

TOWN OF LEWISBORO
Westchester County, New York



Planning Board
PO Box 725
Cross River, New York 10518

Tel: (914) 763-5592
Fax: (914) 763-3637
Email: planning@lewisborogov.com

AGENDA

Tuesday, March 17, 2015

Cross River Plaza, Cross River

Note: Meeting will start at 7:30 p.m. and end at or before 11:30 P.M.

I. PUBLIC HEARING

J2 Boniello Builders – Property fronting Bouton Road – Applications for Wetland Activity Permit Approval and Stormwater Permit Approval to construct a single family residence serviced by a septic system and drilled well – Cal# 39-14WP

II. SKETCH PLAN REVIEW

NY SMSA Limited Partnership d/b/a Verizon Wireless, applicant (Town of Lewisboro, owner of record), Lewisboro Town Park, 1065 Route 35, South Salem – Application for Special Use Permit Approval for work associated with antenna upgrade – Sketch Plan Review – Cal# 2-15PB

Copia Garden Center, 475 Smith Ridge Road - owner of record: Organic Choice, Inc. (Block0 9834, Lots 035 & 048, Sheet 0053) & Peter and Jennifer Cipriano, 5 East Street (Block 09834, Lot 036, Sheet 0053) - Application for Sketch Plan Review/Site Development Plan for improvements to the existing Copia Garden Center including modification to curb cuts along East Street and expansion of the existing use onto adjacent tax parcel 09834-036-0053 – Cal# 1-15PB

III. PROJECT REVIEW

New York American Water/Wild Oaks Water System – Nash Road – Application for Wetland Activity Permit to convert previously drilled groundwater test wells into active supply wells and tying them into the currently existing pump house via cut and cover trenching – Cal# 6-15WP

IV. WETLAND VIOLATION

Cal # 5-14WV

V. DISCUSSION

Septic Compliance Administration

Stormwater Management and Erosion and Sediment Control

VI. CORRESPONDENCE AND GENERAL BUSINESS

VII. MINUTES OF February 17, 2015

**J2 BONIELLO
BUILDERS**

CAL# 39-14WP

TOWN OF LEWISBORO

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Lewisboro, Westchester County, New York will convene a Public Hearing on March 17, 2015 at 7:30 p.m., or soon thereafter, at the Town Offices @ Orchard Square Plaza, Lower Level, Cross River, New York, regarding the following:
Cal# 39-14WP and Cal# 15-14SW.

Application for Wetland Activity Permit Approval and Stormwater Permit Approval, Waccabuc River Lane (property fronting Bouton Road), South Salem, New York, J2 Boniello Builders, owner of record, to permit the construction of a four (4) bedroom residence, gravel driveway, septic system, potable water well, grading and stormwater improvements. The property is located at Bouton Road, consists of approximately 4.1 acres of land, and is located within the Town's R-4A Zoning District. The Waccabuc River traverses the subject property and the majority of the proposed improvements are located within the Town's 150-foot regulated wetland buffer. A copy of materials and proposed site documents may be inspected at the office of the Planning Board Secretary, 20 Orchard Square, Suite L, Cross River, New York during the regular Planning Board hours. Persons wishing to object to the application should file a notice of objection with the Planning Board together with a statement of the grounds of objection prior to the closing of the Public Hearing. All interested parties are encouraged to attend the Public Hearing and all will be provided an opportunity to be heard.

**PLANNING BOARD
TOWN OF LEWISBORO
By: Jerome Kerner
Chairman**

Dated March 12, 2015

The Town of Lewisboro is committed to equal access for all citizens. Anyone needing accommodations to attend or participate in this meeting is encouraged to notify the Secretary to the Planning Board in advance.



0000

THE STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DISTRICT OFFICE OF WESTCOTT
WESTCOTT, NEW YORK

PLEASE DO NOT REMOVE THIS SIGN
OR ANY OTHER SIGN FROM THIS ROAD

DATE: 11/11/11
BY: [illegible]

**NY SMSA LIMITED
PARTNERSHIP**

d/b/a

**VERIZON
WIRELESS**

CAL# 2-15PB

LAW OFFICES OF
SNYDER & SNYDER, LLP

94 WHITE PLAINS ROAD
TARRYTOWN, NEW YORK 10591

(914) 333-0700

FAX (914) 333-0743

WRITER'S E-MAIL ADDRESS

Lsnyder@snyderlaw.net

NEW YORK OFFICE
445 PARK AVENUE, 9TH FLOOR
NEW YORK, NEW YORK 10022
(212) 749-1448
FAX (212) 932-2693

LESLIE J. SNYDER
ROBERT D. GAUDIOSO

DAVID L. SNYDER
(1956-2012)

NEW JERSEY OFFICE
ONE GATEWAY CENTER, SUITE 2600
NEWARK, NEW JERSEY 07102
(973) 824-9772
FAX (973) 824-9774

REPLY TO:

Tarrytown Office

February 19, 2015

Hon. Chairman Jerome Kerner
and Members of the Planning Board
Town of Lewisboro
20 North Salem Road
Cross River, New York 10590

RE: **New York SMSA Limited Partnership d/b/a Verizon Wireless
Request for Antenna Work on the Existing Tower located at
1065 Route 35, Lewisboro, New York**

Dear Hon. Chairman Kerner and Members of the Planning Board:

I am the attorney for New York SMSA Limited Partnership d/b/a Verizon Wireless ("Verizon Wireless") in connection with its request to perform antenna work ("Antenna Work") on the existing communications tower at the captioned site. Verizon Wireless' Antenna Work consists of the installation of replacement antennas and ancillary equipment on the tower. The Antenna Work is necessary for Verizon Wireless to be able to provide enhanced voice and data services to the area, allowing for high speed wireless data transmission. In accordance with Section 220-41.1(H) of the Town Code, alteration of an approved communications facility requires special permit approval.

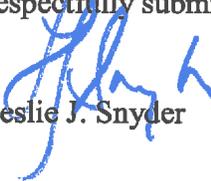
In connection therewith, I have enclosed the required special permit application fee and 13 copies of the following materials:

1. Special permit application;
2. Signed and sealed plans prepared by Structural Consulting Services, P.C., depicting the proposed work;
3. Memorandum in Support of the Application with Exhibits, including a radio frequency emissions compliance report and a structural certification; and
4. An electronic copy of this application.

Section 220-41.1 C (2) of the Town of Lewisboro's Zoning Code specifically encourages the collocation of antennas on existing towers like the instant case, and provides in Section 220-41.1(H)(2), that applications involving amending an approved communications facility in connection with co-location shall be processed in an expedited manner. Kindly also note that the Middle Class Tax Relief and Job Creation Act of 2012 ("TRA"), signed by the President on February 22, 2012, contains a provision fostering the deployment of wireless communication facilities and modifications thereto. Section 6409 of TRA provides that a local government "may not deny, and shall approve" an application for "collocation of new transmission equipment" or "replacement of transmission equipment" on an existing wireless tower or base station that does not "substantially change the physical dimensions of such tower or base station." In connection therewith, it is respectfully submitted that Verizon Wireless' request for the Antenna Work shall be approved forthwith so that the special permit is amended to permit such Antenna Work and the special permit shall continue for another five (5) years from the date of special permit amendment.

Thank you for your consideration. I look forward to discussing this matter with the Planning Board at your next meeting. If you have any questions or require additional documentation, please do not hesitate to call me or Michael Sheridan of my office at (914) 333-0700.

Respectfully submitted,



Leslie J. Snyder

LJS/ms

cc: Hon. Supervisor Peter Parsons
Verizon Wireless
Jim Fahey

Z:\SSDATA\WPDATA\SS4\WP\NEWBANM\Joe Rollins\LTE Zoning Analyses\Cross River Relo (Lewisboro)\PB.Ltr.fw.rev2.wpd

TOWN OF LEWISBORO PLANNING BOARD
P. O. Box 725, Cross River, New York 10518 TEL (914) 763-5592 / FAX (914) 763-3637
e-mail planning@lewisborogov.com

STEP 1: APPLICATION FOR SKETCH PLAN REVIEW

application type (check one) SITE DEVELOPMENT PLAN SPECIAL PERMIT

Antenna replacement work and related improvements R-4A

project name		zoning district		*with access via a driveway on Block
1065 Route 35, Town of Lewisboro, New York	21	10541	25*	10541, Lot 5
site location	tax sheet	block	lot	

<u>6+/-</u> site acreage	Is the site located within 500 FT of any Town boundary	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<u>N/A</u> existing gross floor area	Is the site located within the New York City Watershed	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<u>N/A</u> proposed gross floor area	Is the site located on a State of County Highway? Route # <u>35</u>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

Structural Consulting Services, P.C. 67 Federal Road, Brookfield, CT 06804 203-740-7578

engineer's name address phone

Structural Consulting Services, P.C. 67 Federal Road, Brookfield, CT 06804 203-740-7578

surveyor's name address phone

ALL SUBMITTED PLANS AND DOCUMENTS SHALL BEAR AN ORIGINAL SIGNATURE, SEAL AND LICENSE NUMBER OF THE PROFESSIONAL RESPONSIBLE FOR PREPARING EACH ITEM

ALL PLANS SHALL BE EQUAL IN SHEET SIZE, COLLATED INTO STAPLED FOLDED SETS. THIRTEEN (10) COMPLETE SETS ARE REQUIRED. (Except Communication Facilities require 13 sets.)

THE FOLLOWING MATERIALS SHALL BE ATTACHED:

- SKETCH PLAN per Section 220-45 (Site Development Plan) or Section 220-32 (Special Permit) of the Zoning Ordinance.
- WRITTEN NARRATIVE describing the environmental character, physical features and scope of the proposed action.
- ADDENDUM SITE DATA FORM attach completed Site Data Form to this application.
- COMPLETED AFFIDAVIT OF OWNERSHIP FORM certifying owner of record as of date of the application.
- COMPLETED AFFIDAVIT FROM RECEIVER OF TAXES certifying payment of all taxes and assessments due.
- FILING FEE: See attached Application Fee Schedule. Check(s) are payable to: *Town of Lewisboro*.
- INITIAL ESCROW DEPOSIT payable to: *TOWN OF LEWISBORO* (see Planning Board Secretary).

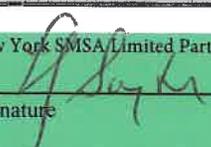
*SEE ATTACHED LETTER OF AUTHORIZATION

SUGGESTED:

- SKETCH CONSTRUCTION PLANS, PROFILES AND DETAILS.
- TOPOGRAPHIC SURVEY showing two-foot contour intervals.
- WETLAND DELINEATION per Chapter 217 Wetlands and Watercourse Law, with NYSDEC endorsement where appropriate.

THE APPLICANT understands that any application is considered complete only when all information and documents required have been Submitted and received by the Planning Board and further understands that the applicant is responsible for the payment of all application and Review fees incurred by the Planning Board.

THE UNDERSIGEND WARRANTS the truth of all statements contained herein and in all supporting documents according to the best of his or her knowledge and belief and authorizes visitation and inspection of the subject property by the Town of Lewisboro and its agents.

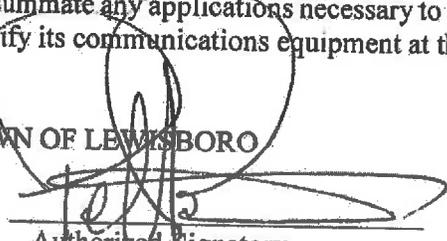
New York SMSA Limited Partnership d/b/a Verizon Wireless	c/o Snyder & Snyder, LLP 94 White Plains Road, Tarrytown, NY 10591	(914)333-0700	By: 	New York SMSA Limited Partnership d/b/a Verizon Wireless , as attorney
applicant's name	address	phone	signature	date
Town of Lewisboro	11 Main Street, South Salem, NY 10590	(914)333-0700	See enclosed Letter of Authorization	
owner's name	address	phone	signature	date

Date of receipt by Planning Board Secretary _____ Application ID: SDP# _____ or SP# _____

LETTER OF AUTHORIZATION

The Town of Lewisboro, the owner ("Owner") of the property commonly known as 1065 Route 35, Lewisboro, New York and designated as Block 10541, Lots 5 & 25 on the Town of Lewisboro Tax Map ("Property"), does hereby acknowledge that New York SMSA Limited Partnership d/b/a Verizon Wireless ("Verizon Wireless"), and its authorized representatives, have the authority to consummate any applications necessary to ensure Verizon Wireless' ability to replace or otherwise modify its communications equipment at the Property.

TOWN OF LEWISBORO

By: 

Authorized Signatory

Name: Peter Parsons

Title: Supervisor

TOWN OF LEWISBORO PLANNING BOARD

Onatru Farm, Elmwood Road, South Salem, New York 10590 • TEL (914) 763-5592 / FAX (914) 763-3637

ADDENDUM SITE DATA FORM

application type (check one)

SITE DEVELOPMENT PLAN

SPECIAL PERMIT USE

Antenna replacement work and related improvements
project name

1065 Route 35, South Salem, NY
site location

R-4 zoning district
21 tax sheet
10542 block
25* on Lot 5 lot
*with access via a driveway

ZONING BULK REGULATION	REQUIRED	EXISTING	PROPOSED	TOTAL
MINIMUM LOT AREA (Acres)				
MINIMUM STREET FRONTAGE (LF)				
MINIMUM STREET CENTERLINE YARDS (LF)				
FRONT				
SIDE				
REAR				
MINIMUM LANDSCAPE BUFFERS (LF)				
FRONT				
SIDE				
REAR				
NUMBER OF DWELLING UNITS				
GROSS FLOOR AREA (SF)				
BUILDING FOOTPRINTS (SF)				
BUILDING COVERAGE (% of lot)				
BUILDING HEIGHT (FEET)				
STORIES				
FLOOR AREA RATIO (FAR)				
PARKING SPACES				
LOADING SPACES				
SITE COVERAGE (% of lot)				

NOT APPLICABLE TO
ANTENNA WORK

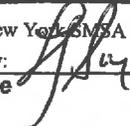
OFF-STREET PARKING AND LOADING CALCULATIONS

Provide the specific calculation used to determine the number of off-street parking and loading spaces required per the Zoning Ordinance.

PARKING CALCULATION (round up): NA

LOADING CALCULATION (round up): NA

New York SMSA Limited Partnership d/b/a Verizon Wireless
c/o Snyder & Snyder, LLP 94 White Plains Road, Tarrytown, NY 10591 (914) 333-0700

New York SMSA Limited Partnership d/b/a Verizon Wireless
By:  as attorney
phone signature date

applicant's name address

SEE ATTACHED LETTER OF AUTHORIZATION

owner's name address

phone signature date

Date of receipt by Planning Board Secretary: _____

Application ID: SDP# _____ or SP# _____

PLANNING BOARD
TOWN OF LEWISBORO

-----X

In the matter of the Application of

**NEW YORK SMSA LIMITED PARTNERSHIP
d/b/a VERIZON WIRELESS**

Premises: 1065 Route 35
Town of Lewisboro, New York
Section 21, Block 10541, Lots 5 & 25

-----X

**MEMORANDUM IN SUPPORT OF THE APPLICATION BY NEW YORK
SMSA LIMITED PARTNERSHIP d/b/a VERIZON WIRELESS FOR ANTENNA
WORK ON THE EXISTING PUBLIC UTILITY WIRELESS
COMMUNICATIONS FACILITY**

I. **Introduction**

New York SMSA Limited Partnership d/b/a Verizon Wireless ("Verizon Wireless") respectfully submits this memorandum in support of its application to amend its special permit to perform antenna work ("Antenna Work") in connection with its existing public utility wireless communications facility at the property ("Property") located on 1065 Route 35, Town of Lewisboro, New York. The Antenna Work consists of the installation of replacement antennas and ancillary equipment on the existing tower.

II. **Statement of Facts**

The Property is located in the R-4A zoning district in the Town of Lewisboro ("Town") and is currently used for public utility wireless communications purposes. Verizon Wireless' proposed Antenna Work will enable it to provide enhanced wireless communication services to the area. The proposed Antenna Work is detailed in the site plan ("Site Plan") prepared by Structural Consulting Services, P.C. ("SCS") and submitted herewith.

III. **Public Utility Status**

Verizon Wireless is licensed by the Federal Communications Commission ("FCC"), and is a wireless telecommunication public utility in the State of New York, providing an essential public service. See Cellular One v. Rosenberg, 82 NY2d 364 (1993) (hereinafter referred to as "Rosenberg"). In Rosenberg, supra, New York's highest court held that federally licensed wireless carriers are public utilities in the State of New York, and provide an essential public service. The court found that public utilities, such as Verizon Wireless, are entitled to a relaxed standard in zoning decisions, since the proposed use is

necessary for it to render safe and adequate service.

The instant application is filed in furtherance of the goals and objectives established by Congress under the federal Telecommunications Act of 1996. The federal Telecommunications Act of 1996 is "an unusually important legislative enactment," establishing national public policy in favor of encouraging "*rapid deployment of new telecommunications technologies* (emphasis supplied)." Reno v. ACLU, 521 U.S. 844, 857, 117 S.Ct. 2329, 2337-38, 138 L.Ed.2d 874 (1997). In fact, in 1999, Congress expanded further upon this policy by enacting the Wireless Communications and Public Safety Act of 1999, Pub.L. 106-81, 113 Stat. 1286 (the "911 Act"). The "911 Act," empowered the FCC to develop regulations to make wireless 911 services available to all Americans. The express purpose of the Act, as articulated by Congress, was "*to encourage and facilitate the prompt deployment throughout the United States of seamless, ubiquitous, and reliable end-to-end infrastructure for communications, including wireless communications, to meet the Nation's public safety and other communications needs.*" (emphasis added).

Please note that on November 18, 2009, the FCC issued a Declaratory Ruling regarding timely review of applications for siting of wireless facilities, WT Docket NO. 08-165 (the "Shot Clock Order").¹ The Shot Clock Order finds that a "reasonable period of time" for a local government to act on this type of application, a collocation application, is presumptively 90 days.² According to the Shot Clock Order, if the Town fails to act within such reasonable period of time, the applicant may commence an action in court for "failure to act" under Section 332(c)(7)(B)(v) of the Federal Communications Act. Furthermore, under 220-41.1.H(2) of the Town's Zoning Code, a collocation, like the one proposed here, on an approved communication tower, which is consistent with the structural, safety and visual aspects of the approved tower, "shall be processed in an expedited manner."

Moreover, the Middle Class Tax Relief and Job Creation Act of 2012 ("TRA"), signed by the President on February 22, 2012, contains a provision fostering the deployment of wireless communication facilities. Section 6409 of TRA provides that a local government "may not deny, and shall approve" an application for "collocation of new transmission equipment" or "replacement of transmission equipment" on an existing wireless tower or base station that does not "substantially change the physical dimensions of such tower or base station." Accordingly, the Antenna Work as proposed on the existing tower should be approved forthwith.

IV. Verizon Wireless' Facility Meets the Standards for a Special Permit

A special permit use is permitted as of right when the applicant has demonstrated compliance with the applicable standards. See Matter of North Shore Steak House v. Board of Appeals of Inc. Vil. of Thomaston, 30 N.Y.2d 238, 331 N.Y.S. 2d 645 (1972). As detailed herein, Verizon Wireless' facility, as modified by the Antenna Work, will

1. A copy of the Rule is available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-99A1.pdf.

2. Rule, ¶71

continue to meet the special permit criteria set forth in Section 220-41.1 of the Town Zoning Code (“Zoning Code”).

A. Structural Compliance §220.41.1B(1),(2),(3),(4): Pursuant to the Structural Certification from SCS Engineering attached hereto as Exhibit 1, the existing tower can accommodate Verizon Wireless’ Antenna Work.

B. FCC and FAA Regulations §220.41.1B(5),(6),(9): Verizon Wireless will continue to operate and maintain its existing facility in accordance with its licenses from the Federal Communications Commission (“FCC”), which are attached hereto as Exhibit 2. Verizon Wireless’ facility will remain in conformance with all applicable rules and regulations of those governmental agencies having jurisdiction over communications facilities, including the FCC and FAA. Attached hereto as Exhibit 3 is an RF compliance Report (“RF Compliance Report”) issued by Pinnacle Telecom Group, which indicates that Verizon Wireless’ facility, taking into account all existing and/or proposed antennas, will continue to conform with the applicable regulations promulgated by the FCC pertaining to radio frequency emissions.

C. Need for Facility §220.41.1B(7): The proposed Antenna Work is necessary for Verizon Wireless to enhance its wireless services and meet current and expected demands for Verizon Wireless’ services in the surrounding area. Due to the nature of Verizon Wireless’ Antenna Work, Verizon Wireless respectfully requests that this Honorable Board waive its requirement under the Zoning Code to provide a verifiable list of complaints provided to the Public Service Commission for interruptions of service in the area. Such waiver is permitted under §220.41.1H(3) of the Zoning Code.

D. Facility Siting §220.41.1B(8), C (1) (2), D (2), (3), (4) & (9): Due to the nature of Verizon Wireless’ Antenna Work, Verizon Wireless respectfully requests that this Honorable Board waive the requirements of §220.41.1 relating to review of other properties and need for the site, including, without limitation §220.41.1 B (8) C(1), (2); and D (2), (3), (4) & (9). Such waivers are permitted under §220.41.1H(3) of the Zoning Code.

E. Location of Antennas §220-41.1C(3); D(6): In accordance with the requirements of Sections 220-41(C)(3) and (D)(6) of the Zoning Code, the Structural Certification from SCS, attached hereto as Exhibit 1, confirms that the existing tower has sufficient capacity for Verizon Wireless’ Antenna Work.

F. Environmental Assessment Form §220-41.1D(1): It is respectfully submitted that the proposed action is a Type II action under the New York State Environmental Quality Review Act (“SEQRA”) 6 NYCRR 617.5(C)(1) and (2), and, therefore, no environmental review under SEQRA is required. In any event, attached hereto as Exhibit 4 is a short Environmental Assessment Form (“EAF”). Due to the fact that Verizon Wireless’ Antenna Work consists of a the replacement/collocation of equipment on an existing tower as encouraged by the Zoning Code, Verizon Wireless respectfully requests that this Honorable Board waive the requirement for a long EAF and any remaining requirements of §220.41.1D(1).

G. Site Plan §220-41.1D(5): Submitted herewith is a Site Plan, which includes the elevations and locations of the Antenna Work. Kindly note that the RF Compliance Report, attached hereto as Exhibit 3, indicates the type of antennas to be installed. There will be no lighting or signage associated with the Antenna Work.

H. Structural Certification, and Emissions Safety and Compliance Report and Certification §220-41.1 D(6); (7): As noted above, the Structural Certification, attached hereto as Exhibit 1, demonstrates that the tower can accommodate the Antenna Work. The RF Compliance Report, attached hereto as Exhibit 3, certifies that the RF levels from all existing and proposed antennas will be “in clear compliance with the FCC regulations and limit concerning RF safety.” As you are aware, RF interference is governed by the FCC and is therefore not a matter for local determination. See New York SMSA Limited Partnership d/b/a Verizon Wireless v. Town of Clarkstown, 2009 WL 782971 (S.D.N.Y., 2009). In any event, as noted in the RF Compliance Report, Verizon Wireless operates pursuant to its licenses from the FCC and in connection therewith, Verizon Wireless’ installation will not interfere with the existing equipment of other federally licensed communications providers. Due to the nature of the Antenna Work, Verizon Wireless respectfully requests that this Honorable Board waive any remaining requirements of §220.41.1D(6) and (7). Such waiver is permitted under §220.41.1H(3) of the Zoning Code.

I. Site Access Driveway § 220-41.1D(8): Verizon Wireless will continue to utilize the existing driveway to access its wireless communications facility. Therefore, no new site access driveways are proposed.

J. Inapplicable Provisions § 206-41.1E: It is respectfully submitted that Section 206-41.1E of the Zoning Code is inapplicable to the instant application since those sections apply to the construction of communications tower and the instant application involves the Antenna Work on an existing tower.

In addition to the specific special permit criteria indicated above, Verizon Wireless’ facility, as modified by the Antenna Work, will continue to meet the general special permit criteria as follows in accordance with § 220-32 of the Zoning Code:

A. Nature of the Proposal: The location and size of the project, the nature and intensity of the operations, and the size and location of the Property are such that Verizon Wireless’ facility will continue to be in harmony with the appropriate and orderly development of the area for the following reasons. First, the proposed use is specifically authorized by special permit in accordance with the Zoning Code, and the Property is already utilized for the existing tower with facilities for Verizon Wireless. Second, since the Antenna Work involves the use of an existing tower, it eliminates Verizon Wireless’ need for any additional tower in the area. Third, the wireless communications facility will remain unmanned; requiring infrequent maintenance visits of approximately once a month so there will be no detrimental effect on the neighborhood due to traffic or other environmental impacts.

B. Appropriate Development of the Neighborhood: The location, nature and height of the project are such that the special permit will not hinder or discourage the appropriate development and use of adjacent land and buildings. Since the Antenna Work merely involves the use of an existing tower and involves no ground disturbance, there will be no additional disturbance to the area that would affect other development.

C. Nature of the Operations: The proposed Antenna Work will not produce noise, smoke, gas, heat, odor, dust, fumes, vibrations or flashing lights onto nearby properties, nor will it attract insects, vermin or vectors. In addition, the wireless communications facility will remain unmanned and not require water supply, waste disposal or other municipal resources.

D. Parking: Verizon Wireless' Antenna Work has no impact on pedestrian or vehicular traffic, since Verizon Wireless' facility will continue to be unmanned requiring infrequent maintenance visits of approximately once per month.

V. Conclusion

By granting Verizon Wireless a special permit for the Antenna Work, the Planning Board will enable Verizon Wireless to improve its wireless service to the area, affording Verizon Wireless users in the area the ability to have enhanced voice and high speed data transmission, with no significant adverse effect.

WHEREFORE, for all of the foregoing reasons, Verizon Wireless respectfully prays that this Honorable Board deem the proposed action a Type II Action or issue a negative declaration pursuant to the New York State Environmental Quality Review Act and grant the requested special permit approval for the Antenna Work so that the special permit, as amended, will continue for an additional five (5) years from the date of the special permit amendment.

Dated: February 12, 2015
Tarrytown, New York

Respectfully submitted,
Leslie J. Snyder
SNYDER & SNYDER, LLP
94 White Plains Road
Tarrytown, NY 10591

EXHIBIT 1
Structural Certification



**STRUCTURAL
CONSULTING
SERVICES, P.C.**

December 16, 2014

Honorable Chairman Kerner and
Members of the Planning Board
Town of Lewisboro
99 Elmwood Road
South Salem, NY 10590

Re: New York SMSA Limited Partnership d/b/a Verizon Wireless
Site: Cross River
1065 Route 35, Lewisboro, NY
Tax Map Sheet 21, Block 10541, Lot 25

Dear Honorable Chairman Kerner and Members of the Planning Board:

New York SMSA Limited Partnership d/b/a Verizon Wireless is proposing to replace all twelve (12) of their existing panel antennas on the existing 160' +/- monopole at the above referenced site with like kind panel antennas and related appurtenances as shown on the construction drawings prepared by our office, drawing C-1 and C-2 dated 12/11/14. The replacement antennas and accessory equipment will be at the same height as the existing antennas.

Our office has reviewed the proposed antenna configuration for its affect on the existing. In our professional opinion, the existing monopole and foundation can accommodate the proposed antenna replacement. Should you have any questions, please do not hesitate to contact our office.

Sincerely,

Structural Consulting Services, P.C.

James H. Fahey, P.E., S.E.
Principal

JHF/jhf



EXHIBIT 2
FCC Licenses

Federal Communications Commission
Wireless Telecommunications Bureau

Radio Station Authorization (Reference Copy Only)

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.

Licensee: Cellco Partnership

ATTN Regulatory
Cellco Partnership
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004

FCC Registration Number (FRN): 0003290673	
Call Sign: KNLH264	File Number: 0003047719
Radio Service: CW - PCS Broadband	

Grant Date 07/23/2007	Effective Date 07/23/2007	Expiration Date 06/27/2017	Print Date 07/26/2007
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Market Number: BTA321	Channel Block: F	Sub-Market Designator: 0
Market Name: New York, NY		

1st Build-out Date 06/27/2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
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Special Conditions or Waivers/Conditions This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

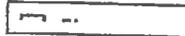
This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions

Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at <http://wireless.fcc.gov/uls/> and select "License Search". Follow the instruction on how to search for license information

FCC 601 - MB
September 2002





Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

ANNED

Call Sign WQBT539	File Number 0003864879
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date 02-28-2007	Effective Date 06-11-2009	Expiration Date 01-03-2017	Print Date 06-11-2009
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Market Number BTA321	Channel Block C	Sub-Market Designator 4
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Market Name New York, NY

1st Build-Out Date 12-07-2003	2nd Build-Out Date	3rd Build-Out Date	4th Build-Out Date
----------------------------------	--------------------	--------------------	--------------------

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.711 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: VERIZON WIRELESS TELECOM INC.

ATTN: REGULATORY
VERIZON WIRELESS TELECOM INC.
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

SCANNED

Call Sign KNLF644	File Number 0003298939
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0005798061

Grant Date 02-28-2007	Effective Date 01-23-2008	Expiration Date 01-03-2017	Print Date 01-24-2008
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Market Number BTA321	Channel Block C	Sub-Market Designator 3
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Market Name New York, NY

1st Build-Out Date 12-07-2003	2nd Build-Out Date 01-03-2007	3rd Build-Out Date	4th Build-Out Date
----------------------------------	----------------------------------	--------------------	--------------------

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASASREG
ALPHARETTA, GA 30009-7630

SCANNED

Call Sign WQJQ696	File Number 0003864907
Radio Service WY - 700 MHz Lower Band (Blocks A, B, E)	

FCC Registration Number (FRN): 0003290673

Grant Date 11-26-2008	Effective Date 06-11-2009	Expiration Date 06-13-2019	Print Date 06-11-2009
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Market Number BEA010	Channel Block A	Sub-Market Designator 0
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Market Name New York-No. New Jer.-Long Isl

1st Build-Out Date 06-13-2013	2nd Build-Out Date 06-13-2019	3rd Build-Out Date	4th Build-Out Date
----------------------------------	----------------------------------	--------------------	--------------------

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

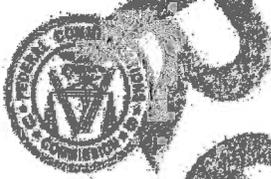
Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW YORK SMSA LIMITED PARTNERSHIP

ATTN: REGULATORY
NEW YORK SMSA LIMITED PARTNERSHIP
1120 SANCTUARY PKWY, #1500 SA5REG
ALPHARETTA, GA 30009-7626

Call Sign KNKA206	File Number 0006358273
Radio Service CL - Cellular	
Market Number CMA001	Channel Block B
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003473220

Market Name New York, NY-NJ/Nassau-Suffolk

Grant Date 09-03-2014	Effective Date 09-03-2014	Expiration Date 10-01-2024	Five Yr Build-Out Date	Print Date 09-03-2014
--------------------------	------------------------------	-------------------------------	------------------------	--------------------------

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	40-50-32.0 N	073-01-33.0 W	89.6	93.0	7343284

Address: ADIRONDACK DR 300 FT S OF MIDVALE

City: SELDEN County: SUFFOLK State: NY Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.100	83.100	83.800	99.800	106.000	93.200	84.600	81.800
Transmitting ERP (watts)	33.190	1.450	576.810	458.170	102.570	10.500	1.210	1.660
Antenna: 5 Azimuth (from true north)		45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.100	83.100	83.800	99.800	106.000	93.200	84.600	81.800
Transmitting ERP (watts)	0.110	0.100	0.150	1.780	9.770	15.650	8.510	1.350
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	86.100	83.100	83.800	99.800	106.000	93.200	84.600	81.800

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right to use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign WQJQ689	File Number 0003865021
Radio Service WU - 700 MHz Upper Band (Block C)	

SCANNED

FCC Registration Number (FRN): 0003290673

Grant Date 11-26-2008	Effective Date 06-11-2009	Expiration Date 06-13-2019	Print Date 06-11-2009
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Market Number REA001	Channel Block C	Sub-Market Designator 0
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Market Name Northeast

1st Build-Out Date 06-13-2013	2nd Build-Out Date 06-13-2019	3rd Build-Out Date	4th Build-Out Date
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Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
 CELLCO PARTNERSHIP
 1120 SANCTUARY PKWY #150 CASA5REG
 ALPHARETTA, GA 30009-7630

Call Sign WQGA715	File Number 0003833180
Radio Service AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date 11-29-2006	Effective Date 05-12-2009	Expiration Date 11-29-2021	Print Date 05-12-2009
Market Number REA001	Channel Block	Sub-Market Designator 0	
Market Name Northeast			
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WT Docket No. 02-353, rel. April 20, 2006.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

EXHIBIT 3
RF Compliance Report



PINNACLE TELECOM GROUP

Professional and Technical Services

**ANTENNA SITE FCC RF COMPLIANCE
ASSESSMENT AND REPORT**

PREPARED FOR

**NEW YORK SMSA LIMITED PARTNERSHIP
d/b/a VERIZON WIRELESS**

**"CROSS RIVER" SITE
1065 ROUTE 35
LEWISBORO, NY**

DECEMBER 11, 2014

14 RIDGEDALE AVENUE • SUITE 209 • CEDAR KNOLLS, NJ 07927 • 973-451-1630

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COMPLIANCE CONCLUSION	13
CERTIFICATION	14
APPENDIX A. BACKGROUND ON THE FCC MPE LIMIT	
APPENDIX B. SUMMARY OF EXPERT QUALIFICATIONS	

INTRODUCTION AND SUMMARY

At the request of New York SMSA Limited Partnership d/b/a Verizon Wireless ("Verizon Wireless"), Pinnacle Telecom Group has performed an independent assessment of radiofrequency (RF) levels and related FCC compliance for the modification of wireless base station antenna operations on a monopole at 1065 Route 35 in Lewisboro, NY. Verizon Wireless refers to the site as "Cross River", and the modifications involve antenna replacements to facilitate wireless service provision in the 700 MHz, 850 MHz, 1900 MHz, and 2100 MHz frequency bands licensed to Verizon Wireless by the FCC.

The FCC requires wireless antenna operators to perform an assessment of potential human exposure to radiofrequency (RF) fields emanating from all the transmitting antennas at a site whenever antenna operations are added or modified, and to ensure compliance with the Maximum Permissible Exposure (MPE) limit in the FCC regulations. In this case, while the monopole may have been designed to support future collocation by other antenna operators, at this point there are no other antenna operations at the site to include in this compliance assessment. Note that FCC regulations require any future antenna collocators to assess and assure continuing compliance based on the cumulative effects of all proposed and then-existing antennas at the site.

This report describes a mathematical analysis of RF levels resulting around the site in areas of unrestricted public access, that is, at ground level around the site. The compliance analysis employs a standard FCC formula for calculating the effects of the antennas in a very conservative manner, in order to overstate the RF levels and to ensure "safe-side" conclusions regarding compliance with the FCC limit for safe continuous exposure of the general public.

The results of a compliance assessment can be explained in layman's terms by describing the calculated RF levels as simple percentages of the FCC MPE limit. If the reference for that limit is 100 percent, then calculated RF levels higher than 100 percent indicate the MPE limit is exceeded, while calculated RF levels consistently lower than 100 percent serve as a clear and sufficient demonstration

of compliance with the MPE limit. We will also describe the overall worst-case calculated result via the "plain-English" equivalent "times-below-the-limit factor".

The results of the FCC RF compliance assessment in this case are as follows:

- At street level around the site, the conservatively calculated maximum RF level from the proposed antenna operations is 0.1240 percent (i.e., less than 2/10ths of one percent) of the FCC general population MPE limit. In other words, even with the significant degree of conservatism in the calculations, the worst-case calculated RF level is still more than 800 times below the FCC limit for safe, continuous exposure to the RF emissions from antennas.
- The results of the calculations provide a clear demonstration that the RF levels from the proposed antenna operations at the site satisfy the applicable criteria for controlling potential human exposure to RF fields, and the RF levels will be in clear compliance with the FCC regulations and limit concerning RF safety. Moreover, because of the conservative methodology and incorporated assumptions, RF levels actually caused by the antennas will be even less significant than the calculation results here indicate.

The remainder of this report provides the following:

- relevant technical data on the Verizon Wireless antenna operations, as proposed to be modified;
- descriptions of the applicable FCC mathematical models for assessing MPE compliance, and application of the relevant technical data to those models; and
- the results of the analysis, and the compliance conclusion for the site.

In addition, Appendix A provides background on the FCC MPE limit, along with a list of FCC references on compliance. Appendix B provides a summary of the qualifications of the expert certifying RF compliance for this site.

NOTE ON POTENTIAL RF INTERFERENCE

In connection with the RF emissions from the proposed antenna operation, we note that Verizon Wireless has been granted by the FCC exclusive geographic rights to its channel frequencies, and is further subject to strict FCC technical standards on parameters such as maximum power and out-of-band emissions, as well as regulations related to non-interference. Therefore, we can provide a clear assurance that the proposed antenna operation will not interfere with public safety communications, or the usual and customary reception of radio, television, or other communications services enjoyed by the nearby residential and non-residential properties, or other existing telecommunications devices.

At the same time, however, we would be professionally remiss in omitting a reference to a July 2003 FCC decision – a “Memorandum Opinion and Order” in “WT Docket No. 02-100” that related to interference. That FCC Order concluded that any local ordinance requiring a certification of non-interference related to a wireless antenna siting application represents “impermissible regulation” of RF interference, an area under exclusive FCC jurisdiction and federally-preempted from local regulation.

ANTENNA AND TRANSMISSION DATA

The table that follows provides the key compliance-related data for the Verizon Wireless operations, as proposed to be modified.

General Data	
Frequency Bands	700 MHz, 850 MHz, 1900 MHz and 2100 MHz
Service Coverage Type	Sectorized
Antenna Type	Directional Panel
Antenna Centerline Height AGL	157 ft. AGL
Antenna Line Loss	0 dB (conservatively ignored)
700 MHz Antenna Data	
Antenna Model (Max. Gain)	CSS X7CAP-480-VR0 (12.4 dBi)
RF Channels per Sector	2 @ 40 watts

850 MHz Antenna Data	
Antenna Model (Max. Gain)	CSS X7CAP-480-VR0 (13.5 dBi)
RF Channels per Sector	8 @ 20 watts
1900 MHz Antenna Data	
Antenna Model (Max. Gain)	CSS X7CAP-480-VR0 (16.7 dBi) CSS QAP-480-VR0 (16.0 dBi)
RF Channels per Sector	4 @ 16 watts
2100 MHz Antenna Data	
Antenna Model (Max. Gain)	CSS QAP-480-VR0 (15.8 dBi)
RF Channels per Sector	2 @ 40 watts

The antenna vertical-plane radiation pattern is used in the calculations of RF levels at street level around a site.

Figures 1 through 4 that follow show the vertical-plane patterns of each of the proposed antenna models in each of the relevant frequency bands.

In this type of antenna pattern diagram, the antenna is effectively pointed at the three o'clock position (the horizon) and the pattern at different angles is described using decibel units. Note that the use of a decibel scale to describe the relative pattern at different angles incidentally serves to significantly understate the actual focusing effects of the antenna. Where the antenna pattern reads 20 dB the relative RF energy emitted at the corresponding downward angle is 1/100th of the maximum that occurs in the main beam (at 0 degrees); at 30 dB, the energy is only 1/1000th of the maximum.

Note, finally, that the automatic pattern-scaling feature of our internal software may skew side-by-side visual comparisons of different antenna models, or even different parties' depictions of the same antenna model.

Figure 1. CSS X7CAP-480-VR0 – 700/850 MHz Vertical-plane Pattern

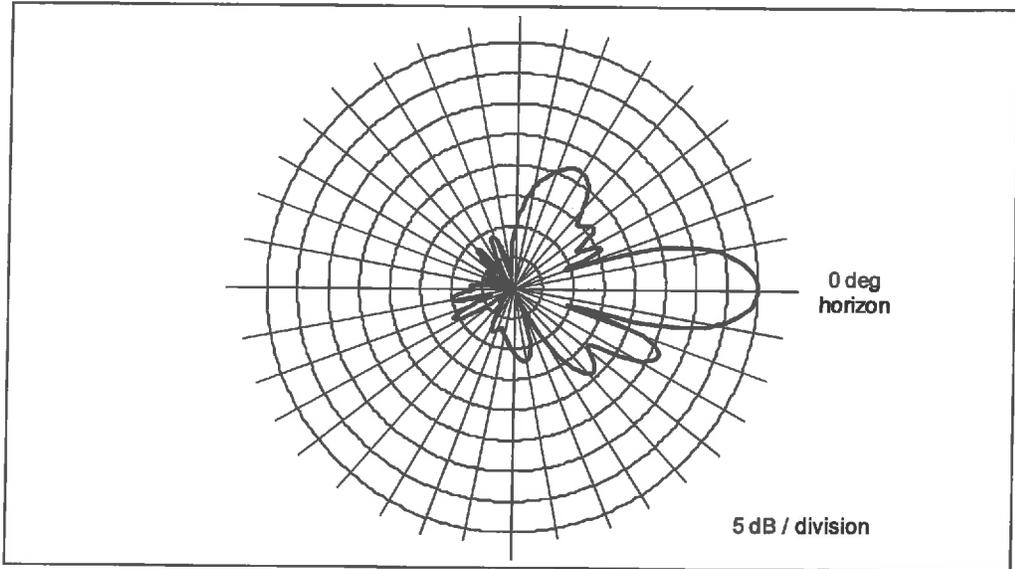


Figure 2. CSS X7CAP-480-VR0 – 1900 MHz Vertical-plane Pattern

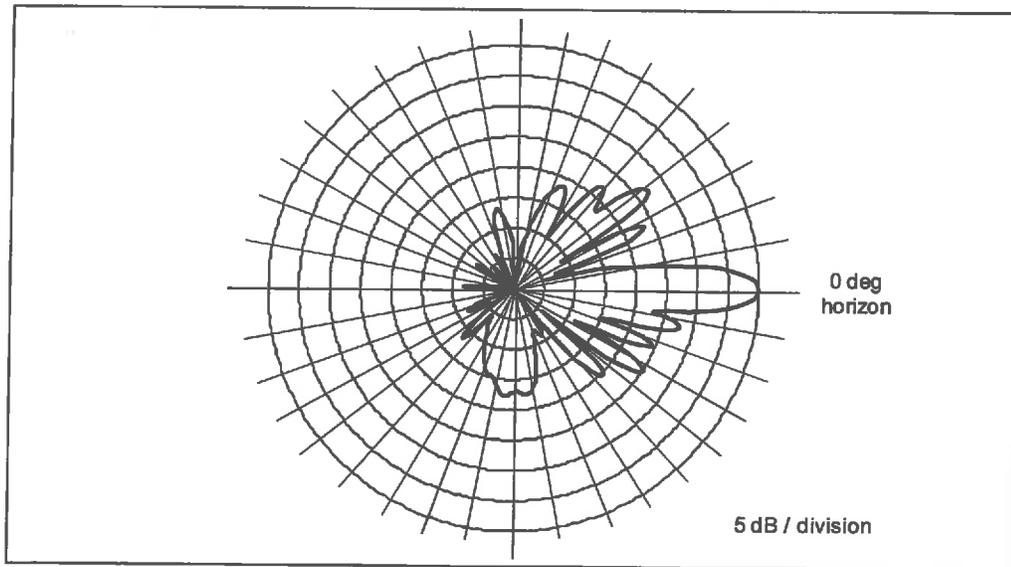


Figure 3. CSS QAP-480-VR0 – 1900 MHz Vertical-plane Pattern

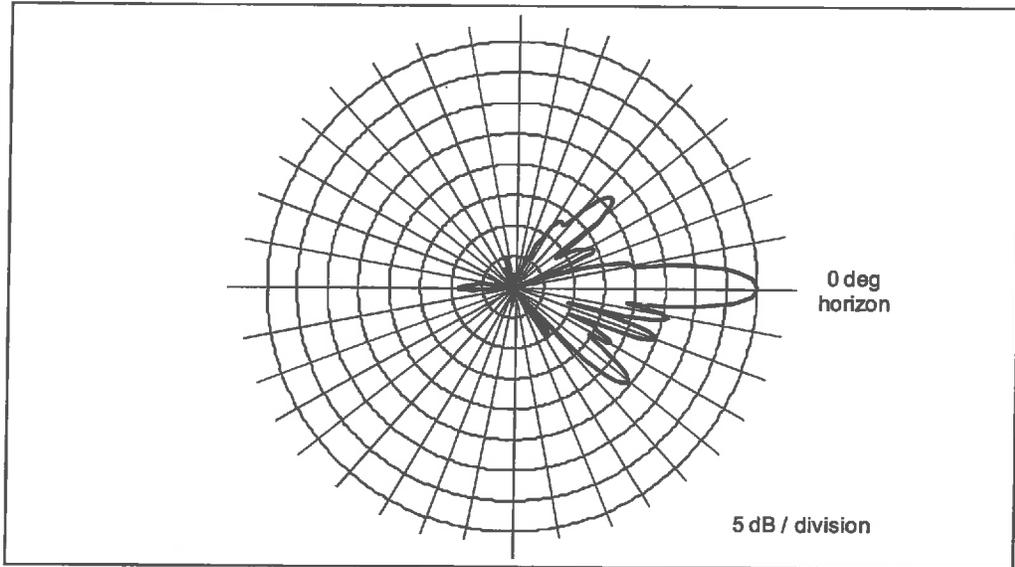
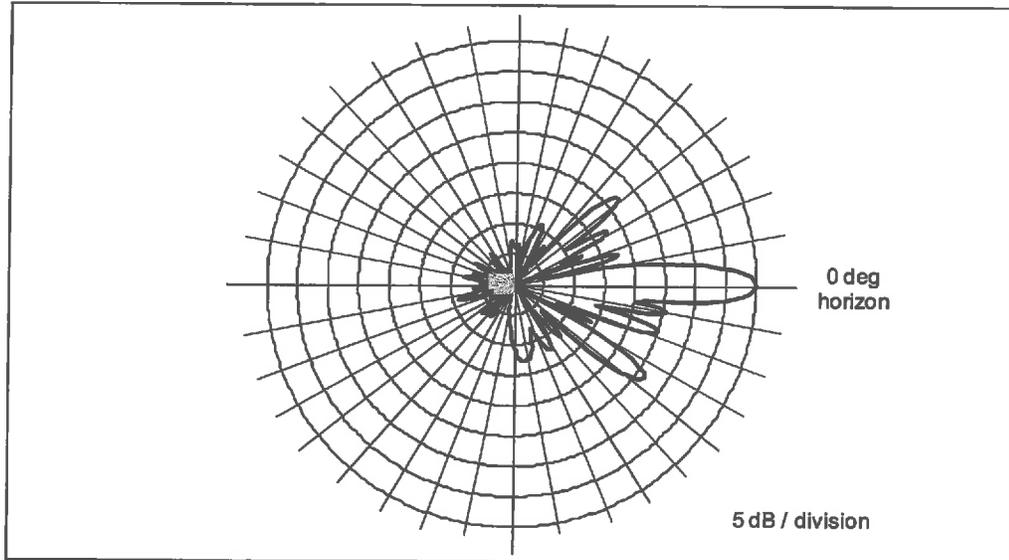


Figure 4. CSS QAP-480-VR0 – 2100 MHz Vertical-plane Pattern



Compliance Analysis

FCC Office of Engineering and Technology Bulletin 65 ("OET Bulletin 65") provides guidelines for mathematical models to calculate the RF levels at various points around transmitting antennas. At street-level around an antenna site (in what is called the "far field" of the antennas), the RF levels are directly proportional to the total antenna input power and the relative antenna gain in the downward direction of interest – and the levels are otherwise inversely proportional to the square of the straight-line distance to the antenna. Conservative calculations also assume the potential RF exposure is enhanced by reflection of the RF energy from the intervening ground. Our calculations will assume a 100% "perfect" reflection, the worst-case approach.

The formula for street-level RF compliance calculations for any given wireless antenna operation is as follows:

$$\text{MPE\%} = (100 * \text{TxPower} * 10^{(\text{Gmax-Vdisc}/10)} * 4) / (\text{MPE} * 4\pi * \text{R}^2)$$

where

MPE%	=	RF level, expressed as a percentage of the MPE limit applicable to continuous exposure of the general public
100	=	factor to convert the raw result to a percentage
TxPower	=	maximum net power into antenna sector, in milliwatts, a function of the number of channels per sector, the transmitter power per channel, and line loss
$10^{(\text{Gmax-Vdisc}/10)}$	=	numeric equivalent of the relative antenna gain in the downward direction of interest, referenced to any applied antenna mechanical downtilt; data on the antenna vertical-plane pattern is taken from manufacturer specifications
4	=	factor to account for a 100-percent-efficient energy reflection from the ground, and the squared relationship between RF field strength and power density ($2^2 = 4$)
MPE	=	FCC general population MPE limit
R	=	straight-line distance from the RF source to the point of interest, centimeters

The street-level MPE% calculations are performed out to a distance of 500 feet from the facility to points 6.5 feet (approximately two meters, the FCC-recommended standing height) off the ground, as illustrated in the Figure 5, below.

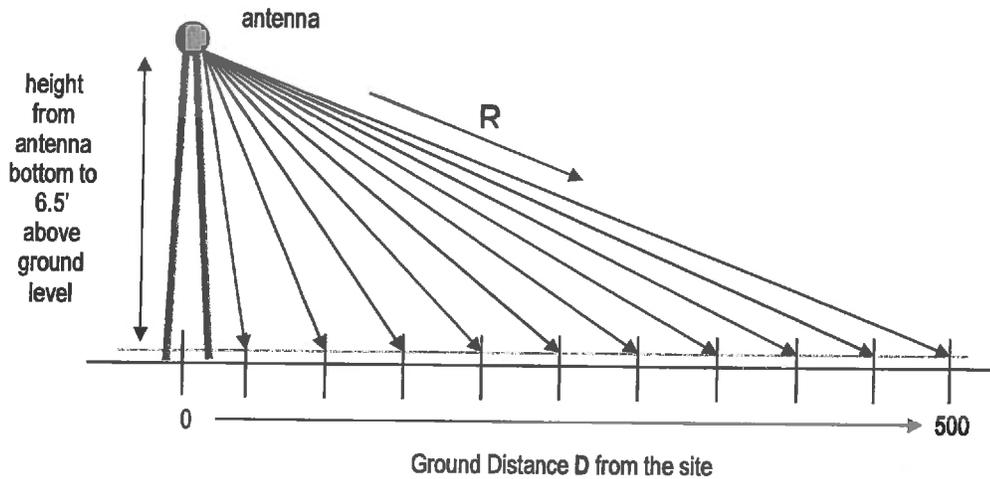


Figure 5. MPE% Calculation Geometry

It is popularly understood that the farther away one is from an antenna, the lower the RF level – which is generally but not universally correct. The results of MPE% calculations fairly close to the site will reflect the variations in the vertical-plane antenna pattern as well as the variation in straight-line distance to the antennas. Therefore, RF levels may actually increase slightly with increasing distance within the range of zero to 500 feet from the site. As the distance approaches 500 feet and beyond, though, the antenna pattern factor becomes less significant, the RF levels become primarily distance-controlled, and as a result the RF levels generally decrease with increasing distance, and are well understood to be in compliance.

FCC compliance for a multi-band antenna operation is assessed in the following manner. At each distance point along the ground, an MPE% calculation is made for the RF effect in each frequency band, and the sum of the individual MPE%

contributions at each point is compared to 100 percent, the normalized reference for compliance with the MPE limit. We refer to the sum of the individual MPE% contributions as “total MPE%”, and any calculated total MPE% result exceeding 100 percent is, by definition, higher than the FCC limit and represents non-compliance and a need to mitigate the potential exposure. If all results are consistently below 100 percent, on the other hand, that set of results serves as a clear and sufficient demonstration of compliance with the MPE limit.

Note that according to the FCC, when directional antennas such as the panels commonly used in wireless communications are used, the compliance assessments are based on the RF effect of a single (facing) antenna sector or, in cases of non-identical parameters, the worst-case effect of any individual sector.

The following conservative methodology and assumptions are incorporated into the MPE% calculations on a general basis:

1. The antennas are assumed to be operating continuously at maximum power, and at maximum channel capacity.
2. The power-attenuation effects of shadowing or other obstructions to the line-of-sight path from the antenna to the point of interest are ignored.
3. The calculations intentionally minimize the distance factor (R) by assuming a 6’6” human and performing the calculations from the bottom (rather than the centerline) of the antenna.
4. The potential RF exposure at ground level is assumed to be 100-percent enhanced (increased) via a “perfect”, mirror-like field reflection from the intervening ground.

The net result of these assumptions is to significantly overstate the calculated RF exposure levels relative to the levels that will actually occur – and the purpose of this conservatism is to allow very “safe-side” conclusions about compliance.

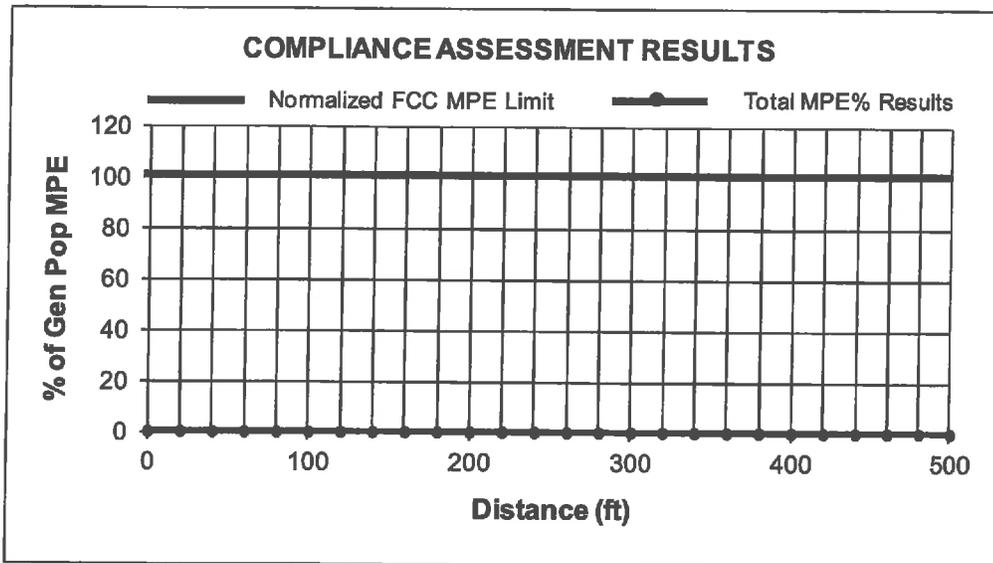
In addition in this case, we have taken into account the different characteristics and RF effects of different antenna models used for transmission in the same frequency band.

The table that follows provides the results of the MPE% calculations, with the worst-case result highlighted in bold in the last column.

Ground Distance (ft)	Verizon Wireless 700 MHz MPE%	Verizon Wireless 850 MHz MPE%	Verizon Wireless 1900 MHz MPE%	Verizon Wireless 2100 MHz MPE%	Total MPE%
0	0.0043	0.0095	0.0241	0.0036	0.0415
20	0.0067	0.0148	0.0260	0.0085	0.0560
40	0.0055	0.0122	0.0118	0.0064	0.0359
60	0.0015	0.0033	0.0032	0.0025	0.0105
80	0.0008	0.0018	0.0025	0.0061	0.0112
100	0.0051	0.0114	0.0021	0.0031	0.0217
120	0.0139	0.0308	0.0016	0.0009	0.0472
140	0.0189	0.0418	0.0198	0.0030	0.0835
160	0.0137	0.0304	0.0345	0.0041	0.0827
180	0.0078	0.0172	0.0457	0.0360	0.1067
200	0.0061	0.0134	0.0236	0.0708	0.1139
220	0.0091	0.0201	0.0353	0.0595	0.1240
240	0.0211	0.0467	0.0393	0.0139	0.1210
260	0.0304	0.0673	0.0156	0.0025	0.1158
280	0.0367	0.0811	0.0032	0.0004	0.1214
300	0.0360	0.0797	0.0025	0.0020	0.1202
320	0.0332	0.0734	0.0145	0.0012	0.1223
340	0.0280	0.0620	0.0189	0.0005	0.1094
360	0.0221	0.0490	0.0193	0.0012	0.0916
380	0.0160	0.0354	0.0160	0.0047	0.0721
400	0.0101	0.0224	0.0143	0.0101	0.0569
420	0.0050	0.0110	0.0131	0.0146	0.0437
440	0.0014	0.0030	0.0092	0.0158	0.0294
460	0.0004	0.0008	0.0044	0.0133	0.0189
480	0.0003	0.0007	0.0041	0.0123	0.0174
500	0.0006	0.0014	0.0058	0.0074	0.0152

As indicated, even with the significant degree of conservatism built into the calculations, the maximum calculated RF level is 0.1240 percent – less than 2/10ths of one percent of the FCC limit, and obviously well below the 100-percent reference for compliance, particularly given the conservatism applied in the analysis.

A graph of the overall street-level calculation results, provided on the next page, perhaps provides a clearer *visual* illustration of the relative insignificance of the calculated RF levels. The line representing the overall calculation results does not noticeably rise above the graph's baseline, and shows a clear, consistent margin to the FCC compliance limit.



COMPLIANCE CONCLUSION

According to the FCC, the FCC MPE limit has been constructed in such a manner that continuous human exposure to RF emissions up to and including 100 percent of the MPE limit is acceptable and safe.

As described, the analysis in this case shows that the maximum calculated RF level from the proposed antenna operations at the site, is 0.1240 percent of the FCC MPE limit. In other words, the worst-case calculated RF level from the proposed antenna operations is more than 800 times below the limit established as safe for continuous human exposure to the RF emissions from antennas.

The results of the calculations provide a clear demonstration of compliance with the FCC MPE limit. Moreover, because of the conservative calculation methodology and operational assumptions we applied in the analysis, RF levels actually caused by the antennas will be even less significant than the calculation results here indicate.

CERTIFICATION

It is the policy of Pinnacle Telecom Group that all FCC RF compliance assessments are reviewed, approved, and signed by the firm's Chief Technical Officer, who certifies as follows:

1. I have read and fully understand the FCC regulations concerning RF safety and the control of human exposure to RF fields (47 CFR 1.1301 *et seq*).
2. To the best of my knowledge, the statements and information disclosed in this report are true, complete and accurate.
3. The analysis of RF compliance provided herein is consistent with the applicable FCC regulations, additional guidelines issued by the FCC, and industry practice.
4. The results of the analysis indicate that the antenna operations at the subject site will be in compliance with the FCC regulations concerning the control of potential RF exposure.



Daniel J. Collins
Chief Technical Officer

12/11/14

Date

Appendix A. BACKGROUND ON THE FCC MPE LIMIT

FCC Rules and Regulations

As directed by the Telecommunications Act of 1996, the FCC has established limits for maximum continuous human exposure to RF fields.

The FCC maximum permissible exposure (MPE) limits represent the consensus of federal agencies and independent experts responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.301 *et seq* of its Rules and Regulations (47 CFR 1.1301-1.1310). Those guidelines specify MPE limits for both occupational and general population exposure.

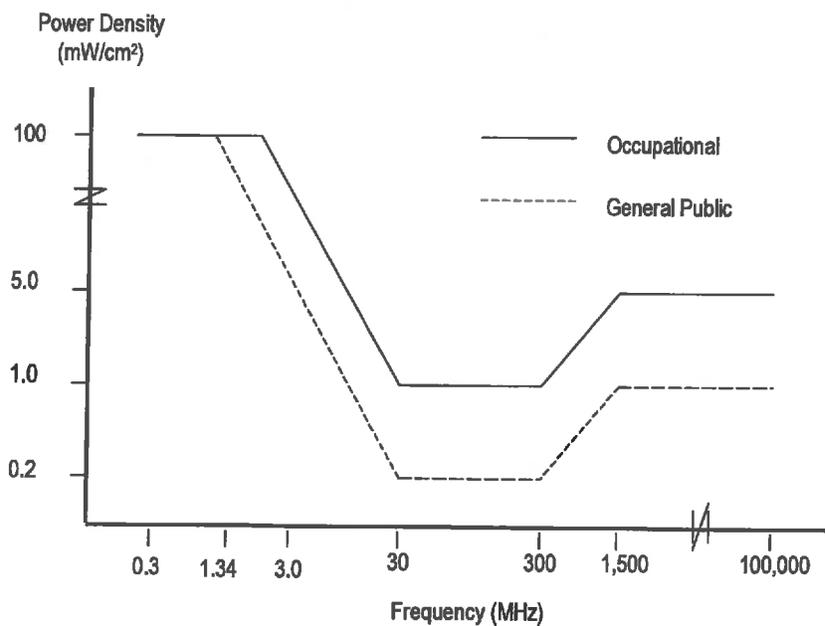
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus, the general population MPE limit has a built-in safety factor of more than 50. The limits were constructed to appropriately protect humans of both sexes and all ages and sizes and under all conditions – and continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects or even health risk.

The reason for *two* tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm²). The table on the next page lists the FCC limits for both occupational and general population exposures, using the mW/cm² reference, for the different radio frequency ranges.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm ²)	General Public Exposure (mW/cm ²)
0.3 - 1.34	100	100
1.34 - 3.0	100	$180 / F^2$
3.0 - 30	$900 / F^2$	$180 / F^2$
30 - 300	1.0	0.2
300 - 1,500	$F / 300$	$F / 1500$
1,500 - 100,000	5.0	1.0

The diagram below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



Because the FCC's MPE limits are frequency-shaped, the exact MPE limits applicable to the instant situation depend on the frequency range used by the systems of interest.

The most appropriate method of determining RF compliance is to calculate the RF power density attributable to a particular system and compare that to the MPE limit applicable to the operating frequency in question. The result is usually expressed as a percentage of the MPE limit.

For potential exposure from multiple systems, the respective percentages of the MPE limits are added, and the total percentage compared to 100 (percent of the limit). If the result is less than 100, the total exposure is in compliance; if it is more than 100, exposure mitigation measures are necessary to achieve compliance.

Note that the FCC "categorically excludes" certain types of antenna facilities from the routine requirement to specifically (i.e., mathematically) demonstrate compliance with the MPE limit. Among those types of facilities are cellular antennas mounted on any type of tower, when the bottoms of the antennas are more than 10 meters (c. 32.8 feet) above ground. The basis for the categorical exclusion, according to the FCC, is the understanding that because of the low power and the directionality of the antennas, such facilities – individually and collectively – are well understood to have no significant effect on the human environment. As a result, the FCC automatically deems such facilities to be in compliance.

In addition, FCC Rules and Regulations Section 1.1307(b)(3) describes a provision known in the industry as "the 5% rule". It describes that when a specific location – like a spot on a rooftop – is subject to an overall exposure level exceeding the applicable MPE limit, operators with antennas whose MPE% contributions at the point of interest are less than 5% are exempted from the obligation otherwise shared by all operators to bring the site into compliance, and those antennas are automatically deemed by the FCC to satisfy the rooftop compliance requirement.

FCC References on Compliance

47 CFR, FCC Rules and Regulations, Part 1 (Practice and Procedure), Section 1.1310 (Radiofrequency radiation exposure limits).

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), *In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities*, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

Appendix B. SUMMARY of EXPERT QUALIFICATIONS

Daniel J. Collins, Chief Technical Officer, Pinnacle Telecom Group, LLC

Synopsis:	<ul style="list-style-type: none"> • 40+ years of experience in all aspects of wireless system engineering, related regulation, and RF exposure • Has performed or led RF exposure compliance assessments on more than 17,000 antenna sites since the new FCC rules went into effect in 1997 • Has provided testimony as an RF compliance expert more than 1,400 times since 1997 • Accepted as an expert in New York, New Jersey, Connecticut, Pennsylvania and more than 40 other states, as well as by the FCC
Education:	<ul style="list-style-type: none"> • B.E.E., City College of New York (Sch. Of Eng.), 1971 • M.B.A., 1982, Fairleigh Dickinson University, 1982 • Bronx High School of Science, 1966
Current Responsibilities:	<ul style="list-style-type: none"> • Leads all PTG staff work involving RF safety and FCC compliance, microwave and satellite system engineering, and consulting on wireless technology and regulation
Prior Experience:	<ul style="list-style-type: none"> • Edwards & Kelcey, VP – RF Engineering and Chief Information Technology Officer, 1996-99 • Bellcore, Executive Director – Regulation and Public Policy, 1983-96 • AT&T (Corp. HQ), Director – Spectrum Management Policy and Practice, 1977-83 • AT&T Long Lines, Group Supervisor – Microwave Radio System Design, 1972-77
Specific RF Safety / Compliance Experience:	<ul style="list-style-type: none"> • Involved in RF exposure matters since 1972 • Have had lead corporate responsibility for RF safety and compliance at AT&T, Bellcore, Edwards & Kelcey, and PTG • While at AT&T, helped develop the mathematical models later adopted by the FCC for predicting RF exposure • Have been relied on for compliance by all major wireless carriers, as well as by the federal government, several state and local governments, equipment manufacturers, system integrators, and other consulting / engineering firms
Other Background:	<ul style="list-style-type: none"> • Author, <i>Microwave System Engineering</i> (AT&T, 1974) • Co-author and executive editor, <i>A Guide to New Technologies and Services</i> (Bellcore, 1993) • National Spectrum Managers Association (NSMA) – former three-term President and Chairman of the Board of Directors; was founding member, twice-elected Vice President, a long-time member of the Board of Directors, and was named an NSMA Fellow in 1991 • Published more than 35 articles in industry magazines

EXHIBIT 4
EAF

Short Environmental Assessment Form

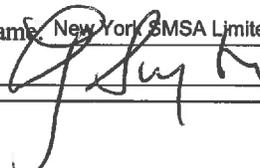
Part 1 - Project Information

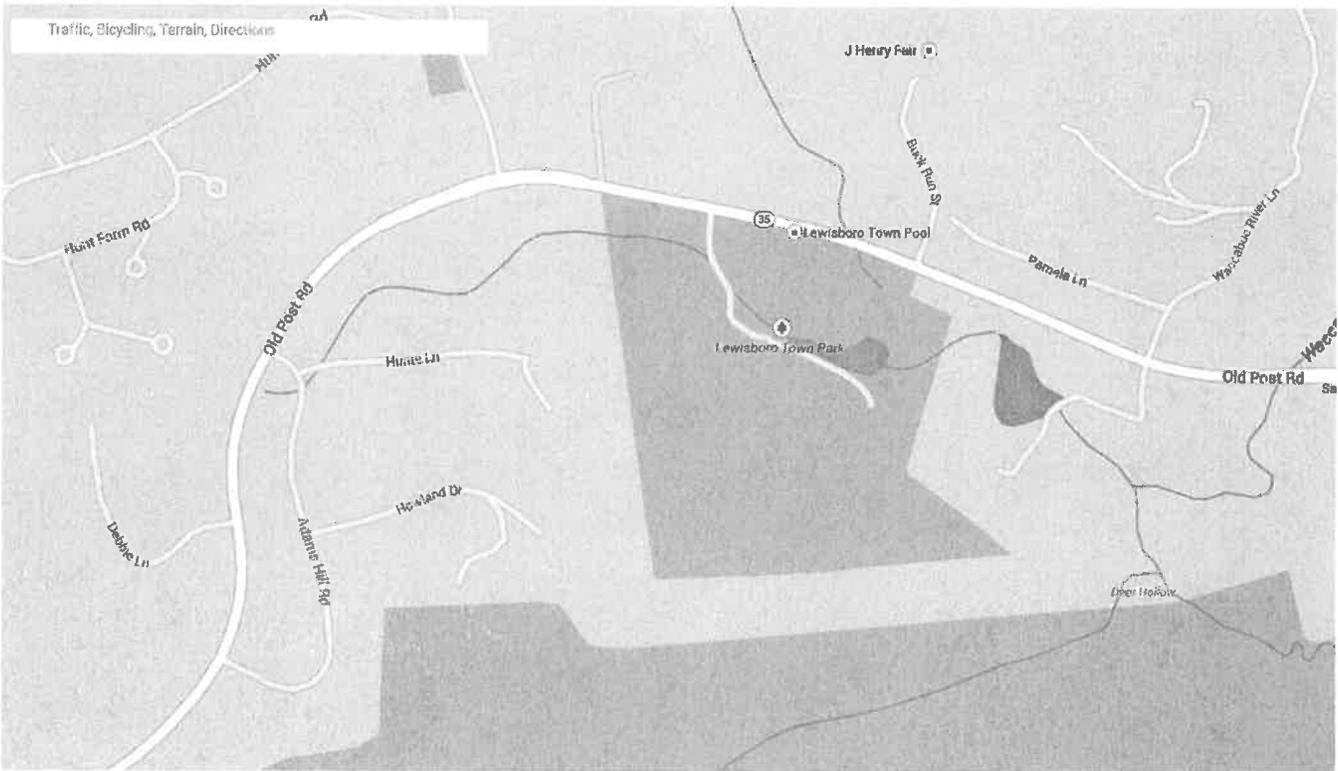
Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

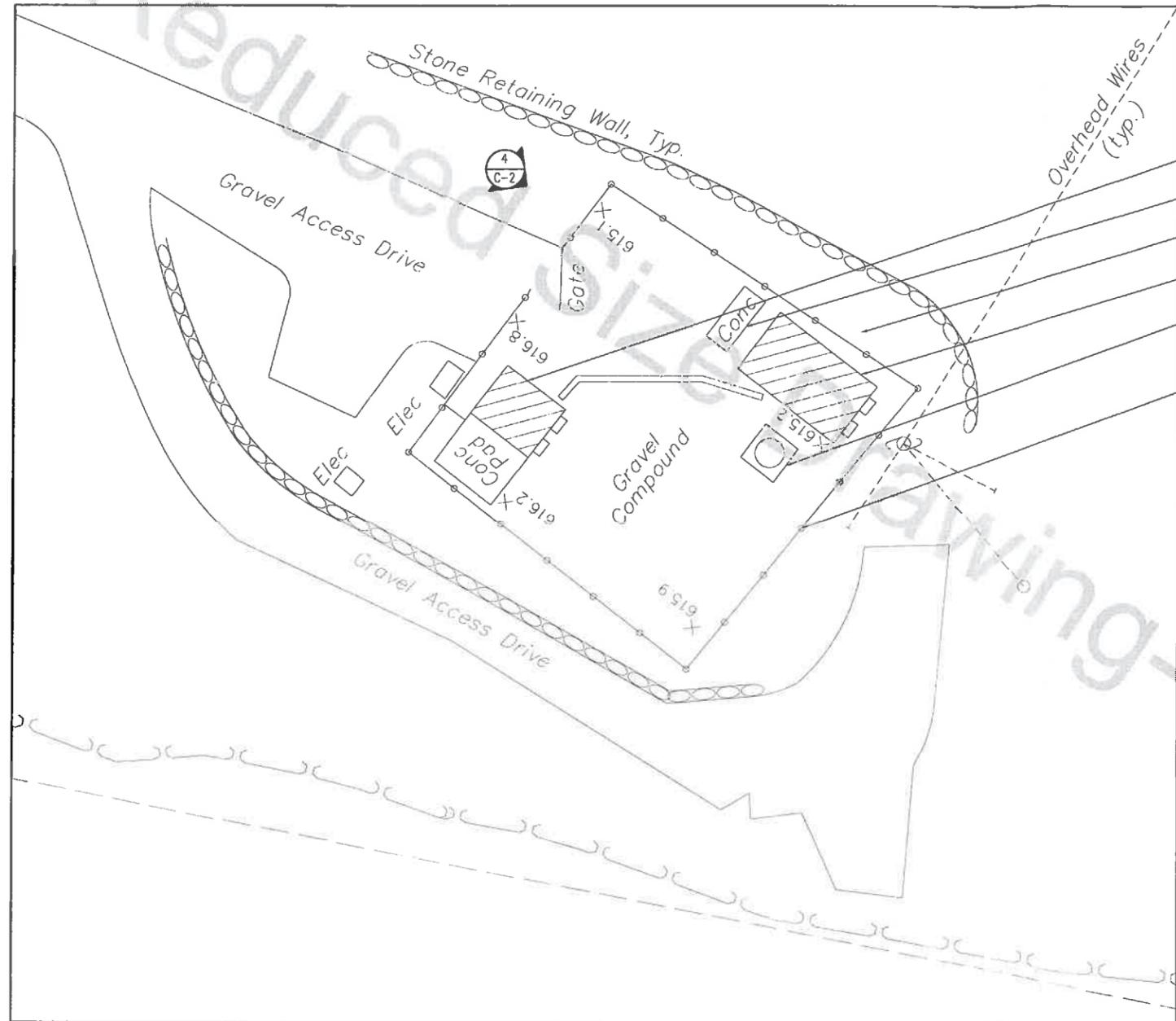
Part 1 - Project and Sponsor Information			
New York SMSA Limited Partnership d/b/a Verizon Wireless			
Name of Action or Project: Modification to Verizon Wireless Public Utility Wireless Telecommunications Facility			
Project Location (describe, and attach a location map): 1065 Route 35, Lewisboro, NY			
Brief Description of Proposed Action: Installation of replacement antennas together with ancillary equipment on the existing tower.			
Name of Applicant or Sponsor: New York SMSA Limited Partnership d/b/a Verizon Wireless		Telephone: 914-333-0700	
		E-Mail: lsnyder@snyderlaw.net	
Address: c/o Snyder & Snyder LLP, 94 White Plains Road			
City/PO: Tarrytown, NY		State: NY	Zip Code: 10591
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO <input checked="" type="checkbox"/>
			YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: Special Permit - Planning Board Building Permit - Building Department			NO <input type="checkbox"/>
			YES <input checked="" type="checkbox"/>
3.a. Total acreage of the site of the proposed action?		_____ N/A acres	
b. Total acreage to be physically disturbed?		_____ N/A acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		_____ N/A acres	
4. Check all land uses that occur on, adjoining and near the proposed action.			
<input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban)			
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>Parkland</u>			
<input type="checkbox"/> Parkland			

<p>18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____ _____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____ _____ *N/A - Proposed action is on an existing tower</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____ _____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> <p>Applicant/sponsor name: <u>New York SMSA Limited Partnership d/b/a Verizon Wireless</u> Date: <u>2/19/15</u></p> <p>Signature: By: <u></u>, as attorney</p>		

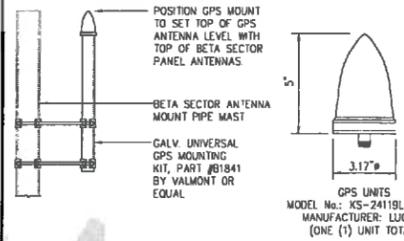


NOTE:
ALL WORK SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE OF NEW YORK STATE," 2010 EDITION AND WITH THE REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION. WHERE THE REQUIREMENTS OF VARIOUS CODES CONFLICT, THE MORE STRINGENT SHALL APPLY. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND WITH THE RULES AND REGULATIONS OF THE LOCAL UTILITY COMPANIES WHEN APPLICABLE.

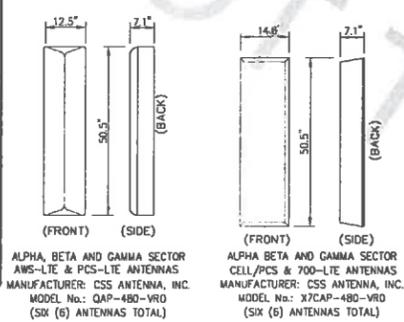
NOTE:
AFTER COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL EXISTING CONDITIONS.



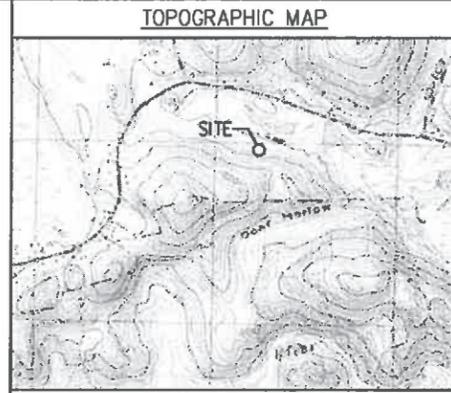
- EXISTING TOWN EQUIPMENT SHELTER
- EXISTING VERIZON WIRELESS CONCRETE PAD WITH GENERATOR
- EXISTING OVERHEAD CABLE/ICE BRIDGE (SHOWN SCHEMATICALLY)
- EXISTING VERIZON WIRELESS 12'x20' EQUIPMENT SHELTER
- EXISTING 160' MONOPOLE
- EXISTING CHAIN LINK FENCE, TYP.



3 TYPICAL GPS ANTENNA DIMENSIONS AND MOUNT DETAIL
SCALE: 3/4" = 1'-0" (DIMENSIONS); 3/4" = 1'-0" (MOUNT)



3 VERIZON WIRELESS PROPOSED ANTENNA ELEVATIONS
SCALE: 1/2" = 1'-0"



PROJECT INFORMATION

1. Scope of Work:
The purpose of these drawings is to illustrate the following:
- Replacing twelve (12) existing panel antennas (transmit and receive) with twelve (12) new panel antennas on existing mounting platform mounted to the existing 160' monopole.
- Installing (1) GPS unit (receive only) mounted to existing pipe mast.
- Twelve (12) RRU units and three (3) sector distribution boxes mounted to the existing 160' monopole and three (3) hybridex cable routed within existing monopole.

2. Applicant:
New York SMSA Limited Partnership
d/b/a Verizon Wireless
4 Centerrock Road
West Nyack, NY 10994

3. Engineer of Record:
James H. Fahey, P.E., S.E.
Structural Consulting Services, P.C.
67 Federal Road
Brookfield, CT 06804

4. Property Owner Contact:
Town of Lewisboro
11 Main Street
South Salem, New York 10590

5. Site Data:
Street Address: 1065 Route 35
Lewisboro, New York 10590
Section: 21
Block: 10541
Lot: 5 & 25
Zoning District: R4-A Single Family Residence
Existing Use: Public Utility/Wireless Telecommunications Facility
New Use: Unchanged
Approximate Latitude: N41° 18' 21.79" (NAD '83)
Approximate Longitude: W73° 35' 21.12" (NAD '83)
Approximate Ground Elevation: 616 feet (NGVD 29)

6. Notes:
1.) New features labeled as such; all else existing.
2.) Boundary information and existing features shown hereon were taken from limited field measurements, current aerial photography and the construction drawing set of the property entitled "Cross River" prepared by Structural Consulting Services, P.C.; 67 Federal Road, Brookfield, CT 06804, last revised 3/29/2010 for Verizon Wireless' installation at the site.
3.) The use is unannounced and will be waited approximately once a month for maintenance purposes; therefore the site is not anticipated to generate additional noise, fumes, vibrations or traffic.
4.) No additional parking is required for the new use as this is on unannounced site.
5.) No solid or liquid waste will be produced by the new use as this is on unannounced site; therefore, no water or sewage facilities are required for the new use.
6.) There will be no commercial or retail signs, nor special lighting required for the new use.
7.) Fire protection and security provisions will include remote monitoring of the subject site.

STRUCTURAL CONSULTING SERVICES, P.C.
67 FEDERAL ROAD, BROOKFIELD, CT 06804
TEL: 203.740.7578 FAX: 203.775.5670

CLIENT:
verizon wireless
4 CENTERROCK ROAD
WEST NYACK, NEW YORK 10994



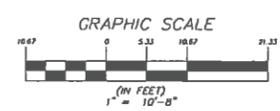
No.	ISSUE OR REVISION	DATE
3	GENERAL REVISIONS	2/13/15
2	ISSUED FOR FILING	12/11/14
1	ISSUED FOR REVIEW	12/2/14

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PROJECT TITLE
New York SMSA Limited Partnership
d/b/a VERIZON WIRELESS
SITE: CROSS RIVER AWS
1065 ROUTE 35
LEWISBORO, NY 10590

DRAWING TITLE
COMPOUND PLAN,
ANTENNA ELEVATIONS,
PROJECT INFORMATION,
TOPOGRAPHIC MAP, AND NOTES

SCALE	AS NOTED	PROJECT NO.
DRAWN BY	KPH	VERT154
CHECKED BY	JHF	DRAWING NO.
DATE	12/2/14	C-1

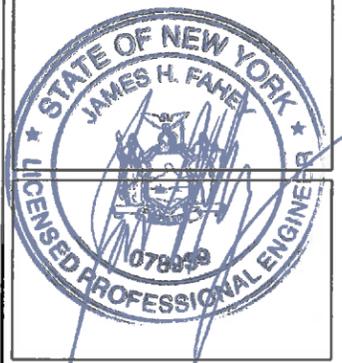


1 COMPOUND PLAN
SCALE: 3/32" = 1'-0"

4 VERIZON WIRELESS EXISTING ANTENNA ELEVATIONS
SCALE: 1/2" = 1'-0"

CLIENT:

4 CENTEROCK ROAD
 WEST NYACK, NEW YORK 10994



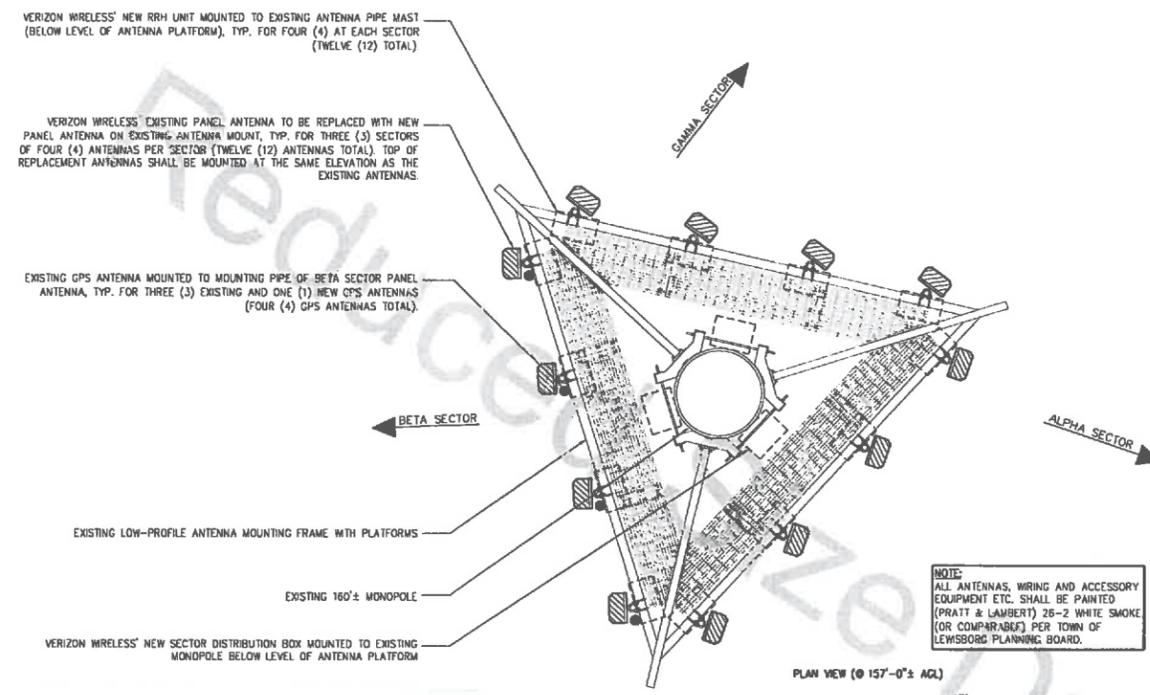
No.	ISSUE OR REVISION	DATE
3	GENERAL REVISIONS	2/13/15
2	ISSUED FOR FILING	12/11/14
1	ISSUED FOR REVIEW	12/2/14
No.	ISSUE OR REVISION	DATE

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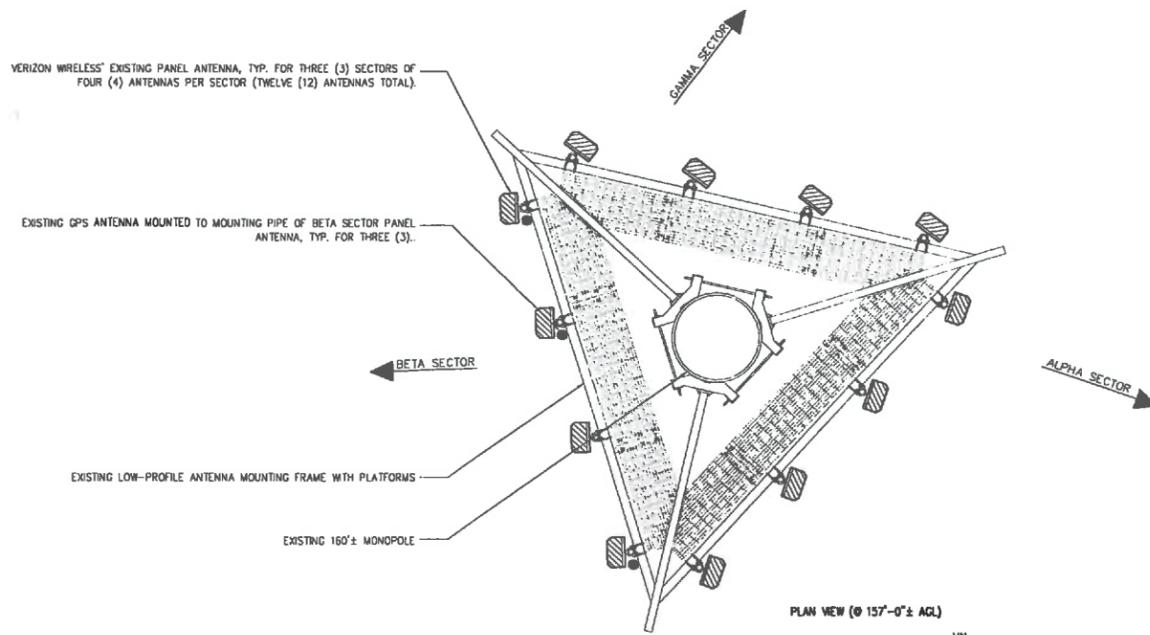
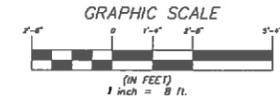
PROJECT TITLE
New York SMSA Limited Partnership
 d/b/a VERIZON WIRELESS
 SITE: CROSS RIVER AWS
 1065 ROUTE 35
 LEWISBORO, NY 10590

DRAWING TITLE
FAA ELEVATION AND ANTENNA ORIENTATION PLAN

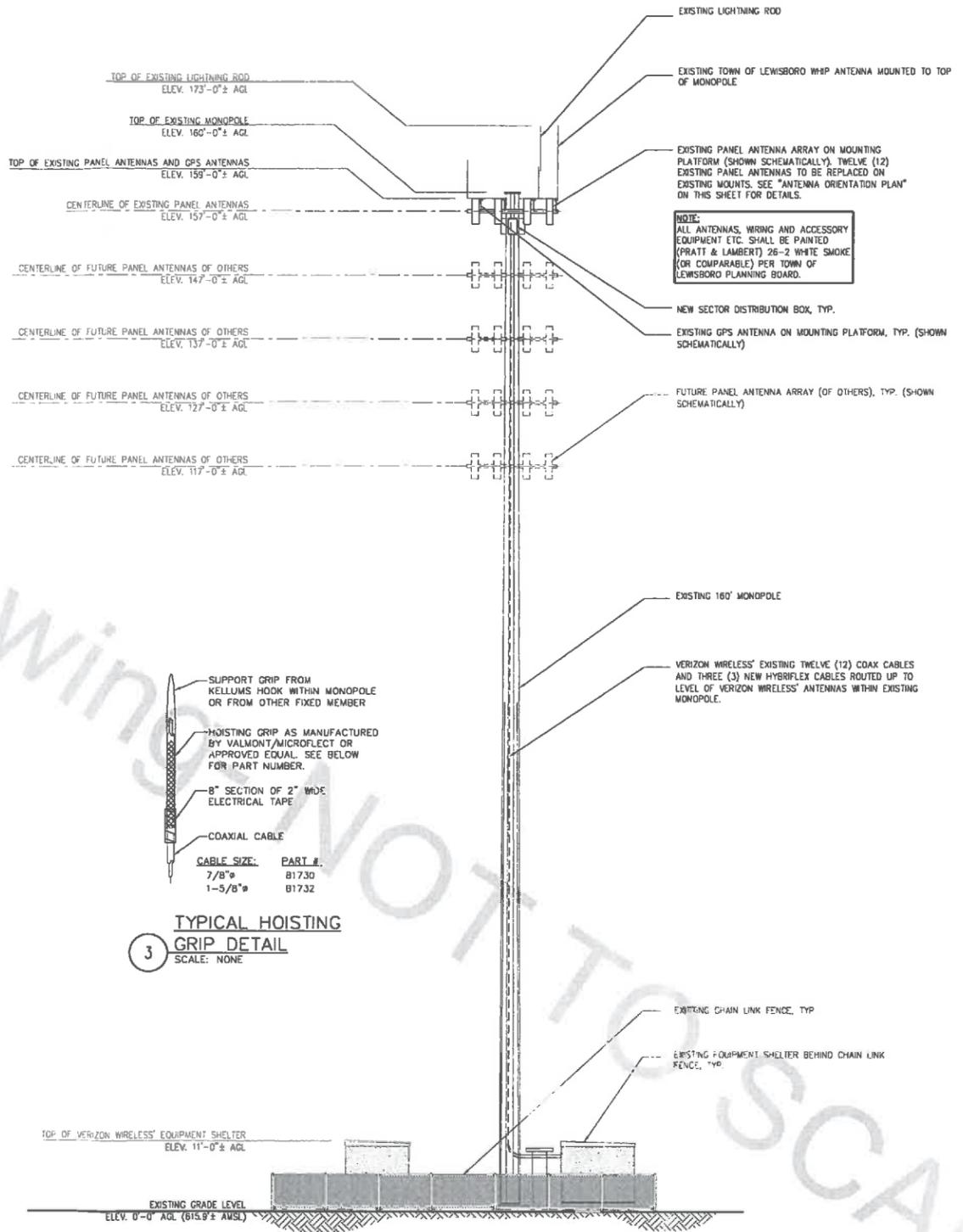
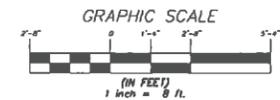
SCALE	PROJECT NO.
AS NOTED	VER154
DRAWN BY KPH	DRAWING NO.
CHECKED BY JHF	C-2
DATE 2/2/15	



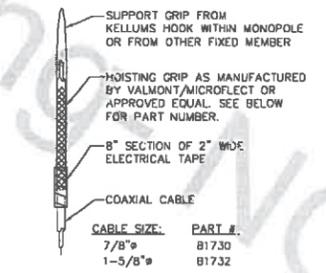
1 PROPOSED ANTENNA ORIENTATION PLAN
 SCALE: 3/8" = 1'-0"



2 EXISTING ANTENNA ORIENTATION PLAN
 SCALE: 3/8" = 1'-0"



4 WEST COMPOUND/FAA ELEVATION
 SCALE: 3/8" = 1'-0"



3 TYPICAL HOISTING GRIP DETAIL
 SCALE: NONE

MEMORANDUM

TO: Chairman Jerome Kerner, AIA and
Members of the Lewisboro Planning Board

CC: Lisa Pisera
Greg Monteleone, Esq.

FROM: Jan K. Johannessen, AICP 
Joseph M. Cermele, P.E., CFM 
Town Consulting Professionals

DATE: March 10, 2015

RE: Verizon Wireless Upgrade
1065 Route 35 (Town Park)
Sheet 21, Block 10541, Lots 5 and 25

Project Description

The subject property contains the Town of Lewisboro Town Park and is located at 1065 Route 35 within the R-4A Zoning District. The subject property contains a 160-foot monopole tower and wireless telecommunication equipment operated by Verizon Wireless. The applicant, Verizon Wireless, is proposing the installation of replacement antennas and ancillary equipment on its existing tower facility. More specifically, the applicant is proposing to replace 12 existing panel antennas with 12 new panel antennas on the existing mounting platform and is proposing to install one (1) GPS unit, 12 RRH units, and 3 sector distribution boxes ; associated wiring will be installed internal to the tower itself.

SEQRA

The proposed action has been identified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA) and a coordinated review is not required. We note that the existing tower facility underwent an environmental review and the Planning Board issued a Negative Declaration on May 24, 2011.

Chairman Jerome Kerner, AIA

March 10, 2015

Page 2

Required Approvals

1. Amended Special Use Permit Approval is required from the Planning Board.
2. A public hearing is required to be held on the Amended Special Use Permit.
3. The Planning Board should refer the application to the Town's Antenna Advisory Board (AAB).
4. A "notification only" referral is required to be made to the Westchester County Planning Board in accordance with Section 239-m of the General Municipal Law; the Planning Board Secretary will coordinate this referral.

EAF Review

- 1.3.a - 3.c: The applicant should identify the parcel acreage, acreage to be disturbed (if any) and total contiguous acreage owned or controlled by the applicant.
- 1.13.a: The subject property contains wetlands and watercourses; the applicant should answer this question "yes."
- 1.16: While no disturbance is proposed within the floodplain, the subject property does contain lands that are located within the FEMA 100-year floodplain; the applicant should mark "yes".
- 2.0: On behalf of the Planning Board, the applicant should prepare and submit Part 2 of the Short EAF.

Plan Comments

1. As the proposed action involves the replacement of antennas and, as no significant modifications are proposed to the existing facility, the majority of the submission requirements outlined under 220-41.1 of the Zoning Code are not relevant and can be waived by the Planning Board.
2. As indicated above, it is recommended that the application materials be referred to the AAB for review and comment.

Chairman Jerome Kerner, AIA

March 10, 2015

Page 3

3. We note that while the number of panel antennas will remain the same, the size of the proposed antennas are larger (50.5"L x 14.6"W x 7.1"D (largest proposed), as compared to 47.5"L x 8.0"W x 5.9"D (largest existing)). However, the proposed antennas will be mounted so that the top of the proposed antennas will be at the same elevation as the existing antennas.
4. A calculation of the total existing and proposed antenna/equipment volume should be provided on the plans (cubic feet or cubic inches).
5. We note that the applicant has supplied a structural certification letter for the tower and an updated Radio Frequency (RF) Compliance Report.
6. We note that the Special Use Permit for the tower facility, granted on December 13, 2011, is valid for a period of five (5) years from the filing date of the Resolution (see Condition #48).
7. The applicant's next submission should include Step 2 of the Special Use Permit application form.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

Plans Reviewed, prepared by Structural Consulting Services, P.C. and dated (last revised) February 13, 2015:

- Compound Plan, Antenna Elevations, Project Information, Topographic Map, and Notes (Sheet C-1)
- FAA Elevation and Antenna Orientation Plan (Sheet C-2)

Documents Reviewed:

- Letter, prepared by Snyder & Snyder, LLP, dated February 19, 2015
- Step 1: Application for Sketch Plan Review

JKJ/JMC/dc

**COPIA GARDEN
CENTER**

CAL# 1-15PB

STEP 1: REVISED SKETCH PLAN REVIEW NARRATIVE FOR “COPIA GARDEN CENTER – AMEND SITE PLAN”

Refer to Revised Site Plan Drawing 1 of 1, dated February 26, 2015:

Please note the revised Sketch Site Plan is the outcome from a meeting on February 24th with the Town Consulting Engineer attended by the Copia Garden Center Owner and architect. Truck access off Rt 123 at the existing curb cut and circulating through the site and exiting onto East Street from the existing house driveway curb cut would result in conflicts with customer car access, parking, foot circulation and all divide current retail operations. The revised site plan will eliminate all of these issues and remove truck traffic quickly off East Street; it will provide a better visual screen between East Street and the Garden Center work operations and will extend the residential character.

COPIA GARDEN CENTER PROPERTY, 475 SMITH RIDGE ROAD, LOTS 35 & 48:

1. Town of Lewisboro Resolution, dated November 3, 2014, approved zoning as GB-General Business.
2. Lots 35 and 48 are proposed to be combined with Lot 36 as recommended by the Town Consulting Engineer.

5 EAST STREET PROPERTY, LOT 36:

1. Town of Lewisboro Resolution, dated November 3, 2014, approved zoning as GB-General Business.
2. Lot 36 is proposed to be combined with Lots 35 and 48 as recommended by the Town Consulting Engineer.

COMBINED COPIA GARDEN CENTER PROPERTY, 475 SMITH RIDGE ROAD, LOTS 35 & 48 AND 5 EAST STREET PROPERTY, LOT 36:

1. Relocate existing curb cut off East Street to rear of existing Lots 35/48; this will be for exit only truck traffic. Customers will be permitted to enter and exit new curb cut to access new paved driveway leading to retail parking areas. A 25 foot wide curb cut with paved apron will be provided.
2. Existing Lot 36 curb cut will be widened and will be for enter only truck traffic to turn off East Street and access the site for unloading/loading and then exit only at new relocated curb cut onto East St. and RT 123.
3. The existing paved house driveway will be maintained and connected to graveled internal roadways for truck deliveries, pick-up, turning and backing-up on site. The combination of relocated curb cut, existing house curb cut and one way enter/exit circulation quickly directs trucks into the site minimizing conflicts with residential traffic. The largest tractor trailer traffic anticipated was used as the template for turning radiuses.
4. Customers will be permitted to enter and exit at new relocated East Street curb cut to access new paved driveway and customer parking areas. The existing gravel roadway within and along the South property line will be reconfigured within the property as the paved 16 foot customer driveway.
5. The existing chain link fence along the South property line will be removed and a new 6 foot high PVC coated “HEXWEB” fence will be installed from the Southeast corner of the Greenhouse and along the South end of the Trellis toward the relocated Mulch Bins and existing fence along

Lots 35/48 East property line. A 20 foot wide rolling gate will be included.

6. The existing 5 parking spaces at the South end of retail parking will be reconfigured within the South property line and expanded to 9 parking spaces.
7. A dividing strip will be installed between South property line and North edge of East Street pavement will be planted with grass and new plants to screen the Garden Center operations within the property and along the South side. The existing Mulch Bins will be relocated within the South property and also provide screening in combination with a new grass and plant area between the bins and East Street.
8. Approximately 18,000 square feet of site will be disturbed and protected from adjacent undisturbed areas during the work.
9. The property behind and next to the existing house will be used for plant storage; the front yard will be maintained as lawn free from plant storage and prevent damage to an existing septic system.
10. The existing garage will be used for miscellaneous storage and firewood that will be stored along the East side of the garage.
11. A new 6 foot high "HEXWEB" fence will be installed with a 20 foot rolling gate adjacent to front porch to provide a visual barrier between front and rear of property. Shrubs will be planted adjacent to the gate as needed to further restrict the view from the street.
12. Lot 36 existing plantings and fence along the front (East Street) of the property will remain as a visual barrier.
13. Lot 36 existing plantings along the East property line remain and will be extended to the rear North property line to provide a visual barrier between the adjacent residential properties. The rear of the property is totally screened by dense woods on the adjacent property.
14. A "future" Storage Building is shown on the site plan for information only; the final size and location have yet to be determined, but will be submitted to the Planning Board as a separate application. The setbacks will be honored and required site coverages will not be exceeded.

**NEW YORK
AMERICAN WATER/
WILD OAKS WATER
SYSTEM**

CAL# 6-15WP

February 16, 2015

Ms. Lisa Pisera
Planning Board Secretary
Town of Lewisboro
20 North Salem Road
PO Box 725
Cross River, NY 10518

**RE: New York American Water Wild Oaks Water System, Lewisboro, NY
Application for Wetland Activity Permit**

Dear Ms. Pisera:

New York American Water (NYAW) is proposing to construct two new bedrock groundwater wells on its Wild Oaks Water System property located on Nash Road in Lewisboro, NY. The proposed construction entails converting previously drilled groundwater test wells into active supply wells and tying them into the currently existing pump house via cut and cover trenching. The drilling of the test wells was previously authorized by the Town of Lewisboro on September 25th, 2014 (Permit # 51-14WP).

Tying in the proposed well with the existing pump house would require trenching through an approximately 0.28-acre freshwater wetland that was delineated in accordance with the United States Army Corps of Engineers 1987 Wetlands Delineation Manual and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. The total length of the proposed trenching is 310-linear feet at a depth of 4-feet to install 4-inch diameter restrained joint ductile iron piping. The anticipated temporary disturbance to the wetlands will not exceed .041 acres. NYAW is seeking approval from the Town of Lewisboro to undertake this work with this Application for Wetland Activity Permit submission.

Additional permits being applied to for this project include a United States Army Corps of Engineers Nationwide 12 – Utility Line Permit and a Westchester County Department of Health Approval of Plans for Public Water Supply Development.

One copy of the Wetland Activity Permit Application for the proposed project containing the following items is enclosed for your review:

- Attachment 1. Westchester County Affidavit of Ownership Form;
- Attachment 2. Tax Payment Affidavit Form;
- Attachment 3. Wetland Activity Permit Application Form;
- Attachment 4. Short Environmental Assessment Form;
- Attachment 5. Project Description;
- Attachment 6. Project Drawings;

HAZEN AND SAWYER

Environmental Engineers & Scientists

Corporate Headquarters
498 Seventh Avenue, 11th Floor
New York, NY 10018

212 539-7000
hazenandsawyer.com

- Attachment 7. Site Photos;
- Attachment 8. Previous Approvals; and
- Attachment 9. Wetland Delineation Report.

The notarized Affidavit of Ownership Form and the Wetland Activity Permit Application Fee of \$225 and an escrow check of \$1,000 as required by the Town of Lewisboro Planning Department, will be submitted under separate cover.

Should you have any questions or require additional information, please contact me at (516) 596-4860.

Very Truly Yours,

Richard Ruge
Manager, Field Operations

Encl.

cc: NYAW: Richard Ruge
H&S: Kristen Barrett, Steven Siegfried
LBG: Stacy Stieber

AFFIDAVIT OF OWNERSHIP

STATE OF New York)
COUNTY OF Westchester) ss:

Richard Ruge, being duly sworn, deposes and says that

she/he resides at 260 Harrison Ave, Harrison, NY, 10528

in the County of: Westchester

State of: New York

And that she/he is (check one) (1) the owners, or (2) the Representative Title

of New York American Water name of corporation, partnership or other legal entity

which is the owner, in fee of all that certain lot, piece or parcel of land situated, lying and being in the Town of Lewisboro, New York, aforesaid and known and designated on the Tax Map in the Town of Lewisboro as Lot Number 123

Block 1137 on sheet 0008

For (check one):

- SKETCH PLAN REVIEW
- PRELIMINARY SUBDIVISION PLAT
- FINAL SUBDIVISION PLAT
- SITE DEVELOPMENT PLAN
- SPECIAL USE PERMIT
- WAIVER OF SITE PLAN PROCEDURES
- WETLAND PERMIT
- STORMWATER PERMIT
- FILING WITH WESTCHESTER COUNTY CLERK

Richard Ruge
Signed

Sworn to before me this

13th day of February, 2015

W. A. Crayon

Notary public (affix stamp)

WILLIAM A. CRAYON
Notary Public, State of New York
No. 01CR6068119 Qualified in Suffolk County
Certificate Filed in New York County
Commission Expires December 24, 2017

RECEIVED
FEB 17 2015

To: Lisa Pisera
Planning Dept

TAX PAYMENT AFFIDAVIT REQUIREMENT

Under regulations adopted by the Town of Lewisboro, the Planning Board may not accept any application unless an affidavit from the Town of Lewisboro Receiver of Taxes is on file in the Planning Board Office. The affidavit must show that all amounts due to the Town of Lewisboro as real estate taxes and special assessments on the total area encompassed by the application, together with all penalties and interest thereon, have been paid.

Under New York State Law, the Westchester County Clerk may not accept any subdivision map for filing unless the same type of affidavit from the Town of Lewisboro Receiver of Taxes is submitted by the applicant at the time of filing.

INSTRUCTIONS

The applicant is to complete the information box below and return to: Receiver of Taxes, Town of Lewisboro, 11 Main Street, South Salem, New York 10590.

For Planning Board applications, the Receiver of Taxes will return this form and the affidavit to the Planning Board Office. For filing actions with the Westchester County Clerk, Division of Land Records, the Receiver of Taxes will return this form and the affidavit to the applicant by mail if a stamped and self-addressed envelope is submitted with this form.

IF ANY TAXES ARE FOUND TO BE DUE ON THE PROPERTY RELATING TO THE APPLICATION, THEN THAT APPLICATION CAN NOT BE ACCEPTED BY THE PLANNING BOARD UNTIL THE TAXES ARE PAID.

TO BE COMPLETED BY APPLICANT

(PLEASE TYPE OF PRINT)

New York American Water

Wild Oaks Water System

name of applicant

project name

property description:

property assessed to:

tax sheet 311 0008

name c/o Wild Oaks Water Co. Inc.

block 7 11137

address 260 Harrison Avenue

lot 29 123

Harrison, NY 10528

application type (check one)

Sketch Plan Review

Preliminary Subdivision Plat

final Subdivision Plat

Site Development Plan

Special Permit Use

Waiver of site Plan Procedures

Wetlands Permit

Filing with The Westchester County Clerk

NO OUTSTANDING TAXES ARE DUE:

Receiver of Taxes

Date

Sworn before me this

18th day of Feb. 2015

Janet L. Donohue

JANET L. DONOHUE
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01D06259627
Qualified in Westchester County
Commission Expires April 16, 2016

Application No.: _____

Fee: _____ Date: _____

TOWN OF LEWISBORO WETLAND PERMIT APPLICATION

Town Offices @ Orchard Square, Suite L (Lower Level), 20 North Salem Road, Cross River, NY 10518
Phone: (914) 763-3060
Fax: (914)533-0097

Project Information

Project Address: Nash Road

Sheet: 31.1 Block: 1 Lot(s): 39

Project Description (identify the improvements proposed within the wetland/wetland buffer and the approximate amount of wetland/wetland buffer disturbance): _____

See Attached Project Description

Owner's Information

Owner's Name: New York American Water Phone: (516) 596-4860

Owner's Address: 260 Harrison Avenue, Harrison, NY 10528 Email: richard.ruge@amwater.com

Applicant's Information (if different)

Applicant's Name: Owner Representative, Richard Ruge Phone: (516) 596-4860

Applicant's Address: 260 Harrison Avenue, Harrison, NY 10528 Email: richard.ruge@amwater.com

Authorized Agent's Information (if applicable)

Agent's Name: Kristen Barrett Phone: (212) 539-7000

Agent's Address: 498 7th Ave 11th Floor, New York, NY 10018 Email: kbarrett@hazenandsawyer.com

To Be Completed By Owner/Applicant

1. What type of Wetland Permit is required? (see §217-5C and §217-5D of the Town Code)
 Administrative Planning Board
2. Is the project located within the NYCDEP Watershed? Yes No
3. Total area of proposed disturbance: < 5,000 s.f. 5,000 s.f. - < 1 acre ≥ 1 acre
4. Does the proposed action require any other permits/approvals from other agencies/departments? (Planning Board, Town Board, Zoning Board of Appeals, Building Department, Town Highway, ACARC, NYSDEC, NYCDEP, WCDOH, NYSDOT, etc): Identify all other permits/approvals required: WCDOH, USACE

Note: Initially, all applications shall be submitted with a plan that illustrates the existing conditions and proposed improvements. Said plan must include a line which encircles the total area of proposed land disturbance and the approximate area of disturbance must be calculated (square feet). The Planning Board and/or Town Wetland Inspector may require additional materials, information, reports and plans, as determined necessary, to review and evaluate the proposed action. If the proposed action requires a Planning Board Wetland Permit, the application materials outlined under §217-7 of the Town Code must be submitted, unless waived by the Planning Board. The Planning Board may establish an initial escrow deposit to cover the cost of application/plan review and inspections conducted by the Town's consultants.

For administrative wetland permits, see attached Administrative Wetland Permit Fee Schedule.

Owner/Applicant Signature: Richard Ruge

Date: 2/13/15

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information				
Name of Action or Project:				
Project Location (describe, and attach a location map):				
Brief Description of Proposed Action:				
Name of Applicant or Sponsor:		Telephone:		
		E-Mail:		
Address:				
City/PO:		State:	Zip Code:	
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO	YES
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:			NO	YES
3.a. Total acreage of the site of the proposed action? _____ acres				
b. Total acreage to be physically disturbed? _____ acres				
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres				
4. Check all land uses that occur on, adjoining and near the proposed action.				
<input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban)				
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input type="checkbox"/> Other (specify): _____				
<input type="checkbox"/> Parkland				

<p>18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)?</p> <p>If Yes, explain purpose and size: _____</p> <p>_____</p> <p>_____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?</p> <p>If Yes, describe: _____</p> <p>_____</p> <p>_____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?</p> <p>If Yes, describe: _____</p> <p>_____</p> <p>_____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> <p>Applicant/sponsor name: <u>Richard A. Ruge</u> Date: <u>2/13/15</u></p> <p>Signature: <u><i>Richard A. Ruge</i></u></p>		

**Wild Oaks Water System
Lewisboro, NY
Description of Proposed Project**

INTRODUCTION

New York American Water (NYAW) operates the Wild Oaks Water System, a drinking water system composed of several sand and gravel groundwater supply wells and on-site treatment that serves approximately 600 customers in the Lewisboro, NY area. NYAW was previously granted permission from the Town of Lewisboro to drill two bedrock test wells, BRW1 and BRW2, at the Wild Oaks Water System site located off Nash Road in Lewisboro. NYAW drilled the test wells and is now proposing to convert them to permanent supply wells and connect them to the currently existing treatment and distribution system. BRW1 is located in an upland area and is not the subject of this permit application. BRW2 is located very close to United States Army Corps of Engineers (USACE)-regulated freshwater wetlands. Connecting BRW2 to an existing pump house will require trenching within the freshwater wetlands.

NEED FOR THE PROPOSED PROJECT

Additional water supply wells are needed in the Wild Oaks Water System to replace the existing sand and gravel wells. Sand and gravel wells are directly influenced by surface water and runoff, which can transport contaminants from the surface to the relatively shallow wells due to the natural process of groundwater recharge. Replacement of these wells with bedrock wells will reduce the influence of surface water on the water supply and increase the raw water quality in the system. Additionally, sand and gravel wells deteriorate over time. The Wild Oaks Water System sand and gravel wells have been reconstructed in the past to address sedimentation in the water supply. This sedimentation issue still exists when water levels in the two ponds are low. New bedrock wells would alleviate this issue.

EXISTING CONDITIONS AT THE PROPOSED PROJECT SITE

The Wild Oaks Water System is currently accessed via a gravel road with a swing gate off of Nash Road in Lewisboro, NY close to the border with North Salem, NY (**Figure 1**). The gravel road crosses an unnamed stream and leads to the existing pump house, a small structure that receives water from two currently existing sand and gravel wells (**Attachment 3 – Sheet 6**). The pump house treats the water with chlorine and UV light before distributing it into the wider system. Two ponds are located on either side of the pump house, a small pond to the east and a larger pond to the west. Between the two ponds is a narrow strip of maintained land that is used to access other areas of the property.

Permission to drill two test bedrock wells was granted by a Town of Lewisboro Wetlands Activity Permit (Permit #51-14WP). BRW1 is located in an upland area adjacent to the pump house. BRW2 is located approximately 230 feet south from the existing pump house, within the maintained land between the two ponds (**Attachment 3 – Sheet 6**). The Wild Oaks Water System site has historically been disturbed, evidenced by remnant dumping, structures, numerous

culverts in the unnamed stream, power lines, mowing, and signs of recent vehicle traffic such as tire ruts.

Waters of the United States and New York State Department of Environmental Conservation Regulated Tidal Wetlands

The unnamed stream that runs through the Wild Oaks Water System property is a New York State Department of Environmental Conservation (NYSDEC) Class C stream. According to NYSDEC New York Code of Rules and Regulations (NYCRR) Part 701.8, “The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.” The unnamed Class C stream flows east to west, running adjacent to the small pond and has inflows into and out of the larger pond (**Figure 2**). This stream will not be disturbed under the proposed project.

The NYSDEC Environmental Resources Mapper was consulted and there are no NYSDEC-regulated freshwater wetlands proximate to the Wild Oaks Water System, however, there is freshwater wetland checkzone in and around most of the Wild Oaks Water System property (**Figure 2**). A freshwater wetland checkzone is an area that NYSDEC suggests be checked for the presence of wetlands prior to any project to ensure that the proposed project does not encroach on any NYSDEC regulated wetlands or the regulated 100-foot buffer zone. United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps were also consulted for the presence of NWI wetlands in the vicinity of the proposed project. The two ponds on the site are classified as PubHh, or a Palustrine wetland with an unconsolidated bottom that is permanently flooded and is impounded (**Figure 2**).

On May 8th, 2014, a wetland delineation was performed within the NYSDEC checkzone areas proximate to the proposed project. The wetland delineation was conducted in accordance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2012). The results of the wetland delineation are shown in **Figure 3** and the complete wetland delineation report is provided in **Attachment 9**. Two freshwater wetlands were identified: Wetland A is a 0.28 acre emergent wetland that is confined to the toe of the slope at the southern end of the ponds, the western fringe of the small pond, and within the strip of land between the two ponds. Wetland B is a 1.0+ acre forested floodplain wetland in the northern area of the Wild Oaks Water System property, adjacent to the bank of the unnamed Class C stream. Wetland B is outside of the proposed limits of disturbance for this project.

PROJECT DESCRIPTION

The currently drilled test wells will be converted to permanent bedrock wells. This will involve installing a pump into the test well, capping the well, and tying the new well into the currently existing pump house with 4-inch diameter restrained-joint ductile iron (RJDI) pipe. Only BRW2 will require disturbance to regulated wetlands. The proposed method for tying in BRW2 to the

pump house is a straight line of cut and cover trenching. This path of the trench would run directly through Wetland A. Approximately 310 linear feet of 4-inch diameter RJDI pipe is proposed, at a depth of 4-feet under the surface. There is no concrete pad proposed with the new well.

IMPACTS FROM THE PROPOSED PROJECT AND PROPOSED RESTORATION

The proposed project will involve the temporary disturbance of approximately 0.041 acres of freshwater wetlands from the installation of the pipe trench. Approximately 0.056 acres of upland area will be temporary disturbed. At the end of the proposed project, all temporarily disturbed areas will be restored to pre-construction conditions. Temporarily disturbed freshwater wetland areas will be seeded with a native wetland seed mix.

ALTERNATIVES ANALYSIS

The No-Action alternative to this project consists of not constructing the bedrock wells and continuing to rely on currently operational sand and gravel groundwater wells. This alternative was not pursued due to the contaminants that are commonly found in shallow groundwater wells. Installation of bedrock wells would significantly increase the water quality of the Wild Oaks Water System.

Alternative B to this project would be to find another suitable location for a bedrock well BRW2 on the Wild Oaks property. This alternative was not pursued because all other locations on Wild Oaks Property would require more extensive disturbance to either one of the ponds or to the unnamed Class C stream running through the property.

SEDIMENT AND EROSION CONTROL MEASURES

All construction activities would be subject to and performed in accordance with NYSDEC's technical standards for erosion and sediment control (e.g., utilizing silt fences and hay bales). Silt fencing will be erected around the limits of disturbance so as to minimize any sediment transport to either of the ponds or the unnamed Class C stream. If dewatering is required for any part of the trenching then an approved method such as a filter bag or settling tank will be utilized. Native soils that are cut for pipe trenching will be re-used as fill.

REGULATORY APPROVALS REQUIRED FOR THE PROPOSED PROJECT

U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT PROGRAM

Nationwide Permit 12 – Utility Line Activities

The construction of the Wild Oaks Water System BRW2 would be covered under Nationwide Permit 12 – Utility Line Activities, which authorizes “the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours.” The utility line for the proposed project would be a 4-inch diameter RJDI

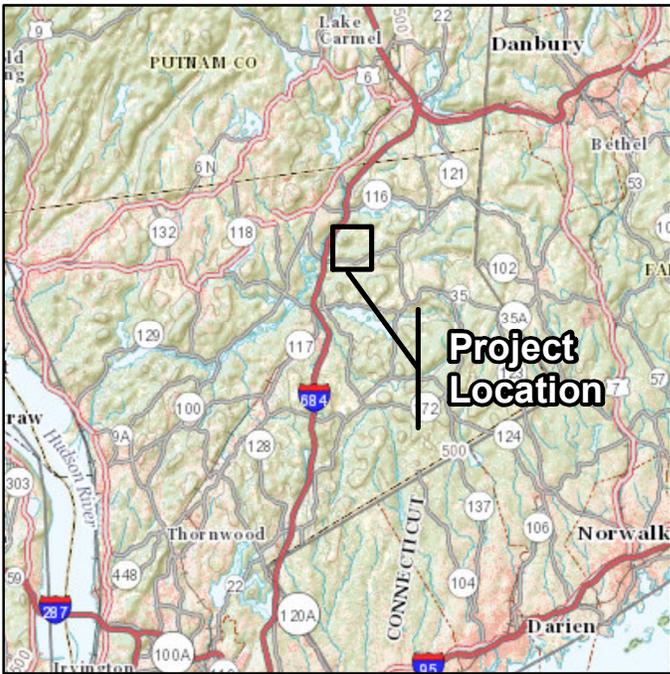
pipe to convey drinking water. Nationwide Permit 12 also states that in wetlands, material removed within the top 6-12 inches should be backfilled into the trench. The proposed project would comply with this permit condition.

Authorizations under Nationwide Permit 12 require Pre-Construction Notification under General Condition 31. This submission is intended to supply the information needed for the General Condition 31 Pre-Construction Notification requirement. No permit specific regional conditions for Nationwide Permit 12 apply to this project.

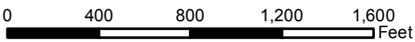
As per the NYSDEC document entitled “Water Quality Certification for the 2012 Nationwide Permits (NWP)” which became effective March 19, 2012, Nationwide Permit 12 – Utility Line Activities is granted blanket 401 Water Quality Certification as long as the NWP General Conditions and the following Special Condition are adhered to:

“Materials resulting from trench excavation that are temporarily sidecast into waters of the United States must be used to backfill the trench or removed within 30 days of deposition.”

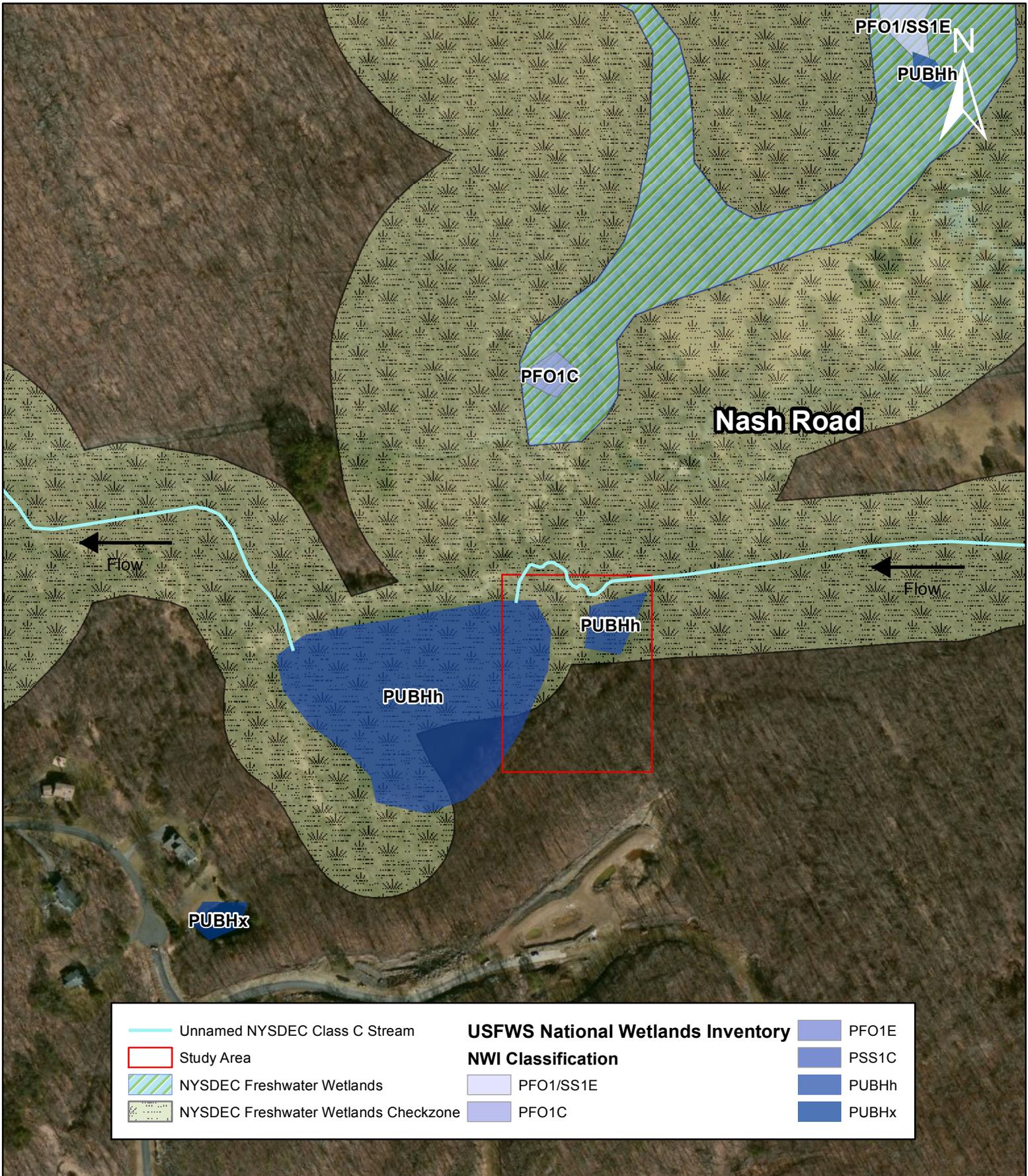
The proposed project would comply with all General and Special Conditions. Therefore, the proposed project will meet the conditions for blanket 401 Water Quality Certification.



SCALE

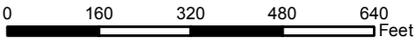


USGS Croton Falls
Figure 1

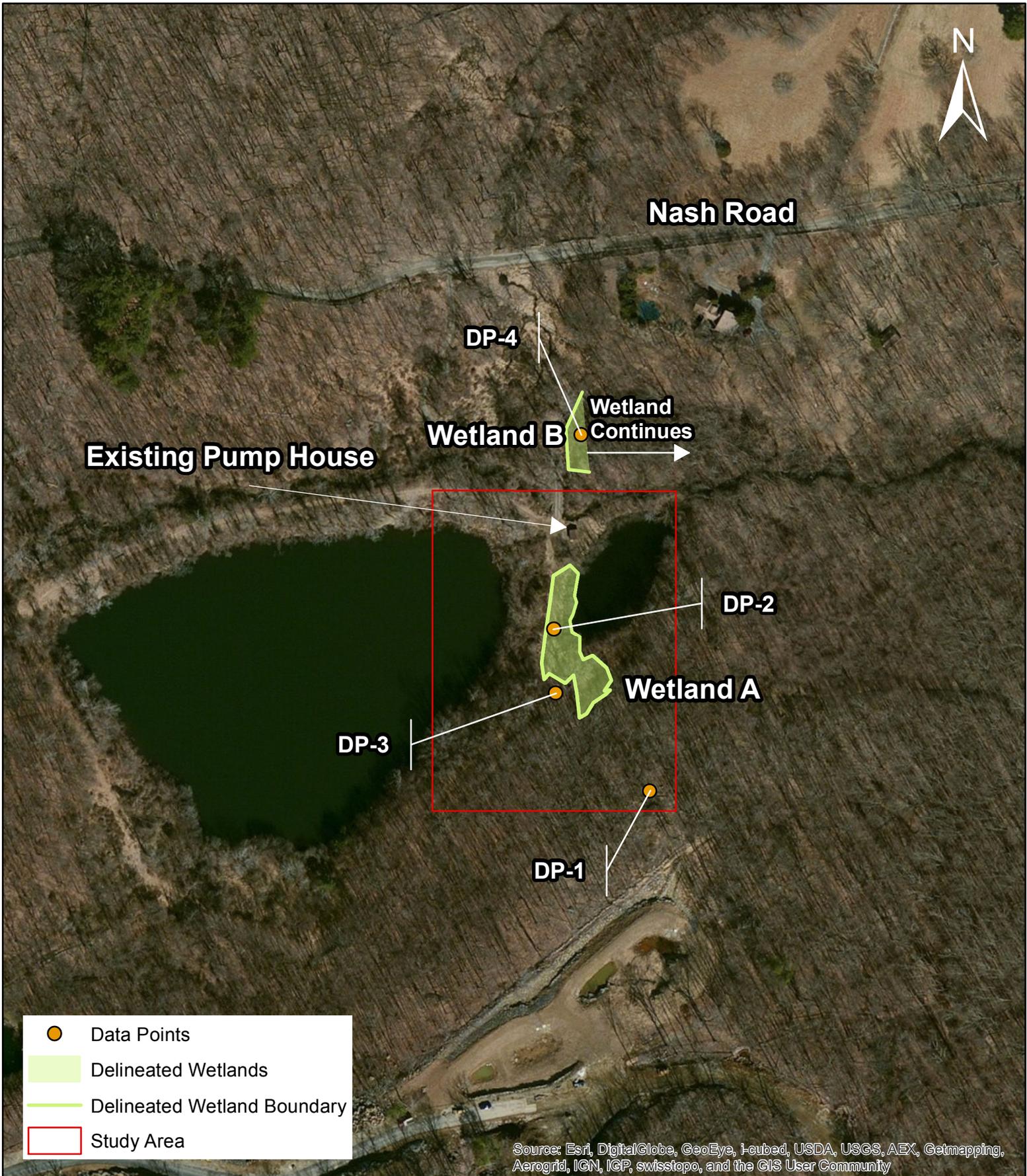


Unnamed NYSDEC Class C Stream	USFWS National Wetlands Inventory	PFO1E
Study Area	NWI Classification	PSS1C
NYSDEC Freshwater Wetlands	PFO1/SS1E	PUBHh
NYSDEC Freshwater Wetlands Checkzone	PUBHx	PFO1C

SCALE



**NYSDEC Classified Surface Waters,
NYSDEC Freshwater Wetlands Checkzone, and USFWS NWI**
Figure 2



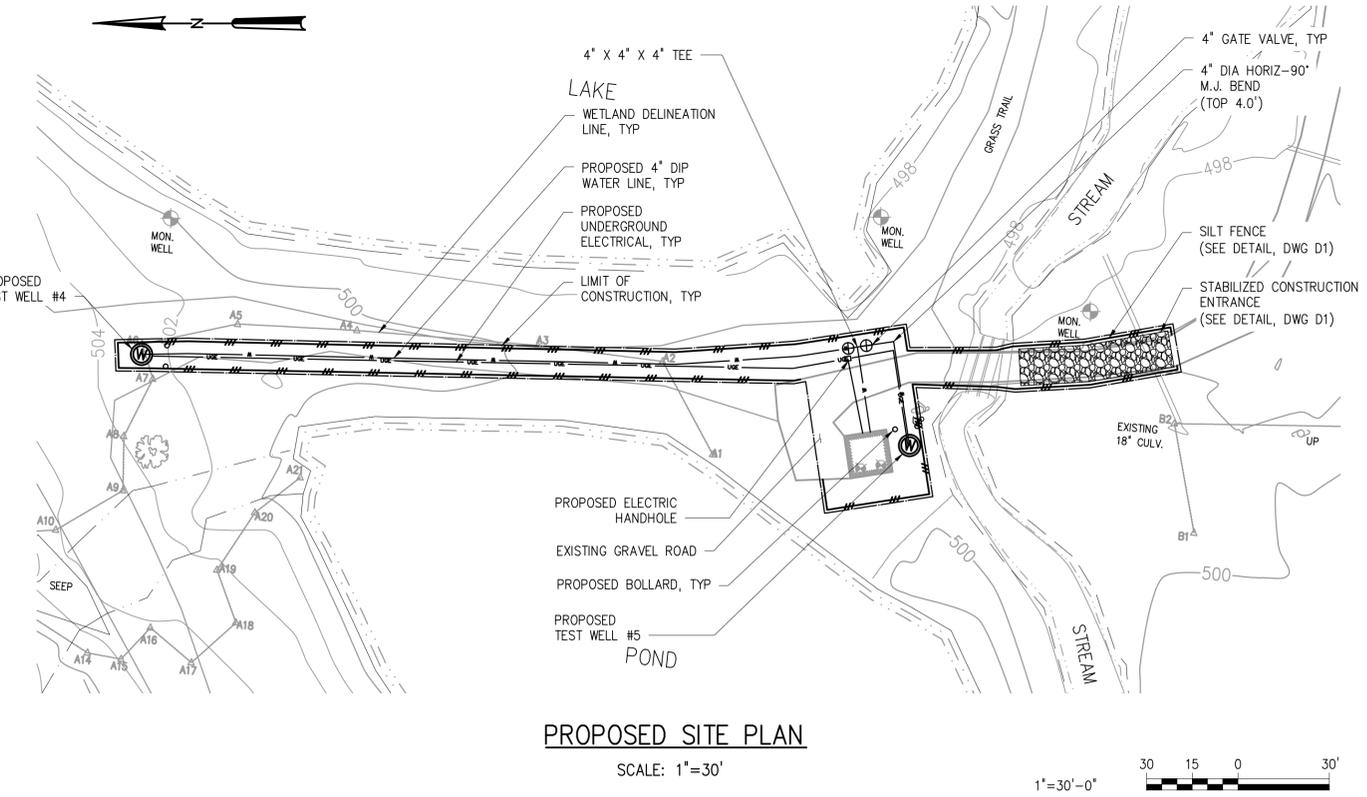
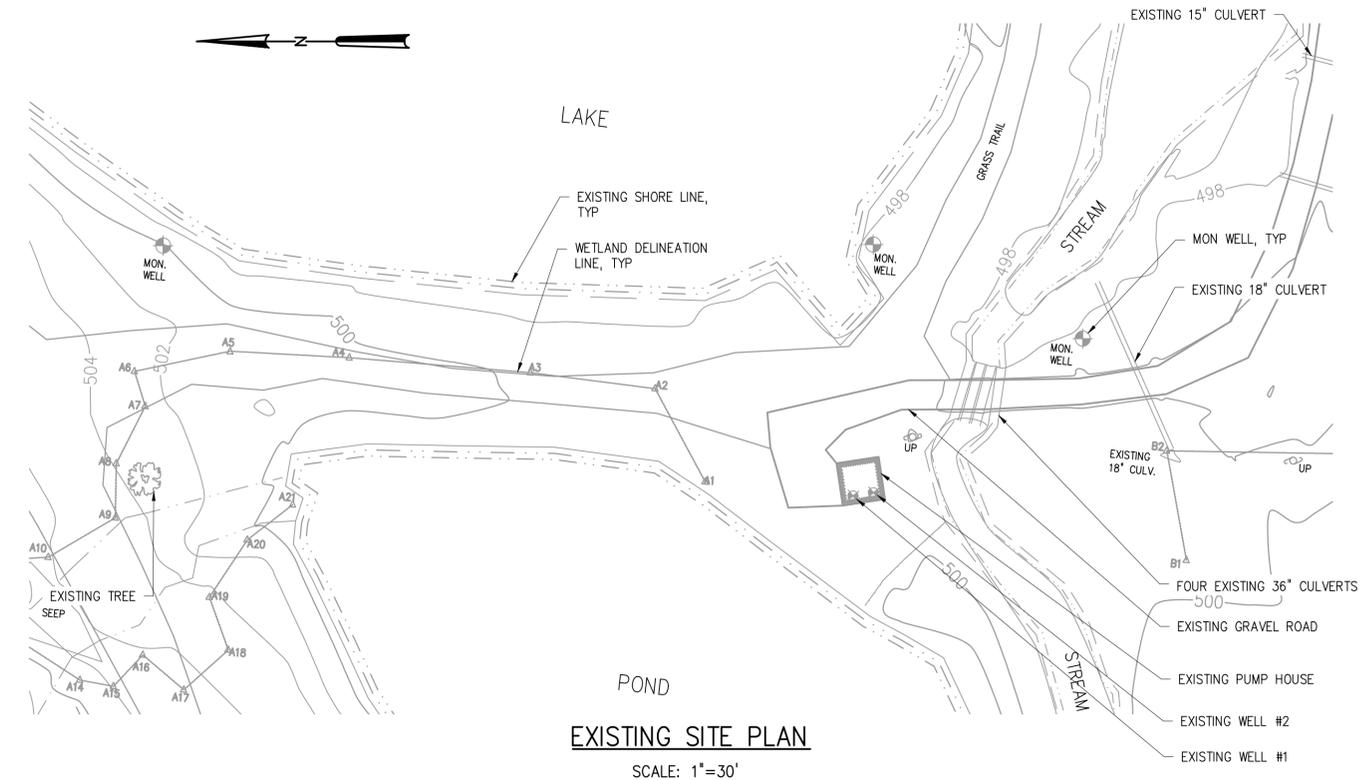
**Wetland Delineation
Figure 3**

GENERAL NOTES:

- SITE INFORMATION HAS BEEN PROVIDED BY SITE SURVEY PREPARED BY KIRK ROTHER P.E. CONSULTING ENGINEERING PLLC DATED JUNE 2014 WITH AN ASSUMED DATUM.
- CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK AT PHONE NUMBER 1-800-962-7962 OR 811 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF DIG SAFELY NEW YORK.
- WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
- WHERE OVERHEAD POWER LINES ARE PRESENT, CONTRACTOR MUST CONTACT THE UTILITY PRIOR TO CONSTRUCTION ACTIVITIES TO DETERMINE THE MINIMUM REQUIRED EQUIPMENT CLEARANCE (MEC) DISTANCE BASED UPON LINE STRENGTH.
- DURING EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE AND MAINTAIN ALL PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE SHALL REPLACE PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR.

WATER MAIN PIPING NOTES:

- CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN ITS WORK WITHIN THE LIMITS OF THE PROPERTY.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT EXISTING PIPELINES OR UTILITIES WHETHER SHOWN OR NOT.
- ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL AND OR DAMAGE.
- THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT GUARANTEED. THEREFORE THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL UTILITY LINES AND SERVICES DAMAGED DURING CONSTRUCTION, INCLUDING IRRIGATION LINES AND SERVICES. THE APPROPRIATE UTILITY SHALL BE NOTIFIED OF ALL DAMAGED LINES PRIOR TO REPAIR. ALL NECESSARY REPAIRS SHALL BE PERFORMED IMMEDIATELY UPON DAMAGE OF THE LINE.
- THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY REQUIRED PLAN DEVIATIONS.
- CONTRACTOR WILL PROVIDE A MINIMUM VERTICAL CLEARANCE OF 6" BETWEEN ALL LINES THAT CROSS. PIPE CROSSING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TEN STATE STANDARDS.
- RESTRAINED, PUSH ON JOINT PIPE SHALL BE USED FOR ALL PIPING ON THIS PROJECT. ALL FITTINGS SHALL BE MECHANICAL JOINT FITTINGS.
- THE MINIMUM DEPTH OF COVER OVER WATER MAINS AND FORCEMAINS IS 48" EXCEPT WHERE SHOWN DIFFERENTLY ON PLANS.
- PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.
- ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS SHALL NOT BE LEFT OPEN DURING NIGHT TIME HOURS WITHOUT ADEQUATE PROTECTION.
- CONTRACTOR SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLER LINES, CONDUIT, CABLES, ETC. AND LANDSCAPE AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AS REQUIRED BY AGENCIES HAVING JURISDICTION OVER THE PROJECT AND/OR WHEN REQUIRED FOR PUBLIC SAFETY.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF WORK, FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
- CONTRACTOR SHALL ADJUST TO FINAL GRADE ALL EXISTING UTILITY CASTINGS INCLUDED VALVE BOXES, MAINTENANCE ACCESS STRUCTURES, HAND HOLES, PULL BOXES, INLETS AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAID WITH ASPHALT.
- DISINFECTION AND BACTERIOLOGICAL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD C651-05. MAINS AND SERVICES SHALL NOT BE PLACED INTO SERVICE UNTIL ACCEPTABLE BACTERIOLOGICAL RESULTS ARE OBTAINED AND PERMISSION TO PLACE THE SERVICE IN OPERATIONS HAS BEEN RECEIVED.
- PRESSURE AND LEAKAGE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C600-10.



LEGEND

EXISTING	PROPOSED	
168		CONTOUR
		UTILITY POLE
A5		WETLAND FLAG LOCATION & IDENTIFIER
		MONITORING WELL
		EDGE OF GRAVEL
		EDGE OF SHORE
	o	BOLLARD
		GATE VALVE
E	UGE	UNDERGROUND ELECTRIC LINE
W	W	WATER LINE
		STONE WALL
		WETLAND LIMITS
		SILT FENCE
		LIMIT OF WORK
		PROPERTY LINE
		STABILIZED CONSTRUCTION ENTRANCE

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 New York, New York 10018

WILD OAKS WATER SYSTEM

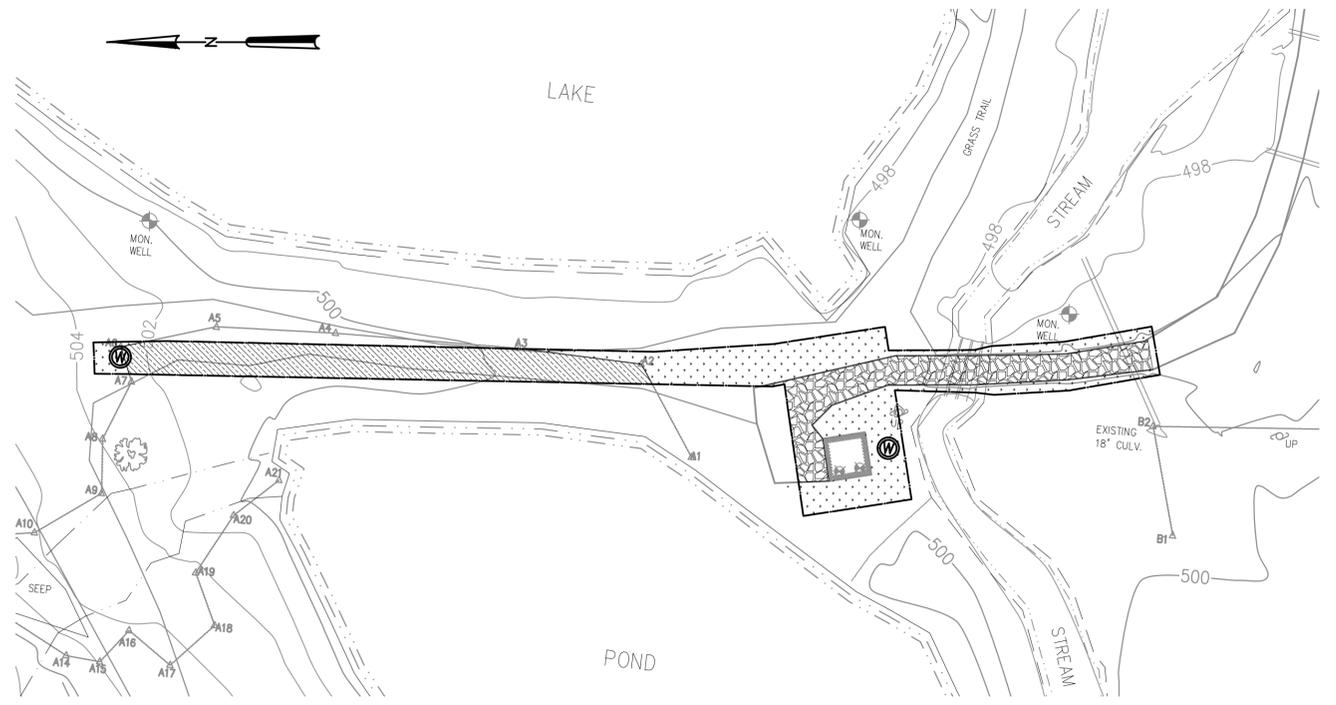
**PIPELINE PROJECT
CIVIL
SITE PLAN**

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	MONTH	YEAR
H&S JOB NUMBER	90185-000		
CONTRACT NUMBER	-		
DRAWING NUMBER	C1		

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SEEDING NOTES:

- SIX (6) WEEKS PRIOR TO SEEDING, EACH SEED MIX SPECIES GERMINATION AND PURITY TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL SEEDING OPERATIONS MUST BE SCHEDULED AND APPROVED AT LEAST FIVE (5) DAYS IN ADVANCE TO ENSURE THE ENGINEER IS PRESENT TO OBSERVE THE WORK. ALL SEED SHALL BE INTERAGENCY CERTIFIED UNDER THE AUSPICES OF A STATE SEED IMPROVEMENT COOPERATIVE AND SHALL BEAR THEIR SEALS OF CERTIFICATION ON EACH 50 POUND BAG. PERMANENT SEED SHALL BE 75% PURE LIVE SEED MINIMUM.
- SEED BROUGHT TO THE PROJECT SITE SHALL BE IN UNOPENED BAGS SHOWING THE NET WEIGHT, COMPOSITION OF MIX, SUPPLIERS NAME AND GUARANTEE OF ANALYSIS. SEED SHALL BE STORED IN ORIGINAL UNOPENED PACKAGES, KEPT DRY, AND NOT OPENED UNTIL NEEDED FOR USE. DAMAGED OR FAULTY PACKAGES SHALL NOT BE USED AND WILL BE REJECTED. SEED SHALL HAVE BEEN HARVESTED FOR PLANTING IN THE CURRENT GROWING SEASON, AND SHALL HAVE BEEN PACKED WITHIN THE LAST 9 MONTHS.
- SEED MIXTURE SHALL BE AS SPECIFIED IN THE CONTRACT DRAWINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- SEED MATERIALS WILL BE INSPECTED BY THE ENGINEER UPON ARRIVAL AT THE JOB SITE AND PRIOR TO PLANTING. ANY MATERIALS NOT IN COMPLIANCE WITH SPECIFICATIONS WILL NOT BE ACCEPTED AND SHALL BE REMOVED FROM THE JOB SITE IMMEDIATELY.
- ALL SEED MATERIALS SHALL BE PROTECTED FROM DRYING OUT AND FROM WIND DAMAGE DURING DELIVERY.
- SEEDBED PREPARATION SHALL CONSIST OF SCARIFYING ALL COMPACTED AREAS AND REMOVE ALL DEBRIS AND OBSTACLES SUCH AS ROCKS AND STUMPS.
- DO NOT BROADCAST SEED BY MECHANICAL APPLICATION WHEN THE WIND VELOCITY IS SUCH AS TO PREVENT UNIFORM SEED DISTRIBUTION.
- WETLAND RESTORATION AREAS SHALL BE SEEDED WITH FACW MEADOW SEED MIX AT A RATE OF 40 LBS./AC. ANNUAL RYE GRASS (LOLIUM MULTIFLORUM) SHALL BE ADDED TO THE FACW MEADOW SEED MIX AT A RATE OF 10 LBS./AC. SEED MIX SHALL BE OBTAINED FROM ERNST CONSERVATION SEEDS INC. (MIX NO. ERNMX-122), 8884 MERCER PIKE, MEADVILLE, PA 16335, (800) 873-3321, OR APPROVED EQUAL.
- UPLAND RESTORATION AREAS SHALL BE SEEDED WITH DEER RESISTANT MEADOW SEED MIX AT A RATE OF 40 LBS./AC. ANNUAL RYE GRASS (LOLIUM MULTIFLORUM) SHALL BE ADDED TO THE DEER RESISTANT MEADOW SEED MIX AT A RATE OF 10 LBS./AC. SEED MIX SHALL BE OBTAINED FROM ERNST CONSERVATION SEEDS INC. (MIX NO. ERNMX-155), 8884 MERCER PIKE, MEADVILLE, PA 16335, (800) 873-3321, OR APPROVED EQUAL.
- OPTIMUM SEEDING TIMES ARE IN THE SPRING FROM MARCH 21 - MAY 20 AND IN LATE SUMMER AND EARLY FALL FROM AUGUST 25 - OCTOBER 15. IF CONSTRUCTION IS COMPLETED DURING MID-SUMMER, SEEDING MAY BE DONE IF WATERING WILL BE PROVIDED. AFTER OCTOBER 15 AND UP TO MARCH 21, MULCH SHOULD BE APPLIED UNTIL THE PERMANENT SEEDING CAN BE DONE DURING THE RECOMMENDED SEEDING DATES.
- SEED SHALL BE BROADCAST BY HAND OR MECHANICALLY USING A DROP-HOPPER. SEEDS SHALL BE BLENDED THOROUGHLY WITH A SAND FILLER AND UNIFORMLY BROADCAST OVER THE ENTIRE AREA THEN GENTLY HAND RAKED 1/8 TO 1/4 INCH INTO THE SOIL.
- FOLLOWING THE SEEDING OPERATION, FERTILIZER SHALL BE APPLIED AS NEEDED, ACCORDING TO RECOMMENDATIONS FROM SOIL TESTING. WHEN REQUIRED, 10-10-10 FAST RELEASE FERTILIZER SHALL BE BROADCAST AT A RATE OF 400 LBS/ACRE THROUGHOUT THE SEEDED AREA BY HAND OR MECHANICALLY USING A CYCLONE BROADCASTER. SEED SHALL BE WATERED AS RECOMMENDED BY THE SEED MANUFACTURER TO ACHIEVE SPECIFIED GROWTH COVERAGE.
- SEEDED AREAS SHALL BE COVERED WITH ECS-18 SINGLE NET STRAW BIODEGRADABLE ROLLED EROSION CONTROL PRODUCT FURNISHED BY EAST COAST EROSION BLANKETS 443 BRICKER ROAD, BERRYVILLE, PA 19056 (800) 582-4005 OR APPROVED EQUAL. ALTERNATIVELY, MULCHING STRAW OF OAT OR WHEAT STALKS (NOT HAY) SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE (100 - 200 BALES / ACRE) SHALL BE UNIFORMLY DISTRIBUTED OVER THE SOWN SEEDS AND HELD IN PLACE WITH A MULCH BINDER. BINDER SHALL BE A CELLULOSE OR NON-ASPHALTIC EMULSION, NATURAL GUM BINDER BLENDED WITH GELLING OR HARDENING AGENTS. A WOOD FIBER MULCH SHALL ALSO BE ADDED TO THE BINDER FOR IMPROVED STABILITY. TERRA-TACK, AS MANUFACTURED BY GRASS GROWERS, OR EQUIVALENT AS APPROVED BY THE ENGINEER, SHALL BE USED.
- SEEDED AREAS SHALL BE WATERED AT A MINIMUM OF ONCE PER WEEK UNTIL SEED HAS GERMINATED AND BECOME ESTABLISHED.
- ACCEPTABLE SEEDING WILL BE 85% COVERAGE OF THE OPEN AREA WITH THE SEEDED SPECIES. ANY AREA NOT MEETING THIS REQUIREMENT SHALL BE RESEEDED WITH THE ORIGINAL SEED MIX.



-  DEER RESISTANT MEADOW MIX, 2473 SF
-  FACW MEADOW SEED MIX, 1764 SF
-  GRAVEL ROAD, TO BE REPLACED IN KIND

LANDSCAPING PLAN

SCALE: 1"=30'

DEER RESISTANT MEADOW MIX		
SCIENTIFIC NAME	COMMON NAME	PERCENTAGE
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	38
ELMYRUS VIRGINICUS	VIRGINIA WILDRYE	17.5
SORGHASTRUM NUTANS	INDIANGRASS	9
ECHINACEA PURPUREA	PURPLE CONEFLOWER	4
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	4
RUDBECKIA HIRTA	BLACKEYED SUSAN	3
PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE	3
TRIDENS FLAVUS	PURPLETOP	3
ASTER OBLONGIFOLIUS	AROMATIC ASTER	3
TRADESCANTIA OHIENSIS	OHIO SPIDERWORT	3
LIATRIS SPICATA	BLAZING STAR	3
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	2.5
ASCLEPIAS TUBEROSA	BUTTERFLYWEED	2.25
HELIOPSISHELANTHOIDES	OXEYE SUNFLOWER	2
BAPTISIA AUSTRALIS	FALSE INDIGO	0.5
MONARDA FISTULOSA	WILD BERGAMOT	0.5
SOLIDAGO NEMORALIS	GRAY GOLDENROD	0.5
SENNA HEBECARPA	WILD SENNA	0.5
SOLIDAGO JUNCEA	EARLY GOLDENROD	0.5
PHYCANTHEMUM INCANUM	HOARY MOUNTAINMINT	0.25

FACW MEADOW SEED MIX		
SCIENTIFIC NAME	COMMON NAME	PERCENTAGE
CAREX VULPINOIDEA	FOX SEDGE	30
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	20
CAREX LURIDA	LURID SEDGE	14
SCIRPUS ATROVIRENS	GREEN BULRUSH	6
CAREX LUPULINA	HOP SEDGE	5
CAREX SCOPARIA	BLUNT BROOM SEDGE	4
VERBENA HASTATA	BLUE VERVAIN	3.6
HELIOPSIS HELIANTHUS	OXYE SUNFLOWER	2
JUNCUS EFFUSUS	SOFT RUSH	2
GLYCERIA CANADENSIS	RATTLESNAKE GRASS	2
EUPATORIUM PERFORIATUM	BONESET	2
ONOCLEA SENSIBILIS	SENSITIVE FERN	2
ASCLEPIAS INCARNATA	SWAMP MILKWEED	1.2
EUPATORIUM FISTULOSUM	JOE PYE WEED	1
ASTER UMBELLATUS	FLAT TOPPED WHITE ASTER	1
SISYRINCHIUM ANGUSTIFOLIUM	NARROWLEAF BLUE EYED GRASS	1
HELIANTHUS ANGUSTIFOLIUS	SWAMP SUNFLOWER	1
SCIRPUS CYPERINUS	WOOLGRASS	1
MIMULUS RINGENS	SQUARE STEMMED MONKEYFLOWER	0.8
LOBELIA SIPHILTICA	GREAT BLUE LOBELIA	0.3
PHYCANTHEMUM TENUFOLIUM	SLENDER MOUNTAINMINT	0.1



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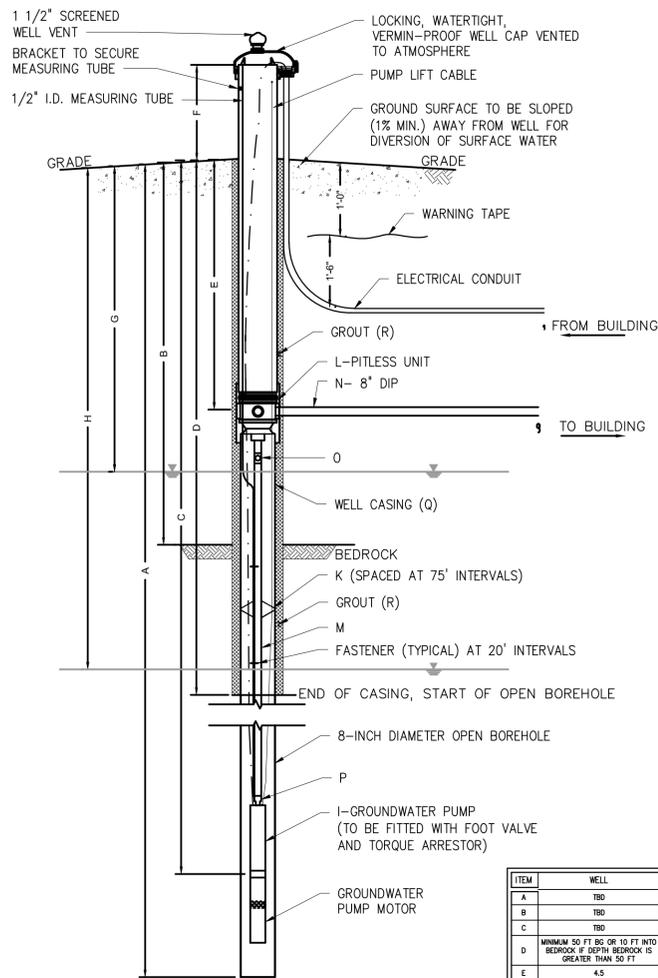
HAZEN AND SAWYER
 Environmental Engineers & Scientists
 498 Seventh Avenue
 New York, New York 10018

WILD OAKS WATER SYSTEM

PIPELINE PROJECT CIVIL LANDSCAPE PLAN

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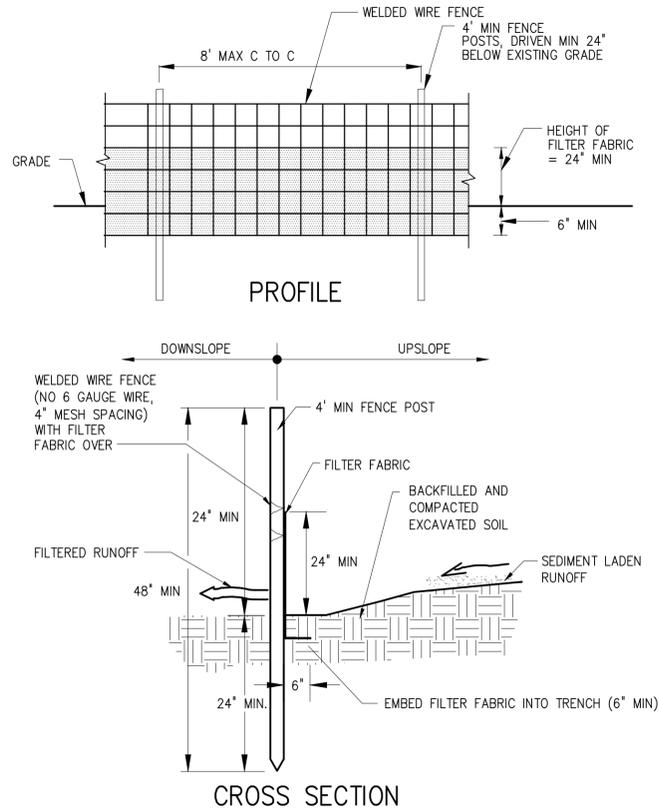
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ITEM	WELL	COMMENTS
A	TBD	TOTAL DEPTH OF WELL (FT BS)
B	TBD	DEPTH TO BEDROCK (FT BS)
C	TBD	PUMP PLACEMENT DEPTH (FT BS)
D	MINIMUM 50 FT BS OR 10 FT INTO BEDROCK IF DEPTH BEDROCK IS GREATER THAN 50 FT	DEPTH OF CASING
E	4.5	DEPTH OF PITLESS CONNECTION (FT BS)
F	MINIMUM 1.5	HEIGHT OF WELL CAP ABOVE GRADE (FT)
G	TBD	STATIC WATER LEVEL (FT BS)
H	TBD	FLOWING WATER LEVEL (FT BS)
I	TBD	SUBMERSIBLE PUMP, MANUFACTURER AND MODEL
J	TBD	PUMP DESIGN FLOW AND TOTAL DYNAMIC HEAD
K	TBD	CENTRALIZER, MANUFACTURER AND MODEL
L	TBD	PITLESS CONNECTION, MANUFACTURER AND MODEL
M	TBD	RISER PIPE DIAMETER
N	TBD	DISCHARGE PIPE DIAMETER
O	TBD	CHECK VALVE
P	TBD	REDUCER
Q	8-INCH	CASING DIAMETER
R	BOTTOM OF WELL CASING TO GRADE	GROUT

- NOTES:
1. TBD: TO BE DETERMINED
2. FT BS: FEET BELOW GRADE
3. A TORQUE ARRESTOR SHALL BE INSTALLED ON THE RISER PIPE IMMEDIATELY ABOVE THE PUMP TO MINIMIZE MOVEMENT OF THE PUMP AND RISER PIPE WHEN THE PUMP STARTS.

STANDARD WELL PROFILE
NOT TO SCALE

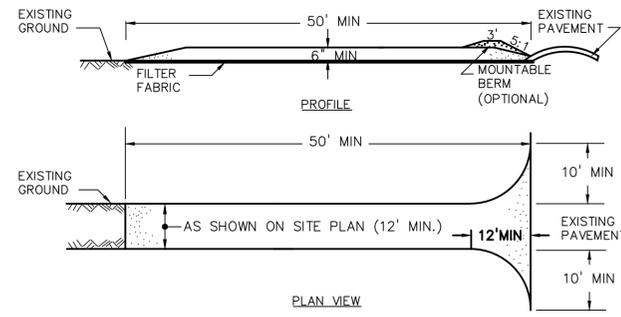


- NOTES:
1. WELDED WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. POSTS SHALL BE STEEL, EITHER 'T' OR 'U' TYPE OR 2 INCH SQUARE HARDWOOD.
2. FILTER FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION FOR ADDED STRENGTH.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. SEDIMENT SHALL BE REMOVED FROM THE UPSTREAM FACE OF THE FENCE WHEN IT HAS REACHED A DEPTH OF 1/2 THE BARRIER HEIGHT.
5. REPAIR OR REPLACE (FABRIC, POSTS, ETC.) WHEN DAMAGED.
6. FENCE SHALL BE INSPECTED DAILY FOR SIGN OF DETERIORATION AND SEDIMENT REMOVAL. MATERIAL SHALL BE REMOVED WHEN BULGES OR HOLES DEVELOP IN THE SILT FENCE, OR AS REQUIRED BY THE ENGINEER.
7.
8. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A SILT FENCE ARE:

SLOPE STEEPNESS	MAXIMUM SLOPE LENGTH (FT)
2:1	50
3:1	75
4:1	125
5:1	175
FLATTER THAN 5:1	200

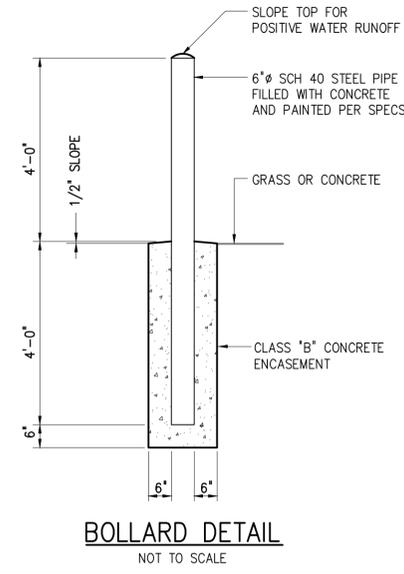
9. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED 1 ACRE PER 100 FEET OF FENCE.

SILT FENCE DETAIL
NOT TO SCALE



- NOTES:
1. STONE SIZE - USE NYSDOT SIZE NO. 3 COARSE AGGREGATE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER FABRIC - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE

EROSION AND SEDIMENT CONTROL (ESC) NOTES:

- ALL EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE IN PLACE BEFORE, OR AS SOON AS PRACTICAL AFTER, ANY LAND CLEARING OR CONSTRUCTION ACTIVITIES BEGIN.
- CLEARING SHALL BE LIMITED AS MUCH AS POSSIBLE TO AREAS REQUIRED FOR CURRENT CONSTRUCTION ACTIVITIES. MASS CLEARING AND GRADING SHALL BE AVOIDED.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED WITHIN 24 HOURS FOLLOWING ALL RAINFALL EVENTS BUT IN NO CASE LESS THAN ONCE A WEEK.
- CONTROL MEASURES SHALL BE REPAIRED OR REPLACED IMMEDIATELY AS REQUIRED TO MAINTAIN PERFORMANCE OF MEASURE. REMOVED SEDIMENT SHALL BE DISPOSED OF IN A SUCH A MANNER AS TO INSURE FURTHER SEDIMENT TRANSPORT DOES NOT OCCUR.
- CONTRACTOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. THIS REQUIREMENT DOES NOT APPLY IN THE FOLLOWING INSTANCES:
 - PRIOR TO GROUND FREEZING, ALL DISTURBED AREAS SHALL BE STABILIZED AND FURTHER SOIL DISTURBANCE ACTIVITIES SHALL BE CEASED UNTIL SUFFICIENT GROUND THAW HAS OCCURRED.
 - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN FOURTEEN (14) DAYS, TEMPORARY STABILIZATION MEASURES NEED NOT BE INITIATED ON THAT PORTION OF THE SITE.
 - ALL DISTURBED AREAS, EXCEPT FOR CONCRETE AND PAVED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE SEEDING SCHEDULE, AND RE-SEEDED AS NECESSARY, TO ESTABLISH AND MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

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PIPELINE PROJECT CIVIL DETAILS

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Existing Pump House

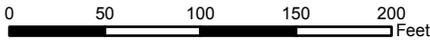


 Study Area

 Photo Location/Direction

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

SCALE



Photograph Key



Photo 1

Southern facing, standing at pump house. Strip of land between two freshwater ponds.



Photo 2

Southern end of Wetland A. Facing east. Drainage channel in center and vehicle ruts in foreground.



Photo 3

Facing south. Drainage channel on uphill, northerly facing slope. South of study area.



Photo 4

Facing north, uphill slope. Confluence of drainage channel with disturbed access path and beginning of fringe in foreground. Purple wetland flags showing southerly boundary of Wetland A.



Photo 5
Facing east, upstream of unnamed stream.



Photo 6
Facing west, downstream of unnamed stream. Culverted section just north of pump house.



Photo 7

Facing east on smaller pond, from mowed strip. Fringe vegetation.



Photo 8

Facing east. Wetland B. Power line and dumping evident.



Photo 9

Facing north. Wetland B. Microtopographic relief evident. Depressions showing surface water and in drier conditions, water-stained leaves.

WETLAND IMPLEMENTATION PERMIT

TOWN OF LEWISBORO

Town Offices @ Orchard Square, Suite L (Lower Level)
20 North Salem Road, Cross River, NY 10518
Phone: (914) 763-3060
Fax: (914) 533-0097

Date Issued: September 25, 2014

Permit #: 51-14 W.P.

Permit is hereby issued to: New York American Water
260 Harrison Avenue, Harrison, New York 10528

Description of Approved Activity: The applicant is proposing to drill and construct two (2) bedrock test wells within the Town's 150-foot wetland buffer. The wells will be constructed using an 8-inch diameter casing and an 8-inch borehole will be drilled into the underlying bedrock; the total depth of the wells will be determined during the drilling process based on field conditions. While this project was originally processed and reviewed by the Planning Board, at its meeting held on September 16, 2014, the Planning Board determined that the Wetland Permit could be processed administratively through the office of the Town Wetland Inspector.

Location of Proposed Activity: Nash Road

Sheet: 8 Block: 11137 Lot(s): 123

Conditions:

1. No land disturbance activity shall be permitted within the wetlands or within 150 feet of the wetlands, except as specifically approved herein.
2. The following drawings, prepared by Leggette, Brashears & Graham, Inc. and dated August 26, 2014, are hereby approved subject to the conditions set forth below:
 - "Proposed Bedrock Test Well Locations" (Plate 1)
 - "Blow-Ups of Proposed Bedrock Test Well Locations" (Plate 2)
3. Reference is made to a letter prepared by Leggette, Brashears & Graham, Inc., dated July 17, 2014, and Exhibits I through VI attached thereto.
4. Reference is made to a letter prepared by Leggette, Brashears & Graham, Inc., dated August 27, 2014, and Appendix I through IV attached thereto.
5. Reference is made to the Westchester County Department of Health (WCDH) approval letter, dated September 17, 2014.

6. Unless otherwise approved by the Town Wetland Inspector, equipment mats shall be used along the construction access route to Well #4 when moving the drill rig and other equipment.
7. The Town Wetland Inspector and Town Engineer shall be notified 48 hours prior to construction and may inspect and monitor well drilling operations.
8. All disturbed areas shall be raked, seeded and mulched following construction as specified on the plans approved herein.
9. Following completion of all site work, a final site inspection shall be conducted by the Town Wetland Inspector; please call 914-763-3060 to schedule an appointment.
10. The issuance of this permit does not necessarily authorize the commencement of site work. No site work shall commence until the conditions of this permit have been satisfied (the conditions required to be satisfied prior to the commencement of any site work) and until the owner/applicant has obtained any and all required permits from other Town, County, State or Federal Departments and/or Agencies.
11. All work covered by this permit is to be completed before September 25, 2016, unless an extension of this period is requested in writing and granted.



Wetland Inspector

NOTICE OF:

Town of Lewisboro

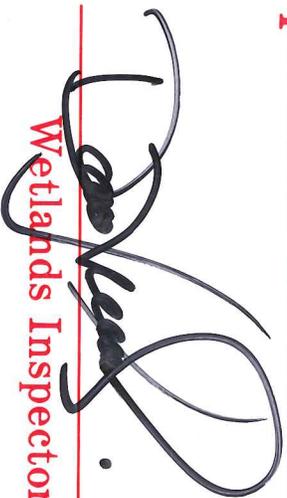
Wetlands Activity Permit

51-14WP

(To Be Posted In A Conspicuous Location)

Date: 9/25/2014

Issued by:



Wetlands Inspector

Expires: 9/25/2016

Robert P. Astorino
County Executive

Sherlita Amler, M.D.
Commissioner of Health

LBG Engineering Services, P.C.
4 Research Drive
Suite 301
Shelton, CT 06484
Attn: William Beckman, P.E.

September 17, 2014

RE: Log No.: C14-021
Approval of Plans for
Well Construction
Wild Oaks PWS
Lewisboro (T)
Westchester County

Dear Mr. Beckman:

Enclosed is an Approval of Plans for Public Water Supply Improvement issued this day and approved plans prepared by you consisting of two (2) sheets, for the above referenced project. This approval is issued pursuant to 10NYCRR Part 5, Subpart 5-1, Section 5-1.22 and Chapter 873, Article VII, Section 873.707.1, of the Laws of Westchester County.

The Approval of Plans for Public Water Supply Improvement and approved plans should be filed in the appropriate office of the Town of Lewisboro. The applicant is obligated to comply with each of the conditions stipulated in this Approval of Plans for Public Water Supply Improvement.

Supervision of the construction by a licensed and registered professional engineer in the State of New York who will furnish a certificate of construction compliance to the Westchester County Department of Health (WCDOH) is a responsibility of the applicant.

The certificate of construction compliance, including two (2) sets of As-Built plans and results of acceptable microbiological, inorganic, organic and radiological analyses of water, and WCDOH Well Completion Report(s) must be forwarded promptly to this office after completion of construction. Please note that an Approval of Completed Works, issued by the Westchester County Department of Health, is required before this construction may be put into service.

This Approval of Plans and approved plans are limited to the construction of two (2) wells to serve Wild Oaks Public Water Supply with attention to condition (i) of the Approval of Plans.

Very truly yours,



Delroy Taylor, P.E.
Associate Engineer
Bureau of Environmental Quality

PK: rl
Enc.

cc: Richard Ruge, NY American Water
Peter Barrett - Building Inspector - Town of Lewisboro
John Dunn, P.E. - NYSDOH
Anna Stamm, P.E. - NYSDOH
Delroy Taylor, P.E. - WCDH

Department of Health
25 Monticello Avenue
Mount Kisco, NY 10549

Telephone: (914) 813-5000

Fax: (914) 864-7341



NEW YORK STATE DEPARTMENT OF HEALTH
 APPROVAL OF PLANS
 FOR PUBLIC WATER SUPPLY IMPROVEMENT

THIS APPROVAL IS ISSUED UNDER THE PROVISIONS OF 10 NYCRR, PART 5, SUBPART 5-1, SECTION 5-1.22 AND CHAPTER 873, Article VII, Section 873.707.1 OF THE WESTCHESTER COUNTY SANITARY CODE

1. APPLICANT Wild Oaks PWS – NY American Water	2. LOCATION OF WORKS Lewisboro (T)	3. COUNTY Westchester	4. WATER DISTRICT Wild Oaks
5. TYPE OF PROJECT:			
<input checked="" type="checkbox"/> 1 Source	<input type="checkbox"/> 3 Pumping Units	<input type="checkbox"/> 5 Fluoridation	<input type="checkbox"/> 7 Distribution
<input type="checkbox"/> 2 Transmission	<input type="checkbox"/> 4 Chlorination	<input type="checkbox"/> 6 Other Treatment	<input type="checkbox"/> 8 Storage
<input type="checkbox"/> 9 Other			
REMARKS:			

By initiating improvement of the approved supply, the applicant accepts and agrees to abide by and conform with the following:

- a. THAT the proposed wells(s) shall be constructed in complete conformity with the plans and specifications approved this day or approved amendments thereto.
- b. THAT the proposed well(s) shall not be placed into service until such time as a Completed Works Approval is issued in accordance with Part 5 of the New York State Sanitary Code and Article VII, of the Westchester County Sanitary Code.
- c. THAT the well(s) shall be constructed at the location(s) shown on the approved plans.
- d. THAT the well(s) shall be constructed in compliance with all applicable provisions of 10 NYCRR Part 5, Appendices 5-B and 5-D, Recommended Standards For Water Works, 2012 edition, Section 3.2, and American Water Works Association (AWWA) Standard A100-90.
- e. THAT the well(s) shall be constructed with greater than 100 feet of casing below grade.
- f. THAT the well(s) shall be disinfected in accordance with AWWA Standard C654-03.
- g. THAT the well(s) shall be tested for yield for a duration specified in 10 NYCRR Part 5, Appendix 5-D (Table 2) typically 72 hours.
- h. THAT the well(s) shall be tested for quality, i.e. - microbiological, inorganic, radiological, and organic (EPA Method 524. 2, MTBE and SOCs), for compliance with drinking water standards established in Part 5 of the New York State Sanitary Code.
- i. THAT prior approval must be secured from this Department for installation of water service line(s), well pump(s) and connection of the well(s) to the public water supply system.
- j. THAT supervision of construction be by a licensed and registered professional engineer in the State of New York who shall furnish a certificate of construction compliance and two (2) sets of As-Built plans after completion of well construction and connection of the well(s) to the public water supply system.
- k. THAT this approval is valid for one (1) year.

ISSUED FOR THE STATE COMMISSIONER OF HEALTH

DATE _____



 DESIGNATED REPRESENTATIVE
 Delroy Taylor, P.E.
 Associate Engineer
 Bureau of Environmental Quality

P.E.

WETLAND DELINEATION REPORT

FOR

NEW YORK AMERICAN WATER'S
WILD OAKS WATER SYSTEM

July 2014

Prepared by:

HAZEN AND SAWYER
Environmental Engineers & Scientists

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FIGURE 4. NYSDEC FRESHWATER WETLANDS

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1.0 INTRODUCTION

New York American Water (NYAW) is proposing the expansion of the Wild Oaks Water System, an existing water-supply area located on Nash Road in The Town of Lewisboro, Westchester County, NY (**Figure 1**). NYAW requested that Hazen and Sawyer (H&S) perform a wetland delineation and inventory for a study area within the Wild Oaks Water System (**Figure 2**).

2.0 METHODOLOGY

A desktop review of the study area was conducted to assess the potential presence of wetlands using the United States Fish and Wildlife Service (USFWS) National Wetland Inventory maps (**Figure 3** and **Appendix A**) and New York State Department of Environmental Conservation (NYSDEC) freshwater wetlands maps (**Figure 4** and **Appendix B**). The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Web Soil Survey was consulted for a list of soils in the local area (**Figure 5**) and cross referenced with the list of Hydrologic Soil Groups: Westchester County, New York (**Appendix C**) (USDA NRCS, 2012). Descriptions of all soil series in the vicinity of the study area were generated from the USDA NRCS Web Soil Survey, Soil Report tool (**Appendix D**).

Following the desktop review, an on-site wetland delineation was performed in accordance with the three-parameter approach (vegetation, soils, and hydrology) outlined in the 1987 United States Army Corps of Engineers (USACE) “Wetlands Delineation Manual” (USACE, 1987) and the “Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region” (USACE, 2011). Wetland and upland data were recorded on USACE Northcentral and Northeast Region Wetland Determination Data Forms (**Appendix E**) (USACE, 2011) and the wetland/upland boundary and additional data point geographic locations were recorded in a Trimble Global Positioning Unit (GPS) model GEO XH with sub-meter accuracy.

3.0 STUDY AREA

The study area contains a mowed strip of land that abuts two freshwater ponds. To the south of these ponds are ascending slopes and to the north of the ponds is an unnamed stream and floodplain forest. An existing well pump house is located at the northern end of the mowed strip and is accessible from Nash Road via an unpaved access road. Photographs of the study area are provided in **Appendix F**.

4.0 RESULTS

The desktop analysis shows that the potential for wetlands in the study area are high. The study area is low-lying and several areas 200 to 300 feet vertically higher drain towards the study area. There is an approximately 6-foot wide perennial unnamed stream running through the study area that feeds into the western pond. This stream was close to bank-full conditions at the time of the delineation. In the vicinity of the existing pump house, the stream passes underneath the existing access road via four, 24-inch corrugated metal culverts. The unnamed tributary is a NYCRR Part 701 Class C fresh surface water body with fishing best usage (NYSDEC, 1991). The surface water

shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The NYSDEC freshwater wetlands check-zone encompasses the entire study area between the two freshwater ponds. The freshwater wetlands check-zone is an area around mapped freshwater wetlands that should be checked for actual wetlands. This is required because mapped wetlands boundaries are not always accurate. Additionally, several of the USDA NRCS soil series in the general vicinity of the study area are on the National List of Hydric Soils.

A wetland delineation was conducted on May 8th, 2014 within the study area. Weather conditions were cloudy with intermittent light to moderate rain. There was also rain during several days preceding the site-visit. Three distinct vegetative communities were identified: one on the upland, rocky hillside south of the study area, one along the pond fringe and one forested floodplain area north of the unnamed tributary. The grassy area along the pond fringe was subject to disturbance in the form of mowing/maintenance and light vehicle access. The forested floodplain area was identified in the northern portion of the study area and extended east, upstream to the unnamed tributary and outside of the study area boundary. The westernmost boundary of this wetland community was delineated.

Wetland delineation resulted in one approximately 0.3-acre wetland (Wetland A) located in the study area in the strip of land between the two freshwater ponds. Wetland A is a palustrine emergent wetland along the fringe of the eastern pond. A second, approximately 1+ acre wetland (Wetland B), located primarily outside of the study area, is a palustrine forested floodplain wetland north of the unnamed tributary. Both of these areas show signs of current or historical disturbance by human activities including clearing, mowing, vehicle operation, and the presence of existing infrastructure.

4.1 Wetland A

Wetland A is an approximately 0.3-acre palustrine emergent wetland located on the fringe of the eastern pond in the study area (**Figure 6**). Wetland A also has a scrub-shrub component and a few trees at the southwestern corner of the pond outside of the mowed access area. A drainage channel from the slope in the southern portion of the study area meets the pond in a mucky area immediately south of the eastern pond. The un-mowed perimeter of the pond is dominated by rice cutgrass (*Leersia oryzoides*) and tussock sedge (*Carex stricta*) with small amounts of Japanese barberry (*Berberis thunbergii*) and multiflora rose (*Rosa multiflora*). One red maple (*Acer rubrum*) was also present in the sampling plot. The upper 8 inches of the soil profile was dominated by low chroma colors and a depleted soil matrix, which are indicative of hydric soils and periodic inundation. Redoximorphic features, or areas where the saturation of water has caused the iron and manganese present in the soil to migrate, concentrate, and then oxidize, are present within the soil profile below 8-inches in depth. Hydrologically, this area had a high water table, surface water, and soil saturation at the time of the delineation. Due to the rain preceding the delineation, some of these indicators have the potential to be atypical under normal weather circumstances, however given the geographic position, obligate wetland vegetation and hydric soil indicators, the observed hydrologic indicators are likely to be present throughout the growing season.

4.2 Wetland B

Wetland B is a palustrine floodplain forest to the north of the unnamed tributary and extends beyond the study area boundaries. The western-most boundary of Wetland B was delineated and is depicted on **Figure 6**. Skunk cabbage (*Symplocarpus foetidus*) and purple pitcher plant (*Sarracenia purpurea*) are the dominant herbaceous vegetation and red maple (*Acer rubrum*) and slippery elm (*Ulmus rubra*) are the dominant trees. The upper 6 inches of the soil profile was made up of soils with a low chroma matrix and signs of depletion, which are indicative of hydric soils. Hydrologically, microtopographic relief was present as a result of tussock forming grasses/sedges and mosses. Water-stained leaves, or leaves whose colors have been stripped and whose biodegradation has been slowed as a result of saturation, were present within depressions in the topography. Surface water, high ground-water table, and soil saturation were also present.

5.0 CONCLUSION

A wetland field delineation was conducted on May 8th, 2014, in accordance with methods outlined in the USACE 1987 “Wetlands Delineation Manual”. Wetlands and waterways in the project area were identified, flagged, and recorded via GPS. Two separate wetlands, one approximately .3-acre and one 1+ acre wetlands were identified. Wetland vegetation, soils and hydrology were inventoried for these two wetlands and have been outlined within this report and its appendices.

6.0 REFERENCES

- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42
- New York State Department of Environmental Conservation (NYSDEC). 1991. New York Code of Rules and Regulations Part 701.8 Class C fresh surface water. Accessed from <http://www.dec.ny.gov/regs/4592.html#15987>
- U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1 U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Miss
- U.S. Army Corps of Engineers (USACE). 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS). 2012. Hydrologic Soil Groups: Westchester County, New York. Accessed from http://efotg.sc.egov.usda.gov/references/public/NY/hsg_westchester.pdf

7.0 FIGURES

FIGURE 1. UNITED STATES GEOLOGIC SURVEY (USGS) CROTON FALLS QUADRANT

FIGURE 2. SITE LOCATION DIAGRAM

FIGURE 3. USFWS NATIONAL WETLANDS INVENTORY

FIGURE 4. NYSDEC FRESHWATER WETLANDS

FIGURE 5. USDA NRCS SOIL SERIES

FIGURE 6. WETLAND DELINEATION RESULTS

8.0 APPENDICES

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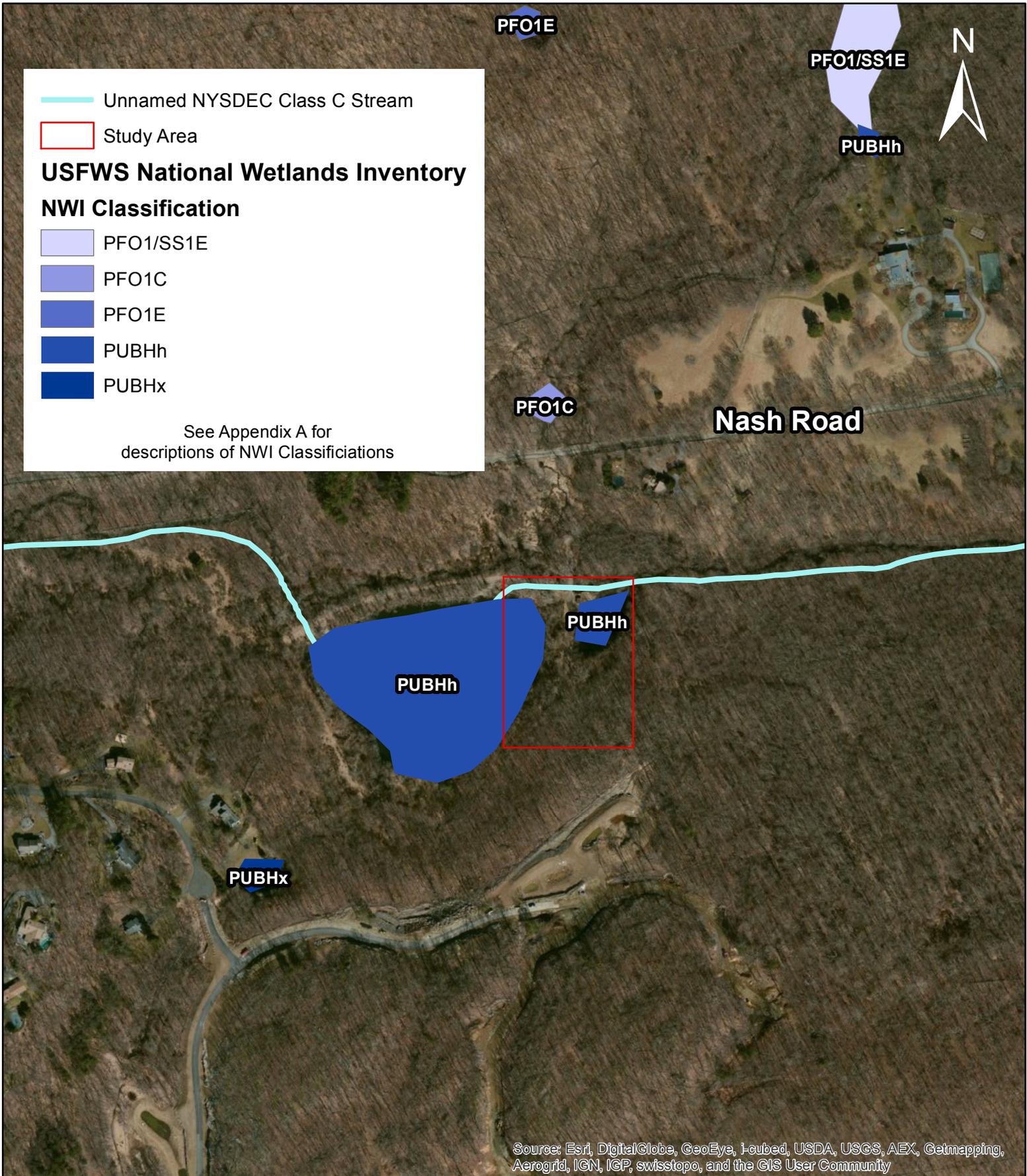
APPENDIX C. HYDROLOGIC SOIL GROUPS FOR WESTCHESTER COUNTY, NEW YORK

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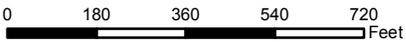
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APPENDIX F. PHOTOGRAPH LOG

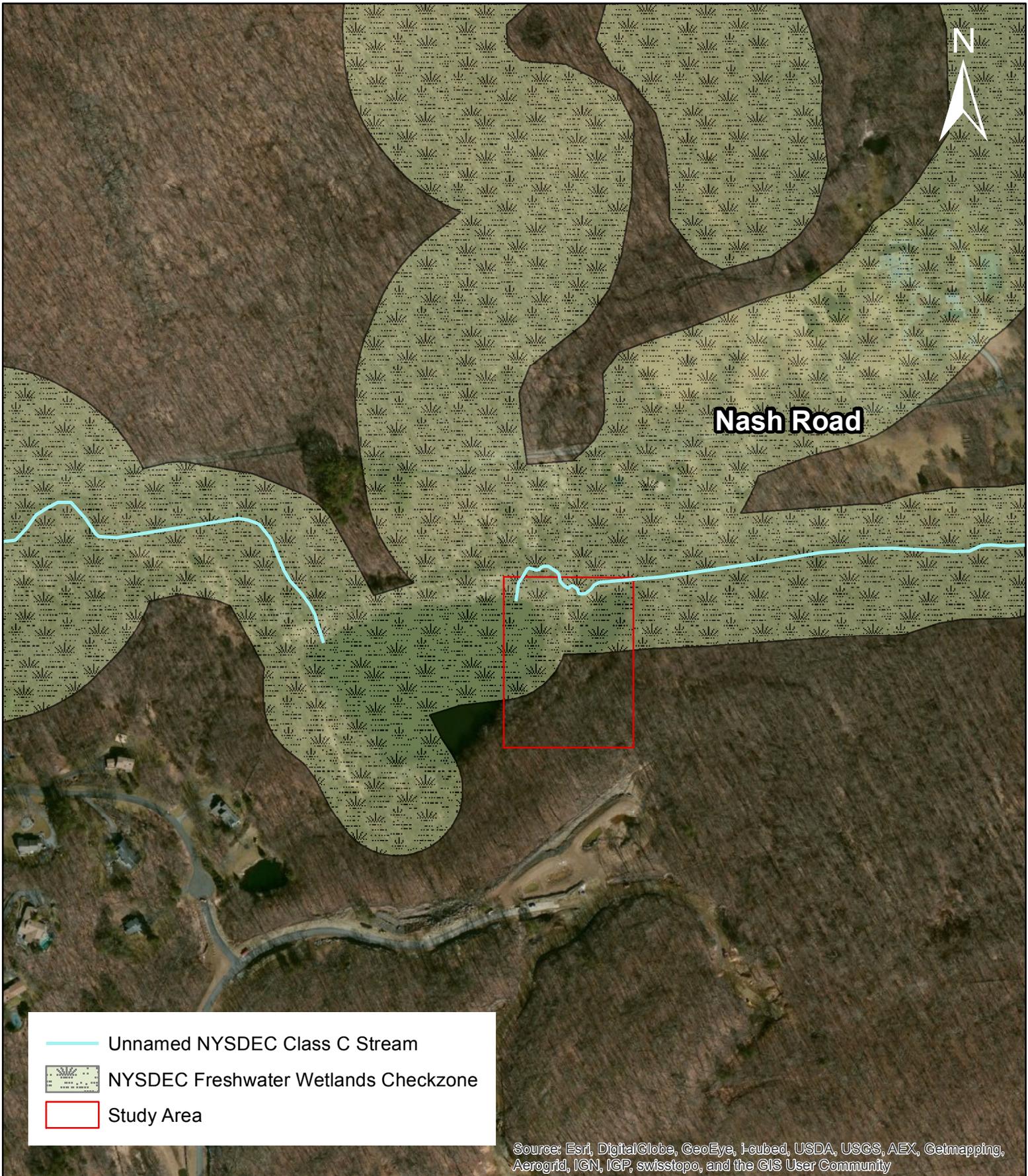




SCALE



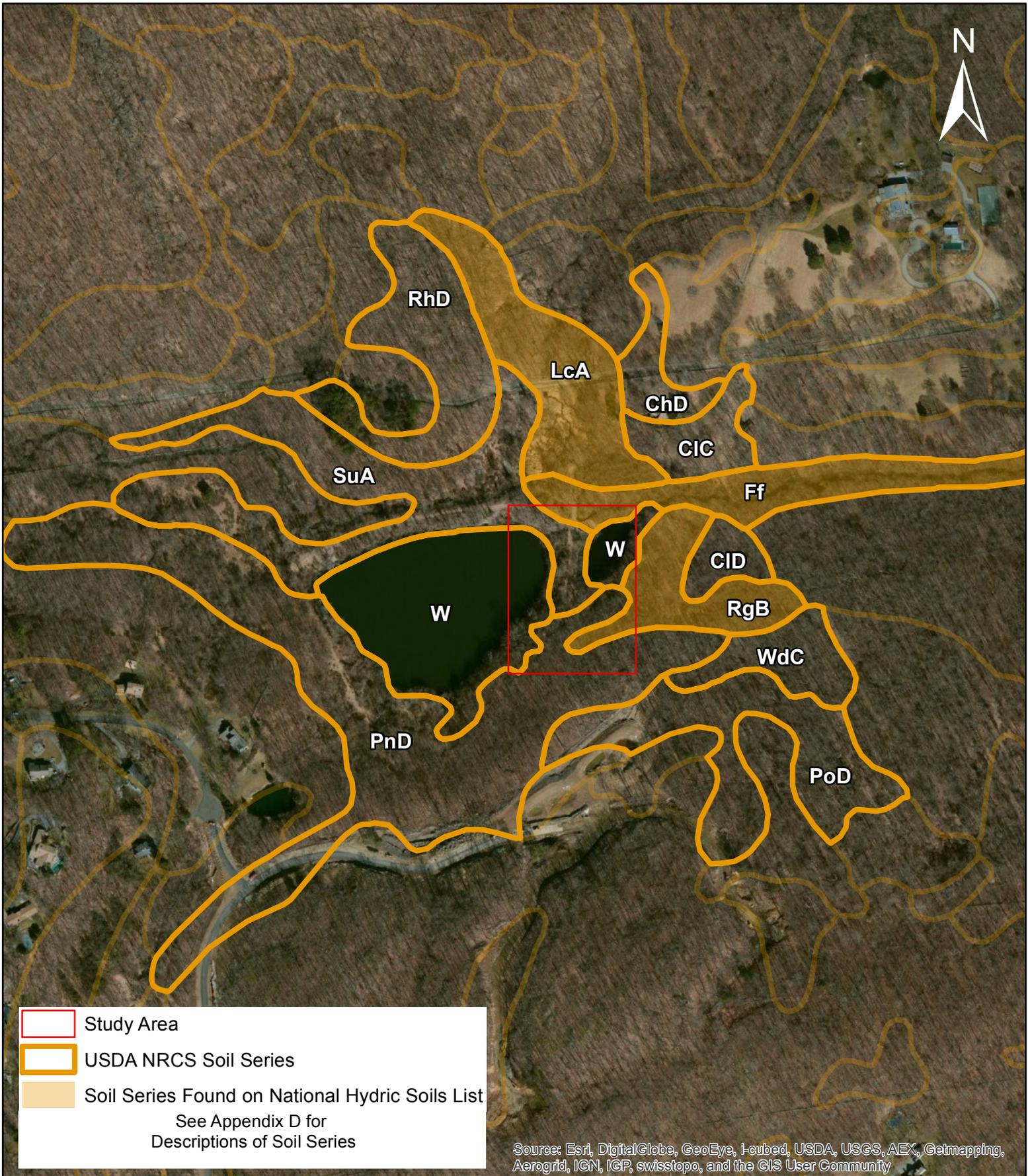
USFWS National Wetlands Inventory
Figure 3



SCALE

0 180 360 540 720 Feet

**NYSDEC Freshwater Wetlands
Figure 4**



SCALE

0 180 360 540 720 Feet

USDA NRCS Soil Survey
Figure 5



SCALE

0 90 180 270 360 Feet

**Wetland Delineation
Figure 6**

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Appendix A
National Wetlands Inventory Classification Descriptions

PFO1/SS1E

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- FO** Class FORESTED: Characterized by woody vegetation that is 6 m tall or taller.
- 1** Subclass Broad-Leaved Deciduous: Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- SS** Class SCRUB-SHRUB: Includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions.
- 1** Subclass Broad-Leaved Deciduous: Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

Modifier(s):

- E** WATER REGIME Seasonally Flooded/Saturated: Surface water is present for extended periods especially early in the growing season and when surface water is absent, substrate remains saturated near the surface for much of the growing season.

PFO1C

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- FO** Class FORESTED: Characterized by woody vegetation that is 6 m tall or taller.
- 1** Subclass Broad-Leaved Deciduous: Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

Modifier(s):

- C** WATER REGIME Seasonally Flooded: Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.

PFO1E

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- FO** Class FORESTED: Characterized by woody vegetation that is 6 m tall or taller.
- 1** Subclass Broad-Leaved Deciduous: Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

Modifier(s):

- E** WATER REGIME Seasonally Flooded/Saturated: Surface water is present for extended periods especially early in the growing season and when surface water is absent, substrate remains saturated near the surface for much of the growing season.

PUBHh

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- UB** Class UNCONSOLIDATED BOTTOM: Includes all wetlands and deep-water habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Subclass :

Modifier(s):

- H** WATER REGIME Permanently Flooded: Water covers the land surface throughout the year in all years.
- h** SPECIAL MODIFIER Diked/Impounded: These wetlands have been created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water. The descriptors 'diked' and 'impounded' have been combined into a single modifier since the observed effect on wetlands is similar. They have been combined here due to image interpretation limitations. For clarification of the extent of impoundment see discussion of Lacustrine System limits.

PUBHx

- P** System PALUSTRINE: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares (20 acres); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

- UB** Class UNCONSOLIDATED BOTTOM: Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Subclass :

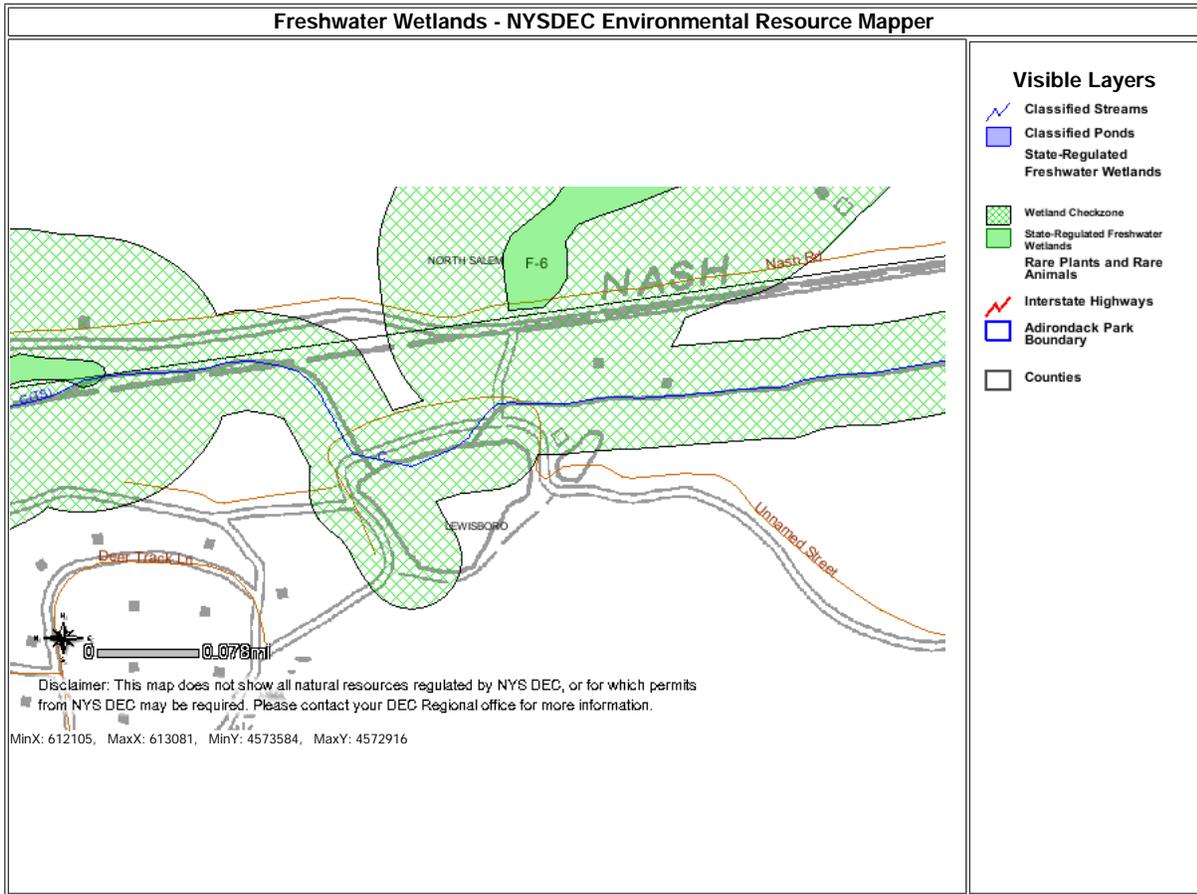
Modifier(s):

- H** WATER REGIME Permanently Flooded: Water covers the land surface throughout the year in all years.
- x** SPECIAL MODIFIER Excavated: Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial means by man.

Appendix B
NYSDEC Environmental Resource Mapper

[print page] [close window]

Please set your printer orientation to "Landscape".



Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data.

Appendix C
Hydrologic Soil Groups for Westchester County, New York

Hydrologic Soil Groups

Westchester County, New York

December 2012

[This table of hydrologic soil group data will be updated on eFOTG as needed, in order to maintain consistency with the official SSURGO soil survey data.]

Map Unit Symbol	Map Unit Name	Component Name	Hydrologic Soil Group
Ce	Carlisle muck	Carlisle	A/D
ChB	Charlton loam, 2 to 8 percent slopes	Charlton	B
ChC	Charlton loam, 8 to 15 percent slopes	Charlton	B
ChD	Charlton loam, 15 to 25 percent slopes	Charlton	B
ChE	Charlton loam, 25 to 35 percent slopes	Charlton	B
CIB	Charlton loam, 2 to 8 percent slopes, very stony	Charlton	B
CIC	Charlton loam, 8 to 15 percent slopes, very stony	Charlton	B
CID	Charlton loam, 15 to 25 percent slopes, very stony	Charlton	B
CIE	Charlton loam, 25 to 35 percent slopes, very stony	Charlton	B
CIF	Charlton loam, 35 to 45 percent slopes, very stony	Charlton	B
CrC	Charlton-Chatfield complex, rolling, very rocky	Charlton	B
CrC	Charlton-Chatfield complex, rolling, very rocky	Chatfield	B
CsD	Chatfield-Charlton complex, hilly, very rocky	Chatfield	B
CsD	Chatfield-Charlton complex, hilly, very rocky	Charlton	B
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	Chatfield	B
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	Hollis	D
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	Rock outcrop	
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	Chatfield	B
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	Hollis	D
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	Rock outcrop	
DAM	Dam	Dam	
Ff	Fluvaquents-Udifluvents complex, frequently flooded	Fluvaquents	A/D
Ff	Fluvaquents-Udifluvents complex, frequently flooded	Udifluvents	A
Fr	Fredon silt loam	Fredon	B/D
Fr	Fredon silt loam	Fredon	B/D
HnB	Hinckley gravelly loamy sand, 3 to 8 percent slopes	Hinckley	A
HnC	Hinckley gravelly loamy sand, 8 to 15 percent slopes	Hinckley	A
HnD	Hinckley gravelly loamy sand, 15 to 25 percent slopes	Hinckley	A
HrF	Hollis-Rock outcrop complex, very steep	Hollis	D
HrF	Hollis-Rock outcrop complex, very steep	Rock outcrop	
Ip	Ipswich mucky peat	Ipswich	A/D
KnB	Knickerbocker fine sandy loam, 2 to 8 percent slopes	Knickerbocker	A
KnC	Knickerbocker fine sandy loam, 8 to 15 percent slopes	Knickerbocker	A
LcA	Leicester loam, 0 to 3 percent slopes, stony	Leicester	A/D

Highlighted Soil Series indicate soil series present in the vicinity of the proposed project and are on the National List of Hydric Soils

Map Unit Symbol	Map Unit Name	Component Name	Hydrologic Soil Group
LcA	Leicester loam, 0 to 3 percent slopes, stony	Leicester	A/D
LcB	Leicester loam, 3 to 8 percent slopes, stony	Leicester	A/D
LcB	Leicester loam, 3 to 8 percent slopes, stony	Leicester	A/D
LeB	Leicester loam, 2 to 8 percent slopes, very stony	Leicester	A/D
LeB	Leicester loam, 2 to 8 percent slopes, very stony	Leicester	A/D
Pa	Palms muck	Palms	A/D
Pc	Palms and Carlisle soils, ponded	Palms	A/D
Pc	Palms and Carlisle soils, ponded	Carlisle	A/D
PnB	Paxton fine sandy loam, 2 to 8 percent slopes	Paxton	C
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	Paxton	C
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	Paxton	C
PoB	Paxton fine sandy loam, 2 to 8 percent slopes, very stony	Paxton	C
PoC	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	Paxton	C
PoD	Paxton fine sandy loam, 15 to 25 percent slopes, very stony	Paxton	C
Pt	Pits, gravel	Pits, gravel	
Pv	Pits, quarry	Pits, quarry	
Pw	Pompton silt loam, loamy substratum	Pompton	B/D
Ra	Raynham silt loam	Raynham	C/D
RdA	Ridgebury loam, 0 to 3 percent slopes	Ridgebury	B/D
RdA	Ridgebury loam, 0 to 3 percent slopes	Ridgebury	B/D
RdB	Ridgebury loam, 3 to 8 percent slopes	Ridgebury	B/D
RdB	Ridgebury loam, 3 to 8 percent slopes	Ridgebury	B/D
RgB	Ridgebury loam, 2 to 8 percent slopes, very stony	Ridgebury	B/D
RgB	Ridgebury loam, 2 to 8 percent slopes, very stony	Ridgebury	B/D
RhA	Riverhead loam, 0 to 3 percent slopes	Riverhead	A
RhB	Riverhead loam, 3 to 8 percent slopes	Riverhead	A
RhC	Riverhead loam, 8 to 15 percent slopes	Riverhead	A
RhD	Riverhead loam, 15 to 25 percent slopes	Riverhead	A
RhE	Riverhead loam, 25 to 50 percent slopes	Riverhead	A
SbB	Stockbridge silt loam, 2 to 8 percent slopes	Stockbridge	C
Sh	Sun loam	Sun	C/D
Sm	Sun loam, extremely stony	Sun	C/D
SuA	Sutton loam, 0 to 3 percent slopes	Sutton	B
SuB	Sutton loam, 3 to 8 percent slopes	Sutton	B
Ub	Udorthents, smoothed	Udorthents	B
Uc	Udorthents, wet substratum	Udorthents	A/D
UdB	Unadilla silt loam, 2 to 6 percent slopes	Unadilla	B
Uf	Urban land	Urban land	
UhB	Urban land-Charlton complex, 2 to 8 percent slopes	Urban land	
UhB	Urban land-Charlton complex, 2 to 8 percent slopes	Charlton	B

Highlighted Soil Series indicate soil series present in the vicinity of the proposed project and are on the National List of Hydric Soils

Map Unit Symbol	Map Unit Name	Component Name	Hydrologic Soil Group
UhC	Urban land-Charlton complex, 8 to 15 percent slopes	Urban land	
UhC	Urban land-Charlton complex, 8 to 15 percent slopes	Charlton	B
UhD	Urban land-Charlton complex, 15 to 25 percent slopes	Urban land	
UhD	Urban land-Charlton complex, 15 to 25 percent slopes	Charlton	B
UIC	Urban land-Charlton-Chatfield complex, rolling, very rocky	Urban land	
UIC	Urban land-Charlton-Chatfield complex, rolling, very rocky	Charlton	B
UIC	Urban land-Charlton-Chatfield complex, rolling, very rocky	Chatfield	B
UID	Urban land-Charlton-Chatfield complex, hilly, very rocky	Urban land	
UID	Urban land-Charlton-Chatfield complex, hilly, very rocky	Charlton	B
UID	Urban land-Charlton-Chatfield complex, hilly, very rocky	Chatfield	B
UmC	Urban land-Chatfield-Rock outcrop complex, rolling	Urban land	
UmC	Urban land-Chatfield-Rock outcrop complex, rolling	Chatfield	B
UmC	Urban land-Chatfield-Rock outcrop complex, rolling	Rock outcrop	
UpB	Urban land-Paxton complex, 2 to 8 percent slopes	Urban land	
UpB	Urban land-Paxton complex, 2 to 8 percent slopes	Paxton	C
UpC	Urban land-Paxton complex, 8 to 15 percent slopes	Urban land	
UpC	Urban land-Paxton complex, 8 to 15 percent slopes	Paxton	C
UpD	Urban land-Paxton complex, 15 to 25 percent slopes	Urban land	
UpD	Urban land-Paxton complex, 15 to 25 percent slopes	Paxton	C
UrB	Urban land-Ridgebury complex, 1 to 8 percent slopes	Urban land	
UrB	Urban land-Ridgebury complex, 1 to 8 percent slopes	Ridgebury	B/D
UrB	Urban land-Ridgebury complex, 1 to 8 percent slopes	Ridgebury	B/D
UvB	Urban land-Riverhead complex, 2 to 8 percent slopes	Urban land	
UvB	Urban land-Riverhead complex, 2 to 8 percent slopes	Riverhead	A
UvC	Urban land-Riverhead complex, 8 to 15 percent slopes	Urban land	
UvC	Urban land-Riverhead complex, 8 to 15 percent slopes	Riverhead	A
UwB	Urban land-Woodbridge complex, 2 to 8 percent slopes	Urban land	
UwB	Urban land-Woodbridge complex, 2 to 8 percent slopes	Woodbridge	C
W	Water	Water	
WdA	Woodbridge loam, 0 to 3 percent slopes	Woodbridge	C
WdB	Woodbridge loam, 3 to 8 percent slopes	Woodbridge	C
WdC	Woodbridge loam, 8 to 15 percent slopes	Woodbridge	C

Highlighted Soil Series indicate soil series present in the vicinity of the proposed project and are on the National List of Hydric Soils

Appendix D
Soil Series Descriptions

United States Department of Agriculture (USDA), Natural Resource Conservation Service
(NRCS)
Web Soil Survey

Detailed Soil Map Units Report

The USDA NRCS Web Soil Survey is a digitized collection of soil surveys completed by the National Cooperative Soil Survey (NCSS). The NCSS is a nation-wide partnership of federal, state, and local agencies and institutions that conduct soil surveys for the purposes of understanding, managing, and conserving the nation's soil resources. This report was generated by inputting the project area into the Web Soil Survey and downloading one of the subsequent reports. This report, "Map Unit Description", is a brief description of the characteristics of the soil series present in the project area.

Detailed Soil Map Units

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 in this report, 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*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given 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.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Minor map unit components are excluded from this report.

Westchester County, New York

Map Unit: ChD—Charlton loam, 15 to 25 percent slopes

Component: Charlton (80%)

The Charlton component makes up 80 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills, ridges, till plains. The parent material consists of acid loamy till derived mainly from schist, gneiss, or granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Paxton (5%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Component: Chatfield (5%)

Generated brief soil descriptions are created for major components. The Chatfield soil is a minor component.

Component: Sutton (4%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Component: Knickerbocker (2%)

Generated brief soil descriptions are created for major components. The Knickerbocker soil is a minor component.

Component: Riverhead (2%)

Generated brief soil descriptions are created for major components. The Riverhead soil is a minor component.

Component: Charlton, very stony (1%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Component: Hollis (1%)

Generated brief soil descriptions are created for major components. The Hollis soil is a minor component.

Map Unit: CIC—Charlton loam, 8 to 15 percent slopes, very stony

Component: Charlton (80%)

The Charlton component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. This component is on till plains, ridges, hills. The parent material consists of acid loamy till derived mainly from schist, gneiss, or granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Chatfield (5%)

Generated brief soil descriptions are created for major components. The Chatfield soil is a minor component.

Component: Paxton (5%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Component: Sutton (5%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Component: Riverhead (2%)

Generated brief soil descriptions are created for major components. The Riverhead soil is a minor component.

Component: Knickerbocker (2%)

Generated brief soil descriptions are created for major components. The Knickerbocker soil is a minor component.

Component: Charlton, extremely stony (1%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Map Unit: CID—Charlton loam, 15 to 25 percent slopes, very stony

Component: Charlton (80%)

The Charlton component makes up 80 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills, ridges, till plains. The parent material consists of acid loamy till derived mainly from schist, gneiss, or granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Paxton (5%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Component: Sutton (5%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Component: Chatfield (5%)

Generated brief soil descriptions are created for major components. The Chatfield soil is a minor component.

Component: Knickerbocker (2%)

Generated brief soil descriptions are created for major components. The Knickerbocker soil is a minor component.

Component: Riverhead (2%)

Generated brief soil descriptions are created for major components. The Riverhead soil is a minor component.

Component: Charlton, extremely stony (1%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Map Unit: Ff—Fluvaquents-Udifluvents complex, frequently flooded

Component: Fluvaquents (50%)

The Fluvaquents component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains. The parent material consists of alluvium with highly variable texture. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water

to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Component: Udifluvents (35%)

The Udifluvents component makes up 35 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains. The parent material consists of alluvium with a wide range of texture. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 48 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil does not meet hydric criteria.

Component: Sun (3%)

Generated brief soil descriptions are created for major components. The Sun soil is a minor component.

Component: Riverhead (2%)

Generated brief soil descriptions are created for major components. The Riverhead soil is a minor component.

Component: Ridgebury (2%)

Generated brief soil descriptions are created for major components. The Ridgebury soil is a minor component.

Component: Hinckley (2%)

Generated brief soil descriptions are created for major components. The Hinckley soil is a minor component.

Component: Leicester (2%)

Generated brief soil descriptions are created for major components. The Leicester soil is a minor component.

Component: Knickerbocker (2%)

Generated brief soil descriptions are created for major components. The Knickerbocker soil is a minor component.

Component: Carlisle (1%)

Generated brief soil descriptions are created for major components. The Carlisle soil is a minor component.

Component: Palms (1%)

Generated brief soil descriptions are created for major components. The Palms soil is a minor component.

Map Unit: LcA—Leicester loam, 0 to 3 percent slopes, stony

Component: Leicester, poorly drained (50%)

The Leicester, poorly drained component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions. The parent material consists of loamy acid till derived mostly from schist and gneiss. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6s. This soil meets hydric criteria.

Component: Leicester, somewhat poorly drained (35%)

The Leicester, somewhat poorly drained component makes up 35 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions. The parent material consists of loamy acid till derived mostly from schist and gneiss. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Sun (7%)

Generated brief soil descriptions are created for major components. The Sun soil is a minor component.

Component: Sutton (5%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Component: Leicester, very stony (3%)

Generated brief soil descriptions are created for major components. The Leicester soil is a minor component.

Map Unit: PnD—Paxton fine sandy loam, 15 to 25 percent slopes

Component: Paxton (85%)

The Paxton component makes up 85 percent of the map unit. Slopes are 15 to 25 percent. This component is on till plains, drumlinoid ridges, hills. The parent material consists of acid loamy till derived mainly from crystalline rock. Depth to a root restrictive layer, densic material, is 18 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February, March, April. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Charlton (5%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Component: Woodbridge (5%)

Generated brief soil descriptions are created for major components. The Woodbridge soil is a minor component.

Component: Ridgebury (3%)

Generated brief soil descriptions are created for major components. The Ridgebury soil is a minor component.

Component: Paxton, very stony (2%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Map Unit: PoD—Paxton fine sandy loam, 15 to 25 percent slopes, very stony

Component: Paxton (85%)

The Paxton component makes up 85 percent of the map unit. Slopes are 15 to 25 percent. This component is on hills, drumlinoid ridges, till plains. The parent material consists of acid loamy till derived mainly from crystalline rock. Depth to a root restrictive layer, densic material, is 18 to 38 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February, March, April. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Woodbridge (5%)

Generated brief soil descriptions are created for major components. The Woodbridge soil is a minor component.

Component: Charlton (5%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Component: Ridgebury (3%)

Generated brief soil descriptions are created for major components. The Ridgebury soil is a minor component.

Component: Paxton, non-stony (2%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Map Unit: RgB—Ridgebury loam, 2 to 8 percent slopes, very stony

Component: Ridgebury, somewhat poorly drained (50%)

The Ridgebury, somewhat poorly drained component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. This component is on hills, drumlinoid ridges, till plains. The parent material consists of loamy till derived mainly from granite, gneiss, and schist. Depth to a root restrictive layer, densic material, is 14 to 30 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Ridgebury, poorly drained (35%)

The Ridgebury, poorly drained component makes up 35 percent of the map unit. Slopes are 2 to 8 percent. This component is on drumlinoid ridges, hills, till plains. The parent material consists of loamy till derived mainly from granite, gneiss, and schist. Depth to a root restrictive layer, densic material, is 14 to 30 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6s. This soil meets hydric criteria.

Component: Woodbridge (7%)

Generated brief soil descriptions are created for major components. The Woodbridge soil is a minor component.

Component: Sun (5%)

Generated brief soil descriptions are created for major components. The Sun soil is a minor component.

Component: Ridgebury, bouldery (3%)

Generated brief soil descriptions are created for major components. The Ridgebury soil is a minor component.

Map Unit: RhD—Riverhead loam, 15 to 25 percent slopes

Component: Riverhead (85%)

The Riverhead component makes up 85 percent of the map unit. Slopes are 15 to 25 percent. This component is on terraces, deltas. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Pompton (5%)

Generated brief soil descriptions are created for major components. The Pompton soil is a minor component.

Component: Charlton (4%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Component: Hinckley (3%)

Generated brief soil descriptions are created for major components. The Hinckley soil is a minor component.

Component: Knickerbocker (3%)

Generated brief soil descriptions are created for major components. The Knickerbocker soil is a minor component.

Map Unit: SuA—Sutton loam, 0 to 3 percent slopes

Component: Sutton (85%)

The Sutton component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on hills, till plains, ridges. The parent material consists of loamy till derived mainly from crystalline rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is

moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Leicester (5%)

Generated brief soil descriptions are created for major components. The Leicester soil is a minor component.

Component: Charlton (5%)

Generated brief soil descriptions are created for major components. The Charlton soil is a minor component.

Component: Woodbridge (3%)

Generated brief soil descriptions are created for major components. The Woodbridge soil is a minor component.

Component: Sutton, very stony (2%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Map Unit: W—Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map Unit: WdC—Woodbridge loam, 8 to 15 percent slopes

Component: Woodbridge (80%)

The Woodbridge component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. This component is on till plains, hills, drumlinoid ridges. The parent material consists of loamy acid till derived mainly from crystalline rock. Depth to a root restrictive layer, densic material, is 18 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Paxton (8%)

Generated brief soil descriptions are created for major components. The Paxton soil is a minor component.

Component: Ridgebury (5%)

Generated brief soil descriptions are created for major components. The Ridgebury soil is a minor component.

Component: Woodbridge, very stony (2%)

Generated brief soil descriptions are created for major components. The Woodbridge soil is a minor component.

Component: Sun (2%)

Generated brief soil descriptions are created for major components. The Sun soil is a minor component.

Component: Sutton (2%)

Generated brief soil descriptions are created for major components. The Sutton soil is a minor component.

Component: Urban land (1%)

Generated brief soil descriptions are created for major components. The Urban land soil is a minor component.

Appendix E
USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Will Oaks Water System City/County: Lewisburg/Westchester Sampling Date: 5/8/2014
 Applicant/Owner: New York American Waters State: NY Sampling Point: DP1
 Investigator(s): Joe Buckley Ross Diamond Section, Township, Range: Town of Lewisburg
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 25
 Subregion (LRR or MLRA): LRR R Lat: 41°18'7.911"N Long: 73°39'12.811"W Datum: NAD83
 Soil Map Unit Name: Parson Fine Sand loam, 15-25% slope (PnD) NWI classification: L1PL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center"><i>Significant precipitation was observed during and prior to the delineation.</i></p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p align="center"><i>Due to rain in preceding days and on the day of delineation, ephemeral drainage channels were present on the hillside adjacent to DP1.</i></p>	

VEGETATION – Use scientific names of plants.

Sampling Point: DP7

Tree Stratum (Plot size: 30 ft²)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fraxinus pennsylvanica</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Ulmus rubra</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Sapling/Shrub Stratum (Plot size: 15 ft²)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lindera benzoin</u>	<u>10</u>	_____	<u>FACW</u>
2. <u>Carpinus caroliniana</u>	<u>10</u>	_____	<u>FAC</u>
3. <u>Berberis thunbergii</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species <u>110</u>	x 4 = <u>440</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>195</u> (A)	<u>645</u> (B)

Prevalence Index = B/A = 3.31

Herb Stratum (Plot size: 5 ft²)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Polystichum acrostichoides</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Symplocarpus foetidus</u>	<u>5</u>	_____	<u>OBL</u>
3. <u>Alliaria petiolata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: 30 ft²)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis aestivalis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wild Oaks Water Supply City/County: Lewisboro/Westminster Sampling Date: 5/18/14
 Applicant/Owner: New York American Waters State: NY Sampling Point: SP2
 Investigator(s): Joe Buckley, Pross Avramian Section, Township, Range: Town of Lewisboro
 Landform (hillslope, terrace, etc.): Maintained Access Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 41°18'10.545"N Long: 73°39'14.861"W Datum: NAD83
 Soil Map Unit Name: (SnA) Sutton loam 0-39s s/c NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation X, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">Significant precipitation was observed prior to and during the delineation. The data point is within a mowed/maintained area with mostly herbaceous vegetation. Wetland is along the fringe of the pond.</p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8) _____	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1-2"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks: 	

VEGETATION – Use scientific names of plants.

Sampling Point: DP2

Tree Stratum (Plot size: <u>30ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>180</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.25</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>80</u> (A)	<u>180</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>80</u> (A)	<u>180</u> (B)																	
<u>15</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft²</u>)																		
1. <u>Berberis thunbergii</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Rosa multiflora</u>	<u>5</u>	_____	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
Herb Stratum (Plot size: <u>5ft²</u>)																		
1. <u>Leersia oryzoides</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
2. <u>Carex stricta</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Mentha arvensis</u>	<u>10</u>	_____	<u>FACW</u>															
4. <u>Carex alopecuroides</u>	<u>5</u>	_____	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>55</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft²</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.) <u>Area is mowed and subject to vehicle traffic.</u>																		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wild Oaks Water Supply City/County: Lewisboro/Westchester Sampling Date: 5/8/14
 Applicant/Owner: New York American Utilities State: NY Sampling Point: DP 3
 Investigator(s): Joe Buckley, Ross Diamond Section, Township, Range: Town of Lewisboro
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 2-5
 Subregion (LRR or MLRA): LRR R Lat: 41°18'19.574"N Long: 73°39'14.909"W Datum: NAD83
 Soil Map Unit Name: (Pd) Sartin fine sandy loam (RgB) Eigebery loam, 2-8% clay NWI classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center"><i>Significant precipitation was observed during and prior to the delineation. The data point was taken in a mowed/maintained area with mostly herbaceous vegetation.</i></p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks: 	

VEGETATION – Use scientific names of plants.

Sampling Point: DP3

Tree Stratum (Plot size: <u>30 ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>55</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>3.1</u>
Sapling/Shrub Stratum (Plot size: <u>15 ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Barberis thunbergii</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Microstegium vimineum</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Onoclea sensibilis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Mentha requienii</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>NL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Mowed / disturbed area.</u>				

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wild Oaks Water Supply City/County: Lewisboro/Washington Sampling Date: 5/8/2014
 Applicant/Owner: New York American Waters State: NY Sampling Point: DP4
 Investigator(s): Sue Buckley, Ross Diamond Section, Township, Range: Town of Lewisboro
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): None Slope (%): 2-3
 Subregion (LRR or MLRA): LRR R Lat: 41°18'13.657"N Long: 73°39'14.196"W Datum: NAD83
 Soil Map Unit Name: (FF) Fluvaquents-Udifluvents / (16A) Leicester loam 0-3 NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center"><i>Significant precipitation was observed prior to and during the delineation.</i></p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-2"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>3-4"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Minor surface water ponding may have been due to precipitation.

VEGETATION – Use scientific names of plants.

Sampling Point: DP4

Tree Stratum (Plot size: <u>30ft²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus rubra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. <u>Acer rubrum</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Ailanthus altissima</u>	<u>10</u>		<u>UPL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>55</u> x 1 = <u>110</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>2.62</u>
Sapling/Shrub Stratum (Plot size: <u>15ft²</u>)				
1. <u>Elaeagnus umbellata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>NL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5ft²</u>)				
1. <u>Synedocarpus foetidus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Sagittaria purpurina</u>	<u>5</u>		<u>OBL</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>55</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30ft²</u>)				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No				

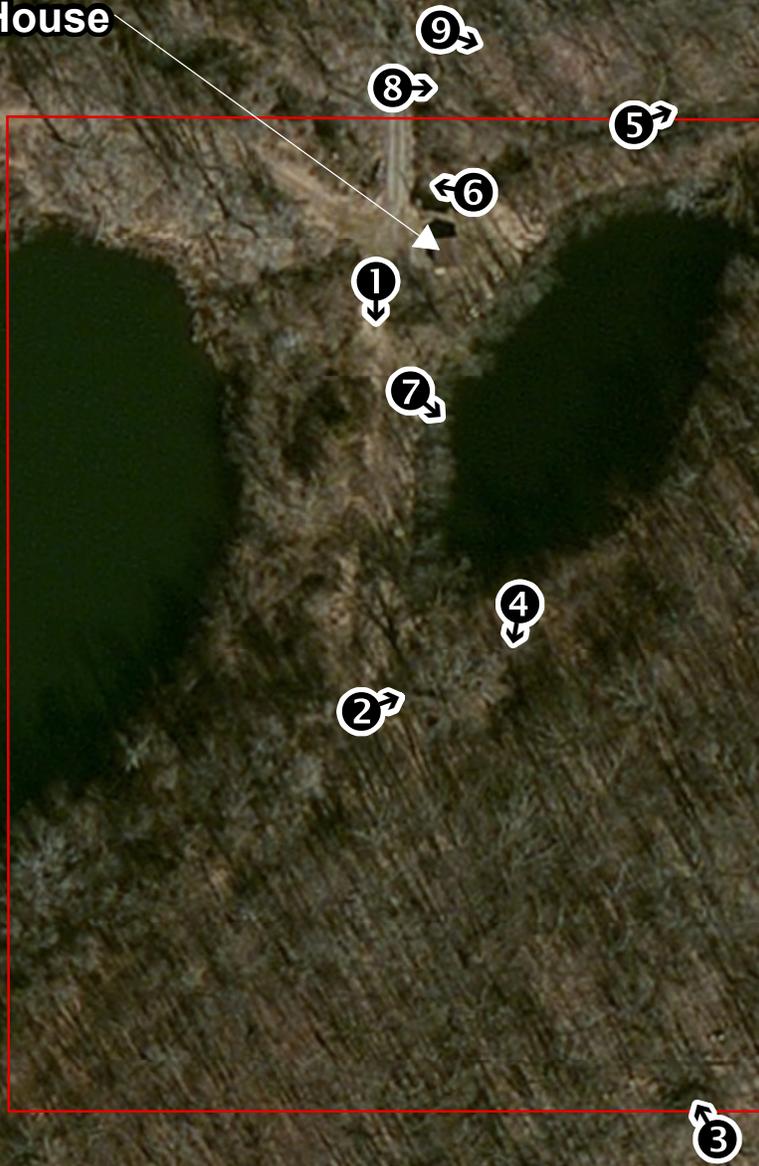
Remarks: (Include photo numbers here or on a separate sheet.)

Palustrine Floodplain Forest

Appendix F
Photograph Log



Existing Pump House

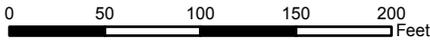


 Study Area

 Photo Location/Direction

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, ICP, swisstopo, and the GIS User Community

SCALE



Photograph Key



Photo 1

Southern facing, standing at pump house. Strip of land between two freshwater ponds.



Photo 2

Southern end of Wetland A. Facing east. Drainage channel in center and vehicle ruts in foreground.



Photo 3

Facing south. Drainage channel on uphill, northerly facing slope. South of study area.



Photo 4

Facing north, uphill slope. Confluence of drainage channel with disturbed access path and beginning of fringe in foreground. Purple wetland flags showing southerly boundary of Wetland A.



Photo 5
Facing east, upstream of unnamed stream.



Photo 6
Facing west, downstream of unnamed stream. Culverted section just north of pump house.



Photo 7

Facing east on smaller pond, from mowed strip. Fringe vegetation.



Photo 8

Facing east. Wetland B. Power line and dumping evident.



Photo 9

Facing north. Wetland B. Microtopographic relief evident. Depressions showing surface water and in drier conditions, water-stained leaves.

MEMORANDUM

TO: Chairman Jerome Kerner, AIA and
Members of the Lewisboro Planning Board

CC: Lisa Pisera
Judson Siebert, Esq.

FROM: Jan K. Johannessen, AICP 
Joseph M. Cermele, P.E., CFM
David J. Sessions, RLA, AICP
Town Consulting Professionals

DATE: March 10, 2015

RE: Wild Oaks Water System
Nash Road
Sheet 8, Block 11137, Lot 39

Project Description

In September of 2014, the applicant received a Wetland Permit (Wetland Permit #51-14 W.P.) associated with the drilling of two (2) bedrock test wells within the Town of Lewisboro 150-foot wetland buffer. The test wells have been installed and the applicant is now proposing to convert the two (2) test wells into active supply wells and connect them to the existing pump house. Both wells are located within the Town's regulated wetland buffer area and connecting Well #4 to the pump house will result in ±0.041 acres of disturbance to the wetland proper.

SEQRA

The proposed action is a Type II Action and is categorically exempt from the State Environmental Quality Review Act (SEQRA).

Required Approvals

1. Site Development Plan Approval and a Wetland Activity Permit is required from the Planning Board.
2. A public hearing is required to be held on the Wetland Activity Permit.
3. A permit is required from the Army Corps of Engineers (ACOE) for disturbance to the wetland proper.
4. The proposed public water supply requires approval from the Westchester County Department of Health (WCDH).

Plan Comments

1. The proposed action requires Site Development Plan Approval in addition to the already filed Wetland Activity Permit; the applicant should submit Step 1 of the Site Development Plan application and all should be revised to identify this additional approval, as applicable.
2. The site plan shall be revised to illustrate property boundary lines and easements. An existing conditions survey should be submitted as should the property deed and existing easement documents.
3. The project description and site plan should be coordinated in terms of how the two (2) wells are being referred to; the project description refers to the wells as BRW1 and BRW2, while the plans refer to these wells as Test Well #4 and #5. The existing test wells should also be shown on the "Existing Site Plan."
4. The cover letter identifies the wetland to be disturbed as a 0.28 acre wetland; the wetland to be disturbed appears to be associated with the adjacent pond and the area of this wetland is larger than identified; please account for the adjacent pond area when referring to the size of this wetland and revise all documents accordingly.
5. The project description states that "BRW1 is located in an upland area and is not subject to this permit application". While BRW1 may be located in an upland area, the well is located within the Town's 150-foot wetland buffer and its modification and connection to the pump house requires a Wetland Permit from the Planning Board.

Chairman Jerome Kerner, AIA

March 10, 2015

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6. The Planning Board can only grant a wetland permit when it has determined that the impacts to the wetland are unavoidable and have been minimized to the maximum extent practicable. The applicant should identify why the utility trenching associated with the connection of BRW2 cannot be relocated to minimize or avoid disturbance to the wetland proper.
7. During the wetland permit application review process for the test wells, the applicant had indicated that, as part of the mandatory 72-hour pump test, water level and stream flow measurements would be collected from the on-site wetland and watercourses and that the data collected during the test would be used to determine whether there is any hydrologic connection between the wells and the adjacent wetlands and water resources. The applicant should submit test results and should assess whether the proposed action will have any impact on groundwater resources and hydrology.
8. The site plan should include a calculation of disturbance proposed within the wetland proper and regulated 150-foot wetland buffer. Please note that the Wetland Ordinance strives for a 1:1 mitigation ratio and a no-net-loss of wetlands and buffers.
9. When a site is located within the New York City East of Hudson Watershed, it has been our experience that certain projects that would ordinarily be processed under a ACOE Nationwide Permit have instead required an individual ACOE wetland permit. If they have not done so already, it is recommended that the applicant coordinate with the ACOE to ensure that the project can be approved under Nationwide Permit #12, as indicated in the Project Description.
10. The applicant should identify the future use of the existing sand and gravel wells.
11. Approvals from the WCDH and the ACOE should be submitted to the Planning Board upon receipt.
12. The Tax Parcel number provided on the wetland permit application form is not correct and should be revised (Sheet 8, Block 11137, Lot 39).
13. The plan should illustrate proposed locations for dewatering activities should the need arise during trench excavation for the service lines. Details for the protection and stabilization of the discharge point should be provided.
14. The water service line pipe class should be specified.

Chairman Jerome Kerner, AIA
March 10, 2015
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15. The north arrows shown on the Site Plan and Landscape Plan should be rotated 180 degrees.
16. All drawings submitted shall be signed and sealed by a NYS Licensed Professional Engineer.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

Plans Reviewed, prepared by Hazen & Sawyer:

- Pipeline Project Civil Site Plan (Sheet C1)
- Pipeline Project Civil Landscape Plan (Sheet C2)
- Pipeline Project Civil Details (Sheet D1)

Documents Reviewed:

- Letter from Hazen & Sawyer, dated February 16, 2015
- Wetland Permit Application
- Short Environmental Assessment Form, dated February 13, 2015
- Description of Proposed Project
- Site Photographs & Figures
- Wetland Delineation Report, prepared by Hazen & Sawyer, dated July 2014

JKJ/JMC/DJS/dc