

ELEC1249-004 05/06/2014

	Rates	Fringes
ELECTRICIAN (Line Construction) Overhead and underground distribution and maintenance work and all overhead and underground transmission line work including any and all fiber optic ground wire, fiber optic shield wire or any other like product by any other name manufactured for the dual purpose of ground fault protection and fiber optic		
Capabilities :		
Flagman	$ 27.31	7%+19.75+a

Groundman digging machine operator	$ 40.96	7%+19.75+a
Groundman truck driver (tractor trailer unit)	$ 38.68	7%+19.75+a
Groundman Truck driver	$ 36.41	7%+19.75+a
Lineman and Technician	$ 45.51	7%+19.75+a
Mechanic	$ 36.41	7%+19.75+a

Substation:

Cable Splicer	$ 50.06	7%+19.75+a
Flagman	$ 27.31	7%+19.75+a
Groundman truck driver	$ 36.41	7%+19.75+a
Groundman digging machine operator	$ 40.96	7%+19.75+a
Groundman truck driver (tractor trailer unit)	$ 38.68	7%+19.75+a
Lineman & Technician	$ 45.51	7%+19.75+a
Mechanic	$ 36.41	7%+19.75+a

Switching structures; railroad catenary installation and maintenance, third rail type underground fluid or gas filled transmission conduit and cable installations (including any and all fiber optic ground product by any other name manufactured for the dual purpose of ground fault protection and fiber optic capabilities), pipe type cable installation and maintenance jobs or projects, and maintenance bonding of rails; Pipe type cable installation

Cable Splicer	$ 51.48	7%+19.75+a
Flagman	$ 28.08	7%+19.75+a
Groundman Digging Machine Operator	$ 42.12	7%+19.75+a
Groundman Truck Driver (tractor-trailer unit)	$ 39.78	7%+19.75+a
Groundman Truck Driver	$ 37.44	7%+19.75+a
Lineman & Technician	$ 46.80	7%+19.75+a
Mechanic	$ 37.44	7%+19.75+a

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, Good Friday, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and Election Day for the President of the United States and Election Day for the Governor of New York State, provided the employee works two days before or two days after the holiday.

ELEC1249-008 01/01/2014

	Rates	Fringes
ELECTRICIAN (Line Construction) TELEPHONE, CATV FIBEROPTICS CABLE AND EQUIPMENT		
Cable splicer	$ 29.12	3%+4.43
Groundman	$ 12.98	3%+4.43
Installer Repairman Tele data, Lineman/Technician		
Equipment Operator	$ 27.64	3%+4.43
Tree Trimmer	$ 22.41	8.30+3%+a

a. New Year's Day, President's Day, Good Friday, Decoration Day, Independence Day, Labor Day, Veteran's Day,Thanksgiving Day, Day after Thanksgiving, Christmas Day.

ELEV0014-001 01/01/2015

	Rates	Fringes
ELEVATOR MECHANIC	$ 44.84	28.385+a+b

FOOTNOTE:

a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.

b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ENGI0017-005 07/01/2013

WESTERN PART OF GENESEE COUNTY

	Rates	Fringes
Power equipment operators:		
BUILDING, HEAVY AND HIGHWAY		
GROUP 1	$ 32.31	27.90+a
GROUP 2	$ 27.81	27.90+a
GROUP 3	$ 33.06	27.90+a
GROUP 4	$ 33.06	27.90+a
GROUP 5	$ 33.81	27.90+a
GROUP 6	$ 33.38	27.90+a

NOTE:
HAZARDOUS WASTE PREMIUM $2.50

TUNNEL WORK $1.00

FOOTNOTE:

a. PAID HOLIDAYS: A-New Year's Day; B-Memorial Day; C-Independence Day; D-Labor Day; Thanksgiving Day; F-Christmas Day, provided the employee has worked the day before and the day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Air hoist, all boom type equipment (100 ft. or less), all pan and carry-alls, archer hoist, asphalt roller asphalt spreader or paver, automatic fine grade machine(CMI and similar type), archer hoist, backhoe and pull hoe(tractor mounted and rubber mounted), back filling machine, belt place (CMI and similar), bending machine (pipe),bituminous spreader and mixer, black top plant (automated), black top plant (non-automated), blast or rotary drill (truck or track mounted), blower for burning brush, boiler(when used for power), boom trucks, boring machine, bulldozer, cableway cage hoist, caisson auger, central mix plant (and all concrete batching plants), cherry picker (over 5 tons), cherry picker (under 5 tons), chipping machine and chip spreader, concrete curb and gutter machines, concrete curing

machine, concrete mixer (over ½ cu. yd.) concrete pavement spreaders and finishers, concrete paver, concrete pump, concrete saw (self-propelled), conveyor, core drill, crane, crusher, derrick operator, dragline, dredge, drill rig (tractor mounted), dual drum paver, electric pump used in conjunction with well point systems, elevating grader self-propelled or towed), elevator excavator (all purpose, hydraulcally operated) farm tractor with accessories, fine grade machine, forklift, front end loader, generator (10 outlets or more), gradall, grader, grout or gunite machine, head tower, hoist-one drum, hoisting engine, hydraulic boom, hydraulic hammer, (self propelled), hydraulic pipe jack machine (or similar type machine), hydraulic system pumps, hydro crane, hydro hammer (or similar type), industrial tractor, jersey spreader, kolman plant loader(and similar type loaders), locomotive, lubrication truck, maintenance engineer, maintenance lubrication unit or truck, mine hoist, mixr for stabilized base (self-propelled), monorail, motorized hydraulic pin puller, motorized hydraulic seeder mucking machine, mulching machine, multiple drum hoist (more than 1 drum in use), overhead crane, peine crane (or similar type), pile driver, plant engineer, pneumatic mixer, post hole digger, power boom, pump crete, push or snatch cat, quarry master or equivalent road widener, rock bit sharpener (all types), roller (all), rolling machine (pipe), rotomill, scoopmobile, shovel, side boom, skimmer, slip form paver (CMI and similar type, first and second operator), snorkel, strato-tower, stump chipping machine, tire truck and repair, towed roller, tractor drawn belt type grader/loader, tractor shovel, tractor with towed accessories, tractors (when using winch power), tractors, trencher, truck crane, tunnel shovel, tube finisher (CMI and similar type), vibratory compactor, vibro tamp, well drilling machine, well point, winch, winch truck with "A" frame.

GROUP 2: Aggregate bin, CMI and similar type concrete spreads, cement bin, chipping machine and chip spreader, compressors (4 or less), compressors: (any size, but subject to other provisions for compressors, dust collectors, generators, mechanical heaters, pumps, welding machines (four of any type or combination), concrete mixer (1/2 cu. yd. and under), fireman, form tamper, fuel truck, heating boiler (used for temporary heat), jeep trencher, power heaterman, power plant in excess of 10 K.W., pump (4" or over), revinius widener, stem cleaner, stump chipping machine, welding machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

GROUP 3: Crane with boom over 100 feet

GROUP 4: Crane with boom over 200 feet

GROUP 5: Crane with boom over 300 feet

GROUP 6: Master mechanic

ENGI0832-001 07/01/2013

	Rates	Fringes
Operating Engineer:		

EXCAVATING AND PAVING		
GROUP 1	$ 26.30	20.20+a
GROUP 2	$ 25.87	20.20+a
GROUP 3	$ 25.26	20.20+a
GROUP 4	$ 22.17	20.20+a
MASTER MECHANIC	$ 26.90	20.20+a
HEAVY AND HIGHWAY		
GROUP 1	$ 36.21	23.55+a
GROUP 2	$ 35.50	23.55+a
GROUP 3	$ 32.64	23.55+a
GROUP 4	$ 40.21	23.55+a
GROUP 5	$ 39.21	23.55+a
GROUP 6	$ 38.21	23.55+a
GROUP 7	$ 37.47	23.55+a
TUNNEL AND SHAFT		
GROUP 1	$ 35.08	19.95+b
GROUP 2	$ 33.86	19.95+b
GROUP 3	$ 31.07	19.95+b
GROUP 4	$ 28.06	19.95+b
MASTER MECHANIC	$ 37.21	19.95+b

For EXCAVATION AND PAVING:

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day, regardless of the day of the week on which the holiday may fall, provided the employee works either on the work day immediately preceding the holiday or on the scheduled work day immediately following the holiday.

EXCAVATION AND PAVING CLASSIFICATIONS

GROUP 1: Asphalt paver; automatic fine grader; backhoe (except tractor mounted, rubber tired); blacktop plant (automated); cableway; caisson auger; central mix concrete plant (automated); cherry picker- over 5 ton capacity; crane; cranes and derricks (steel erection); dragline; dual drum paver; front end loader (4 cu. yd. and over); hoist,(Tow or 3 drum); pile driver; power grader with elevation loader attachment; quarry master (or equivalent); shovel; slip form paver; tractor drawn belt-type loader; truck crane tunnel shovel; excavator, all purpose hydraulically operated

GROUP 2: Backhoe (tractor mounted, rubber tired); bituminous spreader and mixer; blacktop plant (non automated boring machine; cage hoist; central mix plant (non automated) and all concrete batching plants; cherry picker, 5 tons and under; compressor (4 or less) exceeding 2000 CFM combined capacity; concrete paver over 16s; concrete pump; crusher; drill rigs (tractor mounted); front end loader (under 4 cu. yds); hi- pressure boiler (15 lbs and over); hoist (one drum); Kolman plant loader and similar type loaders; maintenance engineer; maintenance grease man; mechanical slurry machine; mixer for stabilized base self propelled; monorail machine; plant engineer; power broom; power grader; pump crete; ready mix concrete plant; road widener; roller (all above sub-grade); side boom; tractor scraper; tractor with dozer and or pusher; trencher; winch

GROUP 3: Compressors (4 not to exceed 2000 CFM combined capacity; or 3 or less with more than 1200 CFM but not to exceed 2000 CFM); compressors (any size but subject to other provisions for compressors); dust collectors; generators; welding machines (4 of any type or combination); concrete pavement spreaders and finishers; conveyor; drill (core); drill (well); electric pump used in conjunction with well point systems; farm tractor with accessories; fine grade machine; fork lift; gunite machine; hammers-hydraulic-self propelled; locomotive; post hole digger and post driver; pumps (regardless of motive power, not more than 4 in number not to exceed 20" in total capacity); submersible electric pumps when used in lieu of well points, tractor with towed accessories; vibrator compactor; vibro tamp; well point

GROUP 4: Compressor (any size, but subject to other provisions for compressors); dust collectors; generators; welding machines (3 or less of any type or combination); concrete mixer (16s and under), concrete saw-self propelled; fireman; form tamper; mulching machine; power heaterman; pumps regardless of motive power no more than 3 in number not to exceed 12" in total capacity; revinius widener; steam cleaner; tractor

GROUP 5: Master Mechanic

For HEAVY AND HIGHWAY CONSTRUCTION:

FOOTNOTE:

b. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day provided the employee works the working day before and the working day after the holiday

POWER EQUIPMENT OPERATOR CLASSIFICATIONS (HEAVY/HIGHWAY):

GROUP 1: Asphalt Curb Machine, Self Propelled, Slipform, Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CMI Type), Blacktop Plant (Automated), Boom truck , Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine, Self Propelled, Slipform, Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All Purpose Hydraulically Operated) (Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauerman or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucking Machine or Mole Pavement Breaker(SP) Wertgen; PB-4 and similar type, Power Grader, Profiler (over 105 H.P.) Quad 9, Quarry Master (or equivalent), Scraper, Fireman, Fork Lift, Form Tamper, Grout Pump, Gunite Machine, Hammers (Hydraulic self-propelled), Hydra-Spiker, ride-on, Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement, Shovel, Side Boom, Slip Form Paver, Tractor Drawn, BeltType Loader, Truck or Trailer Mounted Log , Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

GROUP 2: Asphalt Paver, Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (NonAutomated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant (NonAutomated) and All Concrete Batching Plants, Cherry Picker (5 tons capacity and under), Concrete Paver (Over 16S), Crawler Drill, Self-contained, Crusher, Diesel Power Unit, Drill Rigs, Tractor Mounted, Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, HiPressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders, L.C.M. Work Boat Operator, Locomotive Mixer (for stabilized base selfpropelled), Monorail Machine, Plant Engineer, Profiler (105 H.P. and under), Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heaterman, Power Sweeper, Revinius Widener, Roller (Grade and Fill), Scarifier, ride-on, Shell Winder, Skid steer loader (Bobcat or similar), Span-Saw, ride-on, Steam Cleaner, Pug Mill, Pump Crete Ready Mix Concrete Plant Refrigeration Equipment (for soil stabilization)Road Widener, Roller (all above subgrade), Sea Mule, Self-contained Ride-on Rock Drill, Excluding Air-Track Type Drill, Skidder, Tractor with Dozer and/or Pusher, Trencher. Tugger Hoist, Vermeer saw (ride on, any size or type), Winch, Winch Cat

GROUP 3: A Frame Winch Hoist on Truck, Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving Machine (ride on), Ballast Regulator, Ride-on Boiler (used in conjunction with production), Bituminous Heater, self-propelled, Boat (powered), Cement and Bin Operator, Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants, Heaters (hands-off equipment), Concrete Pavement Spreader and Finisher, Concrete Paver or Mixer (16S and under), Concrete Saw (self-propelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill, (Core), Drill, (Well,) Farm Tractor with accessories, Fine Grade Machine, Tamper, ride-on, Tie Extractor, ride-on,

Tie Handler, ride-on, Tie Inserter, ride-on, Tie Spacer, ride-on, Tire Repair, Track Liner, ride-on, Tractor, Tractor (with towed accessories), Vibratory Compactor, Vibro Tamp, Well Point

GROUP 4: Tower Cranes

GROUP 5: Cranes 50 tons and over

GROUP 6: Cranes 49 tons and below

GROUP 7: Master Mechanic

For TUNNEL AND SHAFT:

FOOTNOTE:

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, regardless of the day of the week on which the Holiday may fall, provided the employee works the working day before and the working day after the holiday

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Automated concrete spreader (CMI or equivalent); automated fine grade machine (cmi); backhoe; belt placer (cmi or similar); blacktop spreader (automated); cableway; caisson auger; central mix plant (automated); cherry picker (5 tons); concrete curb machine (self-propelled slip form); concrete pump; crane; crane shaft; crane underground; cranes and derricks (steel erection); dragline; dredge; dual drum paver; excavator (all purpose-hydraulicly operated gradall or similar); fork lift (factory rated 15' and over); front end loader (4cu yd and over); head tower (sauerman or equal); hoist; shaft; hoist (two or three drum); holland loader; maintenance engineer (shaft and tunnel); mine hoist; mining machine (mole and similar types); mucking machine or mose; overhead crane (gantry or straddle type); pile driver; power grader; Quad 9, quarry master (or equivalent); scraper; shovel; side boom; slip form paver; tripper/maintenance engineer (shaft and tunnel); tractor drawn belt-type loader; truck crane; truck or trailer mounted log chipper (self feeder); tug operator (manned rented equipment excluded); tunnel shovel

GROUP 2: Automated central mix concrete plant; backhoe (topside); backhoe (tractor mounted,rubber tired); bituminous spreader and mixer; blacktop plant (non automated); blast or rotary drill (truck or tractor mounted); boring machine; cage hoist; central mix plant (non automated) and all concrete batching plants; cherry picker (5 tons capacity and under); compressors (4 or less exceeding 2000 CFM combined capacity); concrete paver (over 16s); concrete pump; crane (topside); crusher; diesel power unit; drill rigs, tractor mounted; front end loader (under 4 cu. yds); grayco epoxy machine; hi-pressure boiler (15 lbs and over); hoist (one drum); hoist (two or three drum) (topside); kolman plant loader and similar type loaders; L.C.M. work boat operator; locomotive; maintenance engineer (topside); maintenance greaseman; mixer (for stabilized base self-propelled); monorial machine; plant engineer;

personnel hoist; pump crete; ready mix concrete plant; refrigeration equipment (from soil stabilization); road widener; roller (all above sub-grade); sea mule; shotcrete machine; shovel (topside); tractor with dozer and/or pusher; trencher; tugger hoist; tunnel locomotive; welder; winch; winch cat

GROUP 3: "A" frame truck; ballast regulator (ride on); compressors (4 not to exceed 2000 cfm combined capacity; or 3 or less with more than 1200 cfm but not to exceed 2000 cfm); compressors (any size but subject to other provision for compressors; dust collectors; generators; pumps; welding machines; light plants (4 of any type or combination); concrete pavement spreaders and finishers; conveyor; drill (core); drill (well); electric pump used in conjunction with well point system; farm tractor with accessories; fine grade machine; fork lift (under 15 ft); ground pump over 5 cu. ft (manufacturers rating); gunite machine; hammers (hydraulic self propelled); hydra-spiker (ride on); hydra blaster (water); hydra blaster; motorized form carrier; post hole digger and post driver; power sweeper; roller (grade and fill); scarifer (ride on); span saw (ride on); submersible electric pump (when used in lieu of well points); tamper (ride on); tie extractor (ride on); tie handler (ride on); tie inserter (rider on); tie spacer (ride on); track liner (ride on); tractor with towed accessories; vibratory compactor; vibro tamp; well point aggregate plant; boiler (used in conjunction with production); cement and bin operator; compressors (3 or less not to exceed 1200 cfm combined capacity); compressors (any size; but subject to other provisions for compressors); dust collectors; generators; pumps; welding machines; light plants (3 or less of any type or combination); concrete paver or mixer (16s and under); concrete saw (self propelled); fireman; form tamper; greaseman; hydraulic pump (jacking system); junior engineer; light plants; mulching machine; oiler; parapet concrete or pavement grinder; power broom (towed); power heaterman (when used for production); revinius widener; shell winder; steam cleaner; tractor

GROUP 4: Crane, friction or lattice type with boom length 200 feet and over

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ENGI0832-002 07/01/2013

THE EASTERN PORTION INCLUDING THE CITY OF BATAVIA

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 30.60	23.05+a
GROUP 2	$ 29.36	23.05+a
GROUP 3	$ 26.25	23.05+a
GROUP 4	$ 22.19	23.05+a
GROUP 5	$ 29.36	23.05+a

GROUP 6	$ 32.09	23.05+a
GROUP 7	$ 32.87	23.05+a
GROUP 8	$ 33.64	23.05+a

a. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, provided the employee works the working day before and the working day after the holiday

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: Air Tugger, All terrain telescoping material handler, Clamshell, Dragline, Shovel and similar machines over three eighths cu.yd. capacity (Fact. rating);Carrier mounted backhoes that swing 360 degrees Big Generator Plant Hoist (on steel erection) Bridge Crane (all types), Cableway, Caisson auger and similar type machine, Crane, Derrick, Dredge, Excavator all purpose hydraulically operated, Forklift (with Factory rating of Fifteen ft. or more of lift),Hoist (on steel erection), Hydraulic/Krupp Drill Type Mucking Machines, Remote controlled excavator with attachments (Brokk type or similar), Ross Carrier (and similar type), Three-Drum Hoist(when all three drums are in use)

GROUP 2: A-Frame Truck, Backfilling Machine, Backhoe-tractor mounted, Barber Green and similar type machines, Belt Crete and similar type machines, Bituminous spreading machine 3/8 yd. capacity or less(Factory Rating), Bulldozer, Carry-all type scraper, Compressors: Four (4) not to exceed 2000 CFM combined capacity; or three (3) or less with more than1200 CFM but not to exceed 2000 CFM, Concrete Mixer, Concrete Placer, Concrete Pump, Dinky Locomotives (all types), Elevating Grader, Elevator Fine Grade and Finish, Rollers, Fine Grade Machines(all kinds), Forklift with Factory rating of less than fifteen(15) feet of lift, Front End Loader, Gunite Pumping Machine, High Pressure Boiler, Hoist (1 or 2 drums), Maintenance Engineer (Mechanic), Mechanical Slurry Machine (all kinds), Mega Mixers and similar type machines, Motor Grader, Post Hole Digger, Pumps (regardless of motive power) no more than four (4) in number not to exceed twenty (20) inches in total capacity, Shot Crete Pumping Machine, Side Boom Tractor, Skid Steer Loader with Attachments, Stone Crusher Tournadozer and similar types Tournapull and similar types, Trenching Machines, Well Drill, WellPoint System EXCEPTION: Single electric pumps up to and including four (4) inches need not be manned.

GROUP 3: Any combination (Not to exceed three (3) pieces of equipment) Compressors ¬three (3) or less, or not to exceed 1200 CFM combined capacity, Fireman, Longitudinal Float, Mechanical Heater Pumps (regardless of motive power) No more than three (3) in number, not to exceed twelve (12) inches total capacity, Roller (Fill and Grade)Rubber Tired Tractor Welding Machine or Mechanical Conveyor (over 12ft. In length) EXCEPTION: Single gasoline driven welding machine up to 300amps need not be manned.

GROUP 4: Oilers

GROUP 5: Cranes up to and including 25 tons

GROUP 6: Cranes 25-250 tons

GROUP 7: Cranes 251 and over tons

GROUP 8: Tower Cranes

IRON0006-005 05/01/2014

TOWNSHIPS OF ALABAMA, ALEXANDER, DARIEN, AND PEMBROKE

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 27.57	22.01
Structural, Ornamental, Reinforcing, Welders, Riggers and Rodmen	$ 29.00	23.51
Window Erector	$ 26.65	23.51

IRON0009-001 05/01/2014

REMAINDER OF COUNTY

	Rates	Fringes
Ironworkers:		
IRONWORKER	$ 29.82	22.18
SHEETER	$ 32.72	22.18

IRON0033-004 05/01/2014

GENESSEE COUNTY (TWPS OF BATAVIA, BERGEN, BETHANY, BYRON, ELBA, LEROY, OAKFIELD, PAVILLION, AND STAFFORD)

	Rates	Fringes

Ironworkers:

Ornamental, Reinforcing Stone Derrickman, Rigger, Rodman, Structural Machinery Movers Fence Erectors, Precast Concrete

Erector	$ 25.90	22.49
Sheeter	$ 26.15	22.49

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* LABO0435-004 07/01/2014

	Rates	Fringes
Laborers:		
BUILDING:		
Blaster	$ 26.27	14.57
Chuck tender	$ 25.14	14.57
Concrete vibrators	$ 25.38	14.57
Drillers and asphalt raker	$ 25.34	14.57
Hazardous waste removal	$ 25.94	14.57
Jack hammer, mortar mixers	$ 25.24	14.57
Pipe layers, burners and		
Cutters	$ 25.24	14.57
Powder Monkey	$ 25.81	14.57
Unskilled Laborer	$ 24.94	14.57
Yardman, clean-up	$ 22.09	14.57
HEAVY/HIGHWAY		
GROUP 1	$ 27.04	16.17
GROUP 2	$ 27.74	16.17
GROUP 3	$ 27.94	16.17

GROUP 4	$ 28.77	16.17
GROUP 5	$ 29.24	16.17

HEAVY AND HIGHWAY LABORER CLASSIFICATIONS

GROUP 1: Flaggers;

GROUP 2: Laborers

GROUP 3: Rakers, drillers, pipelayers, and torch operators

GROUP 4: Blasters

GROUP 5: Hazardous waste removal

PAIN0004-003 05/01/2014

	Rates	Fringes
PAINTER		
BRUSH & ROLLER	$ 25.50	20.59
DRYWALL/TAPING	$ 26.00	20.59
HEAVY & HIGHWAY		
CONSTRUCTION	$ 38.00	22.75
WALLCOVERING	$ 25.75	20.59

PAIN0004-013 05/01/2013

	Rates	Fringes
GLAZIER	$ 25.45	16.62

PLUM0013-002 05/01/2013

BERGEN, BETHANY, BYRON, LEROY, PAVILLION AND STAFFORD TOWNSHIPS

	Rates	Fringes

Plumber and Steamfitter	$ 31.73	19.28

PLUM0022-002 05/01/2014

GENESEE-Townships of Alabama, Oakfield, Elba, Pembroke, Batavia, Darien, Alexander

	Rates	Fringes
Plumbers and Pipefitters		
(ZONE 1)	$ 33.16	21.64
Steamfitter (ZONE 1)	$ 33.16	21.64

ROOF0074-002 06/01/2011

	Rates	Fringes
Roofers:		
Composition	$ 25.00	16.18
Slate & Tile	$ 25.15	16.18

SFNY0669-001 07/01/2013

	Rates	Fringes
SPRINKLER FITTER	$ 30.43	20.52

SHEE0071-002 05/15/2011

	Rates	Fringes
Sheet metal worker	$ 31.50	17.45

TEAM0118-002 07/01/2014

(GENESEE County: Townships of Oakfield, Elba, Batavia, Byron, Alexander, Bathany, Pavillion, Leroy, Stafford, and Bergen)

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 22.20	17.70+a
GROUP 2	$ 22.25	17.70+a
GROUP 3	$ 22.30	17.70+a
GROUP 4	$ 22.45	17.70+a
GROUP 5	$ 22.60	17.70+a

Hazardous Waste Site Work receives an additional $1.50 per hour

FOOTNOTE: a. Paid Holidays: New Years Day; Memorial Day; Independence Day; Laobr Day; Thanksgiving Day; Christmas Day

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-ups; panel trucks; flatboy materials trucks (straight jobs); single axle dump trucks; dumpsters; receivers; greasers; truck tireman.

GROUP 2: Tandems; batch truck; mechanics.

GROUP 3: Semi-trailers; low-boy trucks; asphalt distributor trucks; agitator; mixer trucks and dumpcrete type vehicles; truck mechanic; fuel truck

GROUP 4: Specialized earth moving equipment - euclid type or similar off-highway equipment, where not self-loaded; straddle (Ross) carrier; self-contained concrete unit

GROUP 5: Off-highway tandem back dump; twin engine equipment; double-hitched equipment shere not self-loaded.

TEAM0449-001 07/01/2012

(GENESEE County: Townships of Alabama, Pembroke, and Darien)

(ORLEANS County: Townships of Yates, Ridgeway, and Shelby)

(WYOMING County: Townships of Bennington, Sheldon, Java, and Arcade)

	Rates	Fringes
Truck drivers	$ 31.24	4.85+a+b

Work on a hazardous waste site then additional $2.00 per hour.

FOOTNOTE: a. Pension $43.60 per day

b. Paid Holidays: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day provided the employee has worked the working day before and after the holiday

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WELDERS - Receive rate prescribed for craft performing

operation to which welding is incidental.

MATERIALS

The design is in its earliest stage and many building materials remain to be selected and pricing sought. Materials are currently readily available in a normal marketplace with no shortages or excess stockpiles.

- Spoke with Betsy Mack at Mack Industries on 4/3/2015. Gave her information that we need pricing for lawn crypts, cremation burial sites and urn crypts. Just waiting to hear back from her on pricing.

- Spoke with Kim Koppenberg 4/3/2015. The columbaria cost would be $95-$98 per niche. Installation of capping including caulking, weatherproofing and mortar needed to meet specification approx. $19 - $22 per niche. Signage for columbarium walls only approx. $6-9 per niche.

- Spoke with James Carter Griffith 4/6/2015 from G&C Fabcon about pricing delivery and installation for crypts. He quoted crypts would be $500.00 per unit for production, shipping and installation. This would not include excavation, stoning, drainage and backfill.

- Called Barnett Memorials on 4/6/2015 for pricing for Mausoleum. Waiting to hear back from them.

- Contacted Nelson Precast on 4/7/2015 waiting to hear back on pricing for granite niche covers.

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GENERAL & SUB CONTRACTORS

The region is busy but not overheated. Much of the present activity will be complete or near completion at the time this project bids. We anticipate a normal, responsive and competitive marketplace with at least six bidders for both the main contract and the majority of subcontracts.

The level of interest expressed is good. Two of the top 20 construction companies in New York have already expressed interest in bidding, Turner Construction Co. (ranked #1) and LPCiminelli Inc. (ranked #15). Turner's interest in particular is surprising as this firm does not typically bid competitively for public work of this type, especially when their backlog is strong.

LeChase Construction Services (ranked #10) did the $13 million Holy Sepulchre Cemetery in Rochester NY and are also likely to bid.

Steven Perrigo, LEED AP BD+C.
Project Executive
Turner Construction Company
50 Lakefront Blvd, Suite 200
Buffalo, NY 14202
Steve said they have done multiple VA projects Nationally, but they have not been involved with the local VA. They are very interested in bidding the job.

LP Ciminelli Construction
Corporate Headquarters
2421 Main St.
Buffalo, NY 14214
Gail Ettaro
Gail said they have a division that has completed two projects for the VA hospital. They have also completed work for other federal agencies such as GSA. Gail said they have significant experience in the cemetery/mausoleum business. They are very interested in learning more about the project and bidding.

TOP 20 Construction Firms in New York

1. Turner Construction Co.
2. Skanska USA
3. Structure Tone
4. Tishman Construction
5. Lend Lease
6. M+W U.S. Inc.
7. Plaza Construction
8. Gilbane Building Co.
9. Hunter Roberts Construction Group
10. LeChase Construction Services
11. Gotham Construction Co.

12. The Pike Cos.
13. BBL Construction Services
14. Halmar International
15. LPCiminelli Inc.
16. Henegan Construction Co.
17. Shawmut Design and Construction
18. Traylor Bros. Inc.
19. The Hayner Hoyt Corp.
20. STV

COMPETING PROJECTS

The following projects are currently in the planning, design, bid and construction phases in the local area;

John R. Oishei Children's Hospital Buffalo, NY
Turner Construction
Project start date October 8th, 2014
Project end date Spring 2017
Project funded by investments from private, public, and philanthropic dollars.
Project cost $270 million
460,000 sq. ft. 12 story
The hospital is currently looking at adding a Helipad and extending the schedule to accommodate the additional construction.

Genesee County Airport
Grant $630,000 Federal funding.
700 linear ft. taxi lane with new hangar.

Pratt and Powers Road Intersection
Construction is 8 mile from the new VA site at 1232 Indian Falls Road, Pembroke NY 14036.
This should be done before VA ground breaking.

University of BuffaloSchool of Medicine and Biomedical science
LPCiminelli
Project start date October 2013
Project end date Fall 2017
Project cost $375 million
540,000 sq. ft. 8 story
LPCiminelli will complete phase one under a contract worth approximately $52 million with the State University of New York (SUNY) Construction Fund.
The second phase will be put out to bid late spring 2015

Thompson Health, Canadaiqua, NY
LeChance Construction
Project cost $7.3 Million
Project start date Spring 2016
1 hour away from Pembroke NY

The Aston – Premier Luxury Condos, Forest Hill, NY
Gilbane Construction
Project end date Fall 2015
186,734 sq. ft. 17 story

Solar City Factory
Project cost $5 billion

Project end date 2016
RiverBend is located in the City of Buffalo, NY, on the 188 acre site of the former Republic Steel and Donner Hanna Coke facilities in South Buffalo. The site is located within the South Buffalo Brownfield Opportunity Area (SBBOA).
The RiverBend Master Plan is a component of the Step 3 Implementation Strategy of the SBBOA. This plan lays out a land use and development strategy for the RiverBend site, a key element of the BOA that encompasses over 200 acres in the heart of the City of Buffalo. A component of this development strategy, The Green Infrastructure Plan, is an essential piece of the public realm improvements that will initiate development at the RiverBend site. These improvements will transform a vacant former brownfield site into a recreational, ecological and economic resource; opening waterfront access, improving connectivity, and reclaiming land for productive use in the City of Buffalo.

Metro Rail Downtown extension study
The $300,000 transit study was conducted by Parsons Brinckerhoff
The project is 3 to 5 years out.

Cornerstone CFCU Arena, Lockport NY
Waterbourne Construction Advisors
Project cost $14 million

ESCALATION

Escalation in the building trades is currently within historic norms with no undue cause for alarm. The region is not entering an inflationary phase that would adversely affect the project,

Material
May 2015 Construction +1.8%
May 2015 Building + 2.2%
May 2015 Material +2.2%
Source Data: New York Construction Materials Association

Cost Escalation
Economy at a glance Rochester NY Construction

April 2014	May 2014	June 2014	July 2014	Aug 2014	Sept 2014
17.4	19.5	20.5	21.1	21.2	20.5
Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
20.5	19.6	18.3	17.4	16.7	16.6

6 Month Change

Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
2.5	2.1	0.5	5.5	3.7	1.8

Source Data: Bureau of Cost Control State of NY

April 2015 Cost

Cement/Concrete/Aggregate
The price for cement rose 0.2% in March. Cement is still increasing from earlier last year, the index is 9.6% above March 2014's level.

Steel
Steel prices continue to weaken, reinforcing bar fell another 1.7% in March, following a 3.7% decline during the previous month.
Steel plate declined 6.1% in March, in February it dropped 8.3%.
Hot-rolled coil-steel products were down 7.4% in March. In February it dropped 9.0%.
Copper was down 7.2% for the year.

Lumber and Drywall
Plywood prices fell 1.2%, but prices are up 1.4% from last year.

Pipe
PVC water-pipe products slipped 0.6%.
PVC sewer pipe has stayed at 4.7%.

Concrete pipe prices increased 1.4%
Source Data: Engineering News Record

Interest Rates
Interviewed Timothy Levine, Commercial Relationship Manager, Genesee Regional Bank. Interest rates depend upon the deal and the Borrower. Rates could vary from the low 5% range to the low 6% range. There has been an increase in construction lending, however this is more in the redevelopment capacity compared to the new building arena.
Source Data: Genesee Regional Bank

PROJECT LABOR AGREEMENT

An analysis of the potential cost and schedule impact of a Project Labor Agreement was performed by Cannon Design and is attached to this Market Survey Report in appendix.

Appendix A-7
Opinion of Probable Construction Costs

Western New York National Cemetery
MP-1 Submission

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Opinion of Probable Construction Costs

Western New York National Cemetery

1232 Indian Falls Road, Pembroke, Genesee County, New York

Department of Veterans Affairs Project No. 936PC2002

MP-1 Submission

Prepared For:
United States Department of Veterans Affairs
Office of Construction and Facilities Management
425 I Street, NW, 6E505E, Washington, DC
20001

Prepared by:

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

In Association With:

CostPro

CANNONDESIGN

Aqua Engineering, Inc.
Innovative Water Solutions

June 11, 2015

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Basis of Estimate

This estimate has been prepared to provide the Department of Veterans Affairs, Office of Construction and Facilities Management with an MP1 opinion of probable cost for both Phase 1 and the full development of three alternative site concepts for the new Western New York National Cemetery in Pembroke, New York.

The opinion of probable construction cost is based upon measured quantities and built-up rates prepared from the MP1 drawing and narrative submittal package. Where information was insufficient, assumptions and allowances were made.

It is assumed that the project will be competitively bid by four to six general contractors and that the awarded contractor and all subcontractors will be required to pay prevailing wage rates.

Unit pricing is based on June 2015 costs. A 15% markup for General Conditions, Mobilization, Bonds, Overhead and Profit has been added to and included with all unit prices.

<u>Contingencies:</u>

The following contingencies have been included in the estimate:

- Design and Estimating Contingency: 10%
- Construction Contingency: 10%

<u>Escalation:</u>

Construction escalation has been included based upon a construction start date of October 2016 and a completion date of October 2018 (representing a two year construction period) and a midpoint to construction of October 2017. The yearly escalation is estimated at 2.68% (refer to Local Market Survey). The cumulative percentage of escalation has been calculated as follows:

2015 – 1.34%
2016 – 2.68%
2017 – 2.23%

Cumulative percentage: 6.25%

<u>Allowances:</u>

The following allowances have been included within the estimate for items where the size or scope has yet to be determined:

- LEED Silver Certification for the Administration/PIC Building: 2% of building construction cost
- Maintenance Areas Chain Link Fence & Gates: $80,000
- Signage: $20,000
- Renewable Energy Initiatives: $150,000
- Ossuary: $200,000
- Memorial Walls (2): $170,000
- Entrance Area: $150,000
- GPS Site Integration: $300,000
- Potable Water Distribution: $800,000
- Sanitary Sewer: $272,000
- Electrical Distribution: $500,000
- Site Lighting: $80,000
- Site Communication & Security: $150,000

- Snow Melting Systems: $100,000

Exclusions:

The following items have been specifically excluded from the estimate:

- Offsite roadway improvements
- Offsite utility improvements
- Hazardous materials abatement
- Furniture
- Window shades, blinds, etc.
- Audio visual systems
- Telecom / data systems
- Murals and works of art
- Owner's contingencies
- Architectural, Engineering and other professional fees
- Geotechnical, traffic and all other studies

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
SUMMARY

Item No.	Item Description	CONCEPT A	CONCEPT B	CONCEPT C
A	ADMINSTRATION / PUBLIC INFORMATION CENTER BUILDING	$2,195,856	$2,195,856	$2,195,856
B	MAINTENANCE BUILDING	$2,587,200	$2,587,200	$2,587,200
C	HONOR GUARD BUILDING	$452,400	$452,400	$452,400
D	COMMITTAL SERVICE SHELTERS (2)	$403,200	$403,200	$403,200
E	TEMPORARY COMMITTAL SERVICE SHELTER (PHASE 1A)	$50,000	$50,000	$50,000
F	TEMPORARY TRAILERS (PHASE 1A)	$720,000	$720,000	$720,000
G1010	SITE CLEARING	$23,859	$27,900	$23,201
G1020	SITE DEMOLITION AND RELOCATIONS	$357,111	$297,534	$537,165
G1030	SITE EARTHWORK	$7,610,512	$6,880,333	$6,929,215
G2010	ROADWAYS	$3,474,650	$2,930,816	$2,770,173
G2030	PEDESTRIAN PAVING	$746,288	$668,990	$969,823
G2040	SITE DEVELOPMENT	$3,377,905	$3,517,105	$3,441,905
G2050	LANDSCAPING	$1,798,626	$1,908,010	$1,522,385
G3010	WATER SUPPLY	$1,050,000	$1,050,000	$1,050,000
G3020	SANITARY SEWER	$272,000	$272,000	$272,000
G3030	STORM SEWER	$952,482	$986,322	$924,508
G4010	ELECTRICAL DISTRIBUTION	$500,000	$500,000	$500,000
G4020	SITE LIGHTING	$80,000	$80,000	$80,000
G4030	SITE COMMUNICATION & SECURITY	$150,000	$150,000	$150,000
G9090	OTHER SITE CONSTRUCTION	$100,000	$100,000	$100,000
	SUBTOTAL PHASE 1 CONSTRUCTION COSTS (INCLUDING OH&P):	**$26,902,087**	**$25,777,667**	**$25,679,032**
	DESIGN & ESTIMATING CONTINGENCY (10%):	$2,690,209	$2,577,767	$2,567,903
	ESCALATION TO MIDPOINT OF CONSTRUCTION - DEC 2017 (2.68% PER YEAR):	$1,681,380	$1,739,993	$1,733,335
	CONSTRUCTION COSTS (WITHOUT CRYPT MATERIALS):	**$31,273,677**	**$30,095,426**	**$29,980,270**
	DOUBLE-DEPTH PRE-CAST CONCRETE CRYPT MATERIAL COSTS (2500 TOTAL AT $350 PER CRYPT PLUS CONTINGENCIES & ESCALATION):	$1,084,545	$1,084,545	$1,084,545
	OVERSIZE CRYPT MATERIAL COSTS (650 TOTAL AT $425 PER CRYPT PLUS CONTINGENCIES & ESCALATION):	$342,406	$342,406	$342,406
	TOTAL CRYPT MATERIAL COSTS:	$1,426,951	$1,426,951	$1,426,951
	TOTAL ESTIMATED CONSTRUCTION COST AT AWARD:	**$32,700,628**	**$31,522,378**	**$31,407,221**
	(REFER TO BASIS OF ESTIMATE FOR ITEMS EXCLUDED)			
	CONSTRUCTION CONTINGENCY (10%):	$3,270,063	$3,152,238	$3,140,722
	TOTAL ESTIMATED CONSTRUCTION COST PLUS CONSTRUCTION CONTINGENCY:	$35,970,691	$34,674,615	$34,547,943
	SUBTOTAL OF FUTURE CONSTRUCTION COST (FULL DEVELOPMENT) IN 2015 DOLLARS (N.I. CONTINGENCIES OR ESCALATION):	**$27,680,881**	**$26,561,283**	**$29,399,523**

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PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT A - PHASE 1

Phase 1A Disturbance (AC): 14
Phase 1B Disturbance (AC): 32

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
	BUILDINGS				
A	Administration / Public Information Center Building	5,200	SF	414.00	$2,152,800
	Premium to achieve LEED Silver Certification (2% of Const. Cost of PIC Bldg. Only)	1	LS	43,056.00	$43,056
B	Maintenance Building	7,700	SF	336.00	$2,587,200
C	Honor Guard Building	1,200	SF	377.00	$452,400
D	Committal Service Shelters No. 1 and No. 2	1,800	SF	224.00	$403,200
E	Temporary Committal Service Shelter (Phase 1A)	1	EA	50,000.00	$50,000
F	Temporary Trailers; 3 year lease / 4 trailers (Phase 1A)	3	YR	240,000.00	$720,000
	BUILDINGS SUBTOTAL:				**$6,408,656**
G10 10	**SITE CLEARING**				
G10 10 01 00	CLEARING	3	AC	3,400.00	$9,614
G10 10 04 00	GRUBBING	3	AC	2,500.00	$7,069
G10 10 05 00	SELECTIVE THINNING	1	AC	7,500.00	$7,175
	SITE CLEARING SUBTOTAL:				**$23,859**
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	46	AC	500.00	$22,781
G10 20 03 00	UNDERGROUND SITE DEMOLITION	46	AC	500.00	$22,781
G10 20 90 00	OTHER SITE DEMOLITION & RELOCATIONS				
G10 20 90 01	Early Turnover Area Restoration	1	LS	75,000.00	$75,000
G10 20 90 02	Wetland mitigation credits; assumes 3 credits per acre disturbance (Phase 1A)	3	EA	83,000.00	$236,550
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$357,111**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site (Phase 1A)	11,141	CY	10.20	$113,642
G10 30 01 02	Stripping topsoil (6"depth) & stockpile on site	25,611	CY	10.20	$261,234
G10 30 01 03	Cuts; assumes 3' average depth (Phase 1A)	66,848	CY	9.70	$648,428
G10 30 01 04	Cuts; assumes 3' average depth	153,667	CY	9.70	$1,490,571
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth (Phase 1A)	66,848	CY	19.75	$1,320,252
G10 30 04 02	Borrow fills to raise site; assumes 3' av depth	153,667	CY	19.75	$3,034,925
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth (Phase 1A)	1,736	CY	29.00	$50,335
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth	1,959	CY	29.00	$56,814
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction (Phase 1A)	71,105	CY	0.55	$39,108
G10 30 05 02	Compaction	457,373	CY	0.55	$251,555
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (Phase 1A)	45	DAYS	1,000.00	$45,000
G10 30 10 02	Temporary dewatering	120	DAYS	1,000.00	$120,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control (Phase 1A)	7	AC	5,400.00	$37,104
G10 30 11 02	Erosion control	25	AC	5,400.00	$134,343
G10 30 11 03	Construction Access (Phase 1A)	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$7,610,512**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted (Phase 1A)	2,345	CY	40.20	$94,270
G20 10 01 02	Stone base, hauled to site, 8" depth, fine-graded and compacted	7,169	CY	40.20	$288,208
G20 10 01 03	Geotextile fabric pavement reinforcing (Phase 1A)	103,509	SY	6.50	$672,809
G20 10 01 04	Geotextile fabric pavement reinforcing	32,588	SY	6.50	$211,822
G20 10 01 05	Gravel surfacing, Phase 1A maintenance area, 8" depth, fine-graded & compacted	1,692	CY	40.20	$68,017
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete (Phase 1A)	8,011	LF	19.00	$152,209
G20 10 02 01	Mountable curb & gutter; concrete	17,532	LF	19.00	$333,108

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT A - PHASE 1

Phase 1A Disturbance (AC): 14
Phase 1B Disturbance (AC): 32

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement (Phase 1A)	95,933	SF	4.25	$407,715
G20 10 03 01	Bituminous concrete pavement	293,292	SF	4.25	$1,246,491
	ROADWAYS SUBTOTAL:				**$3,474,650**
G20 30	**PEDESTRIAN PAVING**				
G20 30 01 00	BASES AND SUB-BASES				
G20 30 01 01	Stone base, 8" depth (Phase 1A)	176	CY	40.20	$7,064
G20 30 01 02	Stone base, 8" depth	1,285	CY	40.20	$51,673
G20 30 03 00	PAVED SURFACES				
G20 30 03 01	Concrete walkways (Phase 1A)	7,081	SF	10.50	$74,351
G20 30 03 02	Concrete walkways (n.i. Memorial Walk)	36,162	SF	10.50	$379,701
G20 30 03 03	Memorial Walkway (concrete)	10,638	SF	10.50	$111,699
G20 30 03 04	Special paving (PIC, assembly area, shelters)	5,000	SF	15.00	$75,000
G20 30 90 00	OTHER WALKS, STEPS & TERRACES				
G20 30 90 01	Concrete steps within assembly area; by lf of nosing	450	LF	104.00	$46,800
	PEDESTRIAN PAVING SUBTOTAL:				**$746,288**
G20 40	**SITE DEVELOPMENT**				
G20 40 01 00	FENCES AND GATES				
G20 40 01 01	Ornamental fencing	1,915	LF	200.00	$383,000
G20 40 01 02	Maintenance Area Chain Link Fence & Sliding Gates (Phase 1A)	1	LS	30,000.00	$30,000
G20 40 01 03	Maintenance Area Chain Link Fence & Sliding Gates	1	LS	50,000.00	$50,000
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches	6	EA	2,100.00	$12,600
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	4	EA	4,000.00	$16,000
G20 40 03 03	Flag Sleeves (entry drive)	40	EA	250.00	$10,000
G20 40 03 04	Gravesite grid monuments; 13 per 1000 plots (Phase 1A)	36	EA	250.00	$8,938
G20 40 03 05	Gravesite grid monuments; 13 per 1000 plots	36	EA	250.00	$8,938
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage (Phase 1A)	1	LS	5,000.00	$5,000
G20 40 05 02	Signage	1	LS	15,000.00	$15,000
G20 40 05 03	Service Seal Plaques (24" diameter, bas-relief)	5	EA	2,500.00	$12,500
G20 40 09 00	FLAGPOLES				
G20 40 09 01	US Flag Pole; 70' ht	1	EA	10,800.00	$10,800
G20 40 09 02	US Flag Pole; 30' ht. (Phase 1A)	1	EA	4,130.00	$4,130
G20 40 09 03	Relocate Phase 1A US Flag Pole to P.O.W./M.I.A. location	1	EA	1,000.00	$1,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Renewable energy initiatives (assumes $4 per watt x 37.5KW system)	1	LS	150,000.00	$150,000
G20 40 90 02	Columbarium niche wall, 5 units high, per niche	2,000	EA	475.00	$950,000
G20 40 90 03	Headstone support system (Phase 1A)	650	EA	400.00	$260,000
G20 40 90 04	Memorial Walls (2 walls, 100 plaques per wall)	2	EA	85,000.00	$170,000
G20 40 90 05	Ossuary	1	EA	200,000.00	$200,000
G20 40 90 06	Entrance Area (walls, etc.)	1	LS	150,000.00	$150,000
G20 40 90 07	Crypt Materials (See Summary Page)	0	EA	0.00	$0
G20 40 90 08	3'x8' double-depth crypt installation and bed material (Phase 1A)	600	EA	200.00	$120,000
G20 40 90 09	3'x8' double-depth crypt installation and bed material	1,900	EA	200.00	$380,000
G20 40 90 10	Oversize crypt installation and bed material (Phase 1A)	650	EA	200.00	$130,000
G20 40 90 11	GPS site integration	1	LS	300,000.00	$300,000
	SITE DEVELOPMENT SUBTOTAL:				**$3,377,905**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas (Phase 1A)	196,291	SF	0.27	$52,999
G20 50 01 02	Fine grading sod areas	227,253	SF	0.27	$61,358
G20 50 01 03	Fine grading seed areas	810,659	SF	0.27	$218,878
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil; 6" depth (Phase 1A)	11,141	CY	6.20	$69,076
G20 50 03 02	Respread & amend topsoil (6" depth)	25,611	CY	6.20	$158,789

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT A - PHASE 1

Phase 1A Disturbance (AC): 14
Phase 1B Disturbance (AC): 32

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas - (Phase 1A)	196,291	SF	0.90	$176,662
G20 50 04 02	Sodding; 10' band around all public roads, burial areas & feature areas	227,253	SF	0.90	$204,528
G20 50 04 03	Seeding	810,659	SF	0.15	$121,599
G20 50 05 00	PLANTING				
G20 50 05 01	Planting (Phase 1A)	14	AC	10,000.00	$138,116
G20 50 05 02	Planting	32	AC	10,000.00	$317,494
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls (Phase 1A)	196,291	SF	0.60	$117,775
G20 50 07 02	Irrigation piping, sprinklers and controls	227,253	SF	0.60	$136,352
G20 50 07 03	Irrigation central control	1	EA	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$1,798,626**
G30 10	**WATER SUPPLY**				
G30 10 02 00	POTABLE WATER DISTRIBUTION				
G30 10 02 01	Potable water distribution (Phase 1A); assumes extension of 12" Monroe County water main to northern-most building	1	LS	660,000.00	$660,000
G30 10 02 02	Potable water distribution	1	LS	140,000.00	$140,000
G30 10 06 00	NON POTABLE WATER DISTRIBUTION				
G30 10 06 01	Irrigation pond	1	EA	40,000.00	$40,000
G30 10 06 02	Irrigation pond aeration system	1	EA	35,000.00	$35,000
G30 10 06 03	Irrigation pumping system - building	1	EA	50,000.00	$50,000
G30 10 06 04	Irrigation pumping & filtration system w/ intake infrastructure	1	EA	125,000.00	$125,000
	WATER SUPPLY SUBTOTAL:				**$1,050,000**
G30 20	**SANITARY SEWER**				
G30 20 00 00	Sanitary sewer (Phase 1A)	1	LS	125,000.00	$125,000
G30 20 00 01	Sanitary sewer	1	LS	147,000.00	$147,000
	SANITARY SEWER SUBTOTAL:				**$272,000**
G30 30	**STORM SEWER**				
G30 30 00 00	Storm sewer (Phase 1A)	7	AC	30,000.00	$206,133
G30 30 00 01	Storm sewer	25	AC	30,000.00	$746,349
	STORM SEWER SUBTOTAL:				**$952,482**
G40 10	**ELECTRICAL DISTRIBUTION**	1	LS	500,000.00	$500,000
	ELECTRICAL DISTRIBUTION SUBTOTAL:				**$500,000**
G40 20	**SITE LIGHTING**	1	LS	80,000.00	$80,000
	SITE LIGHTING SUBTOTAL:				**$80,000**
G40 30	**SITE COMMUNICATION & SECURITY**	1	LS	150,000.00	$150,000
	SITE COMMUNICATION & SECURITY SUBTOTAL:				**$150,000**
G90 90	**OTHER SITE CONSTRUCTION**				
G90 90 03 00	SNOW MELTING SYSTEMS (ALLOWANCE)	1	LS	100,000.00	$100,000
	OTHER SITE SYSTEMS SUBTOTAL:				**$100,000**
	CONCEPT A (PHASE 1A) SUBTOTAL:				**$7,347,882**
	CONCEPT A (PHASE 1B) SUBTOTAL:				**$19,554,206**
	CONCEPT A (PHASES 1A & 1B) SUBTOTAL:				**26,902,087**

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PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT A - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 11
Future Disturbance (AC): 28

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	28	AC	500.00	$13,791
G10 20 03 00	UNDERGROUND SITE DEMOLITION	28	AC	500.00	$13,791
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$27,582**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site	22,249	CY	10.20	$226,942
G10 30 01 02	Cuts; assumes 3' average depth	133,495	CY	9.70	$1,294,904
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth	133,495	CY	19.75	$2,636,531
G10 30 04 02	Free draining clean fill above crypts; +/- 14" depth	6,444	CY	29.00	$186,889
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction	177,276	CY	0.55	$97,502
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (120 days per phase)	1,320	DAYS	1,000.00	$1,320,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control	28	AC	5,400.00	$148,941
G10 30 11 02	Construction access; assumes 2 for each phase	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$5,918,908**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted	891	CY	40.20	$35,813
G20 10 01 02	Geotextile fabric pavement reinforcing	4,049	SY	6.50	$26,321
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete	3,036	LF	19.00	$57,684
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement	36,445	SF	4.25	$154,891
	ROADWAYS SUBTOTAL:				**$274,710**
G20 40	**SITE DEVELOPMENT**				
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches (6 per each columbarium phase)	66	EA	2,100.00	$138,600
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	25	EA	4,000.00	$100,000
G20 40 03 03	Gravesite grid monuments; 13 per 1000 plots	309	EA	250.00	$77,188
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage	11	PH	5,000.00	$55,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Columbarium niche wall, 5 units high, per niche	22,000	EA	475.00	$10,450,000
G20 40 90 02	Headstone support system	1,950	EA	400.00	$780,000
G20 40 90 03	Memorial Walls (2 walls, 100 plaques per wall)	11	PH	85,000.00	$935,000
G20 40 90 04	Crypt materials (3'X8' double-depth)	6,250	EA	350.00	$2,187,500
G20 40 90 05	3'x8' double-depth crypt installation and bed material	6,250	EA	200.00	$1,250,000
G20 40 90 06	Crypt materials (oversize)	1,950	EA	425.00	$828,750
G20 40 90 07	Oversize crypt installation and bed material	1,950	EA	200.00	$390,000
G20 40 90 08	GPS site integration	11	PH	150,000.00	$1,650,000
	SITE DEVELOPMENT SUBTOTAL:				**$18,842,038**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas	638,613	SF	0.27	$172,426
G20 50 01 02	Fine grading seed areas	526,399	SF	0.27	$142,128
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil (6" depth)	22,249	CY	6.20	$137,945

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT A - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 11
Future Disturbance (AC): 28

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas	638,613	SF	0.90	$574,752
G20 50 04 02	Seeding	526,399	SF	0.15	$78,960
G20 50 05 00	PLANTING				
G20 50 05 01	Planting	28	AC	10,000.00	$275,817
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls	638,613	SF	0.60	$383,168
G20 50 07 02	Irrigation central control updates	1	LS	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$1,790,194**
G30 30	**STORM SEWER**				
G30 30 00 01	Storm sewer	28	AC	30,000.00	$827,450
	STORM SEWER SUBTOTAL:				**$827,450**
	CONCEPT A (FUTURE PHASES) SUBTOTAL:				**$27,680,881**

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT B - PHASE 1

Phase 1A Disturbance (AC): 8
Phase 1B Disturbance (AC): 33

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
	BUILDINGS				
A	Administration / Public Information Center Building	5,200	SF	414.00	$2,152,800
	Premium to achieve LEED Silver Certification (2% of Const. Cost of PIC Bldg. Only)	1	LS	43,056.00	$43,056
B	Maintenance Building	7,700	SF	336.00	$2,587,200
C	Honor Guard Building	1,200	SF	377.00	$452,400
D	Committal Service Shelters No. 1 and No. 2	1,800	SF	224.00	$403,200
E	Temporary Committal Service Shelter (Phase 1A)	1	EA	50,000.00	$50,000
F	Temporary Trailers; 3 year lease / 4 trailers (Phase 1A)	3	YR	240,000.00	$720,000
	BUILDINGS SUBTOTAL:				**$6,408,656**
G10 10	**SITE CLEARING**				
G10 10 01 00	CLEARING	4	AC	3,400.00	$12,075
G10 10 04 00	GRUBBING	4	AC	2,500.00	$8,878
G10 10 05 00	SELECTIVE THINNING	1	AC	7,500.00	$6,947
	SITE CLEARING SUBTOTAL:				**$27,900**
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	41	AC	500.00	$20,382
G10 20 03 00	UNDERGROUND SITE DEMOLITION	41	AC	500.00	$20,382
G10 20 90 00	OTHER SITE DEMOLITION & RELOCATIONS				
G10 20 90 01	Early Turnover Area Restoration	1	LS	75,000.00	$75,000
G10 20 90 02	Wetland mitigation credits; assumes 3 credits per acre disturbance (Phase 1A)	2	EA	83,000.00	$181,770
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$297,534**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site (Phase 1A)	6,362	CY	10.20	$64,893
G10 30 01 02	Stripping topsoil (6"depth) & stockpile on site	26,521	CY	10.20	$270,515
G10 30 01 03	Cuts; assumes 3' average depth (Phase 1A)	38,172	CY	9.70	$370,272
G10 30 01 04	Cuts; assumes 3' average depth	159,127	CY	9.70	$1,543,529
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth (Phase 1A)	38,172	CY	19.75	$753,904
G10 30 04 02	Borrow fills to raise site; assumes 3' av depth	159,127	CY	19.75	$3,142,752
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth (Phase 1A)	1,736	CY	29.00	$50,335
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth	1,959	CY	29.00	$56,814
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction (Phase 1A)	41,276	CY	0.55	$22,702
G10 30 05 02	Compaction	463,418	CY	0.55	$254,880
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (Phase 1A)	45	DAYS	1,000.00	$45,000
G10 30 10 02	Temporary dewatering	120	DAYS	1,000.00	$120,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control (Phase 1A)	4	AC	5,400.00	$22,912
G10 30 11 02	Erosion control	29	AC	5,400.00	$154,626
G10 30 11 03	Construction Access (Phase 1A)	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$6,880,333**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted (Phase 1A)	1,248	CY	40.20	$50,184
G20 10 01 02	Stone base, hauled to site, 8" depth, fine-graded and compacted	7,186	CY	40.20	$288,876
G20 10 01 03	Geotextile fabric pavement reinforcing (Phase 1A)	58,645	SY	6.50	$381,193
G20 10 01 04	Geotextile fabric pavement reinforcing	32,664	SY	6.50	$212,313
G20 10 01 05	Gravel surfacing, Phase 1A maintenance area, 8" depth, fine-graded & compacted	1,692	CY	40.20	$68,017
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete (Phase 1A)	2,943	LF	19.00	$55,917
G20 10 02 01	Mountable curb & gutter; concrete	21,468	LF	19.00	$407,892

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT B - PHASE 1

Phase 1A Disturbance (AC): 8
Phase 1B Disturbance (AC): 33

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement (Phase 1A)	51,069	SF	4.25	$217,043
G20 10 03 01	Bituminous concrete pavement	293,972	SF	4.25	$1,249,381
	ROADWAYS SUBTOTAL:				**$2,930,816**
G20 30	**PEDESTRIAN PAVING**				
G20 30 01 00	BASES AND SUB-BASES				
G20 30 01 01	Stone base, 8" depth (Phase 1A)	120	CY	40.20	$4,808
G20 30 01 02	Stone base, 8" depth	1,175	CY	40.20	$47,222
G20 30 03 00	PAVED SURFACES				
G20 30 03 01	Concrete walkways (Phase 1A)	4,820	SF	10.50	$50,610
G20 30 03 02	Concrete walkways (n.i. Memorial Walk)	30,586	SF	10.50	$321,153
G20 30 03 03	Memorial Walkway (concrete)	11,752	SF	10.50	$123,396
G20 30 03 04	Special paving (PIC, assembly area, shelters)	5,000	SF	15.00	$75,000
G20 30 90 00	OTHER WALKS, STEPS & TERRACES				
G20 30 90 01	Concrete steps within assembly area; by lf of nosing	450	LF	104.00	$46,800
	PEDESTRIAN PAVING SUBTOTAL:				**$668,990**
G20 40	**SITE DEVELOPMENT**				
G20 40 01 00	FENCES AND GATES				
G20 40 01 01	Ornamental fencing	2,611	LF	200.00	$522,200
G20 40 01 02	Maintenance Area Chain Link Fence & Sliding Gates (Phase 1A)	1	LS	30,000.00	$30,000
G20 40 01 03	Maintenance Area Chain Link Fence & Sliding Gates	1	LS	50,000.00	$50,000
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches	6	EA	2,100.00	$12,600
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	4	EA	4,000.00	$16,000
G20 40 03 03	Flag Sleeves (entry drive)	40	EA	250.00	$10,000
G20 40 03 04	Gravesite grid monuments; 13 per 1000 plots (Phase 1A)	36	EA	250.00	$8,938
G20 40 03 05	Gravesite grid monuments; 13 per 1000 plots	36	EA	250.00	$8,938
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage (Phase 1A)	1	LS	5,000.00	$5,000
G20 40 05 02	Signage	1	LS	15,000.00	$15,000
G20 40 05 03	Service Seal Plaques (24" diameter, bas-relief)	5	EA	2,500.00	$12,500
G20 40 09 00	FLAGPOLES				
G20 40 09 01	US Flag Pole; 70' ht	1	EA	10,800.00	$10,800
G20 40 09 02	US Flag Pole; 30' ht. (Phase 1A)	1	EA	4,130.00	$4,130
G20 40 09 03	Relocate Phase 1A US Flag Pole to P.O.W./M.I.A. location	1	EA	1,000.00	$1,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Renewable energy initiatives (assumes $4 per watt x 37.5KW system)	1	LS	150,000.00	$150,000
G20 40 90 02	Columbarium niche wall, 5 units high, per niche	2,000	EA	475.00	$950,000
G20 40 90 03	Headstone support system (Phase 1A)	650	EA	400.00	$260,000
G20 40 90 04	Memorial Walls (2 walls, 100 plaques per wall)	2	EA	85,000.00	$170,000
G20 40 90 05	Ossuary	1	EA	200,000.00	$200,000
G20 40 90 06	Entrance Area (walls, etc.)	1	LS	150,000.00	$150,000
G20 40 90 07	Crypt Materials (See Summary Page)	0	EA	0.00	$0
G20 40 90 08	3'x8' double-depth crypt installation and bed material (Phase 1A)	600	EA	200.00	$120,000
G20 40 90 09	3'x8' double-depth crypt installation and bed material	1,900	EA	200.00	$380,000
G20 40 90 10	Oversize crypt installation and bed material (Phase 1A)	650	EA	200.00	$130,000
G20 40 90 11	GPS site integration	1	LS	300,000.00	$300,000
	SITE DEVELOPMENT SUBTOTAL:				**$3,517,105**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas (Phase 1A)	128,935	SF	0.27	$34,812
G20 50 01 02	Fine grading sod areas	433,428	SF	0.27	$117,026
G20 50 01 03	Fine grading seed areas	657,402	SF	0.27	$177,499
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil; 6" depth (Phase 1A)	6,362	CY	6.20	$39,445
G20 50 03 02	Respread & amend topsoil (6" depth)	26,521	CY	6.20	$164,431

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT B - PHASE 1

Phase 1A Disturbance (AC): 8
Phase 1B Disturbance (AC): 33

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas - (Phase 1A)	128,935	SF	0.90	$116,042
G20 50 04 02	Sodding; 10' band around all public roads, burial areas & feature areas	433,428	SF	0.90	$390,085
G20 50 04 03	Seeding	657,402	SF	0.15	$98,610
G20 50 05 00	PLANTING				
G20 50 05 01	Planting (Phase 1A)	8	AC	10,000.00	$78,868
G20 50 05 02	Planting	33	AC	10,000.00	$328,774
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls (Phase 1A)	128,935	SF	0.60	$77,361
G20 50 07 02	Irrigation piping, sprinklers and controls	433,428	SF	0.60	$260,057
G20 50 07 03	Irrigation central control	1	EA	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$1,908,010**
G30 10	**WATER SUPPLY**				
G30 10 02 00	POTABLE WATER DISTRIBUTION				
G30 10 02 01	Potable water distribution (Phase 1A); assumes extension of 12" Monroe County water main to northern-most building	1	LS	660,000.00	$660,000
G30 10 02 02	Potable water distribution	1	LS	140,000.00	$140,000
G30 10 06 00	NON POTABLE WATER DISTRIBUTION				
G30 10 06 01	Irrigation pond	1	EA	40,000.00	$40,000
G30 10 06 02	Irrigation pond aeration system	1	EA	35,000.00	$35,000
G30 10 06 03	Irrigation pumping system - building	1	EA	50,000.00	$50,000
G30 10 06 04	Irrigation pumping & filtration system w/ intake infrastructure	1	EA	125,000.00	$125,000
	WATER SUPPLY SUBTOTAL:				**$1,050,000**
G30 20	**SANITARY SEWER**				
G30 20 00 00	Sanitary sewer (Phase 1A)	1	LS	125,000.00	$125,000
G30 20 00 01	Sanitary sewer	1	LS	147,000.00	$147,000
	SANITARY SEWER SUBTOTAL:				**$272,000**
G30 30	**STORM SEWER**				
G30 30 00 00	Storm sewer (Phase 1A)	4	AC	30,000.00	$127,289
G30 30 00 01	Storm sewer	29	AC	30,000.00	$859,033
	STORM SEWER SUBTOTAL:				**$986,322**
G40 10	**ELECTRICAL DISTRIBUTION**	1	LS	500,000.00	$500,000
	ELECTRICAL DISTRIBUTION SUBTOTAL:				**$500,000**
G40 20	**SITE LIGHTING**	1	LS	80,000.00	$80,000
	SITE LIGHTING SUBTOTAL:				**$80,000**
G40 30	**SITE COMMUNICATION & SECURITY**	1	LS	150,000.00	$150,000
	SITE COMMUNICATION & SECURITY SUBTOTAL:				**$150,000**
G90 90	**OTHER SITE CONSTRUCTION**				
G90 90 03 00	SNOW MELTING SYSTEMS (ALLOWANCE)	1	LS	100,000.00	$100,000
	OTHER SITE SYSTEMS SUBTOTAL:				**$100,000**
	CONCEPT B (PHASE 1A) SUBTOTAL:				**$5,433,644**
	CONCEPT B (PHASE 1B) SUBTOTAL:				**$20,344,023**
	CONCEPT C (PHASES 1A & 1B) SUBTOTAL:				**25,777,667**

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PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT B - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 9
Future Disturbance (AC): 31

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	31	AC	500.00	$15,376
G10 20 03 00	UNDERGROUND SITE DEMOLITION	31	AC	500.00	$15,376
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$30,752**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site	24,807	CY	10.20	$253,028
G10 30 01 02	Cuts; assumes 3' average depth	148,840	CY	9.70	$1,443,746
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth	148,840	CY	19.75	$2,939,586
G10 30 04 02	Free draining clean fill above crypts; +/- 14" depth	7,218	CY	29.00	$209,316
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction	240,758	CY	0.55	$132,417
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (120 days per phase)	1,080	DAYS	1,000.00	$1,080,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control	31	AC	5,400.00	$166,061
G10 30 11 02	Construction access; assumes 2 for each phase	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$6,231,352**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted	2,021	CY	40.20	$81,246
G20 10 01 02	Geotextile fabric pavement reinforcing	9,187	SY	6.50	$59,713
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete	6,557	LF	19.00	$124,583
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement	82,679	SF	4.25	$351,386
	ROADWAYS SUBTOTAL:				**$616,927**
G20 40	**SITE DEVELOPMENT**				
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches (6 per each columbarium phase)	54	EA	2,100.00	$113,400
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	25	EA	4,000.00	$100,000
G20 40 03 03	Gravesite grid monuments; 13 per 1000 plots	285	EA	250.00	$71,338
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage	9	PH	5,000.00	$45,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Columbarium niche wall, 5 units high, per niche	18,000	EA	475.00	$8,550,000
G20 40 90 02	Headstone support system	1,950	EA	400.00	$780,000
G20 40 90 03	Memorial Walls (2 walls, 100 plaques per wall)	9	PH	85,000.00	$765,000
G20 40 90 04	Crypt materials (3'X8' double-depth)	7,000	EA	350.00	$2,450,000
G20 40 90 05	3'x8' double-depth crypt installation and bed material	7,000	EA	200.00	$1,400,000
G20 40 90 06	Crypt materials (oversize)	1,950	EA	425.00	$828,750
G20 40 90 07	Oversize crypt installation and bed material	1,950	EA	200.00	$390,000
G20 40 90 08	GPS site integration	9	PH	150,000.00	$1,350,000
	SITE DEVELOPMENT SUBTOTAL:				**$16,843,488**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas	668,143	SF	0.27	$180,399
G20 50 01 02	Fine grading seed areas	588,736	SF	0.27	$158,959
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil (6" depth)	24,807	CY	6.20	$153,801

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT B - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 9
Future Disturbance (AC): 31

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas	668,143	SF	0.90	$601,329
G20 50 04 02	Seeding	588,736	SF	0.15	$88,310
G20 50 05 00	PLANTING				
G20 50 05 01	Planting	31	AC	10,000.00	$307,520
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls	668,143	SF	0.60	$400,886
G20 50 07 02	Irrigation central control updates	1	LS	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$1,916,204**
G30 30	**STORM SEWER**				
G30 30 00 01	Storm sewer	31	AC	30,000.00	$922,561
	STORM SEWER SUBTOTAL:				**$922,561**
	CONCEPT B (FUTURE PHASES) SUBTOTAL:				**$26,561,283**

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT C - PHASE 1

Phase 1A Disturbance (AC): 11
Phase 1B Disturbance (AC): 31

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
	BUILDINGS				
A	Administration / Public Information Center Building	5,200	SF	414.00	$2,152,800
	Premium to achieve LEED Silver Certification (2% of Const. Cost of Admin. Bldg. Onl	1	LS	43,056.00	$43,056
B	Maintenance Building	7,700	SF	336.00	$2,587,200
C	Honor Guard Building	1,200	SF	377.00	$452,400
D	Committal Service Shelters No. 1 and No. 2	1,800	SF	224.00	$403,200
E	Temporary Committal Service Shelter (Phase 1A)	1	EA	50,000.00	$50,000
F	Temporary Trailers; 3 year lease / 4 trailers (Phase 1A)	3	YR	240,000.00	$720,000
	BUILDINGS SUBTOTAL:				**$6,408,656**
G10 10	**SITE CLEARING**				
G10 10 01 00	CLEARING	3	AC	3,400.00	$9,366
G10 10 04 00	GRUBBING	3	AC	2,500.00	$6,887
G10 10 05 00	SELECTIVE THINNING	1	AC	7,500.00	$6,947
	SITE CLEARING SUBTOTAL:				**$23,201**
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	41	AC	500.00	$20,678
G10 20 03 00	UNDERGROUND SITE DEMOLITION	41	AC	500.00	$20,678
G10 20 90 00	OTHER SITE DEMOLITION & RELOCATIONS				
G10 20 90 01	Early Turnover Area Restoration	1	LS	75,000.00	$75,000
G10 20 90 02	Wetland mitigation credits; assumes 3 credits per acre disturbance (Phase 1A)	5	EA	83,000.00	$420,810
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$537,165**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site (Phase 1A)	8,501	CY	10.20	$86,710
G10 30 01 02	Stripping topsoil (6"depth) & stockpile on site	24,859	CY	10.20	$253,562
G10 30 01 03	Cuts; assumes 3' average depth (Phase 1A)	51,006	CY	9.70	$494,759
G10 30 01 04	Cuts; assumes 3' average depth	149,154	CY	9.70	$1,446,793
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth (Phase 1A)	51,006	CY	19.75	$1,007,371
G10 30 04 02	Borrow fills to raise site; assumes 3' av depth	149,154	CY	19.75	$2,945,789
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth (Phase 1A)	1,736	CY	29.00	$50,335
G10 30 04 03	Free draining clean fill above crypts; +/- 14" depth	1,959	CY	29.00	$56,814
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction (Phase 1A)	54,624	CY	0.55	$30,043
G10 30 05 02	Compaction	397,140	CY	0.55	$218,427
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (Phase 1A)	45	DAYS	1,000.00	$45,000
G10 30 10 02	Temporary dewatering	120	DAYS	1,000.00	$120,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control (Phase 1A)	5	AC	5,400.00	$27,941
G10 30 11 02	Erosion control	26	AC	5,400.00	$138,471
G10 30 11 03	Construction Access (Phase 1A)	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$6,929,215**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted (Phase 1A)	1,754	CY	40.20	$70,496
G20 10 01 02	Stone base, hauled to site, 8" depth, fine-graded and compacted	5,827	CY	40.20	$234,253
G20 10 01 03	Geotextile fabric pavement reinforcing (Phase 1A)	79,315	SY	6.50	$515,548
G20 10 01 04	Geotextile fabric pavement reinforcing	26,487	SY	6.50	$172,167
G20 10 01 05	Gravel surfacing, Phase 1A maintenance area, 8" depth, fine-graded & compacted	1,692	CY	40.20	$68,017
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete (Phase 1A)	5,268	LF	19.00	$100,092
G20 10 02 01	Mountable curb & gutter; concrete	15,346	LF	19.00	$291,574

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT C - PHASE 1

Phase 1A Disturbance (AC): 11
Phase 1B Disturbance (AC): 31

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement (Phase 1A)	71,739	SF	4.25	$304,891
G20 10 03 01	Bituminous concrete pavement	238,385	SF	4.25	$1,013,136
	ROADWAYS SUBTOTAL:				**$2,770,173**
G20 30	**PEDESTRIAN PAVING**				
G20 30 01 00	BASES AND SUB-BASES				
G20 30 01 01	Stone base, 8" depth (Phase 1A)	129	CY	40.20	$5,182
G20 30 01 02	Stone base, 8" depth	1,815	CY	40.20	$72,949
G20 30 03 00	PAVED SURFACES				
G20 30 03 01	Concrete walkways (Phase 1A)	5,195	SF	10.50	$54,548
G20 30 03 02	Concrete walkways (n.i. Memorial Walk)	61,561	SF	10.50	$646,391
G20 30 03 03	Memorial Walkway (concrete)	6,567	SF	10.50	$68,954
G20 30 03 04	Special paving (PIC, assembly area, shelters)	5,000	SF	15.00	$75,000
G20 30 90 00	OTHER WALKS, STEPS & TERRACES				
G20 30 90 01	Concrete steps within assembly area; by lf of nosing	450	LF	104.00	$46,800
	PEDESTRIAN PAVING SUBTOTAL:				**$969,823**
G20 40	**SITE DEVELOPMENT**				
G20 40 01 00	FENCES AND GATES				
G20 40 01 01	Ornamental fencing	2,235	LF	200.00	$447,000
G20 40 01 02	Maintenance Area Chain Link Fence & Sliding Gates (Phase 1A)	1	LS	30,000.00	$30,000
G20 40 01 03	Maintenance Area Chain Link Fence & Sliding Gates	1	LS	50,000.00	$50,000
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches	6	EA	2,100.00	$12,600
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	4	EA	4,000.00	$16,000
G20 40 03 03	Flag Sleeves (entry drive)	40	EA	250.00	$10,000
G20 40 03 04	Gravesite grid monuments; 13 per 1000 plots (Phase 1A)	36	EA	250.00	$8,938
G20 40 03 05	Gravesite grid monuments; 13 per 1000 plots	36	EA	250.00	$8,938
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage (Phase 1A)	1	LS	5,000.00	$5,000
G20 40 05 02	Signage	1	LS	15,000.00	$15,000
G20 40 05 03	Service Seal Plaques (24" diameter, bas-relief)	5	EA	2,500.00	$12,500
G20 40 09 00	FLAGPOLES				
G20 40 09 01	US Flag Pole; 70' ht	1	EA	10,800.00	$10,800
G20 40 09 02	US Flag Pole; 30' ht. (Phase 1A)	1	EA	4,130.00	$4,130
G20 40 09 03	Relocate Phase 1A US Flag Pole to P.O.W./M.I.A. location	1	EA	1,000.00	$1,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Renewable energy initiatives (assumes $4 per watt x 37.5KW system)	1	LS	150,000.00	$150,000
G20 40 90 02	Columbarium niche wall, 5 units high, per niche	2,000	EA	475.00	$950,000
G20 40 90 03	Headstone support system (Phase 1A)	650	EA	400.00	$260,000
G20 40 90 04	Memorial Walls (2 walls, 100 plaques per wall)	2	EA	85,000.00	$170,000
G20 40 90 05	Ossuary	1	EA	200,000.00	$200,000
G20 40 90 06	Entrance Area (walls, etc.)	1	LS	150,000.00	$150,000
G20 40 90 07	Crypt Materials (See Summary Page)	0	EA	0.00	$0
G20 40 90 08	3'x8' double-depth crypt installation and bed material (Phase 1A)	600	EA	200.00	$120,000
G20 40 90 09	3'x8' double-depth crypt installation and bed material	1,900	EA	200.00	$380,000
G20 40 90 10	Oversize crypt installation and bed material (Phase 1A)	650	EA	200.00	$130,000
G20 40 90 11	GPS site integration	1	LS	300,000.00	$300,000
	SITE DEVELOPMENT SUBTOTAL:				**$3,441,905**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas (Phase 1A)	148,454	SF	0.27	$40,083
G20 50 01 02	Fine grading sod areas	134,274	SF	0.27	$36,254
G20 50 01 03	Fine grading seed areas	896,598	SF	0.27	$242,081
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil; 6" depth (Phase 1A)	8,501	CY	6.20	$52,706
G20 50 03 02	Respread & amend topsoil (6" depth)	24,859	CY	6.20	$154,126

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT C - PHASE 1

Phase 1A Disturbance (AC): 11
Phase 1B Disturbance (AC): 31

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas - (Phase 1A)	148,454	SF	0.90	$133,609
G20 50 04 02	Sodding; 10' band around all public roads, burial areas & feature areas	134,274	SF	0.90	$120,847
G20 50 04 03	Seeding	896,598	SF	0.15	$134,490
G20 50 05 00	PLANTING				
G20 50 05 01	Planting (Phase 1A)	11	AC	10,000.00	$105,385
G20 50 05 02	Planting	31	AC	10,000.00	$308,169
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls (Phase 1A)	148,454	SF	0.60	$89,072
G20 50 07 02	Irrigation piping, sprinklers and controls	134,274	SF	0.60	$80,564
G20 50 07 03	Irrigation central control	1	EA	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$1,522,385**
G30 10	**WATER SUPPLY**				
G30 10 02 00	POTABLE WATER DISTRIBUTION				
G30 10 02 01	Potable water distribution (Phase 1A); assumes extension of 12" Monroe County water main to northern-most building	1	LS	660,000.00	$660,000
G30 10 02 02	Potable water distribution	1	LS	140,000.00	$140,000
G30 10 06 00	NON POTABLE WATER DISTRIBUTION				
G30 10 06 01	Irrigation pond	1	EA	40,000.00	$40,000
G30 10 06 02	Irrigation pond aeration system	1	EA	35,000.00	$35,000
G30 10 06 03	Irrigation pumping system - building	1	EA	50,000.00	$50,000
G30 10 06 04	Irrigation pumping & filtration system w/ intake infrastructure	1	EA	125,000.00	$125,000
	WATER SUPPLY SUBTOTAL:				**$1,050,000**
G30 20	**SANITARY SEWER**				
G30 20 00 00	Sanitary sewer (Phase 1A)	1	LS	125,000.00	$125,000
G30 20 00 01	Sanitary sewer	1	LS	147,000.00	$147,000
	SANITARY SEWER SUBTOTAL:				**$272,000**
G30 30	**STORM SEWER**				
G30 30 00 00	Storm sewer (Phase 1A)	5	AC	30,000.00	$155,226
G30 30 00 01	Storm sewer	26	AC	30,000.00	$769,282
	STORM SEWER SUBTOTAL:				**$924,508**
G40 10	**ELECTRICAL DISTRIBUTION**	1	LS	500,000.00	$500,000
	ELECTRICAL DISTRIBUTION SUBTOTAL:				**$500,000**
G40 20	**SITE LIGHTING**	1	LS	80,000.00	$80,000
	SITE LIGHTING SUBTOTAL:				**$80,000**
G40 30	**SITE COMMUNICATION & SECURITY**	1	LS	150,000.00	$150,000
	SITE COMMUNICATION & SECURITY SUBTOTAL:				**$150,000**
G90 90	**OTHER SITE CONSTRUCTION**				
G90 90 03 00	SNOW MELTING SYSTEMS (ALLOWANCE)	1	LS	100,000.00	$100,000
	OTHER SITE SYSTEMS SUBTOTAL:				**$100,000**
	CONCEPT C (PHASE 1A) SUBTOTAL:				**$6,478,091**
	CONCEPT C (PHASE 1B) SUBTOTAL:				**$19,200,941**
	CONCEPT C (PHASES 1A & 1B) SUBTOTAL:				**25,679,032**

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PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT C - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 9
Future Disturbance (AC): 32

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G10 20	**SITE DEMOLITION AND RELOCATIONS**				
G10 20 02 00	ABOVE GROUND SITE DEMOLITION	32	AC	500.00	$15,871
G10 20 03 00	UNDERGROUND SITE DEMOLITION	32	AC	500.00	$15,871
	SITE DEMOLITION AND RELOCATIONS SUBTOTAL:				**$31,743**
G10 30	**SITE EARTHWORK**				
G10 30 01 00	GRADING				
G10 30 01 01	Stripping topsoil (6"depth) & stockpile on site	25,606	CY	10.20	$261,180
G10 30 01 02	Cuts; assumes 3' average depth	153,635	CY	9.70	$1,490,264
G10 30 04 00	FILL & BORROW				
G10 30 04 01	Borrow fills to raise site; assumes 3' av depth	153,635	CY	19.75	$3,034,300
G10 30 04 02	Free draining clean fill above crypts; +/- 14" depth	10,878	CY	29.00	$315,468
G10 30 05 00	COMPACTION				
G10 30 05 01	Compaction	220,383	CY	0.55	$121,211
G10 30 10 00	TEMPORARY DEWATERING				
G10 30 10 01	Temporary dewatering (120 days per phase)	1,080	DAYS	1,000.00	$1,080,000
G10 30 11 00	TEMPORARY EROSION & SEDIMENT CONTROL				
G10 30 11 01	Erosion control	32	AC	5,400.00	$171,411
G10 30 11 02	Construction access; assumes 2 for each phase	2	EA	3,600.00	$7,200
	SITE EARTHWORK SUBTOTAL:				**$6,481,035**
G20 10	**ROADWAYS**				
G20 10 01 00	BASES AND SUB-BASES				
G20 10 01 01	Stone base, hauled to site, 8" depth, fine-graded and compacted	1,333	CY	40.20	$53,591
G20 10 01 02	Geotextile fabric pavement reinforcing	6,060	SY	6.50	$39,387
G20 10 02 00	CURBS & GUTTERS				
G20 10 02 01	Mountable curb & gutter; concrete	4,403	LF	19.00	$83,657
G20 10 03 00	PAVING & SURFACING				
G20 10 03 01	Bituminous concrete pavement	54,536	SF	4.25	$231,778
	ROADWAYS SUBTOTAL:				**$408,413**
G20 40	**SITE DEVELOPMENT**				
G20 40 03 00	EXTERIOR FURNISHINGS				
G20 40 03 01	Benches (6 per each columbarium phase)	54	EA	2,100.00	$113,400
G20 40 03 02	Flower watering stations (trash & flower vase receptacles, water spigot)	25	EA	4,000.00	$100,000
G20 40 03 03	Gravesite grid monuments; 13 per 1000 plots	382	EA	250.00	$95,388
G20 40 05 00	SIGNAGE				
G20 40 05 01	Signage	9	PH	5,000.00	$45,000
G20 40 90 00	OTHER SITE IMPROVEMENTS				
G20 40 90 01	Columbarium niche wall, 5 units high, per niche	18,000	EA	475.00	$8,550,000
G20 40 90 02	Headstone support system	2,600	EA	400.00	$1,040,000
G20 40 90 03	Memorial Walls (2 walls, 100 plaques per wall)	9	PH	85,000.00	$765,000
G20 40 90 04	Crypt materials (3'X8' double-depth)	10,550	EA	350.00	$3,692,500
G20 40 90 05	3'x8' double-depth crypt installation and bed material	10,550	EA	200.00	$2,110,000
G20 40 90 06	Crypt materials (oversize)	2,600	EA	425.00	$1,105,000
G20 40 90 07	Oversize crypt installation and bed material	2,600	EA	200.00	$520,000
G20 40 90 08	GPS site integration	9	PH	150,000.00	$1,350,000
	SITE DEVELOPMENT SUBTOTAL:				**$19,486,288**
G20 50	**LANDSCAPING**				
G20 50 01 00	FINE GRADING & SOIL PREPARATION				
G20 50 01 01	Fine grading sod areas	726,472	SF	0.27	$196,147
G20 50 01 02	Fine grading seed areas	601,711	SF	0.27	$162,462
G20 50 03 00	TOPSOIL AND PLANTING BEDS				
G20 50 03 01	Respread & amend topsoil (6" depth)	25,606	CY	6.20	$158,757

PROJECT: **WESTERN NEW YORK NATIONAL CEMETERY**
MP1 - OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPT C - FUTURE PHASES (FULL DEVELOPMENT)

No. of Future Phases: 9
Future Disturbance (AC): 32

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Price
G20 50 04 00	SEEDING, SPRIGGING AND SODDING				
G20 50 04 01	Sodding; 10' band around all public roads, burial areas & feature areas	726,472	SF	0.90	$653,825
G20 50 04 02	Seeding	601,711	SF	0.15	$90,257
G20 50 05 00	PLANTING				
G20 50 05 01	Planting	32	AC	10,000.00	$317,429
G20 50 07 00	IRRIGATION SYSTEMS				
G20 50 07 01	Irrigation piping, sprinklers and controls	726,472	SF	0.60	$435,883
G20 50 07 02	Irrigation central control updates	1	LS	25,000.00	$25,000
	LANDSCAPING SUBTOTAL:				**$2,039,759**
G30 30	**STORM SEWER**				
G30 30 00 01	Storm sewer	32	AC	30,000.00	$952,286
	STORM SEWER SUBTOTAL:				**$952,286**
	CONCEPT C (FUTURE PHASES) SUBTOTAL:				**$29,399,523**

Appendix A-8
Project Schedule

Western New York National Cemetery
MP-1 Submission

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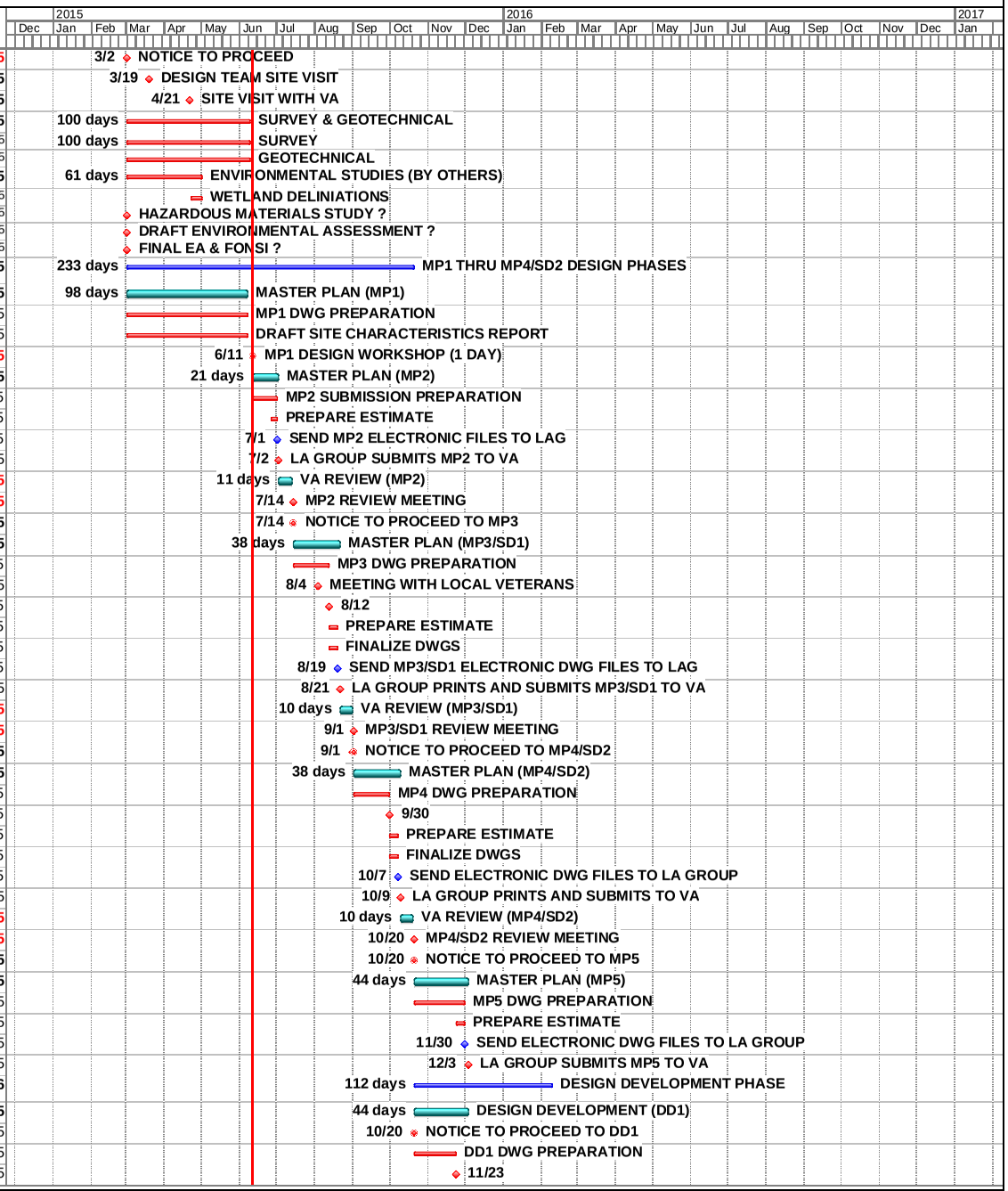
The LA GROUP

WESTERN NEW YORK NATIONAL CEMETERY (VA PROJ. NO. 936PC2002)

THE LA GROUP, LANDSCAPE ARCHITECTURE AND ENGINEERING P.C.

June 11, 2015

ID	Task Name	Duration (Calendar Days)	Start	Finish
1	NOTICE TO PROCEED	0 days	Mon 3/2/15	Mon 3/2/15
2	DESIGN TEAM SITE VISIT	2 days	Wed 3/18/15	Thu 3/19/15
3	SITE VISIT WITH VA	1 day	Tue 4/21/15	Tue 4/21/15
4	SURVEY & GEOTECHNICAL	100 days	Mon 3/2/15	Tue 6/9/15
5	SURVEY	100 days	Mon 3/2/15	Tue 6/9/15
6	GEOTECHNICAL	100 days	Mon 3/2/15	Tue 6/9/15
7	ENVIRONMENTAL STUDIES (BY OTHERS)	61 days	Mon 3/2/15	Fri 5/1/15
8	WETLAND DELINIATIONS	9 days	Thu 4/23/15	Fri 5/1/15
9	HAZARDOUS MATERIALS STUDY ?	0 days	Mon 3/2/15	Mon 3/2/15
10	DRAFT ENVIRONMENTAL ASSESSMENT ?	0 days	Mon 3/2/15	Mon 3/2/15
11	FINAL EA & FONSI ?	0 days	Mon 3/2/15	Mon 3/2/15
12	MP1 THRU MP4/SD2 DESIGN PHASES	233 days	Mon 3/2/15	Tue 10/20/15
13	MASTER PLAN (MP1)	98 days	Mon 3/2/15	Sun 6/7/15
14	MP1 DWG PREPARATION	98 days	Mon 3/2/15	Sun 6/7/15
15	DRAFT SITE CHARACTERISTICS REPORT	98 days	Mon 3/2/15	Sun 6/7/15
16	MP1 DESIGN WORKSHOP (1 DAY)	1 day	Thu 6/11/15	Thu 6/11/15
17	MASTER PLAN (MP2)	21 days	Fri 6/12/15	Thu 7/2/15
18	MP2 SUBMISSION PREPARATION	20 days	Fri 6/12/15	Wed 7/1/15
19	PREPARE ESTIMATE	5 days	Sat 6/27/15	Wed 7/1/15
20	SEND MP2 ELECTRONIC FILES TO LAG	0 days	Wed 7/1/15	Wed 7/1/15
21	LA GROUP SUBMITS MP2 TO VA	1 day	Thu 7/2/15	Thu 7/2/15
22	VA REVIEW (MP2)	11 days	Fri 7/3/15	Mon 7/13/15
23	MP2 REVIEW MEETING	1 day	Tue 7/14/15	Tue 7/14/15
24	NOTICE TO PROCEED TO MP3	1 day	Tue 7/14/15	Tue 7/14/15
25	MASTER PLAN (MP3/SD1)	38 days	Wed 7/15/15	Fri 8/21/15
26	MP3 DWG PREPARATION	29 days	Wed 7/15/15	Wed 8/12/15
27	MEETING WITH LOCAL VETERANS	1 day	Tue 8/4/15	Tue 8/4/15
28	SEND ELECTRONIC CHECK SET TO LA GROUP	0 days	Wed 8/12/15	Wed 8/12/15
29	PREPARE ESTIMATE	7 days	Thu 8/13/15	Wed 8/19/15
30	FINALIZE DWGS	7 days	Thu 8/13/15	Wed 8/19/15
31	SEND MP3/SD1 ELECTRONIC DWG FILES TO LAG	0 days	Wed 8/19/15	Wed 8/19/15
32	LA GROUP PRINTS AND SUBMITS MP3/SD1 TO VA	2 days	Thu 8/20/15	Fri 8/21/15
33	VA REVIEW (MP3/SD1)	10 days	Sat 8/22/15	Mon 8/31/15
34	MP3/SD1 REVIEW MEETING	1 day	Tue 9/1/15	Tue 9/1/15
35	NOTICE TO PROCEED TO MP4/SD2	1 day	Tue 9/1/15	Tue 9/1/15
36	MASTER PLAN (MP4/SD2)	38 days	Wed 9/2/15	Fri 10/9/15
37	MP4 DWG PREPARATION	29 days	Wed 9/2/15	Wed 9/30/15
38	SEND ELECTRONIC CHECK SET TO LA GROUP	0 days	Wed 9/30/15	Wed 9/30/15
39	PREPARE ESTIMATE	7 days	Thu 10/1/15	Wed 10/7/15
40	FINALIZE DWGS	7 days	Thu 10/1/15	Wed 10/7/15
41	SEND ELECTRONIC DWG FILES TO LA GROUP	0 days	Wed 10/7/15	Wed 10/7/15
42	LA GROUP PRINTS AND SUBMITS TO VA	2 days	Thu 10/8/15	Fri 10/9/15
43	VA REVIEW (MP4/SD2)	10 days	Sat 10/10/15	Mon 10/19/15
44	MP4/SD2 REVIEW MEETING	1 day	Tue 10/20/15	Tue 10/20/15
45	NOTICE TO PROCEED TO MP5	1 day	Tue 10/20/15	Tue 10/20/15
46	MASTER PLAN (MP5)	44 days	Wed 10/21/15	Thu 12/3/15
47	MP5 DWG PREPARATION	41 days	Wed 10/21/15	Mon 11/30/15
48	PREPARE ESTIMATE	7 days	Tue 11/24/15	Mon 11/30/15
49	SEND ELECTRONIC DWG FILES TO LA GROUP	0 days	Mon 11/30/15	Mon 11/30/15
50	LA GROUP SUBMITS MP5 TO VA	3 days	Tue 12/1/15	Thu 12/3/15
51	DESIGN DEVELOPMENT PHASE	112 days	Tue 10/20/15	Tue 2/9/16
52	DESIGN DEVELOPMENT (DD1)	44 days	Tue 10/20/15	Thu 12/3/15
53	NOTICE TO PROCEED TO DD1	0 days	Tue 10/20/15	Tue 10/20/15
54	DD1 DWG PREPARATION	34 days	Wed 10/21/15	Mon 11/23/15
55	PRINT DD1 COORDINATION SET, SEND TO LAG	0 days	Mon 11/23/15	Mon 11/23/15



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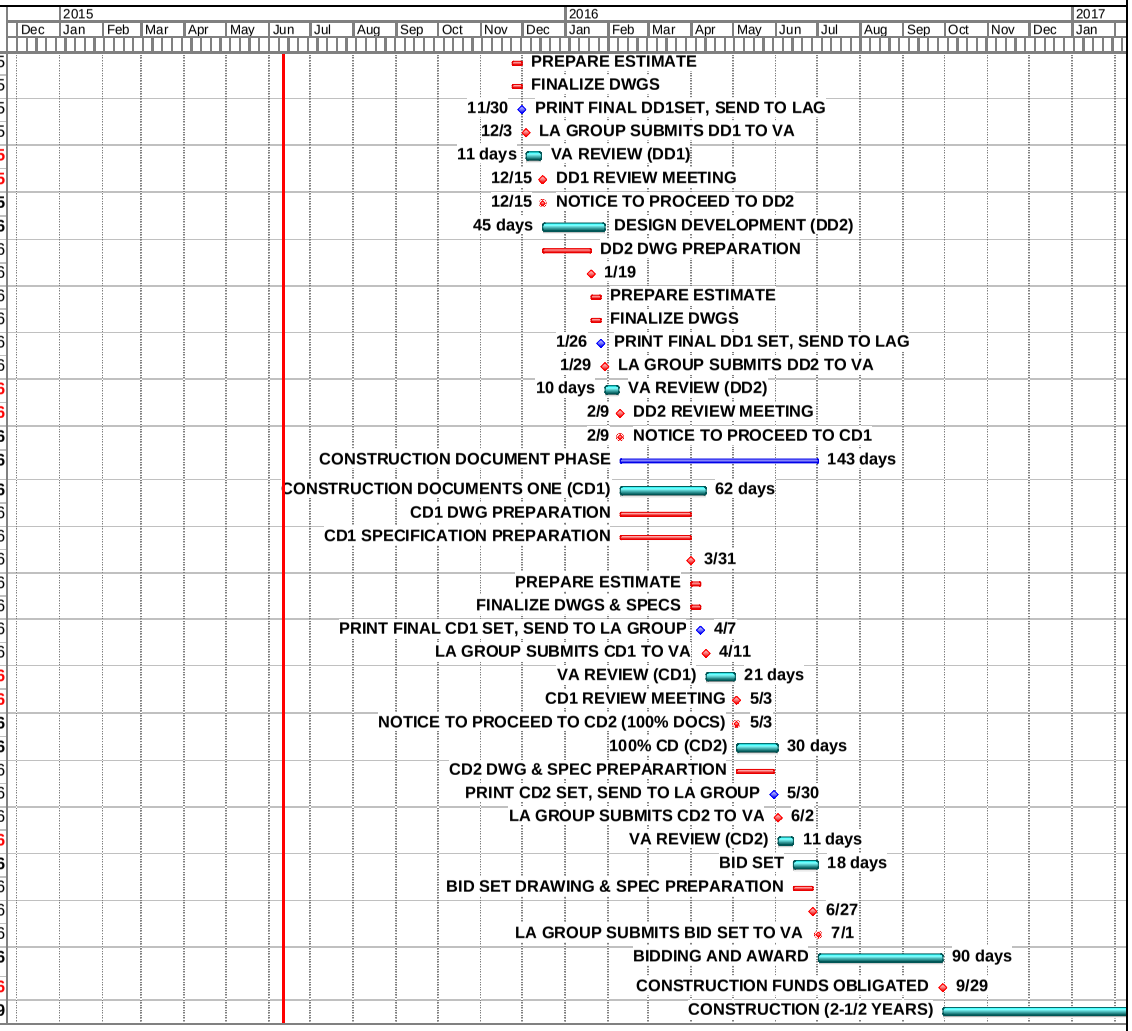
The LA GROUP

WESTERN NEW YORK NATIONAL CEMETERY (VA PROJ. NO. 936PC2002)

THE LA GROUP, LANDSCAPE ARCHITECTURE AND ENGINEERING P.C.

June 11, 2015

ID	Task Name	Duration (Calendar Days)	Start	Finish
56	PREPARE ESTIMATE	7 days	Tue 11/24/15	Mon 11/30/15
57	FINALIZE DWGS	7 days	Tue 11/24/15	Mon 11/30/15
58	PRINT FINAL DD1SET, SEND TO LAG	0 days	Mon 11/30/15	Mon 11/30/15
59	LA GROUP SUBMITS DD1 TO VA	3 days	Tue 12/1/15	Thu 12/3/15
60	**VA REVIEW (DD1)**	**11 days**	**Fri 12/4/15**	**Mon 12/14/15**
61	**DD1 REVIEW MEETING**	**1 day**	**Tue 12/15/15**	**Tue 12/15/15**
62	**NOTICE TO PROCEED TO DD2**	**1 day**	**Tue 12/15/15**	**Tue 12/15/15**
63	**DESIGN DEVELOPMENT (DD2)**	**45 days**	**Wed 12/16/15**	**Fri 1/29/16**
64	DD2 DWG PREPARATION	35 days	Wed 12/16/15	Tue 1/19/16
65	PRINT COORDINATION SET, SEND TO LAG	0 days	Tue 1/19/16	Tue 1/19/16
66	PREPARE ESTIMATE	7 days	Wed 1/20/16	Tue 1/26/16
67	FINALIZE DWGS	7 days	Wed 1/20/16	Tue 1/26/16
68	PRINT FINAL DD1 SET, SEND TO LAG	0 days	Tue 1/26/16	Tue 1/26/16
69	LA GROUP SUBMITS DD2 TO VA	3 days	Wed 1/27/16	Fri 1/29/16
70	**VA REVIEW (DD2)**	**10 days**	**Sat 1/30/16**	**Mon 2/8/16**
71	**DD2 REVIEW MEETING**	**1 day**	**Tue 2/9/16**	**Tue 2/9/16**
72	**NOTICE TO PROCEED TO CD1**	**1 day**	**Tue 2/9/16**	**Tue 2/9/16**
73	**CONSTRUCTION DOCUMENT PHASE**	**143 days**	**Wed 2/10/16**	**Fri 7/1/16**
74	**CONSTRUCTION DOCUMENTS ONE (CD1)**	**62 days**	**Wed 2/10/16**	**Mon 4/11/16**
75	CD1 DWG PREPARATION	51 days	Wed 2/10/16	Thu 3/31/16
76	CD1 SPECIFICATION PREPARATION	51 days	Wed 2/10/16	Thu 3/31/16
77	PRINT COORDINATION SET, SEND TO LA GROUP	0 days	Thu 3/31/16	Thu 3/31/16
78	PREPARE ESTIMATE	7 days	Fri 4/1/16	Thu 4/7/16
79	FINALIZE DWGS & SPECS	7 days	Fri 4/1/16	Thu 4/7/16
80	PRINT FINAL CD1 SET, SEND TO LA GROUP	0 days	Thu 4/7/16	Thu 4/7/16
81	LA GROUP SUBMITS CD1 TO VA	4 days	Fri 4/8/16	Mon 4/11/16
82	**VA REVIEW (CD1)**	**21 days**	**Tue 4/12/16**	**Mon 5/2/16**
83	**CD1 REVIEW MEETING**	**1 day**	**Tue 5/3/16**	**Tue 5/3/16**
84	**NOTICE TO PROCEED TO CD2 (100% DOCS)**	**1 day**	**Tue 5/3/16**	**Tue 5/3/16**
85	**100% CD (CD2)**	**30 days**	**Wed 5/4/16**	**Thu 6/2/16**
86	CD2 DWG & SPEC PREPARARTION	27 days	Wed 5/4/16	Mon 5/30/16
87	PRINT CD2 SET, SEND TO LA GROUP	0 days	Mon 5/30/16	Mon 5/30/16
88	LA GROUP SUBMITS CD2 TO VA	3 days	Tue 5/31/16	Thu 6/2/16
89	**VA REVIEW (CD2)**	**11 days**	**Fri 6/3/16**	**Mon 6/13/16**
90	**BID SET**	**18 days**	**Tue 6/14/16**	**Fri 7/1/16**
91	BID SET DRAWING & SPEC PREPARATION	14 days	Tue 6/14/16	Mon 6/27/16
92	PRINT FINAL BID SET, SEND TO LA GROUP	0 days	Mon 6/27/16	Mon 6/27/16
93	LA GROUP SUBMITS BID SET TO VA	4 days	Tue 6/28/16	Fri 7/1/16
94	**BIDDING AND AWARD**	**90 days**	**Sat 7/2/16**	**Thu 9/29/16**
95	**CONSTRUCTION FUNDS OBLIGATED**	**0 days**	**Thu 9/29/16**	**Thu 9/29/16**
96	**CONSTRUCTION (2-1/2 YEARS)**	**913 days**	**Fri 9/30/16**	**Sun 3/31/19**



LEGEND

- PROPERTY LINE
- DRAINAGE SWALE ℄
- CABLE GUARD RAIL
- CHAIN LINK FENCE
- PRE-PLACED CRYPT SECTIONS (3'X8' CASKET PLOTS)
- IN-GROUND CREMAIN SECTIONS (4'X4' CREMAIN PLOTS)
- PRIVATE VAULTS (4'X10') / OVERSIZED CRYPTS (4'X10')
- GREEN BURIAL SECTION (5'X10' PLOTS)
- COLUMBARIUM / MEMORIAL WALLS
- HEADSTONE FACE DIRECTION
- PROPOSED PLANTINGS
- WETLAND
- WETLAND ADJACENT AREA

GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	GB	TOTAL
1A	1,200	650/650	1,500	–	–	4,000
1B	3,400	–	–	4,872	300	8,572
2	4,600	650/650	1,500	4,800	–	12,200
3	6,088	650/650	1,500	4,800	–	13,688
4	4,800	650/650	1,500	5,136	–	12,736
5	3,200	–	1,500	4,492	–	9,192
6	–	–	1,500	4,864	–	6,364
7	–	–	1,500	4,800	–	6,300
T	23,288	5,200	10,500	33,764	300	73,052

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV	PRIVATE VAULT
OS	OVER-SIZED CRYPTS
IC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
GB	GREEN BURIAL
MW	MEMORIAL WALL MARKERS
#	BURIAL SECTION NUMBER

WETLAND DISTURBANCE (APPROX. AREAS)

PHASE	WETLAND DIST.	ADJ. AREA
1A	0.64 ACRES	3.07 ACRES
1B	0.00 ACRES	8.68 ACRES
FUTURE	0.00 ACRES	3.37 ACRES
TOTAL	0.64 ACRES	15.12 ACRES

GRAVESITE YIELD BY SECTION

SEC.	YIELD
1	1,200 PPC
2	650 OS
2	650 PV
3	972 PPC
4	650 OS
4	650 PV
5	2,300 PPC
6	650 OS
6	650 PV
7	3,046 PPC
8	650 OS
8	650 PV
9	750 IC
10	750 IC
11	750 IC
12	750 IC
13	750 IC
14	3,042 PPC
15	2,300 PPC
16	750 IC
17	750 IC
18	2,428 PPC
19	1,870 PPC
20	1,430 PPC

SEC.	YIELD
21	1,500 PPC
22	300 GB
23	375 IC
24	375 IC
25	750 IC
26	375 IC
27	750 IC
28	375 IC
29	750 IC
30	750 IC
31	750 IC
32	1,500 PPC
33	1,700 PPC
A	4,872 CN
B	9,600 CN
C	9,628 CN
D	9,664 CN

GRAPHIC SCALE
200 0 100 200 400
1 inch = 200 feet

NORTH

Revisions:	Date

CONSULTANTS:

ARCHITECTURAL/MEP: CANNONDESIGN, 2170 Whitehaven Road, Grand Island, NY 14072, (716) 774-3534

STRUCTURAL: SCHAFER ENGINEERING ASSOCIATES

IRRIGATION: Aqua Engineering, Inc. Innovative Water Solutions, 4803 Innovation Drive, Fort Collins, Colorado 80525, Phone:(970) 226-9400, Fax:(970) 226-9500

SURVEYING: LARSEN ENGINEERS

TRAFFIC/GEOTECHNICAL: FISHERASSOCIATES, 185 Cobbs Road, Rochester, NY 14626

ARCHITECT/ENGINEER: The LA GROUP, Landscape Architecture & Engineering P.C., People. Purpose. Place., 40 Long Alley, Saratoga Springs, NY 12866, p 518-587-8100, f 518-587-0180, www.thelagroup.com

NATIONAL CEMETERY ADMINISTRATION

Drawing Title: OVERALL MASTER PLAN

Approved: Project Director

Project Title: WESTERN NEW YORK NATIONAL CEMETERY

Location: GENESEE COUNTY, NEW YORK

Date: 2/9/2016 | Checked: JGS | Drawn: JDB

Project Number: 936PC2002

Building Number:

Drawing Number: MP-C-101

Dwg 3 of 96

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

MASTER PLAN 5 SUBMISSION

LEGEND

- PHASE 1A
- PHASE 1B
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5
- FUTURE PHASES

GRAVESITE YIELD SUMMARY

PH.	PPC	PV/OS	IGC	CN	GB	TOTAL
1A	1,200	650/650	1,500	–	–	4,000
1B	3,400	–	–	4,872	300	8,572
2	4,600	650/650	1,500	4,800	–	12,200
3	6,088	650/650	1,500	4,800	–	13,688
4	4,800	650/650	1,500	5,136	–	12,736
5	3,200	–	1,500	4,492	–	9,192
6	–	–	1,500	4,864	–	6,364
7	–	–	1,500	4,800	–	6,300
T	23,288	5,200	10,500	33,764	300	73,052

ABBREVIATIONS:

PPC	PRE-PLACED CRYPTS
PV/OS	PRIVATE VAULT/ OVER-SIZED CRYPTS
IC	IN-GROUND CREMAINS
CN	COLUMBARIUM NICHES
MW	MEMORIAL WALL MARKERS
GB	GREEN BURIAL
#	BURIAL SECTION NUMBER

GRAPHIC SCALE
200 0 100 200 400
1 inch = 200 feet

NORTH

Revisions:	Date

CONSULTANTS:

ARCHITECTURAL/MEP: CANNONDESIGN
STRUCTURAL: SCHAFER ENGINEERING ASSOCIATES
IRRIGATION: Aqua Engineering, Inc.
SURVEYING: LARSEN ENGINEERS
TRAFFIC/GEOTECHNICAL: FISHERASSOCIATES

ARCHITECT/ENGINEER: The LA GROUP

NATIONAL CEMETERY ADMINISTRATION

Drawing Title: PHASING PLAN

Approved: Project Director

Project Title: WESTERN NEW YORK NATIONAL CEMETERY

Location: GENESEE COUNTY, NEW YORK

Date: 2/9/2016 | Checked: JGS | Drawn: JDB

Project Number: 936PC2002

Building Number:

Drawing Number: MP-C-106

Dwg 8 of 96

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978

MASTER PLAN 5 SUBMISSION

The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

PREPARED BY:	D. Desjardins	DATE	03/23/16
CHECKED BY:		DATE	
SUBJECT:	Earthwork Calculations		
PROJECT NUMBER:	201512	SHEET	1 OF 1

Assumptions - **A tri-axle dump trailer holds 18 tons of earth fill.**
A tandem dump trailer holds 22 tons of earth fill.
Excavated material weighs 100 lbs/ft^3.
Compacted material weighs 130 lbs/ft^3.
A cubic yard of excavated material weighs 1.35 tons.
The ratio of excavated to compacted material is 1.30.
One round trip from borrow pit to site is 1 hour.
Loading a truck will take 5 minutes.
Trucks will operate for 8 hours per day (40 hours per week for each driver).

Determine amount of material that can be placed in one day:

Time to load one truck =	5	minutes
Number of trucks per hour =	12	trucks/hour
Working day =	8	hours/day
Volume of excavated material per trip =	13.3	cubic yards
Volume of compacted material per trip =	10.3	cubic yards
Number of truck trips per day =	96	trips
Total volume placed per day =	985	cubic yards

				work days		calendar days (5 8-hr days/week)	
Phase 1A (NORTH AREA AS REQUIRED FOR PH 1A ONLY)							
Number of days to place =	58,534	cubic yards =		59	days	83	days
Phase 1A (SOUTH AREA ACCESS ROAD & STAGING)				work days			
Number of days to place =	19,475	cubic yards =		20	days	28	days
Phase 1A (WATER LINE)							
Number of days to place =	50,000	cubic yards =		51	days	71	days
Phase 1B							
Number of days to place =	176,176	cubic yards =		179	days	251	days

TOTAL FILL = 304,185

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